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READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral Heart and Cardiac, Liver and Hepatic, Renal and Kidney Cancer and Carcinoma, Epithelioma, Malignant Disease New Growth Sarcoma etc, Child and Infant, Bronchocele Goitre and Thyroid, Diabetes Glycosuria, and Sugar, Light Roentgen Radium X Rays, Status Lymphaticus and Thymus, Eye, Ophthalmia, and Vision, Bicycle and Cycle, Motor and Automobile, Association, Institution and Society, etc Subjects dealt with under various main headings in the JOURNAL have been set out in alphabetical order under their respective headings—for example "Correspondence" "Leading Articles" "The Week" "Reviews," etc Original Articles are indicated by the letter (O)

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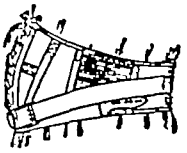
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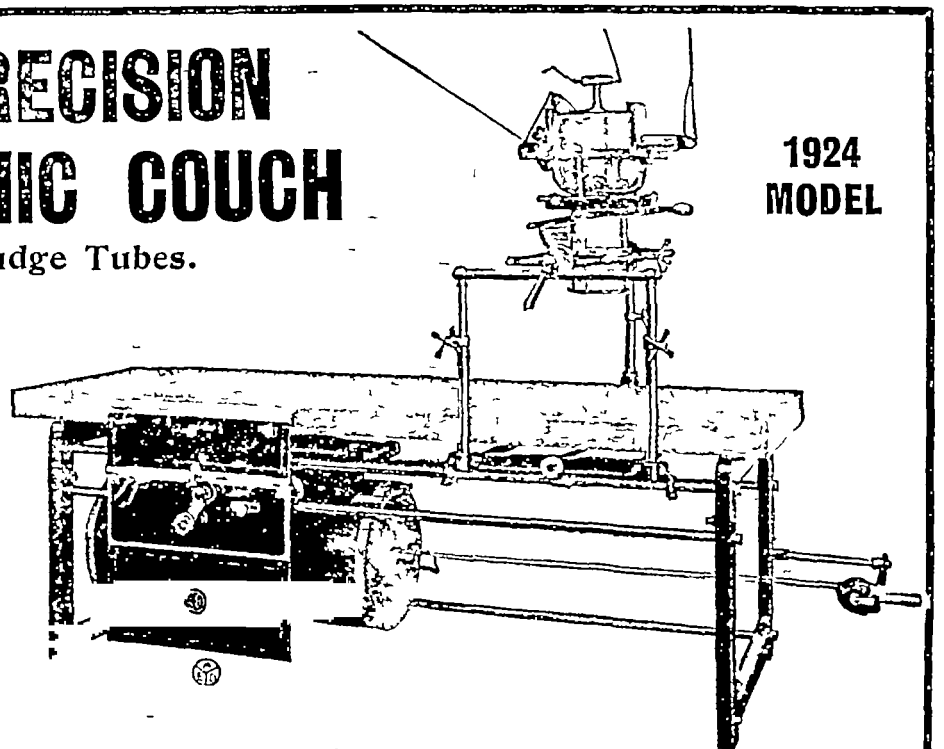
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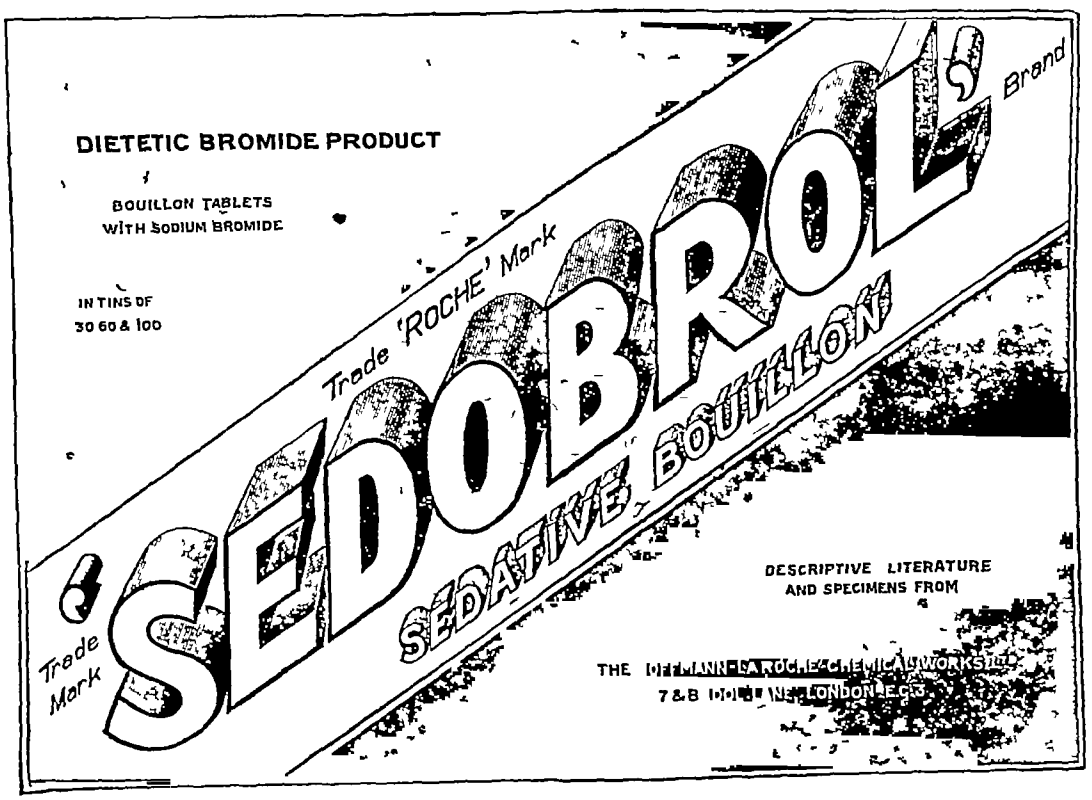
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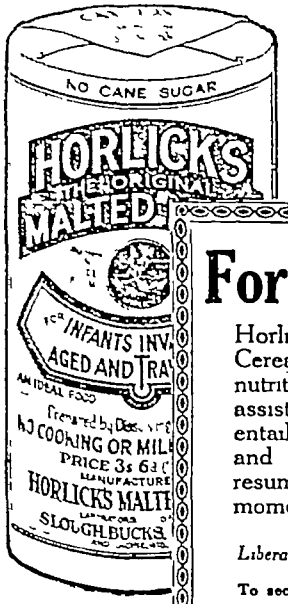
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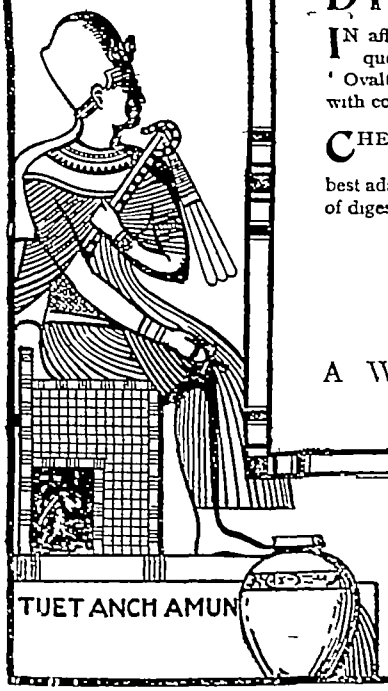
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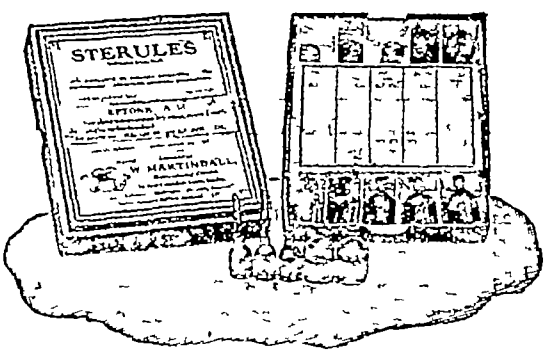
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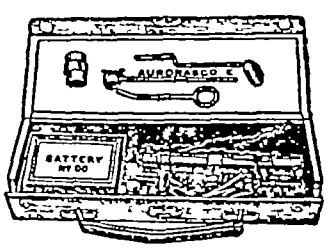
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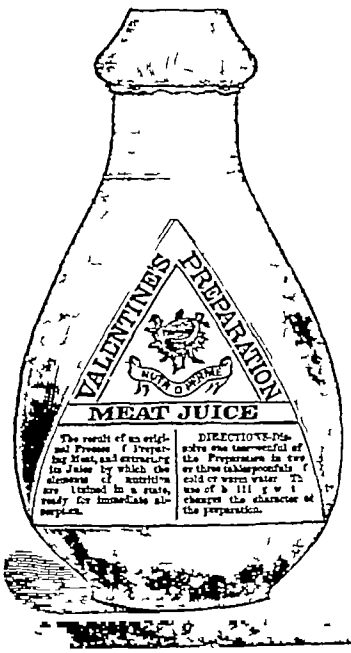
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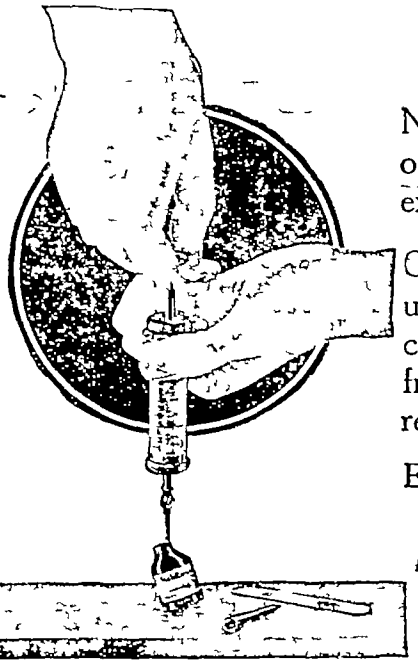
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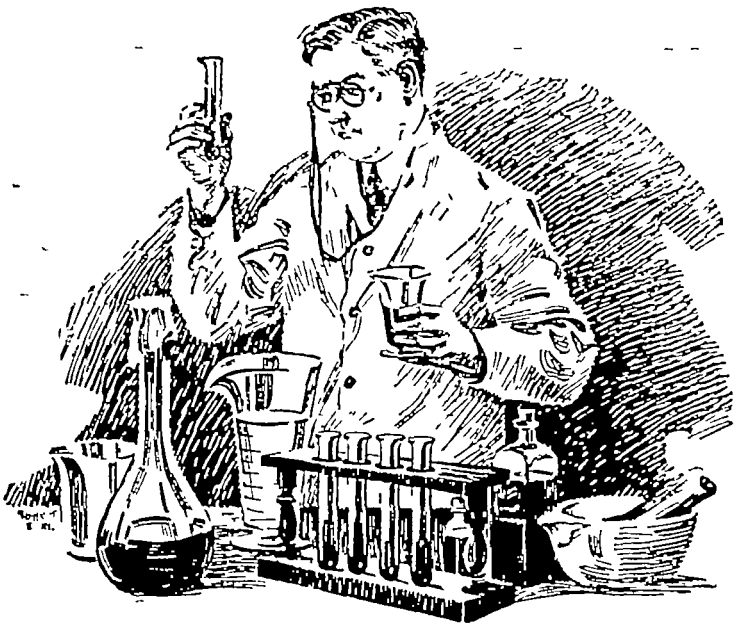
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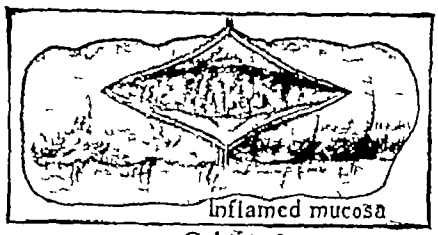
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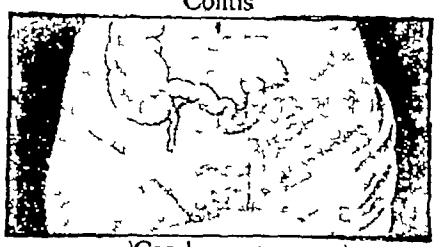
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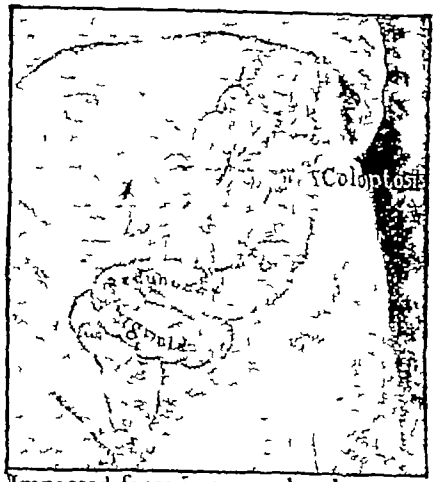
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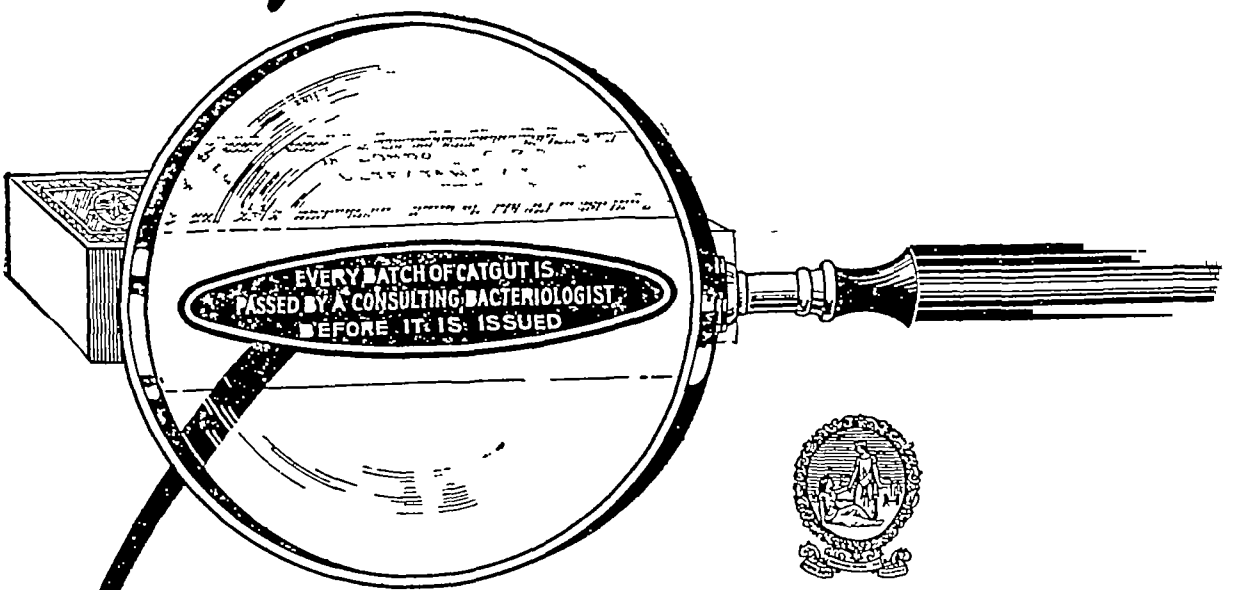


A HITTITE CUNEIFORM TEXT FROM THE ARCHIVES OF THE KINGS OF THE HATTI —That the knowledge of writing in cuneiform on clay tablets had reached the Hittites at the period of their empire has been revealed by the discovery within recent years of about 20 000 tablets and fragments written in this script. They were preserved in the royal chancery of the Hittites northern capital and evidently represent nothing less than the state archives Some of these documents are now being deciphered and they promise to yield material from which it will be possible to reconstruct a large part of the story of the Hittites They are not all written in the same language Those relating to foreign affairs are written in the Assyro Babylonian (Semitic) tongue and can be read those concerned with home affairs while written in cuneiform script, are in the Hittite (a non Semitic) language (In contradistinction to the Hittites the Egyptians never wrote their own language in cuneiform but employed for their foreign correspondence the Babylonian tongue understood throughout the diplomatic world of Asia.) The fresh historical material included in the new texts in Babylonian include treaties (between Hittite states with the Mitanni, the Amorites and the Egyptians), diplomatic correspondence contracts letters etc There are also very valuable Sumero-Akkadian Hittite vocabularies compiled by Hittite scribes and these have yielded the meaning of many Hittite words in spite of the defaced and fragmentary condition of many of the tablets In writing their native language in cuneiform, the Hittites used many Semitic ideograms and words and these in some cases help towards the realisation of the general sense of a document but with this reservation the Hittite section of their archives is a sealed book to us for the present. The document here reproduced may be a report or a letter

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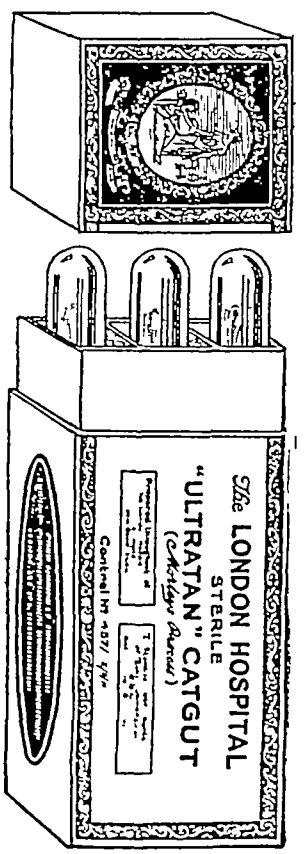
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THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

LONDON SATURDAY, JANUARY 5TH, 1924

A NEW OUTLOOK IN CARDIOLOGY.

BY

SIR JAMES MACKENZIE, M.D., F.R.C.P. F.R.S.

(From the Institute for Clinical Research, St Andrews.)

INTRODUCTION.

THE following articles illustrate the methods which we use in an investigation at the St Andrews Institute for Clinical Research. They bring to light certain fundamental principles which are essential to the understanding of the phenomena of disease. While here they are applied to the interpretation of cardiac phenomena, they are also applicable to the discovery and interpretation of phenomena produced by every organ of the body.

The essential matter in connexion with all cardiac affections, so far as they concern the practice of medicine, is heart failure. This is a problem which has hitherto baffled all attempts at solution. The failure to solve such a problem indicates that the methods hitherto employed are inadequate, and that some new concept must be evolved.

At the outset we sought for a method that would enable us to pursue our work in a systematic and logical manner. We recognized the necessity for understanding the laws that govern the production of the phenomena of ill health. A great mass of phenomena of this kind had already been accumulated, but it was so chaotic that it was not possible to make much use of it. To remedy this we saw that it would be necessary to render the phenomena easier of comprehension, and this could only be done by some principle of classification based upon the affinity in nature of the individual phenomenon.

To this end we employed the method of framing hypotheses. An hypothesis outruns the facts, and this constitutes its value in research in that it supplies an object at which to aim and a guide to follow. The object is to find other facts which will support the hypothesis or disprove it. If new phenomena fail to support it, then it must be modified or replaced by another. When at last the hypothesis is found to include all the available phenomena it then ceases to be an hypothesis and becomes a theory or a law.

By reasoning along these lines we came to recognize that most symptoms were produced by disturbances of normal processes, and in this way there was gradually evolved the theory of disturbed reflexes as a cause of symptoms. Having found the theory, the question of its application arose, and after a time the "principle of the reflex arc," as employed in these articles, emerged.

The application of this principle called for the analysis of the elements of which the arc is composed, and the part they play in that harmonious working of the organs which is characteristic of health. Out of this study came the recognition that symptoms were but the evidences of increased or decreased functional activity of organs. To appreciate this required a better understanding of what was meant by stimulation and inhibition, and this led to the recognition of a law which we have called the "law of fluctuation."

The first steps in the discovery of this law arose from the analysis of stimulation of the skin, when it was found that sensations of heat and cold applied to limited parts varied from minute to minute as set forth in the articles by Professor Waterston.[1] This was followed by the recognition of the variations in the size of the capillaries of the skin that were continually taking place. This led to the recognition of similar variations in activity in other organs.

In the further analysis of the reflex arc it was found that certain symptoms of a particular kind arose when a particular element of the arc was destroyed or ceased to exercise its function. The parts below this element became more excitable, frequently acting in an aimless and ineffective manner. It became manifest that the reflex arc is controlled and regulated in some special manner, and in this way the function "control" became recognized.

We had long known that the stimulus which was adequate to produce pain and other reflex disturbances in the skin was inadequate to produce these phenomena when applied to the organs whose nerve supply was limited to the autonomic system. In the former instance, mechanical stimulation was adequate, whereas in the viscera mechanical stimuli produced no perceptible reaction. We recognized that for the production of reflexes in the viscera some vital processes were necessary. This led to a further inquiry into the activity of cells, and we recognized that while "stimulus production" was a special function of certain cells, others, and probably all active cells, when they exercise their special function, at the same time throw out impulses which are capable of stimulating other organs. In this way we came to recognize how all organs generated impulses by which they were capable of reacting one upon the other.

We have advanced so far that we recognize that there is no possibility of understanding the nature of the phenomena which constitutes ill health, unless the principles involved in these laws and theories are used in research and in the interpretation of clinical phenomena. If this be granted we are now able to realize the reason for the failure of so many enterprises in medicine. These enterprises have been undertaken under the belief that the knowledge for their successful achievement existed when, as a matter of fact, it did not exist.

That there are other laws concerned in the production of the phenomena of disease, of equal or of greater importance than those here described, there can be no doubt. There can be just as little doubt that enterprises will continue to fail until, as a preliminary, steps are taken to acquire a knowledge of such laws.

It is not contended that the problem with which these articles deal are solved, or that our interpretations are correct. The interpretations are those which the present state of our knowledge permits, and are intended to show the line along which we are seeking the solution of medical problems.

THE NEED FOR A NEW OUTLOOK IN CARDIOLOGY.

In a recent article I pointed out a great field in medicine which had been neglected, but which was essential for the intelligent practice of medicine and for its progress. This field was the nature of ill health. When a person is ill we can rarely tell the conditions which cause him to feel ill,

or the nature of the symptoms which we may detect Absence of this kind of knowledge, while it hampers practice in general, is particularly hampering in affections of the heart

When it is recognized that a patient has, or when he is supposed to have, an affection of the heart, the essential question to be answered is, What bearing does the heart's condition have on the patient's future health? In other words, are the signs by which we recognize an affection of the heart indicative of heart failure, or do they foretell its oncoming?

A knowledge of heart failure is thus seen to be essential to intelligent practice For many years certain gross signs, such as dropsy, breathlessness, and enlargement of the liver, have been recognized as due to heart failure, but these signs only occur when the failure is advanced, and the vast majority of people suffer and die of heart failure without these signs

During the past hundred years, indeed ever since the introduction of the stethoscope, strenuous endeavours have been made to find out wherein lay the danger of heart affections In these endeavours many people have taken part During the war the question arose in an acute form, numerous investigators in different countries, individually and in groups, have carried out lengthy researches to find measures for estimating the efficiency of the heart In these endeavours mechanical devices have been employed, and opportunities in training camps and special hospitals have been afforded Tens of thousands of individuals have been examined, yet the results of all this work have thrown no light upon the problem

If we go back to the time before the introduction of the stethoscope, it will be found that writers a hundred years ago gave as good a description of heart failure as will be found in most of the textbooks of to-day One reason for this is that modern investigators have thought that each new instrument that has been devised would throw light upon this matter, and, though a mass of phenomena has been revealed, the problem of heart failure is still unsolved

As one who has been engaged in the attempt to solve this problem for nearly forty years, I have obtained some insight into the reasons for this failure My own attempts for many years were attended with little success At last I recognized that the concepts that had governed the investigations were unsuited to the purpose, and that no progress could be made until a new outlook was obtained

While it was not difficult to recognize the need for a new outlook, it was a matter of great difficulty to obtain it Gradually it dawned upon me that the mere detection of new phenomena and the introduction of new devices held out little prospect of success When the reasons for progress in other sciences were considered it was seen that until the laws that governed the production of the phenomena with which they dealt had been discovered little or no progress had been made It was reasoned that as the manifestations produced in healthy and diseased bodies were natural phenomena, there must be laws underlying their production This was the guiding idea with which we started our work at St Andrews In the search for these laws we discovered a number of principles that were essential to our investigations in general As each of these principles emerged, additional light was thrown upon the problems of ill health

We can now see more clearly the reasons for the lack of knowledge of the nature of ill health due to affections of the heart These reasons can be arranged under three heads There is, first, an absence of the knowledge of the laws which govern the production of symptoms, or of the phenomena of ill health, second, an inability to assess the value of the symptoms in their relation to the functional efficiency of the heart, and third, a misapprehension of the nature of heart failure and of the symptoms which it produces

The Laws Governing the Production of Symptoms

Symptoms are produced in a very simple manner—by an increase or a decrease or the suspension of the functions of organs All organs have nerves or similar structures which regulate their functions These regulating processes have much in common, being composed of structures which convey impulses from remote parts of the body to the organ or from one part of an organ to another part This process is spoken of as a reflex The great bulk of symptoms are produced by disturbance of this reflex or regulating process, and we have put forward in the pages of this journal the theory that many symptoms are produced by the disturbance of normal reflexes [3 4] In applying this theory in practice we find it throws a new and unexpected light upon many problems of disease It has also revealed the absence of knowledge of a kind that is necessary for understanding and appreciating the phenomena of ill health

The advantage of applying what we call the "principle of the reflex arc" to the study of symptoms is that it compels the analysis of the different elements of which the arc is composed Each element is concerned in regulating the function of the organ which produces the symptom, and is liable to disturbance, so that each may thus be the source of the symptom By the analysis of the reflex arc it is possible to detect the seat of disturbance which gives rise to symptoms and provokes ill health

The application of this method of analysis has revealed the need for a much better understanding of the manner in which organs vary in their activity The activity of organs is regulated by structures specially evolved for the purpose These structures are composed of active cells, and like all organs so constituted they are subject to the laws that govern cellular activity To understand how their activity becomes modified as a result of disease it is necessary to have a clear conception of the manner in which the cells carry on their work

The Cell

All the special functions of fully developed cells are to be found in a rudimentary state in the primitive cell, and the principles that govern the activity of the primitive cell govern the activity of every cell, however highly specialized it may be The functional capacity of a cell depends upon its ability to take in nourishment and to transform it into energy This energy, when discharged, constitutes the special function of the cell—it may take the form of contraction, secretion, production of impulses, conduction of impulses, perception of sensation, etc

This discharge takes place only in response to a stimulus reaching it from outside the cell itself—that is to say, no cells are automatic When it discharges its function it discharges all the energy of which it is at the time possessed During this discharge, and until some energy is restored, the cell cannot be stimulated, for it has nothing to discharge As the cell accumulates energy it becomes more susceptible to stimulation, so that a gradually weaker stimulus is able to provoke a response in the shape of a discharge of energy This is the reason for the law of "all or nothing," and for the refractory and latent periods

The rate at which the store of energy is renewed can be influenced by different agencies—heat hastens while cold retards the rate Nerve influences may act in the same way—the sympathetic hastening, and the vagus retarding in some instances Chemical agents like drugs, and the toxins of disease, have a similar action

Stimulation and Inhibition

The simple process of the capacity of the cell to recover slowly or rapidly lies at the root of both stimulation and inhibition When we analyse these terms we find that "stimulation" is used to indicate the effect of agents that hasten the recovery of the cell, while "inhibition" is applied to the effect of agents that delay the recovery of the cell While this is easily understood in reference to the individual cell, it becomes complicated when the cells are grouped in organs, for these simple processes can be so varied as to give rise to results difficult to interpret

While, as we have seen, several agents act in favouring or hindering the process of cell recovery, we will limit for the present the consideration of the subject to the influence of nerves We recognize that increased activity of the sympathetic results in the favouring of the process of recovery of certain cells, while the vagus has the opposite effect

When both nerves are supplied to the same organ, the term "reciprocal innervation" is used The result of this double nerve supply is that in the variation of activity in normal circumstances both nerves are concerned, so that, while the activity of one is increased, the activity of the other is diminished In normal circumstances both nerves are continually increasing and decreasing their activity, as seen in the constant variations in the size of the pupil, and the rate of the heart, when the eye or the heart is being exercised in the normal activities of life

When we look more closely into the matter we find that the variation in the heart rate is due to the influence of these nerves exercised only on the cells of the sino auricular node When a movement of the body takes place, impulses are generated which are conveyed to these nerves, with the result that the sympathetic influence dominates, and the cells of the sino-auricular node recover more rapidly after they have discharged the impulses which set up the heart beat As they recover more rapidly, they become susceptible to stimulation earlier, and in this way they discharge their impulses after shorter periods of rest, which is recognized by the result—an increase in the pulse rate

When, on the other hand, the body is at rest, the pulse rate falls—it may be considerably Here those impulses which are the result of exertion do not now arise, and the sympathetic influence on the sino-auricular node diminishes while that of the vagus increases, so that the cells of the sino-auricular node recover more slowly after their discharge, and this is shown by the decreased rate of the heart

We thus see one phase of what is meant by stimulation and inhibition The conditions which these terms connote are simply the hastening or the delaying of the recovery of the cell after it discharges its function

Fluctuation

While cells grouped in organs are subject to the same laws, the rate at which they recover after discharging their functions *may vary This variation in recovery is most* marked during those periods of quiescence to which all organs are subject The result of this variability in recovery is that all the cells of an organ do not function at the same time, some cells being active while others are inactive When those that are active cease to function, the others which were inactive come into action This variation in recovery becomes organized and instrumental in regulating the activity of organs, so that at any given time of functional activity all the cells are not necessarily in action Moreover, during periods of quiescence, to which all organs are subject, a greater proportion of the cells are inactive, and during periods of activity more take part In this way organs are provided with a means by which they can vary their activity This variation in activity of cells of an organ we have called "fluctuation" and the law of fluctuation is of the greatest importance in understanding the functional efficiency of an organ, and particularly in understanding the functional efficiency of the heart This law of fluctuation has been the subject of a special inquiry by Professor Hering,[5] and he has demonstrated the part it plays in the varying functional activity of healthy organs We find it of equal importance for the interpretation of the symptoms of disease

The Function of Control

In addition to the agents which favour or hinder the metabolism of cells and thus affect their excitability, there is another agent which exercises a potent influence upon cells when they are gathered together to form an organ The system which is concerned in modifying the functional activity of organs has another action which is exerted upon the organ as a whole, through its effect upon the individual cells In normal circumstances the cells are restrained in a manner so that they only act in response to impulses from the regulating system, and thus act in harmony the one with the other In addition they are rendered impervious to other influences from outside the regulating system To this influence the term "control" is given

This function of control is not the property of all parts of the regulating system but only of certain elements, and for each organ this element may be different, it is usually nervous in origin In some organs, as the heart, it is due to structures of a slightly different nature, as the sino-auricular node

When this influence is lost, either from cessation of activity of the particular element of the regulating process which is concerned in this function, or when its connexion with the organ is separated, the individual cells of the organ show a remarkable difference They continue to function, but become susceptible to outside influences and are thereby stimulated to excessive activity, but so disorderly that the whole aspect of the organ becomes altered, in the sense that its activities are aimless and disorderly Under normal conditions the organs work so harmoniously that the processes which render this harmony possible are not recognized till they are lost The loss of control is demonstrated to produce remarkable effects in the heart, and it is reasonable to assume that control is present in every organ This concept of control was applied by Hughlings Jackson to brain processes, and was present in his mind when he laid down the doctrine that "destructive lesions never cause positive effects, but induce a negative condition which permits positive symptoms to appear"

It is assumed that the function of nerves is limited to their more easily demonstrated functions, such as the impulses for contraction conveyed by motor nerves or the stimulating and inhibitory function of the sympathetic and vagus A more intimate inquiry into the symptoms of disease demonstrates that they exercise an influence of the kind to which we apply this term of control

The Cell Impulses

It has long been recognized that the organs of the body are related to one another in that the activity of one organ affects the activity of the others This may be brought about in different ways, as when the secretion of one organ being conveyed through the blood stream acts on other organs One organ may affect the others through the *nervous system Although this latter method* has been recognized, there is no clear conception of how it is brought about The following explanation seems to throw a little light upon the matter

It has already been remarked that the specific functions of highly developed cells are found in a rudimentary form in the primitive cell Many specialized cells retain in an imperfect form other properties than that of their special function The special function of certain cells is the formation of impulses, which, when discharged, stimulate other cells The chief function of the cells of the sino-auricular node is to discharge impulses which *stimulate the muscle* cells of the auricles to contract The cells of the cortex of the brain discharge impulses which cause contraction of the voluntary muscles

By impulses is meant some kind of energy which is capable of exciting or stimulating cells to discharge their function This property is not limited to cells whose specific function is the formation and discharge of impulses, but seems to be a property possessed by every cell Such impulses are given out at the time that the other functions of the cells are discharged The possession of this property can best be demonstrated in muscle cells The contraction of the heart produces these impulses, and they are capable of affecting delicate electrical instruments, such as the string galvanometer, and are recorded in the electro-cardiogram It will be shown also that these impulses play an *important* part in producing the peculiar phenomena found when the auricle is fibrillating, or in a state of flutter In these conditions the impulses from the contracting muscle fibres stimulate the auriculo-ventricular node to discharge the impulses which cause contraction of the ventricle

The recognition that muscle fibres discharge impulses capable of stimulating other cells gives a clue to the origin of many symptoms which arise from hollow muscular organs

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When we look more closely into the matter we find that the variation in the heart rate is due to the influence of these nerves exercised only on the cells of the sino-auricular node When a movement of the body takes place, impulses are generated which are conveyed to these nerves, with the result that the sympathetic influence dominates, and the cells of the sino-auricular node recover more rapidly after they have discharged the impulses which set up the heart beat As they recover more rapidly, they become susceptible to stimulation earlier, and in this way they discharge their impulses after shorter periods of rest, which is recognized by the result—an increase in the pulse rate

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The Function of Control

In addition to the agents which favour or hinder the metabolism of cells and thus affect their excitability, there is another agent which exercises a potent influence upon cells when they are gathered together to form an organ The system which is concerned in modifying the functional activity of organs has another action which is exerted upon the organ as a whole, through its effect upon the individual cells In normal circumstances the cells are restrained in a manner so that they only act in response to impulses from the regulating system, and thus act in harmony the one with the other In addition they are rendered impervious to other influences from outside the regulating system To this influence the term "control" is given

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THE PRINCIPLE OF THE REFLEX ARC

It has already been pointed out that the varying activity of an organ is dependent upon the structures which regulate the functional activity of the cells These structures are

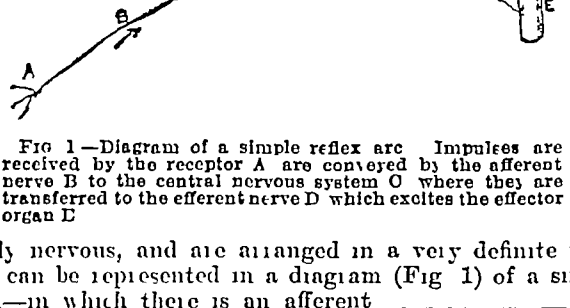


FIG 1—Diagram of a simple reflex arc Impulses are received by the receptor A are conveyed by the afferent nerve B to the central nervous system C where they are transferred to the efferent nerve D which excites the effector organ E

mainly nervous, and are arranged in a very definite way They can be represented in a diagram (Fig 1) of a simple reflex—in which there is an afferent nerve (B) whose receptor (A) at its peripheral extremity is situated in some organ or tissue From the receptor the afferent nerve conveys impulses into the central nervous system (C), where the nerve is connected, either directly or by means of internuncial neurones, with an efferent nerve (D) This efferent nerve receives the impulses and conveys them to an organ, the effector (E), which responds to the impulses by increasing or decreasing its activity

Many of these responses pass unperceived, but at times they are either so increased or so decreased that the effector organ shows abnormal activity This abnormal activity, when perceived, constitutes a symptom of disease The disturbance which results in a symptom may occur in different parts of this reflex arc, and it is necessary to find out at what part of the arc the disturbance takes place This is what we mean by analysis of the reflex arc

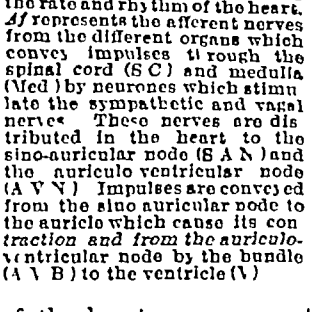


FIG 2—Diagram to show the parts concerned in regulating the rate and rhythm of the heart. *Af* represents the afferent nerves from the different organs which convey impulses through the spinal cord (S C) and medulla (Med) by neurones which stimulate the sympathetic and vagal nerves These nerves are distributed in the heart to the sino-auricular node (S A N) and the auriculo ventricular node (A V N) Impulses are conveyed from the sino auricular node to the auricle which cause its contraction and from the auriculo-ventricular node by the bundle (A V B) to the ventricle (V)

In the diagram (Fig 1) the reflex or regulating process is limited to the part external to the organ Within the organ there may be processes which also subserve this purpose In no organ has this regulating process been worked out so fully as in the heart What is called the "conducting" system of the heart is chiefly concerned in co-ordinating and regulating the different parts of the heart which subserve the peculiar function of the organ—that is, the contraction of its chambers It is necessary to keep clearly in mind the distinctive functions of these two parts Unfortunately this distinction has not been sufficiently recognized, for we find attempts to estimate the functional capacity of the one by the peculiarities of the other, such as using the rate of the heart as a means for finding out the functional capacity of the heart, or taking signs of impaired conductivity as an indication of cardiac enfeeblement

The structures concerned in regulating the rate and rhythm of the heart are represented in the diagram (Fig 2)

There are two kinds of structure concerned in these functions, an external and internal The external consists of the afferent nerves (*Af*) from all parts of the body (including the brain) which convey impulses to the central nervous system, where they act upon the sympathetic in the spinal cord, and upon the vagus in the medulla These two nerves exercise a peculiar influence upon two structures within the heart itself—the sino-auricular node and the auriculo-ventricular nodes The sympathetic acts upon the cells of these nodes by hastening the metabolic process which restores the energy expended when they discharged impulses The vagus has an opposite effect in that it delays this metabolic process Beyond this effect neither of these nerves has any influence upon the rate and rhythm of the heart They are in no sense motor nerves to the heart The afferent part of these nerves has, no doubt, other effects upon the muscle cells, while the efferent part receives impulses which it carries into the central nervous system, but these are not represented in the diagram and are not concerned directly with influencing the rate of the heart

The internal structures concerned in regulating the rate

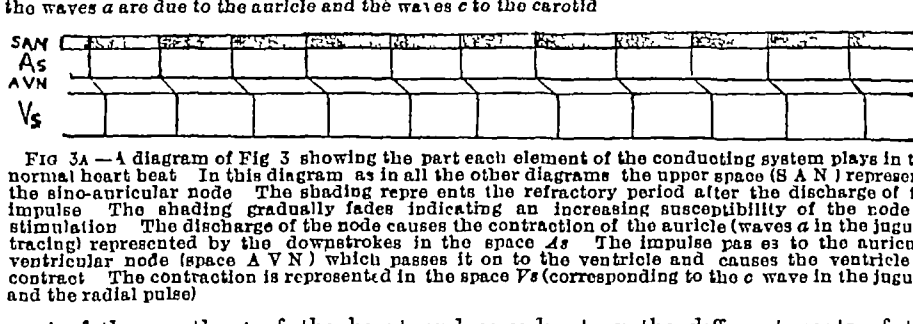


FIG 3—Tracings of the radial and jugular pulses with the normal rhythm In the jugular tracing the waves *a* are due to the auricle and the waves *c* to the carotid

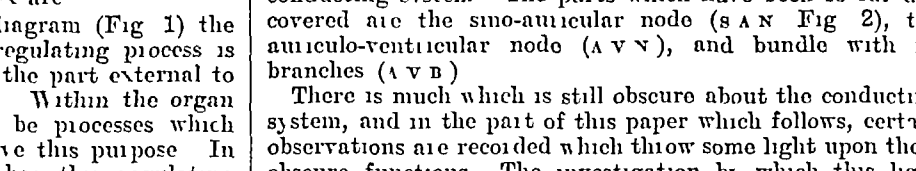


FIG 3A—A diagram of Fig 3 showing the part each element of the conducting system plays in the normal heart beat In this diagram as in all the other diagrams the upper space (S A N) represents the sino-auricular node The shading represents the refractory period after the discharge of the impulse The shading gradually fades indicating an increasing susceptibility of the node to stimulation The discharge of the node causes the contraction of the auricle (waves *a* in the jugular tracing) represented by the downstrokes in the space *As* The impulse passes to the auriculo-ventricular node (space A V N) which passes it on to the ventricle and causes the ventricle to contract The contraction is represented in the space *Vs* (corresponding to the *c* wave in the jugular and the radial pulse)

of the heart and co-ordinating the different parts of the heart into harmonious action are found in what is called the conducting system The parts which have been so far discovered are the sino-auricular node (S A N Fig 2), the auriculo-ventricular node (A V N), and bundle with its branches (A V B)

There is much which is still obscure about the conducting system, and in the part of this paper which follows, certain observations are recorded which throw some light upon these obscure functions The investigation by which this light was revealed has shown a number of other matters with which this paper does not deal

The diagram (Fig 2) shows that the sino-auricular and auriculo-ventricular nodes are played upon by the sympathetic and vagus nerves These two nerves are linked up with afferent nerves from all parts of the body During their functional activity the cells in the different organs of the body throw out impulses which are adequate to stimulate the receptor ends of these afferent nerves These impulses are conveyed to the central nervous system and stimulate the cardiac nerves In this way the heart is played upon by the activity of every organ of the body This can be demonstrated in a variety of ways

The brain, for instance, in conditions of mental emotion readily discharges impulses which affect the sympathetic and vagus, and react upon the heart's rate Contractions of the muscles of the body throw out impulses which also increase the heart's rate, and this is the cause of the increased rate during bodily effort The movements of respiration act in the same way, probably on account of the impulses thrown out by the muscles engaged in the act of breathing Other influences, too obscure to be recognized, also cause variation in the activity of the sino-auricular node This is particularly well seen in the hearts of the young, where the rate of the heart may be continually varying, sometimes with movements of the respiration, and sometimes independent of them

A diagram, on the principle of the reflex arc, can be constructed, from the records of the jugular and radial pulses, of the part played by each of the elements of the regulating system in the production of the heart beat Fig 3 is a tracing of the jugular and radial pulses, in which we recognize the action of the auricles and ventricles If we represent that tracing in a diagram, as in Fig 3A, it shows the different elements engaged in the heart beat The upper space (S A N) in this diagram represents the sino-auricular node The downstrokes show the discharge of an impulse which sets up a contraction of the auricle represented by the downstrokes in the space As The impulse from the auricle stimulates the auriculo-ventricular node (space A V N) which sends an impulse to the ventricle, causing a contraction which is represented in the space Vs This contraction causes the radial pulse

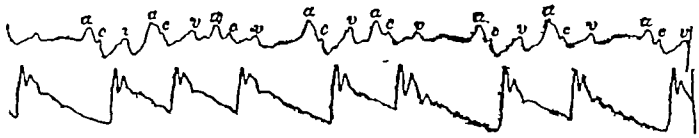


FIG 4.—Simultaneous records of the jugular and radial pulses, showing an irregularity in the rhythm of the pulse in which all the chambers of the heart participate This tracing is interpreted in the diagram Fig 4A.

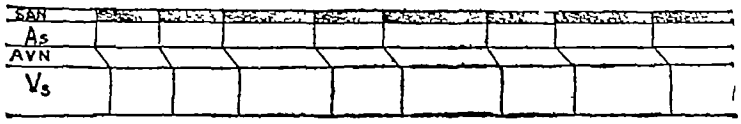


FIG 4A.—A diagram of Fig 4 showing that the irregularity is due to the variations in the time of recovery of the sino-auricular node

The shading in the space S A N represents the degree of excitability of the cells of the sino-auricular node After the discharge of an impulse there is a darkly shaded portion gradually becoming less dark till it disappears This represents the refractory period after the discharge of the impulse, and its gradual decrease or, to put it in another way, to the gradual increase of its store of energy and its susceptibility to stimulation

The application of the principle of the arc to the interpretation of an irregular pulse is illustrated in Figs 4 and 4A Fig 4 is a tracing of the jugular and radial pulses The symptom that arrests attention is the irregular pulse The different parts concerned in regulating the pulse rate are plotted out and each element of the regulating process is scrutinized From the facts revealed by records of the radial and jugular pulses a diagram is constructed (Fig 4A) In it the ventricle (or radial pulse) (downstrokes in space V s) is shown to be irregular As the ventricle is dependent on the auriculo-ventricular node, we look at that space and find that it also is irregular As the auriculo-ventricular node is stimulated by impulses from the auricle we examine and find that also irregular As the auricle is dependent upon the sino-auricular node we examine that and discover that it is irregular as well, and so recognize that the pulse irregularity arises in the sino-auricular node

This may seem an unnecessary elaboration of an easily recognized interpretation, but it is meant here simply to illustrate a principle whose application to more complex irregularities gives us a method for recognizing the nature of obscure disturbances of rate and rhythm

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(To be continued)

PARATHYROID GLANDS IN RELATION TO SURGERY

BY

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(With Coloured Plate)

I PROPOSE to present in this short paper such evidence as I am able which appears to me to establish the hypothesis that parathyroids are glands of which account should be taken at surgical operations I shall not review literature, for, although it contains an immense body of work of the highest value, I gather that what is desired is personal experience

It is a fact that tetany occurs in thyroid operations—rarely, I know It has occurred twice in my practice, in mild but unmistakable degree, and I have personal knowledge of three other cases—one in the practice of each of three of my friends These were far from being mild A discussion of the symptoms does not come within the scope of this paper As the number of my operations on the thyroid gland mounted into many hundreds without tetany happening, I doubted the importance of parathyroids, and wrote my scepticism Then it occurred!

It is beside the mark to say that tetany occurs in other circumstances Rare as it may be in thyroid operations, it is out of all proportion to its occurrence in other conditions

As so many thyroid operations are performed without tetany occurring, it is necessary to ask ourselves whether we damage something unusual on these rare occasions

Turning to dissection and comparative anatomy, we get some help Mr Covte, late of the Anatomical Department of St Bartholomew's Hospital, and I have dissected many necks in the *post-mortem* room In the beginning we found many bodies which macroscopically appeared to us likely to be parathyroids, but all the earlier ones without exception were proved, on microscopical examination, to be tiny lymphatic glands or pieces of thyroid gland Every suspected piece of tissue was cut and stained by our dressers Mr Brocklehurst and Mr Sturton, and examined microscopically by Mr Kevnes and myself

At this stage I began almost to despair of finding the parathyroid glands, and was on the point of visiting anatomists in Europe who alleged that they could always be found with ease I mention this because in discussion so many surgeons state that they have never seen the parathyroid glands at operations, and therefore they doubt their existence

Then we found our first parathyroid

We can now display one pair of parathyroids with precision, guided by their site, which is where the inferior thyroid artery breaks up into its branches, and by their colour, which, in the living body, is a dark terra-cotta

Microscopically there are seen islands of large polygonal cells with eosinophilous cytoplasm these are characteristic being unlike anything seen in the thyroid Professor Welch[1] has described these bodies very precisely and Professor Schafer notes them in his well known book on histology, but I find that they are very infrequently shown to

students and that practitioners are usually unaware of their structure

Dr Vladimir Korenchevsky, and, with him, Miss Luce and Dr Goldblatt, working at the physiological problems of the parathyroid at the Lister Institute of Preventive Medicine, has on many occasions allowed me to see his work in progress His advice and help have been of great assistance, especially with reference to comparative anatomy, histology, and physiology

In some animals these glands are found more readily than in others, and can be destroyed without interfering with the integrity or blood supply of the thyroid Proof of the gland is by microscopical examination

Sections of the parathyroid gland are identical in structure with those which we had prepared from human bodies

The question is sometimes asked, Are not these glandules outlying parts of the thyroid, or are they not lymphoid structure? In one slide (Fig 4—monkey) thyroid, parathyroid, and thymus are seen in one piece of tissue (slide by Dr Korenchevsky), and in Fig 5 will be seen thyroid, parathyroid, and the neighbouring structures in a photomicrograph of a section cut from the neck of a child

These structures are not accidental, for they can be found in every species of animal, and in every individual of the species Their position is very constant for each species and differs only slightly in different species They are not accessory thyroids for three reasons

1 Accessory thyroids occur in varying outlying positions, parathyroids are constant in site for each species of animal, and never absent

2 Accessory thyroid tissue conforms in histological structure to normal thyroid The histological structure of parathyroid glands is constant, and it is uniform in all the animals in which I have been able to examine it It is sometimes objected that a section of parathyroid shows colloid vesicles and that it is therefore really thyroid tissue the pars media of the pituitary shows colloid vesicles, but it is not on that account thyroid tissue I scarcely think Nature places structures of definite histological characters and with definite constant site throughout the animal kingdom for no purpose

3 The third reason is physiological

In some animals the parathyroids are embedded in the thyroid gland (Fig 4) In these animals physiological investigation is difficult There are others, of which the rat is one, in which a parathyroid gland on each side is situated outside the thyroid gland this is fortunate for the experimenter Human beings also have all their parathyroids outside the capsule of the thyroid gland, this is fortunate for the surgeon—and the patient!

In rats the two main parathyroid glands are readily seen, and can be destroyed by the point of a very fine electric cautery without destroying the thyroid gland As well as this, rats have a little other parathyroid tissue When in groups of rats, say twenty-five, these two main parathyroid glandules are destroyed, about two will die with spasms These are the animals in whom almost all the parathyroid tissue is contained in the two prominent glands There is not sufficient left to support life The others live, but become cachectic, and can be at any time thrown into a spasm of tetany

Here the experimental work of Dr Korenchevsky on rats links up with my own experiences in post-operative tetany, and with those of other surgeons who have published their records The spasms are identical with those which occur in human beings, the fore and hind feet being drawn into the characteristic flexor contractions A rat which has not been submitted to parathyroidectomy can be held beside one from the same litter which has, and stimulated in the same way, without any tetany occurring The difference is striking

The rats which have undergone parathyroidectomy but have not died have sufficient parathyroid tissue left to support life for a time, but not enough to prevent their neuromuscular balance being completely upset

Dr Goldblatt has been kind enough to take a photograph for me (Fig 6) of a rat in which the same result has been brought about by feeding half a litter of young rats on a calcium-free diet—the other members of the family being used as controls on a normal diet

DESCRIPTION OF COLOURED PLATE.

FIG 1—Parathyroid gland (human being) showing characteristic groups of cells with eosinophilous cytoplasm (High power magnification)

FIG 2—Parathyroid gland (human being) section of whole gland (Low magnification)

FIG 3—Parathyroid gland of rat On the surface of the thyroid gland (Dr Korenchevsky)

FIG 4—Parathyroid gland of monkey, showing thyroid and thymus glands also (Dr Korenchevsky)



FIG 5—Photomicrograph showing relative positions of parathyroid, thyroid, inferior thyroid vessels, oesophagus, and trachea (human) A thyroid, B, recurrent laryngeal nerve, C, branches of inferior thyroid artery, D, parathyroid, E, cartilage of tracheal ring, F, oesophagus

SUMMARY

1 In a certain number of thyroid operations there occur symptoms of which tetany is one manifestation These symptoms are entirely different from those of myxoedema

2 We find certain glandules in human beings which have their exact counterpart anatomically and histologically throughout the animal world

3 In animals we can destroy these glands, and then see an inevitable train of sequelae occur, which are analogous to the symptoms which occasionally occur following operation in human beings in circumstances which admit the possibility of damage to these structures

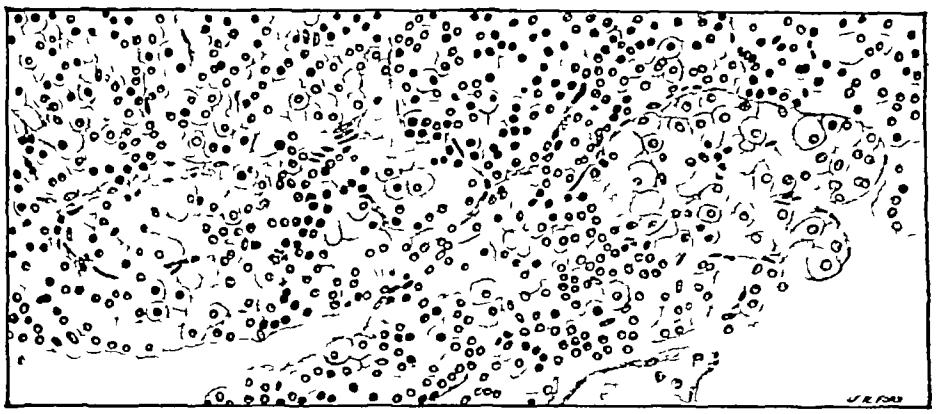


FIG 1.—Parathyroid eosinophilous cytoplasm (human)

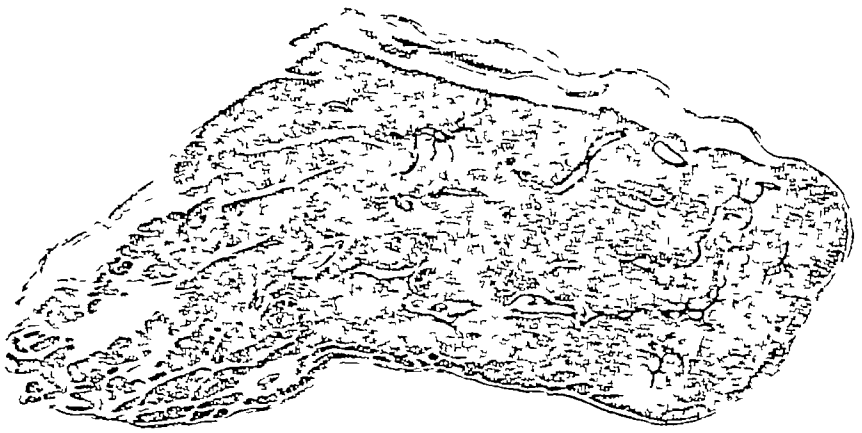


FIG 2.—Section of whole parathyroid (human)



FIG 3.—Parathyroid on surface of thyroid (rat)



FIG 4.—Parath[illegible] and thyroid (r[illegible]

CONCLUSIONS

Now as to the bearing of our beliefs on our surgery

Thyroid surgery is filling a larger and larger place in our day's work, and associated with it there are certain grave risks Of these tetany is one It is not the commonest, and it behoves us to keep a true perspective We should be alert to parathyroid dangers, but not obsessed by them

We perform thyroid operations to cure patients of their ills, and in such fashion as not to leave damage behind

The position of the larger parathyroid on each side is close to the posterior border of the lobe, near the spot where the inferior thyroid artery breaks up into its branches before entering the gland (Fig 7) Its blood supply is from one of the branches of the inferior thyroid artery, generally, occasionally from an anastomosis between a branch from the superior and inferior arteries Freeing this area of the lobe is a difficult part of a thyroid operation, and therefore damage to a parathyroid may occur only too easily, either by removing it with the thyroid lobe or by including it or its blood supply in a ligature

To avoid these two dangers C Mayo has developed a technique which he considers best safeguards the para-

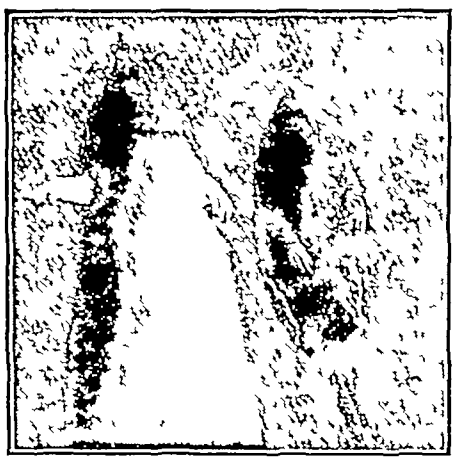


FIG 6.—Tetanic spasm in a rat fed on calcium free diet The other rat (its brother) was fed on normal diet

thyroids He ligates the branches of the inferior thyroid artery within the capsule of the lobe He uses "mosquito" forceps, and plunges them into the gland, dividing the gland distal to the forceps His plan was followed by Halsted—who uses the term "ultraligation"—and by most American surgeons

De Quervain, followed by other Swiss surgeons, advocates ligation of the trunk of the inferior thyroid artery well away from the gland, immediately it emerges from behind the carotid sheath, before it has broken up into its branches, and therefore before it has reached the site of the parathyroid gland Cunéo and Lorin disapprove of Halsted's method, and follow de Quervain

(In this paper I am speaking of exophthalmic goitre cases alone In non toxic goitres surgical interference is for an entirely different purpose In them the operation should be planned to relieve pressure and leave a cosmetic result Consequently a very considerable posterior portion of both lobes is generally left In toxic goitres it is quite otherwise It is to be remembered that removal of one lobe alone cures few cases of Graves's disease The surgeon has to plan for the optimum result from the first, and foresee what part of the gland is to be ultimately left for physiological purposes More than one operation will be required before the optimum result is attained If gland tissue is left scattered on both sides of the neck and across the trachea, it is impossible to know exactly what is left, or remove more gland substance with precision later)

De Quervain's method does not seem to me to be right With one ligature he cuts off the blood supply to the lower pole of the thyroid and practically the complete blood supply to the parathyroid It is a clean method and saves much bleeding but to destroy the blood supply of the parathyroid is surely not sound surgery

On the other hand, I have watched the method of intracapsular ligation—or ultraligation—frequently It always appears to me to be messy, and the picture seems to be blurred I should fear that, far from safeguarding the parathyroids, it would endanger them, but my main objection is that if an indefinite amount of thyroid gland tissue is left on both sides in a case of exophthalmic goitre, at least some cases will fail to receive the maximum amelioration of

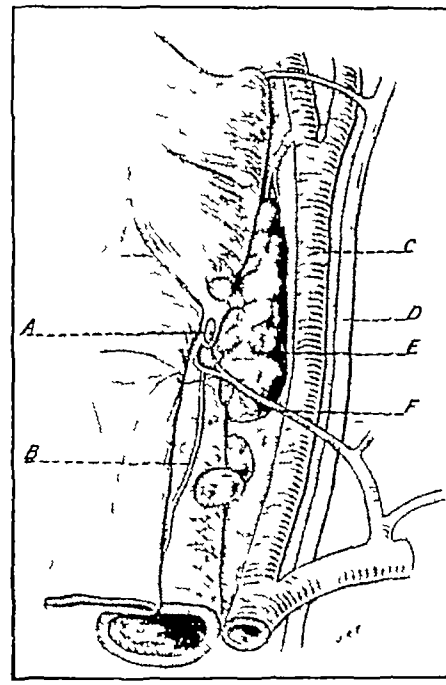


FIG 7.—Dissection to show site of parathyroid glands (human) A parathyroid B recurrent laryngeal nerve C common carotid artery D vagus nerve E thyroid F inferior thyroid artery

their condition which should, and can, be given, for it is to be remembered that a pathological thyroid may extend far behind the trachea, and rarely conforms to textbook anatomy Therefore I consider that the parathyroids are best protected by clean dissection of the posterior borders of the thyroid gland, ligating the branches of the inferior thyroid artery as they enter the gland

I do not say that my method is right, and that others are wrong each must follow the method which to him seems best, and try to perfect himself in that method

Treatment of Tetany after Operation

What can we do when tetany is present?

1 Injection of calcium solution
2 Transplantation of parathyroids from a member of the family, or an individual of the same blood group
3 (?) Parathyroid medication

The first plan—injection of 4 grams of calcium lactate—has proved completely effective in each of my two cases I have not yet had to resort to parathyroid transplantation, but Coupland of Leeds has shown that this can be done in the dog and that the graft was alive many months afterwards

As regards parathyroid medication I am profoundly sceptical

MODERN OPTICAL METHODS IN THE EXAMINATION OF THE EYE *

BY

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THE older optical instruments used for examining the eye consisted of the reflecting ophthalmoscope, concave and flat mirrors, condensing lenses, and loupes of various kinds During the past ten years Czapski's corneal microscope, combined with a somewhat inefficient electric lamp, has been employed to some extent in Continental clinics for the more minute examination of the cornea and the iris This valuable instrument has up to the present received little attention in England

Down to a period more or less corresponding to the end of the war our knowledge of the living eye in health and disease depended upon these optical aids In many cases our interpretation of what we saw was largely a deductive process, and not the actual result of pure vision Our observations were interpreted by a subsequent microscopic examination, and when the same appearance presented itself again it was explained in the light of previous experience During the past ten years improved optical appliances have enabled us to examine an eye under vastly increased magnification and to make our diagnosis directly from the appearances without any deductive process

The ophthalmoscope was first invented by Babbage, an English physicist, in 1847 He gave it to Wharton Jones to try, but unfortunately this ophthalmic surgeon failed to appreciate its value This is not unnatural, for even the modern instrument is difficult to use As a result, Helmholtz, who described and used an ophthalmoscope in 1851, has obtained the credit for the invention of the ophthalmoscope Helmholtz's instrument has been improved to its latest form, the refracting ophthalmoscope

During the past decade the self-lit electric ophthalmoscope has been developed and we now possess a very satisfactory instrument The best I have used is that manufactured by Messrs Curry and Paxton It has a more powerful light than the majority, and I think that it is whiter in character and contains less red light With this ophthalmoscope we get more penetration than with the reflecting model The nerve fibres leaving the optic disc can be made out and followed for some distance over the retina This naturally causes the edge of the optic disc to look less sharp, and till the observer becomes accustomed to the instrument it is possible to imagine that there is pathological blurring of the disc edges when in reality they are quite normal Colour values, too, are different, and to some extent a man who for years has used the reflecting ophthalmoscope has to learn over again It is hardly necessary to emphasize the value of a self-lit ophthalmoscope Examinations of patients in bed, which with the old instrument took a long time and demanded a darkened room, can now be made with ease in full daylight I am now able to examine all my patients at the desk, and dismiss many at once instead of keeping them for dark-room examination This means that not only is much time saved, but that practically all the patients are examined with the ophthalmoscope In all respects the self-lit ophthalmoscope seems to me to be an improvement upon the old pattern, which I now hardly use and regard as obsolete For the physician and the general practitioner there cannot be a doubt that the modern apparatus is best, it is easy to use and it is convenient for bedside work Students, who in time past found ophthalmoscopy most difficult and often failed to master it, are now able to see the fundus at once, and have only to learn to interpret what they see

The latest development in ophthalmoscopy is the use of the red-free light, a method introduced by Professor Vogt of Zurich If we look at a tenuous film of blood on the retina against the red background of the fundus, a colour due not to the blood content of the tissues but to the retinal pigment, with light rich in red, it is clear that there will be no contrast and that a thin haemorrhage will be difficult to see With a red-free light it will show up black, and be quite obvious The nerve fibres are seen all over the retina, and the yellow coloration of the macula is evident For some purposes, then, examination with red-free light has advantages It is necessary to use a micro-arc lamp with a special filter for red rays The resulting beam of light is green, and is naturally very intense The examination must be short and is made with the reflecting ophthalmoscope We are installing a red-free lantern at the Warneford Hospital

In 1910 Gullstrand invented his reflexless ophthalmoscope A beam of light furnished by a nitra-lamp is projected into the eye and the illuminated fundus is observed with a telescopic type of eyepiece A very high magnification can be obtained, and if the binocular eyepiece be used the fundus is seen in relief stereoscopically A demonstration eyepiece can be added so that the instrument can be used for teaching The surgeon can look through the telescope and the student through the demonstrating eyepiece The ability to employ stereoscopic vision is often of great value The ophthalmoscope is very expensive and is an institution instrument valuable chiefly for teaching

In 1911 Gullstrand invented the slit-lamp and at once opened a new chapter in ophthalmology Used in conjunction with Czapski's microscope, this instrument has provided an entirely new field of research—the microscopy of the living eye The combination of the slit-lamp with the microscope we owe to Henker, and the pioneer clinical work has been ably done by Vogt and Koeppe The slit-lamp does not in any way replace any of the older instruments and methods, it supplements them all to such an extent that first-class modern ophthalmology cannot be carried out without it The instruments are made by Zeiss, and although costly are not in any sense dear The minimum outfit costs £65

The slit-lamp consists of a system of lenses which projects from a nitra-lamp a ribbon of light that can be accurately focused upon any part of the eye The light passes through a slit which can be adjusted to supply a ribbon of light of varied width The lamp is mounted on an arm attached to a table in such wise that the light can be projected from any desired angle The table has a glass top in which we place the Czapski's microscope There is a chin and head rest for the patient The microscope is a binocular with paired objectives and eyepieces and gives stereoscopic vision The magnification with three objectives and a series of oculars ranges from 9 to 100 The practical magnifications are 9, 25, and 35, 25 is most frequently used With the higher powers the slightest movement on the part of the patient defeats the observer

The slit-lamp not only enables us to employ high magnification and new methods of illumination, but it also introduces an entirely new principle—the examination of an optical *section* of the eye as far back as the first third of the vitreous If a contact glass be placed upon the cornea which abolishes its curvature the retina can be seen, and examined with a linear magnification of 80 (Koeppe) The use of contact glasses must be regarded as research work, and not as a clinical method

There are four methods of illumination The light can be focused directly upon the object in the cornea, iris, lens, or vitreous—direct focal illumination It can be directed upon the iris in such wise that it is reflected back through the cornea, which can then be examined in a negative field—dark background illumination by transmitted light Similarly the pupillary margin of the iris can be seen by light reflected back from the lens Another method is to examine directly in the mirror of light seen when the patient looks between the axes of the lamp and microscope This shows up the corneal endothelium, which is seen as a mosaic of hexagonal cells The lens shagreen caused by the epithelial cells of the lens is easily seen, and with a high magnification can be resolved up into its constituent cells Finally, the reluceney of the tissues can be used to cause an internal illumination of the structure As an example, the light is directed upon the sclera close to the limbus and it is internally reflected along the cornea, causing it to light up internally a phenomenon which Graves calls "sclerotic

* An address given at Birmingham to the Midland Medical Society, November 28th, 1923.

scatter" It is obvious that the smallest opacity or haze will be clearly visible

When the beam is thrown into the eye obliquely it illuminates a prismatic section of the cornea and of the lens If the ribbon of light is made very thin this is in effect an optical section The section of the cornea magnified twenty-five times is two centimetres thick and enables opacities and alterations to be accurately localized The anterior chamber remains dark unless the aqueous contains particles which can be clearly seen if the light and microscope are accurately focused upon them, they will be noted to move with a streaming motion, caused by the heat eddy in the anterior chamber due to the difference in temperature between the iris and cornea The motion is accelerated by the heat of the beam of light Whereas the presence of cellular elements is the first sign of irido-cyclitis the detection of this movement may be of great clinical significance, and may give timely warning of an impending attack of sympathetic ophthalmitis

The lens seen in optical section shows a series of lamellae, areas of varying refractive index Vogt divides them into the capsule, the cortex, the senile nucleus, and the embryonic nucleus The latter corresponds to the lens in later foetal life The ability to localize opacities in one or other of these layers has a prognostic significance, for a cataract confined to the cortex cannot be congenital, this part of the lens developing after foetal life

The vitreous shows a framework structure which varies in different individuals, in fact, in many it appears to be optically homogeneous till examined with a slit-lamp furnished with a micro arc lamp It is interesting to note that the slit-lamp has shown that persistence of the hyaloid artery in rudimentary form is almost constant and is not the rarity that was supposed

The clinical value of the slit-lamp is immense, and since I have used one at the Coventry Hospital I feel lost without it It is obvious that an instrument which enables us to see the blood circulating in the corneal vessels, that shows up cells in the aqueous, and by means of which we can make an accurate localization of objects in the transparent media cannot be neglected much longer The slit-lamp has for the past three years found a place in every Continental clinic, and at Zürich, under Professor Vogt, it is used for nearly every patient It turns what at best is good guessing to certainty, and opens the way for intensive research

The address was illustrated by epidiascope projection from Vogt's *Atlas of Slit Lamp Microscopy* and from Koeppe's *Microscopy of the Living Eye*

THE ACTION OF PHYSOSTIGMINE AND PITUITRIN

THE ACTION OF THESE DRUGS, ALONE AND COMBINED, UPON THE ISOLATED HUMAN VERMIFORM APPENDIX, THE ADVANTAGES OF THEIR COMBINED USE IN POST-OPERATIVE ILEUS

BY

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RADCLIFFE TRAVELLING FELLOW 1922

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SINCE the early days of abdominal surgery post-operative atony of the intestines or ileus has been a menace to recovery The signs and symptoms are closely akin to those of acute mechanical intestinal obstruction The distinction was clearly drawn by Nothnagel,[1] who divided ileus into two classes—

1 Mechanical, from occlusion of the bowel—(*a*) by obstruction from within (*b*) spasm or constricting disease in its own substance, (*c*) pressure from without adhesions, tumours etc (*d*) twists, kinks invaginations etc

2 Dynamic ileus, in which there is the syndrome of occlusion with no closure of the lumen, this occurring when the intestine becomes paralysed

With the first group this paper is not concerned, there is fortunately no more appreciated fact in modern surgery than that immediate laparotomy is required

In regard to dynamic ileus Cannon and Murphy[2] have concluded that this condition is caused (1) by inhibitory impulses via the splanchnic nerves (2) by injury or depression of Auerbach's myenteric plexus (3) by trauma to the muscle itself They proved this by the radiographic examination of opaque meals given to cats (*a*) after ether anaesthesia, (*b*) after ether anaesthesia during which the testicles were crushed, (*c*) as in (*b*) the splanchnic nerves having been cut some days before After (*a*) the meal passed normally, after (*b*) the meal passed hardly at all because the shocked animal sent inhibitory messages along its splanchnic nerves, after (*c*) the meal passed almost normally because messages could not pass along the cut splanchnic nerves

Further, handling of the intestine caused subsequent delay, presumably causing inhibitory splanchnic messages To quote from their paper

"Manipulations of the stomach and intestines therefore even gently and under the most favourable circumstances produced in our experiments much greater effect in the direction of post operative inactivity than any other of the factors under control during operation Whether manipulation produces its effects on the mechanisms in the wall of the canal or indirectly through reflex inhibitions from the central nervous system was left undetermined

Dangers of Ileus

A slight distension of the intestines with gas is an almost constant occurrence after abdominal operations it should begin to pass off in twelve to fifteen hours When true ileus develops distension and discomfort steadily increase The condition is a vicious circle, for the atony permits both stasis of faecal matter, which in putrefying causes further paralysis of the gut, and formation of gas, which increases the distension

The dangers are readily apparent (1) Organisms may penetrate the devitalized viscera and a fatal peritonitis occur (2) Acute post-operative dilatation of the stomach may cause intractable vomiting and death from inanition and heart failure (3) Kinking of the distended intestine may change the condition to mechanical intestinal obstruction (4) Great distension may embarrass the diaphragm and impede the heart action

More theoretical causes of death are (*a*) Absorption via the lymphatics of a bacterial toxin found in the putrefying faecal matter (Murphy and Vincent[3]) (*b*) Splanchnic blood stasis, causing anaemia of the vital brain centres (*c*) Irritation of the nerve endings in the intestinal wall which causes death by constant reflex stimulation of the central nervous system (*d*) The more recent work of Whipple and Stone[4] suggests that the toxic symptoms are caused by the absorption by the blood stream of a toxin in the nature of a proteose which is secreted in the affected intestine

Treatment of Ileus

It cannot be denied that the present treatment of severe ileus is not all that could be desired, the condition is much feared by surgeons Methods past and present are

1 Massage of the abdomen This is not enjoyed by the patient, nor is it ideal over a large wound

2 Thrusting a trocar and cannula through the abdominal wall This temporarily relieves one loop of bowel and infects the abdominal wall It is not a scientific method

3 Passage of a lighted taper or the cautery downwards along the colon, in the assumption that the heat would start peristalsis.

4 Temporary colostomy or enterostomy, hoping that if the gas and faecal contents escape peristalsis will be re-established In practice however, the loss of tone prohibits the emptying of the intestines

5 For acute post operative dilatation of the stomach washing out the stomach is certainly the best treatment For atony of the intestines a stiff walled rubber tube may be passed high up in the rectum and left *in situ* for several hours to permit the escape of flatus High enemata of different kinds—soap olive oil turpentine and asafoetida etc —are of the utmost value

6 Drugs acting from within In ileus carminative and purgative drugs are disappointing

7 Drugs acting from without

(*a*) Physostigmine For many years it has been known that physostigmine (eserine) has the power to augment the movements of the alimentary canal by stimulating the parasympathetic nerve ends One of the first uses to which [illegible] stigmine as a remedy for post-operative ileus was [illegible] Its value in this connexion was [illegible] Cannon and Murphy,[2] who found that the recent

it caused were short lived A few years later Moennighoff even went so far as to recommend physostigmine in laparotomies as a prophylactic against distension giving gr 1/40 as a routine immediately the patient returned to bed The other drug of great value is—

(*b*) Pituitrin The work of Dale[8] proved scientifically the action of pituitrin The action of extracts of the posterior lobe of the pituitary body is a direct stimulation of involuntary muscle, without any relation to innervation The action is most nearly allied to that of the digitalis series, but the effect on the heart is in this case slight, that on plain muscle intense ' It was then clinically investigated by Bidwell[9] This surgeon used pituitrin in a series of twenty one cases of post operative ileus He found it of value, but concluded that it could not be completely relied on and should be used in conjunction with enemata

The Action of Pituitrin and Physostigmine Combined

At a meeting of the Association of Provincial Surgeons held at Oxford in 1914 Professor Gunn pointed out that in experiments on the intestines of laboratory animals there appeared to be a genuine synergism between pituitrin and physostigmine, evidenced by the fact that smaller doses of these substances in combination produced more pronounced stimulatory effect on the intestinal movements than could be produced by much larger doses of either of them singly, and he suggested that, in the treatment of post-operative ileus, a combination of pituitrin and physostigmine would probably be more efficacious than either alone Since then at various times this combination has been tried at the Radcliffe Infirmary with good results, but no systematic attempt had been made to decide its value Professor Gunn suggested to me that I should investigate this problem in the laboratory, using the technique employed by Gunn and Whitelocke for the isolated human appendix, and the present paper contains a summary of the results thus obtained as well as a record of a series of clinical cases in which the treatment was adopted during a period of six months The large majority of cases of slight post-operative distension yielded to enemata A certain number were more stubborn and required either pituitrin or physostigmine The remainder were severe cases of ileus which did not improve with either drug separately The combination was then used The cases where the combination was used are as follows

Case I

S D, female, aged 62 Colostomy performed July 11th, 1922 The condition was general peritonitis, caused by a perforation through a growth in the region of the caecum, the whole of the mesentery and gut was covered with secondary deposits Paul's tubes were tied in Forty-eight hours later not even flatus had passed, so pituitrin 1/2 c cm was given twice during the following four hours still nothing passed and the patient was practically moribund Three hours later pituitrin 1/2 c cm with physostigmine gr 1/100 was injected A large motion resulted in half an hour The patient improved (which was interesting scientifically, but in the circumstances not gratifying) and her bowels were opened regularly every day until she died on July 30th, 1922

Case II

H B, a woman aged 45, had felt ill for some hours, but on the morning of August 4th, 1922, performed her housework and did her morning shopping Intense pain came on at 11 a m She was brought into hospital at noon and operated on at 5 30 p m Five feet of green black gangrenous small intestine was found strangulated by an old adhesion This was removed and a lateral anastomosis made Physostigmine gr 1/100 was given four hourly from the time the patient left the theatre In spite of this the patient had complete ileus till 11 o'clock the following evening, when pituitrin 1/2 c cm with physostigmine gr 1/100 was given Twenty minutes later she passed flatus and felt very much more comfortable She passed nothing further till 11 o'clock the following morning when she was given pituitrin 1 c cm with physostigmine gr 1/100 Twenty minutes later her bowels acted freely She was regular afterwards and made an uninterrupted recovery

Case III

M G female aged 52 Hysterectomy performed on August 7th, 1922 This was followed by ileus of *forty-six* hours' duration She was given physostigmine gr 1/50 and in fifteen minutes passed a little flatus but had no alleviation of her pain Three hours later pituitrin 1/2 c cm with physostigmine gr 1/100 was given She had a good motion in twenty minutes and subsequently recovered

Case IV

W G male aged 48 Appendix abscess operated on August 7th, 1922 This was followed by ileus and some degree of acute post-operative dilatation of the stomach with very considerable vomiting, for which the stomach was washed out frequently On the morning of August 11th, the fourth day after the operation the patient was greatly distended and had passed no trace of flatus Pituitrin 1/2 c cm was given with not the slightest result At 6 p m pituitrin 1/2 c cm with physostigmine gr 1/100 was injected Within half an hour the patient had had three motions, was quite comfortable, and began a progressive recovery

Case V

E R female, aged 5 Appendicectomy performed on August 8th, 1922 The appendix was found almost normal On the following day much blood began to ooze from the wound and three stitches were put in At the same time green projectile vomiting began The next morning, two days after the operation, acute post-operative dilatation of the stomach was diagnosed Pituitrin 1/2 c cm was given at once, and two hours later the stomach was washed out and an enormous quantity of green vomit removed After the anaesthetic (which was necessary because of the age of the patient) the child collapsed and had to have artificial respiration Pituitrin 1/2 c cm was then given, and the patient came round slowly Four hours later pituitrin 1/2 c cm with physostigmine gr 1/200 was injected Within half an hour she passed a small green motion, obviously some of the fluid in her stomach had passed right along the alimentary tract There was a similar very slight motion during the night The next morning the stomach was again washed out, no collapse followed, nevertheless, pituitrin 1/2 c cm was given All that day vomiting was incessant In the evening the stomach was again washed out with smaller result, after which pituitrin 1/2 c cm with physostigmine gr 1/100 was given An hour later she passed a green motion, for the first time slightly formed From then recovery began, the bowels opened regularly, she was on full diet two days later and there was no more vomiting

Case VI

L R, female, aged 50 Appendicectomy and salpingectomy performed August 25th, 1922 Ileus till morning of August 28th, when the patient was much distended and in great discomfort At 11 a m pituitrin 1/2 c cm was given, absolutely nothing passed by the bowel and it only caused much belching and additional discomfort At 3 30 p m pituitrin 1/2 c cm with physostigmine gr 1/100 was injected, and ten minutes later the patient had a free motion and complete comfort after

Case VII

F B, female, aged 30, a primipara eight months pregnant A parovarian cyst four inches in diameter prevented the head from engaging in the pelvis Caesarean section was performed on August 11th, 1922 The patient became more and more distended as each day passed Every method to open the bowels failed After the first day physostigmine gr 1/100 was given six hourly On August 15th, four days after the operation, pituitrin 1/2 c cm with physostigmine gr 1/100 was given twice without any result During this day vomiting had become intense, the stomach was washed out several times but there was no improvement Per vaginam and per rectum the pelvis seemed to be filled with a quite immovable boggy mass The patient died a few hours later At the autopsy the uterus was found macerated in the pelvis, the uterus must have been intensely contracted by the pituitrin, fallen back in the pelvis then enlarged and in rising had become macerated, causing absolute mechanical obstruction

Case VIII

K C, female, aged 58 Hysterectomy performed August 22nd, 1922 Ordered physostigmine gr 1/100 four hourly immediately after operation Became increasingly distended during following three days and passed only slight amount of flatus At 2 p m on the third day she had had about fifteen injections of physostigmine and there had been no improvement Pituitrin 1/2 c cm with physostigmine gr 1/100 was then given, one hour later she passed much flatus and so on all the afternoon Her bowels moved six hours after the injection, the distension passed off, and she was regular after

Case IX

A P, male, aged 25 Operation for subacute appendicitis, September 11th 1922 Three feet of ileum in front of the ileo caecal valve were distended, atonic, and injected History of old gunshot wound in abdomen, but no adhesions found Next day patient was very distressed, intense vomiting and increasing distension In the evening he was put on physostigmine gr 1/100 four hourly, alternating with strychnine gr 1/60 four hourly The following day he was very much worse and the stomach was washed out several times By 10 30 p m he had had four doses of physostigmine and four doses of strychnine with no relief, in fact he was worse Pituitrin 1/2 c cm with physostigmine gr 1/100 was given at 10 30 p m , during the next few hours he passed much flatus and at 3 30 a m he had a good motion At 5 30 a m he was given another dose of pituitrin 1/2 c cm with physostigmine gr 1/100 Shortly after he had two more good motions An hour later the patient was an absolutely changed man, no longer in pain and wishing for food.

Case X

S H female, aged 38 Hysterectomy performed September 15th, 1922 Increasing distension after operation pain and loud complaints till 5.30 p m on September 18th, when pituitrin 1/2 c cm with physostigmine gr 1/100 was given In twenty minutes the patient had a large motion followed by comfort and sleep

Case XI

M W, female, aged 37 Operation on September 23rd 1922, for the breaking down of adhesions from a previous operation Physostigmine gr 1/100 ordered four hourly for the first day and six hourly afterwards By 6 p m on September 25th she was not much distended but very uncomfortable with "wind" which

caused much belching Pituitrin 1/2 c cm with physostigmine gr 1/100 given Twenty minutes later she passed a lot of flatus An enema one hour later resulted in a large motion

CASE XII

C H, male aged 41 Operation on September 26th, 1922 for closure of a hernia through an old operation scar (appendix abscess in 1894) On September 28th he was distended Given pituitrin 1/2 c cm with physostigmine gr 1/100 twenty minutes later he passed flatus The next day acute post-operative dilatation of the stomach was diagnosed Copious green vomit, stomach washed out and pituitrin and physostigmine given Slight green stool half an hour later On the two following days the patient was much better and began a little solid food The stomach again had to be washed out on October 2nd as the vomiting suddenly returned—vomit yellow brown commencing heart failure The next day he was worse and he died on October 4th At the autopsy the whole intestinal tract was found enormously dilated the blood in the heart laked and the heart muscle completely disorganized by a gas forming organism All his organs showed the ravages of an intense septicaemia The wound had healed by first intention in spite of the strain of the vomiting

CASE XIII

D E. male aged 37 Gangrenous appendix removed October 13th 1922 Became increasingly distended till October 17th The high rectal tube and enemata had only caused him to pass a very small amount of flatus On this day at 11 30 a m pituitrin 1/2 c cm with physostigmine gr 1/100 was injected Five minutes later he had a large motion and passed much flatus the patient's whole condition changed and he had a good night's sleep In spite of a subsequent subphrenic abscess and empyema he made an excellent recovery

CASE XIV

A P female aged 44 Hysterectomy performed November 7th 1922. By November 9th she had much distension and pain Pituitrin 1/2 c cm with physostigmine gr 1/100 given Motion in ten minutes Progressive recovery

CASE XV

M H female aged 44 Operation November 9th 1922. Six feet of completely gangrenous small intestine herniated and strangulated through an opening in the mesentery The patient was so ill before the operation that there was some doubt as to whether anything could be attempted She improved slightly however as the operation went on and finally complete resection of the gangrenous bowel and a lateral anastomosis was possible Complete ileus developed which was hardly surprising although she was given physostigmine gr 1/100 six hourly from the time of the operation By the morning of November 12th three days later the patient was *in extremis*—distended vomiting and in intense pain hardly able to speak Pituitrin 1/2 c cm. with physostigmine gr 1/100 was then given In ten minutes the patient had an enormous stool nearly filling a large bed pan Half an hour later she began to improve markedly That evening nutrient enemata were no longer needed as she was able to take a very little by mouth The following evening she had a large natural motion was quite hungry and able to commence a light diet

Summary of Cases

Cases II, IV, V, IX, and XV may be considered desperate cases and the relief given was dramatic In Case II five feet and in Case XV six feet of gangrenous intestine was removed In each case the risk of breaking down the anastomosis had to be taken, otherwise the patients would certainly have died With regard to Cases VII and XII, the former had absolute mechanical obstruction from a uterus incarcerated in the pelvis, Cases XII was a genuine failure for in spite of all efforts the patient succumbed to an intense general septicaemia

EXPERIMENTAL WORK

Cunn and Underhill[10] found that 'the isolated intestine still retains the power of executing rhythmical contractions, when warmed up in the usual way, after having been kept in Locke's solution at a temperature a few degrees above 0° C for three days" Later Gunn and Whitelocke[11] investigated the movements of the isolated human appendix and the action of drugs upon it I have employed the technique used by them The appendices removed at the operation were dropped straight into a glass-stoppered bottle filled with Locke's solution and carried to the laboratory The experiments were all carried out within one and a half hours of removal from the body The appendices used in these experiments were all taken from young people They were all very nearly normal, at the worst only slightly hyperaemic Gunn and Whitelocke say:

'Our experiments have elicited the fact which was not entirely to be expected that a very severely inflamed appendix may still show spontaneous movements of a not definitely aberrant type Indeed a piece of appendix immediately adjacent to a gangrenous portion which had ruptured through showed no conspicuous impairment of movement

In order to record the movements of the appendix the method used by Magnus[1] for investigating movements of isolated mammalian intestine was employed The appendix was suspended in a bath of Locke's solution, kept at a temperature of about 37° C The piece of appendix (about half an inch) was suspended between two hooks, the lower of which was fixed, while the upper, attached by a thread to a lever recorded the contractions of the longitudinal muscle The measured quantity of the drug was drawn into a pipette and blown into the beaker in which the appendix was suspended, the time of entry being marked on the tracing

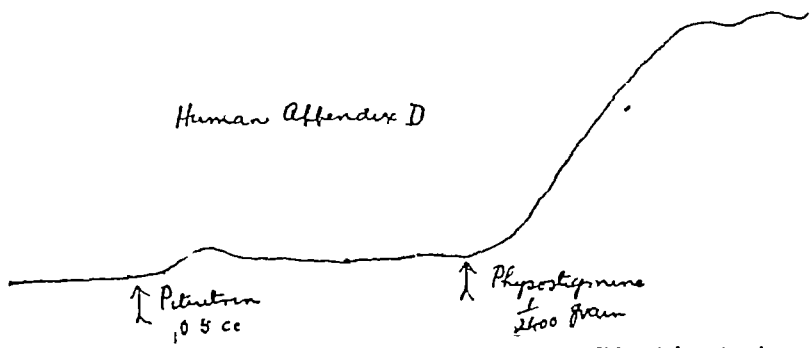


FIG 1.—Showing slight effect of pituitrin increased by subsequent addition of physostigmine

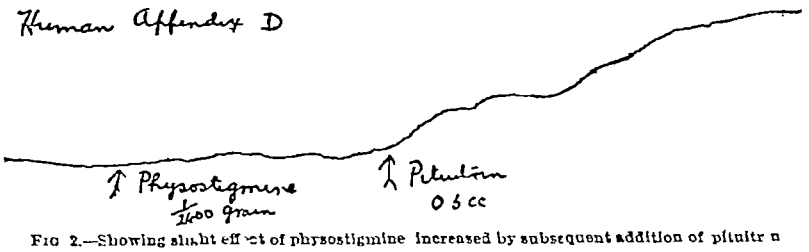


FIG 2.—Showing slight effect of physostigmine increased by subsequent addition of pituitrin

The accompanying tracings (Figs 1 and 2) are extremely instructive They are made by separate pieces of the same appendix, both experiments being carried out simultaneously on different drums The interest is that in one case the pituitrin 1/2 c cm was given first and a slight rise obtained, then the physostigmine gr 1/2400 which caused a very much increased rise, while in the other the interval between the drugs was the same but the order reversed the rise of tone being similar in each case Neither drug alone produced much effect Other experiments of this kind gave the same result

SUMMARY AND CONCLUSIONS

1 Experiments on the isolated human appendix have shown that physostigmine and pituitrin in combination have a more powerful effect in stimulating movements of the intestine than either of these singly

2 A number of cases of severe post-operative atony are described in which this combination relieved the condition when physostigmine or pituitrin alone failed to do so Indeed so far no case thus treated has failed unless where there was unsuspected mechanical obstruction

I wish to thank Professor Gunn for help throughout and Professor Heathcote for assistance with the laboratory work at Mr Whitelocke Mr Dodd Parker and Mr Peters [illegible] and Mr Hugh Whitelocke assistant surgeon to the Royal Infirmary for allowing me to publish records of patients under their care

The physostigmine used was the product of the [illegible] Howe Ltd—gr 1/100 tabl and [illegible] was the preparation of Burroughs Wellcome [illegible] stigmin (eserin) is a rather cruel [illegible]

usually dissolved in 5 minims of warm water and drawn into the syringe, the needle was then thrust into the pituitrin ampoule and its contents also drawn in and the combined solution injected subcutaneously

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X-RAY TREATMENT OF INTERSTITIAL KERATITIS

BY

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THE value of treatment of various pathological conditions of the eye by *x* rays has been recognized for some years, but the literature on the subject is scanty In the earliest published cases a few unfavourable results were reported, probably owing to imperfect technique, but latterly some foreign writers have published cases showing marked benefit from *x* rays carefully applied We have come across few references to *x*-ray treatment of eye conditions in the British journals, and none as applied to interstitial keratitis

Jendralski[1] reports five cases of glioma of the retina successfully treated by *x* rays and radium In two of these a cure was claimed, whilst in the other three life was prolonged by a retardation of the rapidity of growth of the tumour cells Other foreign writers detail cases of iridocyclitis, irido-choroiditis, uveitis, and vernal conjunctivitis treated by this method with good results, whilst Sgrosso,[2] Japiot and Bussy,[3] and Nicolle[4] all report excellent results in cases of interstitial keratitis

Parenchymatous or interstitial keratitis must be regarded as a disease of the uveal tract, of which the posterior layers of the cornea form a part, a disease also involving the iris and choroid It used to be considered as essentially of syphilitic origin, regardless of the circumstances in which it took place Sir Jonathan Hutchinson as recently as 1890 stated that it could not be the result of anything else Although the large majority of cases are of specific origin—generally inherited—there is no doubt that tuberculosis is also a very definite cause in a large number of cases, whilst malaria, trachoma, rickets, and focal infection (such as teeth, tonsils, sinusitis) have also proved to be the cause in isolated cases A point recently emphasized by Butler[5] is that trauma and operation are often factors precipitating the disease in a cornea predisposed to it by either syphilis or tuberculosis Alvanakian[6] goes so far as to assert that interstitial keratitis is a dyscrasic affection, most frequently associated with hereditary syphilis, but that a determinant cause, such as acute infectious or chronic cachectic disease, is necessary in most cases for the disease to develop

This all goes to show that the treatment of interstitial keratitis, arising as it does among persons whose power of resistance is low, is often a very long affair before improvement takes place It is still longer before the disease, having passed through the stages of infiltration and vascularization, reaches that of reabsorption

Swanzy[7] states the average duration of the acute stage to be six to eight weeks, or even longer, and we have all seen cases where the vascularizing stage has stretched into months, in spite of active treatment, leaving opacities so dense that vision has been reduced to hand movements As the damage is done in the acute stage not only to the cornea but also to the whole uveal tract the chances of useful vision would be much improved if this stage could be cut short Consequently excessive infiltration and vascularization, together with the subsequent opacity, iritis, and choroiditis, might be minimized

With this end in view we decided to try the effect of *x* rays on certain selected cases at the Royal Southern Hospital, Liverpool, and we consider the results sufficiently striking to report The number of cases treated is not large, but from the first application the effect of the *x* rays was marked and improvement of the condition started almost immediately

We have adopted the following technique, which is both simple and requires no special apparatus The patient lies on his back on the couch, the head being firmly fixed by sandbags which are brought up level with the forehead on each side A rectangular piece of thick felt about 14 inches by 6 inches, to which two layers of lead foil have been stitched, is taken, and in this are cut two circular windows approximately the size of the eyeballs and at the necessary distance apart This pad is accurately centred, felt side down, over the eyes and held in position by means of additional sandbags The tube stand, with a lead glass speculum just large enough to include the eyes, is placed in position so that the distance between the anticathode and the eye is 8 inches A 7-inch gas tube is used, through which we pass a current of 1 milliampere backing up a 6-inch spark-gap, the rays being filtered through 0·5 mm of aluminium and one layer of felt The duration of each treatment is six minutes A treatment is given every seven days, and usually five or six suffice

We have been led to adopt this "small dose" method with little filtration for the following reasons

(*a*) The lesion treated is superficial, being mainly confined to the anterior chamber of the eye

(*b*) We desire to give a stimulating or exciting dose It is a well recognized fact that in such diseases as pruritus and certain forms of eczema small doses of soft rays are sufficient to effect rapid cures

(*c*) With a small dose such as that described there is no risk of damage to the surrounding tissues, in no case have we caused redness of the skin or falling out of the eyelashes, and we have no reason to believe that any damage has occurred to the developing cells in the eyes of our young patients

The following cases are illustrative of those treated

CASE I

I L aged 13, presented a typical picture of severe interstitial keratitis affecting both eyes Photophobia was present to such a degree that the eyes could be opened only with difficulty lacrymation was profuse and there was intense ciliary injection with vascularization of the cornea Iritis was present and pain was exceedingly severe The child had to have her bed shielded from the light and generally was found kneeling under the bedclothes with her face buried in the pillow The Wassermann reaction was positive, but tuberculous tests were not made The case was singularly unresponsive to treatment although the usual remedies were applied—hot applications atropine, dionine, calomel, together with intravenous injections of neo kharsivan

Little change was apparent in spite of vigorous treatment till finally we decided to try *x* rays The applications were given weekly, and to us—it was the first acute case we had treated in this way—the effect was remarkable After the first treatment photophobia and lacrymation were relieved, after the second the acute stage showed marked signs of abating, the ciliary injection had almost disappeared, and the child could sit up in bed happy and contented After the third treatment she could read the large print of a child's book and was practically fit to leave hospital The same treatment—local, *x* rays, and specific—was, however continued, and when last seen she was ready to go back to school, distance vision being—R 6/18 partly, L 6/12 There were a few deposits on the lens capsule from posterior synechiae and slight scarring of the cornea There was no choroiditis She had in all fourteen applications of *x* rays, and apart from the relief experienced in the acute stage we consider that there was a decided beneficial effect on the opacities

CASE II

D A, aged 5 when first seen had severe interstitial keratitis of three weeks duration in the right eye, photophobia and ciliary injection being very marked The left eye showed early infiltration of the lower half of the cornea with ciliary injection The Wassermann reaction was ++, but it was decided not to submit the child to antisyphilitic treatment until the effects of *x* rays had been observed This treatment was commenced at once with hot bathing and atropine locally Eight days later the effect of the *x* ray treatment was so marked that the acute stage was almost over In this case there can be no doubt that *x* ray treatment alone arrested the progress of the disease the acute stage in the left eye having been cut short by several weeks When last seen the opacity in each cornea was slight and there is no doubt that no progression of infiltration had taken place since *x* rays had been applied

CASE III

J G, aged 22 Old-standing interstitial keratitis was present with dense corneal opacities and when first seen he was suffering from a recurrence, the eyes being in a semi acute condition On examination three days after the first application of *x* rays the pain and "gritty" feeling in the eyes were relieved, and after the second application all acute symptoms had disappeared Local treatment was also carried out and the patient had weekly injections of neo-kharsivan When last seen the corneal opacity was less marked but vision was poor owing to the presence of central choroiditis

This case would suggest that even in young adults treatment by *x* rays is useful in the semi-acute stage, especially for the relief of pain and photophobia

CASE IV

R B aged 17 had suffered from interstitial keratitis in 1920, and after six months treatment a very dense central opacity remained The Wassermann reaction was ++, and antisyphilitic measures seemed to have little effect When seen about twelve months later keratitis punctata was present in the left eye together with ciliary injection and photophobia, followed later by irido-cyclitis and finally by infiltration and vascularization of the deeper corneal layers Active antisyphilitic and local treatment seemed again to have no effect X-ray administration was commenced four months after the first symptoms appeared in this eye Improvement started at once and after three attendances the acute stage was practically over Nine applications of *x* rays were given, and though the amount of corneal opacity left was extreme the patient himself professes that the vision improved each time *x* rays were applied

CASE V

A A aged 63 had suffered from interstitial keratitis in childhood and when she was first seen vision was reduced to hand movements in each eye Both corneae were almost opaque and in addition to the parenchymatous condition new superficial vessels had spread over the surface - Evidence of old iritis ciliary injection and firm tension were present in each eye Pain and photophobia were marked The usual forms of treatment were given but without any benefit X rays were then applied and after four doses the pain and photophobia had disappeared but no improvement in vision took place

This case would tend to show that in old chronic interstitial keratitis in aged adults relief of pain and photophobia only can be expected from *x*-ray treatment.

CASE VI

S W a man aged 45 was suffering from Mooren's ulcer, which is strictly speaking a superficial disease of the cornea but we include the case as a matter of general interest The lesion was of a particularly progressive type unaffected by treatment—local medicinal or operative First the cornea of the right eye and then that of the left was totally destroyed the pain photophobia and purulent discharge being very distressing For these latter symptoms as treatment seemed unavailing *x* rays were suggested and twelve applications were made at weekly intervals After the first two or three doses there was marked relief the discharge rapidly became less and shortly ceased altogether The pain and photophobia disappeared No improvement in the scar tissue was expected and apparently none took place

CONCLUSIONS

1 In syphilitic interstitial keratitis (we have not treated by this method a case known to be definitely tuberculous) *x* rays in weak doses have an undoubted effect in cutting short the early stages of infiltration into the deeper corneal layers

2. The earlier the stage of the disease at which this treatment is started the more rapid the improvement and the more satisfactory the results Case II exemplifies this in a striking manner, and it will be noted that in this case *x* rays were practically the only curative agent used, till the acute stage was over

3 The younger the patient the better the reaction to *x* rays In the cases treated children reacted more rapidly than young adults, whilst in older people the reaction was less satisfactory

4 It is in the relief of pain, photophobia, and lacrymation that *x* rays show the most striking results The acute stage is also much shortened by checking infiltration and vascularization

5 The opacities in young subjects are undoubtedly benefited by *x* rays This was strikingly shown in Case I, but is opposed to the findings of the foreign writers

6 In no case was any damage done to the eye or the surrounding tissues, and the patients complained of no inconvenience during the treatment

7 Small doses only of *x* rays are necessary

8 X rays should be used as an aid to, but should not take the place of, local, antisyphilitic, and general treatment

9 The value of small doses of *x* rays shown in interstitial keratitis justifies their trial in certain chronic eye diseases where treatment has been disappointing such as the painful blind glaucomatous eye and scleritis of the aged Further, a safe and more stabilized technique such as that here described holds out hope of better results in many eye conditions, both chronic and acute

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THE TREATMENT OF ASTHMA WITH COMBINED PEPTONE AND VACCINE

NOTES ON TWENTY-FOUR CASES TREATED

BY

JOHN VEITCH, M B, CH B EDIN

IN regard to the treatment of asthma by the system of protein shock, it was found that certain cases did not react to peptone or vaccine when given alone Some cases did better with a course of peptone followed by vaccine treatment, but still there were some that did not react, so I devised a system of giving a course of injections of peptone and vaccine combined in one solution The solution used was in three strengths, as follows

A 5 c cm of 5 per cent solution = 0·25 gram peptone + 235 million organisms mixed catarrhal vaccine
B 5 c cm of 10 per cent solution = 0 5 gram peptone + 940 million organisms mixed catarrhal vaccine
C 10 c cm of 10 per cent solution = 1 gram peptone + 1 880 million organisms mixed catarrhal vaccine

The injections were given every seven days for the first four weeks half a tube of A solution per week, for the second four weeks half a tube of B solution per week, and so on, increasing in strength of dosage The injections were given intramuscularly in the so-called painless area just below

No of Case	Sex	Age	Duration of Condition	No of Injections at Weekly Intervals	Origin Whether Specific or not	Results
		Yrs	Yrs			
1	M	38	8	12	No	Slightly improved
2	M	32	10	24	Yes	Cured (nephritis case)
3	M	37	9	20	No	Cured
4	M	21	2	24	No	Cured.
5	F	17	2	20	No	Cured.
6	M	13	8	24	No	Cured.
7	M	24	10	24	No	Greatly improved
8	M	65	2	12	Yes	Cured
9	M	29	6	12	Yes	Cured
10	M	16	6	24	Yes	Greatly improved
11	M	17	2	12	Yes	Cured.
2	F	10	4	12	No	Cured
13	M	12	10	2	No	Slightly improved still under treatment
14	F	42	8	12	No	Slightly improved
15	F	25	5	13	No	Cured.
16	M	34	10	19	Yes	Reduced number of attacks longer period between attacks
17	M	13	6	12	No	Cured.
18	M	43	12	24	Yes	Greatly improved.
19	M	11	2	12	No	Cured.
20	M	35	4	12	No	Cured.
1	M	0	15	12	No	Improved.
22	M	43	0	24	Yes	No improvement
23	M	35	17	18	Yes	Cured
24	M	11	8	1	No	Great[illegible]

the anterior superior spine of the ilium, by means of an ordinary-sized serum needle, the needle being pushed in till the bone was felt, then slightly withdrawn and the contents of the syringe injected On withdrawal of the needle the area was briskly massaged with a hard pad of cotton-wool to diffuse the fluid through the tissues

A sharp reaction usually followed in about six to eight hours, there was some local redness and tenderness, and the temperature rose a degree or so Further, there was a tendency to perspiration, but no other symptoms developed The injections were given at night, and the patient was able to be up and about the next day without discomfort No special diet or medicinal treatment was indicated The results of the treatment of twenty-four cases by this method are given in the accompanying table (p 13)

The following points were noted Generally the results were quite good In younger patients the signs of improvement were to be seen early, age seemed to count more than the duration of the condition—as age increased the condition was more stubborn to treatment, but in some cases, as will be seen, prolonged exhibition of the combination gave satisfactory results One of the cases after prolonged administration developed nephritis, which cleared up after stoppage of treatment All the cases gained in weight while under treatment and their general health was improved

OUTWARD DISLOCATION AT THE TARSO-METATARSAL JOINT

BY

J BINFORD BARNETT,

REGISTRAR, ROYAL NATIONAL ORTHOPAEDIC HOSPITAL

DISLOCATION at the tarso-metatarsal joint is usually caused by great violence—when the foot is run over by a heavy wagon, for instance The following case, in which the trauma was comparatively slight, seems worth recording

MRS N, a heavy woman of 65, 'sprained" her left foot in September 1922 While standing on a chair she overbalanced and as she stepped down her full weight came on the inner side of the left forefoot In her own words her foot 'stuck out sideways until reduced by a helpful neighbour, and it was very painful She says that she heard a distinct snap as her foot struck the ground She remained on a couch for three weeks,

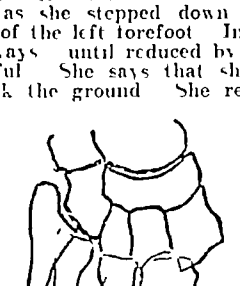


FIG 1.—Diagrammatic drawing from a skiagram

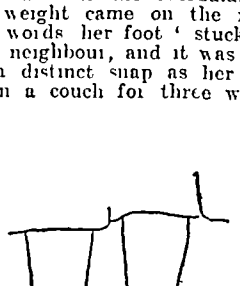


FIG 2.—Drawing from a photograph

applying to the foot a liniment of great promise but defective performance. When seen four months later the left foot was valgoid and the forefoot displaced outward, the internal cuneiform bone was very prominent there was a general stiffness of the foot and movements were painful A skiagram showed dislocation at the tarso metatarsal joint outward and slightly dorsal, with considerable bone atrophy She was ordered a light outside iron to the knee valgus T strap and a surgical boot wedged on the inner side A month later function was good

Of the fifty cases recorded by Lenormant in his authoritative article,[1] only four occurred in women, and in none of those was the dislocation dorsal and outward All were caused by great violence, and upon consideration of the anatomy it is difficult to understand how stepping down from a chair could have such serious consequences Despres insists that a fracture of the second metatarsal is always present in these cases Bayer and others deny this Quenu suggests that a fracture of the distal end of the external cuneiform renders the interarticular line straight, and permits luxation In the case of Mrs N, fracture of both the second metatarsal and external cuneiform appears to have occurred Gutgensohn[2] attributes a similar injury to the joint approximating to the ball-and-socket type, and to the absence of a dorsal intermetatarsal ligament

The physical signs are quickly masked by the great swelling of the dorsum of the foot, accounting for the late diagnosis in 20 per cent of cases (Lenormant) The history of the type of violence and of displacement of the forefoot is therefore of great importance The cases soon become irreducible by manipulation (fifteen days, von Linhart), and fibrosis, exuberant callus, and retraction of soft structures occur Lenormant describes an ossification of the plantar ligaments, forming a bony bridge under the site of injury, as the chief difficulty found in these late cases But in those early cases submitted to open operation the obstacle to reduction has been that portion of the tibialis anticus tendon attached to the first metatarsal, which becomes lodged between the base of the metatarsal and the first cuneiform When this is cut, reduction can be effected with ease,[3] and the result of operation has been excellent The results of operation in late cases have been poor (Lenormant)

It would appear, then, that in early cases an open operation with tenotomy of the tibialis anticus is indicated In late cases function is fairly good anyhow, and the results of operation have not been encouraging

I have to thank Mr J Jackson Clarke for permission to publish this case

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CARBON MONOXIDE POISONING DURING PREGNANCY

ALTHOUGH cases of carbon monoxide poisoning are of common occurrence, I have been able to find few references to such a condition during pregnancy The following case was of considerable interest, and in view of its unusual features seems worthy of record

On February 15th, 1923, a man, his wife, and a male child aged 2 years, were all 'gassed" whilst asleep, through leakage from a fractured road main filling their house with coal gas They were taken to the Bristol General Hospital at once Husband and wife were unconscious on admission, the child was dead Both patients had stertorous breathing, pulses almost imperceptible, and the complexion a pinkish grey colour

The man, aged 26 years, recovered consciousness in four hours after treatment with camphor injections, stimulants, and oxygen He made an uninterrupted recovery in about five days

The woman, aged 23 years, regained consciousness in three hours under similar treatment She vomited once during this time When the accident occurred she was six months pregnant, and because there had been no foetal movements since the occurrence she was examined by the physician accoucheur (Mr D C Rayner), who decided that in all probability the foetus was dead Having considerably recovered she was discharged from hospital on February 22nd Three weeks later she was admitted to Southmead Infirmary for observation The fundus uteri only reached the umbilicus The tumour was "doughy" rather than elastic, the patient had felt no foetal movements, she had had no pains or discomfort milk could be expressed from both breasts Since she had lost her first child the patient naturally clung to the smallest hope of the foetus being still alive Consequently it was decided not to induce labour, and the patient continued in apparently normal health

On April 15th (exactly two months after the accident) definite labour pains commenced at 8 15 p m About two hours later the os was found fully dilated, with a large elongated bag of membranes almost reaching to the vulva The presenting part felt "soft and flabby" and during the examination the membranes ruptured The liquor amnii which escaped was dark brown in colour but not offensive It seemed certain now that the foetus was dead, and the patient was left an hour or so in the hope that the uterus would expel its contents During this time she complained of severe pains about every five minutes though the uterus did not feel to be contracting well A second vaginal examination showed that the os was somewhat smaller than before and the ribs of the foetus could be felt

In view of some slight haemorrhage it was decided that the uterus must be emptied as soon as possible The uterine contractions still continued poor and seemed totally unable to expres

the foetus Bimanual manipulations brought the head down and this was so softened that a good grip was eventually obtained with large volsellum forceps and the foetus extracted with some difficulty Placenta and membranes were expressed intact almost immediately There was some post partum haemorrhage, and a hot intrauterine douche was given at once followed by 1 c.cm of pituitrin intramuscularly and a drachm of extract ergot liq by mouth The patient appeared fairly well with a pulse of 95 and the uterus satisfactorily contracted Two hours later there was sudden relaxation of the uterus and excessive haemorrhage The pulse rate became rapid and the patient collapsed An injection of ergotin was given—the uterus was compressed abdominally and shock treated in the usual way There was no further haemorrhage and the uterus remained contracted The patient made an uninterrupted recovery and was discharged on May 12th quite well

An examination of the foetus showed that it was a female child weighing 2 lb It was about six months development—not eight as the duration of the pregnancy might suggest Although soft and flabby its skin was red and in good condition—not macerated On opening the thorax about half an ounce of blood stained fluid was found on each side of the chest This was collected care being taken to avoid contamination

Next an aqueous extract of the placenta was made and finally a specimen of the mother's blood obtained fresh from the patient Spectroscopic examination of these specimens showed

Fluid from chest of foetus Contained carboxyhaemoglobin Various reducing agents were tried but in no case could the characteristic absorption bands of carboxyhaemoglobin be removed

Extract of placenta Did not contain carboxyhaemoglobin

Mother's blood Did not contain carboxyhaemoglobin

There seems no doubt that the foetus died at the time of the actual "gassing" A dose of carbon monoxide, which was insufficient to kill the mother, caused the death of a six months old foetus, and the presence of carbon monoxide appears to have modified the process of maceration The normal contractile power of the uterus seems to have been diminished also Possibly this accounts for the products of conception being retained for such a long time as two months after the death of the foetus

I wish to thank Dr Buckmaster, professor of physiology in the University of Bristol, for his help with the blood tests and also Dr Norgate, medical superintendent of Southmead Infirmary, for permission to publish this case

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Reports of Societies.

THE COMPLEMENT FIXATION TEST IN TUBERCULOSIS

AT a meeting of the Medico-Chirurgical Society of Edinburgh on December 5th, 1923, with the President, Sir DAVID WALLACE, in the chair, a joint communication on the complement fixation test in the diagnosis of tuberculosis, with special reference to pulmonary tuberculosis, was presented by Dr A NIMMO SMITH and Dr FERGUS HEWAT The work had been carried out at the Ministry of Pensions Hospital, Craigleith, where 400 serums had been examined

Besredka's antigen had been used throughout, the preliminary titration of complement was always performed (*a*) alone and (*b*) in the presence of antigen, and the reading of the results in relation to the minimal haemolytic dose of complement used was defined in terms of a "strong" "moderate," or "weakly positive' result The patients examined had been placed in five groups

Group I—Cases with tubercle bacilli in the sputum and one case with them in the urine = 59 cases In 51 (86 4 per cent) the reaction was positive Of the 8 negatives 2 gave a positive on re-examination one gave 4 negatives the other 5 could not be re-examined Reference was made to the fact that advanced cases may be expected to give a negative reaction and some cases showing no systemic disturbance may likewise do so

Group II—Clinically active tuberculosis without tubercle bacilli in sputum on repeated examination (32 pulmonary cases one adenitis and one epididymitis case) 19 (55 8 per cent) gave a positive reaction It was admitted that there was always some clinical doubt in such cases since there might be a healed tuberculous lesion coexistent with acute non tuberculous bronchial disturbance

Group III—Clinically inactive tuberculosis = 42 cases 36 gave a negative reaction and 6 gave a positive reaction two of them giving a positive Wassermann reaction as well—that is 90 per cent negative excluding the positive Wassermann reaction cases

Group IV—Cases in which the Wassermann test was positive and there was no reason to suspect tuberculosis There were 68 cases in this group In 18 (26 4 per cent) the complement fixation test was positive and 50 (75 5 per cent) negative In a series of 75 congenital syphilitics Cooke found a positive Wassermann and complement fixation test occurring in each case

Group V—Cases of other diseases showing no evidence of tuberculosis and in which the Wassermann test was negative In 185 (93 4 per cent) a negative reaction resulted and in 13 (6 5 per cent) a positive reaction one of the latter was negative on the second test, and in another a case of malignant endocarditis, there was an old standing lupus It was difficult to explain some of the false positive results but such cases ought to be closely followed up as other proofs of tuberculosis might develop later

The following conclusions were drawn from this section of the paper (1) A positive test occurred in the great majority of cases when tubercle bacilli were present in the sputum (2) A large number of patients with clinically active tuberculosis gave positive results (3) A high percentage of clinically inactive cases gave a negative result (4) When a positive Wassermann reaction was present a positive tuberculosis test might also be present without there being any clinical evidence of tuberculosis (5) The test might be of real value in differentiating between an active and inactive lesion

Dr FERGUS HEWAT dealt with the clinical aspects of the test in a group of 160 pensioners in whom the diagnosis of pulmonary tuberculosis was in doubt The question at issue was not the old one of early diagnosis, but rather the differential diagnosis in the case of patients who had had chronic lung symptoms for three or four years They were kept under observation for a period of twenty eight days if necessary Dr Nimmo Smith had known absolutely nothing about their clinical state until weeks after his report had been made An attempt was made to group them into clinically active and chronic the basis of classification being that suggested by Sir Robert Philip more than twenty years before, in which the importance of the local and systemic phenomena was recognized In this group of 160 patients he had felt justified in classing 75 as tuberculous Twenty-six cases gave a positive complement fixation test, of these twenty were regarded as active and six as chronic two of these cases would probably have been missed had it not been for the test Ten cases were regarded as active clinically but gave a negative fixation test Two cases which were not in this group but were under Dr Hewat's care, gave a negative fixation test, although tubercle bacilli were present in the sputum One was a case classed as bronchitis before being sent to the sanatorium, and showed poor general resistance the other was a "cavity" case in a hospital for advanced cases, but the patient, having good powers of resistance recovered sufficiently to be able to return home The conclusions drawn from this clinical section of the paper were in much the same terms as those already stated An appeal was made for further investigation of the positive cases who could not be classed as cases of tuberculosis on clinical grounds

Sir ROBERT PHILIP sent a statement of his views which the President read to the meeting He considered the test of no essential value in so far as the initial diagnosis was concerned, for he had not yet seen a case with a certainly positive reaction where in his opinion, there was serious diagnostic difficulty In several cases a negative result had been obtained in which there could be no doubt as to the diagnosis being negative There was another aspect, however—namely, the explanation of divergent results Arrest of the disease might exclude a positive reaction but physical examination might suggest arrest, and yet a positive reaction might give valuable warning that the process of arrest was not complete Thus, the test might be of value in assessing the patient's condition from time to time during this protracted disease

Dr ANDREW RUTHERFORD had carried out about 600 tests at the Royal Victoria Dispensary His technique was the same as Dr Smith's, except that he had used the antigen of Dr A C Inman of the Brompton Hospital Broadly speaking, he considered his results showed 80 per cent positive reactions in cases of active tuberculosis with tubercle bacilli in sputum, and he thought his results ran parallel with the amount of lung involvement and systemic disturbance Cases with free haemoptysis gave a high percentage of positive results Seventy tests in presumably healthy persons had been all negative He considered the test of undoubted value in certain groups of cases, frequently yielding a

positive result when the clinical findings pointed otherwise, yet on later investigation the correctness of the serum result was demonstrated

Dr HUGH RICHARDSON and Professor T J MACKIE also spoke

Blood Diseases

In a joint communication Dr R A FLEMING and Dr JAMES DAVIDSON described two cases of blood diseases, giving in full the clinical history and pathological findings

Case 1—Acute myeloblastic leukaemia in a man of 58 years of age, who suffered from pyrexial attacks with severe rigors followed by heavy sweating when the temperature fell No cause for these attacks was at first forthcoming and they resisted treatment For ten days the blood appeared to be normal, but then the spleen became palpable, and on the next day the leucocytes were 18,000 per c mm with a differential count of Polymorphs 30 per cent, eosinophils 1 per cent, myelocytes 11 per cent, mononuclears 58 per cent Monaster and diaster mitotic figures were seen Five days later the patient died, and the *post mortem* examination revealed many enlarged gland groups The spleen weighed 1,415 grams, and the bone marrow of the femur was deep red and jelly like Lantern slides of the blood films were exhibited

Case 2—A case of aplastic anaemia in a female, aged 26, who complained of weakness and shortness of breath, and also suffered from a poisoned finger and pyorrhoea The general appearance, with irregular pyrexia, gave the patient the appearance of pernicious anaemia, but the diagnosis of aplastic anaemia seemed to be justified by the evidence of the lack of active blood regeneration brought out in the blood counts—namely, reds = 2,440,000 per c mm, Hb = 35 per cent, white = 4,400 colour index 0 75 During the next few months the red count steadily fell and when it reached 440,000 per c mm direct transfusion from a donor was carried out, causing the "reds" to rise to 2,090,000 per c mm, the red cell count later fell again At no time were any nucleated cells discovered A second transfusion had a good temporary result, but the patient finally died about eleven months after coming under observation The usual lines of treatment were adopted, including special dental treatment The *post mortem* examination showed fatty degeneration of the heart, marked Prussian blue reaction in the liver and spleen, and small petechial haemorrhages in the mucous membranes of the alimentary tract The bone marrow of the femur showed no erythroblastic reaction to the naked eye

Lantern slides were shown illustrating microscopical sections of the various organs and blood

Professor LOVELL GULLAND said that both cases were unusual the first case by reason of the myeloblastic leukaemia with a relatively high red count and no severe anaemia, and the unusual differential count The second case of aplastic anaemia ran an unusually long course He had tried transfusion in several cases with temporary, but no permanent, relief, since the transfused reds disappeared with great rapidity Probably many cases were dependent on some congenital bone marrow deficiency

Dr JOHN ORR had given naphthalene tetrachloride to one case of aplastic anaemia with good results, after arsenic had failed

The following clinical cases were shown

Mrs MARY NICHOL brought a child of 3 months suffering from multiple arthritis, following ophthalmia neonatorum

The eye discharge began when the infant was one day old A week later one finger was swollen and red, and when 3½ weeks old the right knee became swollen and tender The Wassermann reaction was negative The arthritis was treated locally with fomentations, and detoxicated gonococcal vaccine was used with good results Later on the upper dorsal vertebral joints became affected but cleared up with the same line of treatment The mother had gonococci in the cervical smears and also developed arthritis She was treated with good results

Mr DAVID LEES showed four cases of interstitial keratitis treated by injections of bismuth salts In three of the cases arsenobenzol preparations had been contraindicated for various definite reasons, but in the fourth case arsenic and bismuth were given in combination The preparation used was metallic bismuth suspended at a melting point of 37° C in "creo-camph" solution prepared by Messrs Burroughs, Wellcome and Co The preparation was made up to contain 0 15 gram bismuth in 1 c cm In adult cases dosage began at 0 3 gram of the metal and was increased at weekly intervals to 0 45 gram a total amount of from 3 to 4 5 grams of the drug had to be given

Case 1 was a female aged 32 with a history of interstitial keratitis in 1921 and a recurrence in May, 1923 Her vision was restored from almost complete blindness to reasonably good vision for large print after two courses of bismuth cream

Case 2, a female aged 17 The left eye showed optic atrophy and choroiditis, and the right eye could only distinguish fingers at half a metre After the third dose of neo-salvarsan dermatitis with jaundice occurred Later bismuth cream was given, with the result that there was now good vision and very little trace of previous keratitis

Case 3, a female aged 17, very emaciated on admission, with albuminuria, casts, and a trace of blood Small doses of sulpharsenol were given without result, and then bismuth treatment was combined with the above The eyes and general condition had improved since then

Case 4 a male aged 9, keratitis with marked photophobia and lacrymation Combined sulpharsenol and bismuth treatment was given with excellent results

Dr W T RITCHIE showed a case of progressive lipodystrophy in a female aged 24 When 11 years of age the face became thin, and this thinness, after advancing progressively for two years, became stationary The face, arms, and trunk to the iliac crests showed the loss of subcutaneous fat The case was a typical example of a rare disease first observed by Osler in 1895

SUBDURAL HAEMORRHAGE

AT a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland, held on December 7th, 1923, with the President, Sir W DE C WHEELER, in the chair, Mr C J MACAULEY showed a patient after operation for chronic subdural haemorrhage

The patient, a man aged 42, fell from his bicycle, sustaining slight concussion and a small wound in the left frontal region he recovered rapidly and resumed his clerical work Five weeks later he began to complain of headache which became steadily worse, at the end of a week signs of compression appeared, and he was admitted to the Mater Hospital in a semi-comatose condition There was paresis affecting the right side of face right arm and right leg, most marked in the leg The abdominal reflex was absent and there was a positive Babinski sign in the right foot, the pupils were equal and reacted and there was no optic neuritis The skull was trephined at the site of the healed scalp wound, there was no fracture of the skull, and no extradural haemorrhage The dura was opened and an encysted collection of venous blood evacuated and the wound sutured without drainage Rapid recovery followed and the patient was now quite well

Mr Macauley remarked that the case, in its clinical course, pathological findings, and rapid response to treatment, closely followed the almost classical picture of the condition given by Trotter

The PRESIDENT suggested that it might be more correct to describe this as a case of haemorrhagic traumatic cyst

Mr R A STONEY had seen a somewhat similar case recently in which the latent period was about seven months and the injury much more severe, the patient having been hit on the head by the branch of a tree It was perhaps more a case of traumatic cyst The man recovered and was apparently quite well till about four months after the accident, when he noticed some weakness in the right arm and leg He had a depressed fracture of the skull, from which the brain substance was separated by a cavity containing fluid At the subsequent operation extensive adhesions were found over the front part of the brain When the cyst was evacuated the brain expanded and a small drain was left in for a few days After a short time the patient left the hospital, considerably better, and able to walk without any limp at all, whereas when he came in he was limping badly

Bone Shaft Exposure

Mr A K HENRY, in a paper on exposure of the humeral and femoral shaft, described an operation for the exposure of the humerus which laid bare the front of the bone from end to end, leaving the musculo-spiral nerve protected and concealed The skin incision followed the inner border of the deltoid and the outer border of the biceps The lower half of the shaft was exposed by dividing the outer fourth of the brachialis anticus longitudinally, carrying the cut inwards to the mid-line of the bone The outer moiety of the muscle served as a buffer for the protection of the musculo-spiral nerve The elbow joint was avoided by checking the cut through the brachialis two fingerbreadths above the epicondyles, if necessary it could be explored The upper half of the humerus was exposed by detaching the edge of the clavicle which gave origin to the deltoid and swinging out the muscle like a sail on a spar The bony chip was afterwards lashed back into place by two sutures passed round the clavicle, and the deltoid origin was thus reconstituted He then described an anterior operation on the femoral shaft, which respected anatomical structures and yet gave convenient access to over a foot of the bone The rectus femoris was separated from the vastus externus and the crureus was split longitudinally after mobilizing the

oblique neuro-vascular bundle (the descending branches of the external circumflex vessels and the nerve which passed to the vastus externus) The suprapatellar pouch was avoided He preferred this route to the lateral approach, which was inconvenient and involved much haemorrhage

Mr ARTHUR CHANCE had recently operated upon a case of very extensive osteo myelitis of the humerus, in which he had adopted the exposure described by Mr Henry He found the method easy and the exposure excellent Regarding the femoral shaft, he did not think that this operation would be advisable in the case of exposing the lower end of the femur for acute osteo-myelitis He thought drainage would be better in a lateral than in an anterior wound Mr R A STONEY thought the method of exposing the humerus described by Mr Henry was as nearly perfect as it would be possible to get it, but he was not so sure about the exposure of the femur

Retroperitoneal Cyst

Mr STONEY described a case of retroperitoneal cyst

A boy of 12, admitted with acute abdominal symptoms, had been ill for two days and was thought to be a case of appendicitis. At the operation a large cyst was found between the root of the mesentery and the ascending colon and caecum and with a patch of lymph on its summit The swelling was opened at this spot and 3 or 4 oz of pus and serum were evacuated The cyst was found to extend up to the duodenum down to the ileo-caecal cavity, and towards the left to the root of the mesentery It was drained and rapidly healed the boy left the hospital three weeks after the operation

The classification and causation of retroperitoneal cysts were discussed, and it was suggested that this cyst developed in the space between the peritoneum covering the right side of the posterior abdominal wall and the mesentery of the caecum and ascending colon, which normally became fused The boundaries of the cyst in this case exactly corresponded with the outlines of this space

Mr CHANCE reported a case of retroperitoneal cyst—a serous embryonic cyst, probably originating from a remnant of the Wolffian body

A boy aged 11 years had a swelling in the right iliac fossa for three years which gave rise to no special symptoms At the operation a thin walled cyst about the size of a grape fruit was found behind the peritoneum in the right iliac fossa below the caecum and was easily enucleated The boy was discharged in fourteen days Microscopically the cyst was found to be composed of fibrous tissue with an endothelial lining The cyst fluid contained albumin and a trace of creatin

The cases were discussed by the PRESIDENT, Mr C J MACAULEY, and Mr HENRY STOKES

DIURETIC EFFECT OF BUXTON WATER

Mr RACE, biochemist at the Devonshire Hospital, reported to the Research Society of the Devonshire Hospital, Buxton, on December 19th, 1923, a series of experiments on the diuretic effect of the mineral water of that spa The cases selected were tophaceous gout, and the investigation was made in four periods in the first they were placed on a fixed diet with 50 oz of fluids, in Period II 20 oz of distilled water were added, in Period III Buxton mineral water was substituted for distilled water, and in Period IV mineral water baths at 95° to 98° F were given on alternate days in addition to the mineral water by the mouth The average volume of urine obtained per diem in sixteen cases was 1 066 c cm in Period I, 1,349 c cm in Period II, and 1,626 c cm in Period III With eleven cases covering all four periods the results were Period I, 1,113 c cm , Period II, 1,409 c cm , Period III, 1,693 c cm , and Period IV, 1,745 c cm The increased diuresis obtained with mineral water was nearly double that with distilled water, and a further slight increase was produced by the mineral water baths The analytical results showed that the increased diuresis resulted in an increased elimination of salt, a reduction in the hydrogen ion concentration, a slightly increased elimination of urea, and a reduced elimination of uric acid As determinations of uric acid in the blood of the patients showed an average reduction of 25 5 per cent , the reduced uric acid elimination was ascribed to a reduced absorption of uric acid precursors in the intestine to an increased destruction of uric acid, or to a reduced formation of the acid in intermediary metabolism Possibly all three factors were involved The results obtained point to the Buxton mineral water having a stimulating effect on nitrogen metabolism and producing conditions favourable for more complete oxidation

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At a meeting of the London Dermatological Society held on December 19th, 1923, Dr KNOWSLEY SIBLEY showed four clinical cases (1) Man, aged 83, with a fungating growth on the cheek just below the left eyelid, the glands were not enlarged on the right cheek were scars, apparently of healed rodent ulcers Drs KNYVETT GORDON and DOWLING considered it a case of squamous-celled carcinoma of a chronic type (2) Woman aged 47, with an eruption of the rupial type with enlarged patches on the arms and buttocks, with several healed scars Dr GORDON considered that the history did not fit in with a diagnosis of a syphilitic eruption, and suggested examination of scrapings for parasitic fungi Dr DOWLING thought the case typically syphilitic (3) Woman, aged 34, with slight discharge from both nipples and concomitant eczema, tumours in both breasts, enlarged glands in the axilla Dr GORDON thought Paget's disease could be excluded, and that the growths in the two breasts were of different origin, that on the left side being chronic mastitis and that on the right a duct carcinoma (4) Girl, aged 15, with alopecia totalis which had begun as alopecia areata The Wassermann reaction was faintly positive The case had improved considerably under mercuric iodide internally and high frequency currents to the scalp The hair was now appearing on the eyelashes Dr DOWLING showed a woman, aged 46, with folliculitis decalvans Dr SIBLEY discussing the pathology of the condition, pointed out that it almost always began as an inflammatory condition of the follicles due to coccal infection

Reviews.

FRACTURES

ADVANCES in the treatment of fractures have resulted from the great amount of attention the subject received during the war, and it is in the hope that those advances may be retained and surpassed that we welcome this book on the *Treatment of Fractures in General Practice* by Mr MAX PAGE and Mr ROWLEY BRISTOW [1] Some such stimulus as the institution of military orthopaedic hospitals was needed to reform the lax methods too often followed in some at least of our large general hospitals Surgeons were only too apt to despise fractures and relegate their treatment to inexperienced junior officers It is even said that in some hospitals to which medical schools are attached, cases of fracture were not admitted to the wards The result of this neglect must needs be that a pupil might be fully qualified, by examination to practise, without having any actual experience of the technique of treatment of a fractured femur such as he might soon have to treat single-handed, although he would be familiar with all the technique of complicated abdominal operations which he may never be called upon to perform

This book will give the theoretical knowledge needed, but nothing but practice will give the technical skill necessary for the best results Mr Max Page's experience in the Balkan war set him in the right way and both authors have had the advantage of prolonged experience at the Ministry of Pensions Hospital The importance of x ray pictures in diagnosis, control of treatment, and from a medico-legal point of view is rightly insisted upon Sound advice is given as to the time necessary for the consolidation of fractures as to the drawbacks and advantages of prolonged immobilization of joints, and as to the early and late use of massage and movements The authors wisely we think, would restrict open operation to a limited group of cases

With regard to the best method of treating fractures about the lower end of the humerus, a good deal of variety of opinion existed in past years, but experience has shown the soundness of the dictum

'All cases of fracture and dislocation about the elbow with the exception of a fractured olecranon should be treated with the elbow in the position of full flexion with the forearm supinated

[1] *The Treatment of Fractures in General Practice* By C Max Page D S O M S Lond F R C S Senior Surgeon to Out patients St Thomas's Hospital and W Rowley Bristow M B B S Lond F R C S Surgeon to the Orthopaedic Department St Thomas's Hospital Oxford Medical Publication London Henry Frowde and Hodder and Stoughton. 1923. (Demy 8vo pp xi + 235 142 figures 12s. 6d net)

All the typical and a few atypical fractures are dealt with, including those of the spine, skull, face, and jaws The practitioner for whom this book is intended will find it a valuable and safe guide in the treatment to those injuries to the skeleton which, if incompletely treated at the outset, may have such a disastrous effect on the sufferer's capacity to earn his living The illustrations of first-aid appliances and apparatus, which are so necessary in a work of this kind, are good and clear, and the *x*-ray pictures are sharp and give therefore definite information

We strongly recommend the book as a safe introduction and guide to the successful treatment of fractures

INFLUENCE OF THE INTERNAL SECRETIONS ON THE BLOOD

DR MAURICE PERRIN published *Les secretions internes, leur influence sur le sang* in 1910, and a second edition, which was in preparation when the war broke out, now appears, written in collaboration with DR ALFRED HANNS[2] As before Professor A GILBERT of Paris has written an introduction in which, while lamenting the present unsatisfactory condition of endocrinology, he welcomes this review of data compiled without any preconceived notions This handy volume contains a collection of observations from literature bearing on the manner in which the secretions of the endocrine glands, after passing into the circulation, influence the activities of bone marrow and lymphoid tissues The first quarter of the present edition deals with the bone marrow, the lymphatic glands and tonsils, and the spleen, and their relation to the blood

The next section—that on the liver—shows much evidence of Professor Gilbert's influence, and contains Dr Perrin's deductions, from his own observations, that the normal liver cells discharge into the blood substances stimulating the red marrow, and accordingly that in conditions, like cirrhosis, in which the hepatic cells are functionally insufficient anaemia occurs, whereas in the presence of increased functional activity of the liver cells polycythaemia results Accordingly in the anaemia of cirrhotic patients the administration of liver substance is recommended After summarizing the work done on the influence of the thyroid on the blood, the conclusion is reached that its secretion stimulates the production of red blood corpuscles and haemoglobin, while tending to induce leucopenia with a relative increase in the mononuclear percentage The rather divergent data provided by clinical and experimental observations on the adrenals lead up to the opinion that of all the internal secretions that of the adrenals is the only one which under certain conditions may induce a constant and progressive fall in the red blood count

In the chapter on the ovaries considerable space is given to chlorosis and to anaemias of genital origin, the relation of ovarian disorder to chlorosis is regarded as being in most instances incontestable, but the mechanism, whether by retention of toxins during amenorrhoea, indirectly by the upset of another gland influencing haematopoiesis, or from absence of stimulation to the haemoblastic bone marrow, is not dogmatically decided, though Dr Perrin appears to incline to the last mentioned theory Subsequent chapters contain observations on the blood relations of the alimentary canal and pancreas, the kidneys, lungs, skin, and muscles, but the main value of the volume is rather as a source of reference to individual observations than as a statement of reliable conclusions

ARTIFICIAL PNEUMOTHORAX

IN 1919 F Dumarest and C Muiard published a volume with the title *La pratique du pneumothorax therapeutique* A revised and expanded edition[3] has now been published by DUMAREST and P BRETTE of the sanatorium Mangini at Hauteville (Ain) Forlanini is here given the credit of having originated the treatment of pulmonary tuberculosis by artificial pneumothorax in 1882, and the valuable bibliography at the end of the volume contains a reference to W Cayley's employment of this method for repeated haemoptysis in 1885 As a matter of historical interest it may be mentioned that James Carson of Liverpool, who was much interested in the elasticity of the lung and in 1819 contributed a paper on this subject to the Royal Society, of which he subsequently became a Fellow, had two cases of pulmonary tuberculosis operated upon in 1822 by Mr Bickersteth, in both the chest wall was incised, but adhesions prevented the collapse of the lung and death was not long delayed

The first chapter contains a full account of the method of direct puncture introduced and since progressively improved by Forlanini, it is illustrated by figures, and the apparatus of von Muralt, G Kuss, Jousset, and a portable one of the author's own design are described also Formerly Dumarest followed Forlanini's method, but now the authors follow Kuss, both methods are described in detail As mental apprehension favours pleural reflex, specially anxious patients are allowed a hypodermic injection of morphine before the induction of the pneumothorax, although it is better as a rule to reserve it for the discomfort and sleeplessness that often follow

In the section on the untoward events that may accompany the production of an artificial pneumothorax the question of the mechanism of the convulsive seizures, which are sometimes fatal, is discussed, and attention is drawn to Cordier's contention that haemoclasic shock rather than an embolism of the cerebral vessels is responsible In an experience of 265 cases of induced pneumothorax extending from September, 1908, to April, 1922, the authors have had two cases only of sudden cardiac syncope, on the fourth and fourteenth days after the operation, they ascribed them rather to pleurisy than to the actual pneumothorax Reference is made to Jacobaeus's method of thoracoscopy and division of intrapleural adhesions under the guidance of *x* rays, but the authors, who have never carried it out, consider that this procedure, though at first sight attractive, is dangerous, since a tuberculous focus at the attachment of the adhesions may be opened and a massive infection of the pleura result

The important chapter on the pleural complications of artificial pneumothorax has undergone considerable rearrangement, among the 265 cases 186, or 70 per cent, had some pleurisy, and in 42 it was purulent, this may appear a high ratio, but it may perhaps be accounted for by the fact that the patients were kept under observation for a long time In the majority of cases this complication appears between the second and the eighth month of treatment, but it has supervened within a few days or not until two or three years after the production of the pneumothorax The forms of pleurisy are now arranged according to their importance in the following order benign, often detected only by *x*-ray examination, febrile pleurisy with a more or less abundant sero-fibrinous exudation which is spontaneously absorbed, febrile pleurisy with large effusion relapsing and eventually becoming purulent, purulent from the start, and perforation of the lung, which is responsible for a mortality of 6 to 7 per cent of all the subjects of artificial pneumothorax In from 25 to 30 per cent of cases submitted to artificial pneumothorax pleurisy tends to interfere with the further course of treatment, either by the production of adhesions or by acceleration of intrapulmonary lesions

The final results of artificial pneumothorax in the 229 of the cases the authors traced are carefully and judiciously considered in ten groups according to their several features, but as a whole the result was favourable in 129 and unfavourable in 100 patients, 92 of whom were dead The indications and contraindications for the production of pneumothorax in pulmonary tuberculosis are clearly enunciated, and its value in gangrene of the lung is insisted on The monograph must be welcomed as a well considered expression of much personal experience, and the reader will be interested in comparing with it the valuable report on this same subject to the Medical Research Council in 1922 by Drs L S T Burrell and A Salusbury Macnalty

[2] *Les secretions internes leur influence sur le sang* Par les Docteurs Maurice Perrin professeur agrégé à la Faculté de Médecine de Nancy et Alfred Hanns Chargé de cours à la Faculté de Médecine de Strasbourg Préface du Professeur A Gilbert Deuxième édition Paris J B Baillière et Fils 1923 (Cr 8vo pp viii + 234 Fr 12.)

[3] *La pratique du pneumothorax therapeutique* Deuxième édition par F Dumarest et P Brette Paris Masson et Cie 1923 (Med 8vo pp 355, 12 plates Fr 18.)

A FRENCH ENCYCLOPAEDIA OF UROLOGY

THE publication of the French encyclopaedia of urology[1] after the first three volumes had appeared was interrupted by the war and by the death of its first editor, Professor Guyon. His place was taken by Professor POUSSON of Bordeaux and Dr. E. DESNOS, Secretary of the International Society of Urology. The fourth volume, which appeared nearly two years ago, was reviewed in our columns on March 25th, 1922 (p. 482). The whole is now completed by the publication of two more volumes. The scale of the work may be judged from the fact that these two volumes contain 2,196 pages. The book will have a permanent place in medical literature if only because the references in each department have been collated and a very extensive classified bibliography given at the end of each chapter. The views and methods of many authorities are concisely stated without interfering unduly with the thread of the narrative.

The 1,110 pages of Volume V are entirely devoted to diseases of the urethra. Among many important articles may be noted that on examination of the urethra and urethroscopy by Noguès and Papin, it is illustrated by some excellent coloured pictures. Stricture of the urethra and its complications are discussed in 215 pages by Escat, and further space is devoted to the technique of operations on the urethra by Noguès, Heitz Boyer, and Genouville.

Diseases of the prostate and urinary symptoms in general are considered in Volume VI. It contains chapters on the examination and on injuries of the prostate (Andre), inflammation, calculi, and cysts (Ormson), hypertrophy (Marion), malignant tumours (Pauchet), tuberculosis (Erzbishoff), etc. The extent and thoroughness of the work may be gauged by the fact that the article on hypertrophy of the prostate by Marion extends to 187 closely printed pages with an additional 16 pages for the bibliography. In this section an account is given of the present knowledge of simple enlargement of the prostate and its treatment. In another section the author describes the operative technique he personally adopts.

The section on urinary symptoms includes such mechanical conditions as retention and incontinence of urine (Delbet), and abnormal conditions of the urinary secretion and composition, such as anuria, phosphaturia, oxaluria, glycosuria, etc.

It is impossible to discuss the various subjects in detail, but it may be said that the thoroughness with which the literature is collated and the high standard of the discussion are maintained throughout.

The encyclopaedia is one of the most extensive and authoritative publications on urology at the present time. It should form a part of the reference library of every urinary surgeon, and may be recommended to the notice of physicians studying the medical aspects of urinary disease.

THE USES OF X RAYS

THE fourth edition of KAYE'S well known book entitled *X Rays*[2]—the first appeared in 1914—has brought the subject quite up to date. All the chapters and most of the pages show the hand of revision, and a considerable amount of new material has been added. The fourteen chapters which form the main portion deal with the x-ray tube and the physics of x rays, with the apparatus used to generate rays, with measurements of x rays with scattered and secondary radiations, and so on. The description of the practical application of x rays is not confined to medical uses only, but includes their employment in industry also. An excellent account of the diffraction of x rays by crystals contains a short explanation of the important work which has been done by many eminent physicists, such as Moseley and Bragg, and the writer's power of simple and lucid writing will be much appreciated by most of those who use x rays for medical purposes only, and whose knowledge of physics is somewhat limited. It is especially those concerned with the modern developments of hard-ray therapy who will find throughout this book valuable and easily acquired information.

In an appendix the author publishes an account of an interview which the late Sir James Mackenzie Davidson had with Professor Rontgen in 1896. Some valuable tables, to the number of twenty-nine, are scattered throughout the book, and in the final appendix x-ray and electro-medical nomenclature follows a reproduction of the memoranda which have been issued by the X-ray and Radium Protection Committee. The index is good. There is no doubt that this is a standard book, and should be regarded as indispensable, not only by medical radiologists, but by all those who make use of x rays.

INCUNABULA MEDICA

NUMBER XIX of the "Illustrated Monographs" of the Bibliographical Society may be regarded as a memorial volume to Sir WILLIAM OSLER, and is a fitting monument of the deep interest he always displayed in that subject. He was the first physician to be called upon to occupy the high position of President of the Bibliographical Society, and the volume before us, entitled *Incunabula Medica*,[3] is, we believe, the first attempt in this country to reduce to chronological order the cradle books dealing directly or indirectly with medicine. The volume was inspired by Sir William Osler, and contains in full his address to the Society as its president. In it he expressed his views upon bibliography in general and indicated the necessity for the formation of a catalogue of early medical books. The inspiration was Osler's, but others have been responsible for the important work of compiling this catalogue.

The volume is composed of several sections. In the first place, a brief but excellent introduction by Dr. Pollard does full justice to the delightful traits of Sir William's character as a true book-lover. Next comes the address of Sir William himself in his capacity of president, and of this it can be said truly that it is a scholarly effort in the author's best style, and is a valuable contribution to the study of the subject of early printed medical books.

The main interest in the book, from the bibliographer's point of view, will be found in the catalogue of 217 books printed before the year 1481. The inception of this catalogue, which has been compiled with the greatest accuracy and skill, was due in the first instance to Mr. W. R. B. Prideaux, the librarian to the Reform Club, who collected most of the material and so formed the basis on which it rests. Next to his work comes that of Miss J. P. Willcocks who used the material collected by Mr. Prideaux, and added to it. Finally, the whole was welded together by Mr. Scholderer, and the result is an almost perfect catalogue of the incunabula medica printed before 1481. This is the effect of the inspiration of Sir William Osler, and is an example of his great influence for good in the many intellectual spheres in which he lived and moved and had his being.

NOTES ON BOOKS

IN the introduction to his book on *Sunlight and Health*[4] the only personal claim made by Dr. C. W. SALEEBY is that his persistent reiteration has resulted in the appointment of a scientific committee under the Privy Council to study the subject, and he predicts from its labours the erection of a much vaster and more valuable edifice than even heliotherapy. Meanwhile, without waiting for the committee's report, he issues his own volume which he ventures to assert is "the first complete and authoritative guide in our language." He is already so certain of the value of heliotherapy in the treatment of rickets and tuberculosis and of the comparative worthlessness of anything else, that he declares "current medical and surgical methods in the treatment of these diseases are seen to be pure foolishness or cruelty, or both in the light of heliotherapy," and that though very formidable vested interests in the knife and the bottle will have to be combated, "yet they will assuredly yield to the facts recorded in this volume." The book is addressed to the

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[1] *Encyclopédie française d'Urologie*. Published under the direction of A. Pousson and E. Desnos. Volumes V and VI. Paris: Octave Doin. 1922. (Imp. 8vo. Vol. V. pp. 1110. Fr. 60. Vol. VI. pp. 1066. Fr. 60. Vols. I. to VI. Fr. 300.)

[2] *X Rays*. By G. W. C. Kaye, O.B.E., M.A., D.Sc., F.Inst.P. Fourth edition. London and New York: Longmans, Green and Co. 1923. (Demy 8vo. pp. xvii + 320. 125 figures. 16s. net.)

[3] *Incunabula Medica. A Study of the Earliest Printed Medical Books 1467–1480*. By Sir William Osler, Bt., M.D., F.R.S. London: Printed for the Subscribers of the Bibliographical Society at the Oxford University Press. 1923. (Double demy 8vo. pp. xi + 149. 16 plates, 1 portrait.)

[4] *Sunlight and Health*. By C. W. Saleeby, M.D., Ch.B., F.R.S.E., M.A., F.R.S. With an introduction by Sir William M. Bayliss, M.A., D.Sc., F.R.S. London: Nisbet and Co. Ltd. 1923. (Cr. 8vo. pp. xiv + 178.)

medical profession and the public Dr Saleeby's views are largely based on what he has seen of the work of Dr Rollier at Leysin, of Sir Henry Gauvain at Alton and Hayling Island, of the Finsen light institution in Denmark, and on visits to Canada and the United States He has learnt the importance of distinguishing between sun light and sun heat, and that it is the former only which is the curative agency As regards the value of sunlight and pigmentation he has not failed to observe "that the American negro," notwithstanding abundant sunlight and super abundant pigmentation, "is very subject to tuberculosis," but he passes by that point with the airy remark that "again we 'need more light'" Everyone presumably will agree with his condemnation of coal smoke in cities, and having indicated by quotation some manifest faults in the volume it may be added that notwithstanding many repetitions, especially in the use of the first personal pronoun, the book can be read with interest if allowance is made for the manner in which the author is carried away by his own enthusiasms

In a pamphlet on syphilis and marriage[8] Professor E FINGER of Vienna discusses several problems of far reaching importance The date at which marriage should be allowed after adequate treatment is fixed by him at five to six years after infection The persistence of a positive Wassermann reaction beyond this period should not in his opinion be a bar to marriage The author does not welcome the proposal to make a medical certificate compulsory before marriage for the following reasons In the first place the certificate of fitness, however carefully the examination may have been made, may be valueless, as the candidate for marriage may have been in the incubation stage of a venereal disease at the time he was examined Moreover, the requirement that a medical man who has had no previous knowledge of the individual should certify that he or she is a suitable candidate for marriage is a difficult and almost impossible one to fulfil Professor Finger is in favour of the prospective husband who has had syphilis informing his fiancée of the fact himself, or better still by means of his doctor, and asking her if she is willing to take the risks of marriage Professor Finger asserts that premarital sexual intercourse has become commoner in recent years and has entailed a corresponding increase in the prevalence of venereal disease among young women When infection has taken place in these circumstances Professor Finger maintains that it is the doctor's duty to prevent dissolution of the attachment and to expedite marriage as the only means of ensuring careful treatment for both partners A bibliography is appended from which several British names quoted in the text are missing

A classified directory of *Practising Midwives and Maternity Nurses*[9] will doubtless be of service to the medical profession Distinction is clearly made between midwives who are certified and nurses who are not legally entitled to practise on their own responsibility Although the law is quite definite as to the medical practitioner's position in this respect, he is always liable to misinformation, and the directory may prove useful on this account alone Further qualifications are noted, and the names are arranged under local headings.

Those interested in the origin and objects of the Order of St John of Jerusalem will find an interesting though brief account of its history in a pamphlet by Mr SYMONS JEUNE,[10] the profits on the sale of which are given to the British Ophthalmic Hospital in Jerusalem The early history of the Order teems with romance and tales of chivalry from the time when it helped pilgrims on their way to the holy sepulchre, took part in the defence of Jerusalem against Saladin, withdrew to St Jean d'Acre on the fall of the holy city, and afterwards held Rhodes against all comers for 220 years, until in 1522 its Grand Master, de l'Isle Adam, was forced to capitulate to Solyman the Magnificent The Order was then established in Malta, granted to it as a sovereign order by the Emperor Charles V Napoleon seized Malta in 1798 and dispersed the Order, and it is the irony of fate that a Christian order which held out for so many hundreds of years against the Moslems should have been destroyed by a Christian ruler After the fall of Napoleon in 1814 the various branches of the Order were gradually re established, the English branch eventually receiving a charter from Queen Victoria Its present-day activities are well known Mr Symons Jeune's pamphlet gives an excellent account of how it developed from the earliest times up to the time of its activities in the great war

[8] *Syphilis und Ehe* By Professor Dr E Finger Halle a S Carl Marhold 1923 (Med 8vo pp 37 0 40 sh)

[9] *Practising Midwives and Maternity Nurses 1923–24* A Classified Dictionary Alphabetically Arranged London The Scientific Press Ltd 1923 (Demy 16mo pp 231. 2s net post free 10½d)

[10] *Eight Hundred Years of the Order of the Hospital of St John of Jerusalem* By J F Symons-Jeune London William Heinemann (Post 4to pp 23 1s.)

MOTOR NOTES FOR MEDICAL MEN

By H MASSAC BUIST

THE NEW YEAR IN PROSPECT

Six weeks ago it looked as though the prospects of motoring in 1924 would be defined quite clearly by now In the interval, however, there has been a general election with most puzzling results in regard to its effects on industry and life in general, the consequence in regard to motoring is a decidedly unsettled outlook The new year opens with car prices unprecedentedly low when the equipment provided for an inclusive sum is had in mind With regard to raw material the tendency is distinctly towards a rise in costs, but even if they were stationary it would be impossible to repeat British-made cars of the cut-price type at current figures, for they are practicable only because the manufacturer has no regard to making a profit on the accessories with which his vehicle is equipped, wellnigh all of them are supplied at a loss of at least 10 per cent, some at very much more It is not a healthy situation, but nevertheless one of which buyers may take advantage In respect of design there is not much likelihood of any pronounced difference until the autumn Whether there is to be any really notable development will depend entirely on the extent of the world's trade in motor cars in the interval We have reached a stage at which British tyre enterprise is on its last legs Unless something can be done for it we shall lose that key industry It is the only one which is marketing its goods at approximately one-third of pre-war costs This figure is arrived at by noting that a corded type cover and tube of any renowned make, British or foreign, can be bought to-day for approximately the price of a pre war canvas cover and tube But the mileages of which to-day's types are capable are a minimum of three as great, and in many cases with at all reasonable driving five times as great, as was possible with any type of cover before the war As we no more have perpetual punctures on the road the gain is even more than a minimum of three times the service

CONTENDING MOTOR FUEL THEORIES

Petrol has fallen in price One school of thought within and without the oil world holds that the prices of motor fuel and of lubricants will tend to decrease during the coming year Against that there is another school which holds that these prices must rise At the turn of the year the price of Pennsylvania crude, which has been falling since the early months of 1923, has suddenly begun to be hoisted up Certainly the production situation in America is being got in hand by the controlling but rival interests Against that such an extraordinary amount of independent oil exploration has been pushed forward in other parts of the world that it will be impossible for any one country to keep down supplies to the extent which will raise prices permanently Contrariwise, there cannot be an indefinite run of very low priced fuel and lubricating oils With such a prospect the big controlling interests would combine to save themselves the cost of exploring for new oil at a time when it would not pay them to find it Instead they would go into the open market and buy other people's productions while prices are low, because the big people alone have the world-wide marketing organizations

Considering what cars will do nowadays, alike in the way of acceleration, of hill-climbing, and point-to-point travel at a given speed, with a given load on a gallon of fuel, the average petrol bill at current prices is not greater than before the war, and the performance from a pint of petrol is better for the sufficient reason that much improvement has been made in carburation, engine efficiency, and even in transmission Current prices of fuel are approximately what they were when war broke out, but that figure included 3d a gallon by way of a petrol tax In America the motoring public never buys a car because its petrol consumption is alleged to be low It is impossible, however, to foretell definitely whether there will be a further drop in the price of fuel It is at least clear that one current phase of the business will be detrimental to the user unless he is made master of the intricacies of it All over the world big and little oil distributors buy what are

called "parcels" of oil Of course the big buyers take the pick because they have the means of disposing of the largest quantities and facilities for refining They know besides exactly where they can "place" each "parcel" they buy Therefore, at the Gulf, for example, there are permanent representatives of all the big rival combinations who between them take the best of what is offered and leave the rest Further, even when these big buyers take the best the material is often re refined When it reaches this country in particular such motor spirit is nearly always re-refined by the big houses

The Mysterious Side of Motor Spirit Dealing

What, therefore, becomes of the residue? Again, what becomes of such parcels of motor spirit, and of lubricating oils, as the biggest buyers do not want because each is not up to the standard they require? What, moreover, becomes of the big producers' surpluses? These vast organizations not merely buy and distribute many of them own great numbers of wells But they do not like to retail under their own names any lubricating oil or motor spirit which is not up to the quality they have set for their standard America even deliberately exports any amount of this stuff, for her public is sufficiently educated to refuse to use it England is one of the biggest dumping grounds in the world for this class of oil It is bought here by all sorts of people, not one of whose names is known to the public very few are known even to the trade They are odd jobbers of sorts How they dispose of their purchases has been a mystery

When buying motor fuel at installations it is advisable to ascertain by cross-questioning whether the fuel is absolutely what it purports to be In this country a mistake in policy has been made Here the retailer is more or less owner of his own pump In the United States of America no such policy has been allowed The big brand vendors of fuel themselves own all such installations and set them up, charging the retailers a nominal rent for the plant—generally about a dollar a year This enables the vendor of brand fuel to keep the keys and to have entire charge of such plant Therefore he is in a position himself to guarantee that what the buyer gets through the retailer is what it purports to be At least the buyer knows who is the actual supplier In this country that is not possible, but by cross-examination it is often possible to induce retailers to admit if there has been any tampering with the plant Prosecutions to this end have had an effect But if the individual does not want to take trouble in regard to that, he can ask for the certificate (or bill) of the last date of delivery *from* the wholesaler Some of these installations have places where certificates are placed by the wholesaler If the certificate is of recent date it may be taken for granted that the fuel is what it purports to be

Nameless "No 1"

But there is another class of installation which is beginning to make its appearance about the country and may be regarded as in most cases doubtful This is a type of kerb-side plant with no mention of any brand of petrol, but merely bearing the legend "No 1 Petrol" or "No 1 Motor Spirit" In point of fact there is no such thing as No 1 motor spirit as far as an official or Government definition is concerned No 1 motor spirit is merely the best class for car service that the various brand makers see fit to market With the competition that exists between them the quality is such that No 1 spirit has come to signify in the public mind first-class motor car fuel, whereas in point of fact it may signify that only when associated directly with a brand which has established itself in public esteem in virtue of the quality of the petrol supplied by the wholesaler over a term of years No 1 brand without a name attached to it may be good motor spirit, but it may be anything but that It is even within my knowledge that out of one of these anonymous No 1 installations a good tankful of motor spirit may be got one day and next week about as bad a tankful as possible The explanation lies in the fact that an odd parcel was offered cheap to the retailer by one of these subterranean dealers, and it chanced to be good fuel, and the next parcel that came along had been bought from an entirely different source and was very different fuel In other words, there is no guarantee of continuity of supplies of a given quality It is no more satisfactory to motorists in the sense of making for efficiency, cleanliness economy, and so forth, than is the principle of going to a garage and asking for a particular brand of lubricating oil and being told that it is not in stock, but, "Here is some very good stuff we have of about the same thickness" Garage hands throughout the country in general have not learnt that viscosity has very little to do with lubricating efficiency Many mechanics are satisfied only when they put something about as thick as glue into a back axle It has been demonstrated by scientific experiment during the last two or three years that our whole previous theory and practice of lubrication were wrong We are using now on the most highly stressed constructions relatively very thin oils, and we are keeping the parts adequately lubricated and burning very little of such oils, so that the parts are being kept clean

A Possible Reduction of the H.P. Tax

During this year we are likely to have bills dealing not merely with the urgent problem of traffic regulation, but also with motor taxation The latter would be a certainty were the Government to continue in office, but as things are the future is problematical It is fully expected that the Committee on Motor Taxation will issue its report during the present year Probably an attempt will be made to get it out before the Budget Without entering into the region of prophecy, it may be taken as certain that no recommendation will be made for a tax on motor fuel, the evidence presented to the Committee in proof of the difficulties and impracticability of such a scheme being overwhelming But it may be assumed that the Committee will almost certainly recommend a reduction in the scale of taxation, because the present duty was imposed with the intention of yielding a maximum of £8,000,000 a year, and £14,000,000 has been actually levied during the twelve months now concluded A minimum of 2s 6d in the pound off the horse power tax must be urged But a great impetus would be given to the movement, and no revenue would be lost to the Exchequer, if there were a reduction of 25 per cent, and 15s were substituted for £1 per horse-power Any such proposal would be conditioned by the fact that there must be no falling off of revenue in the first year in which the new scheme would come into operation, but a great impetus would be given to motoring After the transition year the rate of increase of revenue would be so rapid as to yield a much greater sum than if the tax were maintained at its present rate, or even reduced merely by 2s 6d in the £ Another point on which it may be taken for granted that the evidence shows that we have been working on the wrong lines is in regard to the vexatious Registration Book, which is useless Another point that it may be hoped will be recommended urgently is to allow car licences for twelve months to be taken out on any day, incidentally, this would distribute, and therefore reduce, the amount of labour necessary for the issue of car licences

Prospects in Regard to Trials

In regard to trials of motor cars of the type which is at all likely to interest medical men it may be mentioned that the arrangement arrived at before the war, and adhered to since, is that reliability trials of the six days' 1,000 miles sort on the road should be conducted in alternate years by the Royal Automobile Club in England and in Scotland by the Royal Scottish Automobile Club This is the turn of the Royal Automobile Club, which has drawn up a scheme for a small car trial on the road in England during the summer It can do no more than offer such a test The question is whether the industry and trade desire such an opportunity Very often these things are found rather to up et than to encourage trade Often they are used as a last gamble by firms and dealers which have scarcely a pound left in the bank They run a car in a trial because the big makers see no necessity to put their *machines* through such a test Some of these outsiders with relatively indifferent stuff come out comparatively well and so manage to keep going on the strength of sales resulting from such a cheap adver tisement In other words, if fir t-cla trial lack Le

support of all the responsible members of the trade because they do not want them, then they fail to serve the public purpose because they give an entirely misleading idea of the relative merits of the given vehicles, inasmuch as the best class is not represented in such a competition Therefore it will be interesting to note what attitude the organized trade takes in regard to the suggestion that will be made to it of holding a small car reliability and efficiency trial this summer

Nova et Vetera.

JOHN MEMIS, M D

A Protagonist of Obstetric Teaching

On January 18th, 1775, James Boswell received from Samuel Johnson a presentation copy of the *Journey to the Hebrides*, which he read at a sitting, "though ill of a bad cold," and though the task kept him up most of the night Within a few hours the letter of thanks was penned, and in it the writer proceeds to ask the great man for "immediate aid in my profession" Then follows a short sketch of the action raised by Dr Memis of Aberdeen against the managers of the Royal Infirmary there The case was a singular one and as it is here presented almost a silly one, but it interested Johnson and roused him into unwonted activity His reply has been preserved as well as the more considered opinion he dictated in the succeeding May Finally on February 14th, 1777, Boswell describes to the Doctor how the action was decided by the court

These facts are of course well known, for they are recorded in one of the world's great books Thereby Memis has found fame, or rather an immortality of ignominy But if the curious reader seeks further light on the man his quest will be vain At least he is not likely to find anything in the ordinary works of reference What follows may, therefore, be regarded as a footnote to *Boswell*, and as it refers to some little known aspects of Scottish medical history it may not be deemed out of place in these columns

Notwithstanding Juliet's dictum, ordinary people will agree with Wilkes when he said "There is something in *names* which one cannot help feeling Now *Elkanah Settle* sounds so *queer*, who can expect much from that name?" And Byron was no less emphatic

> "Oh! Amos Cottle! Phoebus! what a name
> To fill the speaking trump of future fame!"

The name Memis is unusual, perplexing, almost foreign in sound Perhaps that is why it has been derived from the Des Mesmes, an old Bearnese stock, whereof a branch was transplanted to England, and gave, it is said, a governor to Berwick Others have sought its origin in a territorial designation, a custom common in Scotland, and there was a farm called Memus or Memis in Tannadice in Forfar All that is certain is that at this period there were a few individuals of the name domiciled in Aberdeen and vicinity Not undistinguished either One, an Episcopalian minister at Stonehaven, was a great botanist and taught that subject at Aberdeen, where he set up a botanic garden in 1780 Another, at a later date, was appointed librarian of Marischal College while an undergraduate, became LL D when scarce out of his teens, and after being rector of Ayr Academy finally joined the ministry The surviving members of the family migrated to Australia, and all recollection of them seems to have died out in the Granite City Even the pronunciation of the name remains uncertain

John Memis was born about 1720 probably in Aberdeen, where his father, Robert was a wheelwright and burgess In the matriculation roll for the class, 1734-38, the name of John appears as entering Marischal College with a Guild Bursary He failed, or at least did not proceed to graduate For more than twenty years thereafter his career can be traced only through the mists of conjecture We must assume that somewhere and at some time he passed apprentice with a surgeon His own words are voucher that he studied midwifery under Thomas Young in Edinburgh He probably had been for some years in practice before becoming a burgess of Aberdeen (May 7th, 1757), and he is described on the roll as "Chirurgus"

About this time he began a class for midwives, and felt the necessity of obtaining that full status in his profession which he had attained as a citizen It is likely that he had attended medical classes at Marischal College At all events it was to that body that he applied to be admitted M D His petition was refused At St Andrews he was more fortunate and the degree was conferred upon him (May 6th, 1765) "upon testimonials from Dr James Forbes and Dr Andrew Burnet in Aberdeen"*

Later on in the same year, 1765, he published in London a small volume giving the substance of his teaching in midwifery The title-page is long enough to be explicit, and yet in one respect it was misleading

> The Midwife's Pocket Companion, or A Practical Treatise of Midwifery on a New Plan containing full and plain directions for the Management and Delivery of Child bearing Women in the different Cases, and the Cure of the several Diseases incident to them and new born Children, in the safest Manner and according to the Best Improvements Adapted to the Use of the Female as well as the Male Practitioner in that Art
>
> By John Memis, D M,
> Of Marischal College, Aberdeen
>
> London Printed for Edward and Charles Dilly, in the Poultry, near the Mansion House MDCCLXV (12vo, pp 234)

It gave great offence to Marischal authorities, who forthwith inserted an advertisement in the London *Chronicle* to the effect that the author was not a graduate of their College and that in fact their degree had been refused to him Memis apparently only intended to imply that he had studied at Marischal College, which, of course, was true He was so satisfied as to his rectitude in this matter that the title-page was printed unchanged in the second edition, which appeared in 1786, and was published in Aberdeen The notoriety thus given the book was unfortunate since the critics took advantage of it to amuse themselves at his expense and to belittle the work

At this period Memis must have been in fairly comfortable circumstances In addition to the expense involved in obtaining a degree and launching a book, he could afford to listen to the call of charity In January, 1766, he gave a donation of £25 to the Aberdeen Infirmary, and the grateful committee added him to the list of managers † He took his new duties seriously, attended meetings regularly, and on occasion presided All was not well, however, for the minute of February 17th, 1767, records a complaint from one of the infirmary physicians that Memis had written a letter "wherein he disapproved very much of the General Dyet for this Infirmary, which was unanimously approved of by all the other Physicians" The record ends with these ominous words "as Dr Memis had formerly thrown out many reflections extremely ill founded and very prejudicial to the interests of the Infirmary and to the characters of the Physicians in Ordinary, it is humbly submitted to the first general Meeting to consider whether Dr Memis deserves to be expelled or continued as a Director"

What happened is not known, for the minutes are silent At all events Memis was not expelled and was still a manager when the Infirmary received its Royal Charter in 1773 It was the translation of this document into English which brought about the famous lawsuit Memis objected to the way in which he was therein designated, and as the managers refused to meet his views he raised an action for damages against them The case calls for detailed examination, which it will receive on another occasion Here it is enough to say that Memis lost the suit and was called upon to pay £40 towards the defenders' expenses Even with this help the Infirmary had to bear a net loss of £100, so that the cost to the plaintiff must have been well over £200 But he, at least, had been fighting for a principle, while the managers

* For these facts we are indebted to the courtesy of J Maitland Anderson Esq, University Librarian St Andrews

† Thanks are due to the present managers for permitting their records to be examined, and to Mr Finney, their clerk, for the time and trouble involved in the search.

paid for their obstinacy The relations between him and them thereafter can only be guessed at, for the curtain does not rise again on Memis till 1786, and then for the last time In that year he published *A Practical Treatise on the Prevention and Cure of Disease in General*, and the second edition of his book on midwifery The date and place of his death do not appear to be on record

Such are the few available facts in regard to Memis, and to the casual reader they suggest a "thrawn" individual ever at variance with his professional brethren It is necessary, therefore, to direct attention to a circumstance, wholly to his credit, which would largely explain the enmity of his colleagues We refer to his attitude towards the practice and teaching of midwifery

Up to the beginning of the eighteenth century this branch of medicine was utterly neglected by the profession in Scotland Popular prejudice was against the employment of a male practitioner in such cases, and in the rare instances where his help was sought his scant knowledge was as likely to hasten as to retard the fatal issue On the other hand, "any woman of intrepidity and address, however wanting even in experience, found employment as a midwife" The results were appalling, and at length the public conscience was roused to action On February 9th, 1726, the Edinburgh Town Council, largely through the influence of George Drummond, appointed Mr Joseph Gibson to be professor of midwifery to teach the female aspirants to this craft The Council went further, no midwife was to be permitted to practise in the city unless her name appeared on a register kept by the magistrates, midwives in actual practice were given four months to enrol, and thereafter admission to the register could only be gained on presentation of a certificate of proficiency signed by a medical man, and unregistered midwives were to be prosecuted * The Senatus did not approve of these measures, and the new professor was not admitted to that body, moreover, the Council minute expressly declared that he was to receive no salary from the city He was to enjoy the title but nothing more Still the proceeding marked a decided advance, and that called the medical profession to arms Their status seemed to be threatened by the establishment of a body of female practitioners To the public it was pointed out that the best midwife was Dame Nature Perhaps they did not realize that their action would prevent her having any other assistant than Dame Ignorance

The opposition so far prevailed that when Gibson died in 1739 his successor, Robert Smith (1739-56), held the office on no better terms But the tide of reform had begun Individual surgeons conducted classes for midwives, and Thomas Young had gained a reputation in this respect when he was elected professor in 1756 He not only received full university status, but he also obtained permission from the Royal Infirmary to use an attic in the building and to furnish it, at his own expense, with four beds Under Young and his successors right into the nineteenth century the midwives of Scotland had the privilege of being taught by a man of university rank The beneficent effects of this arrangement have been recorded by James Hamilton (appointed professor of midwifery in 1801), who assures us, "that in the present day there is scarcely a parish of Scotland the midwife of which has not been regularly taught"

It was under Thomas Young, in 1756 that the teaching of midwifery to medical students was begun in Scotland Some practitioners took advantage of the opportunity, Memis was a member of the first class held by Young In this way a knowledge of midwifery was gradually diffused among medical men and their help was more frequently and fruitfully sought, though it was not until 1827 that a licensing body demanded proof of training in the subject from those who sat for the final examination This date marks the end of a long and fierce campaign waged by the medical authorities against the entrance of medical men into this new sphere of activity As an example of the more reputable arms used in the fight we may take an advertisement which appeared in the public press on May 7th, 1765

> The Royal College of Physicians of Edinburgh in order to support that character and esteem which they have all along maintained and to keep up that distinction which ought to be made between the members of the College and the practitioners of those branches of the Healing Art which have been always esteemed the least reputable Do Resolve that for the future they will admit no person to be one of their Fellows whose common business it is either to practise Surgery in General or Midwifery Lithotomy Inoculation, or any other branch in particular and further if any Fellow practise any of those lower arts he shall be degraded from the honour conferred on him and his name struck out of the roll

As we have seen, Memis was not only practising midwifery, but was teaching midwives and had written a textbook for them This open flaunting of opinion in Aberdeen could have but one result for him—professional contempt and ill will These feelings, we may be certain, had no small part in bringing about the refusal of the M D , the advertisement in the *Chronicle*, and the insistence on a translation to which he took exception But we must not judge their conduct too harshly, for the pioneer must pay for his privilege As Whittier says in a poem addressed to a man who suffered in Aberdeen a century before Memis

> 'Every age on him who strays
> From its broad and beaten ways
> Pours its seven fold vial

It would be futile to criticize *The Midwife's Pocket Companion* by the standard of Smellie's work (1752) or that of Hamilton (1775) To say, as did the *Monthly Review* (January, 1766), that it was to Dr Smellie that the author was "chiefly indebted for his materials" and that the work was a mere "abridgement of what has been fully and clearly delivered by Smellie, Levret, and others," though meant in contempt, was really high praise Intended for women of very ordinary education, it was written in the simplest language, innocent of a single technical term The *teaching, if elementary, was safe, and Memis in dedicating* the second edition to George III could boast that the book "hath been the means of saving the lives of many children"

In the *Treatise on the Prevention and Cure of Disease in General* he gives his views on hygiene These also were not pleasing to his brethren He strongly opposed the "customary and unnecessary phlebotomies, physickings in spring and fall, and the customary use of any acrimonious or sharp medicine whatever" He is all for the simple life—ordinary food in moderation, plain water, fresh air, due amount of labour, reasonable exercise, especially walking, early to bed (9 p m) and early to rise (5 a m) To be avoided are "all pickled, smoaked and highly seasoned food", "strong and more especially spirituous liquors", "malt liquor except clear small beer or ale" tea and coffee, which are "more or less hurtful to all but most prejudicial to those who have weak nerves" Evil are the effects of "that vile custom of Tobacco so common, whether by snuffing, chewing or smoaking" He will not, however, recommend any particular regimen since he has found that what may suit one may be detrimental to another For him the preventive side of medicine is of most importance It is surely preferable to follow its dictates even at some inconvenience rather than to fall ill and be forced "to swallow a number of the most elegant or nice or nauseous loathsome and disgusting medicines that are often as ineffectual as they are loathsome and expensive" The book ends in more serious vein and discloses another side of his complex character The most careful manner of living, he says,

> will be too weak and diseases will break out unless repentance towards God and faith in Christ be sought after and attained which in truth are the principal means of subduing every turbulent passion or headstrong affection in particular as well as the source of temperance and all regular and salutary living in general and without which indeed few of our directions as to right living and diet will be regarded

It is upon this solemn note that *John* [illegible] from our ken.

* The Corporation of Glasgow took similar action in 1739 vide Professor Chalmers' *Smellie and His Contemporaries* which contains a very interesting account of the troubled infancy of man midwifery

British Medical Journal.

SATURDAY, JANUARY 5TH, 1924.

THE COURT OF INQUIRY

AT the time that this issue of the JOURNAL is in the hands of most of its readers the Court of Inquiry into the remuneration of insurance practitioners will already have begun its proceedings It is to meet on January 4th, 7th, and 8th, and the meetings are to be open to the press and public The case for insurance practitioners is to be presented on the first day by the Insurance Acts Committee of the British Medical Association We hope to publish next week a full report of the proceedings, and in this week's SUPPLEMENT print the memorandums submitted to the Court by the Minister of Health and the Secretary for Scotland, on the one hand, and by the Insurance Acts Committee on the other It is a matter for regret that Sir Josiah Stamp has had to withdraw from his appointment as a member of the Court He is the only surviving member of the Court of Arbitration which sat in 1920, and the part he took in the former proceedings inspired confidence in the minds of those who then presented the case on behalf of insurance practitioners, and evidently of the Ministry also As announced in the SUPPLEMENT at page 22, Sir Gilbert Garnsey, a chartered accountant of eminence in his profession, has been appointed in the place of Sir Josiah Stamp

The cases submitted in the printed documents will be supplemented by oral evidence in their support, elucidation, or amplification, so far as may be relevant to the issue It is understood that after such evidence has been taken on behalf of the Insurance Acts Committee and of the Ministry, witnesses will be heard representing the Association of Insurance Committees, probably the Approved Society officials, and possibly other interested persons or bodies Seeing that the source from which any additional funds that may be required shall be found is ruled out of this Inquiry, it is difficult to appreciate the point of view from which evidence may be tendered on behalf of the Societies It can scarcely be contended, even by those who, in spite of ascertained facts, believe that a large proportion of insurance practitioners do their work badly, that on this account everybody should be underpaid, and that in this way an improved service can best be secured

The printed memorandums are based, in each case, on the correspondence which has previously taken place between the Committee and the Ministry, the whole of which has been published in previous SUPPLEMENTS The present documents differ, however, in material respects from the letters, and should be read as they stand by all those, whether members of the profession or not, who wish to appreciate and judge intelligently the points at issue The memorandum of the Insurance Acts Committee, at any rate, presents to the Court and to the public a clearly reasoned and consistent case, based not only upon the general principles which should underlie the assessment of professional remuneration in equity and in the national interest, but also upon exact mathematical and scientific calculations, starting from the premiss (one would have supposed unassailable) that the arbitration award of 1920 was considered and impartial, and upon relevant comparisons with the rewards of private practice

The memorandum of the Ministry seems to us far less clear and cogent, and gives a quite disproportionate amount of space and importance to a comparison with the Civil Service, which is almost entirely irrelevant, or is at least subject to so many qualifying considerations as to be useless, if not absurd It assumes, too, as a basis for its calculations, a normal professional income which is contrary to all experience, using a figure which for the purpose of certain arguments in 1920 the Committee assumed as a maximum gross income, as though it were an average net income, and in its "consideration of the time rate equivalent of the capitation figure" and its "comparison between insurance and private or salaried work," it abounds in fallacies which will no doubt be exposed in the course of the Inquiry The Ministry's case is indeed throughout obviously presented from the point of view of the office armchair, or at best the office desk, with very little, if any, realization of the conditions of present-day general practice Another point conspicuous by its absence from the Minister's document is the fact that the service rendered by insurance practitioners consists not merely in items of work done, but in responsibilities undertaken and liabilities incurred Unless all these practical points are realized alike by the Court and by the Ministry, any award will produce the most intense dissatisfaction in the profession

There are two statements in the Minister's memorandum to which, on other grounds, we take the strongest exception They will be noted by the profession with regret and indignation The first is the unqualified sentence, "The Approved Societies contend that all three rates were excessive and out of proportion to the rates commonly paid in contract practice before the Acts came into operation for a range of service in their view not dissimilar" Though this sentence purports merely to represent, perhaps not incorrectly, the view of "many of the representatives" of Approved Societies, the wanton introduction of the statement that such representatives regard the service given by the old club system as similar to that now given under the insurance system should at least have been accompanied by the Minister's own repudiation of that statement as admittedly incorrect and untenable The impression that may be left upon the Court, the members of which have no first-hand knowledge of these things, is wholly unfair The second statement, to which we take even stronger exception, is that the arbitrators gave the award of 11s in 1920 only because this had previously been offered by the Government, and that "had the Government offered a somewhat lower figure, such as 10s 6d, the arbitrators might have accepted it" This assumption that a Government offer in itself determines an award is monstrous It must never be forgotten that at the arbitration the Treasury and the Ministry of Health both argued for a 10s fee, and we prefer to believe that no Governmental influence, direct or indirect, biased the arbitrators or will bias the Court of Inquiry

There is one other point in this memorandum which is of interest to the whole profession The Ministry makes use of the wholly inadequate, and in many cases (especially in Scotland) disgracefully low, salaries offered for public health appointments, to belittle the value of professional services in general This is one more, and a very cogent reason, as has been pointed

out by the Council of the Association, for the profession uniting to enforce wherever possible a reasonable minimum salary for all such appointments It is also a reason for enlisting the services of all ranks of the profession in any effort to secure adequate remuneration for insurance practitioners

FOOT-AND-MOUTH DISEASE.

THE present outbreak of foot and mouth disease, following so closely upon that of 1922, has given rise to serious thought concerning an alternative method to that at present adopted for its suppression With few exceptions little appears to be known of the literature dealing with the work which has been undertaken in this and other countries during the past thirty years, or of the difficulties which have been experienced by many investigators while endeavouring to establish an experimental method which would prove of economic value when applied under field conditions

Much information has, however, been obtained in connexion with the etiology, epizootology, and immunology of the disease Thus Sagar, carrying out investigations in Norway in 1764, first recognized the contagious nature of the malady, which previous to that time had been attributed to dietetic errors or climatic influences In the later part of last century it was definitely established that the disease was due to a specific infection Several early workers, notably Klein, Schottelius, and Kurth, associated a coccus with the disease Later on Siegel made a similar observation, and in addition to conferring a name upon the organism (*Cytorrhyctes cocci*) claimed to have reproduced it in artificial media, and subsequently to have produced in cattle, by means of his cultures (from the sixtieth generation onwards), lesions which in some respects resembled those of the natural disease In 1897 Löffler and Frosch, and later Hecker, Nocard, and Roux, proved that the causal organism was capable of passing through certain porous porcelain filters (Chamberland and Berkefeld), while it was to some extent held back by the more dense Kitasato filter This observation has been repeatedly confirmed by subsequent workers, and the presence of the virus has been constantly demonstrated in the vesicular lymph Siegel reconciled his findings with these by assuming that his organism, in certain of its forms, might pass through a filter while in others it is visible microscopically Numerous other investigators have from time to time observed the presence of a variety of organisms in the lymph, and these no doubt account for the complications which are sometimes found in the superficial lesions Quite recently several investigators (Titze, Pfeiler, and others) claim to have cultivated the virus successfully in artificial media, and in some instances through a large number of generations

The virus is found in the greatest concentration in the vesicular lymph, but it is also present in the blood, the virulence of which has been regarded as being very transitory and difficult to demonstrate Cosco and Aguzzi, however, claim to have proved that during its course the disease shows a succession of febrile crises, and that the virulence of the blood varies accordingly, being most marked at the height of each attack Both the red cells and serum are virulent, and the corpuscles retain their virulence after washing Carré and Vallée have shown that if washed normal corpuscles are added to a filtrate of a suspension of epithelium obtained from foot and mouth disease lesions, the virus is fixed by the corpuscles and is not separated from them even by repeated washing and centrifuging Such red cells, when injected subcutaneously into susceptible animals, produce the disease The virus is readily destroyed by heat and disinfectants Carré and Vallée found that desiccation was not so harmful to the virus as was generally believed Lymph which was dried rapidly *in vacuo* and left at room temperature was found to be virulent for pigs up to eighteen days

The virus retains its virulence in sealed tubes for several months at 0° C , and for two or three months at 1° or 2° C Löffler and Frosch found that it was destroyed in twenty minutes at a temperature of 45° C , in fifteen minutes at 50° C , in ten minutes at 70° C , and immediately at 100° C It is also destroyed by exposure for one hour to 1 per cent carbolic acid, 2 per cent formalin, 3 per cent caustic soda, and 1 per cent hydrochloric acid Hecker ascertained that it was destroyed rapidly in fresh cow or pig manure at a depth of more than 20 cm , and with greater certainty if a layer of fresh horse manure was placed over the manure heap The virulence of the virus shows very considerable variation in different outbreaks In the majority of instances the infection is relatively mild, and the affected animals recover in from two to three weeks The mortality rarely exceeds 2 to 3 per cent in the case of cattle Among the animals which were isolated and treated during the outbreak in 1922 in this country the death rate among cattle was 2 4 per cent , sheep 10 3 per cent , and pigs 3 2 per cent In the malignant form of the disease, however, the mortality is much greater

The disease is usually confined to the cloven hoofed animals, and affects principally cattle, and to a less extent sheep, pigs, and goats Cases have occasionally been observed also in horses, carnivorous animals, fowls, and man Quite recently it has been shown that guinea pigs may be artificially infected with the virus Numerous cases have been reported in which foot-and mouth disease has been transmitted to man, usually as a result of attendance upon affected animals or by means of milk, whey, cheese, or butter During the past year at least two instances have been recorded in which local lesions developed in persons who had been engaged in work connected with infected animals The disease in man is usually mild, but fatal cases have occasionally been observed on the Continent, especially among children, in them it was associated with a gastro intestinal catarrh Bertarelli succeeded in one instance in transmitting the disease back to a calf More recently Pancera, during an outbreak of foot and mouth disease in Italy, observed typical lesions in the mouths of children and on the hands of adults He succeeded in infecting guinea pigs with the material from these lesions, and produced typical foot and mouth disease in a calf and a pig

As has already been said, the contents of the vesicles of the mouth and feet are highly infective Material such as saliva urine, manure, milk food stuffs, and litter, which becomes contaminated by the vesicular lymph, spreads the disease from animal to animal, either directly or through the attendants Attention has repeatedly been called to the possibility of a recovered animal acting as a carrier of the disease Löffler pointed out that such animals might be infective for periods up to seven months while Nevermann recorded over one hundred outbreaks of the disease in Prussia which had been traced to such carriers Zschokke showed that vesicles might extend beneath the horny covering of the foot and form furrows in the spaces along the sensitive laminae of the wall

sole He also found hidden vesicles in the hoof which did not open externally It appears to be possible that virulent material may remain enclosed until it is freed by the natural wearing of the horn Such animals may therefore be a source of danger for months Assel confirmed this view by reproducing the disease in healthy animals by means of inoculations prepared from such horn 251 days after the apparent recovery of the animal In those cases in which isolation is permitted the Ministry of Agriculture requires that the premises shall be closed for a period of two months after the recovery of the last case In view of the experiments just mentioned it would appear to be doubtful whether this period is sufficient

An attack of the disease leaves the animal with a varying degree of immunity, it may be sufficient to protect it from subsequent attacks for a period of from two to three weeks up to one year or more Such immunity can be artificially increased by subsequent injections of virulent blood, and an animal so treated may be used to provide a hyperimmune serum Loffler described such a method in 1909, and showed that this hyperimmune serum might be employed for the passive immunization of contact animals Many experiments have shown, however, that the immunity so conferred is of relatively short duration, and that the treatment must be repeated every ten days, or preferably more often Defibrinated blood, obtained from recovered animals about twelve to fifteen days after the appearance of the vesicles, when used in large quantities (1 c cm per kilo) has been shown by Carré and Vallée and by other workers to afford protection to susceptible animals for periods up to fourteen days They later employed, in conjunction with this, an injection of from 1 to 10 c cm of virulent blood, either at the same time or five days later, in order to develop an active immunity Animals so immunized are said to show some resistance to both natural and experimental infection, but the duration of the immunity has not been definitely ascertained An observation of great importance is that animals so treated, while possibly immune to subsequent infection with the same strain of virus, show little or no resistance when infected with another strain, although some of the sequelae—such as abortion, disease of the claws, and agalactia—may be reduced Carré and Vallée have stated that an animal which had been hyperimmunized with one strain of the virus was actually infected by natural means with the same strain six months later This result shows that the means ordinarily employed for conferring an active immunity upon animals under field conditions are likely to be of little service in foot-and-mouth disease It further shows that recovery from a natural attack cannot be expected to afford protection against a subsequent infection even after a relatively short period of time Moussu recommended a process which he called "phthization" This consisted of the vaccination of healthy animals by intravenous inoculation with citrated virulent blood This method also appeared to shorten the duration of a subsequent natural attack and to render it milder As it is attended by a certain amount of risk it appears to be of little practical value

From what has been said it is evident that no satisfactory method of conferring an active immunity short of giving the animals an actual attack of the disease has yet been discovered and moreover, that such an attack does not confer a trustworthy degree of resistance to subsequent infection even with the same strain of the virus In the light of present knowledge attempts to produce an active immunity must be governed by the known facts regarding the existence of a number of strains of virus, and an endeavour might profitably be made to discover an antigen which, while being more potent, must be less virulent From an economic point of view it seems certain that in the special conditions of this country there is at present no general alternative to the slaughter policy There is abundant evidence that in countries where the disease is enzootic the annual loss per head of cattle far exceeds that of the epizootics of the last two years

Research in connexion with foot-and-mouth disease would appear to be urgently necessary, but the investigation should deal primarily with the factors which determine the introduction of the disease to this country and the methods by which it is spread Sir Stewart Stockman has recently published in the *Journal of the Ministry of Agriculture* numerous statistics compiled by himself and Miss Garnett which tend to show a correlation between the normal migration of birds and the incidence of the disease in Great Britain Before any definite conclusions can be drawn, however, much work remains to be done, and it is along this and similar lines that the interests of the British stockowner can best be served by immediate research

WORK FOR THE LEGISLATURE

THE new Parliament has not far to look for a sufficiently comprehensive public health programme Indeed, if it confines its attention to giving practical effect to reforms of which the general necessity is admitted by all parties, or even to measures which have been discussed—in some cases as Government bills—by its immediate predecessors, it will establish a strong claim on the gratitude of all who have the health of the community at heart

The first and most pressing need is for the co ordination and unification of the health services throughout the country Such a reorganization, long an integral part of the policy of the British Medical Association, is imperative if economic and efficient administration of the existing services is to be secured It is the second step in the policy of social reconstruction which has already given us a central Ministry of Health, and it offers the only possible basis for development of an adequate national health policy It involves the reorganization of local public health authorities throughout the country, with all its attendant difficulties, but reform here is long overdue, and since the ground to be covered has already been explored, if not fully charted, by a succession of Commissions and Committees, from the Royal Commission on the Poor Law down to the Royal Commission on Local Government now in being, we may fairly ask for some definite advance in the near future But it is advance and not merely change that is needed The modification in the organization of the Scottish health services proposed by the late Government was, in our view, a definitely retrograde step, since it would have dispensed with the provision for the inclusion on the Scottish Board of Health of a qualified medical practitioner, and at the same time transferred parliamentary responsibility for the Scottish health services from an Under Secretary specially charged with that work to an Under Secretary for Scottish affairs in general The scheme just put forward by the Society of Executive Civil Servants would effect the same transfer, and is therefore open to objection, though there is something to be said for the abolition of the Board in favour of a department with a permanent respon-

sible head and a chief medical officer as his adviser and executive official in all matters relating to health and medical practice

The provision for death certification and registration, whether affecting routine procedure or the cases of difficulty at present referred to the coroners' courts, is a matter in which constructive criticism has long outstripped legislative activity The present system is inadequate, it affords insufficient safeguards against fraud and murder and an unsatisfactory basis for vital statistics It causes waste of time and money through lack of co ordination between the coroners' courts and the ordinary criminal courts, and admits of serious miscarriages of justice Expenditure on such a system is obviously extravagant, since it fails to produce the desired result Here again the way has been pointed out by more than one committee since the original recommendations for readjustment were formulated in 1893 The two bills, based in the main on these recommendations, which were introduced during the past session, offered a useful basis for discussion, although neither can be considered fully adequate, and the British Medical Association accordingly has under consideration at the moment the revision of its own bill, with a view to producing a more satisfactory draft

On the question of National Health Insurance it would appear that all parties are at least agreed on the necessity for a comprehensive inquiry It can hardly be doubted that such an inquiry will, among other points, demonstrate an urgent demand for the extension and improvement of the existing system Adequate inquiry will, of course, take time, but meanwhile there is work to be done in securing immediate provision for the payment of whatever capitation fee for 1924 may be awarded by the Court of Inquiry which was set up by Sir William Joynson Hicks at the end of November and has now begun its sessions, and in resisting any attempt to prejudice the position of the medical service under the Acts as a national service subject only to the statutory control provided by the Acts The Insurance Acts Committee's memorandum comprising the case for an adequate capitation fee, together with other documents relating to the same subject, is printed in the SUPPLEMENT this week

Turning from these questions, which involve decisions of considerable complexity and difficulty and of far reaching effect, to points at which progress is relatively simple and (within a limited field) no less desirable, we find the demand for adequate facilities for early institutional treatment of mental disease still unsatisfied, for two successive Government measures seeking to deal with the matter have failed to materialize The restriction of atmospheric pollution, with its increasing toll of preventable mortality, is another responsibility accepted by the Government last session but unfulfilled Nor is it out of place to remind Parliament that the present unrestricted traffic in secret remedies is a disgrace to a civilized country, and that the ill fated Proprietary Medicines Bill of 1920, embodying a large part of the recommendations of the Select Committee which reported in 1914, should be reintroduced without delay

In all these matters the question of finance cannot be ignored, and it is essential to remember that expenditure on public health is in the widest sense productive expenditure It is therefore fitting to conclude with a reference to one question of major importance in which considerations of cost have recently been allowed a disproportionate weight In 1922 the university grants were reduced by £300,000 on the score of economy It would seem that Parliament has yet to learn that some retrenchments are not economical From any political leaders who show themselves capable of assimilating this lesson and making more adequate provision for the national endowment of education and research—services only less obviously vital to the well being of the community than is the maintenance of an adequate material standard of life—it might not be too sanguine to look for wise guidance and constructive statesmanship in other directions

THE AUSTRALASIAN CONGRESS OF THE BRITISH MEDICAL ASSOCIATION

IT will be gathered from the report, the publication of which is begun this week, that the Australasian Medical Congress held in Melbourne under the auspices of the British Medical Association in the middle of November was in every respect, as our Melbourne correspondent says, a very great and encouraging success The Governor of Victoria, the authorities of the University, and the Victorian Branch of the Association united with the executive of the Congress to make the organization perfect, and members of other Branches of the Association in Australasia contributed by their presence and by the share they took in the work of the sections to make the Congress thoroughly representative of Australia The British Medical Association in this country was fitly represented by its ex President, Sir William Macewen of Glasgow, to whom was assigned the honour of opening the new anatomy department of the University This was the first of the inaugural ceremonies, and is permanent evidence of the wise policy of the Government of Victoria for the encouragement of higher education The new department, which in the scale of its construction and the perfection of its equipment owes much to the present occupant of the chair of anatomy, Professor R J A Berry, affords accommodation for 600 students, it provides dissecting rooms, lecture and demonstration theatres, reading rooms, an anatomical library, and a well-equipped museum Opportunities for post-graduate research in neurology, anthropology, radiology, comparative anatomy, embryology, and histology are also provided in the department Sir William Macewen, in a short address, said that the State Ministry was to be congratulated on the enlightened conception which had led it to provide so magnificent a building for the study of human anatomy Few anatomical schools, he said, possessed such adequate accommodation for teaching and for research also, knowledge even of human anatomy was incomplete, and Australia, with its characteristic fauna, affords tremendous opportunities for further research After this the Governor of Victoria unveiled the memorial the Victorian Branch has erected to the memory of forty three of its members who gave their lives in the great war In the evening of this first day the President, Mr G A Syme, M S , F R C S , gave a thoughtful address, in which he discussed broadly and with much insight the lessons Medicine has to teach the public, and the services it can render if only its teachings are listened to by the community at large and by individuals He emphasized this point by contrasting the results obtained by municipal action in the prevention of typhoid fever by safeguarding the water supply with the comparative failure of legislation to prevent venereal diseases The failure was due, he said to the fact that individual members of the public will not obey the law and will not exercise self-control After dealing briefly with the many things science has yet to learn about even the commonest of diseases, he touched upon the need for systematic care of children and mothers and on the problem of the feeble-minded Then he spoke briefly of the

for reform in the medical curriculum, and wound up by an appeal to his hearers to form a wide conception of the purpose of the universe Man lived in an environment of two kinds, the one physical and permanent—a universe whose unalterable laws it was his duty to search out so as to adapt himself to them—and the other an environment he formed for himself and could control under the guidance of science and reason The social side of the Congress was not neglected, but the members, our correspondent assures us, showed quite exceptional devotion to the work of the Sections We begin our report of these, and hope to conclude it in an early issue Before parting with the Congress we would note the presentation of the medal for distinguished service to Dr Hayward and to Dr Todd, both of whom have served the Association in Australia well The medal was established in February, 1922, by the Federal Committee of the British Medical Association, and is given for special meritorious services to the Association, the profession, and the community All members at home will applaud the wisdom exercised in the selection of its first two recipients

NEW YEAR HONOURS

THE list of new year honours contains the interesting announcement that a baronetcy has been conferred upon Sir Donald MacAlister, K C B, Principal and Vice-Chancellor of the University of Glasgow, who, as President of the General Medical Council since 1904, has laid the profession under a deep debt owing to the wisdom with which he has conducted the proceedings of that important medical body Another interesting announcement is the knighthood conferred upon Dr Byrom Bramwell, whose "services to medicine" mentioned in the official announcement are too many to be enumerated and too well known to call for any estimate from us Sir Byrom Bramwell is consulting physician to the Edinburgh Royal Infirmary, and has been President of the Royal College of Physicians of Edinburgh The same honour is conferred upon Dr William Thomas Prout, C M G, one of the medical advisers to the Colonial Office, and a member of the Advisory Medical and Sanitary Committee for Tropical Africa, he is a retired officer of the R A M C, in which he held the rank of lieutenant-colonel, he was at one time Principal Medical Officer, Sierra Leone, on Dr Henry William Russell Bencraft of Southampton, on Dr Harry George Waters, principal medical officer, East Indian Railway, on Dr Henry Lindo Ferguson, C M G, professor of ophthalmology and dean of the medical faculty, University of Otago, New Zealand, and on Dr David James Galloway, a member of the Executive Council and of the Legislative Council, Straits Settlements His friends—and they are many—will congratulate Sir William Leishman, F R S, Director-General, Army Medical Service, on receiving the further honour of K C B (Military) The C B (Military) is conferred upon Major-General D J Collins, C M G, Deputy Director of Medical Services, Southern Command, East Indies, and on Air Commodore David Munro, C I E, Medical Administrator, Royal Air Force Dr Alexander Hendry, M V O, Surgeon Apothecary to the King's Household at Balmoral, is promoted to be C V O, and the C I E is conferred upon Behari Lal Dhingra, M D, Chief Minister, Jind State, Punjab The Kaisar-i-Hind medal of the first class for public services in India is conferred upon Dr Augustus Sousa, Assistant Director of Public Health, III Range, Allahabad, United Provinces, and on Dr Louisa Helena Hart, medical missionary, Madanapalle, Madras The K C M G is conferred upon Professor Wyndham Dunstan, F R S, who recently vacated the office of director of the Imperial Institute, which he had held with distinction for twenty years

BISMUTH AND TUBERCULIN IN GENERAL PARALYSIS

IN October, 1921, Marie and Fourcade reported favourable results from the treatment of localized neuro-syphilis with bismuth, though no benefit was observed in an equal number of cases of diffuse meningo-encephalitis Marie and Kohen recently read[1] a paper before the Societe de Therapeutique (Paris) on the treatment of general paralysis by intramuscular injections of insoluble salts of bismuth combined with subcutaneous injections of tuberculin Bismuth was chosen in preference to mercury or arsenobenzol in view of the fact that when administered by intramuscular injection it penetrated into the cerebro-spinal fluid more rapidly than these substances In the course of 1922 they found that a reduction of the lymphocytosis and albumin in the cerebro-spinal fluid of general paralytics occurred under treatment by the insoluble salts of bismuth, and a diminution in the intensity of the reactions of Pandy, Weichbrodt, Guillain, Vernes and Bricq, and Wassermann, in one case the last reaction became completely negative In all the cases treated by bismuth remissions were much more frequent than in those not so treated On the other hand, Artom of Rome, who had employed colloidal bismuth in five cases of tabes or general paralysis, did not detect any improvement in the clinical symptoms or in the cerebro-spinal fluid The success, however, which the French clinicians had obtained induced them to continue and to attempt to reinforce the effect of the bismuth by sensitizing the patient's organism to its action With this object they had recourse to tuberculin, which in combination with mercury had enabled Wagner to obtain remissions in 28 per cent and slight improvement in 10 per cent of his cases of general paralysis The principle on which treatment of this nature is based is the production of a sudden rise of temperature, accompanied by hyperleucocytosis which, as Levaditi has shown, inhibits the multiplication of the treponemata, whose toxins are probably neutralized by those of other micro-organisms invading the system The plan employed by Marie and Kohen was as follows on the first day 0 5 mg of tuberculin diluted in normal saline was injected, and on the following day an intramuscular injection of insoluble salts of bismuth was given equivalent to 5 to 10 cg of the metal After an interval of one or two days twice as large a dose of tuberculin was given, unless there was a local or general reaction, in which case the same dose was given or it was increased by a quarter or a half, according to the intensity of the reaction To each patient twenty injections of tuberculin and twenty of bismuth (representing 1 2 grams of metallic bismuth) were given The advantage of giving small doses of bismuth was that they never produced stomatitis or even a line on the gums, much less Herxheimer's reaction or renal or hepatic insufficiency, with double or triple doses of bismuth three cases of hepatic insufficiency were observed The result of this treatment in twenty cases of general paralysis was that eleven presented a very pronounced improvement amounting to a remission The patients no longer showed Argyll Robertson pupil, they slept well, had no further tremor, did not stumble over test phrases, their memory returned, and they were able to follow their ordinary occupation Two patients were slightly improved, five who were in a very advanced stage did not derive any appreciable benefit, and two died The same treatment was applied to three cases of tabes in which injection of bismuth alone had merely diminished the frequency of gastric and visceral crises and of the lightning and bone pains The result of the combined treatment was that all the symptoms disappeared, and that the Wassermann reaction and the flocculimetric

[1] *Bulletin de la Societe de Therapeutique* November 14th, 1923

reaction of Vernes and Bricq in the cerebro-spinal fluid became negative Encouraging as are these results, Marie and Kohen are too cautious to come to any final conclusions, their observations being too recent to allow them to predict the duration of the remissions obtained in their cases

INSTRUCTION IN PUBLIC HEALTH

WE gave a summary account last week of the new regulations governing the course of study and the examinations for diplomas in public health which came into force on January 1st These regulations represent one part of the policy of the General Medical Council in respect to education in public health Its recommendation that every medical student should be instructed and examined in preventive medicine and public health as part of his training for a qualifying degree or licence to practise took effect at the beginning of 1923 The aim of the Council is to ensure as far as it can that the practitioner of the future shall be better able to co-operate with the medical officer of health, who in his turn will be better able to co-ordinate the whole local service for the maintenance of health and prevention of disease—not only infectious disease but disease in general This co-operation is reflected in the community of action now established between the British Medical Association and the Incorporated Society of Medical Officers of Health The part of the new rules for the diploma in public health which has come in for most criticism is that requiring a period of two years between qualification in medicine, surgery, and midwifery, and the final examination for a diploma in public health The object is to secure that the diploma holder shall have had opportunity for some kind of contact with actual medical work, whether in hospital or laboratory or practice, and for a little more maturity of outlook, so that he may be the better qualified for appointment to an office of much public importance, where he will at once be brought into relation with so many diverse public and professional interests The medical schools and the profession will watch with interest the working of the new scheme, and will be especially curious to note whether the supply of health officers will be reasonably maintained, as it ought to be, notwithstanding the higher standards which are now being introduced

STANDARD OF FAT IN COW'S MILK

IN OUR issue of December 1st, 1923 (p 1054), reference was made to a pamphlet, *Some Observations on the Butter Fat in Milk*, by Mr Wilfred Buckley, C B E, and the conclusions at which he had arrived were briefly indicated, especially his disquieting opinion that it is not possible to classify milk on the basis of butter-fat content The January number of *Public Health* contains an editorial article in which the value of Mr Buckley's investigations and the validity of his conclusions are called in question Surprise is expressed that the observations are published only now, the investigation having been made in the spring of 1915, and it is stated that "Mr Buckley's efforts on behalf of the interests of the milk-producing industry are well known" The analyses in question were made by the laboratory staff of the county medical officer of Hampshire It is stated that the investigation was not undertaken as in any way "bearing upon the controversial subject of a minimum standard for milk," and the results "are not to be regarded as bearing upon that subject," the strict supervision necessary for such work not having been exercised The inquiry, indeed, related to the possible relative changes in the composition of milk by varying the diet of cows, and it had been a matter of remark by those concerned that many of the cows were in obviously poor condition, and that the diet appeared to be insufficient "The scarcity of grass at that time in 1915 was also remarkable, and, as a matter of fact, the experiments had to be unexpectedly extended owing to the impossibility of turning out the cows to grass when there was no grass available," so that "obviously no general conclusions can be based upon these experiments" The editorial article proceeds to quote and comment favourably on the conclusions and recommendations of the Scottish Interdepartmental Committee It also points out that Circular 325, issued by the Ministry of Health, was subsequently withdrawn Having no knowledge of the local facts pertaining to the investigation in Hampshire we make no comment on the matter, but it is right, having called attention to Mr Buckley's pamphlet, to call attention also to the criticism to which it is subjected in the official organ of the Society of Medical Officers of Health

SMOKE, FOGS, AND THE DEATH RATE

DURING the weeks ended December 1st and 8th fog was more or less prevalent in the metropolitan area, although it was only of the "pea soup" variety for short periods The Registrar-General notes that, "as is invariably the case, there was a marked increase in the death rate Respiratory diseases showed very substantial increases, and this was particularly the case with deaths from bronchitis and bronchopneumonia where the atmospheric conditions would be most directly detrimental" The deaths from these two causes for the week ended November 17th and three following weeks were 106, 138, 251, and 303 respectively It is, of course, difficult to say how much of this increase is a pure fog effect and how much chargeable to the fall of temperature that accompanies and helps to cause foggy weather In the Ministry of Health's report on the pandemic of influenza a good deal of statistical information is given (pp 161 et seq) respecting the relation between low temperature and mortality from pneumonia (all forms) Thus the 480 weekly death rates for the last quarter of the year for the forty years 1850-89 were tabulated against the mean air temperature of the previous week The relation between previous low temperature and mortality was evident On forty-five occasions the mean air temperature was 40° F and the average rate of mortality per million living was 35 2 (all forms of pneumonia), on forty-eight occasions the air temperature was 50° and the mean mortality 26 8 The statistics of 1903-14 gave precisely similar results Farr devoted a good deal of attention to this subject, and even concluded that the excess mortality attributable to cold increased with age in geometrical progression

THE KING has approved of the appointment of Sir Malcolm Morris, K C V O, F R C S Edin, to be chairman of the Radium Institute, Riding House Street, W 1, in succession to the late Sir Frederick Treves Sir Humphry Rolleston, K C B, P R C P, has accepted a seat on the committee of the institute

THE British Isles in 1923 suffered from an excess of rain and deficiency of sunshine In London the excess of rain was 1 2 in above the normal, at Birr Castle, in Ireland, it was 5 in, and at Aberdeen 7 7 in In London the wettest month was October, when 5 32 in of the total 25 in for the year fell, probably there was a similar excess in the south-east of England generally At Kew the total hours of sunshine during the year were 1,427, 48 hours below the normal This, however, is only an hour a week, or about eight minutes a day In the Midlands the deficiency was greater, at Nottingham it amounted to three-quarters of an hour a day The great seasonal variation in the amount of sunshine is shown by the fact that in July in August (the sunniest month) there were 2-7 hours of sunshine whereas in December there were only 35

THE AUSTRALASIAN MEDICAL CONGRESS

OF THE

BRITISH MEDICAL ASSOCIATION.

INAUGURAL CEREMONIES

THE first Medical Congress ever held in Australasia entirely under the auspices of the British Medical Association has just been concluded in Melbourne (November 17th), and has been a very great success from every standpoint

The President of the Congress was Mr G A Syme, M S, F R C S Proceedings commenced on Monday, November 12th, with a series of ceremonials of an unusual character, which undoubtedly made a very deep impression on all who witnessed them The University of Melbourne, the Victorian Branch of the British Medical Association, and the executive of the Congress, united together in common cause—the first for the official opening of the new anatomy department, the second for the unveiling of its war memorial, and the third for the inauguration of the Congress itself

THE NEW ANATOMY DEPARTMENT

At 2 30 p m His Excellency the Governor of Victoria was received, at the main south entrance of the new anatomy department, by a distinguished company which included the Chancellor and Vice-Chancellor of the University, the Premier of Victoria, the Acting Prime Minister of the Commonwealth, the retiring President of the British Medical Association (Sir William Macewen), the President of the Congress, the President of the Victorian Branch of the British Medical Association, the Dean of the Faculty of Medicine, the Professors of Anatomy and Physiology, the President of the Professorial Board, the Registrar and Assistant Registrar of the University, the President of the Melbourne University Association, the President of the Students' Representative Council, and the Chairman of Committee of the Medical Students' Society These official dignitaries, in their academic robes, supported by a guard of honour from the Melbourne University Rifles, made an imposing background to the ceremony of the unlocking of the door by Sir William Macewen His Excellency the Governor presented Sir William with a gold key, requesting him to keep it as a memorial of the occasion With all due ceremony Sir William officially unlocked the door and the procession passed through into the building, to be joined within by members of the University Council, the members of the Professorial Board, the Council of the Victorian Branch of the British Medical Association, and the senior lecturers of the medical school, the procession into the new anatomy museum being preceded by the guard of honour The hall itself presented a brilliant picture, being crowded to its utmost capacity by members of Congress, mostly in academic or military dress, their friends, and other distinguished visitors The official dignitaries having taken up their respective positions the Chancellor called upon Sir William Macewen to declare the building open

Sir William Macewen's Address

Sir William Macewen an imposing figure in his scarlet gown received a great ovation He said

"Man is but a bit of nature Therefore everything pertaining to the structure and function of creation has its bearing upon analogous human structure and function The State Ministry in providing for the construction of this magnificent building for the study of human anatomy, is to be congratulated upon its enlightened conceptions and its munificence Never has it spent money to better advantage Like bread cast upon the waters, it will return a hundredfold, for those who encourage the science and art of medicine aim at obtaining for the people freedom from disease, clearer and more vigorous brains in healthy bodies, and longer and better spent lives This new department of anatomy is a magnificent building, eminently suited to the purpose to which it is dedicated Few anatomical schools possess such adequate accommodation for teaching and research Research must be a feature of a school situated, as this is, in the midst of a fauna presenting phenomena of the deepest interest Even human anatomical knowledge—old as it is—is still far from complete There are organs whose structure and function require further study and investigation that light may be shed in dark places For the proper equipment of the institute and its laboratories many instruments of precision and pieces of apparatus will be necessary These, doubtless, will be contributed by the civic spirit of an enlightened and generous public The students of this and all the Australasian universities have a splendid, unique, and, in many respects, unexplored field, and I trust their efforts, as well as those of Melbourne's graduates, will prove worthy of the magnificent building which I have now the honour to declare open"

THE WAR MEMORIAL

Then followed the deeply impressive ceremony of unveiling the war memorial dedicated to the memory of forty-three members of the Victorian Branch of the British Medical Association who laid down their lives for King and country In absolute silence and with all standing, four members of the University Rifles slowly advanced, with arms reversed, to the four corners of the memorial draped with the flags of England and Australia

Address by the President of the Victorian Branch

Then the President of the Congress called on the President of the Victorian Branch Dr LATHAM said

"Yesterday (Armistice Day) there was commemorated throughout the British world that historic moment when the warring nations ceased from the struggle, and the grim years of terror and tragedy, of woe and waste, were ended Then in reverent silence we paid tribute to the memory of those who perished in the conflict

"To-day the Victorian Branch of the British Medical Association pays honour to forty-three of its members who, going from home or hospital, professional practice or research laboratory, to tend the sick and wounded of their country's fighting force, crowned their devotion with the supreme sacrifice The memorial raised to them by their fellow members will fittingly be unveiled by the representative of His Majesty in the presence of members of the Governments of Commonwealth and State, of high officers of the naval and military forces of the University of Melbourne, and of the medical associations in all States This moment will reawaken in the relatives of those now honoured their sense of personal loss, but the memorial at once attests and ensures their remembrance The genius of the artist has set their names in bronze indissolubly associated with a symbolic group portraying at once a soldier's sacrifice and a doctor's devotion

"In the future the British Medical Association hopes to erect a building and to house the memorial there But for the present we gladly leave it in this new School of Anatomy, where it may inspire successive generations of students May it lead them, as they study the details of structure of the human body, to the higher virtues of citizenship and the service of sacrifice"

His Excellency the GOVERNOR OF VICTORIA then stepped forward, and in an eloquent and moving silence slowly removed the emblems of the Mother Country and the Commonwealth from the exquisite memorial to the dead, and there stood revealed for all time the tribute raised to their fallen colleagues by the members of the Victorian Branch The guard presented arms, and to the touching strains of the Last Post the dignified ceremonial became an imperishable memory to all that is best in human tradition

Dulce et decorum est pro patria mori

As the procession slowly wended its way from the hall the gathering dispersed, and there followed an inspection of the magnificent new department, of the war memorial itself, and thereafter the reception of the President of Congress and Mrs G A Syme

THE PRESIDENT'S ADDRESS.

A brilliant gathering marked the official opening, in Wesley Church on the evening of Monday, November 12th, of the Australasian Medical Congress Although not the initial gathering of its kind held in Melbourne, it was the first under the auspices of the British Medical Association Academic dress was worn by the visitors, the scarlet hoods of the medical profession being the most arresting colour note From the eastern gallery rows of hospital nurses in their white caps and red or blue cloaks watched the proceedings On the elevated pulpit enclosure from which the speeches were delivered were His Excellency the Governor-General (Lord Forster), the Acting Prime Minister (Dr Earle Page), the Premier (Mr Lawson), the President of the Congress (Mr G A Syme), Sir William Macewen (formerly President of the British Medical Association), the Chancellor of the University of Melbourne (Sir John MacFarland), and the Lord Mayor (Councillor Brunton) Her Excellency Lady Forster, with a party from Government House, and the Lady Mayoress, occupied seats immediately facing the platform

In declaring the Congress open, His Excellency the GOVERNOR-GENERAL said that he counted himself fortunate to take part in the inauguration of such an important gathering There was no doubt as to the value of such meetings, not only to the profession, but to the public also Speaking both as the occupant of a great office and as an individual, he was deeply interested in the proceedings and their results Medical science appeared to be on the threshold of a new era While the triumphs of recent times led the people to form great expectations of future alleviation of suffering, they should remember that the remedies were only growing *pari passu* with the ailments, and that the real object and the greatest achievement of medical science consisted not in curing but in preserving health It was by learning to keep healthy that laymen could assist the medical profession (Laughter) It was in this direction that the public lacked instruction and sound knowledge In conclusion His Excellency expressed, on behalf of the public, his acknowledgement of the debt owed to the medical profession

Before beginning his address, the PRESIDENT thanked His Excellency for his presence, and welcomed the other special guests and members of the Congress

The reading of his prepared address was frequently marked by applause, and at its conclusion there was a demonstration of appreciation

THE ADDRESS

In the course of his address the PRESIDENT said

"It is now my duty to address to you some remarks on more or less professional topics The subject matter falls into two groups—first, matters which are purely professional, and secondly, some which are rather socio-political, in which the profession claims to have special interest, such as eugenics, euthanasia, and the like Opinions expressed in this second group are not to be regarded as authoritative, but merely suggestive Probably there never was a time in history when the culture of human life was more necessary than now, in the period following the great war

Need for Fit Population

"It has long been urged that one of Australia's greatest needs is more population The war has accentuated this need In immigration schemes it has been recognized that undesirable people must not be admitted to the Commonwealth It is not equally appreciated by those whose slogan seems to be 'multiply the people and fructify the country' that the natural increase of population also must be safeguarded—that it should be qualitative and not merely quantitative To add to the population those who cannot or will not work is positively harmful Incapacity for work is largely due to impaired physical condition, inherited or acquired If production is to be increased, in order to restore the economic loss occasioned by the war, the whole population must be in the best possible health, and so able to work with the greatest efficiency A section of the lay press, especially in Victoria, seems to imply that the medical profession is chiefly in fault for the wastage of disease" After quoting a newspaper editorial, which advanced the argument that under the present system doctors had more interest in ill health than in good health, the President continued "Such a statement, while containing some truth, is obviously unfair The prevention of disease has been made a special department of medicine in charge of members of the profession who give their whole time to their duties as officials of the public service The field of specialization in this direction is ever widening, and more and more medical practitioners are enlisting in community service It is, however, true that in the past general practitioners might have had more training in the preventive aspects of medicine, and might have co-operated more satisfactorily with the public health officials The profession will consider most sympathetically any scheme that is suggested by departmental experts It is the public, individually and collectively, that is mostly at fault Members of the profession are ceaselessly striving to educate the public as to the supreme importance of health, and as to the proper measures necessary for maintaining good health and avoiding ill health

Menace of Red Plague

"A very prevalent disease in every community is that called venereal In Australia it has been estimated that 30 per cent of the population is affected, and that the economic loss is £50,000,000 per annum Researches have discovered the organisms that cause the disease, the methods of infection, special tests for the presence of it in individuals, and specific remedies for its cure The profession has made its discoveries public, and, largely owing to its representations, Parliaments in Australia and elsewhere have enacted laws dealing with the subject The disease ravages the community just the same, causing infinite misery and suffering to thousands of innocent people, including children Why? Because individual members of the public will not make use of the knowledge given them, will not obey the law, will not exercise self-denial and self-control, and refrain from certain practices Chastity and continence must always be the ideal at which all must aim

Typhoid and Sanitation

"In the prevention of typhoid fever much has been accomplished because it has been more a matter for corporate than for individual action In Melbourne in 1878 typhoid fever caused 307 deaths In 1922 only 12 died, and in the last 19¼ years only 8½ cases occurred per 1,000 of population The disease still occurs with excessive frequency in country and extra urban districts Water supply and sewerage schemes on a large scale may not be practicable in country districts, but that is no reason why nothing should be done Drainage should be diverted from rivers and discharge of filth into streams stopped The methods of water purification and sewage treatment adopted so successfully in the armies during the war [illegible] what can be done and what is the effect [illegible]

measures in reducing typhoid fever In the South African war typhoid fever caused 10,000 deaths In the great war only 266 died from this disease The measures used in the war could, and should, be adapted to civil requirements Another factor in reducing both the incidence and mortality of typhoid in the war was compulsory protective inoculation This valuable method should be employed universally in peace as in war, especially in country and extra-urban districts Propaganda work is necessary to arouse interest in disease prevention in rural districts, where the need for communal effort seems less appreciated than in large centres

Government Health Services

"The proposal of the Director-General of Health of the Commonwealth to establish health services in selected areas should be adopted The service would be under the administrative control of an expert, who would secure the co-operation of the general practitioners of the district, the local health authorities, and sanitary engineers They should all be apostles of hygiene, and go forth with the zeal of the old crusaders While the case mortality of diphtheria has been reduced by the employment of antitoxin, the incidence is higher than ever, so that the actual death rate has greatly increased In 1911 the deaths in Australia were 362 in 1921 they were 462 One of the difficulties in the prevention of diphtheria is the problem of the 'carrier' The Commonwealth Department of Health has instituted an antidiphtheria campaign at Bendigo The results will be submitted to this Congress in its public health section It is understood that they are very gratifying To that section will also be communicated the results of an investigation into the 'Schick test,' and as to the possibilities of immunizing, by protective inoculation, children shown by the test to be susceptible No serious effects have ever resulted from the injections given to tens of thousands of New York children in the last seven years When the health officer for Colac asked the Health Commission in Victoria a short time ago to organize a campaign there for 'swabbing' throats of suspects and eliminating 'carriers,' the commission refused, and said that such a scheme was impracticable, chiefly because of its cost The prevention of diphtheria is admittedly a difficult problem, and its solution means considerable expenditure, but it ought to be the business of health authorities like the commission to make Governments and people appreciate that health and safety cannot be secured without heavy expenditure They must also be taught that money so expended will be well spent and truly reproductive by promoting efficiency and reducing economic loss Australia has been saved considerable expenditure by the general assistance of the International Health Board of the Rockefeller Foundation, but why should a prosperous country like Australia have to be indebted to America for funds for work of this kind? It is a great reproach that more wealthy Australians do not contribute funds for research The necessity for research and for providing facilities for carrying on cannot be sufficiently emphasized Every large metropolitan hospital at least ought to have a research laboratory with a staff of trained scientific experts Most of the research work in medicine can only be done in connexion with hospitals Scholarships should be provided for trained students in research Such students as are found suitable should then be given permanent posts

What Science has yet to Learn

"One of the commonest diseases to-day is appendicitis It suddenly attacks an apparently healthy individual and no one seems to be immune No one has discovered how any case originated The bacteriologist has not even found a specific organism that can be held responsible Even when the specific organism is known as in pneumonia, which attacks as suddenly and mysteriously the profession is still ignorant of the other factors essential to its causation, and unable to advise measures of prevention Another class of disease concerning the origin of which little is known is that characterized by the formation of calculi Pathologists speak about altered metabolism but the phrase is often only a cloak for ignorance, as it is when applied to the cause of gout and other constitutional diseases In diabetes, again, metabolism is deranged, and much valuable research has been carried out to elucidate its nature and provide a remedy The highest honour is due to Banting and his associates at the Toronto school for their magnificent work in preparing insulin and demonstrating its value in treatment A more profound mystery is the cause of tumours Possibly investigations in comparative pathology—a somewhat neglected field—may help to enlighten the darkness To the patient pain is the all-important evil for which he seeks relief, to the profession it is a valuable sign of warning If appendicitis, for instance were painless, its mortality would be terrible One reason why cancer often becomes so firmly established as to be practically incurable, is that, except occasionally in its last stages, it is generally painless Early and radical operation still holds out most hope, combined with radiotherapy before and after operation The essential is early diagnosis It cannot be too strongly impressed on the public, and also on general practitioners, that every abnormality in the shape of lumps and sores should receive prompt attention" After detailing what is being done in England and America in regard to cancer research, the President said that a publicity campaign should be instituted in Australasia, and strong financial support given to the British Empire campaign He then proceeded "As a result of want of definite knowledge as to the exact mode of causation of so many diseases, it is difficult for the profession to give much help in prevention We have to rely on general principles for promoting good health These principles are few and simple They can almost be summed up in one word, 'purity'—pure air, pure water, pure food, and pure surroundings The dweller in a modern city does not get pure air The atmosphere is impregnated with smoke and dust which is often germ-laden The modern practice of living in flats and tenements is objectionable because the tenants get insufficient fresh air and sunlight It has long been known that sunlight has a powerful effect in rendering pathogenic organisms inert The principle of municipal taxation on unimproved land values in force in many residential suburbs seems objectionable from a health point of view, leading to restriction of free spaces around dwellings and diminishing the amount of sunlight and pure air

Care of Children and Mothers

"One of the best means of increasing our effective population is to reduce infantile disease and mortality In Australia, in 1920, the deaths of children were far too many In New Zealand infantile mortality has been much reduced, and it is now the lowest in the world Much of the improvement must be credited to the Plunket system, though other factors contributed Its main features are to encourage breast-feeding of infants and by the service of specially trained nurses to teach mothers how to feed and attend to their children properly It is to be hoped that some scheme of a similar character will be put into effective operation in all the States of Australia It is regrettable that there is so much overlapping The Health Department of the Commonwealth might try to co-ordinate these various agencies in some national scheme, which would also include pre-maternity, obstetric, and post-maternity care Some of the money distributed by the Commonwealth Government as a maternity bonus might be much more effectively used in fostering methods of the kind indicated The morbidity and mortality of childbirth are still far too high It is to be feared that the subject of practical obstetrics is not now a sufficiently important part of the medical curriculum, and apart from its operative side does not appeal to the student as it should"

Problem of the Feeble-minded

Dealing with the problem of the feeble-minded, the President said that the investigations and views of Professor Berry, made public in his Stewart lectures, demanded serious consideration and action As he had pointed out, an urgent need in Australia was the establishment of child-study clinics for the scientific investigation of children and the segregation and special treatment of those found to be defective After quoting a well known case to prove how freely feeble-mindedness is transmitted to the descendants of parents of

low mentality, the President referred to the remedy of sterilization, and continued "It seems on biological evidence one of the most scientific and rational methods of preventing some of the great economic loss and social disaster produced by the rapid multiplication of the unfit Luther Burbank and the Dean of St Paul's have directed attention to the dangers that threaten civilization from this source It is not claimed that sterilization would abolish mental deficiency, nor that it is the only measure required Segregation and restraint, with proper care and training, are necessary This may improve, but it can never cure, the unfortunate condition No training can restore the missing brain cells Further, the care must be for life It is fatal to train defective children to the age of 18 or 21, and then let them loose on society Neither is it recommended that eugenical sterilization should be enforced by law, except, perhaps, in the case of those moral defectives who are convicted of sexual offences A voluntary sterilization, with the consent of all concerned, as introduced into Switzerland fifteen years ago, could, and should, be tried Euthanasia for ending hopeless and painful disease is another measure to which public sentiment objects Surely it is both rational and humane to end a useless and painful existence which is nothing but misery, both for the sufferer and for the relatives and friends

Conservatism in the Schools

"The only criticism that may be offered in regard to medical curricula is that the dead hand of the past holds too much power Some of the knowledge still demanded might be abolished to make room for new subjects of greater importance Might one venture also to put in a plea for simplification of medical terminology? Much of it is hybrid and uncouth, and it is often lacking in uniformity Practitioners of medicine must not neglect any methods, such as that of psycho-analysis, that may help in either diagnosis or treatment, nor should they allow them to be exploited by the laity, but when *eminent* authorities denounce them as 'false science' the rank and file may well hesitate to accept all that the new psychologists claim, until their views have been subjected to truly scientific research" After quoting the views of various authorities as to the possibility of increasing the duration of human life, Dr Syme continued "Would it be desirable, even if it were possible, to increase the span of life unless youth could be retained as well? All the best work in the world has been done by the young Researches, however, suggest that not only may life be prolonged, but even youth may be restored by the surgeon's art"

Scientific Conception of the Universe

In conclusion, the President asked "What conception have we formed of any general scheme of life and of its relation to the universe? The training of medical practitioners tends to make them adopt a material conception of life The student must deal with the body as a machine, it is the only way in which, at present, he can advantageously study it But it does not follow that human life is solely mechanical Lord Balfour, in a recent lecture, asked, Can we believe that unreason has produced reason? Is it not necessary to postulate some form of reason, some element of purpose in the beginning, and as transfusing the process from end to end?' We, as rational members of a scientific profession, must believe in organic evolution Man lives in an environment of two kinds—one of the physical and permanent a universe of unalterable law, the other, artificial, created by himself, and capable of modification It is man's duty to search out the unalterable laws and adapt himself to them and also to find out how his artificial environment can be modified, his condition bettered, his progress assured In endeavouring to pierce the darkness and mystery that surround us, we do well to be humble and reverent Let us search and hope ultimately to find 'this essential unity of all created things,' the unity of which Tennyson says,

> One God, one law one element
> And one far-off Divine event
> To which the whole creation moves

Sir William Macewen briefly conveyed the greetings of the parent body in Great Britain If the extinction of the medical profession meant the abolition of disease—he said—that would be its greatest distinction (Applause)

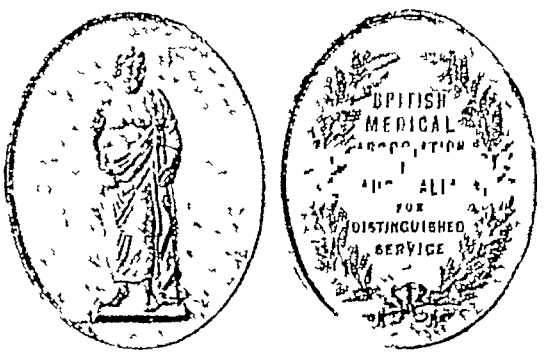
The Acting Prime Minister (Dr Earle Page) expressed the hope that the deliberations of the Congress would be beneficial to the community as a whole If all the contributions to the discussions were up to the high standard set by the President it would be a memorable gathering (Applause) The people were looking to the Congress to lay down a broad health policy The President had said in his address that this was the function of departmental officers but he (Dr Page) trusted that the Congress would find time to give the Ministry a lead

The Premier (Mr Lawson), who welcomed the delegates on behalf of the State of Victoria, said that he had no doubt that the Congress would have great influence on the achievement of health ideals

The Lord Mayor (Councillor Brunton) welcomed the visitors on behalf of the City of Melbourne

DISTINGUISHED SERVICE MEDALS

The President announced that in February, 1922, the Federal Committee of the British Medical Association had decided to institute a medal, to be given for specially meritorious service to the Association, the profession, and the community The two first medals have been awarded to Dr W T Hayward and Dr R H Todd Amid cheers the President invested the recipients with the medals Each briefly replied



British Medical Association in Australia Medal for Distinguished Service

Drs Pockley and Purchas former presidents of medical congresses, moved and seconded a vote of thanks to His Excellency the Governor General, who briefly replied

SOCIAL EVENTS

The Australasian Medical Congress was characterized by an altogether exceptional devotion on the part of its members to the actual business of the Congress There were morning and afternoon sessions on three of the four available days of meeting This being so, there was rather less time for the social time of such gatherings than is usual, though it must not be supposed that these were neglected

There were numerous private dinners and social gatherings, the private reception of the President and Mrs G A Syme on the Sunday afternoon preceding the Congress being an exceptionally successful example Garden parties were given by the Commonwealth Government, as also by the Governor General of the Commonwealth Medical women were responsible for a very successful social evening after the popular lecture by Sir John Macpherson The Congress dinner was very largely attended and was exceptionally well organized, and the Governor General entertained to dinner about fifty leading members of Congress and Victorian officials

The trade exhibit was representative and highly successful, as was also the Congress museum organized by Dr A J Trinca, particularly that novel feature representing doctors' hobbies wherein we saw bookbinding wood and brass work painting wood engraving ornithology and many other activities far removed from the practice of medicine Ultra rapid cinematography as applied to medicine was also successfully demonstrated by Pathe Freres

working in conjunction with Professor Berry and Dr Trinca, the two cases selected being injury to the brain followed by muscular tremors of the muscles of the forearm, and the altered movements consequent on ankylosis of the hip It is believed that these are the first medical cases to be recorded in Australia by ultra-rapid cinematography, which is an undoubted aid to medical science The cinema was also utilized with great success by Dr Royle of Sydney and Professor Hunter in the demonstration of a case of removal of part of the sympathetic (autonomic) nervous system for the relief of spastic paralysis, and by Dr Colin Mackenzie for the illustration of the life habits of the platypus

The admirable work of Dr A L Kenny, as the chief organizer of the Congress, was suitably recognized by a presentation, which all are agreed was richly deserved

The first meeting of the Australasian Medical Congress, British Medical Association, has set a high standard and has given general and undoubted satisfaction to all concerned

THE SCIENTIFIC SECTIONS

SECTION OF MEDICINE

On Tuesday, November 13th, this Section held a combined meeting with the Section of Radiology, the subject for discussion being the diagnosis of early tuberculosis The Chairman, Dr MARSHALL MACDONALD (New Zealand), briefly welcomed the delegates, and called on Dr S A Smith to open the discussion

Dr SMITH, after describing the pathological changes, discussed the structural and functional alterations produced He drew attention to the fact that toxaemia bore no relation to the amount of structural change and might occur very early He advocated careful investigation of every suspected case, with special regard to symptoms, and considered that the resulting delay caused no damage to the patient

Dr NISBET, opening the discussion on behalf of the radiologists, considered that screening was useful, but films should be taken in every case Though the delay diminished its usefulness, repeated examination every six months was most valuable in early cases He thought that the appearance of the heart was of great value in diagnosis and prognosis Co-operation with the physician was a necessity

Dr C B BLACKBURN (Sydney) thought the assistance of the radiologist brought home the rarity of a really early diagnosis When a very early lesion was diagnosed, x-ray examination often showed that it was really a relapse When an old lesion was shown it was difficult to say if there was active tuberculosis or old quiescent tuberculosis with some other cause of the symptoms In war pensioners the problem often was to prove the absence of active tuberculosis

Dr EDWARDS (New South Wales) commented on the ease with which some people made a diagnosis on a screen examination Early calcification of the cartilage of the first rib had caused *error in diagnosis* He advised caution in dealing with basal conditions and in attempting to decide if a lesion was active In five cases of spontaneous pneumothorax he had failed to find evidence of tuberculosis

Dr J JAMES (Melbourne) expressed the views of the officers of the Victorian Repatriation Department Their conclusions had been drawn from 1,000 cases Gassing was the most important war influence in preparing the soil Wounds and acute infections—for example, influenza—were of less importance In 61 per cent the onset was similar to that in civil life In hilus tuberculosis cog-wheel breathing was an important sign and they thought it was due to transmission of the cardiac impulse

Other speakers advocated a careful study of symptoms and a thorough examination of the patient, including all systems as well as the use of x-ray examinations and all known tests in every suspected case Several speakers considered the injection of tuberculin the most useful diagnostic aid

Dr L BEDFORD LEWIS (Queensland) read a paper entitled, "Some notes on the treatment of tuberculosis by tuberculin" He had treated 102 cases and claimed excellent results The diagnosis had been verified in every case, either by finding tubercle bacilli in the sputum or by a positive tuberculin test He began with minute doses, and gradually increased, avoiding any but a very mild reaction He thought this form of treatment should be employed only by those skilled in its use

Dr CAMAC WILKINSON (London) also advocated the use of tuberculin in diagnosis and treatment

In the afternoon the Section held a combined meeting with the Sections of Pathology and Neurology, the subject for discussion being epidemic encephalitis In opening the proceedings, Dr A W CAMPBELL (New South Wales) expressed his appreciation of the honour of being invited to preside

Dr MARSHALL MACDONALD (New Zealand) traced the history of the disease, and briefly described its symptomatology and sequelae He deprecated attempts at classification He thought that the functional element which was present in most cases should be treated, and if this were done the patient's condition would be improved He also discussed the diagnosis and referred to the possibility of making a retrospective diagnosis in patients developing a Parkinsonian syndrome and other typical sequelae In 50 per cent of his cases he had obtained definite benefit from fixation abscess

Professor CLELAND (Adelaide), in discussing the pathology, confined his remarks mainly to the consideration of the possibility of epidemic encephalitis being identical with the condition which he studied about five years ago, and which had been described as X disease He thought the conditions were not identical

Professor CARMAIT-JONES (Dunedin) emphasized the importance of the mode of onset in making a diagnosis, and he advocated frequent examination of the optic discs He protested against undiagnosable nervous cases being called epidemic encephalitis

Dr HOLMES À COURT (Sydney) said the disease was by no means a rarity, for in two years 35 cases had been admitted to the Sydney Hospital *The importance of mild cases* in the spread of the disease should not be overlooked Residual symptoms might be complications or they might indicate persistence of the disease In treatment he recommended repeated lumbar puncture where increased pressure had been found

Dr KEITH INGLIS (Sydney) inferred from his *post-mortem* examinations that the diagnosis of encephalitis was by no means easy Of 8 cases only one had shown the histological changes described by English and American observers The other conditions found were a haemorrhage, a glioma, atrophy of the convolutions, but none of the typical changes, nothing diagnostic, a lesion in the pons, probably congenital, resembling an aneurysm, and thought to be an angiomatous neoplasm, a clot at the base extending to the cord The disease should be continuously studied by clinicians and pathologists and investigations similar to those made by Professor Cleland in X disease should be undertaken Dr R R STAWELL (Melbourne) thought that a diagnosis could be made only by exclusion The mode of onset was most important Though the disease was frequently missed it was also too frequently diagnosed

Professor MILLS (Sydney) discussed the causation of the lethargy, which might be due to toxaemia affecting cortical cells or to increased intracranial pressure *The brunt* of the attack might fall on the choroid plexus, this would account for the increased cerebro-spinal fluid

Dr MACDONALD, in summing up, said that owing to the possible involvement of any part of the nervous system the diagnosis was difficult Of the greatest importance were the mode of onset, the eye symptoms, and the condition of the cerebro-spinal fluid

A paper on hydatid of the heart and hydatid emboli, by Dr A V M ANDERSON and Dr S W PATTERSON (Melbourne), was read. Dr Anderson gave the history of

a patient who developed suddenly a right hemiplegia and aphasia She gradually improved for seven days, when she suddenly became comatose and died two days later At the *post-mortem* examination were found A hydatid of the left ventricle which had ruptured into the cavity of the ventricle, a large hydatid in the right occipital lobe of the brain, a hydatid cyst in the left middle cerebral artery, a hydatid cyst in the right middle cerebral artery, two small cysts in the spleen, a small cyst in each kidney, no cysts were found in the lung Dr Patterson reviewed the literature of hydatid of the heart

On Wednesday, November 14th, Dr J F WILKINSON (Melbourne), in opening a discussion on insulin in general practice, expressed great satisfaction with the results obtained during the last six months He paid a tribute to Dr Penfold and Dr Morgan of the Commonwealth Serum Laboratories, who had made the insulin He emphasized the necessity of first proving that a patient had diabetes and of realizing that only those who mastered the dietetic principles would meet with success in treating their patients Insulin could be used without blood sugar estimations, but they were certainly desirable when the urine was sugar-free, it could be used safely as long as it was "buffered" with sufficient orange juice

Dr MARSHALL MACDONALD (the chairman), on behalf of himself and his colleagues in New Zealand, joined Dr Wilkinson in his tribute to Dr Penfold and Dr Morgan

Professor MILLS was delighted to hear that insulin could be used without blood sugar estimations He advocated the use of small doses—2 to 3 clinical units, gradually increased The price of insulin should be decreased

Dr C T C DE CRESPIGNY (Adelaide) described an unsuccessful attempt to use insulin by mouth One gram of charcoal, which in the laboratory had been shown to absorb all enzymes, was given to a fasting patient at 7 a.m., and at 8 a.m. a dose of 4 units of insulin, at 9 a.m. a meal was eaten

Dr WILKINSON, in summing up, said that he did not undervalue the importance of blood sugar estimations, but cases could be managed without them He again emphasized the importance of scientific dieting In severe cases and threatened coma he used large doses, but in others he based the dosage on dietetic requirements

Dr L A IVAN MAXWELL (Melbourne) read a paper entitled, "Anaphylaxis and its relation to the diagnosis and treatment of hay fever and asthma" After discussing the theories of anaphylaxis, he described and exhibited specimens of the grasses which were found most frequently to cause hay fever in Victoria He dealt also with the methods of treatment of hay fever and described the mode of preparation of the material for testing asthmatics He also described the specific treatment of asthma

On Thursday, November 15th, Dr W N HOWELL (Sydney) read a paper on circus movement in the auricle in auricular flutter and fibrillation He pointed out the normal result when a contracting muscle was connected to a string galvanometer, and showed how this principle had been applied in the dog's auricle and how it had been extended to demonstrate what happened in auricular flutter and fibrillation

Dr M D SILBERBERG (Melbourne) referred to the use of digitalis and quinidine in auricular fibrillation Dr Silberberg described the mode of action of these drugs and the results of their use Only 40 to 60 per cent of the patients responded to quinidine, obtaining subjective relief and some increase of reserve power

Dr H RITCHIE (Sydney), Dr C B BLACKBURN (Sydney) and Dr MARSHALL MACDONALD (New Zealand) discussed the foregoing paper and emphasized the necessity of restoring cardiac compensation by means of digitalis before using quinidine

Dr F L APPERLY (Melbourne) read a paper on the value of fractional test meals The main points were (1) That regurgitation of duodenal fluid was the main factor influencing acidity (2) That increased motility of the stomach largely governed the discharge of the gastric contents and regurgitation from the duodenum, but irritability of the jejunum might increase regurgitation (3) That in normal individuals the free acidity was higher with the old stomach tube than with the Rehfuss tube (4) That the rate of emptying affected the amount of acidity (5) That fractional test meals appeared to be of value in the diagnosis of pancreatic disease

On Friday, November 16th, the subject for discussion was the part played by focal infection in disease Dr SCOT SKIRVING (Sydney), the opener, drew attention to the large number of conditions which were thought by some people to result from focal infection, he advocated the removal of foci whether they were thought to be responsible or not

Dr S O COWEN (Melbourne) considered that our beliefs did not rest on a sound basis After dealing with the possible modes of action of foci of infection in the production of disease, he indicated that he fully appreciated the importance of focal infection, for clinical evidence in its favour was strong Professor MILLS appealed for calm reasoning in accordance with the dictates of science in dealing with this subject Many other speakers contributed to the discussion

Dr S PERN (Melbourne) read a paper on the etiology of goitre and elaborated the theory that goitre was due to a disturbance of balance between calcium and iodine in the body He thought that the functions of the thyroid were frequently disturbed by focal infection

Dr J R BELL (Melbourne) read a paper on gall stones cholesterol metabolism in relation to pathogenesis, diagnosis, and treatment Three interdependent factors were concerned in the production of gall stones infection, excess of cholesterol in the blood, and bile and biliary stasis He had found that 60 per cent of patients with gall stones had hypercholesterolaemia and suggested that estimation of blood cholesterol might be of value in doubtful cases, though hypercholesterolaemia might be found in other conditions For prophylaxis he suggested the adoption of a diet poor in cholesterol and fat

Professor MILLS congratulated Dr Bell on making a valuable contribution to our knowledge, and thought that the method should be employed forthwith

On the same day the Section met the Sections of Surgery, of Radiology, and of Ophthalmology for the discussion of the treatment of exophthalmic goitre

Professor MILLS (Sydney) dealt with treatment under three headings (1) Medical The essentials were large amounts of food of high calorific value, together with rest, and adrenaline might do good occasionally (2) Surgical In severe cases surgery gave the best results, but often it did not cure (3) X-ray therapy was good in some cases, bad in others

Dr DE CRESPIGNY (Adelaide) thought that medical treatment was occasionally of value in young people In addition to the measures recommended by Professor Mills he suggested the removal of all stimuli, psychical and physical and the clearing of all foci of infection, but not because he thought they were causative In very severe cases before operation he employed these measures and gave bromides or small doses of luminal In auricular fibrillation he used digitalis, but was doubtful about quinidine When the basal metabolic rate and pulse became constant he recommended operation by a skilful and rapid operator

Dr EDWARDS (Sydney) claimed good results with x-ray therapy He described his method of treatment which was not controlled by estimations of the basal metabolic rate

Dr H HUME TURNBULL (Melbourne) felt that medical treatment could not be advised at present Operation should be done during a remission No cardiac condition contraindicated operation, but any cardiac abnormality should be treated before operation When operation was refused medical treatment might be undertaken The standard of medical cure, Dr Turnbull insisted must be as high as that of surgical cure

Dr J F CHAMBERS (Melbourne) reported the results of basal metabolism estimations in a large number of cases and Dr RIDDELL STANLEY (Melbourne) spoke of conditions calling for treatment by ophthalmologists Many others contributed to the discussion

(To be continued)

Paris.

[FROM OUR OWN CORRESPONDENT]

Two New Professors—Sicard and Guillain

Two new professors have just been appointed to the Paris Faculty—J A Sicard to the chair of medical pathology, and G Guillain to that of neurology Both are young men Is it not rather remarkable that as we grow older we see the highest posts occupied by teachers who seem to be always growing younger?

Professor Sicard will continue to be the driving force he has always been The welcome given him by the students at his recent inaugural address is a guarantee of this He was working with Widal when the latter established the principle of the serum diagnostic test for typhoid fever, and for a quarter of a century he has devoted himself to the study of the cerebro-spinal fluid If our professors were required to choose a coat of arms, those of Sicard should bear a syringe and a long needle! To him we owe the method of the blocking of the nerves by the injection of alcohol Only the other day he used the trans-cerebro-frontal method to introduce antimeningococcal serum into the region of the base of the brain itself His is the honour of introducing the spinal injection of lipiodol, which has made it possible to determine the exact site of a tumour of the cord with the aid of *x* rays Helped by the information thus obtained the surgeon can boldly cut straight down upon the lesion* *Audaces fortuna juvat*

Upon Professor Guillain has fallen a mantle difficult to wear The fame of the neurological school at the Salpetriere has drawn to the grey walls of that monumental hospital pilgrims from all corners of the world Hard is the succession to a line of teachers which stretches from Charcot to Pierre Marie Guillain, however, is a born neurologist and many publications on anatomy and physiology have come from him He has tracked and unravelled a series of reflexes by which the science of symptomatology has been enriched Long, too, have been his labours in the pathology of the nervous system and fruitful their results In his inaugural address on December 20th he combated the popular opinion that neurology is an art rather of diagnosis than of treatment He showed that neurology had a positive side, and then went on to give his audience a picture of those uncharted territories which are awaiting pioneers As a first consideration he asked, What is the nature of the nervous impulse itself? He ended by quoting Parker of the Johns Hopkins University, who has just proclaimed that Europe, bled white, is incapable of keeping her place in the domain of science, and must hand on the torch to America, which has the strength, the enthusiasm, and the dollars! "We do not yet feel ready to have it snatched from our hands," said he, and his words will find an echo in British hearts Let me add that Professor Guillain is very well acquainted with the English-speaking scientific world, and a convinced advocate of international co-operation He is one of the very few of our Paris teachers who is able to lecture as well in English as in French He is well worth watching

L'Oeuvre Grancher

Professor Achard its general secretary, has delivered before the Academy of Medicine a eulogium of that great social apostle, the late Professor Grancher Shocked by the hecatombs of children which tuberculosis produced, he taught that it was better policy to act in advance than to wait until the disease had developed He founded an organization (*Oeuvre de Preservation*) which was destined to attain great success The guiding principle of his scheme was to withdraw the still healthy children from their families where the parents were in an active infectious stage and unable to provide for the welfare of their offspring The children were boarded out with carefully selected farmers and were under the constant supervision of doctors affiliated to the organization The results may be judged from the following figures Whereas, according to Calmette, the mortality among children who continue to live with tuberculous parents is as high as 60 to 67 per cent, the mortality at the Oeuvre Grancher was only 3 per cent Professor Grancher finally himself fell a victim to the disease he had fought against, but his work goes on under the guidance of Dr Roux, and every year the number grows of those who have cause to bless the name of Grancher

Physiological Films

From the Paris City Council comes an excellent piece of news to rejoice the hearts of all friends of our dumb brethren It has made a grant to cover the cost of preparing cinematograph films of those experiments on animals which are indispensable in the teaching of physiology These films will be at the disposal of all schools of biology and medicine, and it is hoped that they will be of such a kind that they will come into use in other countries It is a matter of no small moment that young students should be led to acquire at one and the same time a knowledge of the mechanism of life and sympathy with all suffering

Medical Discipline

The idea of creating an *Ordre des Medecins* analogous to the *Ordre des Avocats* is an old story It is a problem difficult to solve without coming directly into conflict with those old traditions of freedom which we hold so dear We have no Medical Register comparable with that of Great Britain, and the practice of medicine is regulated simply by the registration of the diploma of doctor of medicine (State diploma) by the prefect of the department in which the holder intends to practise The right to practise can be withdrawn only as the result of an unfavourable verdict in a court of law It seems highly desirable that something should be done, but we do not want some new machine to subject a profession jealous of its independence to a kind of military discipline (*caporalisme etatiste*) It would seem that our incorporated syndicates ought to suffice They have issued directly from the medical rank and file, and are managed by representatives elected by them In spite, however, of the great progress made by the syndicalist idea there is still much to be done before our syndicates can be completely representative of the French medical profession The syndicates were established primarily for the defence of medical interests, and are not at all concerned with medical discipline This might well be changed and a Council of the Order might be formed from some union of medical syndicates and given the power to control the whole profession, including independent practitioners After all, is not true freedom to be found in government by consent of the governed?

Much evil has recently been said of doctors owing to the scandals revealed in connexion with *l'affaire des coupons* It is well known that the victims of the war have a right to free medical treatment For this purpose the State issues to such persons books of coupons, which are handed to the doctor in place of a fee and afterwards paid by the administration It has happened, however, that patients have used these coupons not only for themselves, but also for their wives and children, who had no right to this benefit In some instances also certain doctors have taken more coupons than they were entitled to in payment for special treatment In this way, in exceptional cases for which no excuse can be offered, a regular traffic in coupons has arisen These cases have been trumpeted abroad by the press, and have created a scandal which might well have made the profession blush were it not for one fact which has been carefully concealed by this same press The law has intervened, and the culpable have been prosecuted on the complaint and at the direct request of the medical syndicates It was the doctors themselves who demanded that this abscess should be treated by the actual cautery! By acting thus the medical syndicates have shown that a court of discipline (*Conseil de l'Ordre*) exists without being created by the law We deplore this scandal, but our consciences are clear and our hands clean

* The method was described and illustrated by Mr Percy Sargent in our issue of August 4th 1923 (p 174)

Scotland.

Rockefeller Gifts to Edinburgh University

The offer of the trustees of the Rockefeller Foundation to present £50,000 to the University of Edinburgh for the purpose of providing a laboratory for research and teaching in clinical medicine and surgery was, as already stated, provisionally accepted by the University Court Final acceptance by the Court was impossible because it is desired that the laboratory should be built within the grounds of the Royal Infirmary, and the consent of the managers and their co-operation in the disposal of the laboratory was necessary It is believed, however, that it will not prove difficult to provide space on a suitable site It is intended that the building shall not only provide for research work, with the equipment required, but that it should also contain lecture theatres and other teaching facilities for students The further offer of the Rockefeller trustees to make an annual grant towards the salary of the professor of surgery is subject to the condition that the appointment shall be filled by a whole-time professor The chair is at present vacant, but there is considerable doubt whether this condition will be accepted The objection to the system felt by some is that, even if a first-class man can be secured under the conditions imposed, his interests and experience must be necessarily divorced from outside practice, as regards the patients actually under his care in hospital this may not be a disadvantage, but he will necessarily be teaching purely hospital surgery to the students, of whom most will in after life be general practitioners The conditions under which the chair of surgery at Edinburgh should in future be held will not, it is thought, be decided during the current session, and meantime the University Court has appointed Mr Alexander Miles, M D , F R C S E , surgeon to the Royal Infirmary, and at present senior lecturer on clinical surgery, to discharge the duties of the chair during the vacancy

Residential Home for Medical Lecturers and Research Workers at Edinburgh

It was reported at a meeting of Edinburgh University Court that Miss Jane L Berwick had bequeathed her house 14, Heriot Row, Edinburgh, with its furniture, fittings, and furnishings, and a pecuniary legacy of £1,000 to the University Her intention was that the house should be used as a residential home for lecturers in the medical school of the University and medical and science graduates of the University who are engaged in research work

Edinburgh Medical Guild Meeting

The annual meeting of the Medical Guild was held in Edinburgh on December 15th, when Mr J W Dowden, F R C S E , presided, and Sir David Wallace, K B E , F R C S I , gave an address on the present position of national health insurance and the policy of the guild He did not believe that the chief thing for which the profession were fighting to day was whether they were to get 7s 3d , 8s , or 8s 6d , or a larger sum He believed that members of the profession felt they were being handicapped in their work, that the contract system, as it was at present, was really deleterious to medical work, that they had other interests coming in and that medical men were not able to do justice to their patients It was most unfortunate that in those controversies the members of their profession should have to submit to remarks that were made about their methods of conducting their work, he might almost say about the integrity of the individual man Personally he was an implicit believer in the voluntary hospital, but it had got to be recognized that as the population increased a great strain was put upon the voluntary hospitals, hence the waiting lists He believed that for a considerable section of the public the strain could be relieved by utilizing the Poor Law hospitals to a greater extent In conclusion he submitted a motion expressing the view that the medical benefit section of the Insurance Act, as an example of State socialism administered by an officious bureaucracy, was not in the public interest and was in many instances injurious to the capabilities of the medical practitioner Dr Blackhall Morison (London), who seconded the resolution, said that freedom of choice of doctor had become one of the outstanding points in the present situation Mr Thomas Berry, F F I (Glasgow), general secretary of the Scottish Clerks' Association, explained the scheme of that association for providing medical benefit This scheme, he said, was workable by any society or committee, and the Minister of Health could permit it under the Acts

Central Midwives Board for Scotland

At a meeting of the Central Midwives Board for Scotland, Dr James Haig Ferguson in the chair Sir Malcolm Smith K B E , took his seat as representing the Convention of Royal Burghs, in place of the late Sir Robert Cranston At the same diet for the hearing of penal cases a certified midwife was charged with being guilty of negligence, various breaches of the rules, and failure to keep a register of cases and temperature charts The board found the charges proved, and instructed the secretary to remove her name from the roll and to cancel her certificate Favourable reports having been received from the officers of the local supervising authorities in regard to the conduct and practice of a number of midwifery nurses on probation, it was resolved to take no further action

Ireland.

Damages against a Bone setter

A common jury awarded damages to the amount of £25 in the Dublin High Courts on December 11th, 1923 against a bone setter who had treated the fractured leg of a schoolboy aged 9 with tight bandaging over splints and the application of a liniment of soot and white of egg Gangrene eventually set in and the leg was amputated at the Children's Hospital in Dublin

Ulster Medical Society

The principal guest at the annual dinner of the Ulster Medical Society on December 18th, 1923, was the Governor of Northern Ireland (the Duke of Abercorn) Among the other guests were the Prime Minister of Northern Ireland (Sir James Craig, M P), the Speaker of the House of Commons (the Hon Hugh O'Neill), the Lord Chief Justice, Lord Justice Mooro, Mr Justice Wilson, and the President of the Royal College of Surgeons in Ireland After the toast of the King, that of His Grace the Governor was given by the President, Professor Symmers, who was in the chair, and duly acknowledged by the Duke of Abercorn in a sympathetic speech The toast of Northern Ireland was given by Professor R J Johnstone M P and acknowledged by the Prime Minister That of the guests was given by Professor J A Lindsay and responded to by the Lord Chief Justice and the President of the Royal College of Surgeons in Ireland Dr Thomas Houston gave the toast of "The President," who, in responding, proposed the health of the Honorary Secretary Dr Robert Marshall and thanked him for his indefatigable labours on behalf of the Society

Correspondence.

ACUTE LUMBAGO

Sir,—Those of us who have had personal experience of "the exquisite pain" caused by an attack of acute lumbago ought to be specially grateful to Mr H S Souttar F R C S , for his quinine and urea hydrochloride discovery (British Medical Journal November 17th 1923 p 915) As regards the drug, it did I have used it for years, but it had not occurred to me to use it as Mr Souttar has done

As regards the acute attack I am sure that it is due to the retention in the dorsal fascias and aponeuroses of waste substances, which exercise and other measures would have prevented accumulating In my personal experience the attack has come on when making some ordinary movement in the process of dressing or even by a cough The feeling is as if something had snapped or been torn a

point somewhere about the crest of the ilium, and then the back muscles go into extraordinarily painful and disabling spasm I doubt this being a "protective fixation" it is more like the explosion of a munitions dump The pain of the tear, or whatever it is, is quite a tolerable affair, it is the exquisite pain of the muscle spasm, and the ease with which it is induced, which is so disabling Eleven years ago I had a very severe attack and as soon as I was able to move I was treated electrically by a friend and colleague The effect of the treatment was entirely to remove the spasm element, although the pain of the torn point remained My next attack began in the second week of this month It was comparatively mild to begin with, but a sudden movement induced the snap and the paralysing spasm I had quinine urea hydrochloride at hand and I got a medical friend to give me an injection which contained 1 gram of the drug in 5 c.cm Mr Souttar used a 1 per cent solution, and that is apparently sufficient This injection was given into the hard mass of contracted muscle, which was tender when touched In less than an hour the spasm was much relieved, and in quite a short time the tendency to disabling spasm was checked There remained, however, a second torn spot, further out along the iliac crest, which was causing a local spasm, so I had the injection repeated on the following day, and with an equally satisfactory result I am writing this letter on Sunday, and the injections were given on Wednesday and Thursday last I offer Mr Souttar my sincere gratitude —I am, etc,

Edinburgh, Dec 23rd 1923 WILLIAM RUSSELL

MUSIC, HEALTH, AND CHARACTER

SIR,—As one who, but for a timely parental veto would have devoted his life to music, I may perhaps be permitted to address to you a few comments on Dr Agnes Savill's book, reviewed in your issue of December 22nd (p 1222)

The other day, at the conclusion of a visit, the brother and sister of the invalid played me out of the house with a duet for violin and piano The lady aged 7, played in perfect time and with evident feeling The pianist, aged 9, was a little behind her in subtlety of expression, but obviously enjoyed himself I thought of Dr Savill and what worlds away she must be from the natural musical instinct exhibited by those children and it became apparent that she is insufficiently aware of two things the extreme rarity of her own case, and the part which music already plays in the lives of the people

I have met many men and women whose interest in and response to music has declined with advancing years and accumulating cares and responsibilities I have never, until Dr Savill wrote her book, heard of anyone who cultivated a love for sound relatively late in life Pleasure in sound is one of the earliest manifestations of the emotions I know a baby who, long before he was able to speak a word, would thump on the piano with prodigious gusto, and enjoy transports of abandoned delight in perfect burlesque of professional pianism There must be thousands of children every year who on leaving school, give up music with a sigh of relief How many commence to cultivate it after the school age? Lest I seem to be a captious critic, let me say that I am acutely aware of the influence of music on health and character (the work of Jaques Dalcroze and his school of eurhythmics yields abundant proof) but that I am at variance with Dr Savill in believing in the development of the latent musical sense as a practical therapeutic measure, it can only operate in rare instances The properties she claims for music are not peculiar to music they are shared by all the arts There is as much inspiration and solace in letters and painting as there is in music —I am etc,

Selly Park, Birmingham, Dec 27th 1923 W A STOKES

CUPPING

SIR,—Many very bad attacks of bronchial asthma all the later ones of which have been characterized by very distressing dyspnoea with a cyanosed tip to my nose and dusky hands and feet, decided me to winter in the Riviera, but unfortunately, on coming to Costebelle, I met the "mistral," and immediately succumbed to such a bad attack as to cause me to ask the services of a French colleague who practises in Hyeres

Courteous, cheery, business-like, with a way of getting to the heart of things in a very few moments, he heard my tale, made his examination, and told me that I must be cupped! To say that I was staggered is not overstating it, as in England cupping went to school with bleeding and both died in the same year Seeing my hesitation he promised that it would give me immediate relief How could I do anything but accept at once the advice I had asked of my courteous colleague? "Wet or dry?" I queried, and was told that dry cupping was all he intended

Later in the day "the cupper" presented himself Of an active, smiling rotundity, round about, round face, round brown eyes, very short black hair, with an amiable degree of baldness of the "all forehead" type, olive skin, business-like, and somewhere about 42 He made his preparations, talking continually with hands, shoulders, and eyes, as well as voice, showed me his cups, small glass bell-jars about 2½ inches in diameter, twenty-four of which he was to use on my back

I was to take off my coat and waistcoat, roll up my shirt and vest, and sit astride a chair, leaning my arms on the back He had lighted his spirit lamp, and was holding his first cup over the flame With a dash, like a sudden thought, he dived with this at my back The attack was so sudden and unexpected that I instinctively winced away from it, but the back of the chair and his knowledge of the game enabled him to get contact with his first glass, which it made with a sucking noise like a badly taken spoonful of soup "Un," he enumerated, with smiling face, and set to preparing "deux" I stood my ground for the remainder, anticipating the rapid dash necessary to get contact while the air is still exhausted in the cup, but when the late teens were reached I began to have a most uncomfortable tight-skinned feeling Each cup sucks up the skin and underlying tissues to the amount of about half its depth, and soon the natural slack is taken up, and one feels as if the skin would split open as it becomes tighter and tighter Towards the end I could only sit quite still, with a hand placed on each side of my chest in front, hoping my skin would hold out and that I should not split open down the middle line and be "shelled" like a pea

For a quarter of an hour I sat like a glass-bristled hedgehog, expecting the worst, then the cups were taken off, each with a sucking "pop," and the result of each proclaimed in loud encouraging tones—"Non," "Noir," meaning that the site of the cup was occupied by a deep black bruise, a few "un moitie," not so black, and one "mutile," only looking like a bad black eye These large black circular bruises, about 3½ inches across, lying on a groundwork of white skin, give the back a most curious appearance Telling me that it was a good cupping, the cupper left

What of the result? Nearly immediate relief! And not a grudging relief, but one in full measure The dyspnoea was markedly and immediately easier, the cough relieved, and I had a good night's rest In all my attacks I have never had so striking an improvement in so short a time

Are we perhaps prone to abandon old methods of tried utility for something new because it is new? Is there not every physiological reason to believe that cupping or phlebotomy is the obvious and proper treatment for an engorged right heart? Have we anything else so certain, so rapid, and so easy? I do not know it —I am etc,

Hyères, France, Dec 26th, 1923 ROBERT J SIMONS

HERPES ZOSTER

SIR,—Dr Le Fevre's demand (December 29th, 1923, p 1277) that the name "generalized herpes zoster" should be expunged from the books tempts me to record that a case came under my observation in April, 1923

The case was one of a gentleman, aged 63, who developed a typical herpes zoster affecting the right ilio-inguinal nerve There was a profuse vesicular eruption in the regions supplied by this nerve In addition he showed numerous papules scattered singly and widely—separated all over his trunk without following the course of any particular nerve or being limited to one side of the body

These papules became vesicular, and dried up without pustulation or scarring

There was no relation between this case and any case of varicella, nor did it occur to me that the existence of herpes zoster generalisatus was seriously questioned until I read Dr Le Feuvre's letter I have seen other cases in which aberrant solitary vesicles accompanied a typical herpetic eruption, but I had never before seen so numerous or so widely spread a distribution —I am, etc ,

Clifton, Bristol Dec 31st 1923. J A NIXON

SIR,—On March 5th, 1923, I was called to see Mr A B , aged about 55, who was suffering from severe typical herpes zoster with much prostration Being a widower he was attended by his two daughters, ages between 20 and 25, who applied the dressings On March 22nd both daughters developed chicken pox of fair severity, neither had previously suffered from it No other source of infection could be traced, although it must be admitted that in London and among adults it is difficult to exclude

Both diseases are fairly common here, and I have had a number of cases—details unfortunately not noted—in which chicken-pox in children has followed shingles in adults Considering that a large proportion of the contacts of a shingles case are probably immune against chicken-pox there certainly seems to be more than coincidence in the occasional sequence —I am, etc ,

Friern Barnet N 11 Dec 30th 1923 JOHN I SHEPHERD

SLEEP

SIR,—Writers on the cause and nature of sleep are in the habit of referring to Durham's observations, but as I had never seen any account of his experiments I had the curiosity some time ago to look up the volume of *Guy's Hospital Reports* (1860) in which they were published Professor MacWilliam's paper published in the JOURNAL of December 22nd, 1923 (p 1196), induces me to think that it may be worth while to quote what Durham actually wrote

Arthur Durham was afterwards surgeon to Guy's Hospital, and well known as an operator of unusual dexterity, so that the experiments were probably very deftly done His point of departure was a theory then (probably 1858 or 1859) prevalent that in sleep the brain was in a condition of venous congestion Durham set out to test this hypothesis, in which it is fair to say he seems to have had no great belief He does not appear to have been able to find much definite evidence in the literature, but quotes the following case from the *Psychological Journal* (vol v, p 74)

'The woman of Montpelier, whose case is recorded by Caldwell had lost part of her skull the brain and its membranes lying bare When she was in deep or sound sleep the brain lay in the skull almost motionless when she was dreaming it became elevated and when her dreams (which she related on waking) were vivid or interesting the brain was protruded through the cranial aperture Blumenbach also witnessed a sinking of the brain during sleep, and a swelling with blood when the patient awoke

The descriptions of two of his experiments are, I think, sufficiently graphic to be quoted in full

'A dog having been thoroughly chloroformed a portion of bone about as large as a shilling was removed from the parietal region of the skull by means of the trephine and the subjacent dura mater partially cut away The portion of the brain thus exposed seemed inclined to rise into the opening through the bone The large veins over the surface were somewhat distended, and the smaller vessels of the pia mater seemed full of dark-coloured blood no manifest difference in colour between the arteries and veins could be perceived The longer the administration of the chloroform was continued the more distended did the veins become As the effects of the chloroform passed off the animal sank into a perfectly natural and healthy sleep Corresponding changes took place in the appearance of the brain its surface became pale and sank down rather below the level of the bone the veins were no longer distended a few small vessels containing blood of arterial hue could be distinctly seen, and many which had before appeared congested and full of dark blood, could scarcely be distinguished After a time the animal was roused a blush seemed to start over the surface of the brain, which again rose into the opening through the bone As the animal was more and more excited the pia mater became more and more injected, and the brain substance more and more turgid with blood the surface was of a bright red colour, innumerable vessels unseen while sleep continued, were now everywhere visible, and the blood seemed to be coursing through them very rapidly the veins like the arteries and capillaries were full and distended but their difference of colour as well as their size rendered them clearly distinguishable After a short time the animal was fed and again allowed to sink into repose the blood vessels gradually resumed their former dimensions and appearance and the surface of the brain became pale as before The animal slept in a perfectly natural manner The contrast between the appearances of the brain during its period of functional activity and during its state of repose or sleep was most remarkable

In order however to be quite sure that I was not misled by fancy, nor yet by faulty memory but that the difference was really great I operated on two animals and kept them alternately in different states The animals being placed side by side the appearances in the two cases could be satisfactorily compared

Waller, after mentioning[1] Durham's experiments, and also Jackson's observation on the retinal vessels of infants to the effect that they shrink in sleep, concluded that we may "feel reasonably assured that the sleeping brain in common with other resting organs, receives less blood than in its state of activity Moreover," he adds "Mosso's investigations on exposed human brains afford evidence that the organ becomes more vascular during mental activity"

Waller was, of course, writing of natural sleep which has been spoken of as the diastolic phase of cerebral activity Landois, indeed, goes so far as to say that a person asleep might be compared to an animal with its cerebral hemisphere removed Professor MacWilliam, however, takes the matter further —I am, etc ,

W

HYSTERIA AND NEURASTHENIA

SIR,—Dr Reynolds's lecture on hysteria and neurasthenia (December 22nd, p 1193) was composed with the avowed intention of clarifying some of the points in connexion with these disorders which have been obscured by recent writers That such clarification is desirable few will deny, but in some respects Dr Reynolds adds to rather than subtracts from the obscurity In one place—where he deals with hysteria—he says that both the hysteric and the malingerer need an audience "a hysterical person does not waste her substance 'on the desert air'" Towards the end of the article, in the section dealing with the traumatic neuroses, these words occur "A man after injury may have paraplegia, not organic but apparently hysterical If, however, there is evidence that when not under observation so far as the man knows he is seen to walk and run in a perfectly normal manner he is an obvious fraud" Of these two diametrically opposed propositions the latter is probably the more correct It is possible that Dr Reynolds would get rid of some of his difficulty—not necessarily as regards the diagnosis of a given case, but certainly as far as a clear conception of the difference between malingering and hysteria is concerned—if he would adopt some of the recently advanced conceptions, which he dismisses so brusquely at the beginning of his paper

His present view is that if the desire of the patient is for sympathy he is a hysteric, if for gain a malingerer There is, however, a considerable number of motives which may be gratified by symptoms, and from the above examples it does not seem easy to arrive at any principle which might guide us in our classification The desire for sympathy is apparently regarded as less reprehensible than that for gain, but that does not take us very far

I suggest to Dr Reynolds that there is a better way of distinguishing these patients from one another The hysteric is unaware that his symptoms are due to the wish that some desire should be gratified, the malingerer is aware that he has assumed symptoms to gain his end —I am, etc ,

Penshurst Kent Dec. 24th 1923. T A ROSS

THE MILITARY PREFIX

SIR —The beginning of a New Year, and the imminent opening of a new Parliament, prompt me to ask whether medical members of Parliament who served in the late war might now be addressed and described without the use of military titles I do not of course refer to retired regular officers, but to those who held Territorial or temporary commissions and whose names no longer appear in the *Army List* I think the custom of the House of Commons should now conform with that adopted long since in other walks of civilian life We do not put our late rank on our [illegible]

[1] *Introduction to Human Physiology* 3rd edition [illegible]

plates and visiting cards, nor do we encourage our patients and friends to address us with the prefixes of five years ago —I am etc,

January 1st QUONDAM CAPTAIN

*** We believe that in this matter medical members of Parliament have largely followed the custom of their non-medical colleagues at Westminster For several years past it has been the practice of this JOURNAL to use civilian titles for all except regular and ex-regular medical officers

Obituary.

LAURISTON ELGIE SHAW, M D, F R C P,

Consulting Physician to Guy's Hospital

WE regret to announce the death of Dr Lauriston Shaw on Christmas Day at his house in Weybridge He was a son of Dr Archibald Shaw of St Leonards, and was born in London in 1859 He received his early education in the City of London School and at University College, and afterwards entered as a student at Guy's Hospital He took the diploma of M R C S in 1881, graduated M B Lond in 1882, and M D in 1883, he was elected Fellow of the Royal College of Physicians of London in 1892, and served as a member of the Council in 1922

Before Dr Shaw was appointed assistant physician to Guy's Hospital in 1889 he had acted in a similar capacity at the City of London Hospital for Diseases of the Chest, and at Guy's he had been demonstrator of biology and medical registrar He was dean of the medical and dental schools from 1893 to 1901, and also curator of the museum and demonstrator of morbid anatomy and pathology In due course he was, in 1907, promoted to the full staff, he retired in March, 1919, when he was appointed consulting physician to the hospital

Throughout his tenure of office the well-being of the medical school was very near his heart, and on its behalf nothing was so difficult as to damp his ardour nor too formidable for him to try to overcome if in any way possible During the eighteen years in which he was dean he achieved great successes Living near to the hospital in St Thomas's Street until 1900, when he moved to Harley Street, he was able to keep in close touch with everything which was going on and so to make full use of his powers of organization and to exert direct control over the work in the dean's office with consequent invaluable advantage to the school

Among the many objects to which he devoted his skill and attention during this period the erection of the new school buildings was one of the foremost These buildings, now complete in every way, were started under his auspices with the large department for physiology at a cost to the school of £13,000 Another inestimable boon to Guy's students was the formation of the Clubs Union by the amalgamation in 1891 of the various clubs and societies then existing in the medical school, and also the purchase of the club ground of nine acres at Honor Oak, both were largely due to Shaw's inception and to his appreciation of the needs of the students, and of the desirability of improving the status of the constituent bodies Dr Shaw was the first honorary secretary, and the scheme which he had so much at heart has been an unqualified blessing to Guy's men ever since

When curator of the museum he, with Sir Cooper Perry, began the revision of the museum catalogue For several years the greater part of his spare time was devoted to this, and his work is incorporated in the first three volumes of the third edition No record of Shaw's activities at Guy's, manifold as they were, would be complete without a short reference to the subject of the concentration of common courses of instruction for the preliminary and intermediate subjects of the medical curriculum at one or more centres in London Shaw believed whole-heartedly in the economical and educational value of "concentration," and as secretary of the Concentration Committee of the University of London he did an immense amount of work In 1901 the school at Guy's had, at Shaw's instigation chiefly, expressed its approval of the general principle, but in 1903 that approval was withdrawn The last great work performed by Shaw for the medical school was as chairman of the Reconstruction Committee in 1918, when an inquiry was instituted into the staffing and teaching of all departments, and a most voluminous and valuable report, in large part founded on his suggestions, was drawn up and approved by the school in 1919

Shaw was a popular and excellent clinical teacher His greatest success in this direction was in the out-patient department, where many generations of Guy's men imbibed invaluable experience from the lucid and sound methods of his examinations and inquiries, with their telling quiet humour, common sense, and practical humanity The demonstrations which he gave in pathology in the museum for several years were most attractive and instructive, and drew large classes to hear them As a physician he was constantly discussing with the students the methods of prevention of disease, teaching that it was by no means sufficient when patients were discharged to give them a bottle of medicine but no advice as to how to prevent falling into a like state in future

Shaw was not a voluminous writer on medical subjects, although he contributed some valuable papers to the *Guy's Hospital Reports*, particularly those in conjunction with Sir Cooper Perry on a series of cases of malignant disease of the stomach and of diseases of the duodenum He also wrote some special articles for *Quain's Dictionary of Medicine* (1902) on enteroptosis and also on other affections of the stomach

Shaw was never a strong man physically and was affected in his earliest years in "medicine" by the disease to which he succumbed in his 65th year Nevertheless, the amount of work he performed was marvellous He never thought of himself, but was always ready to help others, and with his original mind and cheering optimism was for ever cogitating something new for the public good, for the welfare of his medical brethren in particular, and for Guy's, for which he did so much This short summary of his life, written at very short notice, is in no way an adequate representation of the good he did in the world The causes advocated by him were by no means always unpopular, and, whether one agreed with him or not in some of his views in medical politics, no one who knew him, least of all his many friends and his colleagues at Guy's and elsewhere, could doubt for one instant his sincerity and honesty of purpose, and his complete absence of self-seeking, nor could they fail to recognize the value of his ideals in the practice of his profession and the high standard he set up for himself To know him was to love him, to be his friend was a great privilege

He will be sorely missed, but long remembered, by many of his old students and by his colleagues, who realized to the full the unselfishness of a life whereby they and the Guy's schools benefited so greatly, and which rendered his own career so happy, despite the rebuffs received in later years in connexion with some of his favourite schemes, and concerning which one never heard him speak with bitterness

In 1915 Dr Shaw was nominated by the Minister of Health to serve as a manager of the Metropolitan Asylums Board, where his advice was greatly valued, he took keen interest in the provision of sanatorium accommodation for tuberculous patients, and served as chairman of the Pinewood Sanatorium Committee

The British Medical Association

Dr Lauriston Shaw had long been a member of the British Medical Association He was a vice-president of the Section of Medicine at the Annual Meeting at Ipswich in 1900, and was one of the general honorary secretaries of the Annual Meeting in London in 1910 He had also held the office of president of the Metropolitan Counties Branch and was long its treasurer He became a member of the Central Council in 1907, and continued in office until 1911-12 We are indebted to Sir JENNER VERRALL for the following just and appreciative account of Shaw's work for the Association

An obituary notice of Lauriston Shaw, certainly one in the columns of the JOURNAL, must give some account of his work in and for the Association In time of peace and of storm it showed the man he was The year 1900 and

succeeding years up to 1911 covered the active period Interested always in the social problems of professional life, his position in the medical school at Guy's Hospital and his private work brought him full knowledge of the medical man and his difficulties from student days onward With this experience as a guide he filled many important posts in the Association as an officer at various annual meetings, as president and treasurer of the Metropolitan Counties Branch, and, finally, as member of Council from 1907-8 to 1911-12 It was, perhaps, as chairman of the Central Ethical Committee that his gentle method and charm of manner were most noticeable To these activities the dispute over the Insurance Act in 1911 put a tragic end Shaw had, from temperament and experience, formed the opinion that the State should concern itself with the medical care of the employed population in general, and that this must involve some system of contract with the medical profession It followed that the national health insurance proposals found in him an advocate already convinced The principle, however, was far from receiving acceptance by the profession, which would gladly have kept itself free of all the ties of contract service, nor were the conditions offered such as were considered by it fair and workable It was bitterly, and not unnaturally, resented that Dr Shaw, a consultant, should favour a system, held to be faulty, the burden of which would fall on the general practitioner

He knew full well that his support of so unpopular a measure must greatly injure, if not destroy, his position as a consulting physician It was not in him to waver In justice to him it must be remembered that, when once the State had moved in the matter of health insurance, some scheme would inevitably be adopted So much for the principle As to the conditions, including remuneration, it might fairly be argued that those first proposed were imperfect and inadequate Further, it is just now especially clear that revision of these terms from time to time will be undertaken

There was a grim irony in the fate which brought him, chairman of the Central Ethical Committee, into strong collision with so large a majority of the profession But surely those who felt most that he was wrong must also have realized that here was one who saw his ideals clearly and counted the world well lost for himself if so the ideal might be served In that frail body, behind that quiet voice and rather pathetic smile, there dwelt a brave and unselfish spirit

Dr ALFRED COX, Medical Secretary of the British Medical Association, writes

The death of Dr Lauriston Shaw will recall to those who went through the strenuous times of 1911, 1912, and 1913, in connexion with the National Health Insurance Act, the prominent part he took He was a strong believer in the principle of insurance and this led him not only to dissent from the action of the Special Representative Meeting in December, 1912, which refused the offer of the Government, but to take part in steps for organizing those medical men who disagreed with that decision His action on that occasion led to his withdrawal from active work in connexion with the British Medical Association and many of his old friends profoundly disagreed with the line he took But no one who knew him had any doubt as to the perfect honesty of the man and those who were intimately associated with him realized what a great sacrifice he had made I do not think that I have ever known any man who was more devoted to the Association than he was, or to whom the breaking off of active work in connexion with it could have been a greater sacrifice He had filled with great distinction one of the most difficult positions in the Association—namely, the chairmanship of the Central Ethical Committee—and was a member of many other committees, in fact he was one of the men who was always called upon when any new or particularly difficult problem arose, and he never declined the call Although he dropped his active central work for the Association at the end of 1912 he never ceased to take an interest in what was going on, and he continued in many ways to do good work for the profession He was one of the most persuasive speakers and writers I have ever known I particularly remember his masterly defence on several occasions of the private practitioner against the idea of a whole-time State Medical Service His broad and philosophic knowledge of general politics made him particularly useful in medical politics It was a great privilege to be associated with such a man, and I shall always remember him gratefully for his affection for the Association, his sweet reasonableness in debate, his wisdom in counsel, and his invincible moral courage

The London Panel Committee

We are indebted to Dr H J CARDALE, chairman of the London Panel Committee, for the following cordial estimate of the value of Dr Shaw's work for that committee

The news of the death of Dr Lauriston E Shaw on Christmas Day came as a shock to his colleagues on the Panel Committee for London, although they had been aware for some time of the serious nature of his illness He was a member of the original provisional Panel Committee for London, and from the first held the responsible position of treasurer to that committee and to the Statutory Committee which followed it, to which position he was unanimously re-elected year by year As treasurer he was *ex officio* member of the three standing subcommittees of the London Panel Committee, and was also invariably appointed to any special subcommittee Always most regular in his attendance, he put in an enormous amount of work which was of the highest quality

Owing to failing health Dr Shaw had wished to resign from the London Panel Committee in 1922, but he withdrew his resignation at the unanimously expressed desire of the members of the committee that he should continue, as and when he could, to assist the committee with his advice In October, 1923, however, Dr Shaw felt that his health would no longer permit of his further participation in what, I have every reason to believe, was congenial work At the same time he resigned his membership of the London Insurance Committee, on which body he had been a representative of the profession, appointed by the Commissioners of National Health Insurance and later by the Minister of Health On his resignation from the London Insurance Committee, that committee resolved

'That the Committee do accept the resignation of Dr Lauriston Shaw with great regret that the Committee do place on record their appreciation of the valuable services rendered by him during his period of membership and that the Clerk of the Committee be instructed to convey to Dr Shaw a copy of this resolution together with the best wishes of the Committee that Dr Shaw may be speedily restored to good health and that his recovery may be permanent

The principles which guided Dr Shaw's actions were first of all the public good, and, secondly, the interests of the profession, and these principles were always treated in that order The reasons for his support of the National Health Insurance Acts were his knowledge of the inability of some, and the disinclination of others, of the industrial class to make provision against the consequences of ill health, and his conviction that any medical scheme which was to prove of benefit to the community should be built upon a general practitioner service, to secure this he devoted all his energies

In 1922 Dr Shaw received a presentation from past and present members of the London Panel Committee, and in acknowledging this he said that his work for national health insurance in 1911 to 1913 had made him so unpopular in the profession that for a time nearly every avenue of activity was closed to him Notwithstanding this Dr Shaw persevered and his work during the last ten years on behalf of the community at large and of his colleagues in the medical profession has added nothing but fresh laurels to his career, already made valuable by work achieved

Dr Shaw's personality was exceptionally charming he was a true and loyal friend whose advice was frequently sought and always highly valued He was a most lucid and impressive speaker, who carried great weight at public meetings His services as a representative of the London Panel Committee at the annual Conferences of Local Medical and Panel Committees were of the highest value,

and the Conference loses one of its most attractive and valuable personalities His loss produces a blank almost impossible to fill Shaw and his work will be held in affectionate and grateful remembrance by his colleagues on the London Panel Committee and by all insurance practitioners

Dr H H MILLS (Kensington) writes

Will you allow me space for a brief note about the late Dr Lauriston Shaw, the treasurer of the London Panel Committee since its foundation I was intimately associated with him during the difficult months immediately before and after the establishment of the National Insurance Act During that stormy time Dr Shaw remained calm and unperturbed He was a man of vision and high ideals, which enabled him to take an optimistic view, with never a doubt as to the ultimate success of the great experiment His calm counsel was invaluable, and his ability in seeing the question from all points of view was remarkable This enabled him to adjust many difficulties and to make progress even when clashing interests threatened unavoidable rupture His statesmanlike work was invaluable, and he lived to see the undoubted success of the scheme for which he sacrificed so much A loyal friend, a great clinician, and a far-seeing prophet, he will be sorely missed in the ranks of medicine

SIR NAPIER BURNETT, K B E, M D,

Chief Executive Officer, Joint Council of the Order of St John and the British Red Cross Society

THE premature death of Sir Napier Burnett after a short illness is a real loss to the medical profession He was in the full vigour of middle life and had made himself an authority on the administration and finance of hospitals During a visit to the Continent a few months ago he was taken ill, but returned to Edinburgh, where he underwent an operation From this he never entirely recovered and his death occurred on the morning of Christmas Day at his home in Hampstead

Edward Napier Burnett was born in July, 1872, the only son of the late Mr James Burnett of Fraserburgh He received his medical education at the University of Glasgow, where he graduated M B, C M in 1894, and M D in 1908, he became F R C S Edin in 1905, and F R C P Edin in 1913 Some twenty years ago he established himself in Newcastle as a consulting obstetrician and gynaecologist a department of practice in which he attained great success He entered fully into the medical life of Newcastle and was president of the Newcastle Clinical Society for the usual period During this part of his life he wrote several papers on clinical subjects, chiefly relating to the department of medicine he followed He was also interested in the municipal work of the city and was justice of the peace and a member of the city council When the great war broke out he was associated with Professor Rutherford Morison in the organization of the Northumberland War Hospital, and was a member of its surgical staff

When the need for economy in every direction and particularly in the matter of food supplies became so essential, he was, on November 26th, 1916, appointed chairman of a Hospital Economy Committee which was instituted at the War Office to secure the co-operation of the staffs of military and auxiliary hospitals in curtailing expenditure in every possible direction Of his work in this respect Sir William Leishman writes to us that it was "of almost incalculable value and resulted in an enormous saving to the country by eliminating waste without in any way interfering with the welfare of the patients He was thanked by the Army Council for his valuable work and was awarded the K B E in January, 1919, for his services"

Afterwards he returned to Newcastle, but the work he had done for the War Office had marked him out as an administrator of unusual ability and in March, 1920, he was appointed director of hospital service to the Joint Council of the British Red Cross Society and the Order of St John In this capacity he visited probably most of the hospitals in Great Britain and his reports, which were published from time to time in our columns were well documented and full of information not previously available He held very strongly that the voluntary hospital system was best adapted to the needs of this country and that by judicious appeals to all sections of the public, and by co-operation and good management, it could be maintained Towards the end of 1921 he was appointed chief executive officer of the Joint Council, in consequence his duties and responsibilities were greatly increased, but he rose to them all They included advising as to the administration of the balance of the war funds held on behalf of ex-service men by the Joint War Committee of the British Red Cross and Order of St John He was a man of great energy and got through an enormous amount of work, his decisions were only reached after full inquiry and were all characterized by sound judgement and strong common sense

He married in 1903 the daughter of Mr George McCoull of Ovington, Northumberland Great sympathy will be felt with Lady Burnett and her four daughters in their great loss

The Services

NEW YEAR PROMOTIONS

THE following Surgeon Commanders, R N, have been promoted to the rank of Surgeon Captain Arthur R H Skey, Robert H Mornement, O B E, James H Fergusson, Henry C Whiteside, John R Muir

ALEXANDER MEMORIAL PRIZE

THE prize of £50 and the gold medal of the Alexander Memorial Fund for 1923 has been awarded to Captain D McKelvey, *M C*, R A M C

The subject for the next competition is "The Influence of Service in a Tropical Climate on the Physical Efficiency of European Troops" Essays should be submitted to the Secretary, Prize Committee (Alexander Memorial Prize), R A M College, Grosvenor Road, S W not later than December 31st, 1925 Each essay must have a motto and be accompanied by a sealed envelope bearing the same motto and containing the name of the candidate

PARKES MEMORIAL PRIZE

THE prize of 75 guineas in money and a gold medal of the Parkes Memorial Prize for 1923 has been awarded to Captain J S K Boyd, R A M C The essays submitted by Captain H A Sandiford, R A M C, and Lieut Colonel C A Gill, I M S, were noted for special commendation

The subject for the next competition, which is open to officers of the Royal Navy, Army, and Indian Army of executive rank on full pay, other than professors and assistant professors of the Royal Naval Medical School and of the Royal Army Medical College, is "Food Deficiency Diseases on Active Service—the Causation, Prevalence, and Control" Essays should be submitted to the Secretary Prize Committee (Parkes Memorial Prize), R A M College, Grosvenor Road, S W, not later than December 31st, 1925 Each essay must have a motto and be accompanied by a sealed envelope bearing the same motto and containing the name of the candidate

Universities and Colleges.

UNIVERSITY OF ST ANDREWS

THE following candidates have complied with all the requirements for the degrees indicated

M B C H B—D S Anderson T Christie S K Cohen T A Doran L Farrell A Henderson I R Khan Ina M Liddell R S Melville J R Miller Hermina M Morrison J Petrie Isabella Sim

M D—W L Kinnear

D P H (SECOND EXAMINATION)—*Sanitation and Epidemiology* I Lamberton W L Tullis Frances H Watson *Sanitary Law and Vital Statistics* J Lamberton Isobel M Mansie W L Tullis Frances H Watson

UNIVERSITY OF DUBLIN

AT the Winter Commencement, Michaelmas term, held in the theatre of Trinity College on December 20th, 1923, the following degrees were conferred

M B B Ch B A O—A J Beckett Eileen A Boyd *R R J Brandt F G Brown M Cohen B W L Dale W L Duncan J I Veale P C du Plessis *J A du Toit J F Ellason R L C Fisher J S Glasgow J M Gordon *F R Hafner L Harris Kathleen I Hill H Isaacson J A Levitt J M Clelland J A MacDonald J Marin D H F Milmo J M Mounsey R W Nesbitt J J O Grady Martha Reid G F T Saunders W L W Smith Isabella H Speedy J H Stals J D Watson Gladys Weatherill W F Whaley J V Williams N F H P Williams A V Wood

M D—H C C Deane S W Fisher E S Horgan C J U Murphy *C T de M Villet

** In absentia*

ROYAL COLLEGE OF SURGEONS IN IRELAND

THE following candidates have been approved at the examination indicated

PRIMARY FELLOWSHIP.—Eileen Kiernan W G Lyons H Tran
FINAL FELLOWSHIP.—C Cooper J C Gillespie Margaret Holliday N P Jewell R J May R W Power F H Whyte

CONJOINT BOARD IN IRELAND

THE following candidates have been approved at the examinations indicated

FINAL PROFESSIONAL.—F J N Carney A E Clements M H Dobbyn E D Fitzpatrick W G C Fitzpatrick H L Hawkes Rosalie H Hoskin Kathleen O M Kennedy Catherine M King G A Little J J Marlborough Sarah Matson F McConnell E A McManus J J O Donnell J O Donnell W O Neill V J O Toole H C Patterson G F Plant P B Ryan J Unsworth S P Wallace.
D P H.—T K Reddin J J Ryan

SOCIETY OF APOTHECARIES OF LONDON

THE following candidates have passed in the subjects indicated

SURGERY.—D Dimitrijevitch H S Edwards S Snelson
MEDICINE.—H J Powell D G Robinson
FORENSIC MEDICINE.—P V Casling H. T Chiswell H J Powell R Schofield J B Sweet.
MIDWIFERY.—F H Armanious C J Fox R Norrie

The Diploma of the Society has been granted to Messrs D Dimitrijevitch and C J Fox

Medical News.

His colleagues of Middlesex Hospital and other friends have arranged to give a dinner to Sir John Bland Sutton to congratulate him on his election to be president of the Royal College of Surgeons of England The dinner will be held at the Hotel Victoria Northumberland Avenue, on Thursday, January 24th, at 7 30 for 8 p m , when Dr W Essex Wynter will be in the chair Further particulars can be obtained on application to Dr R E Apperly, 3, St Andrew s Place, Regent s Park, N W 1

A COMMITTEE has been formed to organize a public testimonial to Dr A M Stalker who recently retired from the professorship of medicine at St Andrews University and from the position of visiting physician to the Dundee Royal Infirmary, in recognition of his ungrudging services to the community The chairman of the committee is Lord Provost High and the secretary is Mr W H Blyth Martin, town clerk

THE *Medical Journal of South Africa* reports that the next South African Medical Congress will be held in Grahamstown, from April 21st to 26th There are to be three sections (1) medicine and gynaecology, (2) surgery and special subjects, and (3) public health The official opening of the congress will be performed by Professor Sir George Cory It is hoped to conclude the business by Friday, April 25th, and to take members of the congress to Port Alfred on that day The honorary secretary is Dr Ella Britten, Grahamstown

THERE will be an intensive course in cardiology, including lectures and demonstrations, from January 14th to 25th, at the National Hospital for Diseases of the Heart, Westmoreland Street, W 1 The course will be limited to sixteen, and admission thereto will be by special ticket only, early application to the dean is therefore advisable The fee for the course is £7 7s , payable to the secretary at the hospital There will be lectures each morning from 10 to 12 30, and clinical and pathological demonstrations in the afternoon from 2 to 4, on all the days except Saturday Besides the consideration of normal and abnormal conditions of the heart, there will be demonstrations of the various instruments used in connexion with the diagnosis and recording of diseases of the circulatory system generally

THE series of post graduate lectures arranged by the Clinical School of the University of Liverpool will recommence on Monday, January 7th, at 3 30 p m , and continue each day, except Saturday, at the same hour

AT the meeting of the Röntgen Society to be held in the British Institute of Radiology 32 Welbeck Street, W 1, on Tuesday next, January 8th, at 8 15 p m , papers will be read by Dr J A Crowther, University Lecturer in Radiology, Cambridge on *x* ray production, and by Mr H Moore Assistant Director British Scientific Instrument Research Association, on the quality of the *x* rays excited in hot cathode and in gas tubes by various types of generators of high tension current

THE Right Hon Sir Auckland Geddes, G C M G , K C B , M D , has resigned, on grounds of health the post of British Ambassador to the United States of America, to which he was appointed in March, 1920.

THE Lambeth Conference requested the Archbishop of Canterbury to appoint a committee to consider and report upon the use, with prayer, of the laying on of hands, of the unction of the sick, and other spiritual means of healing The committee consisted of the Bishop of Oxford (chairman), the Bishops of Southwark, St Albans St Edmundsbury and Ipswich, Goulburn, and in Assam, Bishop Chandler Professor Sir Clifford Allbutt, Sir Robert Armstrong Jones, Dr William Brown, Dr Hadfield, Dr W H Rivers, Dr Jane Walker Rev Canon A J Mason, D D , Rev the Master of Selwyn College, Cambridge, Prebendary E J Bicknell, Rev W B Trevelyan, Rev Canon Streeter, Rev Harold Anson, Rev Canon Roseveare, and Rev J R Pridie The committee approached its task under three main heads (*a*) the evidence for the ministry of healing, (*b*) a comparison between the *different methods of healing and their relation to Christian thought*, (*c*) whether a ministry of healing should now be recognized and sanctioned We are informed that the report of the committee will be issued early this month by the Society for Promoting Christian Knowledge (Northumberland Avenue, London, W C 2)

THE Senate of Leyden University has decided to confer the honorary degree of doctor of medicine on Dr Felix Herbert d'Herelle, of the Pasteur Institute of Paris, whose work in connexion with bacteriolytic agencies, termed by him "bacteriophages," has been on various occasions reported in this JOURNAL His contribution to the discussion on the subject at the Annual Meeting of the British Medical Association at Glasgow will be remembered, it was published in our issue of August 19th 1922 (p 289)

THE next series of lectures to students and medical practitioners given by the medical staff of Queen Charlotte s Lying in Hospital, Marylebone Road, N W , will commence on Thursday next, January 10th, at 5 p m , when Dr Stevens will speak on the treatment of labour complicated by generally contracted pelvis The lectures will be continued on the following Thursdays at 5 p m up to and including March 6th

A COURSE of three lectures on the influence of improved town planning and housing in public health will be given on Fridays January 18th, February 1st, and February 15th, at University College, London, by Dr John Robertson, C M G , professor of hygiene and public health in the University of Birmingham, and medical officer of health for that city The lectures will be given at 5 p m on each day, and will deal respectively with existing conditions, standards of accommodation and environment necessary for good health, and with the results to be achieved

THE annual dinner of the Blackburn and District Medical Society was held on December 13th, 1923 The Chairman, Dr J Foley, expressed the opinion that septic teeth and unsuitable food were the chief causes of the more common diseases even more so than housing defects The standard of medical efficiency in the district had been definitely raised by the valuable lectures and clinical demonstrations given at the Blackburn Royal Infirmary in the course of the year The Mayor, Dr J I F Ramsay J P , said that the press ought to be more fully informed with regard to the medical side in such disputes as that with respect to the working of the Insurance Act He believed, however, that within a year this particular difficulty would have been happily surmounted

THE Central Midwives Board for England and Wales met on December 19th 1923, for a special penal meeting and the ordinary monthly meeting was held on the following day The chair was taken by Professor Briggs, in the absence of Sir Francis Champneys through illness An application was received from the governing body of the State Medical Faculty of Bengal asking the Board to admit to the roll—under Section 10 of the Midwives Act 1918—midwives holding the senior midwife certificate of the Faculty who are enrolled on the Register of Senior Midwives maintained by the Faculty Consideration of this application was adjourned pending approval of the new rules as to training The following dates were fixed for the ordinary meetings in 1924 January 24th February 21st, March 20th, April 24th May 22nd, June 26th, July 31st, October 9th, November 13th, and December 18th

PROFESSOR EMILE SERGENT of Paris has been invested with the Order of the Star of Rumania

DR W H PARK, professor of bacteriology and hygiene at the Bellevue Hospital Medical College New York and a leading authority on the bacteriology and serology of diphtheria has been elected president of the American Public Health Association

ON the occasion of his retirement from practice Dr B C Sumpter of Hunstanton has been presented by his friends and patients with a Jacobean desk a gun cabinet and a 16 ft sailing dinghy Mrs Sumpter was at the same time given an antique grandfather clock

THE first number of a new medical journal, the *Rinascenza Medica*, is to appear with the new year It is to be issued once a fortnight, is under the directorship of Professor Carlo Martelli of the University of Naples, and will possess the general features of our weekly medical periodicals In the prospectus reference is made to the seriousness and depth of thought that animates the Italian school of medicine, and the hope is expressed that the new journal will render the outside world, as well as Italy itself, more conscious of this fact It is said that there exist in Italy innumerable periodicals whose pages are disfigured by the interminable contributions of hysterical pseudo-scientists The pages of the *Rinascenza Medica* will be open only to genuine workers in medical science, and the director hopes that so praiseworthy an object will receive the support that it deserves

THE Danish Medical Association has recently been conducting negotiations with the Director of Telegraphs and the Danish Radio Aktieselskab about wireless consultations between ships at sea and medical officers on duty at certain hospitals It has been proposed that these medical officers should give wireless medical advice free of charge The Danish Medical Association has expressed sympathy with the scheme, but has left arrangements of details to those hospitals willing to undertake such work Norway and Sweden have already adopted a system of this kind

THE twenty fifth anniversary of the discovery of radium was celebrated at the Sorbonne on December 26th in a special meeting opened by the President of the French Republic

A FRENCH National League against Venereal Disease has been founded in Paris with Professor Jeanselme as president and Dr Hudelo as general secretary The offices are at 7, rue Mignon, Paris VIe

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated*

IN order to avoid delay, it is particularly requested that *ALL* letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W C 2, on receipt of proof

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W C 2 The telegraphic addresses are

1 EDITOR of the BRITISH MEDICAL JOURNAL, *Articulate Westrand London* telephone, 2630, Gerrard

2 FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westrand, London,* telephone 2630 Gerrard

3 MEDICAL SECRETARY, *Mediocre Westrand, London* telephone 2630, Gerrard The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin* telephone, 4737 Dublin) and of the Scottish Office 6, Rutland Square, Edinburgh (telegrams *Associate, Edinburgh,* telephone, 4361, Central)

QUERIES AND ANSWERS

BUNGALOW HOSPITAL

MR FRANCIS H P WILLS (honorary surgeon, Marlow Cottage Hospital) writes In answer to "H R G 's" query (BRITISH MEDICAL JOURNAL of December 22nd, 1923) I may say that we have a Cottage Hospital here on the bungalow system, all wards and operating theatre being on the ground floor, and two or three bedrooms upstairs for staff In plan the hospital is T shaped the stalk of the T containing kitchen scullery, etc If "H P G" would write to me I shall be glad to tell him further particulars or show him over our hospital, or put him in connexion with the secretary or architect

TREATMENT OF ACTINOMYCOSIS

DR DONALD I CURTIS F R C S (Colwyn Bay) writes in reply to Dr W S Soden (December 29th 1923, p 1282) that he had two similar cases two years ago which responded well to the following additional treatment Copper sulphate gr 1 4 three times a day in pill, irrigation of any sinuses with copper sulphate, 1 per cent solution, and the addition of a few minims of liquor arsenicalis to each dose of potassium iodide

ENDOCRINOLOGY AND GROWTH

"E H W" asks to be recommended a book on endocrinology in relation to growth and development in children

*** We are unable to recommend any book devoted solely to endocrinology in relation to growth and development in children There is a good article by Sir Archibald Garrod in *Diseases of Children*, edited by Garrod, Batten, and Thursfield (pp 570–584, 1913, Edward Arnold, London), but this is eleven years old, perhaps the best course would be to supplement this article by a recent work, such as the American translation (third edition, 1923) of W Falta's work, *Endocrine Diseases*, translated and edited by Milton K Meyers, or L T Barker's *Endocrinology and Metabolism* (1922), the first two volumes deal with the endocrinology

LETTERS NOTES ETC

DR H A DES VOEUX (Battramsley Close, near Lymington, Hants) is willing to present to any library the following volumes Medical Society of London *Transactions* 1897–1921 (bound) Royal Society of Medicine *Proceedings* (many unbound volumes from 1912) West London Medico-Chirurgical Society *Transactions*, vols 2 to 7 (bound) Obstetrical Society *Transactions*, 1890 to last volume Sydenham Society volumes from 1888 to last volume

RAYNAUD'S PHENOMENA WITH CEREBRAL SYMPTOMS TERMINATING FATALLY

DR K E CROMPTON (Appleby Magna) writes A road mender, aged 67, consulted me in January, 1922 on account of deadness of his fingers and attacks of giddiness, the fingers were white and cold with shrunken skin and diminished tactile sensation The attacks of giddiness were sudden and soon over Usually they came on in the daytime, and he fell His general condition was otherwise good He remained at work for eighteen months, sometimes better, sometimes worse Treatment such as massage a course of potassium iodide, and a long course of strychnine had no effect About the middle of 1923 the condition became worse, the fingers and toes were affected and the attacks of giddiness were more frequent and lasted longer He had to be carried home several times I then for the first time saw him in one of the attacks The condition was that of hemiplegia I saw him in several such attacks and they were all similar—complete hemiplegia—the paralysis being absolute while it lasted, which was usually about half to one hour In the end, on November 1st, he had several attacks in twenty four hours The last did not pass away as usual but lasted for four or five days After this he became delusional and excited, with dry glazed tongue He gradually passed into a state of coma, in which he lay a week before he died At the time of death his hands were deep purple to the root of the thumb and the legs to above the ankle I certified the death as due to Raynaud's disease

*** The attacks of local pallor and of local cyanosis appear to be those of local syncope and asphyxia of Raynaud's disease, but the further stage of Raynaud's syndrome—namely, symmetrical gangrene—did not occur The association at first with attacks of giddiness and falling might be referred to epilepsy, which has been reported in association with Raynaud's syndrome, or with perhaps greater probability to spasm of the cerebral arteries similar to that of the limb arteries The later attacks of hemiplegia of a transient character have often been ascribed to spasm of the cerebral arteries, and might be regarded as comparable to the phenomenon of hemianopsia in migraine It is not improbable from the fatal termination that there was grave arterial disease both in the limbs and brain, and that from some toxic (? uraemic) factor arterial spasm supervened and thus caused two out of the three phases of Raynaud's syndrome

TREATMENT OF FOOTBALL ABRASIONS

DR W SCOVIL SODEN (Winchcombe, Glos) sends the following note of his experience in the prevention of septic infection from slight scratches received when playing football on contaminated ground At Suez in 1919 we played football on a hard gravel surface contaminated in the same way as the one mentioned (December 15th, p 1191) I always washed my abrasions with a plentiful supply of soap and water, then dried them carefully, then applied a solution of 1 per cent picric acid this I also allowed to dry, and as a rule I put on no dressing A firm crust formed which came off in course of time, leaving a clean scar The men usually swabbed their abrasions with iodine and then put on a dressing The usual result was a painful septic ulcer I think the most important part of the treatment is the thorough cleansing with soap and water

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 36 37, and 38 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 27

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

1 Arterial Tension and Cerebral Haemorrhage.

A DUMAS (*Journ de Méd de Lyon*, September 20th, 1923, p 573) has examined more than sixty patients suffering from old or recent hemiplegia, and has compared their blood pressures with those of a number of healthy persons of more than 70 years of age Dumas finds that arterial tension does not rise progressively with advancing age, hypertension is associated frequently with other conditions which prove fatal before extreme old age is reached He agrees with Mouisset that there is a tendency for the blood pressure to fall after a certain age, this has been termed "senile involution" Dumas concludes that the patients who are most prone to suffer from severe cerebral haemorrhage are those who suffer from hypertension at a relatively early age, with "good compensation' Moderate symptoms of dilatation of the left ventricle, systolic murmurs, and functional dilatation of the mitral orifice appear especially to prevent the occurrence of cerebral haemorrhage or to lessen its severity, mitral regurgitation acts as a safety valve in relieving the increased intracranial pressure more effectively than bleeding or any vaso-dilator drug Dumas thinks also that certain types of arrhythmia frequently associated with old age (for example, extra systolic or complete arrhythmia), unaccompanied by any clinical signs of ventricular failure, are unfavourable to the occurrence of haemorrhage The author has been able to estimate the blood pressure in some cases immediately after the occurrence of cerebral haemorrhage, when this was severe, the high blood pressure fell, apparently more rapidly than in slighter cases In one rapidly fatal case the fall was from 230 to 120 mm Hg, and it continued to fall until death (in coma) supervened on the third day In this case there was an enormous intraventricular haemorrhage Dumas agrees with some other French writers that inflammatory changes ("haemorrhagic encephalitis") are associated with hypertension, which is therefore not the sole cause of haemorrhage, although in every case Dumas found a systolic pressure of more than 200 mm Hg before the haemorrhage occurred, he regards this and the subsequent variations of blood pressure as important aids to prognosis, a continued fall indicates a grave prognosis These cases of "fulminating" cerebral haemorrhage occur most frequently in comparatively young patients, and the first attack is usually fatal If the patient survives, the blood pressure rises gradually to its original height

2. Ptosis of the Heart and Diaphragm.

J E GOLDTHWAIT (*Boston Med and Surg Journ*, October 25th, 1923, p 581) calls attention to some abnormalities in the position and movements of the heart and diaphragm which are easily demonstrable by *x* rays The central tendon of the latter, continuous with part of the pericardium and extending upwards to be attached to the cervical spine, acts as a suspensory ligament resulting in the dome shaped convexity, and serving as the fixed point upon which the muscular periphery exerts its pull Since the diaphragm assists the circulation by forcing the venous blood from the abdominal organs back to the heart both circulatory and digestive disturbances may result from its ptosis If it is not fully mobile, so that in change of posture, especially lying down, it is not drawn up to its normal height, a wide range of symptoms may follow X ray examinations, therefore, should be made with the patient standing and lying, and include a fluorescent tracing to show the range of movement during normal and forced respiration The position and mobility of the heart is important in chronic cases anything lowering the position of the diaphragm must affect the position of the heart, sometimes by a simple lowering without change of axis and sometimes with a change of axis more to the vertical or horizontal Thus examination in both the erect and supine position is important

3 Salvarsan Jaundice and Dermatitis.

E BRUUSGAARD (*Norsk Mag for Lægevidenskaben*, November, 1923, p 989) admits that the relation between salvarsan medication and jaundice has been obscured rather than clarified by the numerous publications on this subject When jaundice occurs during salvarsan treatment it may be due to the arsenic in the salvarsan, but it is seldom possible to be sure that it is not due to syphilis of the liver or to one of the many other factors which may induce jaundice This matter is best studied in cases of early primary syphilis in which the Wassermann reaction has not yet become positive, and in which there is therefore little likelihood of the patient suffering from latent syphilis of the liver which can be stirred into activity by injections of salvarsan Salvarsan jaundice under such conditions is exceedingly rare, the author has seen only one case among the hundreds of patients he has treated for syphilis In this case there was a definite salvarsan dermatitis in addition to the jaundice, indicating that the patient was suffering from arsenical poisoning He was a strong young man who seemed otherwise quite well and whose infection with syphilis dated only five weeks back After the fourth injection of salvarsan, salvarsan dermatitis broke out, in association with jaundice and enlargement of the liver and spleen Gmelin's and Schlesinger s tests were positive, but the Wassermann reaction was negative Under treatment with Karlsbad water and dieting this condition cleared up completely in some weeks Among 660 cases most of which showed recent secondary syphilis, he has seen four in which salvarsan treatment was associated with jaundice

4. Infective Gastritis

L CHEMISSE (*Arch de med, chir et esp*, October 27th, 1923, p 145), who in 1911 had emphasized the importance of acute gastritis in acute infectious diseases, states that in addition to the gastric symptoms which occur at the beginning of infectious diseases, and are usually attributed to the general infection, there are cases in which there is an actual localization of the infective process in the stomach, a localization which is manifested at the height of the disease or during its decline After recording illustrative cases of infective gastritis occurring in the course of mumps and erysipelas Chemisse alludes to the pathological researches of E Jerusalem, who showed that the gastric symptoms in infectious diseases were not purely functional disorders due to general systemic infection, but were caused by anatomical lesions of the mucous membrane In a series of cases of measles, diphtheria, whooping cough, cerebro spinal fever, and septicaemia Jerusalem found the constant presence of severe lesions in the stomach, which principally consisted of interstitial gastritis with proliferation of connective tissue It was only in whooping cough that the interstitial lesions were very slight and the gastric mucous membrane showed signs of parenchymatous degeneration For a long time it was the custom to treat the gastric condition in infectious diseases by an emetic, and this practice is still pursued by some medical men Chemisse, however, points out that emetics, which cause a violent upset of the stomach, should be avoided, as well as any drugs likely to irritate the gastric mucous membrane For the same reason it is advisable to restrict the patient to a water diet, at least during the acute stage The method of absorption by the systematic administration of animal charcoal gives the best results in these cases

5. Acute Leukaemia

CH AUBERTIN and P GRELLETY BOSVIEL (*Arch des Mal du Coeur, des Vaisseaux et du Sang*, October, 1923, p 696) describe four cases of acute leukaemia admitted to the St Louis Hospital during the summer of 1922 All the cases occurred between July 2nd and August 22nd, three came from near the centre of Paris, one from the environs The authors state that acute leukaemia is usually regarded as an infective disease, while the occurrence of the above cases within such a short period and a restricted area suggests that the disease may assume an epidemic type in certain periods and localities, since August, 1922 the authors have not seen a single case Three of the authors' cases were women, aged 30, 45, and 24 years, the only male was also 24 All the female patients died in less than twelve days The male patient improved for a time and was sent into the country, after a few weeks he returned to hospital and died eleven days after readmission All four cases had intense and progressive anaemia one patient had metrorrhagia, the other three had epistaxis gradual rise of temperature late and slight enlargement of the spleen and lymph glands As had been previously observed the rapid diminution of the red corpuscles was much more definite than in cases of aplastic anaemia this was not accompanied by definite leucocytosis The authors suggest that the disease attacks the red corpuscles rather than the leucocytes and the haemorrhages were insufficient to account for th

rapid disappearance of red corpuscles A differential leuco cyte count showed 95 to 98 per cent of polymorphs, with a few granular myelocytes and lymphoid mononuclears The authors were unable to find any infective agent in the organs or secretions, no spirochaetes were found, although Sicard and Kindberg reported their presence in a case of acute leukaemia associated with ictero haemorrhagic spiro chaetosis They remark that their negative findings do not prove that acute leukaemia is not due to an infection

6. The Treatment of Sea-sickness.

STEPHANI (*Il Policlinico*, November 19th, 1923, p 1530), as the result of personal experience of the treatment on himself and nine or ten people, recommends the use of atropine for this disorder He took 1 mg in the morning on wakening, a second milligram an hour later, and repeated later up to 4 mg He says it proved an effective remedy, and beyond some dryness of the throat and redness of the face no bad effects were noted It is advisable to test the tolerance of individual cases before repeating the dose He believes that sea sickness is due to hyperaemia of the labyrinth, consequent on excitation of the vagus

Surgery.

7 Meckel's Diverticulum as a Cause of Disease

W J BAIS (*Nederl Tijdschr v Geneesk*, October 27th, 1923, p 1753) states that Meckel's diverticulum, which is the caecal appendage of the ileum derived from the unobliterated vitelline duct, is the most frequent congenital malformation of the intestine It is found in the ileum 70 cm to a metre above the ileo caecal valve, and possesses, like the appendix, its own mesentery The largest statistics dealing with Meckel's diverticulum are those of Turner, who in a series of 10,360 autopsies found it present in 81 cases, in 18 of which it had some morbid significance Balfour among 10,000 laparotomies found Meckel's diverticulum in 15, in 5 of which it was the cause of the disease requiring operation In a study of 295 cases of intestinal obstruction Reginald Fitz in 1888 found that strangulation was the cause in 101, in 21 of which Meckel's diverticulum was responsible for the condi tion, and Wellington in 1913 collected 326 cases of disease due to this appendage Bais now reports two cases which occurred among the hundred laparotomies which he has performed in the last eight years The first was in a man brought to hos pital dead, with a history of vomiting and abdominal pain of one day's duration The autopsy showed strangulation of the jejunum and ileum by the diverticulum, which was swollen to the size of a hen's egg In the second case, in which the diverticulum had given rise to ileo colic intus susception, recovery took place after excision of the diver ticulum Besides these two cases, Bais has found Meckel's diverticulum present in another two out of 898 autopsies per formed on Javanese In both instances the diverticulum was about a metre above the ileo caecal valve, and showed no morbid change He concludes that Meckel's diverticulum is a dangerous possession, and when found in the course of a laparotomy should be removed, unless there are serious contraindications, such as the bad general condition of the patient or long duration of the operation F CROES (Ibid, p 1751) reports a fatal case of volvulus of the small intestine caused by Meckel's diverticulum, the proximal end of which was filiform, while the distal end, which was still connected with the umbilicus, was cystic Death took place from peritonitis five days after the operation

8. Disease of the Ischium of Doubtful Etiology

A ODELBERG (*Acta Chir Scand*, October 3rd, 1923, p 273) has recently observed four cases of disease of the ischium in children between the ages of 11 and 14 For no apparent reason the children began to complain of pain in the thigh, radiating towards the knee, there was a limp after a long walk, but no rise of temperature The changes in the Ischium demonstrated by the *x* rays were very suggestive of tuberculosis, but when three of the cases came to operation and some of the diseased structures were injected into guinea pigs tuberculosis did not result The atrophied bone contained soft masses of a dark violet brown colour This was scraped away, the wound was swabbed with carbolic acid and alcohol and uneventful and permanent recovery was effected Examination for bacteria proved negative, and the author dismisses for various reasons the possible diagnoses of tuberculosis syphilis, malignant growth, and osteitis fibrosa There was thus no possible alternative to the diagnosis (in at least three of the cases) of a non specific inflammation of the ischium The future may bring a more exact diagnosis

9 Gall-bladder Drainage

T S CULLEN and H L DANVER (*Surg, Gyn, and Obstet*, November, 1923, p 579) point out that originally all gall bladders were drained, but it was found that some of these patients suffered from a return of the infection or more stones developed, necessitating a second operation In many clinics it then became the routine procedure to remove all gall bladders at the first operation It is still a question whether this is a wise thing to do in all cases, and there is a tendency now to drain some and to remove the gall bladders in other cases This paper presents the post operative results in a large series of cases where the gall bladder was drained, and includes 290 cases It is suggested that if the gall bladder had been removed as a routine measure in all these cases the immediate mortality would have been much higher and the percentage of recoveries no better Recurrences are possible even after cholecystectomy, and in some cases where the gall bladder ought to be removed the patient's condition or the nature of the lesion may make this operation impossible In those very cases in which the gall bladder can be easily excised excellent results are obtained from drainage, and so, after a careful analysis of cases, the authors consider that drainage is the safer and easier procedure for the average case, and in the hands of the average surgeon If a second operation becomes necessary cholecystectomy must be seriously con sidered In this series of 290 cases extending over a period of twenty five years 29 died immediately after the operation, 19 cases were unimproved by drainage, 26 were markedly improved, whilst 202 remained free from gall bladder sym ptoms until death from some other cause, 14 patients were not traced.

10 Treatment of Perforated Gastric Ulcer

M ABADIE (*Bull et Mém Soc Chir de Paris*, November 6th, 1923, p 1242), reporting a case of perforated gastric ulcer successfully treated by resection of the ulcer and gastro-enterostomy, draws attention to the following points Ulcer of the stomach may be regarded as a local manifestation of a general disease of which the cause is obscure The methods employed in its treatment may be considered as follows First, gastro-enterostomy, which only very indirectly treats the cause and leaves the ulcer alone, but undoubtedly does cure some cases It leaves the patient exposed to the risk of recurrence, malignant changes, and peptic ulcer Next we have resection of the ulcer, this removes the lesion and is better, but it is not sufficient By a gastrectomy the local lesion is removed and if of sufficient extent this opera tion diminishes the hyperchlorhydria In the treatment of perforated ulcers it is not possible to lay down definite laws, and one may have to be content with a compromise A simple ulcer in the pyloric region is best treated by simple suture A callous ulcer which leads to narrowing of the pylorus may require a gastro enterostomy, or it may be worth while to do a gastro pylorectomy at once In the case of a callous ulcer of the lesser curvature adherent to neigh bouring structures it is often best to do an immediate gastro pylorectomy If, however, these operations appear too extensive it should not be forgotten that closure with the aid of neighbouring structures such as the omentum sometimes leads to complete cures

11 Treatment of Hour-glass Stomach

C L GIBSON (*Annals of Surgery*, November, 1923, p 587) calls attention to the value of double gastro enterostomy in the treatment of hour glass stomach Resection is to be avoided in these cases, as the hour glass is often the end result of a long standing ulceration and the patients are greatly debilitated, whilst operations of less severity give good results He performs the typical no loop posterior anastomosis in the same loop of jejunum, the second open ing being made wherever the second pouch can be con veniently drawn through a separate opening in the transverse mesocolon three to six inches from the first Sleeve (meso gastric) resection is not advised, since, even if the hour glass deformity is due to a cancer, the margin of the resected area is not usually sufficiently wide and the area of lymphatic drainage towards the pyloric end persists, moreover, an artificial hour glass may result from narrowing of the anastomosis If the lower pouch is very small and the hour glass constriction very tight, a single gastro enterostomy may suffice in the absence of a pronounced pyloric stenosis Where the stomach is divided into pouches of different size or the lower pouch is distinctly large, the operation of double gastro enterostomy is particularly indicated Two cases treated by this method are reported, both the immediate and remote results gave the maximum satisfaction to the patients and the operator

Laryngology and Otology.

12 Intracranial Extension of Pharyngeal Tumours

COLLET and REBATTU (*Arch Internat de Laryngol*, November, 1923, p 945) note the lack of distinctive symptoms of an early naso pharyngeal tumour, which may be easily overlooked in a case where the only symptom is deafness or enlargement of the cervical glands In some cases there is a very early involvement of the cranial fossa, either through the roof of the nasopharynx or close to the Eustachian orifice, in other cases the intracranial growth appears late, often after therapeutic interference with the primary growth, and resembles a metastatic growth The actual mode of invasion has been in some doubt, and the authors describe two cases with necropsies In these two cases painless glandular enlargement was early in one case the first symptom—in the other it was preceded by headache In the first case there were symptoms of cerebral irritation—headache with intense exacerbations, ptosis, involvement of the seventh nerves—and the temperament of the patient was much altered, becoming irritable and intractable In the second case the left eye was protruded, immobile, did not react to light or accommodation, the eyelids could not be raised, and there was partial loss of vision There was some paralysis of the right half of the tongue and soft palate, the tumour being on the left side The *post-mortem* examination in both cases proved that the intracranial affection was not due to metastatic deposits, but resulted as a direct extension through the foramen lacerum medium into the middle cranial fossa The close association of the Gasserian ganglion and the branches of the fifth cranial nerve explains the frequent neuralgia referred along that nerve Involvement of the cavernous and other sinuses has not been noticed, but the third, fourth, and sixth nerves are often affected. The ninth to the twelfth nerves are only affected in their extracranial course Both cases were too late for surgical treatment, but one was subjected to deep radiotherapy with temporary alleviation of symptoms It is noted that most of these cases present themselves too late for any effective treatment to be attempted.

13. Spontaneous Cure of Laryngeal Tuberculosis

DROSBECQUE (*Le Scalpel*, December 1st, 1923, p 1375) records the case of a girl, aged 17, who in April, 1920, had symptoms of early but extensive tuberculous laryngitis, with commencing infiltration of both lung apices Three months later, after an attack of influenzal bronchopneumonia, the laryngeal symptoms became still more extensive and ominous, and tubercle bacilli appeared in the sputum At the end of September, 1920, however, all lesions had greatly improved, and three months later the larynx appeared healthy In October, 1922, there was a return of hoarseness, the left vocal cord was infiltrated and fixed, and tubercle bacilli reappeared in the sputum A small granuloma growing on the left cord at the junction of the anterior and middle thirds was removed, and examination of it revealed typically tuberculous tissue The patient was given general but no local treatment, and in six months the vocal cords were white, smooth, and mobile, but slight infiltration of the glottis persisted Drosbecque remarks that the hypertrophic form (to which his case belongs) shows little tendency to ulcerate, and dysphagia is absent, also that lesions of the ventricular bands and vocal cords are less dangerous than those of the epiglottis and arytenoids

14 Atrophic Rhinitis and Sphenoidal Sinusitis

G LIEBAULT (*Rev de Laryng, d Otol et de Rhinol*, October 15th, 1923, p 789) remarks that when all the crusts have been picked and washed out of the nose there is seen on the thin atrophied mucosa a purulent fluid which comes from the ostium of one or other of the accessory sinuses, especially in the spheno ethmoidal recess He considers that there is a similar ozaenic process in the sinuses Although the maxillary sinus is most often blamed in this connexion, the author considers that the sphenoidal sinus and the neighbouring ethmoidal cells are also frequently involved The usual three methods of treating ozaena are first, the continued clearing away of all crusts and discharge, and by massage and mechanical tapping stimulating the mucosa to regain its normal condition, secondly, autogenous vaccines, and, thirdly, the use of surgical measures for the reduction of the excessive width of the nasal cavities The author has not himself tried surgical measures, and finds that vaccine therapy gives very variable results He has concentrated on the first method—daily lavage, massage twice or thrice weekly, and electrical stimulation occasionally The affected portions of the turbinals, the olfactory cleft, and the sphenoethmoidal recess are treated with a solution of silver nitrate or zinc chloride which is applied on gauze packs If any of the sinuses are affected an attempt is made to introduce such gauze through the ostium, but this usually requires enlarging, and in the case of the maxillary sinus a radical operation is needed If necessary the middle turbinal may be removed and the ethmoidal region curetted The author considers it entirely useless to do plastic operations, or to inject vaccines so long as there is an ozaenic or suppurative process in the sphenoidal or other accessory sinuses

15 Abductor Paralysis.

ALOIN and ALEXANDRE (*Rev de Laryng, d'Otol et de Rhinol*, October 31st, 1923, p 853) describe a case of abductor paralysis of the cords In 1915 the patient had some dyspnoea, which suddenly culminated in an attack of asphyxia for which tracheotomy was necessary After fifteen days the cannula was removed and the patient was able to return to work In 1922 the dyspnoea recurred, and examination of the larynx showed permanent adduction of both cords, the right being somewhat red and oedematous There were signs of previous syphilis for which the patient had been treated The dyspnoea progressed and further asphyxial attacks ensued, necessitating a second tracheotomy after vigorous antisyphilitic treatment had failed There was at this stage considerable swelling of the interior of the larynx Six months later a third tracheotomy had to be performed for similar reasons, and the patient was advised to continue to wear a cannula which he could close for purposes of articulation The authors state that these cases of abductor paralysis are usually syphilitic in origin they can be relieved if treated energetically in their early stages, but later on they resemble, if they are not identical with a syphilitic paralysis of the bulbar laryngeal centres For these cases the authors recommend a permanent tracheal cannula, and do not consider that such operations as section of the recurrent nerve, or cordectomy either by thyrotomy or by the mouth, are of any value

Obstetrics and Gynaecology.

16 Blood Cell Tests in Extrauterine Pregnancy

O GRAGERT (*Zentralbl f Gyn*, November 10th, 1923, p 1723) has worked on the question of leucocyte counts and red blood corpuscle sedimentation in the various clinical varieties of extrauterine gestation, and from his observations on many cases publishes the following interesting facts (1) In extra uterine pregnancies which are not accompanied by much bleeding there is no leucocytosis, and the time of sedimentation may be normal or slightly accelerated (2) In tubal abortions the leucocyte count is again normal unless there has been severe bleeding, when a post-haemorrhagic leucocytosis occurs If bleeding has gone on for some time the leucocyte count increases, owing to irritation being set up Usually in tubal abortions sedimentation is accelerated and this acceleration is influenced also by the loss of blood—the greater the loss the quicker the sedimentation (3) In tubal rupture if the case is seen early the leucocyte count is normal, whereas if bleeding has continued for some time post haemorrhagic leucocytosis again occurs and sedimentation is greatly accelerated The author sums up his facts by stating that tubal abortions can be diagnosed from an acute or subacute inflammatory adnexitis by the normal leucocyte count and the accelerated sedimentation, post-haemorrhagic leucocytosis being a possible source of error In the same way also a retro uterine haematocele can be diagnosed from an inflammatory mass in the pouch of Douglas The diagnosis between an ovarian cyst with torsion of its pedicle and a ruptured gestation sac is difficult, but the accelerated sedimentation and the normal leucocyte count are in favour of tubal rupture and against a peritonitis He therefore concludes that the sedimentation test and a leucocyte count are of great use in cases of doubtful diagnosis

17 Painless Childbirth

J T GWATHMEY, E P DONOVAN, J O'REAGAN, and L R COWAN, in a preliminary report (*Amer Journ Obstet and Gyn* October, 1923, p 436), take exception to the general belief that no drug which can so far abolish sensation as to make labour painless can be given to this degree without affecting considerably the normal process of labour As the result of their observation of over a hundred cases they find that painless labour may be safely and effectively obtained without adversely affecting the child, by combining minimal doses of several drugs, each of which has a specific action Magnesium sulphate and morphine are administered hypodermically, and a mixture of quinine hydrobromide alcohol ether, and olive oil given by the rectum the main result being due to the synergic action of the ether and the magnesium sulphate

18 Metrorrhagia in Tuberculous Adnexal Disease

G L HARTMANN KEPPEL (*Gynecol et Obstet*, 1923, viii, 4, p 347) records two cases illustrating the fact that tuberculous disease of the adnexa is not invariably accompanied by oligomenorrhoea or amenorrhoea, in both cases the tuberculous lesion was confined, so far as microscopical examination could ascertain, to the isthmic portion of the Fallopian tube of one side The history in both cases pointed to antecedent pulmonary or pleural tuberculosis The first patient, a sterile married woman, aged 28, had had seventeen miscarriages at the third to seventh weeks, and for four years had suffered from menorrhagia accompanied by slight elevations of temperature, the uterus was not enlarged, but the right adnexa were indurated and tender The Wassermann reaction was negative, and fragments removed by curetting showed no evidence of tuberculosis either as a result of histological examination or injection into guinea pigs Later the losses became more severe and were accompanied by metrorrhagia and severe anaemia At the operation the pelvic organs proved to be normal, save the right tube, which was removed, in its isthmic portion was a nodule, the size of a haricot bean, which contained numerous giant cells and tubercle bacilli Five months after this conservative operation the menses were normal and the patient's health had become restored The second patient, a young single girl, suffered from severe menstrual and intermenstrual haemorrhage, and chronic pain referred to the right iliac fossa, the right Fallopian tube was found at operation to be indurated and its isthmic region nodular The tuberculous nature of the infection was verified by microscopical examination and by animal injections The author compares the haemorrhages characterizing these cases of early localized tuberculous disease of the Fallopian tube with the initial haemoptyses of certain cases of pulmonary tuberculosis

19 Pyelitis of Pregnancy

H L KRETSCHMER (*Journ Amer Med Assoc*, November 10th, 1923, p 1585), in dealing with this problem, concludes that in many cases treatment on general lines, including the administration of alkalis, sodium phosphate, and hexamethylenamin, is all that is required In resistant cases pelvic lavage with 2 per cent silver nitrate, with or without ureteral catheter drainage, is the safest and most successful treatment, but if failure results after thorough trial then the pregnancy should be terminated

Pathology.

20 The Influence of Cholesterol on Phagocytosis

To test the effect of cholesterol on phagocytosis R TUNNICLIFF (*Journ of Infect Dis*, October, 1923, p 285) prepared a colloidal suspension of this substance, and added it in various proportions to a mixture of human serum, leucocytes, and an emulsion of *Streptococcus viridans* which was not spontaneously phagocytable She found that whereas dilutions of cholesterol of 1 in 100 reduced phagocytosis by half, dilutions of 1 in 500 to 1 in 2,000 raised the opsonic index from normal to 1 8 to 4 1 Two rabbits were then injected intravenously with colloidal suspensions of cholesterol, the one receiving 0 002 gram per kilo, the other eight times as much Serum and leucocytes were collected before and at varying times after the injection The serums of a normal rabbit and of each cholesterinized rabbit were tested with leucocytes from both a normal and a cholesterinized rabbit, so as to determine both the opsonic and the cytophagic indices—the latter indicating the relative activity of the leucocytes of the cholesterinized rabbit The results showed that in the case of the animal receiving the smaller dose of cholesterol both the opsonic and the cytophagic index were raised at the end of twenty four hours, neither returned to normal till after seventy two hours The animal receiving the larger dose, on the contrary, showed a diminution of both indices from one hour after the injection to three days later Evidence is also brought to show that *in vitro* the depressing effect on phagocytosis of diphtheria toxin may be neutralized by weak colloidal suspensions of cholesterol as well as by diphtheria antitoxin

21 The Phenolsulphonephthalein Test in Hypertension

P MERKLEN, M MINVIELLE, and F HIRSCHBERG (*Bull et Mem Soc Méd des Hop de Paris*, October 25th, 1923, p 1369) have studied the elimination of phenolsulphonephthalein in patients suffering from hypertension Their results show that such patients can be divided into three groups (1) those with chronic nephritis in whom the elimination of phthalein is diminished, (2) those who show a lowering of the phthalein figure without any definite signs of renal disease, such patients complain of headache, fatigue, insomnia, heaviness, and perhaps slight dyspnoea on exertion; there may be a small amount of albuminuria now and again, (3) those who excrete phthalein well and, beyond hypertension, show nothing amiss It would appear that all degrees of kidney involvement may be met with in these cases of hypertension, from those with well marked disease in the first group to those without any signs of renal trouble whatever, as in the third group This work again confirms the conception of a pure raised arterial tension existing by itself and depending for its origin on some cause other than kidney disturbance As the phthalein test is a good indicator of the urea excretion, and as in these early cases the phthalein excretion is apparently normal, it is legitimate to infer that the kidneys are not yet involved From a clinical point of view it would seem that if a good urinary elimination is maintained there is no reason why these early cases of hypertension should be complicated by renal disease

22. Sedimentation of Red Corpuscles in Pulmonary Tuberculosis

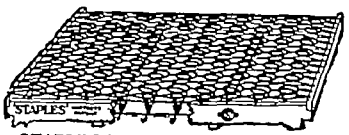
TEGTMEIER (*Deut med Woch*, August 24th, 1923, p 1113) has followed Westergren's technique in estimating the rate of sedimentation of the red blood corpuscles in about 400 cases of pulmonary tuberculosis in women He has come to regard this test as one of remarkable accuracy, and of even greater delicacy in some cases than the clinical thermometer Generally speaking, the greater the rate of sedimentation the more severe and active is the disease As a guide to treatment this test is very useful, and the author refers in particular to a case in which an incomplete artificial pneumothorax only could be induced The whole of the lower lobe remained adherent to the chest wall, and there was a cavity of the size of a plum in the upper lobe which was partially adherent to the chest wall The pneumothorax being small and difficult to maintain, the author was tempted to abandon this treatment The rate of sedimentation showed great and steady improvement, however, and when the patient was discharged sputum and tubercle bacilli were no longer demonstrable The author was very pleased that he had been encouraged by this test to continue the partial collapse of the lung

23. The Number of Injections in Prophylactic Vaccination

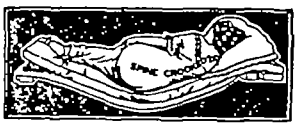
USING a given quantity of typhoid vaccine, for example, is it better to give this all in one injection or to space it over three or four injections? To answer this question L VAN BOECKEL and J GEENS (*C R Soc de Biologie*, October 20th, 1923, p 852) made several experiments on rabbits and guinea pigs, using vaccines of *B paratyphosus* B, *B dysenteriae* Flexner, *B shigae*, and *V choleraе* The general plan of these experiments was to give a definite number of bacilli by subcutaneous or intravenous injection, either at one, two, three, or four different times, to estimate the antibodies present in the serum fifteen days after the last injection, and to ascertain the resistance of the inoculated animals to a given number of lethal doses of the organism in question The results showed that the amount of antibodies elaborated by the animals which had received their quantum of bacilli over a period of four injections was higher than that elaborated by those animals which had received the same total number of bacilli in one injection, furthermore, the immunity to infection with living organisms was definitely higher in the former group. Experiments made with a typhoid vaccine on man likewise showed that the greater the number of injections taken to give the same total dosage the greater the quantity of antibodies produced in the serum From these results they conclude that if it is desired to obtain a strong and lasting immunity it is best to give three or four injections of vaccine, if, on the other hand, a rapid immunity is desired, one or two injections should be given

24. Fractional Method of Gastric Analysis

F D GORHAM (*Journ Amer Med Assoc*, November 24th, 1923, p 1738) points out that the unknown factor of dilution of the gastric acid by the fluid of the test meal has been unwisely ignored This dilution depends on the rate of secretion of the gastric juice, the emptying rate of the stomach, the amount of fluid in the test meal, and other diluting agents, such as saliva, mucus, and duodenal contents It affects the height of acidity and the character of the secretory curve As a result of experimental work the author concludes that the emptying rate of the stomach for fluids is variable in different individuals, even in health He finds that when 400 c cm of fluid forms part of the test meal it may act as a diluent for more than two hours, and so modify the acidity figures obtained either by the fractional or the single aspiration method

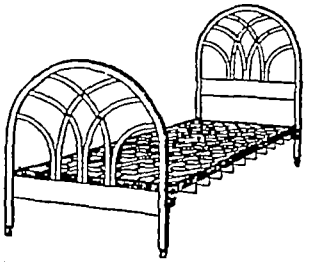


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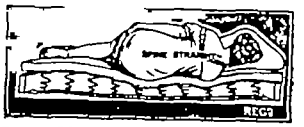


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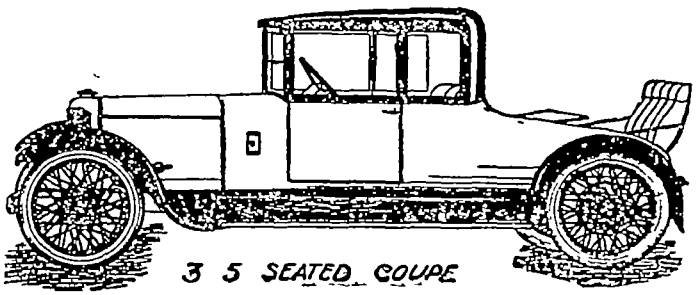
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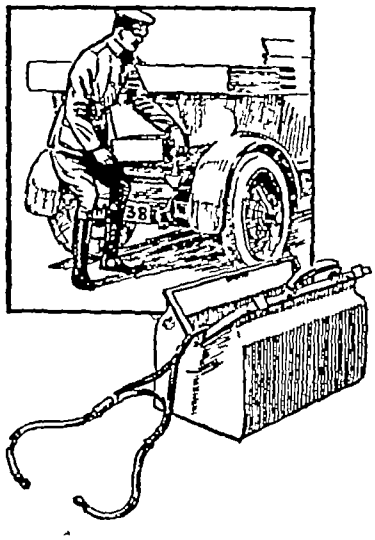
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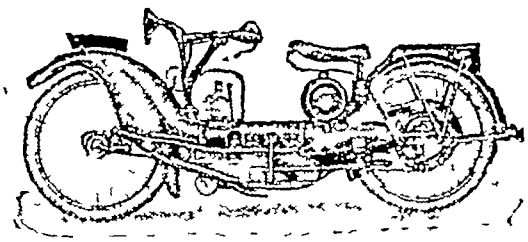
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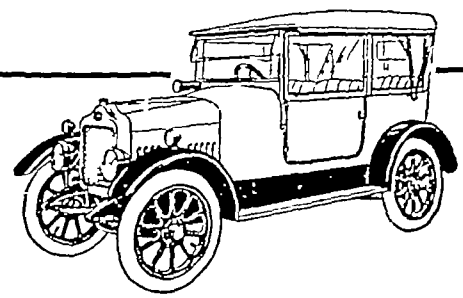


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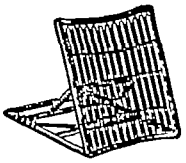
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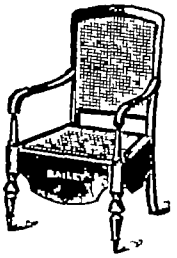
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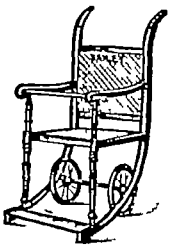
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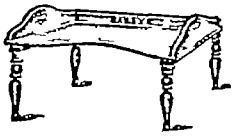


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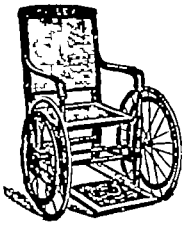


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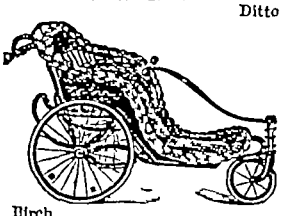


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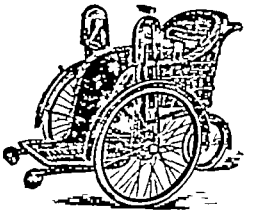
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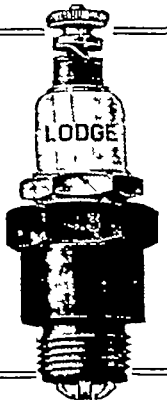
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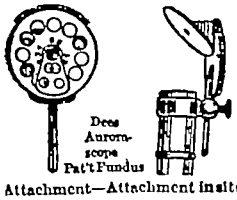
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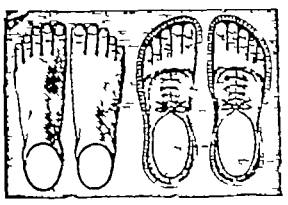
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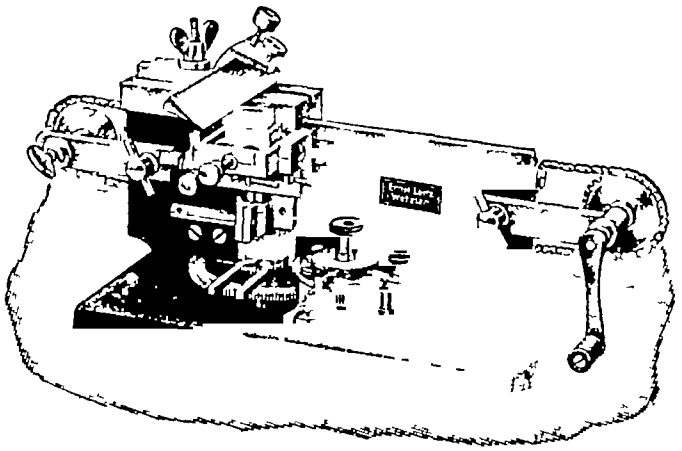
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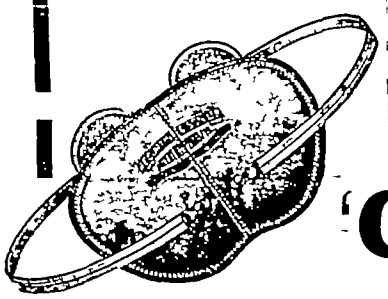
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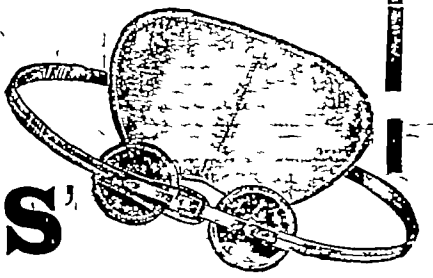
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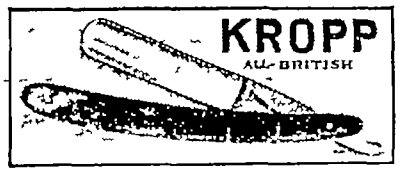
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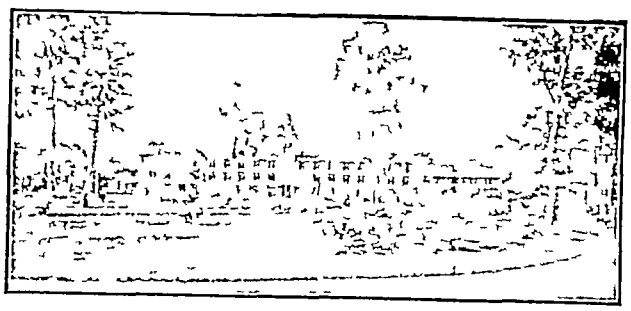
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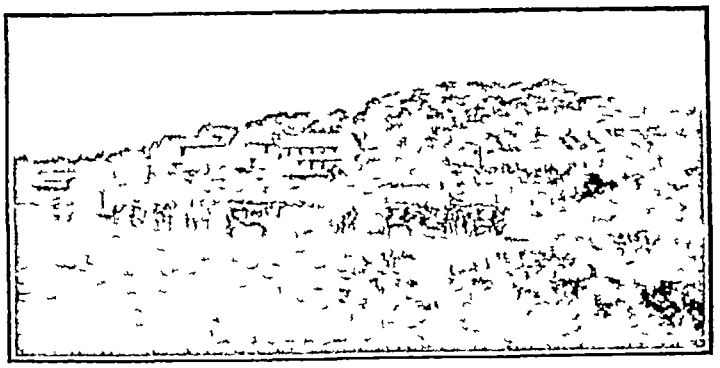
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Practical instruction in the use of the Electro-cardiograph Polygraph and other Instruments will also be given The fee for the Course is £7 7s Od
The Course is limited to 16 and immediate application should be made to the Secretary at the Hospital.

D.P.H.

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An Examination for not less than 40 Commissions in the Royal Army Medical Corps will be held on 30th January 1924.
Applications to compete should be made to THE SECRETARY the War Office, not later than 20th January 1924. The presence of Candidates will be required in London from 28th January 1924
Intending Candidates can obtain a full statement of the duties and emoluments of the Service on written application to THE SECRETARY the War Office Whitehall London, S W 1

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AND
DIPLOMA IN HYGIENE (FOR FOREIGN GRADUATES.)
UNIVERSITY OF CAMBRIDGE

LECTURES and PRACTICAL INSTRUCTION in the subjects of the Examinations will be continued next Term commencing 14th January, 1924, at the
UNIVERSITY LABORATORIES, CAMBRIDGE
Hygiene, Chemistry & Physics—Mr J. B. PURVIS
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Special Lectures by Professor NUTTALL and Assistants on Parasitology and by Dr HARVEY on Immunity
Practical Sanitary Administration, Hospital Administration, Sanitary Law, &c.—Dr LAIRD, M.O.H. for Cambridge, and Dr ROBINSON, M.O.H. for the Cambridgeshire County Council.
Special Courses in School Hygiene in Maternity and Child Welfare Service at the school and municipal clinics (Dr LAIRD and Assistants) in Tuberculosis service (Dr VARRIER-JONES and Dr PHILIP) in Venereal Diseases at Addenbrooke's Hospital (Dr ALDREN WRIGHT and Dr CHARLES SEARLE).
Courses of study under new regulations will commence 10th October, 1924.
Further particulars may be obtained from Mr J. E. PURVIS, Public Health Chemical Laboratory, Cambridge.

UNIVERSITY of LONDON, UNIVERSITY COLLEGE
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Professor—HENRY R. KENWOOD, C.M.G., M.B., D.P.H., F.R.C.P.
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Lecturer (Industrial Hygiene)—T. M. LEGGE, C.B.E., M.D., D.P.H.
Lecturer (Bacteriology)—F. H. TEALE, M.D., B.Sc., F.R.C.P.
Assistant Lecturer and Demonstrator (Bacteriology)—D. EMBLETON, M.A., M.B., L.R.C.P.
Assistant—M. E. DELAFIELD, M.B., L.R.C.P., D.P.H.
Demonstrator—F. T. MARCHANT, M.R.San.I.

Courses have been arranged to meet the requirements of candidates under the New Regulations, Parts I. and II.
The First Course under the New Regulations will begin on **Tuesday, January 15th.**
COMPOSITION FEE (excluding the fees for the Fever Hospital Course and for the work with the Medical Officer of Health) for the Courses required for Parts I. and II. 34 Guineas.
Particulars may be had on application to—WALTER W. SETON, Secretary, University College, London (Gower Street), W.C.1

Seamen's Hospital Society.
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Endsleigh Gardens, N.W.1.

Sessions will commence September 24th, 1923, 7th January and 21st April 1924 approximately.
For Prospectus and further particulars apply to The Secretary, London School of Tropical Medicine, Endsleigh Gardens, N.W., or to the Head Office, Seamen's Hospital, Greenwich, London, S.E.

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Including a full course of theoretical and practical BIOCHEMISTRY
Intending candidates are urged to join these classes at the commencement of the Course

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A comprehensive Course of Instruction under the direction of Dr. CHARLES PORTER, M.O.H. for St. Marylebone, will begin in January.
For further particulars apply to THE DEAN, A. B. WEBB-JOHNSON, C.B.E., D.S.O., F.R.C.S., or to THE SCHOOL SECRETARY, R. A. FOLEY.

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Guy's Hospital Medical
SCHOOL, London, S E 1

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A COURSE of INSTRUCTION for the Final Examination for the Fellowship of the Royal College of Surgeons of England will commence on Wednesday March 5th 1924

Members of the Class are given every facility to gain the necessary Clinical experience.

Full details of the Course may be obtained from the Dean Guy's Hospital Medical School London Bridge S E. 1

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The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March June September and December For Regulations apply to the Secretary College of Preceptors Bloomsbury Square London W C 1

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MEDICINE

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th.—Prospectus from the Hon DEAN School of Tropical Medicine, University of Liverpool

Kent County Mental
HOSPITAL, Maidstone

ASSISTANT MEDICAL OFFICER (Male) required Commencing salary £350 per annum with furnished apartments, board and laundry

Candidates must be fully qualified and single and not more than 30 years of age

Application giving full particulars with copies of three recent testimonials and endorsed A.M O on envelope, should be sent to the Medical Superintendent of the Hospital at an early date.

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The Secretary of State for India announces that Vacancies in the Indian Medical Service continue to be filled by direct appointment

For not more than 30 EUROPEAN OFFICERS of British Nationality to be appointed in the immediate future special terms are offered including gratuities of £1,000 after 5 years service together with free return passages for those who no longer desire to remain in the service

Candidates must be under 32 years of age at the time of application and must possess qualifications registrable in Great Britain and Ireland under the Medical Acts now in force

Further particulars can be obtained on application to the Secretary Military Department, India Office, Whitehall London S W 1 Letters should be marked Recruitment for I M S

The General Hospital,
Birmingham

RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Resident Medical Officer Candidates must be graduates of medicine of a University of the United Kingdom and registered Salary £155 per annum (inclusive of fees as special panel doctor to the domestic and Nursing Staff) with residence, board and laundry

The appointment will be made for one year in the first instance, and be subject to renewal for a further year

Applications with certificates of registraton and copies of testimonials should be sent by January 9th to the undersigned, from whom further information may be obtained

The appointment will be made at 12 0 noon on Friday February 1st when candidates will be expected to attend

The selected candidate will be required to take up duty on February 15th 1924

A. H LEANEY
December 29th 1923 House Governor

St Mary's Hospital,
London, W 2

OPEN APPOINTMENT

Applications are invited for the post of MEDICAL SUPERINTENDENT

The Medical Superintendent is the Senior Resident Medical Officer of the Hospital His duties are administrative and professional and include the charge of certain beds

Candidates must be qualified both in Medicine and Surgery and have held the post of Resident Medical Officer to some General Hospital

Tenure of Post —The appointment is for one year the holder being eligible for re-election for a second and third year

Inclusive Salary —£400 per annum with board and residence provided

The successful candidate will be expected to commence duty as soon as possible Applications to reach the undersigned not later than Tuesday 15th January 1924 W PARKES Secretary

Urban District of Rawdon

APPOINTMENT OF MEDICAL OFFICER OF HEALTH

The above named Council invite applications for the appointment of Medical Officer of Health to act within their district, at a salary of £75 per annum

The district has an area of 1 561 acres and contains a population of 3 784 (1921 census)

The appointment will be subject to the provisions of the Sanitary Officers Order 1922 and to the sanction of the Minister of Health

Applications stating qualifications are to be sent with copies of not more than three testimonials of recent date so that they reach me not later than Wednesday 23rd January 1924

Canvassing in any form will be a disqualification

HERMAN WALMSLEY
Council Offices Clerk
Rawdon near Leeds 24th December 1923

Poplar Hospital for Accidents
East India Dock Road E 14

Applications are invited for the post of RADIOGRAPHER Successful applicants will be required to attend at the Hospital Monday Wednesday and Friday afternoons from 2 0 p m Applicants must be members of the Society of Radiographers and forward copies of three recent testimonials with their application

D H LINDSAY
Secretary and House Governor

Leicester Royal Infirmary

There is a Vacancy for a SECOND HOUSE PHYSICIAN Appointment for six months

Salary at the rate of £125 per annum with board apartments and laundry

Applications with copies of recent testimonial to be made by 11th January to the House Governor and Secretary of the Infirmary

4th January 1924

Parish of Boleskine and
ABERTARFF

MEDICAL OFFICER & VACCINATOR wanted for the Fort Augustus Division of the Parish

Salary at the rate of £75 per annum. A commodious house and offices of modern construction are provided at a rent of £20 per annum (inclusive of rates and taxes) There is an extensive private practice among a population of about 1 000 and hitherto the Doctor has held appointments from the Committee of the Inverness-shire Sanatorium and the Authorities of St. Benedicts Abbey Fort Augustus. The salary from these together with Grants from National Health Insurance and Highlands and Islands Medical Service amount to about £330 per annum

Three copies of application with testimonials to be lodged with ANDREW URQUHART Clerk of the Parish Council Errogie up to 12th January 1924

Kettering and District
GENERAL HOSPITAL.

APPOINTMENT OF HON RADIOLOGIST

The Board of Management of the above Hospital require the services of a fully qualified Radiologist to act in an honorary capacity

The candidate appointed will be expected to devote at least two half days weekly to the work and the Board will be prepared to allow him the use of the Hospital installation for private purposes subject to the Board sharing any fees resulting on a basis to be arranged

Intending candidates should apply stating qualifications to the undersigned not later than the 12th instant.

General Hospital GEO W HAGUE
Kettering 1st Jan 1924 Secretary

Seamen's Hospital Society,
Greenwich S E 10.

The Committee invite Candidates for the appointment of HOUSE PHYSICIAN at the Hospital for Tropical Diseases (to which the London School of Tropical Medicine is attached) Endsleigh Gardens, N W 1 Candidates must be male, doubly qualified and registered Salary at the rate of £150 per annum and a proportion of fees with board, residence and washing The appointment will be for six months. Applications stating age together with copies of not more than 3 recent testimonials to be sent in on or before the first post on Monday 7th January to the undersigned from whom further particulars can be obtained

By order,
P J MICHELLI Secretary
Greenwich 19th December 1923

Hospital for Consumption and
DISEASES of the CHEST Brompton S W

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (for which there are Three Vacancies) The duties include work in the Out atient Department as well as in the Wards

Further particulars may be obtained from the undersigned to whom applications, with testimonials should be addressed not later than 19th January, 1924 Candidates will be required to attend the meeting of the Medical Committee on Wednesday January 23rd at 4 30 p m

The appointment is for six months with an honorarium of £50

FREDERICK WOOD Secretary
January 1924

Queen Mary's Hospital for
THE EAST END Stratford E 15.

Patron: Her Majesty the Queen.

HOUSE PHYSICIAN

Applications are invited for the above post from fully qualified and registered men Salary £150 per annum

The Hospital contains 150 beds and has Maternity Ear Nose and Throat Ophthalmic and other Departments The appointment will be for six months subject to reappointment for a further six months

Application accompanied by copies of testimonials to be addressed to the undersigned not later than the 12th January 1924

RAPHAEL JACKSON Major Secretary

West End Hospital for
NERVOUS DISEASES

Applications are invited from British male candidates for the post of CASUALTY PHYSICIAN Remuneration £200 per annum Afternoon attendance at Out patient Department five days a week Candidates must have our English qualifications

Applications with copies of three testimonials should be addressed from whom further particulars should be obtained not later than Monday 14th 1924 to the undersigned and will be considered as soon as possible

J P WALTENHALL, Secretary
at 7 Welbeck Street W 1

Wanted, an outdoor single ASSISTANT in a Colliery District in Glamorgan Must be reliable and produce good references State age qualifications experience, nationality and other essential particulars Usual bond. —Address No 121 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted —Capable Assistant (indoor) keen on work male, single motor-cyclist British for large panel and private practice, in Colliery district, Yorkshire Salary £300 Usual bond —Address No 6001 BRITISH MEDICAL JOURNAL Office, 42 Strand W C 2

Wanted — Single, indoor ASSISTANT for February 1st, 1924 busy panel and private Practice in Midlands experienced hard worker and abstainer usual bond —Reply stating fullest particulars and all essential details to No 205 BRIT MED JOUR Office 429 Strand W C

Wanted Assistantship by M R C S L R C P single age 34. Thoroughly experienced in panel and private practice Well received; 4 years hospital experience Hard worker loyal Excellent testimonials London preferred —Address No 109 B M J Strand W C

Wanted — Assistantship by M B Ch B (Glasgow) Young, energetic single. Experienced general practice Highest references —Address No 124 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted.—Assistantship (view Partnership) by M B Ch B Glasgow (1919) exper private and panel practice recently engaged in post graduate work Excellent testimonials London or Midland town preferred — Address No 136 B M J Office 429 Strand, W C

Wanted—Assistant with view to Partnership in large Panel and Private Practice in Lancashire —Address full details to No 107 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted — Jewish Assistant view Partnership (male) experienced private practice energetic single State age experience and other essential particulars —Address No 204 BRITISH MEDICAL JOURNAL Office, 429, Strand W C 2

Wanted by M R C S, L R C P ASSISTANTSHIP with view to Partnership Capital available Aged 30 single Ex Capt R A M C (S R) (M C) ex R M O Experienced in G P —Address No 122 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted Engagement, any duration up to two years in any capacity, general Practice or P H Moderate fee accepted Apparent age 50 energetic Was very successful in own Pract Very superior testmls sent Refs. Bond if desired —Address No 127 B M J 429 Strand

Assistant wanted, single, cyclist abstainer for mixed PRACTICE in Midland City Englishman preferred. Rooms and attendance Salary £400, and quarter midwifery fees.—Address No 113 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship wanted by Glasgow graduate (lady) with or without view to Partnership Ex H S Experienced gynecology anæsthetics, dispensing etc Energetic. Excellent testimonials —Address No 112, BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2.

Assistantship wanted by L R C P & S I in or out door single and cyclist Good panel and private experience Courteous reliable and well received by patients Excellent references —Address No 120 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship wanted by experienced Doctor age 30 abstainer cyclist and reliable in every respect Good worker willing and well received Excellent recent testimonials and references Terms very moderate —Address No 118 BRIT MED JOUR. Office 429 Strand W C

Assistant wanted, single, for panel and private Practice in London. £350 outdoor —Address all particulars to No 119 BRITISH MEDICAL JOURNAL Office 429 Strand W C

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Assistantship wanted by M B Ch.B L R C P & S (Edin) young energetic, abstainer experience of private and panel practice; good refs —Address No 102, BRITISH MEDICAL JOURNAL Office 429 Strand W C

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Medical Man, with his own perfected treatment for Debility and Neurasthenia seeks POST at Hydro or large Hotel in a Health Resort at home or abroad or ASSISTANTSHIP in good class Practice —Address No 133 BRITISH MED JOURNAL Office 429 Strand W C 2

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North West Coast —A General PRACTICE situated at a favourite Seaside Resort Average receipts about £2 50 Fees 5/6 upwards Plenty of sport (Trout and Salmon fishing) Ample scope to considerably increase income Double-fronted house specially built for Doctor and containing 5 bedrooms, etc Rent £75 per annum —Apply quoting Follo 639 Mr W S ATKINS Medical Transfer Agency 43 Bedford Street Strand W C 2

Practice wanted, or Partner- SHIP introduction in Bournemouth or similar health resort in Southern County Good house with garden important Income from £1 000 Advertiser is an experienced graduate free to buy immediately Ample means.—Apply M.D, c/o Mr PERCIVAL TURNER 4 Adam St, Strand, W C 2

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Required in London or Suburbs General PRACTICE with Panel producing over £1,000 p a Send full details in confidence to Mr W S ATKINS, Medical Transfer Agency 43 Bedford Street Strand W C 2

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Applications with testimonials, to be forwarded to the Treasurer Dumfries and Galloway Royal Infirmary 84 Irish Street, Dumfries by 10th January 1924

Manchester Royal Infirmary.
ANÆSTHETIST
The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment
The successful candidate will be required to give Anæsthetics at the Central Branch Roby Street Manchester, on Monday, Tuesday, Thursday and Friday mornings
Applicants must be registered and hold a Medical and Surgical qualification,
The appointment is for 12 months renewable for a further period of twelve months subject to the provisions of the Bye Laws as to notice
Salary is at the rate of £100 per annum
Applicants must state age and send twelve copies of their application and of three testimonials to the undersigned not later than Friday, 11th January, 1924. By Order
FRANK G HAZELL,
24th December 1923 Gen Supt. & Secretary

Manchester Royal Infirmary
HOUSE SURGEON (Male) AURAL, GYNÆCOLOGICAL & OPHTHALMIC DEPARTMENTS
The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment which will become vacant on 15th February 1924
Applicants must be registered and hold a Medical and Surgical qualification
The appointment is for six months (three months as Junior and three months as Senior) subject to the provisions of the Bye laws as to notice
Salary at the rate of £50 per annum, with board, residence and allowance for laundry
Applicants must state age and address their applications to the Chairman of the Medical Board by the 19th January 1924. By Order
2nd January 1924 FRANK G HAZELL.

Manchester Royal Infirmary.
HOUSE SURGEONS (Male)
(Five Vacancies)
The Board of Management of the Manchester Royal Infirmary invite applications for the above appointments which will become vacant on 15th February, 1924
Applicants must be registered and hold a Medical and Surgical qualification.
The appointments are for twelve months (six months as Junior and six months as Senior) subject to the provisions of the Bye-laws as to notice
Salary at the rate of £50 per annum with board, residence, and allowance for laundry
Applicants must state age and address their applications to the Chairman of the Medical Board on or before the 19th January, 1924
By Order
FRANK G HAZELL,
2nd January 1924 Gen Supt & Secretary

Manchester Royal Infirmary
SECOND SURGICAL REGISTRAR.
The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment which is now vacant
Applicants must be registered and hold a Medical and Surgical qualification
The appointment (non resident) is for one year, renewable for a further period of one year subject to the provisions of the Bye laws as to notice
Salary is at the rate of £150 per annum
Applicants must state age and address their applications and testimonials to the Chairman of the Medical Board by Saturday 19th January 1924
By Order
FRANK G HAZELL
2nd January 1924 Gen Supt & Secretary

Victoria Hospital for Children
Tite Street, Chelsea, S W 3.—(116 beds)
The Committee of Management invite applications for the posts of HOUSE PHYSICIAN and HOUSE SURGEON (both vacant 1st February) The appointments are for six months
Salaries at the rate of £100 per annum with board lodging and washing Candidates must hold medical and surgical qualifications and be registered under the Medical Act
Applications with copies of three recent testimonials should be sent to the Secretary not later than first post 10th January 1924

The Mount Vernon Hospital,
for Tuberculosis and Diseases of the Lungs and Heart
There is a vacancy for an ANÆSTHETIST Candidates must be registered practitioners
Applications with copies of testimonials must be forwarded to the Secretary as under on or before the 21th instant
Offices W J MORTON
7, Fitzroy Square W 1 Secretary

Manchester Royal Infirmary
HOUSE PHYSICIANS (Male)
(Three Vacancies)
The Board of Management of the Manchester Royal Infirmary invite applications for the above appointments which will become vacant on 1 h February, 19 4
Applicants must be registered and hold a Medical and Surgical qualification.
The appointments are for six months subject to the provisions of the Bye laws as to notice
Salary at the rate of £50 per annum, with board, residence and allowance for laundry
Applicants must state age and address their applications to the Chairman of the Medical Board by the 19th January, 19 4 By Order
FRANK G HAZELL
2nd January, 1924 Gen. Supt. & Secretary

Wellhouse Hospital, Barnet
(250 Beds)
Wanted, ASSISTANT RESIDENT MEDICAL OFFICER to take up duties by the end of January Salary £150 with rations furnished quarter laundry and attendance Must be fully qualified Preference will be given to candidates who have held appointment of House Physician or House Surgeon in a public general hospital
Applications stating age experience and qualifications with copies of three recent testimonials to be addressed to ARTHUR WILSHIRE Clerk to the Guardians Barnet Herts, not later than Wednesday, 9th January

Notts County Mental
HOSPITAL Radcliffe-on Trent.
The Visiting Committee invite applications for the position of ASSISTANT MEDICAL OFFICER (male) Salary £400 per annum rising £20 annually for five years with board, residence, and laundry The appointment is subject to the Asylums Officers Superannuation Act, 1909
Diploma in Psychological Medicine will be considered a recommendation
Applications stating age qualifications and previous experience, to be addressed to the Clerk to the Committee

Ancoats Hospital,
Manchester
SENIOR RESIDENT SURGICAL OFFICER (male) required to commence duty on 1st February, 1924 for a period of twelve months Only those who have held a Resident Surgical appointment need apply, and candidates holding an F R C S qualification will be preferred Salary £225 per annum, with board lodging and washing
Applications stating age, previous experience and qualifications to be forwarded to the undersigned on or before Tuesday 15th January 1924 together with copies of three recent testimonials
By Order of the Board,
HERBERT J DAFFORNE Secretary

Borough of Plymouth.
Applications are invited for the appointment of a Whole time MEDICAL OFFICER of the Port and of Aliens at a salary of £750 a year
Applicants must be between 30 and 45 years of age and must in addition to the usual qualifications have had Port Medical experience and possess the Diploma of Public Health or of State Medicine
Applications endorsed "Port Medical Officer" and accompanied by copies of not more than three recent testimonials must reach the undersigned not later the 19th January 1924 The appointment will be subject to the approval of the Ministry of Health
Town Hall O HALL
Plymouth Medical Officer of Health
21st December 1923

South Yorkshire Asylum,
Sheffield
Wanted MEDICAL OFFICER not over 36 unmarried Salary £400 rising £25 a year to £500 with board &c The appointment is made subject to the provisions of the Asylums Officers Superannuation Act 1909
Applications with three testimonials (copies only) to be sent to the Medical Superintendent

Royal Free Hospital,
Gray's Inn Road W C 1.
Applications are invited from duly qualified and registered medical men and women for the post of HOUSE PHYSICIAN vacant 1 st February 19 4
Intending candidates should submit applications stating age and accompanied by copies of three recent testimonials to the undersigned, on or before the 12th January 19 4
REGINALD R GARRATT, Secretary

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**PUBLIC HEALTH.**	**PUBLIC HEALTH** *(continued)*
ENGLAND.	AYRSHIRE EDUCATION COMMITTEE *(Assistant School Medical Officer)*	LIVERPOOL EDUCATION AUTHORITY *(Assistant School Medical Officer)*
MIDDLESBOROUGH, SOUTH BANK, & ESTON *(Medical Aid Associations or Workmen's Clubs.)*	BRIGHTON EDUCATION COMMITTEE. *(Woman Assistant School Doctor)*	COUNTY COUNCIL OF MIDDLESEX *(Male Assistant Medical Officer in the Public Health and School Medical Department)*
WALES.	CORNWALL EDUCATION COMMITTEE *(Woman Assistant School Medical Officer)*	NOTTINGHAM EDUCATION COMMITTEE *(Junior Assistant Medical Inspector)*
ABERTRIDWR, GLAMORGAN *Windsor Colliery (Medical Scheme.)*	CHESHIRE EDUCATION COMMITTEE *(Women Assistant School Medical Officers)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
EBBW VALE, MON *(Workmen's Medical Society)*	BOROUGH OF CREWE *(Woman Assistant School Medical Officer)*	PLYMOUTH EDUCATION AUTHORITY *(Woman Assistant School Medical Officer)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	DARLINGTON EDUCATION COMMITTEE *(Assistant School Medical Officer)*	BOROUGH OF PORTSMOUTH *(Medical Officer to the Portsmouth Child Welfare Centres and Municipal Maternity Hospital)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	COUNTY BOROUGH OF GATESHEAD *(Assistant School Medical Officers)*	COUNTY BOROUGH OF SMETHWICK. *(Woman Assistant Medical Officer of Health and School Medical Officer)*
OAKDALE, MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*	GELLYGAER URBAN DISTRICT COUNCIL. *(Medical Officer of Health.)*	SOMERSET COUNTY COUNCIL. *(Assistant School Medical Officer)*
OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*	METROPOLITAN BOROUGH OF FINSBURY *(Assistant Medical Officer of Health)*	SOUTH SHIELDS EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
TONDU and ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*		

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE. (Grenada with Carriacou, St. Vincent and St. Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *Senior Resident Physician.) (Senior Resident Surgeon.)*	Mr A. RADFORD M.C., F.R.C.S. 5 & 6 4th Floor National Bank Buildings Durban.	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R. MARSHALL ALLAN (Hon. Sec. Queensland Branch), Adelaide Street Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon. Sec., Victorian Branch) Medical Society Hall, E. Melbourne, Victoria.
NEW SOUTH WALES *(All Friendly Society Appointments.)*	Dr R. H TODD (Hon. Sec New South Wales Branch) B M. A. Building 30-34, Elizabeth Street, Sydney N S W			WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon Sec., Western Australian Branch, No 6, Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address 429 Strand W C 2.
January 2nd, 1924

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

Warwick County and COUNTY BOROUGH OF COVENTRY JOINT MENTAL HOSPITAL.

APPOINTMENT OF MEDICAL SUPERINTENDENT

Applications are invited for the appointment of MEDICAL SUPERINTENDENT at the above Mental Hospital The salary offered is £1 000 per annum with emoluments valued for pension purposes at £300 per annum as follows: furnished house rates fire, light, washing vegetables from the garden the privilege of purchasing provisions at contract prices and a cash allowance of £5) per annum for upkeep of car Forms of application with further particulars may be obtained from the undersigned

Applications for the appointment endorsed "Medical Superintendent" must be received by me not later than Saturday the 19th January 1924 Canvassing either directly or indirectly will be a disqualification

H M BLENKINSOP
Clerk of the Visiting Committee
1 New Street Warwick.

Durham County Hospital

The Committee will shortly proceed to appoint an ASSISTANT HONORARY SURGEON Applications (accompanied by copies only of not more than three recent testimonials) to be sent to the undersigned on or before 12th January 1924

Candidates must be Members or Fellows of the Royal College of Surgeons, England or possess a degree in Surgery of a British University No canvassing

Applications are also invited for the post of ASSISTANT ANÆSTHETIST which carries with it an Honorarium

9 Saddler Street WM R WILSON
Durham Secretary

Putney Hospital (CHESTER BEQUEST) Lower Common, Putney S W 15

Wanted a RESIDENT MEDICAL OFFICER. Salary £150 a year with rooms board and lodging Applications stating age with copies of testimonials to the Hon Secretary at the Hospital from whom further information may be obtained

Oxford County & City Mental HOSPITAL, Littlemore near Oxford.

SECOND ASSISTANT MEDICAL OFFICER required. Salary £350 per annum with board apartments washing and attendance Appointment subject to Asylum Officers Superannuation Act 1909

Applications stating age qualifications etc to be sent with copies of recent testimonials to the Medical Superintendent

The Sheffield Royal Hospital

Applications are invited for the post of CASUALTY OFFICER (Male) which falls vacant on February 1st, 1924 Salary £150 with board washing and residence in the Hospital Candidates must be registered medical practitioners unmarried. Previous Resident appointment experience necessary

Applications, with copies of testimonials to be sent before January 14th to
JOE W ROBINSON
Secretary

The Board Room,
9th December 1923.

Nottingham Children's HOSPITAL.

Applications are invited for the post of RESIDENT HOUSE SURGEON (Woman) Previous Hospital experience essential The salary will be at the rate of £150 per annum with apartments board and laundry The appointment will be for six months and the duties will commence as from 29th February 1924

Applications, together with testimonials stating age qualifications and experience to be sent to F PRAGNELL, the Honorary Secretary 1 King John's Chambers Bridlesmith Gate Nottingham by the 17th January 1924 Selected candidates will be required to attend at the Hospital for a personal interview on 29th January, when the appointment will be made

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J H TEASDALE Secretary

1st January 1921

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S W COAST —Old established non panel PRACTICE Income £1 616 p a 7 appointments Nice house Premium 1½ years purchase

LONDON E —Well-established small PRACTICE situated in residential district Corner house garage Panel 400 (scope) Income £800 p a Easily worked Premium £1 200 House for sale or would be let on long lease

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Yorkshire — £3,000 a year HALF SHARE for sale Old-established. Small town near large city Panel 1 700 Other appointments £1,00 Good house and garden, on lease Personally investigated —Apply No 7404.

Eastern County — Urgent £800 a year Unopposed. On rail Panel over 500 Detached house on lease. Schools near Personally known. Premium 1½ years purchase — Apply No 7319

Northern City —Nearly £2 000 a year Old-established business and residential centre. Panel £600 Good corner house with garden to be rented Fees 3 6 to 10/6. Price 1½ years purchase —Apply No 7366.

Welsh Coast—Over £1,500 a year Unopposed Old-established. Fees 3 6 to 10 6 Not much midwifery Panel over 1 400. Other appointments about £130 Good house 4 bed bath &c. Room for extension Garage Price about 1½ years purchase —Apply No 7403

Eastern County — Over £1,000 a year Old-established Town on rail. Panel 600 Large house and garden on lease Partnership introduction. Apply No 7385.

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1 DEATH VACANCY—Yorkshire Coast Very old-established *Practice in a thriving* Seaport Town for immediate disposal. Late incumbent died after a short illness. Receipts about £2 000 a year including 3,000 panel patients Mixed practice Visits up to 10 6 Midwifery not encouraged Very good house, with ample accommodation and garden tennis lawn &c. attached Will be sold or let on lease to successor Efficient locum tenens in charge

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Lancs—Practice of £2,000 in manufacturing town Panel 1 100 Appointments £120 Rent £60 Premium £2 000 including £400 good book debts.

South Wales — Unopposed Colliery PRACTICE of £3,000 Panel 1 8 0 Appointments £2,000 House with garage No Midwifery

London, S W—Partnership Half-share of £2,400 Middle-class Practice with 800 panel. Good house with long lease Premium £2,000

West End—Single Partner required with view to succession Very good class Practice doing about £1,700 with scope

Australia — Unopposed PRACTICE in rapidly growing place Receipts about £1,000 Premium £850 £500 down

South Coast—Practice of £900 in large town Rent £60 Panel £163 Practice could easily be increased No midwifery has been done for years

North London—Practice of £600 held by vendor for 40 years Small panel Great scope for active man and opportunity for a surgeon Excellent cottage hospital Very good house. Rent £70

North Wales — Practice of £550 with plenty of scope, in beautiful sea side place Panel 1 0 Good house with nice garden Rent £50 on lease Premium £750

Birmingham — Practice of £2,000 including 1 700 panel Appts £150 Excellent house with garage and large garden

London, S E—Middle and working-class PRACTICE of £1,300 in nice part Panel 940 Midwifery 3 to 5 gns Very good house with nice garden and garage can be bought for £1,200

Ophthalmic Practice in beautiful Colonial town Receipts about £1,500 with great scope Premium £1 150

Yorks—Practice in manufacturing town Receipts £1,500 Panel 1 050 12 midwifery Convenient house with surgery and garage Rent £54

East Coast—Partnership Half-share of £2 800 including £1 800 from panel Large shipping town. Rent £10 Premium 1½ years purchase

South Wales—Practice of £1 500 mostly from appointments and panel

Colonial Partnership—Half Share of £1 500 Good Fees Tennis golf etc Private Hospital

Norfolk — Partnership Half share of £3,000 in country town with cottage hospital Good house and garden

Lady Doctor's Practice, established 30 years in North London Receipts average £1 050 Nice house

Home County — Old-estab PRACTICE very suitable for two. Rece about £3,500 Appointments £50 Panel Cottage hospital Rent £5

West Coast — Good class PRACTICE of £1 500 including Panel Practically no midwifery Large country house

London, N W—Partnership in Lock up Surgery Half-share of £

East Coast—Unopposed practice of £1 00 Good position new and app. Good house and garden Rent £

Purchasers wanting their premises [illegible]
Particulars of other Practices [illegible]

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HOME COUNTY — (1) Very old-established PRACTICE £1 260 per annum in first rate Country Town Panel about 1,000 Not much Midwifery Double fronted house (6 bed rooms) Rent about £50 Hospital Prem one-and a half years purchase

DEATH VACANCY —(2) Special Ophthalmic PRACTICE London (West End) Income about £3 000 Excellent opening for well qualified gentleman. Premium £500 to include some Instruments and Furniture

INLAND HEALTH RESORT —(3) North of England Old established PRACTICE £1 000 per annum Panel 400 Large centrally situated house Rent £95 Premium one and a half years purchase

EASTERN COUNTIES —(4) PARTNERSHIP in old-established PRACTICE in Market Town Panel 1 550 Good detached house Share worth about £1,500 per annum at one and three quarters years purchase Good up-to-date Cottage Hospital

HOME COUNTY —(5) PARTNER required in well-established Practice about £4,000 per annum in pleasant Residential District under ten miles from London House contains 4 bedrooms &c Rent £80 Premium one third share two years purchase Cottage Hospital

EASTERN COUNTIES —(6) Very old-established unopposed country PRACTICE nearly £1 950 per annum near Coast Panel about 800 Exceptionally beautiful old house (5 bedrooms) in acre ground on lease also 20 acres farm land If desired Splendid shooting Premium one and a half years purchase

SOUTH OF ENGLAND —(7) PARTNERSHIP in old-established PRACTICE averaging over £5 000 per annum in pleasant Market Town Panel 1 800 1 900 Good house (6—7 bedrooms) with nice garden. Rent £62 10s Premium one fourth share two years' purchase Incoming partner should hold D P H

NORTH WALES —(8) Old-established PRACTICE nearly £4 30 per annum in small Seaport Town Panel 150 No midwifery or night work Rent of house (7 bedrooms garden half an acre) £50 Premium £7 0

MIDLANDS —(9) Old-established unopposed PRACTICE £1 150 in Agricultural and Residential District (Appointments worth £330 Panel 190) House contains 12 rooms Rent £3 Premium one and a half years purchase

MIDLANDS — (10) PARTNERSHIP in an old-established practice £3 000 per annum in Country Town Panel about 1 400 One third or one fourth share at one and three quarter years purchase.

UP THE THAMES —(11) Good Residential District THIRD PARTNER required in old established Practice about £6 000 Good panel House with 5 bedrooms and nice secluded garden to rent Cottage Hospital and scope for minor surgery Premium one fifth share two years purchase Short Preliminary Assistantship entertained

SURREY —(12) PARTNERSHIP in middle and working-class Practice about £3 000 per annum in first rate Residential Town Large Panel Good detached house (6 bedrooms) to rent Share up to two-fifths at one and three quarters years purchase Good hospital

NORTH OF ENGLAND — (13) Old established PRACTICE of £1 400 per annum in Country District Panel 8 0 Very good house (5 bedrooms) in charming grounds two acres Prem practice house and grounds, £4 000 Mortgage could be had on house

FAVOURITE HOME COUNTY —(14) PARTNERSHIP in good-class Country Practice about £3,200 per annum in delightful residential district Visits up to £2 2s Excellent modern detached house (7 bed and dressing rooms) in grounds of three and a quarter acres to be sold Cottage Hospital Premium one half share two years purchase.

SOUTH OF ENGLAND — (15) Old-established PRACTICE of £1 7 0 per annum in Residential Town Panel worth £6 0 per annum. Detached house (4 bedrooms, &c) Rent £50 Premium one and a half years purchase

YORKS, WEST RIDING —(16) Old-established, rapidly increasing PRACTICE in residential district of large Town Income at present about £900 per annum. Panel 520 (increasing) House (4 bedrooms &c.) Rent £60 Great scope

SOUTH-WEST OF ENGLAND — (17) Well established good middle class PRACTICE in Seaport Town Receipts average £1 583 per annum No panel, Good house (6 bedrooms, &c) Rent £100 Premium only £2 000

ITALIAN RIVIERA — (18) Old-established good class non-dispensing SEASON PRACTICE of nearly £300 Nice Villa in excellent position. Premium only £250

BORDERS OF SURREY AND HANTS —(19) JUNIOR PARTNER required in Practice in charming residential country District Panel 73 Share worth about £600 at two years purchase Preliminary Assistantship

EASTERN COUNTIES —(20) PARTNERSHIP in old-established practice about £2 300 per annum in first rate Town Panel about 2 0 0 House (9 bed and dressing rooms) standing in own grounds to be sold Premium one-half share one and three quarters years purchase

SOUTH OF ENGLAND —(21) PARTNERSHIP in good class non panel practice of £2 400 per annum in beautifully situated Country Town near the Coast One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate, not over 35, and preferably F R C S England

SEASIDE TOWN AND HEALTH RESORT —(22) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good-class old-established practice Share worth £1,000 per annum, at two years purchase

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NEWCASTLE-ON-TYNE —(24) PARTNERSHIP in practice about £3,000 per annum Panel 3,570 Premium for a one half share one and a half years purchase Ample scope for increase

EAST COAST —(25) PARTNERSHIP (with preliminary Assistantship for one year) in a middle-class Prac. of about £3 000 p a House available. Share for disposal up to one-half at two years purchase

EAST COAST —(26) Popular Resort Old-established middle and working class PRACTICE of £1,140 Panel 861 Rent of house (5 bedrooms) £60. Premium one and a half years purchase

LANCASHIRE —(27) PARTNERSHIP in very old-established mixed practice £3 500 per annum in Manufacturing Town Panel about 4 500 Commodious house (6 bedrooms) Rent £62 10s inclusive Premium for one half share one and a half years purchase, or near offer Hospital and chance of getting on staff

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SURREY —(29) PARTNERSHIP in good middle-class compact practice over £2 050 in Residential District easy distance of London Panel 1 200 Premium two-fifths share two years' purchase Practice investigated by Association's Accountant

CHESHIRE —(30) PARTNERSHIP in good middle and working-class practice over £3 200 per annum in Manufacturing Town Panel returns about £1 000 per annum Modern detached house (6 bedrooms) for Sale Premium one half share one and a half years purchase Hospital and plenty of scope for special work

SOUTH-WEST OF ENGLAND —(31) PARTNERSHIP in old established Practice about £3 500 per annum in beautifully situated Country Town near Coast Panel 3 000 Very good house (6 bedrooms &c) Rent £70 Premium one half share one and three quarter years purchase Hospital and scope for Surgery

LONDON (WEST) —(32) Old established PRACTICE over £1 100 in Residential part Panel 3,0 House with seven bed rooms &c. Rent £85 on lease Premium one and a half years purchase

ESSEX —(33) Well established middle class PRACTICE nearly £1,50 per annum in pleasant district Panel 400 Excellent double fronted house (5 bedrooms) with good garden Premium £900

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NORTH WALES —(35) Well-established Country PRACTICE in beautiful part near coast Income about £1 800 (nearly £1 500 from panel and appointments) House containing 4 bedrooms for sale Welsh not necessary Premium one and a quarter years purchase

SURREY — (36) PARTNER required in good-class non-dispensing Practice over £4 000 p a in first rate residential district Incoming Partner should hold a University degree not over 35, and keen on medicine Premium one-fourth share two years purchase

CHESHIRE —(37) Important Town Old established mixed-class PRACTICE averaging £3 550 per annum Panel 2080 Good house with 6 bedrooms, held on lease Very suitable for 2 young practitioners keen on surgery Cottage Hospital (40 beds) Premium £5 000 (or near offer) to include all book debts amounting to over £3,900

SOUTH COAST —(38) Popular Health Resort PRACTICE averaging £1 300 per annum Small panel Hou e on sea front (3 bedrooms) rent £60 Premium £1 9 0 (or near offer) Scope for Surgery

SOUTH-EAST COAST. —(39) Favourite Health Resort. PARTNERSHIP (with view to Succession) In good middle-class non-dispensing practice about £1 750, including appointments £170 (about) No panel Premium two-fifths share two years purchase and up to one half in two years Partner should be 28 to 30, single Preliminary Assistantship

KENT AND SUSSEX BORDER —(40) Old established unopposed PRACTICE about £1 500 in beautiful country district Panel 750 Modern house (9 bedrooms) in acre of ground to be sold Premium one-and a half years purchase

SOUTH COAST —(41) Old-established PRACTICE about £500 per annum formerly £800/£900) in Seaside Resort No midwifery panel clubs or appointments House on main road with 7 bedrooms &c. Premium, practice and house £2 500 Scope for energetic man

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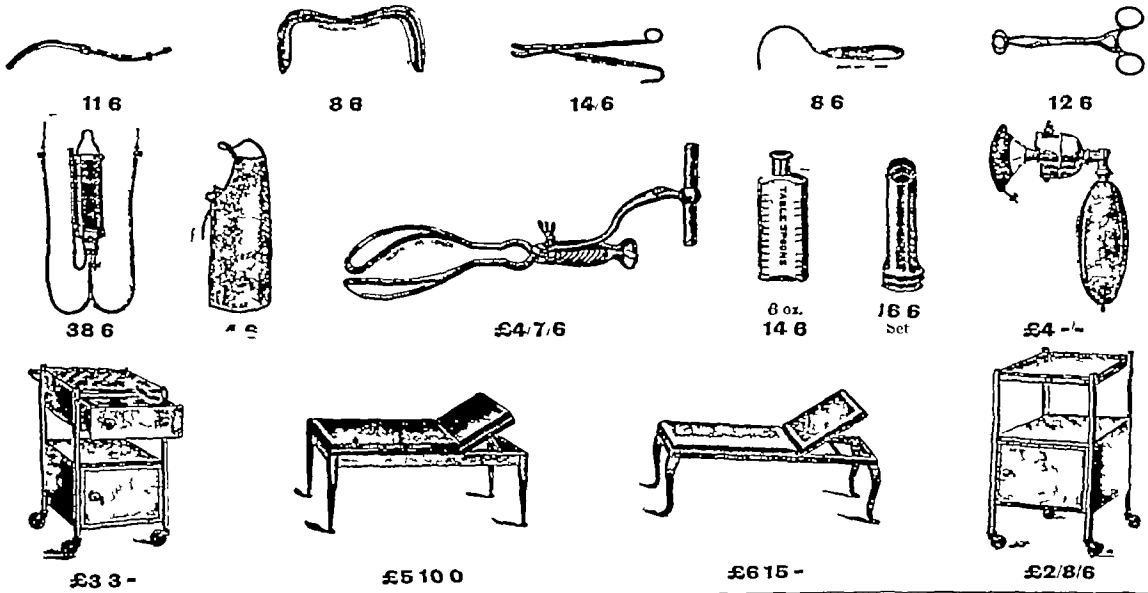
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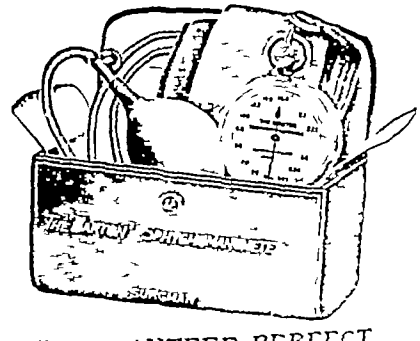
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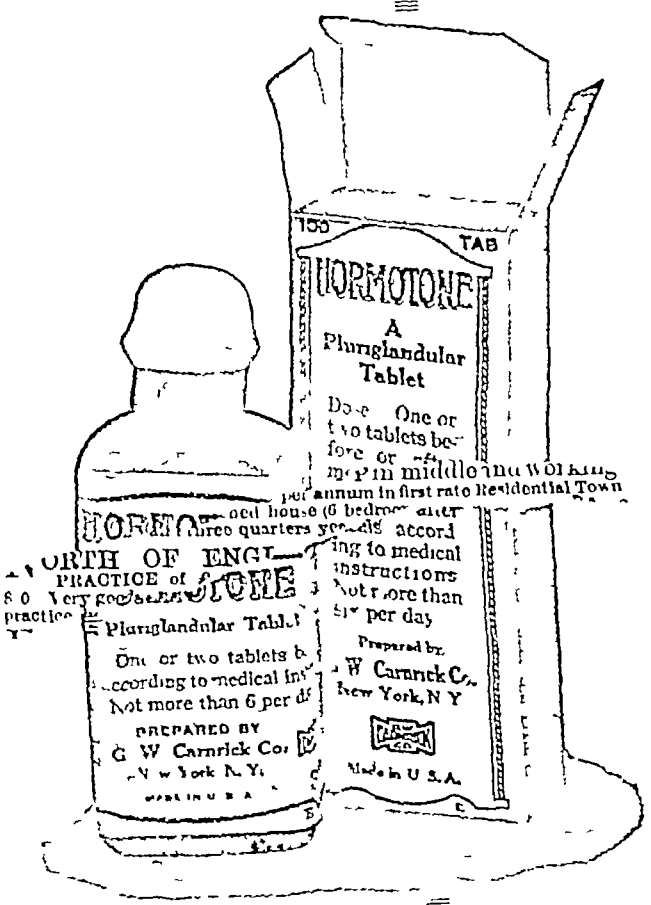
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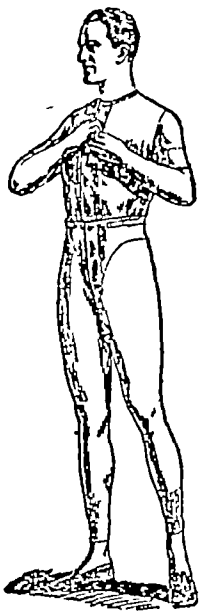
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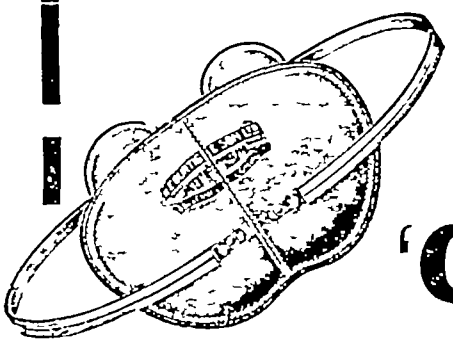
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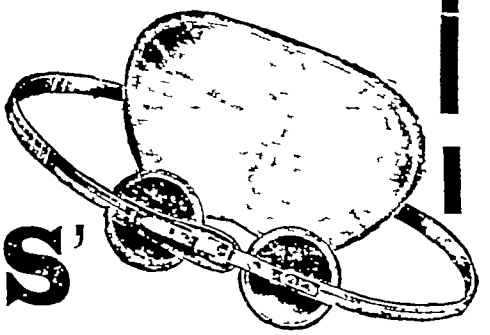
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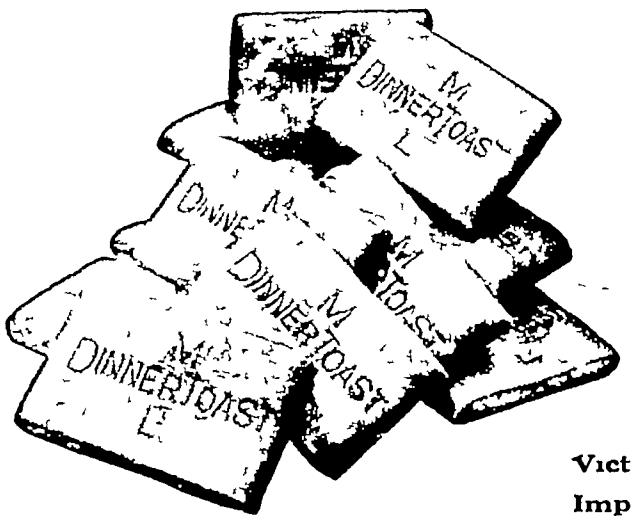
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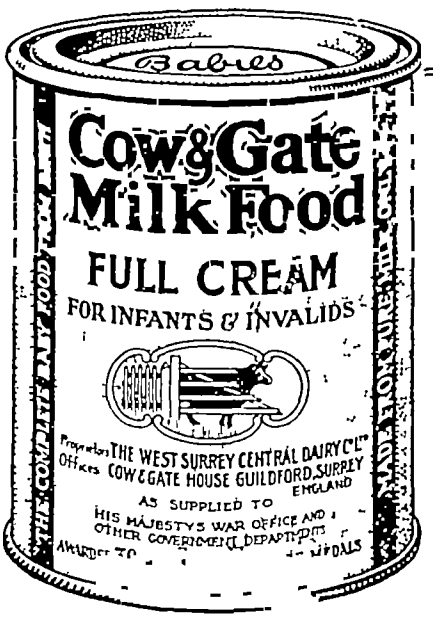
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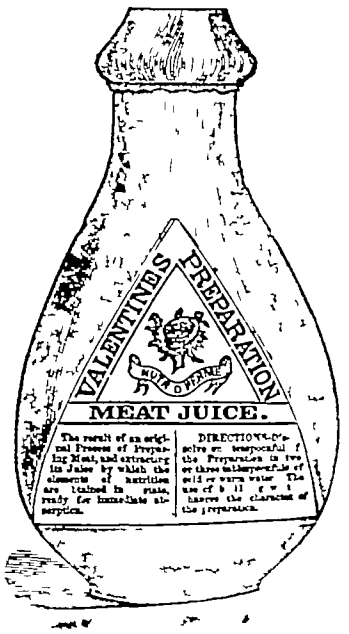
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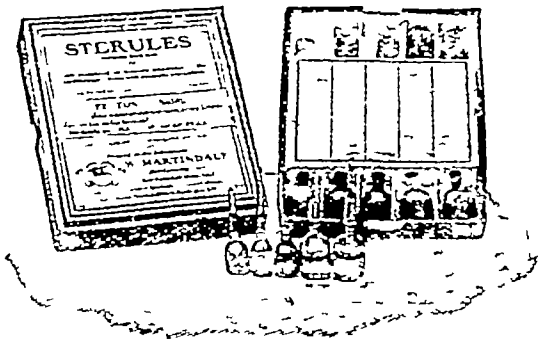
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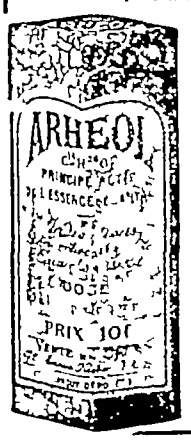
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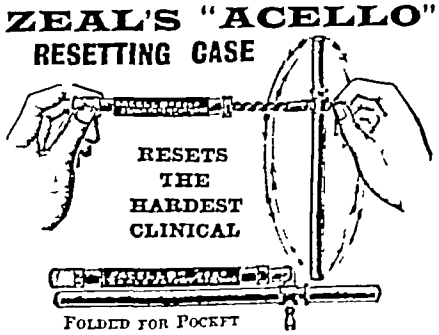
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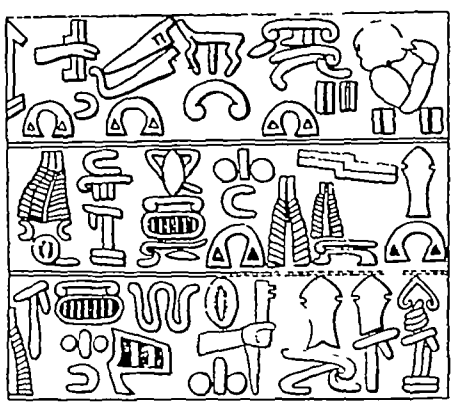
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INSCRIPTION IN THE UNKNOWN HITTITE TONGUE AND SCRIPT—A people capable of inventing a system of writing has already reached a high degree of progress and its leaders have qualified as pioneers of civilisation. Strange characters—such as those here reproduced—inscribed upon isolated blocks of stone first attracted attention to the hitherto unknown system and when later the same unmistakeable signs were found accompanying sculptures the discovery was made that they represented the writing of the makers of the monuments Many scholars have attempted and are still devoting themselves to its decipherment but so far no single inscription has been read with certainty and the nature of the language is still undecided The problem is two-fold to interpret signs whose values even are unknown and to read a language as to whose affinities scholars are diametrically opposed to each other The language is not Semitic and attempts to prove it Indo European are up to now unconvincing—still less so is the theory that it is Finnish based upon the unsatisfactory hypothesis that the Hittites were Mongolians No connection whatever can be traced between the Hittite hieroglyphic system and that of the Egyptians A relation between Hittite and Cretan signs has been suggested but useful comparisons can hardly be made so long as the values of the Cretan signs themselves remain undiscovered Bilingual inscriptions are eagerly sought and one hope inspiring example has been found but it has proved of little help for it consists of only a few words and the cuneiform version itself offers difficulties and uncertainties of translation.



DATE Hittite hieroglyphic script in evolution c. 1400 1300 B C. ? The present inscription c. 1000 B C. 900 B C.

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Cameron Prize Lectures

ON

THE NATURE OF CONTROL OF THE METABOLISM OF CARBOHYDRATES IN THE ANIMAL BODY

DELIVERED BEFORE THE UNIVERSITY OF EDINBURGH ON OCTOBER 16TH AND 17TH, 1923,

BY

J J R MACLEOD, M B, Ch B ABERD, F R S,

PROFESSOR OF PHYSIOLOGY TORONTO UNIVERSITY

ALLOW me, first of all, briefly to outline the general nature of our problem Carbohydrates in their metabolism in the animal body are gradually broken down into smaller molecules which are finally oxidized to yield CO and H O They are absorbed, mainly as glucose, and transported by the blood in this form to the tissues in which their oxidation occurs A large part of the glucose, if indeed not all of it, is, however, condensed into glycogen before the final breakdown process, one purpose of the formation of this substance being that the glucose may be stored, mainly in the liver, until it is required for the production of energy

During starvation glucose is derived from glycogen until the stores of this substance are exhausted, when new glucose is produced out of protein and, possibly, fat Life, apparently, is impossible in the absence of glucose, for it is present in the blood of the higher animals up to the time of death by starvation, and it occurs in the blood, or corresponding circulating fluid, of every form of animal in which this can be obtained for analysis Not only must glucose be constantly supplied by the blood to the tissues, but this supply must vary greatly at different times according to their activity

There are therefore two distinct and separate problems which require attention first, the control of the supply of glucose *to the tissues, or its mobilization, as it is sometimes* called, and, secondly, that of its utilization

An estimate of the rate of utilization of carbohydrate by the animal may be obtained by studying the respiratory exchange and by comparing the intake with the output of sugar The rate of supply of glucose to the tissues could be directly measured in the animal as a whole only by comparing the percentages of this sugar in the arterial and venous blood at known velocities of blood flow but for practical reasons it is impossible to obtain the data necessary *for this measurement* The percentage of sugar in the venous blood—as is used clinically—serves only as an index of the balance between the rates of supply and utilization, but it is nevertheless an important value to determine since, when taken along with estimates of the rate of utilization, it is an indirect measure of the rate of supply The remarkable constancy of the blood sugar in health shows that there must be a very finely adjusted co-ordination between the two processes and the question arises as to how this is effected At one time it was thought to be through nervous reflex *action, but as evidence has accumu*lated this view has very largely given way to one in which chemical substances present in the blood are believed to be the controlling factors These substances are supposed to act as chemical messengers, or hormones, between the places in the body where glucose is being used up and those from which new supplies can be derived The percentage of glucose in the blood cannot itself act in this way—although no doubt, it is a most important factor—since the co ordination breaks down in diabetes The presence of some other agency is necessary, and it must be to the absence of this that diabetes is due

It is now well known that diabetes is associated with disease of the pancreas, and evidence has gradually accumulated to show that this depends on the fact that the gland produces an internal secretion whose presence in the blood is necessary in order that changes in the concentration of sugar in the blood may serve to control its rate of production in the liver, out of glycogen or protein When this internal secretion is absent, not only does utilization of glucose in the tissues become seriously interfered with, but the glucose which is absorbed during digestion fails to be stored as glycogen, and the organism cannot use the glucose which is split off from protein

Although these facts have been known for many years it is only recently that it has been possible to isolate from the pancreas the actual hormone to which this gland owes its controlling influence The first step in this direction was taken by Banting and Best, who showed that the hormone could be extracted from the pancreas after the cells which produce the strong digestive enzymes had been caused to degenerate by previous ligation of the ducts The next step was to seek for some extractive for the intact gland, in which the digestive enzymes would be incapable of attacking the hormone, and acid alcohol was found to fulfil these conditions And the final step, due mainly to the work of J B Collip, was to purify the alcoholic extracts *sufficiently* so that they could be given subcutaneously, or intravenously, to man without causing local irritation or general toxic reactions This mode of administration is imperative in order to avoid destruction of the hormone by the digestive juices of the stomach and intestines I need not remind you that the name "insulin," previously suggested by Sir Edward Sharpey Schafer, has been given to these purified extracts

By studying the effects of insulin in the diabetic and normal animal it is possible to determine with much greater certainty than hitherto the exact nature of the control of carbohydrate metabolism, and I propose in these lectures to review the main results which have been *obtained, and to indicate how the investigation of other* problems of metabolism besides that of the carbohydrates may be advanced by studying the action of this hormone

Since diabetes is a condition in which the regulation of carbohydrate metabolism has become upset, both in the utilization and mobilization of sugar, owing to the absence of insulin, it will be simplest if we start with a consideration of the effects which follow in the diabetic animal when this hormone is restored, as by its administration from without We will then study the action of insulin on certain forms of *so-called experimental diabetes in which*, as it were, only one part of the process of sugar regulation breaks down—namely, the mobilization of sugar out of glycogen Since several of these forms are clearly due to disturbances in the nervous control of the glycogenic function of the liver, we will be in a position to see to what extent insulin may act through an influence on this type of control There is some evidence that in man an unbalanced state of the nervous system, due to inheritance or to nerve strain, is frequently associated with diabetes In the light of the *information gained from these investigations we will* consider the effects of an excess of insulin in the normal animal In doing this we will, of course, have to bear in mind that although insulin is necessary for the control of carbohydrate metabolism its amount in the normal animal is finely regulated to the requirements so that the introduction of an excess, as by injection, must upset this balance and thereby *create a condition which may be just* as abnormal as that resulting from absence of the hormone Finally, it will be of interest to consider the source from which insulin is derived in the pancreas, and to see whether it is solely through the production of insulin that this gland owes its profound influence, not only on the metabolism of carbohydrates, but on that of fat and perhaps of protein as well

EFFECTS OF INSULIN ON THE DIABETIC ORGANISM

For the consideration of this subject we will make use mainly of the experimental form of the condition produced in laboratory animals by complete removal of the pancreas The results obtained by such investigations have been shown to be exactly the same as those obtained in diabetes mellitus in man It is obvious, however that the observation on depancreatized animals are of much greater value from the scientific standpoint than those on diabetic patients partly because they are not contused by the presence of some remnants of still diseased pancreas and partly because the chemical changes *which are regulat*[illegible] in man can much more thoroughly investigated by an hour of the time after death

The most important and the earliest symptom of diabetes is increase in the percentage of sugar in the blood At first this may be evident only after food has been taken, but later it becomes permanent, so that blood removed in the morning before food has been taken also contains a high percentage of sugar Hyperglycaemia, as the condition is called, may be regarded as the initial symptom of diabetes In depancreatized dogs it soon becomes very marked, and it was by observing its variations that Banting and Best tested the effects of their extracts of partially degenerated pancreas, a decided lowering of blood sugar was found to occur When the hyperglycaemia reaches a certain level some of the sugar escapes by the urine and the symptom of glycosuria becomes established It was found that the extracts also diminished or removed this symptom—a result of great importance, since it indicated that the reduction of blood sugar could not depend on increased leakage of sugar through the kidneys, such as occurs in the form of experimental diabetes which is caused by phlorizin, but must depend on a change in the rate of production or utilization of sugar in the organism itself

In the earlier experiments it was not possible to measure accurately the relation between the intake of sugar with the food and the output by the urine, but this has recently been done by F N Allen with results which are of great interest, both from a scientific and a practical standpoint, and which I wish to lay before you in some detail

Depancreatized dogs fed on a constant diet of lean meat and cane sugar were kept alive by daily injections of insulin They put on weight, remained free from any of the general symptoms of diabetes except a certain degree of glycosuria and occasional hyperglycaemia, owing to the relatively large amount of carbohydrate which was contained in the food The particular problem of the investigation was the behaviour of the sugar balance when different doses of insulin were given, by which is meant the difference between the amount of glucose excreted and the total amount (derived both from preformed carbohydrates and from protein) ingested If we compare this balance during different periods in which the dose of insulin is made to vary we can determine the glucose equivalent of insulin—that is, the number of grams of this sugar which each unit of insulin is capable of causing to be metabolized in the animal It does not matter, for this purpose, what we take as the unit of insulin, so long as it is always the same, but for convenience we have chosen the so-called clinical unit, which is one-third of the amount which can lower the blood sugar of a rabbit to a certain level By way of example, let us suppose that with the total daily glucose intake at 145 grams and with 20 units of insulin the output is 35 grams (giving a utilization of 110 grams), and that with 30 units the output falls to 5 grams (giving a utilization of 140 grams), then the 10 units have caused 30 extra grams of glucose to be metabolized, and the glucose equivalent of a unit is 3 Allen has found that this value becomes progressively less as the dose of insulin is increased, as is shown in the following table

Dog I fed daily on 600 grams Lean Meat and 100 grams Sucrose

Insulin given daily (clinical units)	Glucose equivalents (on different days)
20	5·8, 5·8
24	4·1, 4·0
32	3·5, 3·5, 3·6, 3·3, 3·7 (4·1)
36	3·0, 3·1, 3·1
38	3·4
40	3·0, 3·3, 3·1, 3·0

Same Dog fed on 600 grams Lean Meat but with varying Amounts of Sucrose

	Sucrose given daily	Glucose equivalents
A	Insulin given daily 20 units	
	50 grams	3·5 3·9
	100 ,,	5·8, 5·8
	150 ,,	8·4 8·1, 6·9, 6·9
B	Insulin given daily 32 units	
	50 grams	2·4 2·6
	100 ,,	3·7, 4·1
	125 ,,	4·9 4·8
	150 ,,	4·5, 4·9

There are probably several reasons for the progressive decline in the glucose equivalents as the dosage of insulin is increased One of these no doubt is that when a relative excess of insulin is given some is either lost in the urine or destroyed This cannot be the only factor, however, as is shown in the second part of the table in which the glucose equivalents are given for different periods during each of which the amount of insulin is constant but the amounts of sugar given daily are increased This indicates that another factor comes into play and that the action of insulin in the control of glucose metabolism obeys the same laws as those which govern enzyme action These state that when the substrate is large in relationship to the enzyme the latter develops its maximal effect and the amount of substrate attacked is almost directly proportional to the amount (that is, the number of units) of enzyme, but when, on the other hand, the amount of substrate is small in relationship to the amount of enzyme, the increasing amount attacked by each added unit of the enzyme becomes progressively less and less, the reaction proceeding according to a logarithmic curve Dr Allen has found the equation for the curve of the glucose equivalents of insulin, and it is significant that it is of the same type as that found by Dr Murray Lyon for the pressor effect of adrenaline The value of knowing this relationship is partly that it furnishes us with a method for assaying the strength of insulin, and partly that it shows that it is useless to try to measure the glucose equivalent of insulin on hospital patients without taking into consideration the glucose balance Failure to do so is no doubt the cause for the varying results in this connexion which Wilder, Boothby, etc, and Woodyatt have obtained in the clinic The results also suggest that it may be of value to use small doses of insulin in clinical cases in which for one reason or another a full dose cannot be given If this should prove to be the case encouragement is given to see whether small amounts of insulin can be absorbed by other pathways of administration than that of subcutaneous injection

One other point of significance is that the equivalent is apparently not the same for glucose derived from protein and that derived from preformed carbohydrates Thus the lowest equivalent obtained in Allen's experiments is three, whereas that obtained under comparable conditions on patients receiving very little carbohydrate in their diet is seldom over two Wilder, Boothby, etc, on other evidence have also concluded that glucose from the two sources is not metabolized with equal facility A similar relationship between dose and effect no doubt obtains in the case of the lowering of blood sugar by insulin, but it has so far been impossible, in normal animals, to obtain sufficiently constant data from which to determine the curve The varying extent to which new sugar is produced to replace that which has disappeared and individual variability in the susceptibility of animals to insulin are the chief causes for this inconstancy

Effect of Insulin on Symptoms of Diabetes other than Hyperglycaemia and Glycosuria

Besides hyperglycaemia and glycosuria, there are various other objective symptoms of diabetes which can be accurately measured in depancreatized dogs and upon all of which insulin has a profound influence We will now review some of the results which illustrate this influence

It will be remembered that glycogen stands at the one end of the chain of metabolic processes of carbohydrates with the oxidation products CO_2 and H_2O at the other, and it is significant that in diabetes glycogen disappears from the liver and oxidation fails to occur Insulin is necessary for both the initial and the final stages of the process, as is evidenced by the fact that its administration to diabetic animals immediately restores both of them to normal The following table shows the effect of insulin on glycogen formation

Percentage of Glycogen in Depancreatized Dogs after Feeding with Sugar

	Liver	Heart
A Without insulin	0·047	0·85
,, ,,	0·31	—
,, ,,	1·30	0·93
B Following insulin	20·0+	—
,, ,,	12·85	0·73
,, ,,	11·40	0·57
,, ,,	4·8	0·30

It is of interest that the first analysis for glycogen in these insulin-treated animals, made by J B Collip, actually gave higher results than have ever been recorded even for normal well fed animals Evidence that the combustion process is also involved is afforded by studying the ratio between the volume of O_2 absorbed by the animal and that of CO_2 produced in the same time In a healthy animal fed on carbohydrates these approach equality, but in a diabetic one the volume of O_2 exceeds that of CO_2 in the ratio of 1 to about 0 67 The respiratory quotient, as it is called (R Q), serves therefore as an indicator as to whether combustion of carbohydrates is proceeding normally In a depancreatized dog in which the quotient stood at 0 67 and did not rise when large amounts of sugar were injected, insulin given along with the sugar caused it to rise to 0 89

Fat Metabolism in Diabetes

It is not only carbohydrate metabolism itself which goes out of order in diabetes, but also that of fats, and here again we have to deal with a long chain of chemical processes, starting with the large molecules of fatty acid, proceeding, by a gradual splitting off of methyl radicles, until a residue containing only four of them is left (butyric acid) and ending in an oxidation process in which β-oxybutyric acid, aceto-acetic acid (the ketone bodies), and finally CO_2 and H_2O are produced Preceding the first stage in this complicated process the fat is apparently transferred from the fat depots to the liver, where it is in some way prepared for the breakdown process, after which it is carried back to the tissues to be further dealt with In diabetes not only does the transference of fat become upset, but the final oxidation process, beyond the butyric acid stages, fails to proceed smoothly, with the consequence that fat accumulates in the liver and blood, and ketone bodies appear in the blood and urine, causing the serious symptoms of coma, so well known in this disease The following tables show the effect of insulin on both these stages in the metabolism of fats

Percentage of Fatty Acid in Depancreatized Dogs after Feeding with Sugar

	Liver	Blood
A Without insulin	12.25	—
"	14.10	1.2
"	9 9	1 12
B Following insulin	7 42	0.30
	2 19	0 53
	4 41	—

Daily Excretion of Sugar and Ketone Bodies in Depancreatized Dog

Day	Treatment	Sugar	Ketone Bodies
1	No insulin	29 7 gm	100 mg
2	No insulin	28 4	187 ,,
3	Insulin	4.25	0 ,
4	No insulin	10 00	0 ,,
5		9 60	0 ,
6		25.2	34 ,,
7		25 4	55 ,
8		18 0	114 ,,
9	Insulin	8 0	0

(J B Collip)

In interpreting the action of insulin on the metabolism of fats one must not lose sight of the probability that it is a secondary one through its effect on the carbohydrates At least in the final stages it is commonly believed that combustion of glucose is essential to the oxidation of fats "Fats burn in the fire of carbohydrates," and insulin, by stirring up this fire, allows the fats to be consumed

Besides these effects on what we may call the measurable symptoms of diabetes, insulin also greatly improves the general condition of the animal and prolongs its life Thus Banting and Best succeeded in keeping a depancreatized dog alive for seventy days, as compared with about fourteen, which is the usual survival period for treated animals In man the distressing subjective symptoms of the disease are also influenced in a most striking fashion Unfortunately the animal observed by Banting and Best was not allowed to live until it could be seen for how long life might be prolonged by the use of insulin This has more recently been done by Dr F N Allen in the case of the same animals as were used for measuring the glucose equivalents of insulin One of the animals has lived for over five months and two others for four months, when they succumbed to gastro-intestinal symptoms, related no doubt to the entire absence of the pancreas The cause of these symptoms is being investigated at present

Action of Insulin on Glycogenolysis

While these results with insulin on depancreatized animals show conclusively that the hormone affects all stages of carbohydrate metabolism, they do not indicate whether the action is primarily on the first or the last stages of the process It becomes of interest, therefore, to investigate the action of insulin on those forms of hyperglycaemia which are due entirely to an upset of the first stage—namely, the conversion of glycogen into sugar—and which may be classified as nervous, asphyxial, and pharmacological according to the means used to produce them Among the nervous forms of hyperglycaemia are Claude Bernard's famous piqure experiment, and stimulation of the sympathetic nerve supply of the liver, either electrically or by injecting adrenaline The asphyxial forms include mechanical asphyxia and poisoning with carbon monoxide, and the pharmacological, the effect of anaesthetics and certain narcotics, though here also an asphyxial element is probably included It is significant that insulin can entirely prevent the development of hyperglycaemia in all these forms Most attention has been paid to adrenaline hyperglycaemia, partly because it is possible in this case, by grading the dosage, to produce varying degrees of increase in blood sugar and so to assay insulin in terms of the amount of adrenaline which it can antidote, and partly because adrenaline and insulin are both hormones

The fact that insulin prevents hyperglycaemia in the experimental conditions does not in itself show that this hormone inhibits the glycogenolytic process, for, while this is proceeding at a supernormal rate, the excess of sugar which results may fail to raise the blood sugar, because of its removal, through the presence of insulin, as quickly as it is produced There are two observations which have a bearing on this problem When glucose is injected subcutaneously into a rabbit the curve of blood sugar rises rapidly to a certain height and remains elevated, depending on the amount injected When the injections are made following insulin the curve is greatly reduced, both in height and duration, the most marked effect being obtained when the sugar is given in a little over an hour after the insulin (G S Eadie) Evidently, therefore the insulin accelerates the rate at which the excess of glucose disappears On the other hand, there is evidence to indicate that insulin also retards the glycogenolytic process for, as F C Noble has shown, much more glycogen remains in the liver after repeated injections of adrenaline along with insulin than after injections of the same amounts of adrenaline alone This is shown in the following table

Retarding Influence of Insulin on the Glycogenolysis due to Adrenaline

(Percentage of glycogen in livers of fed rabbit eight hours after injection of adrenaline alone and of adrenaline *plus* insulin)

Experiment 1		*Experiment 3*	
After Adrenaline	After Adrenaline *plus* Insulin	After Adrenaline	After Adrenaline *plus* Insulin
1 40	8 12	2.30	3 34
1 96	6 40 C	1 10	10 60
	3 64 C	3 10	
Experiment 2		*Experiment 4*	
8.56	12.24	1 40	8 12
6 60	1 60 C	1 05	6 70 C
	5 60		3 60 C

glucose is given along with insulin, actually becomes reduced, for reasons which will be explained later on

Taking these observations on diabetic and hyperglycaemic animals as a whole it would appear that insulin is necessary for the conversion of glucose into some substance which is closely related to glycogen and the formation of which is also a necessary step in its preparation for final oxidation Winter and Smith have supposed that this substance is related to the highly active form of glucose (γ-glucose) recently identified by Irvine and his school, but the evidence which they offer is by no means convincing

Effect of Insulin on Normal Animals

Turning now to the effect of insulin on normal animals we may start with the observation, first made by J B Collip, that the blood sugar also becomes lowered, and, if the dose of insulin be sufficient, may almost disappear This hypoglycaemia persists for a period the length of which depends partly on the amount of insulin injected and partly on the nutritional condition of the animal If we compare curves of the blood sugar in different rabbits injected with varying quantities of insulin, it will be observed that during the half-hour or so following the injection the curves all descend at approximately the same rate and that it is difficult to make out any close relationship between the rate of fall and the dose Neither has the amount of glycogen in the liver of the injected animals any influence on the initial fall It is just as rapid in animals with over 10 per cent of glycogen in the liver as in those that have none at all After this initial stage, however, the curves vary considerably, those from animals with large stores of glycogen tending to recover the normal level much more rapidly than those from animals that are aglycogenic The influence of varying amounts of glycogen on the rate of recovery of blood sugar can be eliminated by using rabbits in which the stores of this material have been reduced to a minimum by starvation, and under these conditions the degree of hypoglycaemia can be used as a measure of the strength of the insulin injected, this forming the basis of the present method for its physiological assay Evidently the hypoglycaemic condition stimulates the mobilization of fresh glucose out of the glycogen stores, and it is significant, as Burn has shown, that this mobilization does not occur if the nerve supply of the liver be cut off, as by a paralysis of the nerve terminations by means of ergotamine This result has an important bearing in connexion with the general problem of the nature of control of the metabolism of the carbohydrates, for it shows that nerve reflex action is a factor which acts along with insulin I need scarcely point to the practical importance of these results in connexion with the administration of insulin in medical practice When it is given to diabetic patients for the first time the blood sugar may become lowered to a dangerous level because of the poverty of the stores of glycogen

Nervous Hyper-irritability

When the blood sugar has reached a level of about 0 045 per cent *symptoms of a peculiar nature supervene* These vary somewhat in different animals, but in general may be described as consisting of a state of nervous hyper-irritability *often accompanied by muscular tremors*, evidence of hunger, rapid breathing, stimulation of the salivary and sweat glands, and pupillary effects In many animals these more or less *premonitory symptoms are followed* by convulsions in which the animal may throw itself about in a violent fashion The convulsive seizures last for a few minutes and the animal then lies *in a collapsed state* with quickly falling body temperature and rapid shallow breathing until another convulsive seizure supervenes These two main symptoms repeat themselves alternately, *the coma* becoming more and more pronounced and the convulsions feebler until at last the animal dies of respiratory failure, the arterial blood being intensely dark in colour and the muscles instantly passing into rigor mortis We have no time here to discuss the underlying cause for the symptoms, but it is of great significance that they are instantly removed, even after they have been present for some time, by the injection of glucose The symptoms are evidently closely related to the disappearance of free glucose in the nerve cells, particularly those of the medulla and neighbouring portions of the pons No other sugar, not even laevulose, mannose, or galactose, which are so closely related to glucose, has anything like the antidoting power that glucose has Since the symptoms are liable to occur in fed animals when the blood sugar is about 0 045 per cent it has been convenient to choose this as the level to which one unit of insulin should lower it

The Cause of the Decrease of Sugar in Normal Animals

The question as to the cause of the decrease in the blood sugar in normal animals is proving a very difficult one to answer The rapid character of the initial fall in blood sugar might suggest that it is dependent on some process occurring in the blood itself—to increased glycolysis—but that this is not the case has been shown by studying the rate at which the sugar disappears from blood during its incubation under sterile conditions outside the body The addition of insulin to the blood does not influence the rate of glycolysis, neither is this different in normal blood and in that removed from animals injected with insulin at varying periods before bleeding Evidently the sugar disappears from the blood by passing into the tissues, a conclusion which is confirmed by observations on the rate of disappearance of glucose from saline solutions perfused through the mammalian heart Insulin must, therefore, cause a lowering of the concentration of sugar in the tissues, a sort of vacuum for sugar, so that sugar is removed from the blood to make good this loss Why, then, does sugar disappear in the tissues? In diabetic animals it is quite clear, as we have seen, that the sugar disappears partly because it is converted into glycogen and partly because it is oxidized to CO_2 and H_2O, and it might be supposed that the same processes would be responsible for its disappearance in normal animals as well But recent investigations by McCormick, O'Brien, Noble, etc, show conclusively that increased glycogen formation does not occur, either in the normal rabbit or in the perfused liver of the turtle, when insulin is given The possibility that increased oxidation of glucose is responsible has been investigated by observing the respiratory quotient and the energy balance The results have so far been somewhat contradictory in character, but taking them as a whole, I think there is no doubt that the respiratory quotient becomes raised soon after insulin is given, indicating probably a relative increase in the oxidation of carbohydrates This rise is neither sufficiently marked nor sufficiently sustained, however, to make it clear that increased combustion *is the only cause for the disappearance* of the sugar from the blood, especially when it is remembered that we must account not only for the sugar originally present *but also for that derived from the glycogen*, which, as Dudley, Trevan, etc, have shown, is broken down when insulin is given to well fed animals It seems justifiable to conclude that *insulin acts mainly by converting glucose* into some substance which is a preliminary stage in its conversion into both glycogen and the breakdown products which are ultimately oxidized Attempts to detect the presence of this substance in the tissues of animals injected with insulin (and sugar) have, so far, failed, probably because it has *no* reducing properties, upon which estimation of sugar itself depends, and because it is destroyed by the strong alkali which is used for the isolation of glycogen That such intermediary substances of carbohydrate metabolism may exist has been suspected for long, because of the impossibility, after injecting large amounts of sugar into animals, of accounting for more than between one-half and three-fourths of the injected sugar in the entire animal, taking into account glycogen and free sugar It is possible that this intermediary substance may be some complex containing phosphoric acid, since the free phosphates of the blood have been shown by Winter and Smith to become reduced in amount after injection of insulin Whether or not such a substance is formed, there is evidence that the metabolism of protein becomes diminished by insulin, both in normal and diabetic animals (F N Allen), which would seem to indicate a protein-sparing action due to an increased metabolism of carbohydrates

THE SEAT OF PRODUCTION OF INSULIN IN THE PANCREAS

Finally, allow me to say a few words with regard to the seat of production of insulin in the pancreas As the name implies, this is believed to be the cells of the islets of Langerhans, but, until the work to which I shall refer was completed, no direct evidence existed for the belief The anatomists, particularly Laguesse, Diamare, and F R Bensley, have shown that the islets are structures composed of epithelial cells containing granules which are differentiated from those present in the acini by peculiar staining reactions Lane, working with Bensley, has described two kinds of cells, one in which the granules are soluble in alcohol (beta cells) and another in which they are insoluble in alcohol (gamma cells), the two kinds also staining differently with neutral gentian violet Islets cannot be differentiated from exhausted acini with certainty unless the cells give these characteristic microchemical reactions

In diabetes in man the beta cells are frequently found to be destroyed or to be the seat of hydropic degeneration, but it is seldom that the pancreas can be obtained soon enough after death to permit of satisfactory differential staining Often, however, the destruction is so extreme in degree that a large number of the islets are found to have disappeared entirely These observations indicate the importance of having some method by which the number of islets can be counted, and, since this cannot be done with any degree of accuracy in ordinary sections, Bensley has introduced so-called *intra vitam* methods in which dye-stuffs (Janus green or neutral red) are injected into the aorta of the animal immediately after death The islets then stain differently from the remainder of the pancreas, and can be actually counted in weighed small pieces of pancreas pressed out under a cover-slip The counts show not only that there is considerably more islet tissue than had hitherto been supposed to be the case, but also that the amount is fairly constant in such conditions as after starvation and after exhaustion of the secretory acini, which had been thought, by previous workers, to cause it to increase

The majority of observers agree that the islets are structures that are independent of the acini, although Laguesse still maintains that, under certain conditions, they may be derived from this source There is almost incontrovertible evidence, however, that this is not the case, but that they are derived from the duct epithelium, being directly connected with this in many of the lower vertebrates, such as the cartilaginous fishes (skate, dogfish) and indirectly in the mammalia, by fine epithelial tubules Thanks again to Bensley, methods of *intra vitam* staining have been discovered by which these connecting tubules can be very clearly demonstrated, a fact of great importance in connexion with the question as to a possible regeneration of islet tissue after its destruction by disease, or by ligation of the secretory ducts of the pancreas

The Islets in the Lower Vertebrates

These facts make it of practical importance to study the relation of the islets in the pancreas of the lower vertebrates As has already been pointed out the islets in the cartilaginous fishes are closely attached to the ducts, but a still more interesting fact is that in certain of the bony fishes (the angler fish, the sculpin, the flounder, halibut, the cod, and pollock) the islets actually exist distinct and apart from the acinar tissue, being no doubt connected with outgrowths from the ducts, although these connexions are difficult to see The exact position of the islets in these fishes has been very carefully described by Rennie, following the work particularly of Diamare, and Dr Slater Jackson of McGill University has recently informed me that he has succeeded in differentiating the alpha and beta cells in the islets In the angler fish, for example, a very large islet, called the principal islet, exists in the mesentery lying between the spleen and gall bladder, and there is relatively very little acinar tissue associated with it Time will not permit me to go into these anatomical details any further here, but sufficient has been said to indicate the important bearing which a knowledge of them has on the question under discussion—namely, the source of insulin Does it come from the islets or from the acinar tissue? By studying the effects of extracts prepared separately from islets and acinar tissue, it has been found that extremely potent insulin is present in the former, but not a trace in the latter Indeed, an extract of acinar tissue free from islets, instead of causing the blood sugar to become lowered, actually causes it to be raised There can be no doubt, therefore, that the islets are the only source of insulin in the vertebrate pancreas

Quite apart from the theoretical interest of these results they raise the practical question as to whether fish may not prove to be a fruitful source for insulin During the present summer my two collaborators, N A McCormick and E C Noble, have been engaged at the Atlantic Laboratory of the Biological Board of Canada at St Andrews New Brunswick, in investigating this possibility, with results which are decidedly encouraging They have found, for example, that the principal islets of the cod are very readily accessible and can be easily recognized and removed by fishermen They made arrangements for the collection of large quantities of these islets on the trawlers at Halifax, and have been able, by a very simple method of extraction, to prepare insulin of a degree of purity suitable for clinical use The best yields have been from cod and halibut, which, since they are fish caught in large numbers, should therefore prove to be a profitable source of supply in this country The yield of insulin per gram of islet tissue taken from the cod is about 25 units, or, stated in terms of the weight of the entire fish, about 1 unit per 5 lb of fish, in another report they give 1 unit per 4 lb of fish This work is not yet completed, and McCormick and Noble are endeavouring, with the aid of the Biological Board of Canada and the National Fish Co, to work out the details of large scale production from these sources In places where it is difficult to obtain slaughter-house material, it is possible that it would be economical to prepare insulin from fish

The Islet and Acinar Tissue after Ligation of Ducts

And finally, in light of the great interest which attaches to the original experiments of Banting and Best, by which they succeeded in demonstrating the presence of insulin in the duct-ligated pancreas, let us see, by using Bensley's *intra vitam* methods of staining, how the islet and acinar tissue respectively behave when the ducts are tied It has been found that both types of tissue degenerate shortly after the operation, the acinar more rapidly and more profoundly than the insular Both tissues then become regenerated, to degenerate again at a later period, and these processes of degeneration and regeneration go on for many months regeneration of the islets becoming gradually more and more prominent, until finally nothing is left of the pancreas but fatty tissue with regenerated islets embedded in it During all this time the animal remains free from the symptoms of diabetes Of great significance is the fact that whereas the islets in the normal gland are scattered in the acinar tissue with no evident duct connexions visible in ordinary sections of the gland, they become definitely grouped around and attached to the main ducts in the regenerated tissue reverting therefore to a primitive type, such as is seen in the pancreas of the skate The remarkable regenerative power of the islet tissue from duct epithelium, which these observations demonstrate, makes it seem probable that a similar regeneration will occur in the pancreas in diabetes in man The aim of treatment in this disease should therefore be directed to resting the islets so that their regeneration may occur, and this can be accomplished by relieving them of the strain of producing insulin either by greatly cutting down the carbohydrates of the food or by administration of extracts containing this hormone Since it is probable that the condition which acts as stimulus to the production of insulin by the islets is the level of the blood sugar the aim in diabetic therapy should be to keep this within the normal limits.

A British Medical Association Lecture

ON

DIABETES MELLITUS AND ITS TREATMENT BY INSULIN.

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BY

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It had been suggested to me by your secretary that my remarks this afternoon should be as practical as possible, and that they should therefore include a description of the method of performing blood sugar estimations. With the former part of the request I readily concur, and shall endeavour to steer clear of any unnecessary theoretical considerations; but that the latter part is a natural corollary for men engaged in busy practice is open to doubt. Let it be clearly recognized at the beginning that insulin has not come as an easy means of relieving the practitioner of the dietetic care of his diabetic patients. It is certainly a valuable addition to his pharmacopoeial armamentaria, but it brings with it its own claims on his attention, and it has revived an interest in the dietetic principles which are the basis of the intelligent treatment of this disease.

The generally accepted view is that in the great majority of ordinary typical cases diabetes is due to a disorder of the function of the islets of Langerhans in the pancreas, with deficiency of their internal secretion, a substance which has been called insulin. The cause of this disordered function may be found in some infection in the pancreas, or in simple atrophy, or in an alteration in the balance which normally exists between the different ductless glands. It may develop as a result of fatigue of the islets from too great a load being put on their function by over-ingestion of sugars. In some cases there may be inherent weakness in the gland, which only awaits some other factor to determine a true diabetes. Be that as it may, we have in many cases to deal with a disease which owes its origin to a lesion that is not infrequently progressive in character—a lesion for which there is at present no known means of cure in the real sense of the word, though there may be arrest or delay. Insulin is not a cure of the lesion any more than digitalis is a cure for the myocardial degeneration which makes possible a tiring heart with auricular fibrillation. But just as digitalis may so relieve the heart in such a condition as to afford a respite of perhaps some years, so insulin may, if suitably employed, relieve the pancreas from fatigue and prolong life—and we hope that it may, in cases of functional derangement of the islets, so protect the overloaded organ for such time that it may regain some at least of its lost powers.

Carbohydrate Metabolism: The Renal Threshold

Let us refresh our memories by reviewing some of the aspects of carbohydrate metabolism which are cognate to our subject. The pancreas has the power, by means of the secretion which it pours into the intestine by the pancreatic duct, of dealing with the digestion of carbohydrates, proteins, and fats. This secretion is not at fault in diabetes. The carbohydrates, whether starches or sugars, appear in the blood as glucose. It is of interest for us in the West of Scotland to remember that the first to point out that sugar was a normal constituent of the body and was present in the blood was Dr. Robert MacGregor of Glasgow, who in 1837 presented a thesis on this subject to the Faculty of Physicians and Surgeons. Some of the sugar remains in the blood, giving the blood a concentration of from 0·1 to 0·18 per cent. of glucose. The rest is stored as glycogen in the liver, muscles, and other parts. The combustion of sugar takes place in great part in the muscles, and the glycogen storage depots are called on to supply their needs. During combustion glucose is broken up and excreted as water and carbon dioxide. What is not required may be deposited as fat. It ought to be noted that normal kidneys are impervious to sugar in the blood which is in a concentration less than 0·18 per cent. This figure is known as the normal renal threshold. If for any reason sugar in the blood rises above that figure sugar appears in the urine. Another point should be noted. Fats when consumed in the body are also broken down into water and carbon dioxide, but this only takes place completely if some carbohydrate is being consumed at the same time. If no carbohydrate, or an insufficient amount, is being consumed, then combustion of fats is not complete, and certain products of the fatty acids circulate in the blood and give rise to symptoms with which we shall have to deal later.

It would appear that the internal secretion of the pancreas—that is, the insulin—has to do with the storage of glycogen, with the combustion of sugar in the muscles, and, either directly or indirectly, with the storage of fats. In diabetes this function is inefficient. The glycogenic dépots in the liver are found to be depleted of glycogen, combustion of sugars is interfered with, storage of fats is defective, and the combustion of fats without sufficient carbohydrate leads to an accumulation of the products of fatty acids in the blood and the presence of acetone and aceto-acetic acid. Further, in the metabolism of protein carbohydrate may be split off to the extent of as much as 58 per cent., so that in a sense there is overproduction of sugar. From all these causes sugar accumulates in the blood, and as the concentration is much above the normal renal threshold of 0·18 per cent. sugar passes into the urine. This is but a very imperfect sketch of the metabolism of carbohydrate in health and in diabetes, but it may serve as a working basis for discussing treatment. You will observe that the sugar in the urine in diabetes is due to excess of sugar in the blood—there is hyperglycaemia. Glycosuria, as we shall see when discussing blood sugar estimations, is not always associated with hyperglycaemia.

Allen's Dietetic Treatment

Much of the modern conception of diabetes and its treatment dates from the time when Dr. F. M. Allen of Boston published, in 1914, his conclusions based on his experiments on depancreatized dogs. One or two of the facts brought out by him have a bearing on our subject, and may be referred to with profit. Removal of the greater part of the pancreas of dogs, leaving only one-tenth, causes severe diabetes and ultimately death. If a larger portion is left—say one-eighth—then the dog has diminished tolerance for carbohydrate but can subsist on a meat diet. If to this dog bread is given glycosuria appears, and if this is continued for any length of time, then on returning to a meat diet it is found that the dog now has glycosuria without any added bread. That is to say, feeding a dog on carbohydrate when it has a diminished tolerance diminishes that tolerance still further, and diabetes results. This has a definite relation to clinical cases of the disease, in so far that if too much carbohydrate is given the tolerance is reduced and the condition of the patient becomes worse. Conversely—and this was also found in dogs—by starving the patient for a time and resting the pancreas the tolerance for starchy foods is increased. He also found that the more starch you give to a normal person the more is used, while the more starchy food you give to a patient with diabetes the less is utilized.

Allen's aim was to obtain for the patient a diet which would not tax the tolerance for carbohydrate, and at the same time would be sufficient for the needs of the body. This, as we shall see, is not always possible in the more severe types of case without the production of undesirable symptoms. His method was to starve the patient in the first place in order to rest the pancreas and get the urine sugar-free, and then to give carbohydrate in the form of green vegetables and estimate the tolerance by gradually increasing the amount till sugar appeared in the urine, one starvation or partial starvation day being observed each week. Protein was given up to about the minimum

body requirements, and the remainder of the required energy or calorie value was supplied in the form of fats

It will thus be seen that certain basal factors must be known before a diet can be properly prescribed The food values in this connexion are stated in calories, the calorie being the amount of energy as heat required to raise 1 kilogram of water 1° C, or 1 lb of water 4° F A person at rest requires about 11 to 14 calories for each pound of body weight Thus a man weighing 10 st or 140 lb requires from 1,500 to 2,000 calories a day If doing light work he would require from 2,200 to 2,500 calories, 1 gram of protein or carbohydrate supplies 4 calories, and 1 gram of fat 9 calories Diets in health vary in different grades of society and according to the amount of work to be done or the ability to pay for the best proportion A common European diet consists of about 400 to 500 grams of carbohydrate, 120 grams of protein, and 100 grams of fat Diabetics cannot, of course, take anything like this amount of carbohydrate their tolerance usually being between 100 and 0 With them the first thing to do is to estimate the amount of protein required, as this cannot be obtained from other foods Less than half a gram per pound of body weight is sufficient, or 65 grams for a 10-st man The carbohydrate is given up to just a little less than the patient's tolerance, and the balance of the calories is obtained from fats If his tolerance for carbohydrate is between 50 and 100 grams there will be little difficulty in giving an efficient diet, though he may grumble at the relative want of starchy food If the tolerance is low—say 10 to 20 grams—then it will be more difficult to give a sufficiency of fats to make up the calorie value without at the same time causing a production of acid bodies in blood and urine Attempts have been made to fix in figures the proportion between the fat allowed and the available carbohydrate which is consumed in the body, the available carbohydrate being the actual carbohydrate *plus* about half the protein A good working ratio is 2 to 1—that is, twice as much fat as the total available carbohydrate which is being used, not the carbohydrate that the patient happens to be getting The amount of fat that may be used without the production of acid bodies is sometimes more than this A patient with a tolerance of 20 grams of carbohydrate and a weight of 10 st, doing very light work and thus requiring 2,200 calories, would get 65 grams of protein, and this, with 20 grams of starch, would supply 340 calories, leaving 1,860 to be obtained from fat This means 207 grams of fat, which is much more than twice the starch and half the protein, and he would be very liable to have some acidosis If, on the other hand, the fats were reduced he would lose flesh and strength It is in such a case of diabetes that insulin proves of great value, in that it can do for the carbohydrates what the patient cannot do himself When the patient has a tolerance of from 50 to 100 grams the need for insulin is not so great

TREATMENT BY INSULIN

Insulin is obtained chiefly from the pancreas of the sheep or pig, and is sold as a watery solution of a more or less standard potency Each unit of insulin is supposed to be able to deal with from 1 to 4 grams of carbohydrate, 2 being taken as an average By its action it diminishes the amount of sugar in the blood, assists the storage of glycogen in the liver, and removes the glycosuria It permits of the utilization of more carbohydrate, and thus fats are more completely metabolized, so that acid bodies disappear from the blood and urine, while weight is increased and the patient experiences a greater sense of well being This power of lowering the blood sugar constitutes its one real danger if not properly controlled Should the blood sugar fall to a very low level or fall very rapidly certain symptoms arise which may be fraught with danger to life—the symptoms of hypoglycaemia There is therefore a definite danger in the use of insulin, and this danger necessitates a careful diagnosis and sometimes an estimation of the blood sugar

All cases of glycosuria are not cases of diabetes mellitus This fact will be better understood if we follow the changes that take place in the blood sugar after the ingestion of a quantity of glucose In an average healthy person, after a night's rest and without food, the blood sugar may be about 0 1 per cent, if 50 grams of glucose in water are then given it may rise in half an hour to 0 14, in another half-hour to 0 15 or 0 16 but never above 0 18 per cent, the normal renal threshold In another half-hour it may have fallen to 0 12 or less That is to say, the blood sugar rises within one hour after glucose to a maximum level which is less than the normal renal threshold and is usually back to its previous level within one and a half to two hours No sugar is passed in the urine during this time In diabetes the curve is different

In a woman aged 42 a moderate case with glycosuria of two years duration but easily cleared by suitable diet a single test two hours after a meal with 20 grams of starch gave a reading of only 0 116—that is within normal limits—and there was no sugar in the urine The result being inconclusive a glucose test was made The fasting blood sugar was 0 101 and after 50 grams of glucose it rose in successive half hours to 0 146 0.32, 0 251 and at the end of two hours was still 0 246 Sugar in the urine registered 2.3 per cent

Compared with the normal the percentage of sugar is much higher, the fall is much slower, and being above the renal threshold sugar is present in the urine Though the actual level varies, these features are common to all cases of true diabetes If a single test after a carbohydrate meal gives a reading above 0 18 and sugar is present in the urine it is usually indicative of true diabetes

Another type of glycosuria demands attention In it the blood sugar is within normal limits but sugar is present in the urine These are cases with a low renal threshold, and the term "renal glycosuria" has been applied to them, while the name "symptomless glycosuria" suggested by Patrick indicates their main characteristic

A man aged 38, was sent to me because sugar was found in his urine at a life insurance examination and the result of treatment had been unsatisfactory He had no symptoms except that he felt listless and was losing flesh when being treated It soon became evident that he was not a case of the ordinary type and he was sent into the Western Infirmary for investigation Three single estimations gave the following results blood sugar 0 05 per cent no sugar in urine blood sugar 0 84 per cent, trace of sugar in urine on ordinary ward diet without added sugar blood sugar 0 114 per cent, urinary sugar 8 per cent His chart showed the result after 25 grams of glucose With a fasting level of 0 062, it rose to 0 088 in half an hour and then fell to 0 072 and was 0 053 one and a half hours after the glucose There was a trace of sugar in the urine This case differs from diabetes in that the blood sugar was not above normal the fall was rapid but sugar was present in the urine On ordinary diet without added sugar he gained the weight he had lost and is now, three years later feeling quite well though sugar is still present in the urine (I am indebted to Dr Adam Patrick for the blood sugar estimations)

To give a patient of this class insulin might easily lower the blood sugar to a dangerous level, and this condition must be excluded on clinical or chemical grounds before insulin is administered Symptoms are absent whereas cases of diabetes which require insulin have definite symptoms

There remains one other class to which I wish to allude, an example recently came under my care

A man aged 33 knew of the presence of glycosuria for six years it having been discovered during a routine examination Recently he had some weakness in his legs and he had lost 1 st in weight but as he was still 22½ st neither of these symptoms seemed to be of serious moment He had to rise twice at night to pass urine It had been frequently free from sugar as a result of dieting but at other times acetone was present In view of his great weight a lesion of the pituitary suggested itself and in any case a blood sugar curve was indicated A single estimation by Dr Douglas Stevenson two hours after a meal containing 20 grams of starch gave a reading of 0.165 per cent and sugar was present After 50 grams of glucose it rose from a fasting level of 0 112 in succession to 0.212 0.350 and then fell rapidly to 0 150 and half hours to 0 100 per cent About 5 per cent of sugar was present in the urine

This contrasts with true diabetes in that the fall to normal was unusually rapid, and it contrasts with the normal in that it went far above the normal threshold The explanation may be in doubt, but some have ascribed these cases to defective or delayed storage of sugar The patient is still under observation and is being tried with small doses of insulin before a meal with 35 grams of carbohydrate

Insulin in Diabetes

We now turn our attention more directly to insulin in the treatment of diabetes The question whether the case is one of true diabetes mellitus must first be determined

In many patients with symptoms of weakness, loss of flesh, thirst, polyuria, and glycosuria the diagnosis is not really in doubt and blood sugar estimations are not necessary to confirm the diagnosis In other cases when there are few or no symptoms a blood sugar test will distinguish between renal glycosuria and a case of mild diabetes An isolated test after a meal may supply the information if there is sugar in the urine and the blood sugar is above the renal threshold If it is below 0 18 it does not, however, follow that it is not diabetes as the blood may have passed its maximum at the time of the test A curve after glucose would then be necessary

Granted that the diagnosis is confirmed, in what cases should insulin be given? Briefly, the more severe the disease, the more necessary is the treatment and the safer is its administration Thus in cases of coma it should be given as soon as the diagnosis is made It used to be advised that sugar should be given after the injection, but Maclean says this is inadvisable Twenty units should be given and repeated at intervals of two or three hours till a result is obtained The response may be very striking

One patient in an isolated village over 120 miles by road from Glasgow, to whom I was called in August last, had developed premonitory symptoms such as sickness, diarrhoea, and abdominal pain, the previous afternoon, and by late evening had air hunger with increasing drowsiness When seen at noon the following day she was incoherent in speech when roused, air hunger was pronounced, and acetone was present in the urine, which was scanty and did not contain very much sugar Twenty units of insulin were injected, followed in half an hour by 15 grams of sugar which were swallowed with difficulty An hour later she was clearer in her mind and the air hunger was less A second dose was given two hours after the first, and within an hour the air hunger had practically disappeared and she was quite clear mentally She was brought to Glasgow by car the same day and had 100 units of insulin within twenty four hours The blood sugar next day was 0 47 per cent, and her tolerance about 10 grams of starch She has returned to her duties as a teacher, is taking 30 units of insulin a day, and has gained 1½ st in weight Her tolerance was not improved and she is passing at present more sugar than can be accounted for by her diet and insulin Without insulin she would have been dead three months ago

The ideal in the treatment of diabetes is to keep the blood sugar low, the urine free from sugar, and to give a diet at once palatable and sufficient for the patient's needs This can be done under ideal conditions by careful dieting, the administration of insulin, and frequent blood sugar estimations Ordinary general practice does not fulfil all these requirements A blood sugar test takes half an hour if the reagents are ready and requires practice if reliable results are to be obtained A blood sugar curve after glucose takes from two to two and a half hours By care, however, a middle course is possible between the ideal and not using insulin at all Speaking generally, two plans are available The patient's tolerance may be estimated by the Allen method—that is, by preliminary starvation till the urine is sugar free, and then carbohydrate, protein, and fat are gradually increased till a minimum calorie value is obtained or till sugar or acetone appears in the urine It must be remembered that acetone is more grave than sugar and that fats will produce acetone if insufficient carbohydrate is being burnt *The protein will be limited* to about 1/2 gram per lb of body weight, while the fat may be about twice the amount of the combined weight of carbohydrate and half the protein The difficulty in getting a patient with a low tolerance on to a sufficient diet has been already indicated, and it is in such circumstances that insulin is of value It will be desirable to begin by giving 5 units of insulin before the morning meal, to which 10 grams of starchy food have been added If sugar appears in the urine the insulin should be increased a little and then the diet and the insulin should be increased in this manner till the diet is sufficient or the patient is satisfied The increase of the carbohydrate will, of course, allow of an increase of the fat ration It is recommended that the insulin be given before the morning and midday meals rather than in the evening Should symptoms of hypoglycaemia arise they are not likely to be severe if the treatment is carried out in this progressive manner, and they can readily be overcome by letting the patient have some sugar with tea, or by giving a sweet

The other plan, which is gaining more favour recently, is to dispense with the period of starvation and to give the patient a limited diet from the beginning Protein is given well within the 1/2 gram per lb of body weight, about 20 grams of starch are added and fat, in the proportion of about one and one-half of the available carbohydrate On this diet sugar disappears from the urine in some cases, and the diet is increased gradually If sugar *persists then insulin is given in small doses till the urine* becomes just sugar-free Starch and insulin can then be increased gradually as before with addition of fat till a sufficient diet is obtained

In either of these two methods safety is ensured by the presence of a trace of sugar in the urine at times On the other hand there is no guarantee that the blood sugar is satisfactory, because some diabetics seem to develop a high threshold as time goes on If the blood sugar is thus kept at a high level it is doubtful whether the pancreas is likely to improve It will not be relieved of its load to the same extent as when the level is low The practitioner, in the absence of blood tests, is thus between two options either he may play for safety and keep an occasional trace of sugar in the urine, or he may keep the urine sugar-free and take the risk of hypoglycaemia If a preparation could be produced that might be taken by the mouth without *losing its potency so that it would be absorbed more slowly* and its action last longer, some of the dangers that attend its hypodermic administration would at least be lessened

Insulin has also proved to be of value in tiding the diabetic over the risk of an operation necessitating a general anaesthetic Giving the patient insulin followed by carbohydrate has made safe what had previously been regarded with dread It is possible that some of the symptoms ascribed to late chloroform poisoning in non-diabetics could be averted by giving the patients sugar before operation as a protection to the liver

Symptoms of Hypoglycaemia

A word may be said about the symptoms and treatment of hypoglycaemia There is no level of blood sugar below which there are always symptoms and above which there is always safety Patients have had symptoms when the blood sugar was 0 9 per cent, while others have had readings of 0 5 or even less without them It would appear that in part symptoms are dependent on the rate of fall of the blood sugar to the low level These symptoms may include sweating and flushing, sometimes pallor, a sense of apprehension, a tremulous feeling, hunger, a sense of fatigue, a feeling of constriction about the neck, restlessness, incoherent speech, delirium, and even coma The milder symptoms can be quickly relieved by giving the patient some sugar in tea or allowing him some sweets If patients are treating themselves they should be warned of the symptoms and instructed as to their treatment *If the patient* is unable to swallow, a hypodermic injection of adrenaline will release glycogen from the liver to the blood Should that fail, 50 to 100 c.cm of a 20 per cent sterilized glucose solution should be injected into a vein, the symptoms will then rapidly subside

Estimation of Blood Sugar

It may be expected that I should make some reference to the test for blood sugar From certain advertisements of houses wishing to dispose of apparatus it might be inferred that all that is necessary is to pay the cash, accept the apparatus and reagents, and forthwith proceed to test a patient's blood There is probably no inherent difficulty in the test that could not be overcome by a medical man who felt inclined to undertake it, but it requires time, measurements must be made with great accuracy, and the reaction has to be controlled every few days as the standard alters with time Maclean's method is that in most frequent use, and it has the advantage that only 0 2 c.cm of blood is required, and this can be obtained from the finger Much practice is required before the results can be relied on, and I must leave it to others to decide whether it is a test that is likely to be a favourite with a practitioner unless he has a leaning toward laboratory methods Personally, I do not undertake the test either in hospital or for private

patients, but invariably hand it to someone who is doing it frequently

A blood sugar test may be necessary in some of the cases, in others it will be advisable Some may decide to carry on without having the test done It seems to me that it would be worth while for one of the younger or less busy practitioners in each of the two larger towns of the division to make himself efficient in it, preferably by first doing it under the supervision of some expert, and then his knowledge might, by arrangement, be made available for his fellow practitioners

There is no quick and easy way for the treatment of diabetes Unless some of the fundamental conceptions of the disease are appreciated it is impossible to treat it rationally Insulin has come as a great aid, but it has not replaced the need for that close attention to diet which has been the foundation of any success that has attended treatment in the past Added to dietetic treatment insulin has improved the outlook for the diabetic patient It will give him a sense of well being which he did not obtain under the older methods, it will make his diet more palatable, it will increase his physical efficiency, it may avert coma, and it will prolong life, but it is not devoid of danger, and it is not a cure for diabetes mellitus

DIABETES AND INSULIN *

BY

J A NIXON, C M G , M D , F R C P ,

PHYSICIAN BRISTOL ROYAL INFIRMARY

THE Provincial Board of Health, Ontario, has made arrangements to supply insulin free to physicians for patients in Ontario who are unable to pay for the drug themselves, and has issued a pamphlet which contains many valuable instructions The following points of importance are worth noting

1 The majority of patients suffering from diabetes do not require insulin and can better be treated by dietetic measures alone

2 In order to decide whether insulin is necessary the patient should wherever possible be placed in hospital for three weeks to determine the severity of the disease

3 The following work should be done in hospital

(*a*) Estimation of the quantity of urine passed in twenty four hours

(*b*) Examination of urine and quantitative determination of sugar in urine

(*c*) Blood sugar determinations

The patient should then be placed on a weighed maintenance diet calculated from his basal metabolic rate and examinations repeated daily to determine the power of carbohydrate utilization Then if insulin be required the amount and time of the dosage should be scientifically worked out

While in hospital the patient should be taught

(*a*) How to weigh and prepare his diet

(*b*) How to examine his urine

(*c*) The symptoms and danger signals of his disease

(*d*) How to administer insulin to himself

(*e*) The symptoms and treatment of overdose of insulin

It is pointed out further that insulin is not a cure for diabetes It is not a substitute for dietetic treatment indeed dietetic treatment in cases requiring insulin must be more rigidly more carefully enforced than in most cases requiring dietetic treatment only

Method of Use

The one danger to be avoided in the administration of insulin is the production of hypoglycaemia—the lowering of the blood sugar level below the normal (100 mg per 100 c cm) It must never be given to any patient until it has been ascertained that there is an actual excess of sugar in the blood Glycosuria does not in every instance mean that a person has diabetes In the condition known as "renal glycosuria" the kidneys become abnormally pervious to sugar, so that glycosuria occurs although the blood contains less than the normal amount of sugar

The first step in investigating a case of glycosuria, therefore, is to determine the amount of sugar in the blood If the blood sugar (collected four hours or more after a meal) on an ordinary diet amounts to 200 mg per 100 c cm , the procedure I adopt is as follows

Macleod's Trial Diet [1]

The patient is placed on a trial diet consisting of two parts A, containing no carbohydrates, and B, an all starchy part A consists of eggs, fish, green vegetables, and fat, B of 100 grams of white bread, distributed between breakfast and dinner This diet is continued until the glycosuria disappears or reaches a constant level If it disappears the case is to be classified as mild, provided the blood sugar level is below 200 mg The daily amount of bread may then be increased by 50 grams a day until sugar reappears, then three fourths of the limit reached should be taken A patient who can tolerate 100 grams of white bread (or 50 grams of glucose) does not need insulin, provided that the blood sugar is within normal limits when the glycosuria disappears If 100 grams of bread cannot be tolerated the allowance must be brought down to 50 grams (or 25 grams of glucose) and if after three days the urine is not sugar free (with normal blood sugar) the case is classified as severe and insulin may be given

INSULIN TREATMENT

The patient is placed on a "basal requirement diet" or the minimum diet adequate for the individual under treatment Banting gives this as being 3/4 gram of protein per kilogram of body weight and a total of calories calculated according to the patient's height, weight, and basal metabolism A rough estimate allows from 30 to 35 calories per kilogram of body weight

In practice Woodyatt's [2] diet forms an excellent working basis it contains 50 grams of protein and has a total value of 1 679 calories It is adequate for a person weighing 140 lb or 10 st Growing children need relatively more protein than adults Carbohydrate in the proportion of 1 gram of carbohydrate for every 1 5 grams of fat is required to enable the fat to be "burnt up" If fat is in excess in the diet ketosis occurs Woodyatt has evolved a simple formula for regulating proportions in the diet

> *Fat should equal the sum of twice the carbohydrate plus half the protein* (F = 2 C + 0 5 P)

This formula takes into consideration a fact not always borne in mind—that protein contains a large amount of potential glucose The total potential glucose in a diet equals all the carbohydrate *plus* half the protein and one-tenth of the fat (G = C + 0 58 P + 0 1 F)

Reckoning according to these formulae, Woodyatt's basal requirement diet of 1,679 calories may be made up of fat 139 grams, carbohydrate 57 grams, protein 50 grams Since each gram of fat yields 9 calories and each gram of carbohydrate and of protein 4 calories in order to calculate the number of calories in this diet we proceed as follows

Fat		139 × 9 = 1251
Carbohydrate		57 × 4 = 228
Protein		50 × 4 = 200
	Total	1679

These figures are easily remembered and from them any total number of calories can be reckoned for a smaller or larger diet In order to reduce or increase the diet we may subtract or add gram by gram from the fat, protein and carbohydrate until the necessary total of calories is reached In ordering the weights we can convert grams to ounces by allowing 30 grams to 1 ounce

The basal diet having been settled it is never reduced Insulin is given in sufficient quantity to enable the patient to utilize the diet It is advisable to administer the insulin in two doses a day as its effect is short lasting one dose in the morning and another in the evening from the best plan I commence with a dose of 5 units of insulin It must be administered by hypodermic injection It is useless if it is given before a meal containing carbohydrate — It should be given before the meal—breakfast or tea — Banting advises one hour before the meal—because the carbohydrate in the food may stimulate the action of the

* The substance of a paper read before the Bath and Bristol Branch of the British Medical Association.

pancreas before the insulin has had time to exert its full effect If the dose of insulin is too great, symptoms of hypoglycæmia may develop, these are faintness, sweating, tremor, short shallow respirations, accompanied occasionally by nervousness, anxiety, emotional and mental disturbances, and disorders of speech, with, finally, delirium and coma The antidote for these symptoms should always be at hand on beginning insulin treatment—namely, a sterile 5 per cent solution of glucose This may be given by mouth (1 pint at the earliest appearance of any of the symptoms), or if collapse ensues rapidly, by intravenous injection Kellogg estimates that 5 units of insulin will increase sugar tolerance 10 or 11 grams

In estimating the proper dosage of insulin it is imperative to determine the effect on the blood sugar Glycosuria may disappear while the blood sugar still remains at a dangerously high level The best time for determining the blood sugar is three hours after a meal The safe level is 100 grams per 100 c cm Below this it is not wise to go, a rise above 150 indicates that the dose of insulin is insufficient The dose must be increased by 5 units at a time until a satisfactory blood sugar level is obtained

I begin with 5 units twice a day, then increase to 10 units in the morning and 5 in the evening, if this is not enough, then 10 units night and morning, and so on, until the blood sugar is 130 When a dosage of insulin sufficient to enable the patient to metabolize the minimal diet has been found, the diet may be gradually increased Woodyatt's diet is only adequate to maintain equilibrium in a person at rest If he is to do a day's work the diet must be raised

Regulation of Diet

Starting from Woodyatt's "basal requirement diet" the problem of increasing the food may be made comparatively simple

The total calorie content of Woodyatt's diet can be reckoned as 1,680, made up thus

Fat	140 grams
Carbohydrate	57 ,,
Protein	50 ,,

Successive increases of one-eighth of each constituent will allow of 210 calories being added

Fat	17·5 × 9 = 157·5
Carbohydrate	7 × 4 = 28
Protein	6 × 4 = 24
	209·5

Or a diet containing 2 100 calories is arrived at by adding a quarter of each constituent—that is to say 420 calories Doubling the constituents brings the total up to 3 360

But as our patients will not be accustomed to weighing their food in grams, the following tables may be employed as ready reckoners

WOODYATT'S DIET (1 680 CALORIES)

Diet may be chosen from the following groups

A *Fats* (Select from these up to 140 grams)

		Grams of Fat
5 per cent vegetables	6 ounces	0
10 per cent vegetables	3 ,,	0
Bacon	2 ,,	30
Butter	2 ,,	50
Cheese	2 ,,	20
Milk	2 ,,	2
Cream	2 ,,	48
Egg	One	6
Meat or poultry	4 ounces	12

B *Carbohydrate* (Select from these up to 57 grams)

		Grams of Carbohydrate
5 per cent vegetables	6 ounces	3½
10 per cent vegetables	3 ,,	6
White bread	4 ,,	56
Milk	2 ,,	3
Potato	2 ,,	11
Rice	2 ,,	11
Oatmeal porridge	2 ,,	9
Sugar	1 ounce	33

C *Proteins* (Select from these up to 50 grams)

		Grams of Protein
5 per cent vegetables	6 ounces	3
10 per cent vegetables	3 ,,	1½
Lean meat	4 ,,	32
Lean ham	4 ,,	32
Poultry	4 ,,	32
Fish	3 ,,	18
Milk	2 ,,	2
Egg	One	8

Beverages

The following may be taken without reckoning Tea, coffee, oxo, bovril, lemco, water, soda or seltzer water

Method of Ordering Diet of Given Calorie Content

Calories	Grams of A	Grams of B	Grams of C
840	70	28	25
1260	105	42	38
1680	140	57	50
1965	165	70	50
2100	175	71	63
2295	195	85	50
2525	225	100	50
2520	210	85	75
2930	250	110	60
3360	280	114	100

The majority of patients may not require more than 50 grams of protein, an amount adequate for a weight of 10 st

Specimen Diets of 1,680 Calories

The whole carbohydrate is divided between two meals

Breakfast	A	B	C
Tea or coffee			
Milk ½ oz	1	1½	1
Bread 1½ oz	1	18	1½
Butter 1 oz	25	—	—
Bacon 1 oz	15	—	5
Egg (one)	6	—	8

Dinner		
Bread 1½ oz	Bread 1½ oz	Bread 1½ oz
Roast mutton 2 oz	Tinned tongue 2 oz	Sardines 1½ oz
Cabbage 1½ oz	Cauliflower 1½ oz	Cheese 1 oz
Butter 1 oz	or	Butter 1 oz
Bovril	Lettuce 3 oz	

Tea		
Tea	Tea	Tea
Milk ½ oz	Cream 2 oz	Milk ½ oz
Butter 1 oz	Butter 1 oz	Butter 1 oz
Bran biscuits	Egg (one)	Egg (one)
	Bran biscuits	Bran biscuits

Supper		
Cheese 1 oz	Cheese 1 oz	Boiled ham 1 oz
Butter ½ oz	Butter ½ oz	Butter ½ oz
Bran biscuits	Bran biscuits	Cabbage 1½ oz
	Oxo	Bran biscuits

(At breakfast cream 2 oz in place of milk)

Vegetable Groups

5 per cent Group		
Cabbage	Marrow	Lettuce (raw)
French beans	Tomatoes	Watercress (raw)
Seakale	Grape fruit	Carrots
Broccoli	Leeks	Parsnip
Spinach	Celery	Beetroot
Brussels sprouts	Asparagus	Lemons
Cauliflower	Turnips	

10 per cent Group		
Carrots	Green peas	Blackberries
Onions	Melons	Cranberries
Mushrooms	Oranges	Pineapple
Salsify	Strawberries	Peaches

Progress of the Case

By first establishing the correct dosage of insulin and enabling the patient to take the "optimal diet" it is possible to dispense with frequent blood sugar estimations Disappearance of glycosuria may imply that the dose of insulin is unnecessarily and even dangerously large On the other hand, if the patient has a low threshold for sugar glycosuria may be present after the blood sugar has fallen to a safe level

It seems to be a good working rule to estimate the blood sugar at the end of twenty-four hours of the "basal diet" with insulin administered The blood should be withdrawn three hours after a carbohydrate meal, if it has not fallen to 100 mg per 100 c cm the dose of insulin is increased, if it has fallen to 80 or lower, the insulin must be diminished

When the diet is being increased each step in the increase should be continued for three days before estimating the blood sugar After the patient has reached what is considered the "optimal" diet and the proper dose of insulin ascertained the patient should be instructed how to administer the hypodermic injection of insulin for himself, and also how to test the urine for sugar

It has been recommended that the patient should be left with a trace of glycosuria Banting however, has pointed out that unless the threshold for sugar in the blood has been proved to be constantly below 150 grams it is unsafe to permit even a trace of glycosuria In the majority of diabetics whose disease is severe enough to warrant the use of insulin glycosuria is likely to indicate a dangerous amount of blood sugar

The patient must be instructed in the recognition of symptoms of hypoglycaemia, such as weakness, sweating, tremor, nervous apprehension, and disorders of speech He must also be instructed that if any of these symptoms appear he should at once drink some glucose solution or eat some sugar

The action of insulin consists not only in enabling the patient to utilize the carbohydrate in the food, it also affords rest to the islet cells of the pancreas Thus it happens that in some cases there is a recovery of pancreatic function, the pancreas begins to share in the sugar metabolism, so that the quantity of insulin needed is decreased A number of patients treated with insulin have found that after a time the insulin dose can be reduced or, in a few fortunate instances, even stopped altogether It is not possible, unfortunately, to promise this in every case but it demonstrates the importance of making blood sugar estimations at intervals in all patients who are having insulin Probably intervals of three months will suffice for these estimations, but there is no reason why slight reductions in the dose should not be tried and the effect judged on clinical grounds

The feeling of well-being that insulin produces is immediate and patients become good judges of what is sufficient for their needs It may be possible to keep patients in health by giving short courses of insulin with alternating periods of discontinuance But we have little information on this point

One drawback to the use of insulin is the expense it entails The drug itself is costly and the repeated blood sugar estimations add to the bill At present only the millionaire or the insurance patient can afford insulin treatment There is no reason why this should continue As already said the Ontario Provincial Board of Health issues insulin free to those who cannot afford to pay for it In England we have enjoyed for many years free diphtheria antitoxin, free calf lymph for vaccination free novarsenobenzol for the treatment of syphilis and in addition free blood examinations for patients suspected of having contracted syphilis Free blood sugar tests and free insulin for diabetics might be seriously considered by the Ministry of Health

REFERENCE.

[1] *Physiology and Biochemistry in Modern Medicine* By J J R Macleod First edition 1918, p 654.

Endocrinology and Metabolism By Lewellys F Barker 1922, vol 4 p 203.

INSULIN TREATMENT WITHOUT BLOOD SUGAR ESTIMATIONS

BY

ARTHUR INNES M B F R F P S G

GLASGOW

THE following brief report of a case successfully treated by insulin without any blood sugar estimations seems to me to bring this very efficient substance to the use of the busy practitioner to whom the stipulated numerous estimations are impossible by reason of both lack of time and lack of technique

A young man aged 25, a civil servant of more than average mentality had been under my care for diabetes for more than three years At first, on a strict regime of fasting and ladder diet, he did well but latterly response to this was *nil* and in March of this year, on a diet of only 400 calories his glycosuria was severe, acetone was present, thirst very great, skin harsh dry, and cold, and he always felt drowsy His weight was 8 st 4½ lb

His father could afford the cost of the insulin but not the expense of a nursing home or specialist supervision I failed to obtain him admission to those wards where this treatment was then being investigated, and resolved to undertake the treatment in his lodgings and without blood sugar estimations, for his condition was daily becoming more grave

As already stated, the urine contained acetone, and not knowing at this time the danger of giving insulin in such cases unless glucose be injected at the same time, I gave 5 minims, equivalent to 7 units of insulin A most alarming collapse occurred which, however, was promptly overcome by giving a tablespoonful of sugar and water solution, which we had prepared beforehand in case any untoward symptoms should develop He received this very small dose at 1 p m and had a meal of soup and beefsteak immediately thereafter At 3 30 he wrote in a diary which I asked him to keep, *Entire cessation of thirst* Inclined to perspire Palms of hands moist Feeling of great warmth all over This latter feature impressed him tremendously From that date to now he has never had acetone in his urine, and he has done hundreds of examinations of it for me

The doses were increased daily until on the fifth day he was receiving 20 units all in one dose No ill effects followed this dose, but it did not cause the disappearance of sugar from the urine excepting from the specimen passed three hours after the injection On the seventh day we gave him 20 units intravenously without any bad effects and with complete disappearance of glycosuria for ten hours thereafter but it recurred as bad as ever, so that though the immediate effect was excellent it had no better sustained action than the subcutaneous

On the next day we reduced the starches in his food a little more and increased the fat as we had now no fear of acetone and on the next day after his injection we observed palpitation, nausea, and profuse sweating but these symptoms disappeared at once on sipping a little sugar and water We learned from this to hasten slowly in the sugar reduction and kept him on a diet of approximately 57 carbohydrate, 114 protein and 107 fat—giving about 1 620 calories He was feeling well and his weight was now 9 st

On the twenty sixth day from the start of the treatment 20 insulin was given and as a result copious glycosuria and thirst returned at once and strangely enough daily doses of 22 minims of insulin with a diet of only 25 carbohydrat 53 protein and 93 fat failed to keep the patient well and I proposed and he agreed to observe two days fasting followed by a week s ladder diet and after this to resume the insulin injections. The results of this method were as follows

June 13th Fasting Sugar all day
June 14th Fasting Sugar cleared in the evening No sugar
June 15th Carbohydrate 10 protein 4 fat 3—calories 83 No sugar
June 16th. Carbohydrate 15 protein 5 fat [illegible] No sugar
June 17th Carbohydrate 1 protein 1 fat [illegible] No sugar
June 18th Carbohydrate 14 protein 29 fat [illegible] No sugar

June 19th Carbohydrate 15, protein 38, fat 28—calories 464 Sugar in the afternoon

June 20th Insulin, 20 minims Carbohydrate 14, protein 54, fat 45—calories 677 No sugar in afternoon

June 21st Some sugar in the morning Insulin 22 minims, given Carbohydrate 24, protein 60, fat 106—calories 1,290 No sugar rest of the day

June 22nd A little sugar after breakfast Insulin, 22 minims, given Carbohydrate 26, protein 60, fat 130—calories 1,514 No sugar rest of the day

June 23rd Sugar present in the morning Insulin 23 minims, given Carbohydrate 26, protein 60, fat 140—calories 1,604 No sugar rest of the day

June 24th Very slight sugar in the morning Insulin, 23 minims, given Carbohydrate 30, protein 64, fat 132—calories 1,504 Sugar absent rest of the day

June 25th Sugar at 9 and 11 a m Insulin, 30 minims, given Diet as on June 24th No sugar rest of the day

June 26th Trace of sugar at 11 a m Insulin, 30 minims, given Carbohydrate 25, protein 75, fat 161—calories 1,850 No sugar later

That was the last date on which the injection was given in the patient's bedroom, for as he was feeling extremely well and anxious to be again at business I suggested that he should come to my house at 5 p m, the time when in the ordinary course he would be home for his evening meal, receive his injection then, and go home at once, where he would arrive within the stipulated period of fifteen minutes, which is the maximum that can elapse without food being taken after a dose has been administered This he did for a week with the same dose, and a diet value of 2,000 calories, I then left him for a week end to administer his own injection, which he did for two days with such success that he now undertakes his own case, and has improved on the plan by adopting my suggestion of giving a morning and evening dose, which he assures me is better, in that he feels fresh all day, whereas formerly he felt much less vigorous in the forenoon, it will also mean a reduction in expense which he estimates at £15 a year, because he can save in dosage at least 4 minims a day

Only once has he felt any ill effects, and this was when in his enthusiasm he took a 20 minim dose in the evening after a similar forenoon dose, and in three hours after had a horrible feeling of "illness" with buzzing in the ears and profuse cold sweat—obviously overdosage, he was promptly relieved by drinking a tablespoonful of sugar and water He has learned from this that a trace of sugar in the morning urine is safe, and that he must never hope for, nor try to get, a constantly sugar free urine

He has now been at business for ten weeks and feels it no strain, being able even to return to the office for two hours in the evening twice a week He looks well, walks with a sprightly step, and his weight is 9 st 10½ lb

Practical Conclusions

1 Two days' fasting, and then a "ladder diet" until the patient's urine begins to show sugar, gives the starting point for the first insulin injection, which I, in future, will give twice a day, starting with 20 minims in the day

2 Food must be ready for the patient as soon as he receives his injection, and in no circumstances can longer than fifteen minutes be allowed to elapse

3 The patient must always have sugar and water at his bedside, and be advised to take a small amount should symptoms of faintness, depression, air hunger, etc, appear

4 He must be educated to the testing of his urine for sugar and keep a record of every specimen voided for the first two weeks and morning and evening thereafter

5 Do not start if there is any fear that the treatment cannot be kept up, and it can never be forgotten that at present the cost of the insulin will entail an expenditure of at least £90 per annum

6 Do not attempt to get a constantly sugar-free urine A trace of sugar in the morning specimen is a safeguard giving a feeling of assurance that no harm can result from the treatment

7 It cannot be forgotten at any time that the treatment of diabetes is still a matter of careful dieting, and that insulin is only our greatest and most valuable aid

A TWO-LOOP SUTURE

BY

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IN the JOURNAL of June 9th, 1923 (p 969), is published an article by Mr W G Spencer describing a two-loop button suture Below I give a description of a stitch which I invented and published in the *New Zealand Medical Journal* of August, 1914 It appears to me that Mr Spencer's two-loop suture is but an abridged form of mine My suture seems capable of more extended use, especially as one hears reports from time to time of catgut having caused fatalities through tetanus or other infections This method of mine could replace the use of catgut for closing abdominal wounds

The first needle is inserted at the inner extremity of the line marked A, and is passed between peritoneum (deep to the muscle) and fascia and brought out on the skin surface one third of an inch from the skin margin The second needle is passed directly through the peritoneum at the point of the line marked A, two continuous sutures being taken slightly sloping up, the last stitch passing through peritoneum, from within, and coming out at the point marked C It is then passed deep between peritoneum and muscle, coming to the surface one third of an inch from the skin margin on the left side, as did the first needle The two ends of the suture are drawn tight, bringing the peritoneal edges together A clip forceps is applied to the ends of the ligature to keep it taut The remaining sutures are placed in the same fashion, and about three of them will close most wounds When the line of peritoneum is

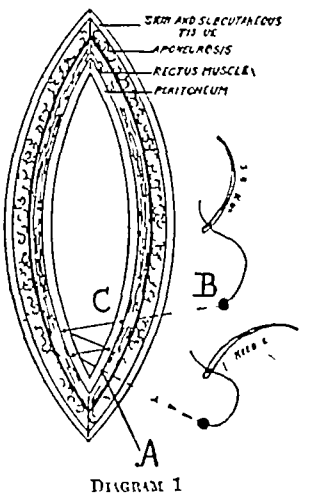


DIAGRAM 1

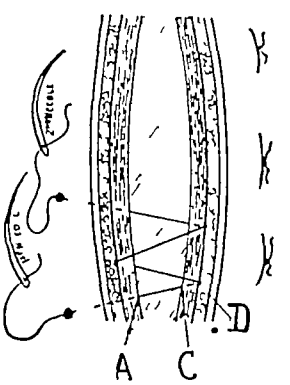


DIAGRAM 2.

closed, the same process is repeated on the right side In this case the first needle is passed under peritoneum and deep to muscle and fascia at the inner end of the line marked A in Diagram 2, and brought out one-third of an inch from the skin margin The second needle is passed under the fascia, deep to muscle, at the point marked C, then through to the surface of the aponeurosis In all two continuous stitches are made, as shown in the diagrams The ends of the suture are drawn tight and clipped until all are placed, when they are tied over a small pad of gauze or rubber tube cut short When drawn tight the suture makes a short straight line easily removed by cutting one end of the loop close to the skin and pulling on the part that is left The peritoneal suture may be removed in three days, the muscle suture in thirteen days or longer if deemed advisable

The suture material may be silk, thread, or silkworm gut, all of which can be relied upon for asepsis as they stand plenty of boiling The two-needle method is also a precaution to prevent any chance of infection from sebaceous or other ducts If the same two needles are used for the next stitch they can be rapidly sterilized with pure carbolic acid or lysol and rinsed in hot water

I have had better results with this method than with any other Diagram 1 shows the peritoneal stitches being placed, Diagram 2 shows the peritoneum closed with the line of stitches and also shows the placing of the aponeurotic suture If in an emergency there is cause for haste, the peritoneum may be included in the muscle stitch, thus having loops down one side of the wound only One advantage of the separate peritoneal stitches is that their early removal prevents any irritation which might arise from the sutures impinging on the abdominal contents when there is only one layer that has to be retained for a considerable period Round needles must be used, and they require to be of large size in fat subjects The needles should always be passed from within out to secure asepsis

A NEW OUTLOOK IN CARDIOLOGY.

BY

SIR JAMES MACKENZIE, M.D., F.R.C.P., F.R.S.

(From the Institute for Clinical Research, St. Andrews.)

(*Continued from page 5.*)

THE SINO-AURICULAR NODE

In the lower vertebrate animals the part concerned in starting the heart beat is spread diffusely through the sinus venosus. In the mammalian heart the sinus disappears and the parts concerned in starting the heart beat are, to a great extent, accumulated in a well-defined collection of cells—the sino-auricular node, which is situated at the mouth of the superior vena cava. There are other portions in the auricle capable of initiating the contraction, for the auricle continues to beat regularly and effectively when the specialized tissue of the sino-auricular node is destroyed. Although not clearly defined, there is every reason for assuming that all the parts concerned in the starting of the heart beat act harmoniously, and probably cease to act at the same time.

The node consists of a number of filiform cells. How these are connected with the muscle cells of the auricle or of other structures that are concerned in the transmission of impulses is not known. There is no doubt that the "control" influence of the sino-auricular node extends beyond the auricle—certainly to the auriculo-ventricular node.

The Rhythmic Activity of the Sino-auricular Node.

The heart when freed from all its nerves, and even when removed from the body, continues to beat in a regular and normal manner. This is due to the sino-auricular node, which in consequence has been said to possess a "rhythmogenic function."

In describing the nature of cell activity, it was shown that a cell recovers after it discharges its function. As the recovery proceeds the cell becomes more and more susceptible to stimulation. This is what happens to the cells of the sino-auricular node, and they are peculiar in the sense that they are particularly sensitive to stimulation. It may be asked, Whence come the stimuli which excite the cells of the A-V node to discharge their function? If it be true that all living cells throw out impulses, there can be no want of adequate stimuli. Moreover, as the restoration of the energy proceeds, the susceptibility to stimulation becomes greatly increased, and it is possible that the temperature alone may be sufficient to cause a discharge. Such seems a more reasonable explanation than endowing the cells with the quality of automaticity, or a rhythmogenic function.

PARALYSIS OF THE SINO-AURICULAR NODE

(*Paralysis of the Auricle. Auricular Fibrillation and Flutter.*)

In the history of medical progress it is of interest to note that some discoveries are recognized at once and an exalted view taken of their possibilities, and it may take many years' experience before they are seen in their proper perspective, while other discoveries are not recognized or appreciated till long years after, when experience gradually reveals their significance. The condition which at one time has passed under such terms as "paralysis of the auricle," "nodal rhythm," and "auricular fibrillation" belongs to the latter group. When the full significance of the discovery of this condition comes to be recognized it will be looked upon as one of the most important discoveries not in the heart alone but in medicine. While its study has thrown a flood of light upon so much that was hidden and obscure in affections of the heart it has revealed principles which govern vital processes applicable to every field of medicine. Some of these are as yet dimly perceived, but only time and experience are needed for them to be fully recognized.

A brief account of the history of this condition serves to illustrate how research in clinical medicine may be carried out. For more than a hundred years clinical observers were dimly conscious of a peculiar condition of the heart which occurred in certain people in ill health. The description by Withering[4] of the powerful effect of digitalis upon certain hearts shows that he was dimly aware of some peculiarity which we can now recognize. When physicians came to identify mitral stenosis some recognized a peculiar pulse which frequently was associated with this condition, and was called the "mitral pulse." As long as forty or fifty years ago some physicians recognized that in mitral stenosis the presystolic murmur sometimes disappeared. In carrying out an inquiry into irregularities of the pulse I recognized that the pulse gave information only of what the left ventricle was doing, and I endeavoured to find out what the auricles were doing. Over thirty years ago I noted that in certain conditions the auricle gave no evidence of its presence, but it was not till five years later (1898) that I discovered that in certain patients all evidences of auricular activity suddenly disappeared. The first case in which I clearly recognized this was a patient I had watched for seventeen years. She had shown for some years a presystolic murmur at both the mitral and tricuspid orifices. She had also shown pulsation in the jugular veins and in the liver, due to the auricular systole. Suddenly all these symptoms disappeared, and the heart became irregular. Following the custom of the day, I assumed that with the disappearance of auricular activity the auricle had become paralysed. At this date little was known of the processes concerned in regulating the heart beat. The heart beat was supposed to start somewhere in the auricle, and I assumed that as the auricle ceased to beat the ventricle started on its own. When later the auriculo-ventricular node and bundle were discovered and it was shown that the ventricular contraction was dependent upon the A-V node, I suggested that the contraction started here, and called the condition "nodal rhythm."

In 1906 Cushny and Edmunds drew attention to the similarity of the irregularity of the pulse of a dog in whom they had produced auricular fibrillation to that of a patient with an irregularly acting heart, and they suggested that auricular fibrillation was the cause of the patient's abnormal rhythm. This view was confirmed by Winterberg and Rothberger and Lewis in 1909. The demonstration was so convincing that, although ignorant of its nature, I, with others, accepted the discovery as settling the problem.

The conception that auricular fibrillation was the cause started investigations upon a new line, which one must now recognize has been of little profit. In reading the recent literature upon this subject it is astonishing to find how obsessed clinical observers are by laboratory discoveries. A number of writers reckon to give the history of this discovery, and they start with the time when it was labelled "auricular fibrillation," evidently unaware that all the signs by which it is diagnosed, the basis of prognosis, and the indications for treatment were all recognized before the term "auricular fibrillation" was applied to it. As the term "auricular fibrillation" was applied to it. As a matter of fact the recognition that the auricle was fibrillating has not added one single fact to the clinical aspect of the subject.

As years went on I became convinced that there was a great deal more in the matter than a fibrillating auricle. For instance that with the onset of this I recognized for instance that with the onset of this condition the heart acted in many ways, in a manner different from that when the normal rhythm was present. The pulse became quite distinctive, having a character of its own. The rate of the pulse could be influenced in a manner also distinctive. Sometimes with the [illegible] rate would rise to over 150 beats per minute; in some patients when at rest the rate would fall below the normal to about 50 beats but with the slightest effort might rise to over 150 beats. Frequently when at rest the rate would vary in a most extraordinary manner. Equally striking was the reaction to digitalis. Patient in whom digitalis would have little effect when the rhythm was normal became extraordinarily sensitive to the drug when fibrillation set in. After a few beats the rate when fibrillation set in. After a few beats the rate would be reduced from 130–150 to [illegible] 50 beats and under per minute. [illegible]

be seen, sudden death from digitalis only occurs in this or its allied condition, auricular flutter Probably the most striking feature of all was the form of heart failure that set in sometimes immediately on the onset of this condition Furthermore, patients who might be suffering from all the symptoms of heart failure which is characterized by angina pectoris would suddenly lose all the symptoms of angina and would suffer from the symptoms peculiar to auricular fibrillation

The Application of the Principle of the Reflex Arc

I recognized these features, and looked hopefully to experiment and to the electrocardiograph to throw light on the subject, but very little has resulted from their employment It became evident that no further progress could be made unless some other method of studying the subject were employed When we recognized disturbed reflexes as a cause of many symptoms we applied the principles of the reflex arc to the interpretation of cardiac phenomena, and at once an unexpected field of investigation was opened up This principle requires for its application that we should go back step by step from the organ whose disturbed activity produces the symptom, inquiring into the part played by each element of the arc, as was done in interpreting Figs 3 and 4 The reason for this, as already described, is that the process which regulates the function of an organ is governed by a series of elements which constitute the arc In the arc the higher element governs the lower, so that when we find a disturbance in the lower element we must continue the inquiry into the elements that are above it to see if they are acting in a normal manner

For an illustration, let the tracing in Fig 5 be taken—it shows an irregular pulse with a ominous pulse of the type which we know is characteristic of auricular fibrillation—and the facts which we recognize in such a tracing be represented in a diagram (Fig 5A) In this diagram there are four spaces as in the diagram of Fig 3

The lower space represents the ventricular systoles, which are identical with the beats of the radial The downstrokes represent the ventricular beats and their force varies as shown by the size of the pulse beats Manifestly, the ventricle is disturbed Is this disturbance limited to the ventricle, or does it come from a higher level? The electrocardiogram has revealed that in such forms of ventricular activity the impulse for contraction comes from a higher level—that is, from the auriculo ventricular node Fig 6 demonstrates this The radial pulse which is given here though somewhat unclear, is nevertheless quite typical of auricular fibrillation The character of the electrocardiogram shows that the ventricular complex is of that kind due to the stimulus for contraction which enters the ventricle by the normal paths—that is, by the auriculo-ventricular bundle We know that when the stimulus is produced in the bundle (as in complete heart-block) the rate is very slow, so that we can infer that the stimulus for the ventricular contraction in Fig 5 arose in the auriculo-ventricular node This node is represented in the diagrams Fig 5A and Fig 6A (space A V N), and shows it varying greatly in its activity Still applying the principle, we look higher to see what the auricle is doing, and we find it in the condition of fibrillation This is represented in the spaces As by a series of small strokes which represent a shower of impulses which the auricle throws out Going still higher, we look at the space of the sino-auricular node, and discover that there are no signs or evidence of its function This raises the question, What is the sino-auricular node doing?

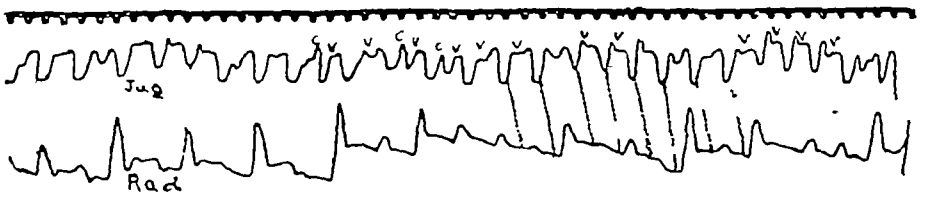


FIG 5—Simultaneous records of the jugular and radial pulses The radial pulse is irregular of a kind typical of auricular fibrillation inasmuch as there is no relation between the length of the preceding pause and the size of the beat. The waves (v c' v) in the jugular tracing are due to the ventricle and are characteristic of auricular fibrillation in that they show no auricular wave At times there is no evidence of a beat in the radial but there is one v wave in the jugular showing that the ventricle contracted but so feebly that the wave in the radial was not sufficient to raise the lever of the sphygmograph (See diagram Fig 5A)

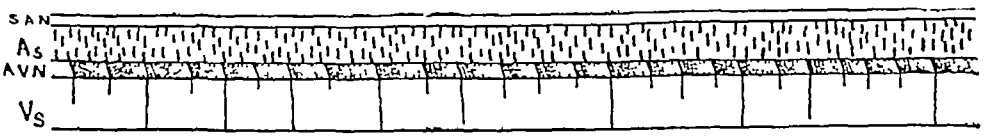


FIG 5A.—A diagram representing the events in Fig 5 In the sino-auricular node space there is no sign of activity The short strokes in the space *As* represent the impulses from the fibrillating auricle The space A V N represents the auriculo ventricular node and shows its varying activity and the irregularity of the pulse is seen to be due to the varying periods of recovery of this node The downstrokes in the space *Is* represent the ventricular systoles as shown in the radial pulse These systoles vary in size and in force The length of the strokes represent the output of the heart as shown in the radial tracing

It has been assumed that the fibrillating auricle has thrown it out of action, but, on the other hand, there are good grounds for assuming that its going out of action is the reason for the auricle fibrillating As yet the grounds for this reason cannot be directly demonstrated, but by a process of reasoning it can be assumed with fair certainty

PARALYSIS

The cessation of activity raises the question of paralysis of the sino-auricular node, but when we ask what is meant by paralysis we find no clear answer It seems to be a subject, like a great many others in medicine, which is supposed to be so well understood that nobody ever thinks of investigating it One or two illustrations will show what is meant The action of atropine produces an increased heart rate, dilatation of the pupil, and delirium At first sight one might say that atropine stimulates the heart, stimulates the dilator muscle of the pupil, and stimulates the brain But a more intimate knowledge shows that atropine acts upon the terminal fibrils of the vagus nerve and abolishes their function, so that impulses by the vagus fail to reach the sino-auricular node In a similar way atropine acts upon the terminal fibres of the nerve that supplies the constrictor muscle of the pupil, so that impulses by this nerve do not reach the muscle and it ceases to act, or, in the words commonly used, it is paralysed It is reasonable to assume that the drug has an identical action on the terminal fibrils of certain neurones of the brain, so that impulses from a higher centre are blocked, and the result is delirium Delirium, then, is no more due to stimulation of the brain than the resultant increased heart rate is due to stimulation of the heart



FIG 6—An electro-cardiogram of the heart taken at the same time as a tracing of the radial pulse from a case of auricular fibrillation The complex of the electro-cardiogram is indicative of that given by the ventricle when the stimulus for contraction comes from the auriculo ventricular node The radial tracing is typical of the small imperfect beats which occur in auricular fibrillation, and resemble those in Fig 5 (J Parkinson)

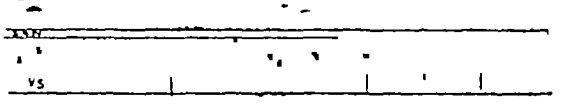


FIG 6A—A diagram of the events in Fig 6

I put the matter in this way to indicate the lines of

investigation we pursue in using the reflex arc, and to show that the excitability of the part below the disturbance is not an indication that such excited part (as the fibrillating auricle) is the original seat of the disturbance

The next point to which attention should be directed is, What happens to the organ or tissue which is said to be paralysed—that is, when impulses from a higher level are blocked, as when the nerve to a voluntary muscle is cut? In the description of the cell it was shown that the cell possesses the faculty, when supplied with appropriate material, of assimilating nutrition, of storing energy, and of discharging it When a motor nerve is cut the muscle cell is still supplied with nourishment, and it is still capable of discharging energy, and of renewing its store, so long as appropriate material is supplied to it Moreover, such cells are stimulable from other sources than through the nerve fibres It would be expected that such muscle cells would show some form of activity, and, as a matter of fact, they pass into fibrillation, as Langley has shown, and even into a condition which resembles flutter I put forward the view that the same thing happens in the auricle, and that the fibrillation is the result of the loss of control of the sino-auricular node But some of my friends have raised the objection that the fibrillation in the two instances is not the same, I am not quite sure that this objection is justified At the recent meeting of the Physiological Congress in Edinburgh, two Japanese physiologists, Ishihara and Nomura, demonstrated that when branches and terminal ramifications of the auriculo-ventricular bundle were extirpated and placed in warm oxygen saturated Ringer's solution, they continued to beat for a long time In a small piece of heart muscle placed in this solution, examined with a low power of the microscope, I saw minute rapid movements exactly like that of the fibrillating auricle So far as one can see at present the same law, therefore, holds good in regard to the muscle of the heart and the voluntary muscle

A suggestive indication of another sort can be obtained In a conversation with my friend Professor J H Ashworth, he drew my attention to the work of Mayer on the medusae I had long ago accepted the teaching of Gaskell, who pointed out that Romanes had demonstrated that the stimulus for contraction of the bell of the medusa was conveyed by the muscle cells This was supposed to be proved by the impulses being conveyed along zigzag strips of the bell, and it was used as an argument in favour of the myogenic doctrine Mayer[1] has shown that the conduction is not by the muscle, but by the network of the nerves which are spread all over the body In his experiments Mayer cut out a ring of the subumbrella tissue, and immersed it in sea-water, and *applied a stimulus to this ring of muscle*, and thus set up a contraction that passed round the ring, one contraction following another, so that for weeks this wave of contraction went round and round this ring of tissue If, however, the ring is not entirely separated from the other part of the bell, but there is left a very narrow bridge of tissue connecting the ring to the rest of the body, this "circus" movement in the ring could be stopped at once by an impulse set up by *touching one of the sensory* bodies at the margin of the bell—in other words, when the ring was free from the control of the marginal sensory bodies it would contract indefinitely, but as soon as these marginal bodies exercised their function the ring came at once under control, and the "circus" movement ceased

The suggestion I put forward is that the sino-auricular node has the same sort of control over the muscle fibres of the auricle as the marginal bodies in the medusa have over its musculature, and with the loss of this control the muscle fibres contract in response to impulses from another source

Further suggestive evidence in favour of the cessation of activity of the sino-auricular node being the cause of auricular fibrillation is found in the consideration of the relation of organs to disease There is no organ of the body exempt from disease, and there is no reason for assuming that this node is exempt One of the great causes for the production of impaired function of organs is the impaired blood supply either from obliteration of the capillaries or disease of the arteries The former condition is an accompaniment of advancing years indeed, it is this factor which produces so many of the senile changes Evidence of it can be found in every organ, affecting in some people one part, and in other people other parts This is the chief reason of the changes in the valves of the heart so common in old age This is the reason of the occurrence of heart-block late in life, when a diminution of the capillary field leads to those fibrotic changes which destroy the auriculo-ventricular node and bundle It is amongst the elderly that auricular fibrillation is so common We would expect also that diseases apart from senile changes would have a similar destructive effect upon the node, just as we find them affecting the auriculo-ventricular node Damage of the auriculo-ventricular node, for instance, is fairly common in the rheumatic heart, it is also in the rheumatic heart that we find auricular fibrillation, frequently in the young

In an experiment to which reference is made later Gaskell demonstrates that the auriculo-ventricular ring, which is probably the antecedent of the auriculo-ventricular node, becomes easily stimulated after the sinus is cut away I may remind the reader of Hughlings Jackson's doctrine already mentioned "that destructive lesions do not produce positive signs, but a negative condition in which positive signs appear" This is manifestly applicable to the condition when the sino-auricular node ceases to function

Finally, when the great principle that underlies control, and the effects which follow the loss of control are understood, the probabilities are that the cessation of the functions of the sino-auricular node will be found to be but one of a number of similar processes which result in the disturbance of the harmonious and effective activity of organs

An objection which has been raised to this view is that a stimulus like an electric discharge applied to the auricle sets it into fibrillation In reply to this it is necessary to point out that it is seldom or never possible to recognise the real effect of an experiment In applying a very gross stimulus of a kind Nature never employs some effect may result, but we do not know what effect such gross stimulation has had upon fine structures such as the junction between the sino auricular node and the fibres of the auricle It is quite possible that this junction is put out of action

While I do not contend that these reasons are sufficient to prove that the condition that we now call auricular fibrillation is due to the cessation of activity or paralysis of the sino-auricular node, they are sufficient to call for a reconsideration of the matter, for the supposition throws light upon the nature of a number of phenomena which has hitherto baffled explanation

THE AURICULO-VENTRICULAR NODE

Before dealing further with the condition of auricular fibrillation it is necessary to consider some features of the auriculo-ventricular node This structure is a collection of cells similar to those of the sino-auricular node but differs in that it is continuous with a bundle of fibres which passes from it to the ventricle, so that while we cannot yet tell how the impulses are conveyed from the sino-auricular node to the auricle, we know how they are conveyed from the auriculo-ventricular node to the ventricle

As in so many other instances in normal circumstances the part played by one element of a complex process as the auriculo-ventricular node in the heart beat cannot be differentiated in the harmonious action of the whole complex In the various disturbances of rhythm the functions peculiar to each element of the regulating process may be revealed

The function of this node is similar to that of the sino-auricular node in that it discharges impulses which [illegible] conveyed to the muscle cells of the ventricles [illegible] contraction There has been a tendency to look upon the auriculo-ventricular node as being mainly a conductor of impulses acting in this respect like a nerve But there is a very great difference In the conducting apparatus the impulse is received by fibrils and conveyed by the [illegible] cess to its connexion with other cells without the cell [illegible] taking part in the proc[illegible] The impul[illegible] the afferent nerve in Figs 1 and 2 [illegible] conveyed to the centre when the cell [illegible]

The cells of the auriculo-ventricular [illegible] ducting structure in this one [illegible] charging impulses in the same way [illegible]

auricular node discharge impulses After they have discharged impulses they are incapable of being stimulated until their store of energy has been replenished They are then susceptible to stimulation, and when stimulated they discharge impulses

Just as the sino-auricular node controls the auricular contractions, so does the auriculo-ventricular node control ventricular contractions The impulses which the latter discharge are conveyed to the ventricle, so that the node controls and regulates ventricular contraction We can therefore interpret the functional activity of the auriculo-ventricular node from the ventricular contractions

This view has to be kept in mind, for we must recognize that the disturbances shown by the ventricle have, in most cases, their origin in the auriculo-ventricular node When the ventricle is spoken of as being refractory to stimulation it is the auriculo-ventricular node that is refractory, and not the ventricle

In the course of this investigation there are found contractions of the ventricle where only a portion of the fibres of the ventricle participate in the contraction, and these imperfect contractions can be traced to the auriculo-ventricular node and it can be inferred that only a few cells of the node threw out impulses at that time

This view of the auriculo-ventricular node and its relation to the ventricular muscle brings it into harmony with the mode of action of other muscular organs All other muscular organs, both voluntary and involuntary, show great variations in the activity produced by each interpretation of which Some contractions are slight and due to the participation of only a few fibres others stronger when more fibres participate in the contraction, while there are contractions in which most, if not all, fibres participate These variations in the number of fibres taking part in the contraction are dependent upon impulses reaching the organ from nerve centres and in these nerve centres there is the same variation in the number of cells taking part in discharging impulses This principle is applicable to the relation between the auriculo-ventricular node and the ventricle

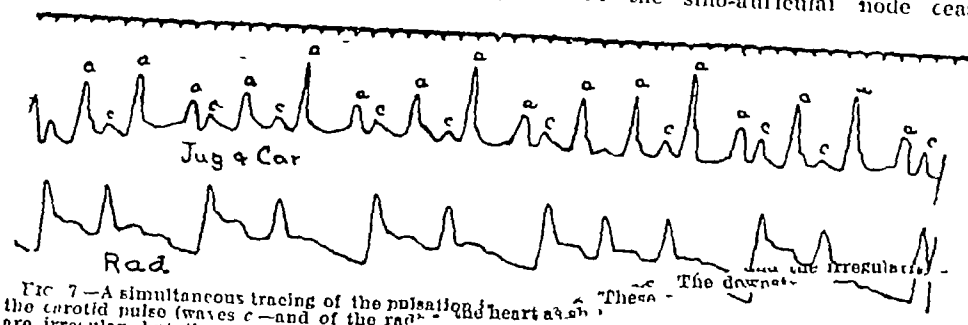


FIG 7.—A simultaneous tracing of the pulsation of the heart as seen in the neck—from the jugular veins (waves *a*) and of the carotid pulse (waves *c*—and of the radial pulse. The heart action is irregular but the auricular waves (*a*) are quite regular in time. These ... The downstroke of the *a* wave is seen to vary in height and this is due to the fact that the auricle contracts at times during the diastole of the ventricle when the yield of impulses from the auriculo-ventricular node is greater than at other times. The auricular wave requires to be followed by a ventricular systole of the ventricle and produces the small waves and during the systole of the ventricle step by step increase in height This is shown by the gradual approach of the *c* wave to the *a* wave in the tracing from the neck

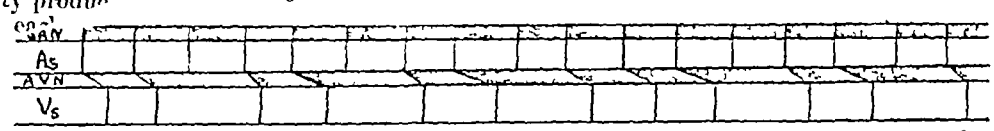


FIG 7A.—Diagram of tracing in Fig 7 showing where the disturbance took place which caused the irregular pulse The sino-auricular node causes an auricular beat at regular intervals (space *As*) The auriculo-ventricular node (space A V N) is seen to vary in its periods of recovery so that occasionally an auricular beat falls out when the node is not susceptible In consequence the ventricular systole drops out and the pulse becomes irregular

The Control Exercised by the Sino-auricular Node on the Auriculo-ventricular Node

There is a curious and intimate relation between the sino-auricular node and the auriculo-ventricular node—the agents which influence the one influence the other so long as the sino-auricular node is active and dominant They are both supplied by the sympathetic and vagal nerves (Fig 2), and both are responsive to the influences of these nerves When the sino-auricular node speeds up the auriculo-ventricular node also increases its activity When the sino-auricular node slows down the auriculo-ventricular node also slows down But there are instances when the auriculo-ventricular node may become affected by agents which do not affect the sino-auricular node and then we obtain evidence of its presence These changes may be very slight and give rise to little or no distinctive sign or they may be so marked that the rhythm of the ventricle is affected The simplest sign of an affection of the auriculo-ventricular node is a slight delay in the ventricular contraction after the auricular This is best seen in a tracing of the jugular pulse The normal interval between the appearance of the *a* and *c* waves is one-fifth of a second In a slight affection of the auriculo-ventricular node this interval is increased and frequently there results a failure of the node to respond to the impulses from the sino-auricular node This is shown by the dropping out of a ventricular beat A diagram (Fig 7A) on the principle of the reflex arc brings out clearly where the disturbance arises which produces the irregular pulse in Fig 7 It will be seen from this diagram that the ventricular beats (*Vs*) are irregular, and as these are due to the auriculo-ventricular node, it is shown also to be irregular But when we look at what the auricle is doing it is seen to be acting quite regularly, so we can therefore recognize that the seat of disturbance is in the auriculo ventricular node The shading shows that the auriculo-ventricular node recovers its functional activity more slowly than the sino-auricular node, with the result that the impulses not only take longer to pass, but every now and again the auriculo-ventricular node does not respond to the auricular stimulus and a ventricular contraction drops out (Compare with Fig 4A)

The Auricle in Paralysis of the Sino-auricular Node

When the sino-auricular node ceases to exercise its influence on the auricle, the auricle passes into fibrillation or flutter Looking at the auricle while fibrillating, it is seen to stand still as a whole, but the wall of the chamber is in incessant movement, due to rapid and repeated contractions of individual fibres No sooner does a fibre cease to contract than it at once passes again into contraction—each one distinct and independent of its neighbour The result is that, notwithstanding the incessant movement, there is no contraction of the chamber as a whole

In place of this disorderly activity, some muscle cells may contract simultaneously, so that a rapid movement of the whole auricle occurs, to which MacWilliam gives the name of "flutter" The rate of this movement is about 300 per minute There is good reason for suspecting that all the fibres do not participate in each of these movements, but I do not propose to deal with that matter here Fibrillation and flutter are closely allied, and the one condition may pass into the other

Lying in the auricular wall and exposed to the impulses from these muscle cells is that sensitive structure, the auriculo-ventricular node

The Auriculo-ventricular Node in Paralysis of the Sino-auricular Node

When the sino-auricular node ceases to act a number of changes take place the auricle passes into fibrillation the normal impulses to which the auriculo-ventricular node is accustomed are no longer present, and instead there is a shower of impulses thrown out by the fibrillating auricle Great numbers of these are without effect, and the auriculo-ventricular node only responds when sufficient time has elapsed after it has discharged its function to render it susceptible to such impulses If we assume that these impulses are constant in number—and there are good reasons for this assumption—the peculiar variations in the activity of the ventricle can only be due to variations in the

excitability of the auriculo ventricular node We have thus an extraordinary opportunity of studying a series of vital processes, and the manner in which they can be affected by a variety of circumstances, including the influence of nerves, of the agents of disease, and of remedies

There is something peculiar about the auriculo-ventricular node As I have said, while it is under the dominance of the sino-auricular node its peculiarities are hidden I remember that when first I read Tawara's account of this node I was reminded of Gaskell's description of the primitive cardiac tube * In the canalis auricularis of the tortoise there is a ring of muscular fibres of a peculiarly sensitive kind Gaskell describes the manner of exploring this ring as follows

'Slit up one auricle and the ventricle and pin back so as to expose the septum the two vagi nerves on the septum, with their terminations in Bidder's ganglia are then most easily seen, as well as the muscular ring between auricles and ventricle and the whole field can be explored under a lens with the point of a needle before and after removal of the septum and Bidder's ganglia Now CUT AWAY THE SINUS the whole preparation remains quiescent touch the outlying auricular or ventricular tissue with the needle point each time a single contraction takes place, and no more touch either of Bidder's ganglia not a single contraction takes place, pierce it again and again and put it about no sign of contraction *Touch the auriculo-ventricular ring of muscle with the slightest stimulus, immediately a series of rhythmical contractions occurs It is most striking to see, after removal of the septum how every portion of auricular and ventricular tissue can be explored up to the very edge of the ring without obtaining more than a single contraction while immediately the needle touches the muscular ring a series of rapid contractions results* Conversely the two Bidder's ganglia can be cut away and yet stimulation of the ring will produce a rhythmical result"

I have assumed that this muscular ring is the progenitor of the auriculo ventricular node, and I was reminded of this fact when I investigated the behaviour of the auriculo-ventricular node in auricular fibrillation In this condition the auriculo-ventricular node becomes extraordinarily susceptible to stimulation In some cases, on the onset of fibrillation of the auricle, the rate of the ventricle may reach a speed of 150 to 160 beats a minute This rate may be kept up for days and weeks, usually it slows down, sometimes very considerably, but when it has slowed down, even below the normal rate, the slightest effort may cause an increase in rate from 50 to 160 a minute an increase of rate far greater than that which occurs with the normal rhythm

Striking as is this excitability, just as striking is the manner in which this excitability becomes diminished Agents which have an effect in depressing or inhibiting this activity have far more effect than upon either the sino-auricular node or the auriculo-ventricular node with the normal rhythm It has been shown that bodily effort, by setting up impulses which are conveyed to the heart by the sympathetic nerves, increase the rate, while the cessation of effort causes a fall in rate This fall in rate may become greater in auricular fibrillation than in the normal rhythm, so that bodily rest may be accompanied by a remarkable slowing of the pulse Digitalis, which usually has little or no effect in slowing the heart when the sino-auricular node is active, readily acts upon the auriculo-ventricular node in auricular fibrillation—to such an extent that the rate of the pulse may fall as low as 40 or 30 beats a minute

This susceptibility to digitalis is brought strikingly out in those cases in which the normal rhythm is restored while the heart is under digitalis During auricular fibrillation the ventricular rate may be 40 a minute but as soon as the normal rhythm is established the rate may rise to 60 or 70 beats a minute, and although digitalis may be continued in large quantities no effect may be produced in the pulse rate

THE LOSS OF CONTROL

These results demonstrate that something more has happened to the heart than the onset of auricular fibrillation The susceptibility of the node has become enormously increased, both in a positive and negative sense The question arises, What is the reason for this curious alteration? It was the recognition of this which led me to suggest that the higher levels of the regulating processes have an influence beyond merely conveying impulses which stimulate the cells into activity There is some influence which keeps them from responding to other stimulation, and restrains and regulates their activity so that they all work harmoniously

There are several instances in nature which suggest this influence When the muscles of the body are removed from the influence of the cortex, as in the decerebrate animal the muscles tend to pass into the state of rigidity This is due to their having become much more sensitive to impulses which reach them from other parts of the body

It was because of this increased susceptibility to stimulation that Sherrington employed the decerebrate animal for his investigations into muscle reflexes With the brain intact he found the muscles so restrained that he could not get the same satisfactory results

We have seen in the description of the experiments of the medusa that the sensitive bodies at the margin exercise a controlling influence which is lost when a ring of muscle is separated from the body

It is to be noted in Gaskell's description that before he demonstrated the excitability of the auriculo-ventricular muscular ring he removed it from the influence of the sinus, which he cut away This excitability of the auriculo-ventricular node is only shown when it is likewise removed from the influence of the sinus—that is, the sino-auricular node

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† Mayer A G *Rhythmical Pulsation in Scyphomedusae* Papers from the Tortugas Laboratory Carnegie Institution of Washington publication No. 102 vol I

* Gaskell W H The Contraction of Heart Muscle. Article in Schafer's *Textbook of Physiology*

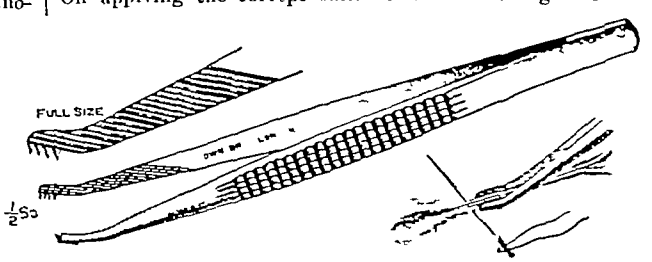
(To be continued)

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

A NEW SKIN FORCEPS

I VENTURE to submit to surgeons a novel idea in forceps for skin suture, illustrated in the accompanying figures The object is to secure full eversion of the edges of the skin in closing a wound The forceps have strong blades, deeply serrated on the inner surface near the ends, to secure a firm hold on the skin and prevent slipping The ends of the forceps, as shown in the figure are bent at an angle to the blades, and on the under edge are three strong teeth On applying the forceps fairly close to the edges of the



skin one on each side and pressing the blades firmly together the edges themselves are evenly everted and an assistant can run either a straight or curved needle through both lips of the wound and tie the suture while the surgeon holds them in the everted position or the assistant can apply the forceps and the surgeon if he prefers it pass the needle The second figure illustrates the forceps in operation They have stood the test of experience and furnish a very ready means of closing a wound without any inversion of its edges and without having to pick up each edge separately *

C P CHILDE B A F R C S
Senior Surgeon [illegible]
Previously [illegible]

* The forceps have been made for me by Messrs [illegible]

Reports of Societies.

INTERNAL DERANGEMENTS OF THE KNEE-JOINT

A MEETING of the Surgical Section of the Royal Society of Medicine was held on January 2nd, Mr C A R NITCH in the chair Mr A G TIMBRELL FISHER spoke on the pathology and treatment of internal derangements of the knee-joint, and Mr D C L FITZWILLIAMS gave a demonstration of a method of removing foreign bodies

Mr TIMBRELL FISHER said that the respective merits of operative and non-operative treatment must depend upon the fundamental question of repair of the menisci, which was largely governed by their nutrition The convex or peripheral parts of the cartilages were better nourished by their plentiful supply of blood vessels than the central or concave portions nourished by the synovia Repair, therefore, in a detachment or tear near the capsular attachment through the vascular zone was rapid, it was slow or absent when a tear had occurred in the centre or near the concave edge When the original injury had been improperly treated the opposed edges of the tear failed to unite, became smooth and endothelialized, and the chances of repair were reduced to a minimum

The injuries to the internal semilunar cartilage in the speaker's series were

Longitudinal fractures 38 1 per cent
Detachments of the anterior horn without obvious fracture 33 3 per cent
Detachments of the posterior horn, usually associated with oblique fracture 19 per cent
Transverse fractures 9 6 per cent

The grosser lesions of the menisci, such as the complete longitudinal fracture and dislocations (the bucket-handle type) which had become chronic, did not lend themselves to cure by manipulative treatment, except in rare cases There were two types of lesion, interfering with the normal "screw-home" movement of the inner femoral condyle, and particularly amenable to treatment by manipulation

(*a*) Minor displacements of the anterior half of the internal semilunar cartilage due to stretching or tearing of the coronary attachment
(*b*) Inflammatory induration of the semilunar process of the infrapatellar pad of fat with adhesions in connexion with the latter process

With regard to the first class, there was in the internal meniscus a weak mechanical site at the spot where the mobile anterior half met the more fixed posterior half opposite the level of the internal lateral ligament A sudden twist inwards of the femur upon the fixed tibia with the knee slightly flexed might, without causing a definite tear of the cartilage or of its anterior attachment, cause a partial rupture of the coronary attachment and a minor displacement not sufficient to cause obvious locking A feeling of discomfort might be present on full extension, which was sometimes limited by a few degrees For these cases manipulation was a valuable therapeutic measure The knee should first be fully flexed and then fully extended It should next be fully flexed and slowly extended, and during the whole of this last act the knee should be rotated inwards and outwards at least ten or fifteen times Towards the end of the extension the tibia should be forcibly externally rotated Manipulation should be followed by a course of exercises for the quadriceps The following points were helpful in diagnosing this group of cases There might be tenderness on firm pressure over the position of the semilunar process, and a little pain and limitation of full flexion Full extension might be painful and if the tibia were rotated outwards at the end of extension the patient would complain of pain There was frequently weakness or unreliability of the joint a tendency for it to swell after exercise and there was a sensation of 'giving way' with an absence of true locking

The other lesions (Mr Fisher continued) such as traumatic dislocation when present were usually characterized by [illegible] mechanical failure Operative treatment was [illegible] No method should be followed which involved injury to the lateral ligaments, especially the internal The patella-splitting exposure and the patella-displacing method of the speaker gave an adequate exposure of the joint, but were unnecessary in cases with classical symptoms, though they were strongly recommended in complicated or anomalous cases For the more classical cases the speaker advocated a curved incision The more vertical element coincided with the anterior margin of the internal lateral ligament, and the more horizontal element curved towards the patellar ligament The whole cartilage should be removed Accurate and careful suturing of the synovial membrane, the semilunar pad, and the aponeurotic layer was very important Skin stitches were removed on the seventh day after operation, and active and passive movements should never be delayed after this date The patient might be allowed to sit on a couch with his legs up from the fifth day At the end of a fortnight active flexion to not less than 90 degrees should be possible

Mr R H A WHITELOCKE said that, whilst amongst miners the commonest internal derangement of the knee-joint was a lateral splitting of the internal semilunar cartilage, amongst athletes the commonest lesion was a tear at the junction of the posterior two-thirds and the anterior third of the cartilage He thought that the transverse incision was very liable to damage the internal lateral ligament The whole of the internal semilunar cartilage need not necessarily be removed, and the posterior part might be left without danger He did not believe that the condition could be diagnosed without the definite symptom of joint locking and usually recurrent locking This alone would warrant opening the joint He never used splints in this condition and did not drain the joint In eight or nine days the patient should be walking with a stick, and in six weeks he should be playing games The speaker mentioned the interesting fact that in a recent International Rugby match between England and Scotland he had operated, for this condition, on seven out of the thirty players, and in one case both cartilages had been removed

Mr GRAY TURNER thought that in cases where a real tear was properly dealt with the results were good For these cases with a definite lesion he favoured the transverse incision and he agreed that it was not necessary to remove the posterior part of the cartilage Where the internal cartilage was found to be normal, and it was wise to explore the external cartilage, he made a separate incision The best incision for a planned opening of the knee-joint was as for an excision, he thought damage was wise in those cases where a severe reaction was likely to follow, and in those patients from whom an external cartilage had been removed In these latter cases haemorrhage was frequent Mr R C ELMSLIE pointed out that in many cases of so-called tear of the internal semilunar no complete lock had ever occurred without this symptom it was impossible to diagnose the lesion definitely Too much loose diagnosis was going on He preferred aspiration to drainage where necessary Sir CHARLES GORDON-WATSON said that the actual split occurred during the movement of extension These were the cases in which the bone-setter scored By manipulation the bucket-handle might be fractured, one end going backwards, the other forwards Afterwards the portions sometimes shrank He agreed that the external cartilage could not be explored from the incision for removal of the medial meniscus Mr R P ROWLANDS said that in these cases he had learnt to avoid the massage department The patients should be taught to do their own movements in bed, and should commence to walk on the second or third day Mr PHILIP TURNER suggested that the recovery of some cases might be accelerated if some less formidable name such as sprain was used to denote the condition Mr MAX PAGE spoke against the use of the tourniquet in these operations

Mr D C L FITZWILLIAMS, in the course of his demonstration of a new and scientific method of localizing and removing metallic foreign bodies, said that during the war many and various methods were used to assist surgeons to deal with such objects Stereoscopic photographs were sometimes good but were expensive, and localizers were all liable to error Electric instruments provided with stethoscopes had been devised which were pushed about in the

tissues in the hope of meeting the object many other methods had been attempted, only to be discarded The usual practice of the present day was the attempt to localize the object by x-ray photographs in two planes, and sometimes by stereoscopic views In the theatre an incision was made in what seemed a convenient place, and the finger of the surgeon was thrust blindly into the depths of the wound to grope for the object the operation had often to be abandoned The method was blind, a foreign body was very difficult to feel when embedded in muscle and could be easily displaced by the finger The method demonstrated by Mr Fitzwilliams was to remove the foreign body by means of an instrument guided by sight and feeling under the x rays Suppose that the foreign body was in the thigh and that the wound of entry had either closed or was so far distant that it need not be considered The limb was laid, prepared as usual, upon a sterile towel A second sterile towel was laid over the limb and all manipulation of instruments took place under this last towel, which separated the field of operation from the fluorescent screen The light was extinguished and, after a moment spent in accustoming the eyes to the darkness, the screen was laid upon the upper sterile towel and the rays were turned on The foreign body was then seen With the gloved finger pressure was made upon the skin of the thigh and the body was seen to move under pressure The finger was moved about, making pressure intermittently till the point was found where the foreign body made the greatest excursion in response to pressure At that spot the foreign body was nearest the finger and could be reached most easily The excursion was *sometimes very free, perhaps 1½ inches in either direction* When the extreme point of movement had been found the finger was kept on the spot, the rays turned off, and the light turned on An anaesthetic was given, the upper towel was laid back and an incision made into the muscles only large enough for the removal of the piece of metal The knife was laid aside and the towel replaced again after the introduction of the point of a pair of forceps into the wound All the subsequent manipulations were performed with this towel intervening between the screen and the limb The light was extinguished and the x rays set going The closed forceps were thrust down to the piece of metal, which would be seen to retreat before it Experience and skill were needed to bring the point of the forceps into contact with the piece of metal The instrument was opened, making a track along which to withdraw the fragment, and closed upon the piece of metal After withdrawal a stitch was put into the wound, which was then dressed in the usual way The operation, said Mr Fitzwilliams, took a shorter time to perform than to describe, and the obvious conclusion was that x rays should be available in every modern operating theatre The advantages of the method were so obvious that they hardly needed enumerating There was a small incision, the tissues were damaged in the least possible degree, the foreign body was not displaced, nothing but sterile instruments entered the wound, and no matter at what depth the foreign body lay it could be removed with certainty

USES AND LIMITS OF VACCINE THERAPY

A COMBINED meeting of the Sections of Medicine, Pathology, Therapeutics, and Pharmacology of the Royal Society of Medicine took place on January 8th, with Professor A J CLARK in the chair, when Sir Almroth Wright opened a joint discussion on the uses and limits of vaccine therapy

Sir ALMROTH WRIGHT commenced by drawing attention to the logical basis which must underlie the consideration of vaccine therapy Conclusions could be reached as the result of two processes—namely (1) direct inference (2) indirect inference The former process involved deductions from precisely similar cases and was not possible in vaccine therapy because, in addition to the simple question, "Will a definite dose of a standardized vaccine do good?" it was necessary to have a complete immunological diagnosis of the patient, including the exact nature and extent of the infection, and the degree of response of the patient These were variable, and so direct comparison and direct inferences were not possible The process of indirect inference was not generally popular, being described derogatorily as theorizing, and yet in the past it was through this process that knowledge had been gained—as, for instance, in the case of those who had first sailed round the world, or of Ambroise Pare, who deduced the method of stopping bleeding by ligature, which was an improvement on the cautery So Pasteur and Einstein were compelled to demonstrate the truth of their theories, which had resulted from indirect inference, before these could win general acceptance In the search for the verdict as to whether vaccine therapy would do good, attention should be paid to indirect rather than to direct inferences in the first place Sir Almroth Wright proceeded to discuss some facts bearing on immunization, the deductions to be drawn and the theories which were concerned In the matter of dosage, although no precise details of comparable cases were available, yet two facts had an important bearing on the question A healthy man would give a certain response to the injection of a large dose of bacteria An unhealthy man, with these bacteria already in his system, gave a like response to a much smaller injection of bacteria The deduction to be drawn was that an infected man needed a smaller dose of vaccine than would be inferred from the case of a healthy man, and hence it was necessary to determine the dimensions of his infection in order that the vaccine dose might be proportionate Moreover, if the dimensions of the infection were increasing, it was clear that a time would come when the bacterial dose already in the system of the patient would become too great to elicit a natural response In such a case the addition of protective substances from outside became necessary—that is, passive rather than active immunization Passive immunization had been long familiar as the basis of serum therapy, but was not yet perfect, since standardization of the protective substances present in any serum had not yet been accomplished, though good progress in this direction was being made The newer process of immuno-transfusion had definite limitations, since the amount of protective substances present in that portion of the blood of the donor which was available for the recipient was obviously limited The truth of the old idea that antibodies were specific had always been doubted by the speaker Laboratory experiments were now indicating that inoculation with one species of microbe protected against others, and it began to appear likely that any one would protect against any other This was a hard doctrine for some to accept In the case of immuno-transfusion there was no need to wait for more than a few seconds after inoculating the donor before collecting his blood, antibodies were already present in it These new substances could not be produced in this short time *de novo*, so they must have been already present somewhere, and have been freed by the injection The fact that about ten days were required for the production of specific protective substances indicated the existence of more than one class of these antibodies In prophylaxis these specific antibodies were more important than the non specific, but in treatment the reverse was the case The crisis of pneumonia was perhaps produced by an accumulation of microbes reaching a critical dose and causing active immunization it was conceivable, therefore, that an attack of pneumonia might be cut short by giving a vaccine injection on the first or second day The case of tuberculosis treatment had been very difficult hitherto, but it had been found out recently that it was possible to secure growth of these bacilli in the blood The removal of white corpuscles accelerated such growth whilst addition of white corpuscles retarded it The addition of tuberculin impeded growth also Septicaemic blood had reduced bactericidal power and the analogy probably held good in tuberculosis Yet in chronic tuberculosis the blood developed a greatly increased immunizing power, and the question arose whether the treatment by vaccine injection in such cases was advisable since the process seemed already to have been pushed beyond the limits of response Perhaps in such cases the right treatment was the introduction of protective substances into the foci of infection In conclusion Sir Almroth Wright doubted the value of tat[illegible]

of judging the results of treatment by vaccine therapy They were too vague, and omitted any consideration of such important details as the variations in different patients and in their treatment, nor were there any definite criteria of results, other than very general results, which did not clash with each other He cited the typhoid statistics collected during the South African campaign and the recent war as an illustration of the fact that statistics, when conscientiously elaborated, were valueless as criteria of results of treatment Experimental results, rather than statistical evidence, determined the employment of any particular treatment, and conclusions were drawn from individual cases and laboratory discoveries The demand for statistics was bad, especially when coming from an intellectual profession

Sir WILLIAM LEISHMAN contended that it was possible to draw from statistics some general conclusions, although the compilation was laborious and thankless Even if prophylactic vaccination did not always give complete protection, yet it undoubtedly decreased the severity of disease when the latter occurred subsequently, it was therefore in some sort a therapeutic process In the case of influenza prophylactic catarrhal vaccines had been of value, even though it might well be that an ultra-filtrable virus, rather than Pfeiffer's bacillus, was the cause of the disease The treatment of septicaemia cases by vaccines had proved disappointing, but he still had some belief in it Finality had not yet been reached with regard to the best method of preparing vaccines, and the older method, which did not involve either desensitization or detoxication, seemed to lead to as good results as did these later methods of preparation More research work in this direction was necessary In spite of Besredka's brilliant work and recommendation of the oral method of administering vaccines, Sir William Leishman favoured the subcutaneous method The International Committee of the League of Nations would probably have some further information about the oral method available later on, but at present it was too early to adopt it He felt that the demand for autogenous in preference to stock vaccines had been rather overdone, and he preferred a well tested stock strain with definite antigenic properties to an untested autogenous strain The general conditions attending vaccine preparation at present were unsatisfactory, and it was by no means certain that the infecting organism found inclusion in the vaccine, especially if the latter was prepared from specimens sent by post to the laboratory with inadequate clinical information He pleaded for a closer association between the bacteriologist and the clinician

Dr WILLIAM GORDON raised the practical point of the dosage of streptococcal vaccines in acute disease He described five cases, in two of which death was narrowly averted after a dose of 250,000 organisms In four out of the five cases good results and final cure had attended the administration of doses of 40,000 organisms at four-day intervals

Dr A P BEDDARD gave a summary of his personal experience of vaccine therapy In catarrhal cases he had had good, bad, and indifferent results, and his impression was that the more nearly the patient was a chronic carrier the more difficult it was to get good results He had found that no bad results followed from prolonged continuance of treatment even for four years, and he recommended such prolongation as having a definite value in the prevention of relapse, though there was no possibility of guaranteeing complete immunity Prophylactic vaccination before operating on infected organs, such as the tonsils, might be desirable even though it necessitated postponement of the operation for two months In pneumonia vaccine treatment before or after the acute septicaemic stage might be advantageous though he was rather doubtful about this In chronic cases he believed that the longer the duration had been the less was the likelihood of good resulting from vaccine therapy and it was also ineffective in diseases of the tubes of the body—for example the alimentary canal, genito-urinary system etc Many of the failures ascribed to vaccine therapy were avoidable the exact bacteriology of [illegible] ought to be worked out before treatment started, [illegible] should not be determined empirically The impression that a few doses would cure a chronic case required correction, in order that subsequent disappointment might be avoided, local treatment must not be neglected where indicated

Dr NORMAN MCCASKIE agreed that vaccine therapy was very valuable as a prophylactic in catarrhal infections He employed stock vaccines at first, resorting later to autogenous ones if they were not efficacious He had had successes in the treatment of infective arthritis with vaccines of faecal streptococci

Dr R R ARMSTRONG gave an interesting account of recent experimental work on the development of antibodies in rabbits, and illustrated it with two charts The differences in the antibody production of ordinary and sensitized vaccines were brought out, and the former appeared to be the more satisfactory The subcutaneous and intravenous methods were similarly compared

Owing to the lateness of the hour no further discussion was possible, and Sir Almroth Wright did not reply

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NEPHRITIS

AT a meeting of the Royal Medico-Chirurgical Society of Glasgow held on December 7th and 14th, 1923, a discussion took place on nephritis, with special reference to the physiology and pathology of the kidney Professor E P CATHCART gave a brief survey of the modern views with regard to the physiology of the kidney and its function, referring particularly to the "filtration-reabsorption" theory of urinary excretion and also to the part played by the kidney in the regulation of the hydrogen ion concentration of the body fluids

Professor J SHAW DUNN (Manchester) prefaced his remarks on the morbid changes in the kidney in nephritis by referring to two conceptions of importance in the study of these changes The first was the conception of the glomerulus and tubule as a unit of renal structure from the anatomical point of view Any damage to a glomerulus which produced quantitative or qualitative changes in its filtrate must also affect the function of the tubule, while any disturbance of the vessels of the glomerular tuft must affect the blood supply of the tubule The second conception was that of reserve function The destruction of a large part, or the whole, of one kidney by a gross lesion such as tumour or tuberculosis was rarely followed by any evidence of renal inefficiency, and this was true also in some of the more diffused lesions of nephritis The clinical picture might therefore give an inadequate indication of the extent or severity of the kidney lesion

The morbid histology of the various forms of nephritis was then described in detail

1 *Acute Glomerulo tubular Nephritis*—Found in cases of acute nephritis resulting in death from renal insufficiency Swelling and excessive cellularity of the glomerulus, in extreme cases the capillaries so filled with nucleated cells that the circulation seemed almost blocked The lesion was essentially diffuse and widespread in both kidneys, and in some cases capsulitis was present, with exudate in the capsular space, leading to compression of the tuft The tubules showed varying degrees of involvement, with haemorrhage, and epithelial degeneration The severity of tubular change corresponded with that of the glomerular change

2 *Focal Glomerulo nephritis*—Seen in some forms of septic infection The essential lesion was necrosis of the tufts from the presence of thrombi in the capillaries It was focal in type and so renal insufficiency was not common, though albuminuria and haematuria might be present

3 *Acute Interstitial Nephritis*—Seen in scarlet fever and streptococcal infections This was also a focal lesion with areas of cellular infiltration which might occasionally be so numerous as to cause signs of renal insufficiency

4 *Subacute Nephritis*—Two main types were found depending on the extent of the glomerular damage (1) In this type, which was named nephrosis by Volhard and Fahr the pathological alterations were always confined to the tubules,

which showed epithelial swellings and degeneration, with but little desquamation The glomeruli showed little change, except early signs of glomerulitis In the opinion of the writer this type represented a later and convalescent stage of an earlier glomerulo nephritis In this type the hydraemic symptoms prevailed, and there was little tendency to uraemia or high blood pressure (2) All the glomeruli usually showed changes which were the results of acute glomerulo nephritis Sometimes the lesions were confined to the tufts, hyaline thickening of the capillaries being accompanied by narrowing and excessive cellularity The glomeruli might show late capsulitis with fibrous overgrowth, and there was also a well marked diffuse overgrowth of the interstitial tissue of the cortex, and destructive changes in the tubules

5 *Chronic Nephritis*—The chief distinctive feature was the granular, contracted, and fibrous condition of the kidney—a complex lesion resulting from various forms of earlier acute lesions Two groups were usually recognized (1) Secondarily contracted kidney, which had also been called the small white kidney ' This was characterized by a very diffuse fibrosis of the interstitial tissue, with atrophy of the tubules and glomerular fibrosis Arterial changes might be prominent, and, clinically, a high blood pressure and cardiac hypertrophy were found (2) Focal chronic nephritis—the so-called primary chronic interstitial nephritis—the small red kidney An intense but focal fibrosis of the renal cortex was present, with atrophy of the tubules and fibrosis of the glomeruli The areas surrounding might be almost normal, or show hypertrophy The origin of this type was still much disputed, and several views had been put forward—for example, that it was (*a*) a primarily fibrotic inflammation due to the slow action of some mild irritant poison over a long period of time, (*b*) a primary arterial narrowing with secondary renal atrophy and fibrosis, (*c*) the terminal phase of an acute focal glomerulo nephritis, the arterial changes being secondary and associated with the high blood pressure

Professor T K MONRO gave a brief historical survey of the various conditions included under the term nephritis and referred to the classification into three types, one acute and two chronic He inclined to the opinion that the secondarily contracted kidney—the chronic form of nephritis following an acute attack—was perhaps the commonest form met with now in hospital practice The features, clinical and anatomical, were intermediate between those of the large white kidney and of the small red kidney He described in detail the clinical and pathological features of these various types, referring particularly to the relation of the acute and chronic stages, and drew attention to the acute case, which represented an exacerbation of an underlying chronic disease, and also to the fact that apparent recovery from an acute attack might be followed by the return of the patient later with evidence of chronic disease He then discussed the relation of the arterial sclerotic kidney—admittedly of vascular origin—to the small red granular contracted kidney, and pointed out that, though the latter might yet be found to be of arterial origin, the two conditions were clinically quite distinct

Dr ETHEL CRAWFORD described in detail the results of renal efficiency tests which had been carried out in a series of cases in the Royal Hospital for Sick Children, Glasgow The children were under 13 years of age and were all suffering from inflammatory lesions Three tests were selected for comparison (1) The phenolsulphonephthalein test (2) The urea concentration test (3) The urea content of the blood

1 *Pigment Test*—In acute cases the excretion averaged 48 per cent.—generally low at onset but increasing as the symptoms subsided In chronic cases—three months or longer—the average was 57 per cent In a control series of twenty six normal cases, the excretion averaged 67 per cent The test was found to have no prognostic value

2 *The Urea Concentration Test*—In acute cases the average was 2 1 per cent in chronic cases 2 8 per cent The results of this test were found to be very misleading unless taken in conjunction with the urea content of the blood

3 *The Urea Content of the Blood*—In acute cases the average was 76 6 mg per 100 c cm , in chronic cases 37 In normal controls the average was 39 It was high at the onset of the disease and remained high in acute cases, but diminished as a rule as the condition improved This test was no guide to prognosis nor was it commensurate with the severity of the symptoms

In general these tests did not give any more definite evidence of the severity of the disease, or of the probable outcome They did not give any help in distinguishing between acute, subacute, and chronic cases, and during the disease they merely corroborated the evidence of clinical symptoms

In the discussion which followed, Professor MUIR expressed the opinion that the time was not far off when a definite relationship would be established between the functional disturbances and the structural changes in the kidney in the various types of nephritis He referred to the progress already made in the differentiation of the azotaemic and hydraemic types and was especially interested in Professor Dunn's remarks regarding the association of the hydraemic type with subacute nephritis He found it difficult to harmonize the modern physiology—that is the filtration-reabsorption theory—with the pathological facts of the disease

The following members also took part in the discussion Drs J NORMAN CRUICKSHANK, JAMES R C GREENLEES, G M WISHART, Messrs INGLIS POLLOCK and W W GALBRAITH, Drs J FERGUSON SMITH, H E JONES, and W SYME

MYOSITIS OSSIFICANS

A MEETING of the Manchester Pathological Society was held on November 10th, 1923, the President, Professor G R MURRAY, being in the chair Mr JOHN MORLEY showed a specimen of bone removed from the straight head of the rectus femoris in a young man This growth, which was almost the size of a cricket ball, had appeared after an injury, and was an example of myositis ossificans He removed it because it interfered with the mobility of the limb Mr TELFORD deprecated operation on these cases, having found that if they were left alone the bone was reabsorbed, leaving little trace Mr PLATT thought that early operation was a mistake, and that "ripening" should be awaited, but that operation was indicated when the mobility of the limb was seriously impaired The social status, sex, and occupation of the patient were obviously decisive factors Mr MORLEY agreed that resorption occurred, but the piece of bone here was so large and caused such inconvenience that he felt fully justified in removing it When a certain density had been reached there was little danger of disseminating the osteoblasts by operation He advocated the use of fascial transplants to repair the periosteum, accepting Macewen's views on the limiting nature of this membrane

Mr PLATT then gave a lantern demonstration of bone cysts in various parts of the body He showed the effects of operation, curettage, and chemical disinfection of the cavities A full account of this work will be published later Mr HUGHES demonstrated a case of solitary ileal tuberculous ulceration from an adult

Dr HILLYARD HOLMES showed an interesting specimen of glioma of the posterior end of the corpus callosum He outlined the clinical history of the case, and gave a resumé of the literature Brain tumours in this situation were not common and there was no unanimity as to their symptomatology Mr GEOFFREY JEFFERSON agreed that from the clinical side there was nothing in this case that had been elicited which was characteristic of a callosal growth The posterior end of the corpus callosum carried in all probability the fibres co-ordinating visual impressions T of these were not usually made but it was not beyond the ingenuity of man to devise them He suggested that studies of the fibre degenerations produced by the tumour might give valuable suggestions as to the functions of the parts and aid diagnosis in future cases

PNEUMOCOCCAL INFECTIONS

At a meeting on December 12th, Dr J H DIBLE opened a discussion on pneumococcal infections from the bacteriological aspect The pneumococcus, like other members of the streptococcus group, could not be defined in terms of either its morphology or any other critical property It had to be differentiated from the streptococcus and enterococcus, and this could only be done by surveying the whole of its biological properties and, in particular, the production of methæmoglobin from blood, absence of resistance to heat, solubility in bile, and fermentation of inulin Serologically three strains had been differentiated as specific by Dochez and Gillespie, and a fourth group constituted out of the inagglutinable remnant Of these groups specific serums, with protective properties as regards experimental animals, had been prepared for the first two, but of these only the serum for Group I was sufficiently potent to give prospect of being of use in human therapeutics The lesions in the human body were found in the lung, peritoneum, and meninges In the lung the speaker described the work of Cecil and Blake at the Rockefeller Institute, and said that the main deductions to be drawn were the proof of the etiology of the pneumococcus in pneumonia, the settlement of the dispute with reference to the route of invasion in favour of the aerogenous one, and the demonstration of the progressive involvement of an infected lobe by extension of the disease centrifugally from the root zone The pneumococci in the early stages remained within the fibrous framework of the lung, the perivascular and peribronchial tissues, and alveolar walls, thus causing an inflammation which in its early stages was an interstitial one The other interesting feature of pneumonia was the crisis and its cause The speaker favoured the older view that it was due to a development of antibodies There were two significant facts in this connexion—first, the presence of antibodies in the blood of convalescents, and, secondly, the very constant time incidence of crisis The speaker showed curves of the production of antibody in experimental animals, and pointed out that the maximum production occurred at about the time corresponding to the clinical crisis

Dr G J LANGLEY, speaking from the clinical point of view, pointed out that the death rate from pneumonia was still very high A *mortality rate of one in four* was a serious matter About [illegible] of the cases were due to Type I pneumococcus, for which an antiserum was in existence Serum treatment had not been employed sufficiently long in this country to allow useful deductions to be drawn, but in the United States benefit appeared to have resulted A mortality reduction of even 10 per cent would be a great gain The old clear-cut distinction between lobar and bronchopneumonia was disappearing, but the pneumococcus was responsible for both The incidence of either seemed to depend on fortuitous circumstances of dosage and lodgement of the infective organism

Mr F E HUGHES gave an interesting summary of Dr J C McCartney and Mr John Fraser's work on pneumococcal peritonitis This tended to confirm the belief of Cecil and Blake that pneumococcal infections were not usually blood-borne, but came by direct spread in the majority of cases Most cases of primary pneumococcal peritonitis occurred in females, apparently from tubal spread In boys, on the other hand, the infection was usually metastatic from a previous nidus in the lung

Professor SHAW DUNN said that it was not clearly evident from human *post-mortem* examinations that the pneumococcus attacked the hilum first and then spread out into pulmonary tissue in the form, if he might say so, of a cellulitis He did not think that human *post-mortem* findings were necessarily opposed to Cecil and Blake's conclusions, for they were able to examine the inflammation at any selected point in its course, whilst the human pathologist had to be content with end-results The human subject did not die at the early stage at which the hilum infection could be clearly demonstrable He agreed on the whole with Dr Dible's views as to antibodies and the crisis, and thought that lobar pneumonia was comparable with a single [illegible] whilst in bronchopneumonia the picture was [illegible] a number of small doses occurring at different times, each insufficient in itself to bring about a curative outpouring of antibodies

Dr HILLIARD HOLMES remarked that examination of the chest led him to doubt if the hilum was first affected He asked how cases of pleuropneumonia where a friction-rub was heard before tubular breathing was manifested could be explained In reply he was asked how he knew where the rub had originated, might it not be towards the root? Dr Holmes thought it was not, and commented on the difficulty of reconciling clinical findings with pathological facts, especially in the case of the human subject, where control by necropsy was not possible at the most valuable time

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TREATMENT OF TUBERCULOUS SINUSES

A MEETING of the Liverpool Medical Institution was held on December 20th, with the President, Professor J HILL ABRAM, in the chair

Mr J T MORRISON read a note entitled "The treatment of tuberculous sinuses" He pointed out the need for an efficient and labour-saving method in a condition of such chronicity and seriousness Radical operation was possible only in a minority of cases, in others removal of sequestra, scraping out a caseous gland, counter-incision, etc, must be performed In the majority of cases, however, patient attention to daily dressing was all that was indicated, and the bipp method was the most suitable, with its strict asepsis After passing a fine rubber tube to the end of a carefully explored track, he aspirated pus, and then washed out with spirit Bipp suitably diluted with liquid paraffin was then injected so as to fill the track from the bottom up, it should never be stiff enough to dam back discharge, or so thin as to run out of a dependent opening A dry dressing, carefully secured in place, might be left a week, ten days, or longer, and should not be touched until an indication arose The need for redressing was diminished, and patients so treated did well, provided the whole of the diseased track was reached This treatment should not be used where active inflammatory trouble was present, and only with caution in abdominal sinuses Chest sinuses were suitable, however, even those with bronchial fistulæ Cavities in the chest up to half an ounce capacity might be filled with bipp, the larger ones should merely have their walls coated with bipp sprayed on in ethereal solution The bipp method of treating tuberculous sinuses was a useful addition to one's armamentarium in all circumstances, but when one was single-handed or skilled assistance was inadequate, it was invaluable

Dr NORMAN CAPON reported on six cases of hæmorrhagic disease of the newborn He pointed out that hæmophilia and hæmorrhage secondary to sepsis, syphilis, enteritis, etc, should not be included in this category After a brief description of his own cases, Dr Capon drew attention to the various theories which had been advanced to explain the abnormalities of coagulation which appeared to form the basis of the disease It was probable that cases might be divided into two groups, one in which coagulation time was lengthened, with deficiency of pro thrombin, the other with prolongation of bleeding time, ascribed by various workers to deficiency of prothrombin, of blood platelets, and of thrombokinase The important clinical features were recorded and emphasis was laid on the efficacy of whole-blood administration by subcutaneous injection, or, in more severe cases, by intravenous transfusion, using either a superficial vein or the superior longitudinal sinus The mother was generally selected as the donor, and preliminary blood-grouping was not necessary Of Dr Capon's cases, five recovered and one died

Dr H H L PATCH read a paper on dangers during the administration of anæsthetics Depression or failure of the respiration and the circulation due to the action of ether and chloroform in the various anæsthetic stages were discussed in detail, special mention being made of overdosage The dangers of light chloroform anæsthesia were touched upon, with instances of too early commencement of the operation causing reflex circulatory and respiratory failure Comment was made on the mental hyperexcitability produced by the hypodermic injection of atropine prior to the operation It was held that the

sphygmomanometer should be used in all serious cases, and that accuracy in gauging the fall of blood pressure was a very important point for both the anaesthetist and the surgeon

The usefulness of Hewett's airway was mentioned and the opinion expressed that with its use bronchitis was not found to follow an anaesthetic more frequently than without it The writer held that bronchitis was due to irregular administration or previous disease

The latter part of the paper was devoted to difficulties and dangers found in anaesthetizing patients suffering from fear and apprehension, from adenoids, in which condition the writer advocated ether, and from abdominal conditions Conditions of spasm of the glottis and overdosage were considered, and the writer discussed the possibilities of diagnosing status lymphaticus before anaesthesia

Dr G F R SMITH believed that the advantages of using a pre-operative dose of morphine outbalanced the disadvantages, and emphasized the danger of moving a patient suddenly

MYELOGENOUS LEUKAEMIA

A MEETING of the Section of Medicine of the Royal Academy of Medicine in Ireland was held on December 14th, 1923, with the President, Dr T GILLMAN MOORHEAD, in the chair

Drs A R PARSONS, W FEARON, and G HARDMAN reported jointly on a case of myelogenous leukaemia, with special reference to the output of uric acid

The patient a boy of 11 years had enjoyed good health up to twelve months ago and lived an outdoor life on a farm, his family history was excellent The illness commenced with pain in the right hip followed by progressive loss of strength Four months before admission to hospital swelling of the abdomen was noticed, but even when considerable, it caused little inconvenience On admission the spleen was found to be enormously enlarged filling two-thirds of the abdominal cavity it extended three inches to the right of the middle line and down to the pelvis The red blood corpuscles numbered 3 000 000 per c mm and the white blood corpuscles 1 100 000 per c.mm Numerous myelocytes mast cells and nucleated red blood cells were present X ray treatment was commenced and a rapid decrease in the number of leucocytes took place, accompanied by pyrexia, on one occasion to nearly 106° F In seven weeks' time the count was only 5,800 c mm and taking the minimum estimate of the amount of blood in the body the number of leucocytes destroyed was 1 125 000 000 000 The maximum output of uric acid was 1 6 grams in the day and the amount fell with a curve corresponding fairly closely with that of the fall in leucocytes till it reached 0 4 to 0.5 gram per diem at which it remained steady Fifteen x ray doses each of half an hour were given The skin was carefully protected and showed no signs of irritation The red blood cells and body weight improved

Dr A R PARSONS showed charts illustrating the fall in the white cell count and the uric acid output during the x ray treatment The excretion of uric acid was large while the white cells were being rapidly destroyed, and gradually diminished as the white cells decreased Dr FEARON, who had performed the uric acid estimations, said that the methods adopted in the case of the urine were (a) Cole-Hopkins precipitation method (b) Benedict-Franke colorimetric method (1922) In considering the leucocytes as the source of uric acid it should be remembered that some of the intermediate purins might have accompanied the uric acid in the urine and escaped detection Until the total urinary purins had been estimated in such cases it was not possible to ascribe a definite significance to the concentration of leucocytes in the blood as a factor in endogenous uric acid metabolism

Dr HARDMAN described the details of the x ray treatment, which was given three times a week, measured ports of entry being used, and the dose given, measured by the Sabouraud pastille was equivalent to one and a half times the "B" tint, or Sabouraud dose After sixteen doses the white blood count had fallen to 6 160 and the spleen had been reduced to almost half its former size In cases of myelogenous leukaemia which he had treated there had been improvement at first but the condition had recurred, and with each recurrence the response to radiation was less, both as regards the diminution in size of the spleen and the reduction of the number of white blood cells Patients who were taking arsenic, or who had recently had salvarsan, should be watched with special care, since the blood changes in such patients were sometimes more rapid

SIR JOHN MOORE remarked that one year previously he had shown a case of myelogenous leukaemia, and his patient's age was also 11 years Recently he had seen the patient again, but he could not be induced to return to hospital When first seen the leucocytes numbered four hundred thousand, but under treatment by x rays they greatly diminished In America a case had been reported in which there were more than a million leucocytes

Dr V M SINGF said that the maximum white cell count he had found in cases of myelogenous leukaemia was one million two hundred thousand In the same case the red cell count was one million eight hundred thousand

Dr G E NESBITT had at present a very striking case of myelogenous leukaemia in hospital, the white cells numbering 156,000 per c mm The patient was a woman aged 35, and, after admission she was kept under observation for a time, without treatment, the white cell count rising steadily until at one time the white cell and the red cell count were equal She had an enormous spleen She had had fourteen x-ray exposures, and now the white cells numbered 850,000 per c mm She had also been given benzol, and novarsenobillon injections intravenously

The PRESIDENT, in closing the discussion, pointed out that in the relapses which occurred x rays were never so useful as when first applied, either in reducing the size of the spleen or the number of white corpuscles With regard to treatment by benzol, he quoted two very successful cases which had been reported by him several years previously Of late he had not obtained such good results, and was inclined to attribute this to the fact that a different type of benzol was now on the market In his early cases, the urine had always become dark from treatment with benzol, but more recently he had not observed this sign There was no doubt that in the first case he had observed, in which benzol was the only treatment employed, an enormous reduction in the number of white cells, with corresponding improvement of the patient, had taken place He was specially interested in the rise of temperature which had occurred in Dr Parsons's case coincident with the fall in the number of white cells

DEXTROCARDIA

Dr LEONARD ABRAHAMSON exhibited a patient with congenital dextrocardia and read a paper on two cases of this disease, pointing out that whilst congenital dextrocardia as an isolated anomaly was rare, it was by no means a rarity with transposition of the viscera After dealing with the anatomical findings in such cases, and with the hypothetical explanation of their origin, Dr Abrahamson discussed the diagnosis with particular reference to the electro-cardiogram

The first case a man aged 20 was admitted to hospital with an attack of catarrhal jaundice and was found to be a case of dextrocardia Examination revealed an apex beat in the fifth right intercostal space three and a half inches from the mid spinal line Cardiac dullness was found over the right side of the chest and the heart sounds were heard there also X rays showed the presence of dextrocardia with transposition of the abdominal viscera Electro-cardiograms which were demonstrated by lantern slides showed inversion of the waves in lead I In leads II and III the waves were upright A tracing was taken after interchange of the arm electrodes, and the waves were then found to be upright in all leads Lead II in the tracing followed the interchange of electrodes corresponding to lead III of the previous tracing

The second case was that of a man aged 52 in whom the findings including the electro-cardiograms were similar to those in the previous patient

The PRESIDENT observed that in both cases there was complete transposition of the viscera He had seen four such cases and he would like to know if the condition tended to be hereditary Dr PARSONS thought that complete transposition of the viscera only occurred in about one out of every five million persons Dr W BOXWELL said that a woman aged about 40 had recently come to the dispensary at his hospital with this condition Dr C L MURPHY knew of a middle aged man who was suffering from complete transposition of the viscera and thought that this condition must be more frequent than Dr Parsons believed Dr T T O'FARRELL had seen another case of complete transposition of the viscera during the present year Dr L ABRAHAMSON replying said that he had not been able to find any evidence of a hereditary factor

Reviews.

SCIENCE AND THE FUTURE

J B S HALDANE also is among the prophets, and if any man of science a little weary of experimental protocols and prudent conclusions therefrom wants to be stimulated, perhaps irritated, but certainly amused, let him get *Daedalus*,[1] read it through, as he may in half an hour, and though he may be left wondering how much of it is the author's fun he will feel that he has not wasted his time

J B S Haldane begins by, in Johnsonian manner, tossing and goring Mr Chesterton and Mr H G Wells, the former for having suggested (fifteen years ago!) that the progress of science might cease through lack of new problems for investigation, and the latter for being conservative and unimaginative Then we pass swiftly to the theory of relativity Einstein, the author does not doubt, will be believed—"a prophet who can give signs in the heavens is always believed Einstein has told us that *space, time, and matter are shadows of the fifth dimension*, and the heavens have declared his glory" Materialism, whether conscious or subconscious, which after Newton's day became the working hypothesis of the physicist, and finally of all educated men, is to be replaced by Kantian idealism as the basal working hypothesis first of physics and then of everyday life This stage, it is thought, will last for some centuries, then to be changed by some similar step in advance But it is forecast that "physiology will invade and destroy mathematical physics, as the latter have destroyed geometry" We are presented with a sketch of what physics and chemistry may meanwhile accomplish in the way of annihilating space, of providing cheap light and power, and of making possible a stable industrial society The source of cheap power is to be the wind, "rows of metallic windmills working electric motors supplying current at very high voltage to great electric mains," the surplus being used for the electrolytic decomposition of water, the resulting liquid hydrogen being stored and the energy obtained as wanted by recombination Industry will be decentralized, and no smoke or ash will be produced Chemistry is to tackle the food problem, produce starch from cellulose—it has been done, but at great cost—and *many other foodstuffs, including the proteins*, from coal and atmospheric nitrogen, finally, with the help of biology, a food glut is to be brought about through, in part, an excessive supply of food to the fishes of the sea It is true that this forecast is contained in what the author calls a myth, more properly a fantasy, purporting to give the substance of an undergraduate essay written 150 years ago The essayist also describes how, about the middle of the twentieth century, the first ectogenetic child was born and how within twenty years France was producing 60 000 children annually by this method Our contemporary essayist comments on the results for the individual of the separation of reproduction from sexual love, but does not seem quite clear that they will be wholly an improvement No wonder that for J B S Haldane "the biologist is the most romantic figure on earth at the present time" And he has other reasons for his belief less "startling" (to quote his publisher) than this

It is not however, to be concluded that the author is an apostle as well as a prophet His attitude is one of detachment He has given rein to his imagination and studied the pictures it has presented to him He accepts the probability that the agricultural labourer will disappear in favour of the factory worker, who he thinks a higher type of person from most points of view "Synthetic food will supersede the flower garden and the factory for the dunghill and the slaughterhouse and make the city at last self-sufficient" Finally we may note his conviction that science is vastly more stimulating to the imagination than are the classics he regrets, however, that the products of the stimulus do not normally see the light because scientific men as a class are devoid of any perception of literary form This is almost the only note of pessimism The essay is brilliant, sparkling with wit, and bristling with challenges We imagine that no man of scientific training will, when he lays it down, find himself looking at the facts of life and possibilities of the future in quite the same way as he did when he took it up

[1] *Daedalus, or Science and the Future* By J B S Haldane M A London Kegan Paul Trench Trubner and Co, Ltd 1924 (Cr 8vo pp vii + 93 2s 6d net.)

CONSTIPATION AND COMMON SENSE

DR WILLIAM S WALSH, in his book *The Conquest of Constipation*,[2] turns the hose of common sense upon the question Constipation has always been the bugbear of the general practitioner and a rich source of revenue for the patent medicine manufacturer, and it is refreshing to read a book like Dr Walsh's, which considers the problem in all its aspects and aims at reasonable conclusions He holds that the cure of constipation is largely a matter of self-discipline, cure, without the removal of faulty habits, being rarely possible To this end he devotes several chapters to personal hygiene, constipation and worry, training the intestines, diet, etc, all of them setting out in detail the simple measures that should be adopted before recourse is had to drugs He does not despise drugs, but urges a wise discretion in their use, preferring to rely on more natural methods of relief With regard to surgical measures he is in line with the general consensus of opinion in believing that "chronic constipation is a disorder that rarely requires operative interference"

Not the least valuable part of the book is that treating of the effects of constipation The author rightly complains of the greatly exaggerated ills which are said to arise from the disorder While recognizing the existence of effects due to auto-intoxication he considers that they are not so far-reaching and important, generally speaking and putting aside exceptional cases, as is popularly supposed The lay mind is especially prone to place all manner of ills at the door of constipation, and Dr Walsh has a very wholesome word to say to those who are given to brooding over the inactivity of their intestines His extreme instance of the French army surgeon who did not have an evacuation oftener than once every two months, diminishing after the age of 42 to two or three evacuations a year, and yet lived to the age of 84 ought to allay the fears of many In fairness to the author it should be said that this example is at once followed by the precept, "it is best that most of us strive to have a movement once a day"

Throughout the book Dr Walsh exhibits very temperate views, and successfully holds the balance between extremes The language is simple and free enough from technicalities for the layman to read and understand The writing is without sense of effort, it holds the attention and is often picturesque In so far as it is possible in a short work the subject is treated with admirable completeness, the problems of constipation in infancy and childhood each finding a chapter, though the main portion concerns adults The book may be recommended to the overworked practitioner, it is very easy reading, and is obviously the work of a man with an understanding mind

[2] *The Conquest of Constipation* By William S Walsh M D London and Toronto J M Dent and Sons, Ltd 1923 (Cr 8vo, pp vii+255 5s net.)

DIABETES MELLITUS

DR GRAHAM'S Goulstonian Lectures delivered in 1921 were a notable contribution to our knowledge and understanding of the physiology and pathology of *glycaemia* and *glycosuria* His book the *Pathology and Treatment of Diabetes Mellitus*[3] is based on these lectures, which have been revised and the opportunity taken of incorporating work done since the lectures were given The book is divided into two parts The first deals with the physiology of sugar metabolism, and the second contains an account of the different types of diabetes mellitus, their recognition and treatment There is also a chapter on the use of insulin, a remedy whose introduction has already caused most of our ideas to halt for expression Dr Graham has collated the known physiological facts bearing on carbohydrate

[3] *The Pathology and Treatment of Diabetes Mellitus* By George Graham M A M D F R C P London H Frowde and Hodder and Stoughton 1923 (Cr 8vo, pp x+183 29 figures, 2 charts 6s net.)

metabolism briefly and well Even those of us who have nearly forgotten all the physiology we once learnt will read this epitome with understanding and pleasure The chapter on the conditions of sugar excretion is full of information most useful to every practitioner without being at all abstruse

In his description of the treatment of diabetes Dr Graham devotes a good deal of attention to the value of fasting When he speaks of insulin he says that it can be used to cause the blood sugar to fall, and is much more efficacious than *starvation He advocates, however, a judicious* combination of underfeeding with insulin in order more quickly to secure rest for the pancreas, and also in order to economize insulin Dr Graham does not appear to lay so much stress on the advisability of adequately nourishing the patient from the start as Banting has done His ladder diet keeps the patient undernourished for what some observers might consider an unnecessarily long period Nevertheless, the cases he quotes (admirably illustrated with blood sugar charts) show the excellent results obtained at St Bartholomew's Hospital by following his plan Dr Graham's book can be warmly recommended, it is well printed and the price is reasonable

OBSTETRIC TEXTBOOKS

THE art of midwifery is still based largely on tradition, and in time constant repetition creates the semblance of permanent truth It is therefore with critical eye that we view the appearance of a new obstetric textbook MM DEMELIN and DEVRAIGNE in their obstetrician's manual[1] have not laid claim to originality of conception, their object has been to present the results of an extensive personal experience This they have quite admirably accomplished in a somewhat bulky volume which is well arranged, clearly expressed, and satisfactorily illustrated From the practical point of view it is sufficiently comprehensive, quantitatively it considerably exceeds the demands of the average English student, who wisely realizes that beyond the stage represented by his qualifying examination there is only one way to acquire the obstetric art Prior to that, and under present-day conditions, he is unfortunately handicapped rather by limited opportunities of first-hand observation than by any brevity of his textbooks

The science of midwifery is another matter, though its deficiencies are by no means of purely academic interest, the first step to progress is a frank admission of the gaps in our knowledge It is therefore with disappointment that we turn to such expressions of opinion as this "The belief is now growing more and more that these simple attacks of vomiting are a manifestation of an autointoxication of pregnancy, which has its origin in the chorionic villi, and makes its appearance when there is inadequacy of the internal secreting glands (corpora lutea, suprarenal, thyroid, etc)" This sort of thing is neither an expression of personal experience nor a statement of scientific fact, and tends to make the reader mistrustful of all else that is written between the same covers Unhappily, the same criticism applies to many of our own textbooks, and it must not be imagined that the general standard of the work under consideration is other than good However hackneyed the physiological and pathological sections, the clinical material is sound, and technical procedures and their indications are well described

The mission of the authors is their own affair, but it is a little difficult to visualize a scope for their book in this country The student who had assimilated all its pages might find very little room left in his head for the cultivation of that common sense which is the mainstay of every practical obstetrician and the seeker after new truths might seek in vain Possibly the book may serve as a useful work of reference to the "occasional" practitioner of midwifery it may also suggest modifications in technical detail of value to those who are dissatisfied with their own practice We must assume the French undergraduate to be a somewhat more voracious reader than our home product

The new edition of WHITRIDGE WILLIAMS'S *Obstetrics*[2] fully maintains the place of its predecessors as an adequate and up-to-date account of the scientific basis of obstetrics and a judicial summary of its practice It is almost fifty pages longer than its immediate forerunner and has been enriched by additional illustrations The treatment of the development of the ovum has been extended and the new plate illustrating embedding of the ovum as seen in early specimens is helpful The new orientation in the discussion of toxaemia in view of recent work and extended experience is charac*teristic of the openness of the author's mental vision, and* other restatements of less extent and importance are noticeable throughout The bibliography is as before full and good, but on page 973 a joint nodding on the parts of printer and reader makes necessary a reference to the original paper to discover what really happened to Dr Haig Ferguson

A BOOK FOR WOMEN

Straight Talks to Women,[3] by Dr MARY SCHARLIEB, is a book written in a manner which is exceptionally clear and interesting A foreword is contributed by the Bishop of London, who points out that the many problems of to-day which have gathered round sex "combine to demand that the voice of one who knows what she is talking about should be heard" There is throughout the book a background of orthodox Christian faith which determines the author's attitude of mind to all the questions with which she deals

In six chapters Dr Scharlieb epitomizes the life of a child as seen by the observant and intelligent parent The first chapter deals with the care of little children It is masterly in the stressing of the important things, and in the avoidance of trivial digressive detail In the next chapter, which deals with adolescence, the author explains the possible pitfalls, and how they may be avoided Great experience and insight into human nature are evidenced in the chapters entitled Courtship and Early Married Life Emphasis is repeatedly laid on the advisability of the exchange of certificates of health between a betrothed pair A plea is addressed to young wives and husbands to endeavour to lead a simple life, the advantages of which to health and character are vividly pictured Dr Scharlieb touches briefly on the present conditions of housing, unemployment, sweated labour, venereal disease, domestic service, the need for enforced vaccination, and the bearing which these conditions and questions have on the young people of to-day The chapter on the care of the family is helpful The objects of the present temperance campaign are briefly outlined in this connexion

In the next three chapters the author presents, and to a certain extent discusses, the question of birth control It would appear to be her aim to put this question into a perspective relative to the whole of life, and in so doing detract from the distorted prominence recently given to so ancient a subject Dr Scharlieb quotes the reasons generally advanced in support of the practice of birth control and answers each in turn She then proceeds to give a brief review of the July number of the *Practitioner*, which contained a collection of opinions on this subject from medical men and women She misquotes, however, one sentence on page 158 of her book, or there has been an error in the printing, the statement is made that "it (that is, condom) failed in 5,470 of the cases investigated," whereas the original article stated that it failed in 54 per cent of the cases The author strongly condemns the use of artificial contraceptives

Divorce is the title of the final chapter, and Dr Scharlieb's views on this question, in accordance with the rest of the book, are based upon religious ethics A vivid picture is drawn of the difficult conditions of modern town life, which have led "to less stable, less dutiful, and less well-controlled lives than were the much simpler ones of bygone years"

[1] *Manuel de l'Accoucheur* Par L. A Demelin et L. Devraigne Paris O Doin. 1923. (Roy 8vo pp 1520, 465 figures Fr 68.)

[2] *Obstetrics A Textbook for the Use of Students and Practitioners* By J Whitridge Williams Professor of Obstetrics Johns Hopkins University Fifth enlarged and revised edition London and New York D Appleton and Company 1923 (Med 8vo pp xix + 1076 690 figures 17 plates. 40s net)

[3] *Straight Talks to Women* By Mary Scharlieb M D M S London Williams and Norgate 1923. (Cr 8vo, pp 182. 5s. net.)

PSYCHIATRY

In a small volume entitled *Elements de Neuro-Psychiatrie*[7] Dr HENRI DAMAYE urges with much vigour the necessity for biological methods in the diagnosis and treatment of mental disorders The descriptions of the various clinical groups are compressed and require no special comment, it is the general attitude of the author to the problem of the psychoses which is of special interest Though he recognizes that the study of mental symptoms is an essential part of psychiatry, he feels that this is not enough He points out that disorders of the brain are frequently the result of an infection, an intoxication of the organism, or a disorder of general nutrition The therapeutics and causation of mental disorder therefore necessitate a wide knowledge of medicine, and the modern psychiatrist should be acquainted with general pathology, the diseases of the organism, infections, intoxications, and the natural defences of the organs and tissues and, lastly, he should have the ability to apply remedies to curable mental disorders based upon their pathology For these reasons the author strongly advocates a prolonged training in general medicine before specializing in psychiatry

Such principles are amplified throughout the book and their significance shown in respect to both the prevention and cure of mental disorder Recognizing, moreover, the great importance of prophylaxis, Dr Damaye includes interesting chapters on the care and education of children, on religious teaching, and on the difficult problem of the "half-insane" (demi-fous), or those types of abnormal persons who, though not recognized as insane, are often more harmful to the public welfare and domestic life than the true psychotics This little volume may be regarded as a sequel to one by the same author in which he strongly criticized the neglect of psychiatry in France[8] This book was referred to in the JOURNAL of December 16th, 1922 (p 1182) Dr Damaye is a forceful, clear, and courageous writer, and we do not doubt that these books will have an invigorating influence on psychiatry in his own country They are deserving also of the attention of English psychiatrists, who will discover much within them of administrative and scientific interest

NOTES ON BOOKS

THE second edition of *An Introduction to the Study of Mental Disorders*,[9] by Dr FRANCIS M BARNES, jun, now includes his notes on mental diseases previously published in a separate volume Additional space has been given to mental hygiene and social psychiatry, the mental factor in industry, and vocational guidance Several chapters have been revised and amplified, some new ones added, and more extended consideration given to certain types of mental disorder The book is intended as a preliminary course of instruction for medical students, and the author has not aimed to produce a comprehensive textbook of psychiatry It has a number of excellent features which would justify enlargement A chapter on the medico-legal aspects of insanity, together with a considerable expansion of the section dealing with the clinical forms of mental disorder, would greatly increase its sphere of usefulness

In *Goathland Walks*[10] Mr MAKEPEACE has written a pleasant little book both for those who know and those who do not know the district dealt with He gives a choice of fourteen walks that may be taken with Goathland as a centre and describes all the beauties and antiquities to be seen on each Quaint things crop up here and there The village of Runswick in 1664 was, less one house, totally destroyed by a landslip Providentially most of the inhabitants were that night 'waking' a corpse instead of being sound asleep in their beds, and were thus made aware of the impending catastrophe in time to warn everyone to leave house and home and make for safety Between Runswick and Kettleness was at one time a cave, 70 ft long by 20 ft wide, known along with some smaller ones, as Hob Holes These were the haunt of a Yorkshire hobgoblin, and the resort of anxious—and daring—mothers whose children suffered from whooping cough The children were carried to the mouth of the large cave and the goblin addressed thus

> "Hob-hole Hob!
> Ma bairn's gotten t' kink cough,
> Tak't off—tak't off!"

As in the case of most "cures," regular and irregular, for whooping cough, old Father Time probably did not get the credit in the matter that was his due And at Hempsyke, beside the road, is a water trough with a plentiful supply of pure water running from a carved lion's head On a zinc plate above it is the verse

> "Man made the trough,
> The water God bestows
> Then praise His name
> From whom the water flows"
> —*John Allan, Hempsyke, 1856*

To which a tramp of literary tastes replied in 1864

> "The stream is pure, as if from Heaven it ran,
> And while I praise the Lord, I'll thank the man"

A shilling bestowed on such a "Weary Willie" would not have been wasted, and it is doubtful whether many of the amateur tramps who buy this book and take the fourteen walks from Goathland will be able to match him at the "clambo clink"

A Plea for Cheerfulness[11] is a charming little book of verse by MAURICE C HIME, M A, LL D, who is now over 82 years of age, and lives in retirement in a pleasant ivy clad dwelling in county Donegal The very fact that such a man at such an age publishes such a plea makes for the cheerfulness of the reader And Dr Hime is clear that there is no difficulty in other old men performing like feats He was well past 60 when he made his first attempt at versification, and one sonnet is devoted to the encouragement of a middle aged correspondent who asked him just how it is done Dr Hime is perhaps troubled with insomnia, anyhow he is great on lullabies The sonnets (which are not sonnets) contain three, and he tells the reader how to repeat the first of them, so as to assure its soporific action The pamphlet is made the more attractive by Mr J R Monsell's amusing little illustrations

Dr ERNEST JONES has collected in a single volume, entitled *Essays in Applied Psycho-analysis*,[12] thirteen of his previously published articles All of them have undergone revision and have been partly rewritten Only one fifth had previously appeared in English, the rest having been published in German journals devoted to psycho-analysis

Willing's Press Guide[13] is a useful work of reference It includes an alphabetical list of newspapers and periodicals published in the United Kingdom, with particulars of their year of establishment, politics (if any), date of publication, price, and the publisher's name and address There is also a classification of professions, interests, trades, religious denominations, sciences, etc, with their respective newspapers and magazines Colonial and Continental newspapers in English are enumerated, and there is a foreign section which consists of a list of the principal newspapers of foreign countries, any London addresses of these are given There is a section devoted to the news agencies which supply, by telegraph or otherwise, home and foreign news and other matter to the general press The reputation of the book as a handy work of reference is well maintained, and it constitutes a reliable guide to the press of the world

[7] *Elements de Neuro-Psychiatrie Clinique Therapeutique Questions Sociologique* Par Henri Damaye Medecin Directeur de Maison de Sante Paris A Maloine et Fils 1923 (Cr 8vo pp 204 Fr 7)
[8] *Le Medecin devant l'Assistance et l'Enseignement psychiatriques*
[9] *An Introduction to the Study of Mental Disorders* By Francis M Barnes M A M D Associate Professor of Nervous and Mental Diseases in the St Louis University Medical School Second edition London Henry Kimpton 1923 (Med 8vo pp 239 18s net)
[10] *Goathland Walks* By W Ridley Makepeace Whitby Yorkshire Horne and Sons Ltd 1923 (Cr 8vo pp viii+91 1 figure 4s 6d)
[11] *A Plea for Cheerfulness* By Maurice C Hime M A LL D London Charles J Thynne (Cr 8vo pp 46 illustrated 1s net)
[12] *Essays in Applied Psycho-analysis* By Ernest Jones M D London and Vienna The International Psycho-analytical Press London G Allen and Unwin Ltd 1923 (Med 8vo pp 454 1 plate 18s net)
[13] *Willing's Press Guide 1924* Fifty first year London James Willing Ltd 1924 (Demy 8vo pp xii+452 4s 6d)

MEDICAL AND SURGICAL APPLIANCES

A Portable Electric Cautery

DR CHARLES S THOMSON (M O H Deptford) having been impressed when an assistant in the country by the lack of means for using an electric cautery, has designed an apparatus which has been made by Mr Davidson, 29, Great Portland Street, London W It consists of a rheostat, handle cords terminal and three heavy platinum burners The source of electric supply is the accumulator of a motor car, the accumulator is of course, continually charged by the dynamo The cords attached to the rheostat are hooked to any accumulator from 4 to 12 volts If more than one separate accumulator is fitted to the motor car, one could be lifted out of its box after disconnecting and used with the outfit

THE AUSTRALASIAN MEDICAL CONGRESS

OF THE

BRITISH MEDICAL ASSOCIATION.

THE SCIENTIFIC SECTIONS

(Continued from page 30)

SECTION OF SURGERY

AT the opening session of the Section, on November 13th, 1923, the PRESIDENT (MR R GORDON CRAIG) welcomed SIR WILLIAM MACEWEN and visiting members from other States and New Zealand In his address, "Urology as applied to children," he referred to a series of cases of pyelitis of bacillary origin which had resisted medical treatment for at least two months In all cases specimens obtained by ureteral catheterization had been examined and the number of bacteria per cubic centimetre estimated After collecting the specimens, solutions of silver nitrate were injected into the kidney pelvis—2 c cm of a 0 5 per cent solution for a child of 2 years and up to 5 c cm of varying strengths up to 2 per cent for older children and resistant cases No other drug was used Of 13 cases treated, 9 were cured, 1 relieved, 2 unrelieved, and 1 died The standard of cure was a pus-free and bacteria-free urine In one case sixteen injections were necessary In the fatal case feverish attacks and abdominal swelling had existed since birth, and the *post-mortem* examination showed bilateral pyelonephritis with enormously distended ureters, probably due to congenital ureteral obstruction, or possibly the condition was analogous to "megacolon" General anaesthesia and specially small cystoscopes were necessary in all male children, and in females below 9 years, but even in infants ordinary ureteral catheters of 4-5 Charrière were used The PRESIDENT paid a tribute to the excellence of present-day cystoscopes of British manufacture

SIR WILLIAM MACEWEN addressed members on his views—admittedly heterodox—on the physics of the lungs and pleurae He stated that clinical observations did not always accord with the results of observations on animals under artificial experimental conditions Physiologists taught that the atmospheric pressure keeps the lung expanded against the parietal pleura and that opening the pleural cavity causes collapse of the lung The speaker submitted that other more important factors were concerned—particularly molecular cohesion which acts when an attempt is made to separate two moist surfaces in accurate contact A "sucker" a moistened disc of leather, if closely applied to its surface can support a large flat stone against gravity Physicists ascribed this to atmospheric pressure but in a bell jar exhausted of air the "sucker" holds up as large a weight inside the jar as outside The same force of molecular cohesion hinders the separation of two optically perfect glass plates or of two plates not optically perfect if a thin film of fluid is introduced between them Similarly on opening the abdomen the viscera tend to coalesce and remain in contact with each other After opening the chest, pressure on the pliable chest wall with manipulation of the lung will bring the visceral and parietal pleurae together and molecular cohesion will hinder their separation He referred to successful cases of extirpation of the lung The PRESIDENT thanked SIR WILLIAM MACEWEN for his inspiring address

MR S HARRY HARRIS, in a paper on surgery of the prostate, reported a series of 62 cases of prostatectomy, with one death Careful general examination and preparation before operation were essential, and particularly the renal efficiency assured by tests, of which the speaker relied largely on the rate of indigo-carmine excretion For cases requiring preliminary bladder drainage an indwelling catheter was preferred to suprapubic cystostomy—the latter being rarely necessary Suprapubic prostatectomy was employed A small transverse suprapubic incision through skin and fat, vertical incision of aponeurosis bladder exposed by gauze stripping and emptied by aspiration, incision in highest point of bladder and careful bimanual enucleation of prostate by Squier's method leaving the verumontanum and ejaculatory ducts intact water-tight closure of bladder by figure-of-8 catgut suture below a right-angled glass drainage tube Specially constructed electrically lighted bladder retractors were shown The tube was removed on the sixth day Forced intake of fluids and bladder lavage in infected cases were important For small fibrous prostates Young's prostatic punch introduced per urethram or suprapubic cystotomy and snipping away with special scissors was advocated The speaker doubted if carcinoma ever developed in a true adenomatous prostate

MR R J SILVERTON discussed various renal efficiency tests He preferred phthalein to indigo-carmine as being quantitative

MR BASIL KILVINGTON dealt with complications and end-results of prostatectomy Several speakers contributed to the discussion At the end of the session several patients successfully treated by deep *x*-ray therapy were demonstrated

On November 14th DR H R DEW, in a paper on hydatid disease, analysed the results of an investigation at the Walter and Eliza Hall Pathological Institute by serological tests (complement fixation, precipitin, and Casoni's tests) in an extensive series of cases of suspected hydatid disease The *diagnoses* were checked on the operation and *post-mortem* tables and 85 to 90 per cent were accurate The serum of patients from whom cysts had been removed would fix hydatid antigen for several months afterwards It was always difficult to be certain that no other cyst existed Graphs showing the fall in capacity to fix complement after successful operation were demonstrated

MR W J STEWART MCKAY discussed the treatment, and after reviewing many methods, advocated opening the cyst, evacuation of contents and suture of the closed adventitia to the deep aspect of the incision in the abdominal wall Drainage was unnecessary and harmful except in lung cysts and severely infected liver cysts

MR BASIL KILVINGTON advocated the introduction of one ounce of 10 per cent formalin into the adventitial sac before closure, so destroying any remaining hydatid elements A few drops might be injected into multiple cysts of the peritoneal cavity where surgical removal was impossible

MR B T ZWAR analysed the cases in the last ten years at the Melbourne Hospital, and confirmed the value of laboratory tests

SIR WILLIAM MACEWEN had been fortunate enough to see several cases during his visit

PROFESSOR JOHN I HUNTER and MR N D ROYLE presented a joint contribution on spastic paralysis Professor Hunter outlined a new conception of the function of the sympathetic system—namely the supply of all voluntary muscles, which thus had a double nerve supply and the existence of two reflex system—the somatic and sympathetic The sympathetic supply was concerned with the plastic tonus by which a voluntary muscle tended to remain in the position and maintain the attitude

assumed as a result of voluntary motor contraction Microscopical examination had demonstrated sympathetic nerve fibres in voluntary muscle In decerebrate rigidity, and in other conditions with spasticity in the lower limbs, he and Royle had found in animals that removal of the abdominal sympathetic trunk, and thereby the sympathetic fibres to the lower limb, had resulted in the spasticity giving way to flaccidity on the side of the operation Royle applied this to a soldier with spastic hemiplegia of seven years' standing due to a bullet wound of the skull By a surgical approach similar to that for the kidney, he removed a considerable portion of the abdominal sympathetic on the affected side Marked improvement followed, and the patient was shown at the meeting walking freely without support The papers were illustrated by cinematograph films showing the gaits of animals operated on, and the patient before and after the operation

On November 15th exophthalmic goitre was discussed first by the Surgical Section, and, on the following day, at a combined meeting with the Sections of Medicine, of Radiology, and of Ophthalmology Professor MILLS, Dr C T C DE CRESPIGNY, and Dr H H TURNBULL presented the medical side, Mr O'GORMAN HUGHES, Mr H B DEVINE, and Mr ALAN NEWTON the surgical, Dr RIDDELL STANLEY the ophthalmological, and Dr J G EDWARDS, Dr C E DENNIS, and Dr L J CLENDINNEN the radiological Anaesthesia was discussed by Dr F L DAVIES Results of basal metabolism investigations were submitted by Dr H TRUMBLE and Dr J F CHAMBERS The discussion brought out some differences of opinion on the lines of treatment recommended Largely owing to Dunhill's work, early surgical treatment was more often adopted in Melbourne than elsewhere, where medical treatment and *x* rays were often used for long periods with or without subsequent surgical treatment All were agreed on the value of preliminary medical treatment The operative mortality in expert hands was shown not to exceed 2 to 4 per cent Toxic adenomata and other conditions sometimes loosely classified as exophthalmic goitre must be excluded in discussing the latter At the operation important factors were an expert anaesthetist giving open ether without preliminary alkaloids, gentle handling, no undue delay, and absolute haemostasis Local anaesthesia was first used by surgeons, who later, with improved technique, operated with safety under open ether Local anaesthesia was a strain for both surgeon and patient and was now reserved for severe cases, particularly for first stage, the later operation being safely performed with ether Devine advocated the two-stage operation for severe cases with a ten-day interval, at least two-thirds of the gland must eventually be removed to ensure cure *X* rays caused improvement and some cures but the dosage was difficult, the results uncertain, and later operation was rendered more difficult Dr MARSHALL MACDONALD (New Zealand) advocated a wider use of prophylactic sodium iodide for school children in 30-grain doses (3 grains daily for ten days) twice a year The incidence of goitre in certain districts in New Zealand had been lessened thereby

Renal efficiency was discussed at a combined meeting of the Sections of Medicine, Surgery, and Pathology Various methods of estimating renal efficiency were considered urea concentration tests, blood urea estimations, non-protein nitrogen test, phthalein and indigo-carmine tests, as well as the dilution and concentration test, in which 1 500 c cm of water are given between 7 and 8 a m , and the urine collected at hourly intervals, its quantity and specific gravity being measured Amongst others the following took part in the discussion Dr SINCLAIR GILLIES Mr R GORDON CRAIG Mr S HARRY HARRIS, Dr R J SILVERTON and Dr C H KELLAWAY

On November 16th empyema was the subject of discussion at a combined meeting of the Sections of Surgery and Diseases of Children

Mr H S NEWLAND, in opening said that as a result of his war experiences he had been tempted to open the chest widely, after rib resection and separation by retractors, to evacuate the pus, to cleanse the pleural cavity, and to close without drainage The results had been disappointing, and he had returned to rib resection and drainage He drew an analogy between the peritoneal cavity infected after acute appendicitis, and the pleural cavity which had been supposed to be infected from rupture of a small subpleural abscess Although he had searched often for the latter he had not been successful

Dr H DOUGLAS STEPHENS analysed the results of treatment at the Children's Hospital, Melbourne, for the last ten years

Mr R HAMILTON RUSSELL advocated rib resection and drainage Some exceptional cases would recover after aspiration, but drainage should be the standard treatment Dr W T HAYWARD and others took part in the subsequent discussion

Papers on the following subjects were read before the Section Floating caecum, by Mr F A HADLEY Gastroptosis, by Mr L M MCKILLOP Arthritis deformans from the orthopaedic standpoint, by Dr LENNOX G TEECE The structure and function of the ileo-caecal valve by Dr A H RUTHERFORD Tropical bubo, by Dr W J CARR

SECTION OF PATHOLOGY AND BACTERIOLOGY

On Tuesday, November 13th, a discussion on the Wassermann reaction was opened by Dr A H TEBBUTT (Sydney), who described his technique, which differed from the Harrison method only in the enumeration of red blood corpuscles by a haemacytometer, and in preparation of the haemolytic system Serum from a male guinea-pig provided complement Experiments showed that there was no optimum percentage of cholesterol In comparing the warm and ice-box methods, identical results were obtained in 90 per cent of cases The time factor was important in considering the results of Wassermann reactions, especially when comparing the results obtained from flocculation tests Tebbutt found that the percentage differences between the warm and ice-box methods corresponded closely with those between the Wassermann and flocculation tests

Dr C H SHEARMAN (Western Australia), after discussing various modifications of the test, brought forward evidence that the antigenic value varied with the fixability of the complement used

Dr C BADHAM (Sydney) pleaded for a standard test, especially for medico-legal purposes Personally, he favoured Griffith and Scott's method as being reliable and easily carried out Dr R J BULL (Melbourne) remarked on the difficulty of interpretation of a positive warm and a negative ice-box test with the same serum He considered that the chief disadvantage of the ice-box method was that the results were not available until the day following the test, so that controls might vary considerably

Dr KEITH INGLIS (Sydney), in opening a discussion on the pathology of encephalitis lethargica, stated that of eight cases which he had investigated by *post-mortem* examination, one only had shown the appearances described by Farquhar Buzzard and others as being typical Pathological conditions which simulated encephalitis lethargica included cerebral tumours, haemorrhage, atrophy, and a congenital angiomatous condition of the convolutions and brain coverings

Professor J B CLELAND (Adelaide) said that the types of encephalitis found in Australia included (1) epidemic cases of poliomyelitis, mostly spinal, occasionally medullary, rarely cerebral, (2) encephalitis lethargica, occurring chiefly in Victoria, and (3) "X disease," either a distinct entity or else an encephalitic type of poliomyelitis X disease was certainly not identical with encephalitis lethargica, whilst the fact that the disease had been transmitted to sheep and horses, as well as to monkeys, was against its being a form of poliomyelitis Flexner, in a private correspondence, had stated that the histological appearances were similar to those found in poliomyelitis

The afternoon session took the form of a combined meeting with the Sections of Medicine and Neurology, when epidemic encephalitis was the subject of discussion, Professor J B Cleland and Dr Keith Inglis representing the Section of Pathology

On Wednesday, November 14th, Dr R WEBSTER (Melbourne), in opening a discussion on the serum treatment of pneumonia, gave the incidence of the various

groups of pneumococci isolated from cases of lobar pneumonia in children as Group I, 38 3 per cent , Group II, 5 per cent , Group III, 5 8 per cent , Group IV, 0 8 per cent , heterogeneous, 40 8 per cent These figures corresponded closely with those given by Patterson for adults in Melbourne Seasonal variations were noted Group I was much larger in 1922 than in 1923 Complications varied similarly in their incidence A special tendency to pleural involvement accompanied organisms of type I Serum in order to be effective must be specific, and should be given as early as possible and in adequate doses the duration of stay in hospital was then decreased, and the mortality rate lowered

Dr A H TEBBUTT (Sydney) discussed the incidence of pneumonia in a large Sydney hospital, showing that 20 8 per cent of cases of lobar pneumonia occurred between twenty and thirty years of age, whilst 33 1 per cent of cases of bronchopneumonia were found in the first decade He advocated large doses of serum, 90 c cm per dose, given slowly, and as early as possible

Dr B WARNER (Melbourne) gave the incidence of pneumococcal groups in Melbourne as Group I, 49 3 per cent , Group II, 9 7 per cent , Group III, 2 8 per cent , heterogeneous, 38 2 per cent Type I was found most frequently during May, June, and July She had treated twenty-five cases with serum, and was convinced that the main benefit was in the relief of toxæmia

The need of extended investigation of the serum treatment, with co-operation between clinicians and serologists, was stressed by Dr C W PENFOLD (Melbourne) and Dr C H KELLAWAY (Melbourne)

Papers on the etiology and pathology of malignant growths were read by Dr S JAMIESON (Sydney) and Professor J B CLELAND (Adelaide), the latter, after outlining the chief measures suggested for the reduction of the mortality of cancer advancing a theory of the nature of new growths, based on the attempt of somatic cells to form sex cells, gametes resulting

On Thursday, November 15th, prior to the general discussion, Dr O LATHAM (Sydney) demonstrated Folin and Wu's methods for the estimation of blood urea, uric acid, creatinine, and sugar

In opening a discussion on summer diarrhœa, Dr R WEBSTER (Melbourne) said that the term "bacillary dysentery" should be substituted for "summer diarrhœa" From such cases he had isolated the following organisms *B dysenteriæ* Flexner—in the vast majority of cases, *B dysenteriæ* (Morgan's No 1), *B faecalis alkaligenes*, and many unclassified slow lactose fermenters, including the Sonne bacillus He thought that serological tests were of very little value in prognosis and treatment The colon was the chief site of the lesion In some cases it was difficult to find the lesion, in others, it was well marked and might include perforation Intense hyperæmia with a "branny" exudate was common

Dr MARJORIE LITTLE (Sydney) said that the presence of blood and mucus in a stool was very suggestive of bacillary dysentery Such cases could be classified into three groups (1) Infants under 12 months with chronic intestinal disturbance *streaks of blood in the green stools*, but no pathogenic organisms present (2) Infants over 6 months, with acute intestinal disturbance, blood in the offensive huge stools, and unclassified organisms present (3) Children of 3 to 7 years, attacked suddenly with pain tenesmus, vomiting, and diarrhœa, the stools showing blood and mucus, and *B dysenteriæ* present, usually of the Flexner type She advocated the early use of a polyvalent anti-dysenteric serum until isolation of the specific organism, 30 c cm should be given daily for five days by the intraperitoneal route, along with 5 oz of glucose Others taking part in the discussion included Professor J B CLELAND (Adelaide) Dr A H TEBBUTT (Sydney), Dr C SHEARMAN (Western Australia), and Dr O LATHAM (Sydney)

In a paper on Paget's disease of the nipple, Dr KEITH INGLIS (Sydney) briefly outlined the theories on the subject, and described an investigation carried out lately by himself, as a result of which he advanced the view that Paget's disease is a carcinoma arising at the junctions of the lactiferous ducts with the epidermis spreading by apposition along the ducts to the acini Scirrhous carcinoma was secondary to this, and was very malignant, it might commence in the acini or the ducts Paget's disease was closely related to Bowen's epithelioma The special Paget cells were the result of degenerative changes occurring within the cancer cells

Surgeon Lieutenant PARADISE presented notes of three cases, one of filaria preceded by enlargement of the inguinal glands and lymphangitis, another of hypertrophy of the alveolar processes, followed by acute lymphatic leukæmia, and a third of aspergillous tuberculosis

On Friday, November 16th, in discussing complement fixation methods in tuberculosis, Dr C BADHAM (Sydney) said that he had used two methods (1) cold fixation with living tubercle bacilli as antigen, (2) fixation at 37° C using Drever's antigen Of fifty cases examined by the first method, 72 per cent had yielded positive reactions, whilst 18 per cent had given a positive Wassermann reaction Sixty-two cases had been examined by the second method, 74 2 per cent of which had given positive reactions He concluded that with cold fixation methods both living and defatted tubercle bacilli were capable of acting as antigens, whilst Drever's antigen was as efficient as living bacilli

Dr LUCY BRYCE (Melbourne), after describing the Harrison method of performing complement fixation tests and Punch's classification of antigens in complement fixation reactions in tuberculosis, detailed the results of examination of 503 cases Of 75 proved cases of tuberculosis, 75 7 per cent gave positive results The von Pirquet reactions did not correspond with the complement fixation results Thirty-eight cases were diagnosed as tuberculosis, but tubercle bacilli were not isolated from the sputum, 45 8 per cent of those gave a complement fixation test In tuberculosis of bone the percentage of positive reactions was very low

Dr W CAMAC WILKINSON (London) briefly described the earlier work and development of complement fixation methods in tuberculosis He considered that tuberculin tests were of more value in ordinary practice

A general discussion on tuberculosis followed, in which Dr C W PENFOLD (Melbourne) directed attention to the frequency of bovine tuberculosis in the first four years of life, and suggested measures for the combating of the latter He drew up a motion embodying his suggestion, which was seconded by Dr PALMER, and passed unanimously by the meeting

Professor J B CLELAND (Adelaide), in the course of a paper on diseases of the Australian aboriginal, stated that pure-blooded aboriginals were rapidly dying out, so that facilities for the study of a primitive race, free from the effects of civilization, would soon be lost Reaction to disease amongst native tribes was modified by weather conditions, food supply, racial customs and beliefs, and contact with Europeans When these factors were taken into consideration, it appeared that natives were not unduly susceptible to the acute infectious diseases Severe epidemics had occurred with a high mortality rate, but just as frequently the mortality rate had been low All common infectious diseases had attacked the native tribes A special susceptibility to tuberculosis was apparent, the disease running a rapid course, being characterized by massive lesions of the glands, with well marked caseation The aboriginal was not more susceptible to syphilis than the European, and the course of the disease was similar Diabetes mellitus occurred, and one case had reacted to insulin Renal disease was very uncommon, whilst no case of enlargement of the prostate had been recorded Rheumatic affections and skin diseases differed in no way from those found in Europeans A remarkable feature was the enormous part which psychic phenomena played A *post mortem* examination of an aboriginal dying after 'bone-pointing" failed to elicit any microscopic lesion

In the afternoon a visit was paid to the Commonwealth Serum Laboratories, Royal Park, where papers were read by Dr A H TEBBUTT (Sydney) and Dr PENFOLD (Melbourne) on iso-agglutinins and pleuropneumonia respectively

SECTION OF OPHTHALMOLOGY

The President, Dr D D PATON (Perth, W A), in his address touched on the preventive aspect, especially in regard to ophthalmic surgery He practised routine culture in all major operations, he added that the Vienna school cultured epithelial scrapings also He outlined the "protein shock" treatment administered by the intragluteal injection of milk which had been boiled for four minutes He urged the use of conjunctival flaps in certain corneal ulcers He stated that the three preventable diseases—trachoma, syphilis, and ophthalmia neonatorum—were responsible for from 12 to 30 per cent of his hospital cases He suggested the formation of an ophthalmological society with a central library In opening the discussion on trachoma he showed slides of Prowazek's inclusion bodies, and discussed their nature He urged the necessity of compulsory notification and was strongly supported by Dr H Shorney (Adelaide) and the meeting generally In the course of the discussion Sir James Barrett (Melbourne) insisted on the very slightly contagious nature of the disease

Dr Campbell Douglas (Newcastle, N S W) pleaded for earlier consultation between physician and ophthalmologist in order that the diagnosis of arterio-sclerosis might be made more surely and earlier Dr Gibson insisted on the importance of the nipping of the veins, and Dr G A Owen (Melbourne) considered that this was the earliest and most dependable sign The President laid stress on photopsia and other symptoms as being associated with cerebral conditions

Dr Leonard Mitchell (Melbourne) gave the results of extensive medical and ophthalmoscopic findings in 110 cases of renal disease and arterio-sclerosis Of these, 75 4 per cent showed some retinal change Acute nephritis, 8 cases, one showing a haemorrhage and one papilloedema Subacute nephritis, 10 cases, 5 of which showed retinal oedema or haemorrhages Chronic nephritis, 51 cases, with concentrations below normal in 22 15 showed arterio-sclerosis, 25 papilloedema, 18 haemorrhages, and 18 exudates There was chronic nephritis with arterio-sclerosis in 21 cases, including 8 with a blood pressure over 200 mm , all of these showed retinal lesions Cerebral haemorrhage was very rare Sir J Barrett (Melbourne) did not agree with Moore in classifying the cases with high blood pressure by the retinal findings, and asked for more research Dr Edward Gault (Melbourne) classified cases into toxic and arterio-sclerotic

Dr A M Morgan (Adelaide) quoted two cases of apparent albuminuric retinitis without albumin Dr Douglas doubted existence of arterio-sclerosis without chronic nephritis Owen pointed out that it was impossible to differentiate ween a pure arterio-sclerosis and a renal retinitis—uoting Gunn's famous case Dr Lindo Ferguson (Dunedin, N Z) reminded members that Nettleship had extended his maximum period of life after the appearance of white effusion to five years The President held that it was very difficult to give any prognosis in the absence of white effusion

The prevention of myopia was discussed by Sir James Barrett who contended that the disease was less serious in Australia than in other countries Over 5 D he regarded as serious in a child, since education had to be radically altered Acquired axial myopia was reviewed by Dr F A Newman (Melbourne), who suggested that the membrane of Bruch played a large part in this and that the exciting causes were excessive accommodation and bad conditions of use A motion was passed urging the necessity for proper training of children with defective sight on the lines of the myope classes" but that such classes should not be associated with the training of the mentally defective Dr Ferguson attributed the secondary myopia caused by nebulae to near work Sir J Barrett analysed the figures of the Victorian Blind Institution, concluding that the majority of cases of atrophy and choroiditis were certainly due to syphilis, and that venereal disease was the cause of at least 50 per cent of the cases Dr J L Gault (Melbourne) asked for a standard of blindness in one eye A definition of blindness was agreed on—the standard being ability to count fingers at 6 feet Below that an eye should be considered blind, provided that the vision was of such a character as to furnish no help in the patient's occupation Dr Mitchell and Dr Morgan pointed out the danger of tobacco amblyopia and its obvious treatment, Dr Gibson urged the regular re-examination of all transport men Dr J Ringland Anderson (Melbourne) discussed the etiology of perinuclear cataract, the theories of Vogt and Collins, and the treatment generally He showed the pedigree of the family first discovered by Nettleship

Dr Temple Smith (Sydney), for concomitant convergent squint, first corrected fully and after a year performed Harman's reefing operation, combined with tenoplasty This method had given very good results He followed the cases up and did subsequent operations as required until the result was satisfactory He quoted from a large series of cases In the discussion Dr Edward Ryan (Melbourne) said that he practised muscle shortening and tenotomy, Dr Wallis Hoare (Brisbane) doubted the universal applicability of reefing, Dr Gibson stressed the necessity for the education of the cortex associated with the amblyopic eye Dr P S Webster (Melbourne) had given up the amblyoscope The President held that there was often binocular alignment, he urged the careful examination of both macular Sir J Barrett held that the failure to establish binocular fusion after operation entailed the essential weakness of the fusion centre

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SECTION OF NAVAL AND MILITARY MEDICINE AND SURGERY

The proceedings of this Section comprised the reading of a paper entitled "The organization of the medical profession in time of war," and a Staff ride

The paper, which was from the hand of Colonel G BARBER, dealt thoroughly with the organization necessary in peace time and that required for an expeditionary force or for war in Australia An interesting discussion followed in which a number of speakers took part It showed a general desire that in any future war the profession should be organized so that each member should be employed in the position for which he was suitable, either military or civil The delay in the appearance of training manuals and equipment embodying the lessons of the war was deplored

The Section passed three resolutions to be forwarded to the Federal Committee The first was a recommendation that, in time of war, service, either of a military or civil character, be made compulsory on all medical practitioners The second was supplementary to this and provided that all medical practitioners should be arranged in categories in accordance with their suitability for the various posts for which they might be most appropriate in time of war, either for purely military duty or the care of the civil population The third affirmed the desirability of some arrangement by which all medical students during some part of their course should undergo training in the work of a field medical unit

The Staff ride was held at the conclusion of the Congress and was unique in that it was the first of its kind in Australia that included medical officers from all the States The scheme, as arranged by the Deputy Director of Medical Services for Victoria was based on the landing of a hostile force for an advance on Melbourne, this force was to be attacked by a defending army The whole area of operations was traversed by motor car with some difficulty on account of the heavy rain which had recently fallen In the evening a conference was held at a seaside hotel and the whole scheme of the tactical use of the medical units and the arrangements for evacuation were exhaustively discussed Colonel Langford Lloyd, R A M C, who was present from India on leave, acted as umpire where differences of opinion which were many arose He made the suggestion that for future Staff rides it would be far more valuable if they could be continued for several days, and that it would be preferable to work with the medical transport actually available at the time rather than with what it was hoped would be provided in case of war It was apparent that the tactical dispositions of field medical units would require to be more on the lines of those followed in Palestine than on those obtaining in trench warfare The President, Colonel W W GIBLIN, expressed his appreciation of the whole ride which he was of opinion would form a precedent sure to be followed in future Congresses

(To be continued)

British Medical Journal.

SATURDAY, JANUARY 12TH, 1924

THE PHYSIOLOGY OF INSULIN

On January 23rd, 1922, the first clinical test of insulin was undertaken The subject was a lad of 14 We are reminded of another—an Alsatian boy, Joseph Meister—who, saved from the terror of rabies by Pasteur, has become a symbol of the revolution in medical science which dates from that time In the year of Pasteur s crowning triumph another discovery was made which was likewise pregnant with rich gifts to therapeutics, one only of these being the application of insulin When Von Mering and Minkowski showed that the removal of the pancreas from dogs resulted in a typical diabetic condition they gave the real impetus to Claude Bernard's conception of internal secretions ' that has inspired all investi gations of endocrine function A generation of physiologists has attempted to establish the logical conse quence of the work of these two men, that the pancreas supplies a " hormone " whose function is the control of the carbohydrate metabolism of the whole body The cardinal proof was missing It had not been possible to show that extracts of the gland administered to diabetic animals restored to them the control which the pancreas was neglecting The success which was denied for nearly forty years has been conceded, amid the plaudits of the whole civilized world, to two young Canadian clinicians Whilst the culture tube of Pasteur opened a new world to biology and a new technique to therapeutics, the discovery of insulin has but set the seal upon accepted principles in physiology and medicine Pasteur proved the in credible, Banting and Best have demonstrated the inevitable

We print elsewhere further reports of the extended trial of the insulin treatment in this country Across the Atlantic the literature is growing, and detailed reports of investigations of over 500 cases are already in print in one journal alone The method of prepara tion of insulin has been improved, and the cost much reduced, attempts at home treatment are meeting with success, the possibilities and the limitations of the new treatment are being exhaustively explored with the increasing confidence of familiarity, and in everything the verdict is good

Great as has been the achievement of insulin in the wards, it holds out still more " glittering prizes " to physiology and to pathology in the assistance it promises towards unravelling the tangled skein of intermediate metabolism Physiology is passing on from the study of the animal to the study of the cell Ever more it directs its attention to those manifold chemical and physical transactions which make the tally of the balance sheet of life, and it is here that endocrinology finds its importance, for it is on these changes that the hormones seem to have incidence

On page 45 will be found a discussion by Professor J J R Macleod of the many problems presented by the study of the physiology of insulin The problem of diabetes threatens to be more complex than was supposed when physiology first seized upon insulin as the key to carbohydrate metabolism The view that the pancreatic hormone is concerned with the oxida tion of sugar is only half of the story The very interesting relation between the insulin dosage and the carbohydrate ' retention " in the depancreatized dog which Professor Macleod reports is suggestive of a catalytic function for insulin, but the incidence of this function is far from clear All who have studied this question are in agreement that the insulin requirement is conditioned not only by the carbohydrate but by the balance and the total energy of the diet Indeed, Allen finds a relation between the requirement and the body weight—that is, the whole metabolism —of the animal, and is inclined to attribute to insulin an anabolic as well as a katabolic function

Professor Macleod fastens on the blood sugar concentration as the barometer of carbohydrate metabolism He reminds us that the blood sugar level is an expression of a balance between the supply of dextrose from the glycogen warehouses and its consumption by the tissues The constancy of the level is a striking indication of the delicate adjustment of supply and demand in the normal animal In the diabetic the normal economy is upset, for whilst the ability to consume sugar is much reduced the supply is not restrained, but rather are the storehouses denuded and the market places flooded till even the constant labour of the kidney cannot relieve the congestion, and the factories of the cell meanwhile languish in the presence of a surfeit of raw material

In the case of the diabetic animal all the evidence is that administration of insulin allows, on the one hand, of carbohydrate storage, and at the same time effects the oxidation of sugar by the cells Administration of insulin to the normal animal presents a different picture Not only is the blood sugar reduced, as in the diabetic, but the glycogen stores are mobilized and disappear also The first assumption is that the observed loss of carbohydrate has been oxidized, but experimental verification of such activity, which should be easy, has proved most uncertain The respiratory metabolism is not increased, but rather reduced, and the respiratory quotient shows only a transient rise to a value which this hypothesis would require Professor Macleod is disposed to seek an explanation for this paradoxical situation by the assumption that it is the function of insulin to effect the formation of some unknown form of sugar which is a necessary preliminary to its oxidation by the cell or to its synthesis into glycogen Since there is at present no real evidence for the existence of any such, all that can be said as to its nature is that it necessarily must be of such a chemical nature as to escape detection as reducing sugar or as glycogen On this hypothesis the diabetic condition consists in an inability to convert the carbohydrate absorbed into the disguised form of sugar which is the raw material of both storage and katabolism The circulation would thus remain encumbered with glucose which is of no value to the cell Administration of insulin adjusts this defect and replenishes the glycogen reserves at the same time as it permits the combustion of sugar When insulin is present in excess, as when it is given to the normal animal, the formation of the hypo thetical substance is so excessive that not only does the level of reducing sugar of the blood fall, but the reserves are also called upon to contribute Whilst it is at first sight improbable that so considerable a quantity of a relatively simple substance could escape detection, and whilst the hypothesis does not explain all the facts observed, the conjecture is interesting and search for the mysterious molecule is being actively pursued in more than one laboratory How ever this may be, the facts which are clear are that

the pancreatic hormone controls not only oxidation but storage, and when we add to this the view that it is the level of the blood sugar which determines the secretion of insulin we see what a delicate equilibrium we have created

It must be acknowledged that, as Professor Macleod and others indicate, the problem of diabetes touches so closely the whole metabolism of the cell that no broad generalization may be possible Thus there is some evidence that insulin may affect the storage of carbohydrate through the nerve control of the liver Burn has shown a direct antagonism between insulin and pituitrin, and other glands are well known to be concerned in the disposal of carbohydrate Again, it is clear that both fat and protein metabolism are involved in the diabetic defect, and it has yet to be proved that these are merely secondary consequences of the restriction of carbohydrate metabolism

The experiments quoted by Professor Macleod in support of the fundamental observation of Allen—on which is based the Allen treatment—that the islet tissue of the degenerated pancreas is prone to regeneration if rested completely from function, must stimulate medicine in its application of insulin treatment Where the necessary restriction of diet would be unbearable it may still be hoped that the wise use of insulin on a higher nutritional level may provide a more favourable ground for the desired regeneration The pessimist who says that insulin is not a cure for diabetes is not yet justified

THE CULTIVATION OF THE TREE OF KNOWLEDGE

THE annual report of the Medical Research Council, of which we begin to give a detailed account elsewhere in this issue (p 80), contains a record of a very large number of clinical and experimental investigations conducted for it or with its help Some of the experimental work, and not the least valuable, has been done in the National Institute for Medical Research at Hampstead, more in the laboratories of universities and medical schools, and much of the clinical research in the teaching hospitals A good deal of the whole output has already been reported in current periodical literature or in the Special Reports published by the Council itself, but it is interesting to have it all brought together in a single volume The Committee of the Privy Council, in its report to the Crown, observes that the mode in which the Council has employed the greater part of the money entrusted to its disposal—namely, in supporting research work done at the universities and other suitable centres—has gained in total incalculably more than could have been secured by the independent use of the same sum of money, for the grant in aid thus distributed is met and greatly augmented in value by the provision at the universities and elsewhere of personal service, of buildings, and of scientific equipment and material, derived from voluntary sources, old and new Conversely, the grant made for research has brought important aid to higher teaching and research at the universities

In the introduction to the report of the Council itself there is discussed a question of principle, very important to be understood both by the public and the professions but not easy to put so that the desired understanding may be clearly and convincingly induced Yet it is essential that the principle should be understood, particularly by the Legislature and Government departments if the work science can do for the benefit of the community is not to be impeded The report points out that the inquiries and researches the Council directs or assists fall into two groups In the one are studies obviously of importance as pieces of medical research directly applied to the better maintenance of health or the better treatment of disease Such inquiries gain ready understanding and approval from all, they have only to be stated for their urgency and value to be seen at once None will doubt that they are deserving of the fullest support

Instances quoted of the first group are the extension of knowledge with regard to vitamins, the improvement and better production of remedies of such varied kinds as diphtheria antitoxin, salvarsan, or insulin, physiological inquiries into the conditions of bodily labour and the action of light upon the body, and the interplay of sunshine and nutritive factors in healthy growth Such matters are of obvious importance for an industrial population in a northern climate too often working and living under a pall of smoke In the second group are studies more primary in kind, which constitute perhaps the greater part of the work supported by the Council, yet it is not easy, except at great length, to explain the relations they have to the problems of practical medicine As instances are quoted work upon detached points in biochemistry, investigations of the laws of bacterial growth under given conditions, studies of cell life and organization, inquiries into the behaviour of colloidal substances—all these, to those outside, must often seem far divorced from useful human purposes "The public," the report continues, "do not realize easily either the volume or the value of the highly elaborate, patient, and unadvertised work which is being done in these apparently academic directions", and we are inclined to add that this attitude is not unknown among men of science, who sometimes appear disposed to criticize the value of the minute investigations carried on by their colleagues in other departments

Sooner or later however, and in so many instances that we may be sure it will happen again, there has come a time when, as it seems almost by accident or by the happy inspiration of some worker acquainted with what has gone before, researches of the second group begin to yield results which transfer them to the first An example is afforded by insulin, and how the change came about is explained in Professor Macleod's lecture and in our article on that subject printed above It is a good illustration of how some piece of knowledge, or some new laboratory method, emerging from research work of the second group, may bring unexpected aid to the solution of some practical problem of the first group But such results cannot be produced to order The lesson to be learnt is that before the practical fruit of research work can be expected the tree providing it—the growing tree of knowledge—must have been planted and tended, when and at what point the fruit is to be gathered can rarely, if ever, be foretold, but it is to be obtained only through steady cultivation of the growth from which it springs "Stimulated by notable and obvious achievements," the report continues, "like the production of diphtheria antitoxin, preventive inoculation against typhoid, the defence against scurvy and rickets through dietetic knowledge, the control of body function by pituitary extract or by insulin, the public, and indeed some parts of the medical profession, are tempted to think that money collected directly for the discovery of similar practical boons, or that rewards offered to particular discoverers, will aid progress, instead of learning the lesson of experience and seeking the due provision of money for disinterested scientific

work and the due support of the ablest scientific men to do it"

We come round, then, to a doctrine consonant with that which the Royal Society has put into practice in allocating some of the special funds recently placed at its disposal As was pointed out at the time,[1] it has not offered prizes for solving a problem, it has not even specified any problems It has decided to use the income from these funds for the advancement of science through the work of men who have proved themselves imbued by the scientific spirit—which is, when all is said and done, nothing more than a thirst for knowledge really as knowledge, without any eye to the factory or the hospital or the public health

THE COURT OF INQUIRY

THE Court of Inquiry appointed by the Minister of Health and Secretary for Scotland, to inquire and report to the Government what should be the amount of the capitation fee for insurance practitioners, began its public sittings in the large conference room at the Ministry of Health on the morning of Friday, January 4th A full report of the first three days' proceedings is published in the SUPPLEMENT this week From this it will be seen that the preliminary business included an outline by the chairman, Mr T R Hughes, K C, of the procedure which the Court proposed to follow During these preliminaries a representative of Approved Society officials had the uncomfortable duty of trying to explain that an evident desire to give evidence is the same thing as a "quite definite desire" not to give evidence He was rescued from this dilemma by the chairman's announcement that the Court would adjourn from Tuesday, January 8th, to Monday, January 21st, in order to give the emergency committee of Approved Societies an opportunity of presenting their case At this stage it would be inopportune to comment on the course of the Inquiry, but it should be noted that the responsibility for the delay rests on the Approved Society officials The first witness on January 4th was Dr Brackenbury, who gave evidence reinforcing the memorandum by the Insurance Acts Committee of the British Medical Association published in the SUPPLEMENT of January 5th He was followed by the Medical Secretary, who gave the Court information in regard to private fees and contract rates charged in practice among people of the same class as insured persons, and by Professor Bowley, who further elucidated the figures and conclusions set out in his two memorandums on the change in the cost of living Dr Gordon Ward gave evidence in support of a statement submitted by the Medical Practitioners' Union, it is printed in this week's SUPPLEMENT He added that the material put forward by those for whom he spoke was to be regarded as supplementary to the case for the British Medical Association, with which they were in agreement The Solicitor to the Ministry of Health (Mr M L Gwyer) then opened the case for the Ministry, and he had not concluded when the Court adjourned Mr Gwyer's arguments were resumed on Monday, January 7th Further evidence on behalf of the Ministry was given by Drs Smith Whitaker, Neilson, and Richmond, Mr Strohmenger (Accountant General), and Mr Brock, these official witnesses were followed by the Secretary of the Scottish Board of Health At the resumption on January 8th evidence was given by representatives of the Associations of Insurance Committees for England and Wales and for Scotland in support of the printed statements which appear in this week's SUPPLEMENT Dr Brackenbury then replied seriatim to the main points brought forward in the evidence tendered by officials of the Ministry His argument was followed with the closest attention throughout, and at its close the Chairman congratulated the medical profession on possessing so skilful and persuasive an advocate Before the adjournment it was announced that the Court would hold a short session on Tuesday, January 15th, in order to hear evidence from individual Approved Societies

[1] BRITISH MEDICAL JOURNAL, December 8th 1923 p 1113 and December 15th p 1167

SCIENTIFIC RESEARCH ON FOOD PRESERVATION

THE Department of Scientific and Industrial Research has issued the report of the Food Investigation Board for the year 1922[1] It includes preliminary descriptions of certain inquiries which are being made but have not yet reached the stage when a special report can be issued Work has now been carried on for six months in the Board's Low Temperature Research Station at Cambridge, which is intended to serve the double purpose of acting as an instrument for research work by the various departments of the Board, and of being part of the general scientific appointment of the University, affording facilities for workers in other laboratories Three researches thus assisted by the Board are of special interest Mr J Barcroft, F R S, has shown that exposure of the body to cold caused the pulse rate to drop, whilst the volume of blood passing through the lungs and by the aorta into the general circulation was increased Mr T R Parsons, working under the Medical Research Council, has been able to produce crystals of pure haemoglobin Messrs L B Winter and W. Smith have used the station for the determination of the effect of cold upon the preservation of insulin The investigation of the changes in tissues brought about by freezing appears to be leading to important conclusions with reference to the preservation of meat and fish During the year the Board decided to organize a small expedition to investigate the gases in the holds of ships carrying apples from Australia, and to compare the different methods of cooling the holds, with a view to the prevention of the condition in apples known as "brown heart" The report on this subject was reviewed in our columns on August 25th, 1923 (p 335) Work on the respiration of apples revealed the possibility of controlling their keeping quality by treatment of the soil in which the trees were growing A special report on the bacteriology of canned meat and fish was issued during the year, and was reviewed in our columns on October 14th, 1922 (p 700)

OCCUPATION AND ALCOHOLISM

DR H M VERNON, in a paper on alcoholism in various social classes read before the Society for the Study of Inebriety on January 8th, called attention to the supplement to the seventy fifth annual report of the Registrar-General, which, although relating to the years 1910 to 1912 was of great value in determining the incidence of alcoholism in various social classes of the community, and suggesting conclusions as to the factors concerned in the promotion and prevention of alcoholism The report divided the occupational groups into eight social classes but Dr Vernon included five of these in a combination entitled "skilled and unskilled workmen," excluding the groups engaged in the production and sale of alcoholic liquors The three other social classes were "unskilled workmen," "upper and middle classes" and "intermediate," the latter consisting for the most part of shopkeepers The combined class of skilled and unskilled workers was the largest and the *alcohol mortality* expressed as a percentage of the general mortality was found to be almost constant in its five groups varying from 1 3 to 1 8 In the case of unskilled workmen the alcohol mortality figure was 1 2 to 2 3 in the professional cl

[1] H.M. Stationery Office 1 net

2 8 to 3 7, shopkeepers, 3 to 3 8, and brewers, publicans, and others, 5 to 9 The indirect effects of alcoholic excess appeared to be much greater than the direct effects, probably more than three times as great The evidence adduced suggested that the relationship between the alcoholic mortality and the general mortality of industrial workers was very different from that in publicans and barmen, who carry on their work often in unhealthy conditions and so become more readily victims to alcohol, even though they may not indulge more freely than the former classes Dr Vernon suggested that the greater mortality among publicans and barmen might be due to diminished bodily resistance Improvement in the conditions under which industrial work was carried on would, therefore, reduce both the general mortality and the alcoholic mortality In the case of unskilled workmen, the relationship between the alcoholic mortality and the general mortality was similar, and these mortalities could be reduced by better regularization of work In the case of the upper and middle classes, however, Dr Vernon pointed out that, although the general mortality was nearly twice as great as that of the skilled industrial workers, the same was true of the shopkeeping classes, who, like the professional workers, were mostly employed indoors at work which required no muscular effort and was often sedentary He believed that the increased alcohol mortality in these two classes was due to the greater consumption of spirits by them, as contrasted with beer, which was more commonly drunk by the less affluent classes He suggested that a further increase in the tax on spirits, even if accompanied by a corresponding reduction in the tax on beer, would distinctly improve the sobriety of the nation and reduce the alcohol mortality

INSULIN IN HOLLAND

A special number of the leading Dutch medical journal[1] has been devoted to the experiences with insulin of a number of prominent Dutch clinicians They find that insulin made in Holland is as effective as English and American preparations in lowering the blood sugar and causing disappearance of glycosuria and acidosis This effect is, as a rule, observed two hours after injection, it reaches its maximum in from four to eight hours, and disappears in from eight to twenty hours after injection The effect of insulin usually ceases on the day after injection In some cases, however, after cessation of the treatment the tolerance for carbohydrates is greater than before When the treatment is suspended for any reason special precautions should be taken, as in some cases a rapid and dangerous increase in the blood sugar was found to occur As a general rule the acidosis curve runs parallel with the curve of the elimination of sugar, in mild cases acetone disappears from the urine before the sugar, in severe cases acetonaemia persists longer than glycosuria, and acetone is found in the urine again sooner than sugar When the blood sugar falls below a certain level the patient suffers from profuse sweating fatigue, headache, giddiness, a feeling of pressure in the cardiac region and attacks of pallor alternating with flushing followed by convulsions and coma The symptoms rapidly disappear after administration of glucose and fruit juice, but to prevent their occurrence carbohydrates should always be given during a course of insulin treatment They are best given at two or three meals during the day, the insulin should be injected an hour before these meals The result of biological standardization, by which the number of units is determined, does not always correspond with the clinical results As a rule each unit of insulin will lead to the oxidation of 2 to 4 grams of carbohydrates, so that if a patient has no tolerance for carbohydrates and 60 grams of carbohydrates are given him, the urine can be kept free of sugar by administration of 15 to 30 units of insulin At the beginning of treatment large doses are usually necessary Rectal or vaginal administration of insulin, even in large doses, appears to have very little effect It is possible to make and keep patients free from sugar by the subcutaneous injection of insulin, and this may be of great importance if a surgical operation is contemplated In coma or threatening coma large quantities of insulin should be given at once, and glucose administered at the same time internally, subcutaneously, and intravenously Special precautions are required in the administration of insulin to diabetic patients suffering from pulmonary tuberculosis, as high fever and reactivation of the tuberculous process are liable to follow the injections No permanent damage, however, resulted in the two cases of pulmonary tuberculosis reported in this number by Polak Daniels, in which insulin treatment was continued in spite of temporary aggravation of the lung condition

[1] *Nederlandsch Tijdschrift voor Geneeskunde*, November 24th, 1923

HEREDITARY HAEMOPTYSIS

What appears to be a new form of hereditary haemorrhagic disease distinct from the two already established forms of bleeding tendency—haemophilia and multiple telangiectases—has been described by Libman and Ottenberg[1] In one family seven members presented almost identical histories of repeated profuse haemoptyses beginning about puberty or in early adult life and occurring at irregular intervals throughout life Three of these bleeders have been kept under observation for seven years, during which time the clinical picture of the condition did not change, the authors submit that such lengthy observation entitles them to exclude the possibility of tuberculosis Examination of the blood showed none of the characteristics of haemophilia, the coagulation time was normal Similarly the signs of chronic purpura were absent, the platelet count and the bleeding time were in no way abnormal Bronchoscopic examination of two of the patients revealed no telangiectases of the bronchi Physical and *x*-ray examinations were negative, and the tuberculin test yielded no result The disease occurs in and is transmitted by females as well as males The cases described occurred in a family of Russian Jews The bleedings are very irregular, there may be several in the course of a year, or two or three years may elapse between them The cause of the haemorrhages is entirely unknown

[1] *Journ Amer Med Assoc* December 15th 1923 p 2030

EFFECT OF X RAYS ON TISSUE CELLS GROWING IN VITRO

Some time ago (1923, vol i, p 479) we gave an account of a paper Dr T S P Strangeways had then recently communicated to the Royal Society on the changes which take place in tissue cells when cultivated *in vitro* under both favourable and unfavourable conditions Working in collaboration with Dr Oakley, he has applied a similar technique to study the immediate changes which may be observed in tissue cells after exposure to soft *x* rays while growing *in vitro* Two series of experiments were carried out side by side, in one the cultures were fixed immediately after varying periods of exposure to the rays, in the other after varying periods of exposure the cultures were incubated for eighty minutes and then fixed and examined Technical details are given in the full paper,[2] and it will suffice to say here that with the strength of irradiation employed very little change was found to occur in cultures exposed for under thirty minutes and examined immediately, but after longer periods definite changes were seen in the chromosomes during the meta-

[2] *Proc Roy Soc*, B, vol 95 1923

phase and during the later phases of mitosis, these changes became more pronounced as the length of exposure increased After exposure of sixty minutes or longer definite changes were found even in the resting cells, especially in the outer zone of growth They consisted of enlargement of the nuclei, increase in size and irregularity of the nucleoli, and later actual breaking down of the cells To determine whether these changes were immediate or followed a latent period the authors carried out the second series of experiments, in which the cultures were returned to the incubator after irradiation for eighty minutes before fixation In both series of experiments the changes were found to be similar, but a comparison of the cells fixed immediately after irradiation with those returned to the incubator for eighty minutes showed that there is a latent period of about fifteen to twenty minutes before the changes in the cells can be recognized The second series of experiments showed also that after irradiation for five minutes the development of new dividing cells diminishes, though the cells already in mitosis completed their division normally, after exposure of twenty minutes or longer the formation of dividing cells practically ceased Granular changes and fragmentation of the chromosomes were noticed in some cells after only five minutes' exposure, after longer exposure there was often a definite lag in the passage of some of the chromosomes to the poles of the spindle, and in other cases a clumping of the chromosomes at metaphase Growing cells which have been damaged by exposure to the *x* rays, when about to divide, may show changes described by the authors as a "breaking down" process, in which the cells become disorganized and show most irregular and constantly varying forms It is interesting to note that even two hours' exposure was not an immediate lethal dose to any of the cultures, although a few cells were destroyed There appears to be nothing specific about the damaging effect of *x* rays on tissue cells, for the changes described do not differ from changes found in the cells of cultures grown under the influence of many other abnormal conditions Similar changes may be found in cultures growing in unfavourable medium and in cultures repeatedly subcultured, if the plasma and tissue extracts are not carefully controlled

A HAND FOOTED MAN

ADVERSITY, says the Duke in *As You Like It*, "wears yet a precious jewel in his head" Determination and perseverance have enabled many men to turn their very misfortunes to good account, and so to come off none too badly in the struggle of life Perhaps no better instances of such gallant efforts can be found than are offered by those who have lost their arms in infancy or have been born armless, and yet have succeeded in making their feet carry out all the necessary duties of the lost hands, and have thereby earned their own living The cases of Miss Biffin in this country, of the Antwerp artist Charles Telu, and the German painter Heinrich Siepen have always interested physiologists and surgeons To these and others must be added Elroy, the armless man who is now exhibiting himself at Olympia, and whom we had the opportunity of examining recently It is beside our purpose to enumerate his striking feats of dexterity and accuracy but some notes on his anatomical and physiological equipment seemed to be worthy of record Elroy is 35 years old He was born in Lancashire, and at the age of 3 his dress caught fire and he was so badly burnt that it was found necessary to amputate both arms through the shoulder joints Before the accident he had walked but after his wounds had healed it was found (so he states) that he had lost the power of walking and he relearned it very slowly and at the expense of many falls on his face It seems as if he had been handicapped by the loss of the balancing power of the arms After leaving school at 16 years of age he worked for some years as an engraver, but for the last dozen years or so he has been exhibiting himself In all his performances and in all that he does he uses his feet as grasping organs, seizing and holding objects between the great and second toes This grasp is very powerful, so much so as to cause severe pain in the interposed forefinger of the observer The range of adduction of the great toe is not more than usual in a child, but this movement is performed with a good deal of force Flexion and extension of all the toes is free and in extension they can be voluntarily separated one from another The second and third toes cannot be flexed independently of each other, but when flexion of the second is resisted the third can be further flexed, and the three inner toes of the right foot are used to depress the keys when he plays the cornet Movements at the transverse tarsal joint, including supination and pronation, and flexion and extension at the ankle are free and vigorous, but not greater in range than in many ordinary young adults The metatarsus appears broad and spread out, but Elroy wears ordinary ready-made shoes When he uses both feet as hands the sitting posture is of course obligatory, but when only one foot hand is being used he can stand for long spells on the other foot without fatigue and maintains his balance without any difficulty In the erect position and bearing the weight of the body the arches of the feet are low, but they are by no means flat, despite the impression of flatness conveyed by first sight The knees are normal Owing to the frequent necessity of bringing the feet up to the mouth when eating and drinking or performing his toilet the range of movements of the hip-joints is abnormally great He can with great ease bring his knee up to his axilla, and even carry a lighted match with his right foot behind his neck and over his left shoulder so as to light a cigarette held in his mouth In this position the thigh is strongly rotated outwards and hyperflexed, but there is no sign of subluxation of the hip joint As is the case in professional contortionists—snake-men, as they are called in Germany—this extraordinary mobility is thought to be due, not to ligamentous relaxation, but to the extra extensibility of the antagonist muscles Mr Elroy is not only able to pick up a match from the floor, but he showed us that he could discriminate by touch between a half-crown piece and a penny, selecting either from his shoe, in which he keeps his money when he does not have to walk It was interesting to hear from him that the right foot is more expert than the left He can write with either foot, but best with the right It may be presumed that the motor areas of his brain which are responsible for movements of the upper limbs have atrophied, and that those controlling the lower limbs have developed beyond the normal in their stead Still more, the nerve centres responsible for sensation and correlation and muscular sense must have enormously improved upon their usual condition in four-limbed persons As regards the lower extremities, on which he so much relies they show no peculiarities that may not be found in any healthy infant All the movements of which he is capable, including hyperextension of the hips, can be done by a normal infant of a year old, with as free a range of movement as he possesses In short, this case is an example of the preservation and cultivation in adolescence of infantile possibilities which usually are lost from disuse

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THE next social evening of the Royal Society of Medicine will, as already announced, be held on Wednesday next, January 16th, when Fellows, members of sections associates and their friends will be received by Sir William Hale-White (president) and Lady Hale-White at 8 30 p m At 9 o'clock Sir Arthur Keith will give a short address on "Punch as an anthropologist" illustrated on the epidiascope in place of that which Dr Arnold Chaplin had arranged to give

THE MEDICAL RESEARCH COUNCIL.

ANNUAL REPORT

GENERAL

THE annual report of the Medical Research Council for the year ended September 30th, 1923, has been issued [1] We congratulate the Secretary and the Stationery Office on the form in which it has been produced It is an octavo volume of some 144 pages, and in addition to a table of contents, which is usual in official publications, it is provided with an index of personal names and of institutions

The constitution of the Council has been altered by the retirement of Sir William Leishman on his appointment to be D G A M S, and of Professor Gowland Hopkins by rotation They were the two last remaining members of the Council as originally selected in 1913 to form the first Medical Research Committee Due acknowledgement is made to them for their services during the ten years, and also to the numerous scientific men who have willingly *given their time and knowledge to the committees in* charge of particular investigations The new members of the Council are Dr Georges Dreyer, professor of pathology in the University of Oxford, and Sir Archibald Garrod, Regius professor of medicine in the same university

The grant-in-aid provided for the Council by Parliament was £130,000, inclusive of provision for the Industrial Fatigue Research Board, and for the research work into mental disorders done on behalf of the Board of Control for England and Wales, and for pathological inquiries under the corresponding authority in Scotland, expenditures which at one time were met out of special grants The Council, however, could not have carried on the whole body of the inquiries it directs or assists had it not received money from other sources The Dental Board of the United Kingdom has contributed £3,000 for extension of inquiries into the causes of dental disorders, and the Miners' Welfare Fund £500 for the study of miners' dietaries The Carnegie Trust of the United Kingdom has made a grant of £2,000 towards the expenses of the intensive study of the influence of environment upon the growth and nutrition of children, and the League of Nations has given 8,000 Swiss francs towards the heavy expenses of the researches undertaken to establish international standards in pathological work The Council has also received from the Distemper Council formed to administer the Fund started by the *Field* newspaper pecuniary assistance to meet the main part of the costs incurred in the investigation of distemper in dogs The Rockefeller Foundation has allotted to the Medical Research Council a fund of 50,000 dollars for the interesting purpose of providing fellowships in medicine tenable in the United States upon the award of the Council during a period of three years ending June 30th, 1926 The report points out that workers in this country have greatly to gain by learning at first hand the latest developments of their sciences in the United States The importance of the opportunities afforded by a visit to American laboratories and hospitals to any student has recently increased greatly, not only because of the rapid growth of scientific work there but also because conditions in Europe have seriously diminished opportunities for scientific study on this side of the Atlantic The scheme was put into work at the beginning of the academic year in October, and the Fellows appointed were Dr J C Bramwell of Cambridge and Manchester Mr Norman Dott of Edinburgh, Dr H K Ward of Oxford and Dr Helen Ingleby of London It is understood that similar medical fellowships provided by the Rockefeller Foundation will be awarded by the National Research Council at Washington to American graduates desiring to work for a time at chosen centres for research in Great Britain *The Council expresses its confidence* that the action of the Rockefeller Foundation will awaken a lively interest and warm gratitude in this country

[1] H.M Stationery Office, or through any bookseller Price 3 6d net

CLINICAL INVESTIGATIONS AND EXPERIMENTAL INQUIRIES

The report gives an account of studies prosecuted in the fields of biochemistry, pharmacy, experimental medicine, pathology, bacteriology, and industrial medicine We shall first give an account of the work reported in Section V of this report, entitled "Research in specific subjects," and in so doing it will be possible to refer to investigations reported in other sections dealing with the particular problems under discussion The remaining investigations reported in the other sections of the report will subsequently be dealt with seriatim

RICKETS

Comparative observations have been made by Dr Leonard Findlay of Glasgow of the effect in cases of florid rickets of such different remedial agents as cod-liver oil, ultra-violet rays, sunlight, and massage Dr Grace Anderson, as the result of investigations into the calcium and phosphorus content of the blood in normal and in rachitic children, found that in cases of rickets the blood calcium values were within the limits which she had determined as normal for non-rachitic children, in a few instances higher or lower values were found, but no correspondence with the severity or stage of the disease appeared to exist In rickets the inorganic phosphates were generally, but not invariably, below the normal level

Professor Noel Paton, Dr A Watson, and Dr S V Telfer have come to certain conclusions as to the effects of variation in the calcium intake upon the bones of growing dogs They found that limitation of calcium intake determines the development of rickets-like changes, that the association of these changes with olive oil in the diet is not due to the absence of vitamin A, and that keeping the animals in partial darkness tends to be associated with a lethargic condition and rickets-like changes

Dr Telfer's work on mineral metabolism, with special reference to the absorption of calcium and phosphorus and their fixation in the growing skeleton, has shown that without a corresponding amount of calcium phosphorus cannot be fixed in the bone, hence the development of bone is determined by the absorption of calcium, which may be restricted either by insufficiency in the food or increased alkalinity of the intestinal contents Dr Telfer and Dr Orr have also studied the effects of a reduced mineral intake on the skeleton of growing goats, and found that a relatively slight reduction of the mineral constituents in the milk produced osteoporosis, but not rickets A large reduction in the mineral intake resulted only in a quantitative lessening of the process of calcification, without true rachitic changes In relation to this an inquiry has been begun into the composition of breast milk of nursing mothers from towns and from country districts to determine whether any significant differences are associated with environmental conditions

ACCESSORY FOOD FACTORS (VITAMINS)

Working at the Lister Institute Dr S S Zilva has continued his studies of the antiscorbutic factor One of his results was that the inactivation of the antiscorbutic factor through the agency of oxidation proceeds very quickly in an alkaline medium, and slowly when the reaction is acid Observations previously made that alkalinity destroys and acidity preserves the antiscorbutic potency of active solutions hold true only when air is present under anaerobic conditions reaction exerts no influence on the stability of the vitamin He has been able to devise a stable concentrated antiscorbutic preparation which may find clinical application in cases of infantile scurvy, the results so far obtained have been successful Further research carried out by Dr Zilva in collaboration with Dr Goldblatt confirms the view that the antirachitic and growth promoting (fat-soluble A) principles are not the same They found that certain "hardened" cod-liver oils possess very high antirachitic and growth-promoting properties—*a fact of* great importance for margarine manufacture As was noted in our columns some time ago the investigation carried out by Dr Zilva and Dr Drummond on the liver oils produced in the Dominion of Newfoundland under

the supervision of the Government proved that they are highly satisfactory from a medical standpoint This is thought to be due to the fact that practically all the oils from Newfoundland are prepared during the period when the fish are feeding abundantly (on squid and capelan), so that the average vitamin value is very high The changes in vitamin A content of cod liver oils and emulsions during storage have been studied, with the expected result that exposure to air is the chief danger to be avoided Apart from the well known fact that such exposure decreases the palatability of the oil, it may reduce the vitamin content very seriously The same workers, in collaboration with Captain Golding, at the National Institute for Dairy Research, have established the fact that the vitamin A content of the milk can be raised considerably by the administration of small doses of cod-liver oil to milk-yielding cows, and this without any undesirable effect on the quantity or quality of the milk fat Dr Drummond's work on the chemistry of vitamin A is not yet completed, but it would appear from the data as yet available that the active substance is devoid of nitrogen and phosphorus, contains only carbon, hydrogen, and oxygen, and is almost certainly a highly unsaturated compound

Miss Coward's work on the formation of vitamin A in plant tissues has led her to the conclusion that of all the factors associated with carbon assimilation in the green plant light is most necessary for the formation of vitamin A Synthesis of this substance appears to be independent of chlorophyll, or of the presence of carbon dioxide or oxygen in the surrounding atmosphere She has shown that the alleged association of vitamin A with lipochrome pigments is only generally true in the case of plant tissues, and that amongst these some exceptions may be encountered

For the purpose of studying the distribution of vitamin B in a number of foodstuffs, such as bread and dry and condensed milks, Dr Gladys Hartwell employed two criteria—namely, the growth curves and incidence of disease in young growing rats, and the protection given against the ill effects on the suckling rat of excess protein in the mother's dietary She concludes that white bread has much more vitamin B than has been generally thought, and that the vitamin B content of white flour is by no means negligible Dried and condensed milks vary much more than might be expected in their protective power

Work has been continued by Professor Edward Mellanby upon the conditions affecting the development of rickets in puppies Special attention has been paid to the effects of different cereal foods, and particularly to the action in this respect of oatmeal and wheat germ The interaction of oatmeal with the antirachitic vitamin and the salts of calcium and phosphorus has also been studied

In Professor Korenchevsky's recent investigations on rats he has doubled and trebled the amount of calcium in diets deficient in the fat-soluble factor, and has come to the conclusion that the ingestion of even very large quantities of calcium does not prevent the rachitic calcium impoverishment of the skeleton of rats kept on the deficient diet From the data of chemical and histological examinations, the skeletal affections in rats on a diet deficient in the fat-soluble factor must be classed in the group of rachitic affections which develop even with excess of calcium in the diet The same worker, with the assistance of Miss M Carr has studied the influence that parents, through their state of health and their diet, may have over the resistance of offspring to different morbid causes The diet of the father before conception was not found to have any influence upon the young, either on their number, weight, or composition at birth The diet of the mother before conception and during pregnancy influenced the litter at birth in some respects the mothers kept on normal diet containing an excess of fat-soluble factor and calcium bore litters larger in numbers and total weight than those borne by mothers fed on ordinary diets or diets deficient in vitamin A The largest numbers of young rats were born dead in those litters of which the mothers were fed on deficient diets At the day of birth the water, calcium, phosphorus, and nitrogen content in the young were nearly the same, irrespective of the mother's previous diet Previously these workers had observed that the diets of mother rats had a striking influence on the skeletons of their young twenty-four to eighty-five days after birth This it is now seen cannot be attributed to a variation in the reserve of phosphorus and calcium in the foetuses, it is probably due to the different degree of storage of fat-soluble factor in the foetuses

DENTAL DISEASE

Bacteriological examination of teeth made by Dr Colebrook and Dr Kilian Clarke, working at St Mary's Hospital, have confirmed the fact that the *Bacillus acidophilus odontolyticus* is usually present in the softened dentine of dental caries, but examinations of the deepest parts of the affected dentine of early cases, where there has been little or no loss of enamel, were almost entirely negative In about one-third of these teeth, however, another organism apparently of a type hitherto undescribed, has been isolated Its form is that of a coccus and the name *Streptococcus mutans* is proposed for it Miss Mellanby's work on dietetic and other factors controlling the formation of good and bad teeth has led her to the opinion that dental caries would be greatly reduced by feeding children in accordance with the knowledge already gained of the diets by which enamel formation can be artificially controlled in puppies The microscopical examination of a large number of children's shed teeth has shown, moreover that there is a close relationship between structure and the tendency to decay Over 80 per cent of the teeth examined were badly formed as well as carious Naked eye examination of teeth gives no criterion of their real structure Diet has a fundamental relation to the right formation of the teeth and the tissues connected with them, and may determine the degree of their resistance to caries and other diseases

DISORDERS OF THE CARDIO-VASCULAR SYSTEM

Investigations carried out in the Cardiographic Department of University College Hospital Medical School included the study of the action of the cinchona alkaloids with a view to estimating quantitatively the relative potency of the four alkaloids in their effect on the fibrillating auricle, the potency decreased in the following order quinidine, cinchonidine, cinchonine, and quinine The action of quinidine on the dog's ventricle is to prolong the refractory period and to decrease the conducting power of its muscle, but it predisposes the ventricle to fibrillation in certain circumstances

A new series of observations on the morbid anatomy of subacute infective endocarditis has resulted in an interesting discovery—namely, that in approximately 25 per cent of all such cases a congenital defect of the aortic valve exists and that this is present in 40 per cent of those in which the aortic valves are primarily or heavily involved by the disease These observations undertaken by Sir Thomas Lewis and Dr Grant strongly suggest that subacute infective endocarditis is often or always consecutive to long standing damage to the valves

MENTAL DISORDERS

Miss L G Fildes has continued her psychological investigations at the University of Cambridge into mental defects in children her general conclusions are that defective children always exhibit a difficulty in establishing relationships between the items of experience, and that this may cause either slowness in forming certain types of association or complete failure No evidence was found that associative difficulty in dealing with one type of experience necessarily led to difficulty in dealing with all types for in some instances it appeared certain that the trouble was localized and led only to specific defects The possibilities of training any defective depend on the chance which exists of substituting one form of mental activity for another, commoner, form which is absent educational treatment, however, must necessarily be slow in achievement

TUBERCULOSIS

Dr Stanley Griffith has continued his studies of the bacteriological characteristics of strains of the tubercle bacillus from different varieties of human and animal tuberculosis The number of cases examined in all including those of the Royal Commission, now exceed 1 250

and is the largest series in the world in which the methods employed for the differentiation of the strains have been identical From the public health point of view the most important conclusion to be drawn from these researches is that bovine tuberculosis is a grave source of danger to man, especially in childhood Bovine tubercle bacilli have been shown to play a part in the causation of all human varieties of tuberculosis and to be capable of setting up tuberculous lesions in almost every organ and gland of the human body In cases of human tuberculosis where the infection is definitely alimentary in origin bovine tubercle bacilli are found far more frequently than human tubercle bacilli, while in cases where the infection is of respiratory origin the condition is practically always due to the human type of organism Most of the strains of tubercle bacilli obtained by Dr Griffith from lupus were attenuated in virulence, and it appears that the condition is not caused by bacilli already attenuated but that the bacilli become attenuated during the course of the disease

Dr L S T Burrell has continued his studies of artificial pneumothorax, and concludes that the treatment does not check the progress of acute bronchopneumonic pulmonary tuberculosis, but that in less severe cases the progress of the disease is checked in the great majority of cases Early treatment may prevent a unilateral case from becoming bilateral

A brief account is given in the report of Professor Dreyer's researches with defatted or diaplyte tubercle vaccine Professor Dreyer had observed that tuberculous tissue fixed in corrosive sublimate shows a larger number of tubercle bacilli than the same tissue fixed with formalin, and he thought it possible that a treatment with formalin might so alter the fatty parts of the bacterium as to make it soluble in trypsin after extraction with acetone This, it will be remembered,[1] proved to be the case, and formolized acid-fast bacteria or Gram-positive bacteria extracted with acetone were found to lose their characteristic staining reactions, to become soluble in trypsin, and to show enhanced antigenic action as vaccines Preliminary experiments in guinea-pigs which had been rendered tuberculous were very successful, and arrangements were made for testing the treatment on an extensive scale The report before us contains a warning against drawing premature conclusions and sums the question up in the following words

> In the case of a disease such as tuberculosis it will certainly not be possible to pronounce a definite verdict on a new form of treatment except after a period of long observation, but the Council will publish a preliminary series of reports as soon as possible which will indicate whether or not the treatment is fulfilling the hopes which have been formed about it In the meantime it is necessary to make it clear that the treatment is still in a purely experimental stage and that it would be entirely premature to attempt to make it generally available whilst its value remains uncertain and while the proper methods of its use and the precautions to be observed have not yet been determined

The Streptococcus and Pneumococcus Group

Mr G I Gaskell who is investigating pneumonia, has been concentrating mainly on two points—namely, the actual mode in which infection is resisted or nullified by defensive processes within the lungs and the more accurate measurement of the virulence of the infecting organisms As to the first two processes have been shown to occur—a local destruction of the bacteria due to liberation of bacteriolysin by the destruction of polymorphonuclear leucocytes and the ingestion and actual removal of bacteria by polymorphonuclear leucocytes passing both by way of the blood stream and by the lymphatic stream The condition of bacteriaemia constantly found with lower grade infections has also been further investigated Evidence is accumulating that in such scanty blood invasion the pneumococci are in the bodies of leucocytes and not free in the blood stream they are therefore virtually outside the blood stream Living cultures of the organisms from the blood may be grown on artificial media because on the rupture of the leucocytes the still viable bacteria can escape and grow It has been found that passage from one animal to another does not necessarily increase the virulence of the organisms if use is made of standardized methods of cultivation and dose measurement The condition of the host and the part which it takes in determining the type of damage produced in the lung have also been considered There is evidence that general lowering of resistance by operation elsewhere makes the production of lung damage much more easy for organisms of lower virulence, and this has an obvious bearing on post-operative pneumonia.

[1] BRITISH MEDICAL JOURNAL, 1923, vol i, p 1065

Haemoglobin.

At the University of Cambridge Mr Barcroft and Dr J M D Scott have studied the production of haemoglobin within the body of the rat They found that young rats bred from an anaemic mother and reared on bread and milk have a form of anaemia in which the number of red blood corpuscles is normal, and in which the blood volume is normal, the anaemia, which is of the most simple type yet observed, consists only in a deficiency of haemoglobin They have recorded a similar condition of anaemia in pregnant rats In these two cases there appears to be a clear dissociation between the mechanism for the production of red corpuscles and that for the formation of haemoglobin

Malignant Disease

Dr James Young, who has been working with an organism obtained from mouse carcinoma, states that he has produced in mice what he believes to be a progressive lesion of the nature of pseudoleukaemia or lymphosarcoma This is a diffuse condition, involving the liver, spleen, lymph glands, Peyer's patches, thymus, skin, and other tissues, it frequently exhibits marked invasive characters He believes that he has obtained a similar organism from human carcinoma and leukaemia He suggests that if the epithelial cell possesses, or is made to acquire, the properties of a primitive cell, infection by organisms of the kind he has studied will result in carcinoma, and that the influence of chronic irritation is to drive the stable epithelial cell back to the primitive state, the final factor in carcinoma then being infection He is testing this view by observing whether vaccination of mice with this organism makes the animals immune to tar cancer and papilloma, and the results so far obtained are believed to be positive in their indication

Immunity

Sir Almroth Wright's studies in immunity, based on methods of measuring the bactericidal efficiency of the whole blood, of the serum, and of the white corpuscles, are bringing into view a series of facts which show more of the mechanism of immunization than it has hitherto been possible to recognize By these new methods it has been demonstrated that when blood is brought into contact with bacterial vaccines, either *in vitro* or *in vivo*, there occurs an "immunizing response", that this response is made by the white blood corpuscles, that it is non-specific in character—that is to say, "protective substances" furnished by it exert their effects not only on the particular microbe with which the blood is vaccinated, but upon a large range of pathogenic microbes, that the response begins almost immediately after the blood is brought into contact with the vaccine, and that the quantity of vaccine employed is all-important From this it also follows that the failure of patients to recover from very severe infections is frequently associated with failure of the blood to make these "immunizing responses", this failure can be analysed, and it is found to depend upon defective functions of the white blood corpuscles

Recognition of these facts has made possible a new method of treatment—namely, to immunize the blood of a healthy individual rapidly, and by transfusion of his immunized blood into a patient whose leucocytes show a greatly reduced bactericidal activity to turn the scale against a very serious infection This method of treatment has already been employed with encouraging results By immunizing the blood of patients before operations which are likely to be followed by septic infection it is hoped that infection may be prevented or diminished The addition of decalcifying agents to blood is highly detrimental to its bactericidal efficiency

(To be concluded)

Scotland.

EDINBURGH ROYAL INFIRMARY

THE report by the managers of the Edinburgh Royal Infirmary for the year ended October 1st, 1923, shows that the financial state of the institution is favourable The encouragement of the voluntary system of support derived from the increasing receipts from the League of Subscribers, now amounting to £20,346, was mentioned in the JOURNAL of December 29th, 1923 The contributions from miners and oil workers engaged throughout the coal and shale field areas served by the institution have reached the total of £14,662, exceeding last year's figure by over £1,000 Ten years ago the annual subscriptions from this source realized only £4,200 This year's advance is all the more noteworthy as having been reached during a period of lower earnings in these industries Every worker on the pay sheet is a systematic contributor, and thus mutual help is rendered to what is virtually a system of voluntary insurance against the effects of accident and disease in these occupations The total voluntary contributions amounted to £68,721, an increase of £3,009 over last year The ordinary income (including legacies and donations below £100) was £110,150, and the extraordinary income (legacies and donations from £100 upwards) amounted to £50,641 Against these figures the ordinary expenditure was £119,810, and extraordinary expenditure £10,495 The cost per occupied bed had been reduced to £133 11s 4d The number of patients treated in the wards was 15,043, as compared with 14,156 in 1922, an increase of 887, the average daily number of patients under treatment was 897, against 876, an average increase of 21 The average stay of each patient in hospital was 21 3 days a reduction from the 22 1 days of the preceding year The deaths amounted to 6 1 per cent of the cases treated, or excluding deaths taking place within forty-eight hours of admission 4 8 per cent There were 46,693 out-patients, an increase of 4,351 over last year's figures The average list of patients waiting admission to the wards numbered 1,483 The last is the most serious factor disclosed and is held to indicate a need for expansion of the Infirmary Another scheme which has been brought to the notice of the public is the urgent need for an enlarged and improved maternity hospital These two demands are being considered together because it is held that the institutions must at least be contiguous and in close co-operation with one another

ROWETT ANIMAL RESEARCH INSTITUTE

The delegates to the Congress of the Educational Institute of Scotland in Aberdeen on December 28th paid a visit to the Rowett Institute for Research in Animal Nutrition at Bucksburn Dr J B Orr, the director, said that four fifths of the money that came from agriculture in this country was derived from animal products, the total annual value of the milk alone was about £180,000,000 Meantime we imported from other countries huge quantities of farm produce which could be grown at home The Institute was seeking to solve problems regarding the most economical methods of meeting the food requirements of animals Groups of Ayrshire cows and calves were shown fed upon various rations, with the object of discovering what was best suited for their development It was explained that one of the objects of these experiments was to attain the most economical method of feeding animals and thereby cheapen food

GLASGOW WESTERN INFIRMARY

At the Christmas meeting of the Glasgow Western Infirmary on December 24th, 1923, the chairman of the directors, Colonel J A Roxburgh, reported that both the in patient and out patient departments had dealt during the year with "record" numbers of patients New apparatus had been installed in the electrical department and valuable work had been carried on in the research departments of the clinical and pathological laboratories Satisfactory results had been obtained from insulin treatment, and the school of nursing had maintained its high standard Although the ordinary expenditure for the year would be about £3,000 less than in the previous year, it was probable that legacies received would almost balance the accounts The endowment fund had increased during the year by £22,500, of which £7,500 represented the endowment of five additional beds, bringing the total number of endowed beds to eighty-two In consideration of £15,000 received under his will Ward No 31 had been named after the late Mr John Anderson The McAlpin Nursing Home was now available for paying patients at reduced charges Lady Blythswood presented the prizes in medical and surgical nursing won during the year The new Alexander Elder memorial lecture room was open for inspection This lecture room for nurses, together with the much needed addition to the nurses' home, and a memorial chapel, originated from the legacy received from the trustees of the late Mr Alexander Elder of Liverpool The nurses' home and the chapel are to be completed during the coming year

LEITH HOSPITAL

At a luncheon given by Mr J A Lindsay, Chairman of the Board of Management of Leith Hospital, to his colleagues, it was announced that Mr Thomas Cowan, a member of the Board, who last year presented £10,000 to the hospital, had now given the same amount for the reconstruction of the out-patient department The Chairman remarked that the hospital was three-quarters of a century old, contained 115 beds, and in the past year had treated 1,600 patients in the wards, and nearly 60,000 out-patients Mr Cowan, in replying to the toast of his health, said that he strongly favoured the voluntary system He believed that the management would get more endowed beds in the near future, and he was pleased to notice that the ordinary income was coming into line with the ordinary expenditure Lord Provost Sleigh of Edinburgh afterwards gave an address on the work done by the hospital

VOLUNTARY PATIENTS IN MENTAL HOSPITALS

The annual report of the Stirling District Board of Control, which comprises the counties of Stirling, Dumbarton, Linlithgow, and Clackmannan, shows that the number of patients in the Board's mental hospital at Larbert is slowly, but steadily, increasing, it has now reached 801 Dr R B Campbell, medical superintendent, notes in his report the admission of two male voluntary patients during the year, the maintenance cost of one was borne by the parish council concerned, he expresses regret that this procedure is not more frequently adopted in the case of rate-supported patients, since many cases of mental disease could thus receive treatment in the early and more curable stages Voluntary treatment in mental hospitals has been so successful in the case of private patients that it is unfortunate that it is at present denied to those who are dependent on parish councils for their maintenance in hospital The Government grant to parish councils towards the cost of maintenance of their patients in mental hospitals is only applicable to certified patients and so voluntary patients, unless wealthy, are excluded An outbreak of typhoid fever occurred in the hospital during the end of 1922 and the beginning of 1923, involving twenty-five persons in all Inquiry made it probable that the outbreak originated from infection by carrier After prophylactic inoculation of the staff no further case occurred amongst them

WORK OF QUEEN VICTORIA'S JUBILEE NURSES

The annual meeting of the Scottish Branch of Queen Victoria's Jubilee Institute for Nurses was held in the City Chambers, Glasgow, on December 12th, 1923 The Countess of Mar and Kellie presided It was stated that 353 nursing associations employing 567 nurses were affiliated with this branch During the past year they had attended 95 384 cases, entailing no fewer than 1,538,754 visits As a result of a special effort a debit balance of over £2,100 on the previous year's accounts had been wiped out and a sum of £275 added to the general funds Dr J R Currie professor of public health in Glasgow University moved the

adoption of the report which he characterized as a record of admirable work The council and the institute were open-eyed and up to date and were following the trend of modern medical opinion

Ireland.

Withdrawal of Grant for Medical Certification in the Irish Free State

On December 11th last a deputation from the Executive of the Irish Medical Committee waited by invitation on the Irish Insurance Commission (Free State) and discussed with that body the situation in connexion with the certification of sickness benefits under the Insurance Act, arising out of the withdrawal by the Free State Government of the certification grant The Chairman (Sir Joseph Glynn) explained in detail to the deputation the present position of certification and the moneys which could be made available to meet its cost The deputation requested the Commission to put its proposals in writing in order that they might be submitted, in the first instance, to the Local Medical Committees for the purpose of giving these bodies an opportunity of instructing their representatives on the Irish Medical Committee, which will finally deal with the matter It is to be hoped that the secretaries of local medical committees, when they receive from the Secretaries of the Irish Medical Committee the proposals of the Insurance Commission will take immediate steps to summon all the medical practitioners in each insurance area so that they may have an opportunity of giving definite instructions to their representatives on the Irish Medical Committee In a covering letter forwarding the proposals for certification for the coming year, the Chairman of the Insurance Commission makes the following important statement

I have seen the Minister of Finance and I am authorized by him to state that it is the intention of the Government in the year 1924 to appoint a Committee of Inquiry into the working of the Health Insurance Acts in the Free State and that such inquiry will include the question of the medical services generally as well as in the relation to the medical treatment of the insured people and dependants

The following passages from the memorandum for the information of the Irish Medical Committee, forwarded by Sir Joseph Glynn are those having an immediate bearing on the withdrawal of the certification grant and the reduction in the remuneration for medical certification proposed for the coming year

The instruction of the Treasury limited the maximum grant for any particular area to 2s 6d and a scheme was prepared which provided for three rates of capitation, 1s 3d in purely urban areas 2s in the average rural district, and 2s 6d where the insured population was spread over a considerable area The higher figures were meant to allow for cost of travelling These rates came into operation on January 1st 1916 and continued until January 1st 1920 when an increase of 40 per cent was approved owing to the increased cost of living

In 1922 owing to the decrease in the cost of living half the increase granted in 1920 was taken off and the capitation rate since January 1st 1922, stood at 20 per cent over the figures fixed in 1915

The position in Great Britain changed in the spring of 1922 A period of acute financial depression had set in and the British Government decided that the State grant which had been given for the extra cost of medical benefit in Great Britain could no longer be continued and that unless the doctors accepted a reduced capitation fee the extra money required should be provided either by an additional contribution or else from the benefit funds of Societies

Logically with the disappearance of the Government grant in Great Britain the equivalent grant in the Free State should similarly disappear The Commission however felt that a very serious position would arise if the cost of certification were placed on the funds of Approved Societies owing to the fact that from the political trouble in Ireland had caused a very considerable amount of non compliance with which the Commission would ordinarily deal because there were very few regular courts sitting during the whole of that period The Commissioners therefore approached the Government (Free State) and asked that for the year 1922 the cost of medical certification should be borne by the State fund This was agreed to and at the end of 1922 when the estimates were being prepared the Commissioners in view of the prevailing unemployment asked that the arrangement agreed to for 1922 should be continued until December 31st 1923 The Government agreed to this on condition that no further grant would be asked for and that before the end of 1923 arrangements would be made to provide the cost of medical certification otherwise than by a State grant

In the autumn of 1923 the Insurance Commissioners applied to the Chief Government Actuary for advice as to whether the cost of medical certification could be placed with safety on the benefit funds of societies The Actuary, in concluding his report stated that having in view the difficulties under which the Societies are and have been working the transfer of the present cost of medical certification to their funds even as a temporary expedient, might prove embarrassing to many of them

The Commission after indicating in the memorandum the sources available for payment for medical certification as the result of the withdrawal of the certification grant states that it is prepared to ask for legal sanction for diverting from the Unclaimed Stamps Account a sufficient sum for the year 1924, which with the 10d already available, would make up a sum equal on the average to the product of a rate of 2s per insured person for the cost of medical certification in the Free State This proposal means that the doctors should accept a reduction of 3d in the average capitation rate, as against 5d which it is intended to take off the amount allowed to meet administration expenses of societies As the present proposal is confined to the year 1924, and is therefore so purely temporary, the Commission hopes that the medical profession will see its way to accept it and thus prevent a deadlock arising as to the provision for medical certification for the insured population during the year

Vaccination Defaulters

At a recent meeting of the Poor Law Commissioners of the Dublin Union the following order was made

Having regard to the present epidemic of small pox in England and the landing of one case at an Irish port the Commissioners of the Dublin Union wish to draw the attention of the parents and guardians to the serious danger and they instruct the relieving officers to put the Vaccination Act in operation and prosecute in cases of refusal or failure to comply with the law, the relieving officers to submit cases for prosecution at once

It is stated that the landing of a case of small-pox at an Irish port referred to in the above order took place some weeks ago, when a man found to be suffering from the disease was discovered aboard a vessel at Cobh The ship had sailed direct from London Every precaution was taken by the local authorities and so far no further cases of the disease have been found

England and Wales.

New Year Gifts for Manchester Hospitals

During 1923 a special effort was made by the Lord Mayor of Manchester's Fund to collect two million shillings (£100 000) so as to set free from debt the Manchester and Salford hospitals About £77 000 was received from about 750,000 subscribers, and this was found to be sufficient for the purpose The gifts to the hospitals ranged from £23,000, presented to the Manchester Royal Infirmary to £100, and some of the larger amounts were as follows Pendlebury Children's Hospital £9 854 Salford Royal Hospital, £8,690 Ancoats Hospital, £6 000 St Mary's Hospitals £5 355, Eye Hospital, £4 743, Hospital for Consumption, £3,000 Victoria Hospital £2 464 Hospital for Incurables, £2 317 Northern Hospital £2 000 Dental Hospital, £1 500 The success of this effort is an illustration of the willingness of the people to subscribe to medical charities when the appeal is skilfully framed and advertised

The Improvable Feeble Minded

The Royal Albert Institution Lancaster was established in 1864 for the care education and training of the improvable feeble-minded of all classes belonging to the seven counties of Lancashire Yorkshire Cheshire Westmorland, Cumberland Durham and Northumberland The well illustrated annual report for 1923 contains an interesting account of the large amount of manual work done by the 800 patients and the satisfactory results obtained At the eleventh quinquennial festival which

took place at the end of September, the president, Lord Richard Cavendish, described how the institution had grown from a comparatively small beginning to a large national concern The Cavendish Reception House, of which the foundation stone was laid during the festival, will take the place of the James Diggens Memorial Reception House, which has been converted into a tuberculosis sanatorium The erection of a custodial building for low grade cases is contemplated, and also the provision of a new building for forty boys and another for forty girls At the public meeting in conjunction with the festival, Sir Frederick Mott, K B E, F R S, gave an address on the causes of feeble-mindedness

Correspondence.

PARATHYROID GLANDS IN RELATION TO SURGERY

SIR,—I should like to add to Mr Dunhill's admirable article on the "Parathyroid Glands in Relation to Surgery" (January 5th, p 5) two pieces of evidence which strongly support the thesis that these glands have functions entirely distinct from that of the thyroid gland The recent embryological evidence of the origin of thyroid and parathyroid glands both in the human being and other mammals indicates that while the thyroid develops as a median unpaired diverticulum from the ventral pharyngeal wall, the parathyroids arise from the branchial apparatus on each side

Clinical evidence is forthcoming to support this in the occasional failure of the former outgrowth to reach the normal situation in the neck, the thyroid in such cases forming a tumour in the base of the tongue Several cases are on record where the removal of such a lingual thyroid was followed by myxoedema (such a case occurred in the practice of the late Mr Roughton, surgeon to the Royal Free Hospital), yet no trace of tetany was observed in any of these examples This, I think, clearly confirms Mr Dunhill's contention I cannot, however, agree with him as to the best method of avoiding damage to these glands, I have invariably adopted De Quervain's technique, and in some hundreds of cases have not seen tetany follow—even when, as in some cases of exophthalmic goitre, all four main arteries to the gland have been tied I leave a small strip of gland tissue covering the region of the parathyroid glands and the recurrent laryngeal nerve, and I have noticed that the cut surface of this gland tissue bleeds freely even after the ligation of all four arteries

The oesophageal and tracheal arteries give off numerous small branches to the thyroid gland and are evidently able through their anastomoses with the thyroid arteries to supply nourishment to the parathyroid bodies Mr Dunhill does not mention the risk of damage to the recurrent laryngeal nerve that must accompany the Mayo technique, and, I should suspect, the one which he describes—I am, etc,

London W Jan 5th CECIL A JOLL

POSTURE DURING DELIVERY

SIR,—I can add one more race that uses the squatting position in delivery The women of North China employ this posture and, so far as I was able to gather, there is seldom any difficulty in labour

The natives in the British Territory of Wei-hai-wei were quite willing to call in the British doctors to attend them for illness, but we were never called in for normal labour, the cases that we did see being almost always transverse presentations, with labour prolonged, often for several days

The interesting point is that the women, having bound feet, do not lead an active life, to which the easy labour of many natives is attributed, certainly they do work in the fields, but their movements are slow and awkward, and they are not capable of doing any heavy work

It is the rule for the mother to keep to her bed for about nine days after labour—I am, etc,

London E.C 1, Jan. 2nd. H WINDSOR BELL

PLACENTA PRAEVIA AND ECLAMPSIA

SIR,—I am pleased that Dr Johnstone has drawn attention to Dr Bradshaw's memorandum (October 27th, 1923) on his case of ante partum haemorrhage due to placenta praevia associated with albuminuria and eclampsia But I cannot agree with his interpretation of the case, nor with the view he puts forward as to the causation of eclampsia If Dr Young's contentions, as stated by Dr Johnstone, are correct—"that the usual interpretation placed upon the association of albuminuria and accidental haemorrhage as due to toxaemia is placing the cart before the horse,' then the toxaemia is not the cause but rather the result of the accidental haemorrhage and the consequent absorption of toxins from the dead tissues from a partially separated placenta Dr Young has not furnished any explanation for the occurrence of this focal necrosis in the placenta

Again, in no other conditions, where similar absorption from partially necrosed tissues takes place—as in infarcts or gangrene—do we meet with a train of symptoms in any way analogous to those of eclampsia Nor does Dr Young's theory explain that very common fact, that eclampsia is practically almost always a complication of the later and advanced stages of pregnancy

The theory put forward by me as to the causation of eclampsia (BRITISH MEDICAL JOURNAL, June 10th, 1922), I believe, does explain all the points raised

Shortly, my view is that in the later periods of pregnancy, a physiological outpour into the system of pituitrin is necessary, for terminating gestation, for producing uterine contractions, and for the stimulation of mammary secretion

When this physiological process of the posterior pituitary activity is overdone (overaction is a very common failing of Nature) we have an excess of pituitrin in the system, causing contraction of the arterioles in many parts of the body, and thus producing necrotic foci in the placenta, liver, kidney, and oedema of the brain The association of accidental haemorrhage, placental foci of necrosis, albuminuria, and eclampsia is thus obvious, as they are all due to the one and same cause—I am, etc,

Cape Town Nov 30th. S E KARK

ACUTE LUMBAGO

SIR,—I was much interested in reading in the JOURNAL of January 5th (p 37) a letter from Professor William Russell of Edinburgh, on the treatment of acute lumbago by injections of urea and quinine hydrochloride Successful as this method evidently is, in relieving the acute pain, from which I myself have suffered, I believe my own method is even better For the last seven years personally, and in my practice, I have used ultra violet ray emanations from the tungsten arc lamp, in both acute lumbago and sciatica, and have never failed to get or give instant relief An acute attack of lumbago generally yields to three applications of the rays, and is completely cured, sciatica takes a little longer, but invariably yields in the end—I am, etc,

London W 1 Jan 4th. EDWARD J DECK

PROPHYLAXIS OF MALARIA AND BLACKWATER FEVER

SIR,—Apart from the great prime safeguard, the mosquito net, quinine is usually recommended as a defence against malarial infection in mosquito-ridden areas known to be infectious Sometimes the doses recommended are astonishingly large and the prescription may be for protracted periods

After infection has taken place, quinine is, of course, our sheet anchor As a prophylactic its use calls for caution Individuals differ in regard to susceptibility to quinine To use quinine indiscriminately as a prophylactic is to deaden its action at the time when it is so sorely needed—namely, after infection Dr Junker, the African traveller, knew of this and refers to it repeatedly

The mosquito has intelligence, perhaps more than we may be disposed to admit She is by way of being a dainty feeder and has likes and dislikes She likes the sweet fresh blood

of the newcomer, the younger the better, nor need the newcomer have arrived from a very distant region I have long thought that the action of quinine in malaria prophylaxis, apart from its tonic action, may be due to the bitterness—the word must serve—which it imparts to the blood If this be so, such embittering may be achieved in simpler fashion—as, for example, by means of aloes The mosquito, not alone among parasites, dislikes aloes, even in the weakest of solutions Minimal quantities, preferably of the tincture, in daily dose not sufficient to upset the bowels, are advised, if only as a second crutch and economizer of quinine Nature gives us the hint In the vegetable kingdom we see plants making themselves obnoxious to browsing marauders, great and small, by means of resins, gums, essential oils, and so forth Indeed, that is the function of aloes in the parent plant, we but transfer the action to man In this connexion it may be noted that Warburg's tincture has its uses as much in prophylaxis as in treatment

Where the blood has been thinned by repeated malarial attacks, or where infection has raged unchecked, there comes, as is well known, the liability to blackwater fever This is especially the case in falciparous areas, and Rhodesia is one of such The liability to blackwater fever may be diminished by the regular use of gelatin—conveniently as fruit jellies—in the diet It probably acts by way of its easily assimilable lime content

The path for blackwater fever is laid by malaria The patient's blood is brought into an unstable condition by antecedent malarial attack, which may have been recent or remote Instability attained, some slight tilt may precipitate haemolysis, a renewed access of fever, a dose of quinine, the chill of the early mornings of approaching winter, extreme physical fatigue, exposure, even mental worry, may act as determinant With the appearance of the haemoglobinuria the mischief is already done, all we can do is to help Nature and, if possible, stay further haemolytic explosion—an explosion which is usually accompanied by a rigor Some patients describe the rigor as being of characteristic sort Sometimes haemolysis is so overwhelming that the patient has not sufficient red cells left to breathe with and there is dyspnoea The skin and mucous membranes show an icteric tint, and its degree serves as a useful measure of the extent of destruction If it be deep the outlook is grave In a general way it is the person who might fitly be described as a malarial cachectic who is a likely subject for blackwater fever The dread of blackwater is the haunting thought in the mind of every malarial cachectic when fever overtakes him He knows, perhaps from experience, that the dose of quinine he takes to combat his fever may induce blackwater The evidence as to this is too direct and striking for him to misunderstand

The question arises how best to protect the potential subject—the malarial cachectic—from haemolytic explosion with its consequent blackwater In scurvy there is a profound alteration in the blood, due to vitamin deficiency, as is said Many of the native races of South and Mid Africa are very liable to scurvy, but haemoglobinuria as a concomitant or sequel of malaria is rarely seen among them Under antiscorbutic treatment natives suffering from scurvy usually make quick recovery

The blackwater postulant and the sufferer from scurvy have this in common, that both are suffering from some profound alteration in the character of the blood Despite the difference in the clinical picture, the diet which protects against scurvy is also largely protective against the liability to blackwater perhaps in the latter case by restoring a vitamin suddenly destroyed in the malarial parasite's assault, or there may have been a long gradual sapping

In the prophylaxis of blackwater it will be found that if the malaria be combated in the usual fashion with iron and with arsenic, and gelatin be given as mentioned above, and if in the dietary we have the usual antiscorbutics, we afford great protection New milk, the citrous fruits, fresh meat, and an abundance of fresh vegetables and fresh fruit, protect against blackwater by supplying deficient vitamin, in a manner akin to their action in scurvy Two vegetables common in the tropics, but rarely seen in England, seem to be especially valuable Both contain a mucilaginous principle, and it may be that this is the reason why they are so useful They are bamia (*Hibiscus esculentus*, N O Malvaceae) and the garden-egg or egg-plant (*Solanum esculentum*, N O Solanaceae) It is the unripe capsules of the bamia which are used, preferably in a soup The egg-plant, sliced and fried with steak, makes an excellent dish

Heedless exposure to extremes of weather, fatigue, and worry should be avoided, and some respect should be paid to the sun If cachexia be extreme, change of climate should be urged —I am, etc ,

Bulawayo, Rhodesia, Dec 1st, 1923 R F RAND, M D

STABILITY OF INSULIN IN WARM CLIMATES

SIR,—Statements have appeared recently in the press that insulin is unstable in the tropics and has been found to have lost activity on arrival in India Experiments have been carried out which show that the reports to the effect that insulin is not resistant to tropical climatic conditions should be accepted with considerable reservation so far as "A B" insulin is concerned

A sample from a batch of "A B" insulin was heated to a temperature of 95° F for a month, the activity being carefully determined both before and after the treatment The result of this careful test showed that insulin "A B" brand had retained its activity without any detectable loss

Further testimony to the stability of "A B" brand insulin is afforded by the following facts We have had returned to us from India two bottles of our insulin "A B" brand This insulin was part of a batch which had been reported as having lost activity in India We have had the contents of one of the bottles retested here, utilizing for this purpose a bottle which arrived back in a half-empty condition as we considered that this would be the most stringent test The figures obtained showed with remarkable agreement that the activity was exactly the same as when the batch was first issued, two and a half months previously, in spite of the fact that this insulin was sent out without any precautions as to cold storage during its journey to and from India, nor, so far as we are aware, was it kept in cold storage while in India

An interesting fact which may throw some light upon the reports of loss of activity in India is that the contents of the same bottle when tested in India did not reduce the blood sugar of the rabbits to anything like the same extent as we found it do here before and after going to India Four times the amount which reduced the blood sugar to the limit (that is 0 042 per cent) in England only reduced the blood sugar to 0 062 per cent in India None of the rabbits in India went into convulsions, while on one-half the dose our rabbits went into very severe convulsions—one of them indeed being so severely convulsed that its life was with difficulty saved These results suggest the possibility that rabbits in India do not give the identical quantitative reaction observed in temperate climates, owing to climatic conditions, the nature of the food administered, or some such variant —We are, etc ,

THE BRITISH DRUG HOUSES, LTD ,
ALLEN AND HANBURYS, LTD

London, N 1, Jan. 7th

THE MILITARY PREFIX

SIR,—Why should not medical men who held territorial or temporary commissions during the war be accorded their rank? Most professional men are proud of the honour conferred upon them by His Majesty A large proportion of these non-regular officers saw more active service during the war than the average pre-war regular As one of your correspondents a few weeks ago pointed out, we are the only profession which is perpetually labelled by our acquaintances Many of us hate this perpetual "doctor" and consequently are pleased to accept our military rank I know the man who stayed at home is very jealous—he made the money and now hates that others should have any honour —I am, etc ,

TERRITORIAL

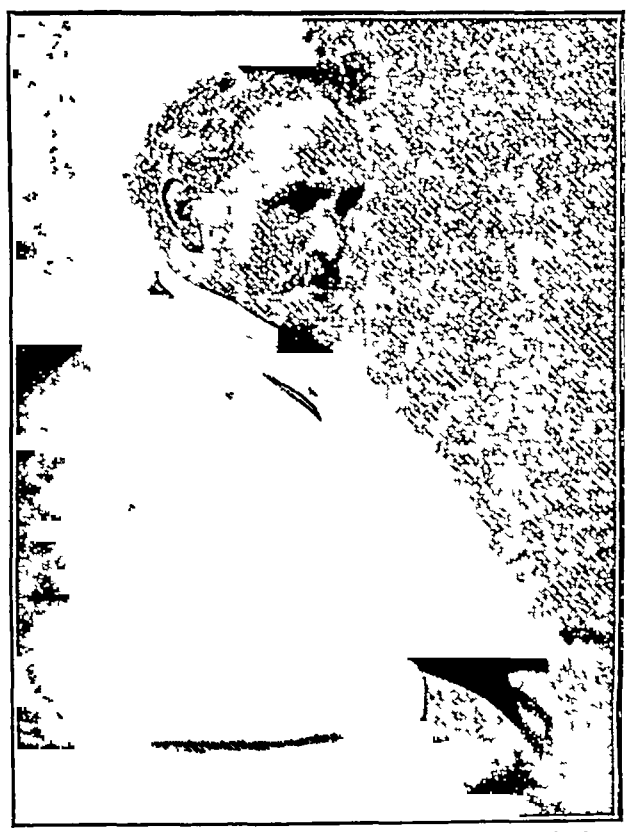
January 6th

Obituary

SIR JOHN TWEEDY, F R C S,

Emeritus Professor of Ophthalmic Medicine and Surgery University College, London, and one time President of the Royal College of Surgeons of England

WE greatly regret to record the death on January 4th, at his house in Harley Street, of Sir John Tweedy, after a very short illness He was born at Stockton-on-Tees in 1849, and received his early education at Elmfield College, York He became a student at University College, London, and had a distinguished career in the medical faculty He took the diplomas of L R C P Lond and M R C S Eng in 1872, and in 1876 became F R C S Among his fellow students were several who were to win high distinction, but we need only mention Sir Rickman Godlee, the late Mr Marcus Beck, and Dr Vivian Poore Tweedy never enjoyed robust health, from early manhood he suffered from an embarrassment of respiration, of which the exact nature was obscure The story was that he consulted Dr Walshe, physician to University College Hospital, of whose acuteness in diagnosis some legends still survive, and that Walshe, having on several successive visits made as many incompatible diagnoses, told Tweedy he never wanted to see him again as a patient, but that whatever was the cause of his hard breathing, his frail physique forbade his attempting the career of a general surgeon, in which direction his ambitions lay After a short dalliance with dermatology he made up his mind to become an ophthalmic surgeon, a career in which his friends conceived him particularly well equipped to achieve success Their anticipations were fully justified



Photograph by] [F A Swaine London

SIR JOHN TWEEDY

In 1873 he became clinical assistant at the London Ophthalmic Hospital, Moorfields, he was appointed assistant surgeon to that hospital in 1877 and surgeon in 1886, he was also ophthalmic surgeon to the Great Northern Hospital In 1881 he was appointed assistant ophthalmic surgeon at University College Hospital and professor of ophthalmic medicine and surgery in University College From 1888 to 1904 he was ophthalmic surgeon to the hospital, and when he retired was made emeritus professor in the medical faculty of the college and consulting ophthalmic surgeon to the hospital On his retirement from Moorfields also he was appointed consulting surgeon During this stage of his career he published a number of papers on the physiology and anatomy of the eye, and on the treatment of its diseases Among other subjects he wrote on mydriatics and on the extraction of immature cataract, and contributed articles to Heath's *Dictionary of Practical Surgery* and to *Quain's Dictionary of Medicine* Besides doing all the ordinary operative work that falls to the lot of an ophthalmic surgeon in active practice, he gave particular attention to errors of refraction, a department of ophthalmic practice then much neglected He was minutely careful in his prescriptions and there are many elderly men to-day seeing with comfort who, having consulted Tweedy thirty or even more years ago, have never had need to desire any alteration except for the correction of presbyopia There is a characteristic story which may be related without disrespect A gentleman who had not consulted Tweedy for some eight or nine years, feeling that his glasses were not quite right, went to see him The trouble, which was due to the onset of presbyopia, was quickly adjusted, and the two fell to gossiping about music Nothing would do but Tweedy must get out his 'cello and demonstrate the error of some opinion the other had expressed Shortly there was a knocking at the folding doors which separated the consulting room from the waiting room, and a lady's voice was heard demanding how soon Mr Tweedy would be able to find time to see her Tweedy corrected what were then considered small errors of refraction and did his patients much good, and still more good by his example in this respect to other ophthalmologists

The position Tweedy quickly attained in the profession is shown by the fact that at the early age of 42 he was elected a member of the Council of the Royal College of Surgeons, at the same time as the late Sir Thomas Smith, Mr Arthur Durham, and Mr Howard Marsh In 1903 he was elected President, an office he retained for three years being succeeded in 1906 by Sir Henry Morris Then followed Sir Henry Butlin, and then Sir Rickman Godlee, Tweedy's old student friend

He received the honour of knighthood in 1906, and many honours from his own profession He was president of the Ophthalmological Society of the United Kingdom, of the Medical Society, of the Medical Defence Union and of the Royal Medical Benevolent Fund He was a trustee of the Hunterian Collection of the Royal College of Surgeons, and a member of the Council and at one time of the Distribution Committee of King Edward's Hospital Fund He received from the University of Edinburgh the honorary degree of LL D He was Master of the Barbers Company in 1908 when it celebrated its sixth centenary The history of medicine was one of Tweedy's hobbies and he undoubtedly enjoyed the compliment thus paid him Although the Guild of Barbers existed before 1308 that was the year of the admission of its first recorded master Its members not only practised the tonsory art, but bled, cauterized, and drew teeth, while some of the more expert confined their practice to surgery Outside the Guild, however, there was a body of men of superior education whose skill had been obtained mainly by experience in the wars they formed themselves into a separate guild or fellowship of surgeons but were never incorporated Eventually, in 1540 the Barbers Company was united with this ancient fellowship of surgeons under the title of the "Masters or Governours of the Mystery and Commonalte of Barbours and Surgeons of London" The union lasted until 1745 when it was dissolved by Act of Parliament and a Surgeon's Company established which lasted until the close of the eighteenth century and was succeeded in March 1800 by the College of

Surgeons Tweedy presided as Master at a commemorative dinner given by the Company of Barbers in December, 1908, and, in proposing the toast of the Corporation of London and the City Guilds, sketched their history and recalled the fact that the Corporation of the City of London was only a century older than the date of the formal recognition of the Barbers' Company, which was one of the first to be formed

Very appropriately, when the Barbers' Company founded at the Royal College of Surgeons the Thomas Vicary Lecture Sir John Tweedy was appointed to deliver the first lecture in December, 1919 His subject was the Surgical Tradition He traced it through Egypt and Greece, through the Latin and Arabian writers to Lanfranc and Guy de Chauliac and Ambroise Paré, the last name leading him to give a sketch of the history of the arrest of haemorrhage Earlier in the same year he had delivered the annual oration of the Medical Society of London on the Medical Tradition, in which, more briefly, he rendered similar service to medicine In his peroration he said we "should never forget that medical philosophy is essentially and apart from other studies an ethical study, and is intimately concerned about the ways by which it seeks to attain its moral aims, and that he who in the right spirit devotes himself to the practice of medicine seeketh not his own, but engages in the service of humanity" In 1905 he had delivered the Hunterian Oration before the Royal College of Surgeons, a philosophical study of John Hunter's methods and achievements, but containing also a brief reference to William Hunter, the first to give organized teaching of anatomy in this country

Tweedy was an excellent speaker, whether in a set oration or after dinner, he was always clear and logical, rather slow and precise in utterance, making his points deliberately—very pleasant to listen to His speeches were imbued with kindliness, full of sweet reasonableness, redolent of the learning his modesty seemed to wish to conceal, animated by quiet humour, and revealing a mind self-contained, broad, and far-seeing A specialist of specialists, he had a keen sympathy for the general practitioner, and believed that with his standard of knowledge and conduct lay the present reputation of the profession and the future of medicine in the widest sense It was this sympathy undoubtedly and his hatred of injustice which led him to accept the presidency of the Medical Defence Union, which he held with great advantage to that institution from 1914 to 1920

Sir John Tweedy wrote no textbook, and, considering his wide reading and long experience of his own subject, relatively few clinical papers but he had a ready pen and even before he obtained his first diploma had begun to contribute to the *Lancet* His association with that journal continued to the end James Wakley, who had succeeded its founder as editor of the *Lancet*, left behind him at his death in 1886 a paper in which he recorded that he had been materially aided by Mr John Tweedy, Dr J A Marston and Dr J G Glover, and had great reliance in the soundness and fairness of their judgment, their scientific and literary ability, and the integrity of their character" In the Centenary Number of the *Lancet* it is recorded that Tweedy was definitely offered the editorship, and though he preferred to remain in practice, yet 'until his professional commitments made it impossible, he continued to help the paper week by week for many years"

Tweedy married in 1895 the daughter of Mr Hillhouse of Salisbury Place, and leaves two sons and one daughter To Lady Tweedy and her children we will offer the respectful sympathy of the profession which owed so much to her husband's work and example The funeral, which took place at Golders Green Crematorium on January 8th, was attended by among others the Presidents of the Royal Colleges of Physicians and Surgeons, and by representatives of University College, University College Hospital and the Royal Medical Benevolent Fund

The General Council of King Edward's Hospital Fund has unanimously adopted a resolution placing on record its deep regret at the death of Sir John Tweedy who served as a member of the Council from 1903 to 1924 as a member of the Distribution Committee from 1904 to 1920, and as chairman of that Committee in 1919 and 1920, during all which periods the Fund had greatly benefited by his experience and wise judgement

ROGER ALAN BIRDWOOD, M D,

Medical Superintendent of Metropolitan Infectious Hospitals

WE regret to announce the death, at the age of 72, of Dr Roger Alan Birdwood, who was for many years a medical superintendent of various hospitals in the infectious service of the Metropolitan Asylums Board

He was born on October 14th, 1851, at Bombay, where his father, General Christopher Birdwood, was Deputy Commissary-General, one of his brothers being the late Sir George Birdwood, I M S He was educated at the Dollar Academy, School for Sons of Missionaries, Blackheath, King's College, London, Peterhouse, Cambridge, and Guy's Hospital He took the diploma of M R C S in 1877, and graduated M D Cantab in 1889 In 1889 he first joined the service of the Metropolitan Asylums Board as assistant medical officer to the small-pox hospital at Hampstead, where he remained for a few months He then went out to South Africa to serve as civil surgeon in the Galeka and Zulu campaigns, in which he gained a medal and clasp On his return to England he first acted as house-surgeon to the Gravesend Infirmary, where he secured the provision of a separate ward for children, and then rejoined the Metropolitan Asylums Board, and remained in its service until his retirement in 1915 In June, 1884, he was appointed medical superintendent of the small-pox hospital ships, a post which he held until 1892, when he was transferred to the South-Western Fever Hospital at Stockwell At the time of his appointment only convalescent small-pox patients were removed out of London, he urged the removal of all cases direct from their homes to the ships, on the ground that this measure would result in a diminution of the incidence of the disease This proposal was objected to by experts, who maintained that the patients would die on their way to the hospital, that small-pox would not be prevented, and that it was impracticable The managers, however, in 1886 adopted Dr Birdwood's proposal, the wisdom of which was amply proved by its successful results He also carried out changes in the dietary of small-pox patients which resulted in a reduced mortality and expenditure

In August, 1892, Dr Birdwood was entrusted with the work of planning, opening, and furnishing the North-Eastern Fever Hospital at Tottenham, which was erected in the course of a few weeks at a time of great pressure After serving there as medical superintendent for five years he superintended the opening and equipment of the Park Fever Hospital at Hither Green, where he remained until his retirement in 1915 On several occasions Dr Birdwood's advice was sought by the Board in connexion with special matters, and it was on his initiative that the Board's hospitals were first utilized for medical instruction In recognition of his long and valuable services the Board granted his request that a term of five years should be added to his actual period of service in computing his superannuation allowance

Dr Birdwood wrote a paper in *Guy's Hospital Reports* for 1891 entitled "A theory of small-pox," in which he maintained that the disease was a skin mycosis and not a blood zymosis, but otherwise did not make any contributions to literature

In private life Dr Birdwood was a courteous and affable gentleman of a retiring disposition, his chief recreation being gardening

ROBERT MAY, M D,

Wakefield

DR ROBERT MAY died suddenly at his residence, Southfield House, Wakefield, on December 13th Dr May was a native of Greenock and studied at Glasgow University, and whilst a student he acted as clinical clerk at Garthloch Asylum He graduated M B, Ch B in 1905 and immediately received a McCunn research scholarship and worked on therapeutics under Professor Stockman During this time he also held the post of junior assistant to the professor of materia medica and therapeutics As the result of his research work on the action of salicylate compounds in rheumatism he obtained the degree of M D with honours at Glasgow University, and received the Bellahouston Gold

Medal for the excellence of his thesis After a voyage to India he was appointed medical superintendent of Smithston Asylum, Greenock, subsequently he became medical superintendent of Forster Green Hospital for Consumptives, Belfast He left Forster Green Hospital in 1910 to take up general practice in Wakefield

Dr May was a man of wide clinical experience and proved a very successful practitioner He spared no pains to keep himself up to date in the newer methods of diagnosis and treatment His experience at Forster Green Hospital especially proved of great value to him in practice and to the end he was particularly interested in problems concerning the diagnosis, prevention, and treatment of phthisis Just two years ago he delivered a presidential address to the Yorkshire Branch of the British Medical Association, choosing as his subject the diagnosis and treatment of phthisis, the materials for his address being drawn from his own experience, both in hospital and in general practice Although engaged in a busy practice, Dr May found time to take part in medico-political work and in the affairs of the British Medical Association, he had been president of the Wakefield Division and of the Yorkshire Branch When the West Riding Panel Committee was formed he was chosen its chairman, and held the position for six years, when he retired he was the recipient of a handsome present in recognition of his work for the committee He rendered valuable services to Wakefield as honorary physician to the Clayton Hospital, and as medical specialist to the final appeal and final award pension boards, both at Leeds and Wakefield

Dr May took a great interest in the Wakefield Rugby Club and acted as its medical officer, he was also a prominent member of the Wakefield Bowling Club, to which he presented a valuable cup for annual competition For several years Dr May had not enjoyed good health and suffered several attacks of severe illness which he bore without complaint and with characteristic patience His death is not only a severe loss to the profession and to his many friends, but also to all who have come in contact with him and experienced his kindly disposition

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FUNERAL OF SIR FREDERICK TREVES.—The funeral of the late Sir Frederick Treves took place at Dorchester on January 2nd The ashes brought from Lausanne, were enclosed in a bronze casket inscribed "Frederick Treves, 1853 1923," and were placed in St Peter's Church the previous evening The memorial service was attended by a large and distinguished congregation, including Lord Dawson of Penn, representing the King, Mr T H Openshaw, representing the Royal College of Surgeons of England, Colonel Sir James McGill, representing the British Red Cross Society, Mr Thomas Hardy, the Earl of Shaftesbury, Sir Hugh Rigby, and the Mayor and members of the Dorchester Corporation The interment took place at Dorchester Cemetery A cross of flowers from Queen Alexandra bore the following inscription "For my beloved Sir Frederick Treves, whom we all loved so dearly and now will miss so sadly, from his affectionate Alexandra, Sandringham, Norfolk" The arrangements were made by the secretary of the Society of Dorset Men in London, of which Sir Frederick Treves had been president, and the hymns were chosen by Mr Thomas Hardy, another ex-president

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We regret to record the death on December 29th, 1923 after two days' illness, of Dr CHARLES HENRY GWYNN of Whitchurch, Shropshire, at the age of 69 His father Dr S T Gwynn, had been one of the prime movers in the establishment of the Whitchurch Cottage Hospital and the professional connexion of father and son with Whitchurch had lasted for nearly seventy years Dr Charles Gwynn was educated at Whitchurch Grammar School and Edinburgh University where he graduated M B C M in 1875, and M D in 1888 He was also M R C S Eng (1879) His appointments included that of senior medical officer of the Whitchurch Cottage Hospital medical officer to the Post Office, and surgeon to the police, he was lieutenant-colonel R A M C, Territorial Division and had received the Volunteer Decoration He was president of the Shropshire and Mid Wales Branch of the British Medical Association from 1905 to 1906, a member of the Medico Psychological Association, and a lecturer and examiner in both the St John Ambulance Brigade and the British Red Cross He had been a Freemason since 1871, occupied the chair of St Alkmund's Lodge in 1899, and subsequently received provincial honours, with the rank of P G Registrar The funeral, which took place on January 2nd, was attended by representatives of the many organizations in which he had taken an active interest Dr Gwynn leaves a widow and one son

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Dr ERNEST ROCK STREETEN has died at Bexhill-on Sea aged 57 years He was a student at St George's Hospital, and obtained the diplomas of M R C S Eng, L R C P Lond in 1890 After holding an appointment at the Royal India Asylum as assistant medical officer, and working as locumtenent and assistant for some time, he bought a practice in Westbourne Road, Barnsbury, London, and remained there for twenty-three years, until 1918 In that year he had a serious breakdown in health and, owing to cardiac trouble, was compelled to retire from practice He settled in Ventnor, Isle of Wight, and removed from there to Bexhill-on-Sea early in the past year He gradually failed until the end came on December 17th, 1923 Dr Streeten leaves a widow, and one son, aged 15, who is being educated at Epsom College

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We regret to record the death of Dr ROBERT ACHESON RUTHERFORD, which occurred after a short illness on December 20th, 1923, at his residence in Manorhamilton co Leitrim, Ireland, at the age of 73 years He took the diplomas of L R C P and S Edin in 1871, and returned at once to his native town, where he continued to practise with faithfulness for over fifty years By dint of unsparing zeal and untiring devotion he had won such a place among the people of the county as is attained by few A man of ability, but unassuming and plain, he had given his life entirely to the welfare of his people He was interested in everything outside his profession which made for the betterment of his fellows or their highest enjoyment For many years, and up to the change of Government in Ireland, he was a justice of the peace He died in harness lamented by all who knew him Dr Rutherford leaves a widow two sons and two daughters

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Dr ROBERT WALLACE AITKEN of Carlisle, who died on December 23rd 1923, aged 47 was the son of the late Mr James Aitken, an official of the Inland Revenue offices in Carlisle After serving for a short time in the Civil Service he studied at the University of Birmingham, where he graduated M B, B Ch in 1905 He held a commission as major in the R A M C (T F), and during the war served in Egypt, being one of the medical officers in charge of the 27th General Hospital in Cairo, where he contracted malaria from which he never wholly recovered He was medical officer in charge of the Tropical Diseases Clinic of the Ministry of Pensions at Carlisle, and a member of the English Division of the Border Counties Branch of the British Medical Association

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Dr JOSEPH SMYTH of Naas, co Kildare, died recently, aged 76 He was educated at Queen's College Belfast where he won a senior scholarship in medicine and graduated M D, M Ch, R U I in 1869 He was formerly clinical assistant and ex-resident surgeon at the Meath Hospital and County of Dublin Infirmary While serving as medical officer of the Naas Dispensary District and Workhouse he showed great interest in the reform of union hospitals, and the introduction of trained nurse His subsequent appointment as medical inspector of the Local Government Board in Ireland enabled him to further his activities in this direction so that during his term of

office he was instrumental in securing a large advance in the general utility and administration of union hospitals and the dietary of patients and pauper inmates of workhouses Dr Smyth was the author of several small works on Poor Law nursing and dietaries

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Dr ALBERT VICTOR CRAIG, *M C*, who died recently at his residence in Colne, was the son of Mr N J Craig of Belfast He was educated at Queen's University Belfast, and graduated M B, B Ch, B A O, R U I, in 1909 He obtained the M D of Queen's University, Belfast, in 1923, having previously taken the D P H Camb For a short time he was resident pupil at the Royal Victoria Hospital After periods of service in London, Dublin, Huddersfield, and Brighton, and as surgeon on a Union Castle liner, he joined the R A M C with a temporary commission on the outbreak of war, and was awarded the Military Cross He was promoted captain at the end of a year's service On demobilization he went into practice at Colne and became a member of the Burnley Division of the British Medical Association

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Dr VICTOR SCHEFL, chairman of the Danish Medical Association from 1913 to 1922, chairman of the Medical Society of Copenhagen from 1910 to 1913, and editor of *Ugeskrift for Laeger*, has died at the age of 54 He was both a pathologist and a clinician, and among his principal works were publications on the pathology of cirrhosis of the liver and a monograph on nephritis He held that cirrhosis of the liver depended on other factors than alcohol, and attached special importance to predisposition and infections His capacity for bodily and mental work was extraordinary, but about two and a half years ago his health began to fail He suffered from attacks of headache and hemianopsia He was blind for about four months before his death

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Dr GEORGE MOREWOOD LEFFERTS of New York, founder of the American Laryngological Society and of the *Archives of Laryngology* has recently died at the age of 77

Dr DE BEURMANN a well known Paris dermatologist, who has given his name to a form of sporotrichosis, has recently died

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Dr P CHASLIN, a well known Paris psychiatrist, has recently died at the age of 66

Universities and Colleges

UNIVERSITY OF LONDON

A MEETING of the Senate was held on December 19th, 1923 The following were recognized as teachers of the University in subjects named at the institutions indicated:

Bedford College for Women (Household and Social Science Department) Dr Cuthbert E Dukes (hygiene) *St Bartholomew's Hospital Medical College* Dr W A Cunnington (biology), Mr S W F Underhill (physiology) *Middlesex Hospital Medical School* Mr W T Warwick (surgery and pathology) *London School of Medicine for Women* Dr Dorothy C Hare (clinical medicine) *University College Hospital Medical School* Mr E K Martin (surgery) Mr H Neame (ophthalmology) *Lister Institute of Preventive Medicine* Dr Harriette Chick (experimental pathology—physiology of nutrition)

Dr Ida Smedley MacLean was appointed to the recently instituted professorship in pharmacology tenable at the London School of Medicine for Women Miss Scarborough has been admitted to the Faculty of Medicine

The following courses of lectures are announced

Three lectures with lantern illustrations at University College on the influence of improved town planning and housing in public health by Professor J Robertson C M G O B E., on January 18th February 8th and 15th at 5 p m At the London (Royal Free Hospital) School of Medicine for Women three lectures by Dr G Fit Gibbon on the treatment of contracted pelvis on January 29th 30 h and 31st at 5 p m four lectures by Miss W C Cullis O B E D Sc on respiratory changes on January 24th and 31st and February 7th and 14th at 5 p.m Four lectures in the Governors Hall St Thomas's Hospital by Dr J A. Murray on cancer on February 21st and 28th and March 6th and 13th at 5 p m Four lectures by Professor B J Collingwood O B E on blood at St Mary's Hospital Medical School on February 21st 28th March 6th and 13th at 5 p.m

The Services

TERRITORIAL DECORATION

THE Territorial Decoration has been conferred upon the following medical officers

TERRITORIAL ARMY—ROYAL ARMY MEDICAL CORPS *General List*—Lieut Colonels T A Barron, D S O I M Gover, D S O, W Lister and D G Rice Oxley, M C, Majors A C Goodwin D V Haig, A Avre Smith, and G E J A Robinson M C, Captain (Brevet Major) C W Wirgman *General Hospitals*—Lieut Colonels G S A Ranking, C M G (ret) and D J Graham, O B E

TERRITORIAL ARMY RESERVE—ROYAL ARMY MEDICAL CORPS *General List*—Lieut Colonel P Moxey

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GREENWICH HOSPITAL PENSION

SURGEON CAPTAIN EDMUND CORCORAN, R N (ret), has been awarded the Greenwich Hospital pension of £50 a year in the vacancy created by the death of Deputy Inspector General of Hospitals and Fleets John Tyndhall, R N (ret), on December 9th, 1923

DEATHS IN THE SERVICES

Lieut Colonel William Finlay, R A M C (retired), died in Jersey on December 26th 1923, aged 77 He was the son of the late Mr George W Finlay, J P, of county Dublin, and was educated in Dublin, he took the diplomas L R C S I and L K Q C P in 1870, and entered the army as assistant surgeon in 1871, he became surgeon lieutenant colonel after twenty years' service, and retired on February 15th, 1893 After his retirement he was employed in Jersey for six years (1905–11)

Lieut Colonel John Adolphus Burton, Madras Medical Service (retired), died at Wallington on January 1st, aged 69 He was born at Rajamandri, in the Madras Presidency, the son of Mr Benjamin Burton, writer, and educated at the Madras Medical College and at Edinburgh He took the diplomas of L R C P and S Edin in 1879 and entered the I M S in 1880, he became lieutenant colonel after twenty years service, and retired at the end of 1910 He served in the China war of 1900 receiving the medal, and rejoined for service during the late war, 1914–16

Medical News.

THE Royal Anthropological Institute has founded a Rivers memorial medal, in memory of Dr W H R Rivers, who was its president at the time of his death We learn from *Nature* that the medal will be awarded for specially meritorious anthropological work in the field and that two may be given in any year All British subjects, and anthropologists of other nationalities who may be Fellows of the Institute, will be eligible

THE seventy fifth anniversary of *Le Scalpel*, the well known Belgian medical journal, was celebrated at Liege on November 25th, 1923, when Dr Dejace, who has been editor for more than thirty years, was presented with his portrait

A BRONZE bust of Dr Gaetano Rummo, founder and editor of *Riforma Medica*, who died in 1917, is to be erected by public subscription at his native town, Benevento

A DINNER of the Manchester Royal Infirmary Old Residents' Club will be held at the Midland Hotel, Manchester, on Tuesday, February 5th Any old resident who has not received a notice is asked to communicate with the honorary secretaries, the Old Residents' Club, Royal Infirmary, Manchester

THE Dental Board of the United Kingdom has arranged a course of four lectures which will deal with the jaws in health and disease, the lecturers will be Professor E Fawcett, M D, F R S, Professor James C Brash, M D., and Mr G Northcroft, L D S R C S Eng The course, which is free, is intended primarily for dentists and medical practitioners, but dental students are invited to attend The lectures will be repeated four times—at the Universities of Bristol, Liverpool, and Manchester, and at the offices of the Dental Board, 44, Hallam Street, London, W 1 They will be given during the first three months of the year, beginning at Bristol on January 25th On April 29th, at 5 30 p m, Sir Arthur Keith will give a lecture at the Royal College of Surgeons on changes now affecting the jaws and teeth of English people

THE Sophie A Nordhoff Jung prize for the best work on the investigation of cancer has been awarded for the year 1923 to Dr Johannes Fibiger, professor of morbid anatomy in the University of Copenhagen The judges consisted of Professors Börst, Döderlein, von Romberg, and Sauerbruch of the University of Munich

DR ALEXANDER SIMPSON, C B E, on retiring from the position of medical superintendent of the County Mental Hospital, Winwick, Lancashire, which he had held for thirty five years, has received a presentation of plate from his colleagues and the staff

IN future the afternoon lectures at the Royal Institution will be given at 5 15 instead of 3, except on Saturdays The first course will consist of two lectures on drug addiction, by Dr W E Dixon, F R S They will be delivered on Tuesdays, January 15th and 22nd, at 5 15, at 21, Albemarle Street, W

ON Tuesday, January 22nd, at 8 o clock an evening concert will be given at the Wigmore Hall, Wigmore Street, W 1, in aid of the Royal Medical Benevolent Fund Guild, by the Stock Exchange Male Voice Choir, assisted by Miss Bessie Kerr, Mr Alexander Price, and Mr Ernest Busby Tickets, price 12s, 8s 6d, 5s 9d, and 3s, may be obtained from Mr C Godwin, 25, Austin Friars, E C 2

THE sixth annual dinner of the London Neurological Clinic will be held at Princes' Restaurant, Piccadilly, W, on January 26th, at 7 for 7 30 p m Tickets 15s each The guest of the evening will be Lord Dawson of Penn Past and present members who wish to be present should notify the Treasurer, Dr E F Pratt, 15, Clarges Street, W 1, not later than January 19th

THE Henry Saxon Snell prize, which was founded to encourage improvements in the construction or adaptation of sanitary appliances, and is awarded by the council of the Royal Sanitary Institute at intervals of three years, is offered in the year 1924 for an essay on improvements in the sanitary conditions of underground dwellings and small underground workshops It will consist of 50 guineas and the medal of the Institute The essay should consist of not more than 5,000 words, and be illustrated by drawings or sketches It must be delivered on or before August 31st, 1924, to the Secretary of the Royal Sanitary Institute, 90, Buckingham Palace Road, S W 1, from whom further details with regard to the conditions can be obtained

MR E W MORRIS, C B E, Ph C, house governor of the London Hospital, will give a lecture to the Guild of Public Pharmacists on the future of voluntary municipal hospitals on Wednesday next, January 16th, at 7 30 p m The lecture will be given at the house of the Pharmaceutical Society, 17, Bloomsbury Square The chair will be taken by Dr H L Eason, C B, superintendent and ophthalmic surgeon, Guy s Hospital

THE Assistance publique of Paris has recently been left a legacy of one and a half million francs, a large part of which is to be employed for the supply of radium to the principal Paris hospitals

A SPECIAL meeting of the Berlin Microbiological Society was held on December 11th, 1923, in commemoration of the eightieth anniversary of Koch s birth

The Wellcome Foundation, Ltd, has recently been registered as a private limited company, with a capital of £1,000,000, to acquire from Mr Henry S Wellcome the business of Burroughs, Wellcome and Co and the various scientific institutions founded and owned by Mr Wellcome, who will be the governing director during his life We are informed that the Foundation has been established entirely for private and family reasons and that the business will be conducted on the same lines as heretofore The scientific institutions will continue under separate scientific direction

THE annual report for 1922 to 1923 of the Cicely Northcote Trust in connexion with St Thomas s Hospital illustrates the value of the Trust not only in the mere distribution of relief, but more particularly in the spheres of after care and betterment of the home and employment conditions of the patients Miss A E Cummins the lady almoner of the hospital, describes the work done during the year, and, as in her annual report for the previous year, lays stress on housing difficulties as constituting the paramount obstacle to maintaining good results of in patient treatment The Butt Miller Fund for apprenticeship and training has again been of great service, and the after care of cancer patients has been a special feature of the work The Northcote Trust Hostel, opened in 1920, continues its valuable services as an educational and social agency in the treatment of venereal disease in women Close co-operation has been maintained with the work of related charitable societies, county councils, and other bodies

AT Wakefield, on December 21st, 1923, a West African negro who claimed to be a herb doctor, or bush doctor, was sentenced to six months' hard labour for obtaining £15 by false pretences by pretending to cure a case of blindness due to shrapnel wounds Further charges against him were that, being an alien, he had failed to register as such, and had entered the country without leave from the immigration officer

A MEMORIAL tablet to the late Dr Richard Cogswell Elsworth has been erected by his professional colleagues in the entrance hall of the Swansea Hospital in recognition of his twenty three years devoted services as honorary surgeon to the hospital

A STREET in Arcachon has been named after the late Professor F Jolyet, who had held the combined professorships of medicine and pharmacy at Bordeaux He lived in Arcachon during his later years and directed the work of the laboratories there

THE Danish Medical Association has recently been concerned with the problems arising out of an excess of doctors in Denmark The suggestion that the final medical examination should be made more stringent has not met with general approval, and it has been urged that this procedure would be unfair to many who had already devoted several years to the study of medicine The *Ugeskrift for Laeger* states that one of the officials of the Danish Medical Association has put forward an alternative scheme, the object of which is to ease the present situation, not by curtailing the number of doctors, but by finding openings for Danish doctors abroad Danish engineers have already established a bureau through which members of their organization can exchange information as to suitable openings abroad and this bureau has already been found more helpful than official institutions such as consulates and embassies

A COMMITTEE of medical men has been formed in Berne to organize an international congress on industrial health, to be held in Geneva next July The subjects to be dealt with are industrial lighting and eye strain, impure air in factories and the value of fatigue tests Further particulars can be obtained from the Institut d Hygiène, the University, Geneva

THE twentieth Dutch Congress of Natural Science and Medicine will be held at Groningen in the Easter week of 1925 under the presidency of Professor J F van Bemmelen of Groningen

THE University of Lyons has conferred honorary degrees on Professors Maragliano of Geneva, Frédéricq of Liège, and Brachet of Brussels

DR TRICOT ROYER, president of the International Society of the History of Medicine, has succeeded Dr Loontgens as president of the Belgian Medical Federation

PROFESSOR DANDOIS of Louvain has been elected president of the Belgian Royal Academy of Medicine, in succession to Professor Firket

DR. WIKÉ has been appointed professor of therapeutics in the University of Geneva

THE German Congress for Internal Medicine will be held at Wiesbaden or at some place in Central Germany in the week after Easter, when the following subjects will be discussed (1) Mineral metabolism and ionization introduced by Straub of Greifswald, Freudenberg of Marburg and Wiechowski of Prague (2) nervous diseases of the stomach, introduced by von Bergmann of Frankfort and Magnus of Utrecht, (3) experiences of insulin treatment, introduced by Minkowski, president of the German insulin committee

DR MARTINEZ VARGAS Dean of the Barcelona Faculty of Medicine and a well known pediatrist has been nominated rector of the University of Barcelona and is thus the fourth rector chosen from among the professors of the medical faculty

THE fifty seventh congress of the learned societies of Paris and the French Departments will be held at Dijon from April 22nd to 26th, 1924

THE sixth French Congress of Orthopaedics will be held on October 11th when the following subjects will be discussed (1) Spina bifida occulta introduced by Mutel of Brussels (2) Treatment of dropped shoulder, introduced by Hallopeau of Paris (3) Metatarsalgia (Morton s disease), introduced by Maffei of Brussels

IN Prussia in 1920 543 cases of wounds inflicted by animals actually suffering, or supposed to be suffering, from rabies were officially notified The corresponding figures for 1918 and 1919 were 194 and 402 Of the persons wounded, 340 were males and 203 were females As in earlier years, most of the persons injured were young, 314 being between the ages of 6 and 30 The cases were most common in the hot summer months, 225 occurring from May to August The districts adjoining Poland showed a comparatively high incidence as did also the Rhine provinces In addition to dogs certain other domestic animals were inculpated they included 16 cattle, 42 cats, 6 horses, and 2 goats Of the animals that had injured the 543 persons, 415 were found to be suffering from rabies, 44 were regarded as suspect and 26 were found not to be suffering from rabies Of the 543 persons 520 were given specific treatment There were 6 deaths from rabies and of the 3 fatalities which occurred after specific treatment had been given, 2 occurred in persons to whom it had been given too late

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated*

IN order to avoid delay, it is particularly requested that *ALL* letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W C 2, on receipt of proof

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W C 2 The telegraphic addresses are

1 EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London*, telephone, 2630, Gerrard

2 FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westrand, London*, telephone, 2630, Gerrard

3 MEDICAL SECRETARY, *Medisecra Westrand, London* telephone, 2630, Gerrard The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams *Associate, Edinburgh*, telephone, 4361, Central)

LETTERS NOTES, ETC

SLEEP AND LACRYMAL SECRETION

DR A S MCNEIL (Liverpool) writes to recall that some time ago he suggested that the lacrymal glands might have an important part in the production of sleep "The idea," he says, "occurred to me through the well known fact of the 'eyes being heavy with sleep' and the fact that the conjunctivae of a sleepy individual are red and inflamed and become 'easy' when the eyelids are shut I suggested that this might be caused by an alteration of the secretion of the lacrymal glands, initiated by the products of general bodily fatigue In your leading comment [December 22nd, 1923, p 1227] on Professor MacWilliam's article on sleep you say, 'What determines the initial irradiation of inhibition? This question remains to be answered' I venture to say that it will never be answered except by experiment The suggestions I have to offer, which can in the main be proved or disproved experimentally, are as follows I believe that the redness and tiredness of the eyes, which precede sleep, and which are relieved by closing the evelids, are produced by a hypersecretion and alteration in character of the secretions of the mucous follicles, and possibly the tarsal glands, of the eyelids This altered secretion coming in contact with the air undergoes a further change, becoming irritative to the conjunctivae, and the lids automatically closing to exclude the air, the disturbing influence of surrounding objects is withdrawn, and the brain is thereby assisted in the effort to sleep As regards 'what determines the initial irradiation of inhibition,' besides the foregoing (*in a person with sight*) I would suggest that the initial act is performed by an internal secretion from the lacrymal glands These glands act by pouring out a secretion intermittently to free the eye from foreign bodies and irritant vapours, etc , and they also act freely and rapidly under the influence of the emotions Indeed, the freedom and rapidity of action which they exhibit in these conditions show their intimate relationship with the higher centres of the brain Why should these active glands not have an internal secretion, when all, or practically all the other glands of the body have? It is well known that they are profoundly and immediately affected by the mind, and I suggest that they in their turn by means of an internal secretion determine the initial irradiation of inhibition to cause sleep The altered character of the secretions of the mucous glands of the lids and the starting of the internal secretions of the lacrymal glands would be initiated by the products of fatigue or overindulgence in eating etc , being carried by the blood stream to the glands"

VACCINIA OR VARIOLOID

DR EUSTACE THOPP (Assistant M O H Sunderland) writes It is suggested to me that the following case should be reported, and while I do not agree with the final diagnosis I would be glad of any references or particulars of similar cases While visiting notified chicken pox cases I came across a child who had been vaccinated twenty four days before the appearance of a rash She showed one mark There were five spots on her face none on the trunk, twelve on the right hand (palm) and eight on the left, these were deeply situated Both forearms showed a few vesicles, both legs showed a crop of vesicles on the inner side about the knees while there were perhaps another twenty spots about the legs below the knee, while half a dozen were on the feet I came to the conclusion that this was a case of varioloid, and the patient was removed by the medical officer of health The spots quickly subsided with the exception of those on the feet, which underwent little change The remainder of the spots were vesicular more or less, for a short period one spot became pustular, and about this time there was a slight rise of temperature (to 100 4° only) for twenty four hours The case was seen by an expert, who pronounced it difficult and would, if pressed, have called it small pox The next day he saw it again and suggested that it might be a post vaccinal condition, described as a vesiculo-papular rash of varioloid distribution Such a case must be extremely rare We have all seen various forms of vaccinal rashes, but I can find no record of one of the above nature masquerading as a varioloid I would be glad to be referred to any literature on the subject or to hear of any similar case

MILK

DR S G MOORE, M O H Huddersfield, has printed in a pamphlet the Chadwick lectures on milk he delivered at Chester last May The first deals with the value of milk to the individual and to the nation, and the second with the need for a better and larger supply, and with pasteurization Referring to Sir Edwin Chadwick the lecturer said he may be regarded as the father of sanitation in this country, in his time out of every twenty five people living in this country one died every year, whilst to day *one in seventy dies* In his second lecture Dr Moore urged the value of pasteurization in view of the fact that we cannot get pure raw milk in the present day The lectures were illustrated by diagrams showing *inter alia* the composition of milk of different animals, the comparative value of different foods, the deposit from unclean milk, and the effects of pasteurization

SERIAL RUBBISH

A CORRESPONDENT sends us an extract from a serial novel in the *Daily News* which he suggests may be part of a burlesque, though he doubts it The lady novelist, he says evidently believes that the Government—"the Government, mind you"—in order to get panel patients attended, dangles the temptation of 3,000 panel patients, at £1,000 a year, before every impecunious newly qualified doctor who wishes to set up anywhere This is how the medical student, just about to qualify, discusses his prospects

> 'I m going to set up a modest little surgery and work up a practice in Whitford
>
> But there are twenty five doctors in Whitford already'
>
> That doesn t matter! I can take on 3 000 panel patients! That's over £1 000 a year to begin with Not so dusty is it?'
>
> But you couldn t possibly look after 3 000 panel patients!'
>
> I know No doctor can properly care for 3 0 0 patients but lots of em try I d do as well as here and there one anyway If I wasn t so desperately anxious to get started I wouldn t touch a panel patient with a barge pole But when the Government the Government mind you dangles a temptation of that sort before a needy man let s take on 3 000 and pretend we can look after em properly I don t see why I shouldn t try—same as the rest'

Upon this our correspondent adds "It seems to me, especially just now when panel work is being inquired into, rather a serious thing that a paper with the circulation of the *Daily News* should publish such rubbish If it is really believed by the public that the Government bribes young newly qualified men with offers of 3,000 panel patients, the sooner it is contradicted the better"

MALE SERVANTS DOUBLE TAXATION

DR HENRY ROBINSON (London) writes With the approaching first session of a new Parliament the time is opportune for directing attention to an anomaly in taxation of the medical profession which ought to be removed To put the matter briefly, medical practitioners are required to pay male servant licence duty for their motor car drivers on the ground that such men are not assistants in the business but personal servants, and to pay unemployment insurance contributions for the same drivers on the ground that they are not personal servants but assistants in the business of their employers Both requirements are unescapable, as both have been decided by the courts to be correct interpretations of certain Acts of Parliament When it is pointed out to a revenue official or to a lawyer that there is here an obvious and fundamental injustice the same reply is made "Parliament has passed the Acts which legalize the two taxes, and only Parliament can rescind either of them' I submit that the medical members of the new Parliament should press the Chancellor who frames the next Budget to include a provision to remedy this matter, or, if this is not practicable, to get the injustice remedied in some other way If the Council of the British Medical Association can exert any influence in the same direction it would, of course, be doing a service to a large part of the profession - Perhaps, too, some of your readers can direct the attention of their local M P 's to the point

A B D —No attention can be given to communications unverified by the writer's name

VACANCIES

NOTIFICATIONS of offices vacant in universities medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 36, and 37 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 59

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine.

25. Intrameningeal Treatment by Neo salvarsanized Serum

D PAULIAN and I BISTRICEANO (*Paris Méd*, November 10th, 1923, p 376) claim that in spite of adverse criticism and some accidents due to faulty technique, or to excessive or too frequently repeated doses, this method of treating neuro syphilis (Marinesco s method) has yielded better results than any achieved hitherto The technique is simple The patient receives an injection (usually a dose of 0 75 gram of neo-salvarsan) and then in an hour (or in some cases in twenty four hours) 40 to 45 c cm of blood is collected and placed in a refrigerator for twenty four hours, the serum is inactivated at 56° C for thirty minutes, and then is injected into the arachnoid, strict asepsis being observed throughout In the majority of cases 10 c cm of cerebro spinal fluid is removed from the arachnoid and a similar quantity of neo-salvarsanized serum injected The patient remains prone for twenty four hours in the case of tabes, while in general paralysis of the insane the patient remains for twenty four hours with the head at a lower level than the trunk When the serum has been prepared aseptically the patient has no discomfort, except that, in tabetic cases the "lightning pains" may become more severe for a few hours Next day the patient receives another intravenous injection of 0 45 gram The authors give statistics of 85 patients who have received 500 intrameningeal injections They conclude that (1) This should be considered a certain method of attacking neuro syphilis, and of bringing the maximum therapeutic influence to bear on cases hitherto regarded as hopeless (2) The results always include changes in all biological reactions, even in the Bordet Wassermann test, hitherto regarded as unchangeable (3) These biological improvements correspond with clinical amelioration and even cure in some cases (4) It is necessary to maintain general treatment (5) The therapeutic effect is not only due to the lethal action of the neo-salvarsan on the spirochaetes, but probably also to the presence of specific antibodies

26. Syphilis of the Joints

A POEHLMANN (*Deut Zeit f Chir*, September, 1923, p 161) states that syphilis of the joints is not so rare as was formerly supposed According to Gué, among 3,527 men in the condylomatous stage 19, or 0 5 per cent, showed joint affections, and among 1,417 in the gummatous stage there were 71 cases, or 5 per cent, among 1,058 women in the early stage of syphilis there were 3 cases, or 0 2 per cent, and among 845 women in the gummatous stage there were 26 cases, or about 3 per cent Harttung regards these figures as too low, especially in relation to the early stage of syphilis According to Stein, articular syphilis is responsible for about 20 per cent of the cases in the New York Hospital for Deformities and Joint Diseases In congenital syphilis Nicolas, Gaté, and Pillon regard involvement of the joints as of equal importance with Hutchinson's triad Reschke also considers the appearance of symmetrical arthritis as pathognomonic of congenital syphilis Articular syphilis is protean in its manifestations, it may be mono articular or poly articular, acute or chronic, and simulate any form of joint disease, so that there is no typical clinical picture of joint syphilis Poehlmann has studied the Wassermann reaction in the synovial fluid of 100 syphilitic patients, all but 18 of whom were free from any obvious joint disease, and found that the Wassermann antibodies were present in the synovial fluid of persons with healthy joints in 25 out of 47 cases of secondary syphilis, or in 53 per cent The presence of antibodies in the fluid of a diseased joint cannot justify a diagnosis of articular syphilis, joint puncture therefore, is not a more valuable diagnostic method than examination of the blood for the Wassermann reaction Poehlmann points out the necessity of considering the possibility of syphilis in every case of joint disease, especially when there is no response to salicyl preparations

27. The Treatment of Chronic Malaria

F BARDACHZI (*Wien Arch f inn Med*, October 20th 1923, p 51) describes his experience of the treatment of malaria during the war The usual quinine treatment and the salvarsan treatment of tertian ague often failed, and many other drugs were tried in vain The reasons for these failures are discussed The failures caused the author to employ the combined treatment using large doses of quinine and simultaneous salvarsan injections Although many of the graver types of malaria were dealt with, some patients being cachectic or even comatose, no deaths occurred amongst the many hundred patients treated according to this method, and often rapid improvement was obtained In severe cases 2½ to 3 grams of quinine hydrochloride were given daily and if the results were not satisfactory neo-salvarsan injections were administered during febrile attacks After a week, if improvement had resulted, the doses of quinine were reduced somewhat, but in severe cases two or three neo salvarsan injections were given at weekly intervals In cases of chronic malaria the author commenced the treatment even when the temperature was normal, without waiting for an attack In comatose conditions large doses of urotropine (6 grams daily) were given with good results In recent cases of malaria in Austria the old method of treatment with small doses of quinine is usually effective, but in cases of severe malaria infected abroad and not checked by this treatment, intensive methods should be carried out immediately with large doses of quinine and neo salvarsan injections The author concludes that in severe cases of chronic malaria this combined treatment gives certain results Intravenous injections of quinine are usually unnecessary

28 The Relation of Malaria to Altitude

C A GILL (*Indian Journ of Med Research*, October, 1923, p 511) points out that the apparent freedom from malaria of certain parts of the Himalayas in North West India at heights of 6,000 to 8,000 feet is not to be explained by the scarcity or absence of anophelines nor by unfavourable conditions of temperature, though climatic conditions, especially humidity, may shorten the period of liability to infection He concludes that the adoption of antimalarial methods, such as the use of mosquito nets in the case of children, may be more necessary in hill stations than has been supposed hitherto Anopheline mosquitos (A Willmore), which are malaria carriers, were found to be prevalent in Murree (7,500 feet) from May to September, and infected insects were found to be capable of giving rise to malaria (benign tertian form) in non immune subjects, but only during the months of July and August, owing to the low relative humidity which ordinarily prevails

29 Chronic Benzol Poisoning

BRÜCKEN (*Deut med Woch*, August 24th, 1923, p 1120) records two cases of chronic benzol poisoning in young women who had worked for three years in a factory in which their task was to paint rubber balls with a solution of benzol and gutta percha The room in which they worked was kept at a comparatively high temperature and was ill ventilated The clinical picture and blood examination tallied closely with the records of earlier cases of chronic benzol poisoning the action of which depends chiefly on paralysis of the activities of the blood forming organs The symptoms included severe headache and lassitude, palpitation of the heart, a high temperature and rapid pulse, marked pallor and a tendency to bruise readily There were haemorrhages from the gums and intestines, the percentage of haemoglobin was very low (26 per cent in one case and 43 per cent in the other), and the white blood count showed marked leucopenia and very few blood platelets The rate of coagulation was very slow, giving an explanation of the frequency and severity of the haemorrhages from which one of the patients suffered The author considers that benzol is a very dangerous substance when inhaled even in small quantities over a long period in ill ventilated factories, and he suggests that persons thus exposed should have their blood systematically examined for leucopenia, a diminution in the number of the platelets, and a delayed rate of coagulation of the blood

30 Intravenous Administration of Urotropin

BELLONI (*Il Policlinico*, November 19th, 1923, p 1525) writes favourably of the intravenous administration of urotropin in a 50 per cent aqueous solution sterilized at 70° in cases for which this drug is usually prescribed (cystitis, pyuria cholecystitis) The initial dose is 4 grams and the maximum daily dose is 6 grams given on a succession of four or five days at a time Only in two cases was a temporary irritation noted Good effects are more rapidly obtained than with the oral method and comprise (1) the lowering of the specific gravity of the urine, (2) increase in the amount of urine passed, and (3) diminished turbidity In gonorrhoeal cystitis it acted well and also in pyuria Lavage of the bladder was also used in conjunction with this treatment

food as soon as the patient will take it Bladder catheterization is to be avoided except when absolutely necessary, and enemata are preferable to purgatives Vaginal douches should never be employed as routine treatment Lactation should be encouraged to start as soon as possible—for example, eight to ten hours after delivery—so as to bring about reflex stimulation of the uterus The colostrum, moreover, acts as a natural cathartic, preparing the baby's intestinal canal for milk digestion, and probably affords some protection against harm resulting from intestinal bacteria The abdominal binder cannot be dispensed with invariably, but he does not advocate its routine use Propping up in bed may be started about the third or fourth day, and the patient be allowed to start getting up on the tenth day if the uterine fundus has reached the level of the symphysis pubis He considers that three weeks' residence in the hospital is not excessive, but ideal, and a thorough pelvic and general examination at the end of treatment is essential

42. Operative Treatment of Pelvic Inflammations

IN the ten years between 1911 and 1921, 8,403 cases of adnexal or pelvic inflammation have passed through the hands of P WENNER and R STIGLBAUER (*Arch f Gyn*, September 12th, 1923, p 228), being 12 2 per cent of their total cases Of these, 566 were operated on, and the etiology was certain in only half of these cases, 46 per cent were found to be puerperal more occurring after abortions than after normal labour 23 per cent gonococcal, 20 per cent tuberculous, and 11 per cent were due to rarer causes (6 per cent of these latter being due to appendix inflammation) The commonest age for adnexal and parametric troubles to occur seems to be between 30 and 45, nearly half the cases occurring between these years The operations performed were four in number, excluding palliative and exploratory procedures The abdominal radical, vaginal radical, abdominal conservative, and vaginal conservative were the various operations performed Taken as a whole only 79 per cent complete cures were obtained, but in the remaining 21 per cent some improvement at any rate was noted With regard to the various operations the abdominal radical operation shows the highest mortality (7 2 per cent), and also the lowest number of cases with a smooth convalescence (64 5 per cent), but it is to be taken into account that this operation was performed in the cases complicated by strong adhesions, abscess cavities, and perforations into other viscera despite that fact the final results were good in 87 8 per cent of cases—a much higher percentage than with any of the other operations The vaginal radical operation shows the highest percentage with a smooth convalescence and without mortality, but the percentage of good final results is only 66 6 The abdominal conservative operation in which the uterus is retained, and not merely an ovary, shows results which are not so good as in the case of the vaginal radical as regards smooth convalescence (73 4 per cent), but are better as regards complete cure (76 9 per cent), though not so good as for the abdominal radical The vaginal conservative operation performed when one set of adnexa are alone affected gives very similar results The author sums up by stating that though the radical operation gives the best prognosis for future well being, yet in young women the conservative operation should be performed if possible

Pathology.

43. Blood Grouping for Transfusion

CLARKE (*Med Journ of Australia*, October 20th, 1923, p 1) discusses the question of blood grouping in relation to transfusion He accepts Moss's classification though admitting that recent work has shown that it does not cover all the phenomena observed during blood grouping tests According to Landsteiner s law of iso agglutination there are two agglutinins present in human blood, A and B There are also two agglutinogens, *a* and *b* Each of the former can act only in the presence of the corresponding agglutinogen In Moss s classification there are four groups (1) containing both agglutinogens and no agglutinin (2) containing agglutinogen *b* and agglutinin A, (3) containing agglutinogen *a* and agglutinin B, and (4) which contains both agglutinins but no agglutinogen Group 1 serum does not agglutinate the corpuscles of any group, and persons belonging to it are known as "universal recipients" Group 2 serum agglutinates the corpuscles of both 1 and 3 groups Group 3 agglutinates 1 and 2, while Group 4 corpuscles are not agglutinated by the serums of any of the other groups persons in this last group are termed "universal donors" Group 4 is the commonest and constitutes 45 per cent of the whole, Group 2 is the next common, Group 3 is not very often met with, and Group 1 is still more uncommon The author believes that these properties of the blood are not present at birth, and that they are not fully developed till the second year of life He also points out that differences may exist between parents and their offspring While admitting that the slight rigor and fever which sometimes follow transfusion may be due to incompatibility of the samples of blood, he remarks that similar reactions frequently occur after intravenous injection of various serums and even of saline solution As regards the technique in Moss's method, in which Groups 2 and 3 are used as test serums, the author describes it as follows A few drops of blood from the finger are mixed with about 0 5 c cm of 3 5 per cent sodium citrate solution in a test tube, forming thus an emulsion A drop of Group 2 serum is placed at one end of a microscope slide and a drop of Group 3 serum at the other end, with each is mixed a little of the emulsion Agglutination appears in a couple of minutes in the form of a fine brickdust floating in the serum, it is better observed macroscopically than microscopically The blood specimen is grouped in accordance with the result of the test He recommends that the blood of both the donor and the recipient be tested, but, if the condition of the latter is such as to render much disturbance inadvisable and a donor of Group 4 is available, the test of the recipient's blood may be omitted Direct testing of donor against recipient is mentioned as being the ideal method, but it occupies more time than Moss s "two serum" method, and in cases of great urgency delay may have fatal consequences

44 Arterio-sclerosis of the Nervous System

G E PRICE (*New York Med Journ and Med Record*, October 3rd, 1923, p 425) discusses the etiology and symptoms of arterio sclerosis of the nervous system in a series of 100 cases Hard physical work and exposure, mental work with worry and anxiety, an excess of the total food intake, are put forward as important causative factors In certain families a distinct tendency towards early arterial degeneration was noted High blood pressure is commonly associated with arterio sclerosis, whether as cause or effect, in this series the average was 177 systolic and 104 diastolic Several patients gave a history of infections, such as typhoid, small pox, pneumonia, and rheumatism The author draws attention to the recent work by Ophüles attributing arterio sclerosis to chronic septic (rheumatic) conditions He holds that the incidence of syphilis among arterio sclerotics is not greater than in the general community In 4 cases lead might have been a factor, no association with alcohol or tobacco could be traced Common to all cases of cerebral arterio sclerosis is a gradually progressive mental deterioration, with amnesia for recent events There is ready mental fatigue, impaired judgement, emotional instability, a lack of sympathy, and often carelessness in habits Later the amnesia is more marked, the individual becomes more self centred Delusions, auditory and visual hallucinations, may appear, with insomnia and nocturnal restlessness Sooner or later the various physical symptoms are added—tottering gait, shaking hands, incontinence, ataxia, paralysis, etc Vertigo, headache on waking, paraesthesia of the lower extremities, were commonly noted The characteristic small, sluggish, senile pupil was present in 25 cases, and the arcus senilis in 16 Over a quarter of the cases had apoplectic attacks, mainly of the hemiplegic type Epileptiform attacks occurred in 8 cases, in essential features resembling idiopathic epilepsy Epistaxis was common, spontaneous bleeding from the nose in a person past 40 should be carefully investigated Symptoms of spinal involvement were prominent in 21 cases, and present to a slight extent in a larger number Cardiac murmurs, mainly a mitral systolic, were noted in 24 per cent of the cases, an accentuated second aortic in 20 per cent , cardiac enlargement in 20 per cent , and muscle weakness in 47 per cent

45 Blood Sugar Reaction following Intravenous Injection of Glucose

L G RIGLER and H L ULRICH (*Arch Intern Med* (U S A), September 15th, 1923, p 343) point out that the alimentary glucose tolerance test is objectionable, chiefly because the time taken for the completion of the process of intestinal absorption is inconstant and so the glucose tolerance test, as ordinarily carried out, by giving the glucose by the mouth, is inaccurate and misleading The authors describe their modification of the glucose tolerance test—namely, the intravenous injection of purified and sterilized dextrose solution The results in 38 cases are recorded, and the differences between the normal reaction and the diabetic reaction are shown The authors consider that the glucose tolerance test can be performed far more accurately in this way, and they claim that the procedure is simple and harmless The blood sugar curves resemble those obtained by the alimentary method, but the action is more rapid

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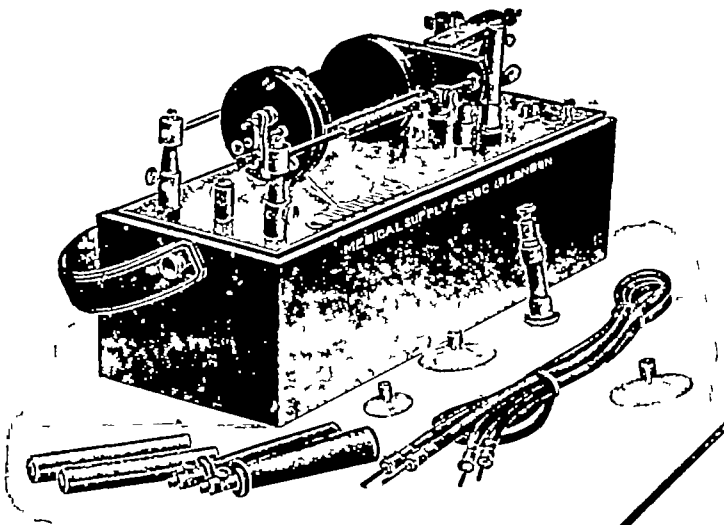
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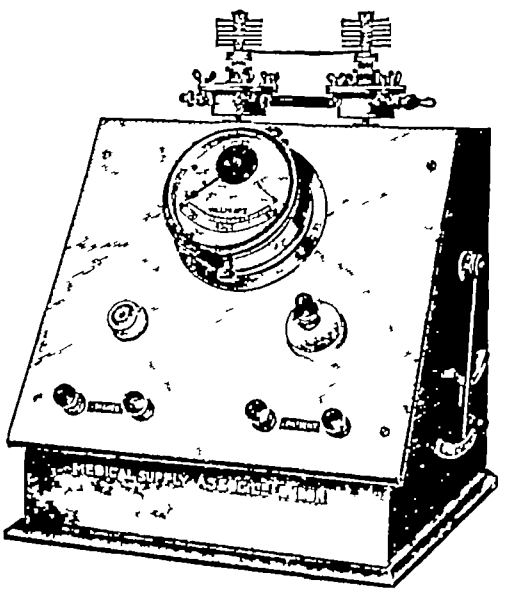
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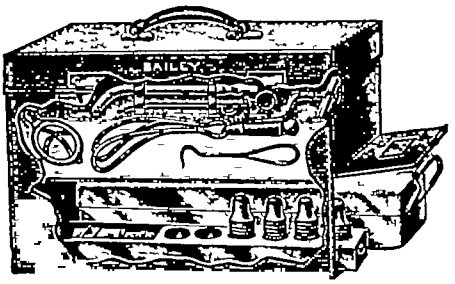
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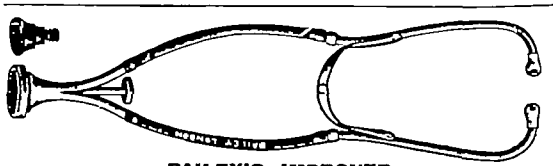
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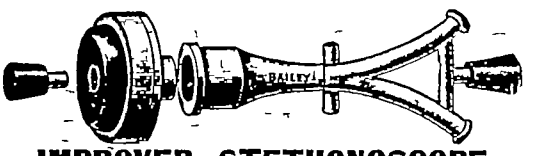
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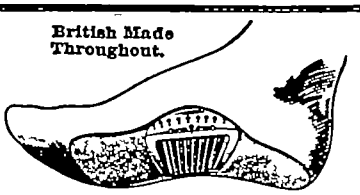
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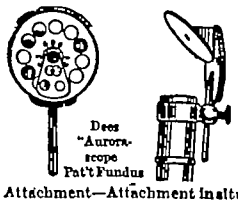
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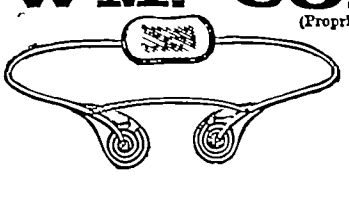
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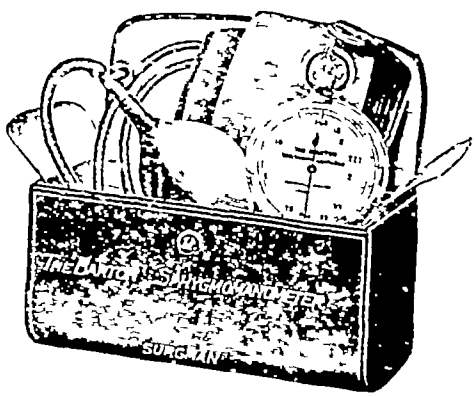
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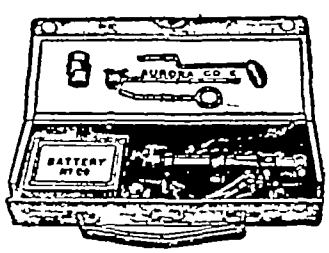
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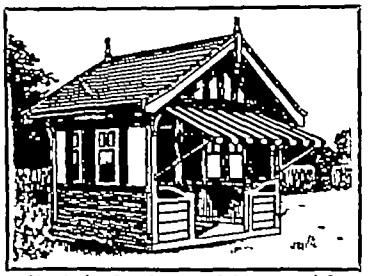
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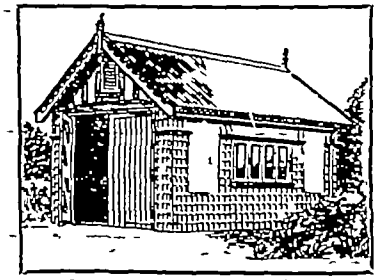
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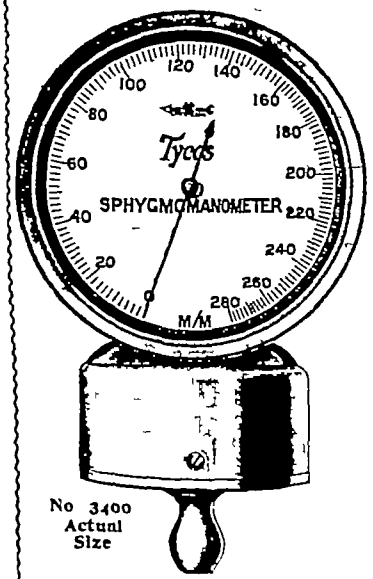
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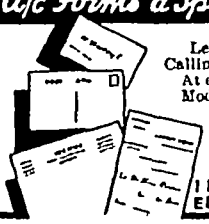
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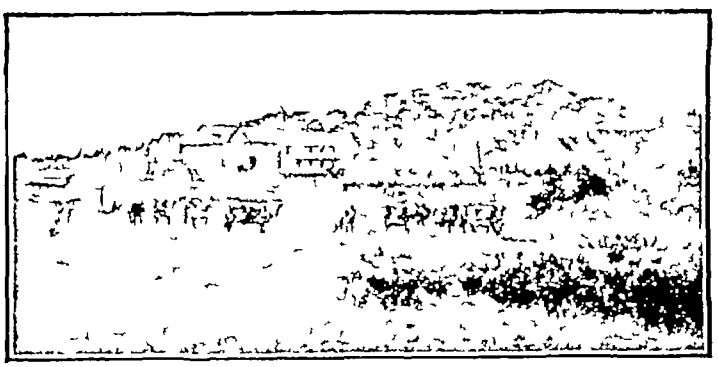
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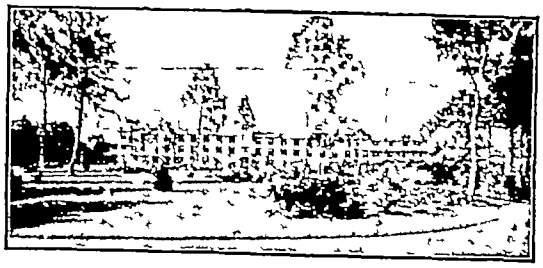
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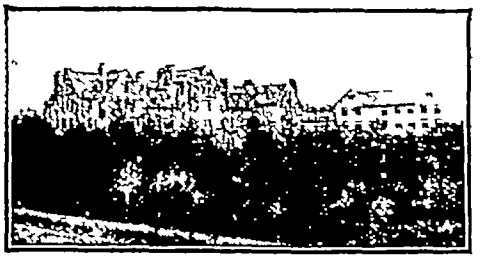


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Sessions will commence September 24th 1923 4th January and 28th April 1924 approximately

For Prospectus and further particulars apply to The Secretary London School of Tropical Medicine Endsleigh Gardens N W 1 or to the Head Office Seamen's Hospital, Greenwich London S E

Syllabus of a Course of Post-Graduate Lectures to be delivered at the Cancer Hospital, Kensington, S.W. 3, January, February and March, 1924

	Wednesday		
4 30 p m	16th Jan	C E S PHILLIPS Esq	Electricity in the Service of Medicine.
	23 d ,	CECIL ROWNTREE Esq F R C S	Radium and its Surgical Uses
	30th ,	A LEITCH Esq M D	The Irritation Theory of Cancer
,	6th Feb	I P COLE, Esq F R C S	Inoperable Cancer of the Uterus
	13th ,	T B VAILE, Esq M D	Surgical Anæsthesia by Nitrous Oxide and Oxygen
,	20th	ROBERT KNOX Esq M D	Recent Developments in Radio-Therapy
	27th	C A JOLL Esq, M S	Malignant Disease of the Thyroid Gland
	5th Mar	STANLEY WYARD Esq M D.	Cancer of the Stomach
	12th ,	C E SHATTOCK Esq M.S	Carcinoma of the Colon
	19th	SIR JAMES DUNDAS-GRANT F R C S	Cases Illustrating the Diagnosis and Treatment of Cancer of the Throat
	26th	SIR THOMAS HORDER F R C P	The Nutritional Factor in Malignant Disease with Special Reference to Treatment

Tea will be served at 4 0 p m

Every lecture is free on presentation of his card to any registered medical practitioner or student all of whom are cordially invited to attend

STANLEY WYARD *Hon Sec Med Committee*

P. & O. CADETS.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY will hold an EXAMINATION at their offices on 27th March for the entry of Cadets with a view to their future employment as OFFICERS in the Company's service

Candidates must be approximately 15 years of age (not under 13¾ nor no over 16) and must pass the Company's Medical Inspector The successful Candidates will be entered the following May for two years training on board the WORCESTER, the Company paying £70 per annum *i e* a half of their educational fees there

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A COURSE of INSTRUCTION for the June Examination will commence on Monday January 21st, at 10 a.m The Class will meet daily throughout January February March and May

ANATOMY Professor T B JOHNSTON
PHYSIOLOGY .Professor M S PEMBREY

Fee: £11 4s Od for each subject
For further particulars apply to the DEAN

Guy's Hospital Medical SCHOOL, London S E 1

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A COURSE of INSTRUCTION for the Final Examination for the Fellowship of the Royal College of Surgeons of England will commence on Wednesday March 5th, 1924

Members of the Class are given every facility to gain the necessary Clinical experience.

Full details of the Course may be obtained from the Dean Guy's Hospital Medical School London Bridge S E.1

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The Course of Instruction can be commenced at any time

The Principal will be pleased to interview intending candidates for the purpose of advice

Further particulars can be obtained from the Secretary 37 *Russell Square W C 1*
Telephone: MUSEUM 766

University of London

A COURSE OF THREE LECTURES on The Influence of Improved Town Planning and Housing in Public Health," will be given by Professor JOHN ROBERTSON C M G O B E M.D (Professor of Hygiene & Public Health in the University of Birmingham and Medical Officer of Health Birmingham) at UNIVERSITY COLLEGE London (Gower Street W C 1) on Fridays January 18th February 1st and February 15th 1924 at 5 p m At the First Lecture the Chair will be taken by Professor H R KENWOOD C M G , C M F R.S E Chadwick Professor of Hygiene in the University Admission free without Ticket

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The next election will take place in May 1921 (*One Scholarship vacant*)

Applications must be sent in before the 1st April to the Clerk of the Grocers Company Grocers Hall London E.C 2 from whom a form of application and further information may be obtained

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Applications are invited for the appointment of a Whole-time MEDICAL OFFICER of the Port and of Aliens at a salary of £750 a year

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Applications, endorsed Port Medical Officer" and accompanied by copies of not more than three recent testimonials must reach the undersigned not later than the 19th January 1924 The appointment will be subject to the approval of the Ministry of Health

Town Hall O HALL.
Plymouth Medical Officer of Health
21st December 1923.

ROYAL NAVAL DENTAL SERVICE

The Admiralty is prepared to receive application from qualified Dental Surgeons for entry into the ROYAL NAVY as DENTAL OFFICERS

The number of appointments to be offered for *competition is five* and the Competitive Entrance Examination will be held at the Royal Dental Hospital of London Leicester Square W C 2 on the 14th March 1924 and *following days*

Candidates must not be under 21 nor over 28 years of age on the day of commencement of the Competitive Examination and must hold a registrable degree or Diploma in Dental Surgery and be registered under the Dental Act as qualified to practice as Dental Surgeons in Great Britain and Ireland (A certificate of having qualified and of intention to register will be accepted in the case of candidates whose qualification is of very recent date)

They will be required to pass a Medical Examination by a Board of Naval Medical Officers as to their physical fitness for service at Home and Abroad

The Regulations for entry and the form to be filled up by candidates can be obtained on application to the Medical Director General of the Navy Admiralty 68 Victoria Street London S W 1

The form of application accompanied by the necessary documents should reach the Medical Director General as soon as possible but not later than the 1st March 1924

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and Adolescence from the Analytical Standpoint. Course of EIGHT LECTURES by Dr CRICHTON MILLER every Thursday 5 30 p m from Jan 31 (except Feb 7) at Univ of London Union Soc. Hut, Malet St Gower St Fee for Course 1 gn Tickets from Sec Tavistock Clinic, 51 -Tavistock Square

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Applications are invited from duly qualified medical practitioners for the position of Assistant School Medical Officer The person appointed will be required to work under the direction of the Medical Officer of Health and in addition to the medical inspection of children, will be required to assist in the Maternity and Child Welfare Centre and also in the Public Health work of the Borough The appointment is a full time one, and applicants must possess the Diploma of Public Health or be in a position to obtain it Salary £600 per annum Application forms and further details may be obtained of the undersigned Last date of receipt of applications 2 th January 19 4

Town Hall, HERBERT A. HIELD
Torquay Town Clerk
1st January 1924

Manchester Union

ASSISTANT MEDICAL OFFICERS

The Guardians of the Manchester Union invite applications from medical practitioners for the appointment of Junior Resident ASSISTANT MEDICAL OFFICERS at the WITHINGTON HOSPITALS (1,200 beds) and INSTITUTION (1 150 beds) Nell Lane, West Didsbury Manchester; and CRUMPSALL INFIRMARY (1 900 beds) and INSTITUTION (1 600 beds, including 600 beds for Mental Patients) Crescent Road Crumpsall Manchester

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Applications endorsed Medical Appointment" stating at which establishment Withington or Crumpsall an appointment is desired accompanied by not less than three testimonials must reach me not later than Wednesday the 23rd January inst

Union Offices By Order
All Saints J MACDONALD
Manchester Clerk to the Guardians
5th January 1924

Hospital for Consumption and DISEASES of the CHEST Brompton S W

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (to which there are Three Vacancies) The duties include work in the Out atient Department as well as in the Wards

Further particulars may be obtained from the undersigned to whom applications with testimonials should be addressed not later than 4th January 1924 Candidates will be required to attend the meeting of the Medical Committee on Wednesday January 9th at 4 30 p m

The appointment is for six months with an honorarium of £50

FREDERICK WOOD Secretary

January 1924.

Wanted Assistant in high-class residential private Practice E Yorks Sth ex H I & H S and good anæsthetist In door to commence Married preferred Must be keen and hard worker Good salary and excellent prospect to take table man.—Address, with testimonials No 336 BRIT. MED JOUR. Office 429 Strand, W C

Wanted—Assistant, end of March. Salary £400 with rent free unfurnished house Industrial Town North of England View to Partnership later—Address No 326 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted, Assistantship, view Partnership or Succession H S two London Hospitals war service over 3 years good general practice abstainer age 32, married—Address No 323 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted Assistantship by M R C S L R C P., single age 34 Thoroughly experienced in panel and private practice Well received 4 years hospital experience Hard worker loyal. Excellent testimonials London preferred—Address No 109 B M J Strand W C

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Excellent opportunity to commence a remunerative Practice in large and rapidly growing district. Prominent corner HOUSE Fawley Cricklewood Lane N W 2 containing 3 bed bath 2 reception etc Ample room for garage Long leasehold —For Sale by Auction (unless previously sold) Auctioneer LESLIE RAYMOND F S I F A I The Estate Offices (facing Tube Stat.) Golders Green N W 11 and Hampstead

Harley Street — To Let, SMALL Room suitable for Anæsthetist also bedroom and garage accommodation — Address No 306 BRITISH MED CAL JOURNAL Office 429 Strand W C 2

Park Lane —To Let, Suite of CONSULTING ROOMS ground floor two Service FLATS over; also MAISONETTE newly decorated — T "1a Lower Belgrave Street S W 1

Rooms to be Let, on main Road in thickly populated Locality Excellent scope for Doctor — Apply to A. J STEINSBERG 91 Gt Ducie Street Manchester

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To Let in Queen Anne Street, Cavendish Square Part time CONSULTING ROOM with use of Waiting Room Attendance Phone £60 per annum — Address No 313 BRITISH MEDICAL JOURNAL Office 429 Strand W C

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Somerset County Council.

ASSISTANT SCHOOL MEDICAL OFFICER

The Committee invite applications from qualified medical men for the post of Assistant School Medical Officer In addition to school medical work the duties will include some venereal treatment work and experience in the modern methods of diagnosis and treatment of venereal diseases is necessary
Salary £600 A superannuation scheme is in force and the salary will be subject to any modifications that might be reached after discussion with the British Medical Association
Canvassing will disqualify Applications by January 21th to the undersigned from whom all particulars and an application form can be obtained
County Health Dept W G SAVAGE
Boulevard County Med Officer of Health
Weston-super-Mare January 1924

Kidderminster Infirmary and CHILDREN'S HOSPITAL.

HOUSE SURGEON REQUIRED

Salary £150 per annum with residence, board, and washing The appointment is for twelve months renewable if mutually arranged The duties are mainly surgical. Candidates must be unmarried
Further information with copies of rules, may be obtained from the Secretary Hall Street Kidderminster to whom all applications, with copies of testimonial should be addressed on or before 14th January 1924
The duties will commence early in February
Selected candidates will be required to attend before the Committee

A Junior Resident Medical

WOMAN is required for THE MOTHERS HOSPITAL of the SALVATION ARMY (Maternity) Lower Clapton Road E 5
Applications (enclosing 3 copies of recent testimonial) should be made by letter in the first instance when full particulars will be forwarded —Commissioner ADELAIDE COX, 280 Mare Street Hackney, London E.8

Leeds Township Infirmary

ASSISTANT MEDICAL OFFICER.

The Guardians of the above Township require the services of a Third Assistant Medical Officer for the Indoor Institution Beckett Street Leeds
Salary £275 per annum together with board, apartments and attendance (subject to deduction under Poor Law Officers Superannuation Act 1896) The post is recognised by the University of London as one qualifying candidates to sit for the M.D Examination Branch I
Applicants must be in possession of both medical and surgical qualifications as required by the Orders of the Ministry of the Health The Medical Superintendent of the Township Infirmary will give any information as to duties etc on application to him.
Applications, stating qualifications and giving particulars of present and prior occupations and military service, if any together with copies of three recent testimonials, must be received by me not later than noon of Monday, the 21st January.
Canvassing the Guardians is prohibited and will disqualify a candidate. Selected candidates will receive due notice to attend
Poor Law Offices, JAMES H FORD
South Parade, Clerk to the Guardians.
Leeds. 2nd January 1924

Royal London Ophthalmic HOSPITAL.

(Moorfields Eye Hospital), City Road, E C 1

THREE REFRACTION ASSISTANTS

Applications are invited for the office of Refraction Assistant—two for Wednesday and Saturday mornings one for Monday and Thursday mornings
Candidates must be registered medical practitioners. Salary at the rate of £100 per year for two mornings work a week Hours of attendance from 9 a.m. until 1 p m
The Refraction Assistants will be appointed for a period of one year and will be eligible for re-appointment The present Refraction Assistants are applying for re-appointment.
Applications, stating age and qualifications must be received not later than 30th January 1924 by
ROBERT J BLAND
Secretary Superintendent

Farringdon General DISPENSARY & LYING-IN CHARITY,

Holborn Circus E C 4

Applications are invited for the following honorary appointments —
1 PHYSICIAN with Charge of Patients with Diseases of the Chest.
2 SURGEON in Charge of Throat, Nose and Ear Department
3. SURGEON in Charge of Dental Department
Each successful applicant will be required to attend one day weekly at 1 p m
Applicants must be fully qualified registered male medical practitioners
Applications with copies of two recent testimonials to be sent to the Secretary Farringdon General Dispensary 17 Bartlett's Buildings, Holborn Circus E.C 4 not later than January 25th
B A COCKLE Secretary

Bolton Infirmary & DISPENSARY

SECRETARY'S OFFICE
(230 Beds, including Auxiliary Hospitals)

The Resident Staff consists of Resident Surgical Officer two House Surgeons and an Assistant House Surgeon
Applications for the appointment of an ASSISTANT HOUSE SURGEON are invited from Ladies and Gentlemen having a registered Medical and Surgical qualification Salary £100 per annum with apartments, board and attendance
Applications, stating age with copy of testimonials, should be forwarded to the undersigned, from whom further particulars may be obtained
ALBERT E BRISCOE, Secretary

Ancoats Hospital,

Manchester

SENIOR RESIDENT SURGICAL OFFICER (male) required to commence duty on 1st February 1924 for a period of twelve months Only those who have held a Resident Surgical appointment need apply and candidates holding an F R C S qualification will be preferred Salary £225 per annum with board lodging and washing
Applications stating age, previous experience and qualifications to be forwarded to the undersigned on or before Tuesday 15th January 1924, together with copies of three recent testimonials.
By Order of the Board
HERBERT J DAFFORNE Secretary

Herts Mental Hospital,

Hill End St Albans

Locum Tenens ASSISTANT MEDICAL OFFICER (Male) wanted for about 7 weeks from January 21st 7 gns a week with board lodging and washing Apply to Medical Superintendent.

St. Pancras Dispensary,

39 Oakley Square N W 1

The office of RESIDENT MEDICAL OFFICER will shortly become vacant Salary £225 per annum with residence and attendance
Candidates must be legally qualified to practice Medicine and Surgery in Great Britain. They must be registered and be single Men preferred
Testimonials to be sent to the Hon Secretary H PETER BODKIN 2 Endsleigh Street Tavistock Square W C 1 on or before the 24th January 1924 The election will take place on 5th February next

Cardiff Royal Infirmary

Associated with Welsh National School of Medicine

HOUSE SURGEONS

There will be vacancies for two House Surgeons on the 20th February 1924, and for one on 1st February The appointments terminate on 20th August 1924
Salary at the rate of £100 per annum with board apartments and laundry
Applications, with copies of three recent testimonials to be made by 24th January to the undersigned
R ARMSTRONG
7th January 1924 Medical Superintendent

City of London Hospital for DISEASES OF THE HEART AND LUNGS,

Victoria Park E 2
'Bus tram, & rail, Cambridge Heath L. & N E Rl

Applications for the post of HOUSE PHYSICIAN (Male) with copies of recent testimonials are invited to be sent to the undersigned by Tuesday 5th February 1924
The appointment will be for six months from mid February
Salary at the rate of £125 per annum with board residence and laundry provided
GEORGE WATTS Secretary

Cheshire Joint Sanatorium,

Market Drayton Salop

Wanted a SECOND ASSISTANT MEDICAL OFFICER (Lady) for the above Sanatorium of 240 beds male and female
A knowledge of X ray and Bacteriology would be deemed additional qualifications
Salary £350 p.a. rising by annual increments to £490 plus board lodging laundry etc.
Apply with copies of three testimonials giving essential particulars of education training and experience to the Medical Superintendent

North Staffordshire INFIRMARY Stoke-on Trent

(A General Hospital. 301 Beds)

Vacancy for HOUSE SURGEON Salary £200 per annum with board residence and laundry
Applications invited, to be addressed to the undersigned with two or three recent testimonials (copies) on or before 17th January
Applicants with previous experience preferred
W STEVENSON
7th Jan., 1924 Secretary & House Governor

The Miller General Hospital FOR SOUTH EAST LONDON,

Greenwich Road S E 10

HOUSE PHYSICIAN required (three other residents) Salary £150 per annum with board lodging and laundry
Applications stating age qualifications and experience accompanied by copies of not more than three recent testimonials, to be sent to the Secretary

General Infirmary, Salisbury

(141 Beds)

HOUSE SURGEON required to commence duty on February 1st. Salary £200 with board apartments and washing Candidates must be unmarried fully qualified and registered
Applications, with copies of testimonials to be sent to the undersigned not later than 18th January
JOHN S BIRBECK,
House Governor and Secretary

Clayton Hospital, Wakefield.

HOUSE SURGEON required for 1st March Candidates should be single legally qualified and registered. Salary at the rate of £200 per annum
Applications enclosing copies of testimonials to be sent to the undersigned
HENRY MAW Secretary

Required, an Assistant

PHYSICIAN to PENDYFFRYN HALL SANATORIUM Penrhyndeudraeth Under 40 Experience in Tuberculosis. All health. Salary £400 plus bonus Live in.—Apply, with photo to Directors

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**PUBLIC HEALTH.**	**PUBLIC HEALTH** *(continued)*
ENGLAND.		
MIDDLESBOROUGH, SOUTH BANK, & ESTON, *(Medical Aid Associations or Workmen's Clubs.)*	CORNWALL EDUCATION COMMITTEE *(Woman Assistant School Medical Officer)*	LIVERPOOL EDUCATION AUTHORITY *(Assistant School Medical Officer)*
WALES.	CHESHIRE EDUCATION COMMITTEE *(Women Assistant School Medical Officers)*	COUNTY COUNCIL OF MIDDLESEX *(Male Assistant Medical Officer in the Public Health and School Medical Department.)*
ABERTRIDWR, GLAMORGAN *Windsor Colliery (Medical Scheme.)*	BOROUGH OF CREWE *(Woman Assistant School Medical Officer)*	NOTTINGHAM EDUCATION COMMITTEE. *(Junior Assistant Medical Inspector)*
EBBW VALE MON *(Workmen's Medical Society)*	DARLINGTON EDUCATION COMMITTEE *(Assistant School Medical Officer)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	COUNTY BOROUGH OF GATESHEAD *(Assistant School Medical Officers)*	PLYMOUTH EDUCATION AUTHORITY *(Woman Assistant School Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	GELLYGAER URBAN DISTRICT COUNCIL *(Medical Officer of Health)*	BOROUGH OF PORTSMOUTH *(Medical Officer to the Portsmouth Child Welfar Centres and Municipal Maternity Hospital)*
OAKDALE, MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*	METROPOLITAN BOROUGH OF FINSBURY *(Assistant Medical Officer of Health)*	ROTHERHAM UNION *(Medical Officer)*
OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*	CITY AND COUNTY BOROUGH OF LINCOLN *(Medical Officer of Health)*	COUNTY BOROUGH OF SMETHWICK *(Woman Assistant Medical Officer of Health an School Medical Officer)*
TONDU and ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	CITY OF LINCOLN *(Male Assistant Tuberculosis Officer)*	SOUTH SHIELDS EDUCATION COMMITTEE. *(Assistant School Medical Officer)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE. (Grenada with Carriacou St. Vincent and St. Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon Sec. of Division or Branch.	Town or District.	Hon Sec. of Division or Branch.
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *Senior Resident Physician.) (Senior Resident Surgeon.)*	Mr A. RADFORD M.C F.R.C.S., 5 & 6 4th Floor National Bank Buildings, Durban.	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute)*	Dr R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon. Sec. Victorian Branch), Medical Society Hall, H. Melbourne Victoria.
NEW SOUTH WALES *(All Friendly Society Appointments)*	Dr R. H. TODD (Hon Sec. New South Wales Branch) B M. A. Building 30-34, Elizabeth Street, Sydney N S W			WESTERN AUSTRALIA. *(Contract and Lodge Practices)*	Hon. Sec., Western Australian Branch No 6, Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address 429 Strand, W C 2
January 6th, 1924

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

The Royal Waterloo Hospital
FOR CHILDREN AND WOMEN
Waterloo Road S E 1

There is an Immediate Vacancy for a Part time ANAESTH[illegible] at the rate of £[illegible] m duly qualified [illegible] must be accompan[illegible] should state age and experience and reach the undersigned (of whom further particulars can be obtained) not later than 15th January 1924
J H TEASDALE Secretary
1st January 1924

West Herts Hospital,
Hemel Hempstead Herts
(24 miles from Euston—103 Beds)

Wanted RESIDENT MEDICAL OFFICER to commence duties the end of January Salary £200 with rooms board and laundry Particulars to be obtained of and applications enclosing copies of three recent testimonials to be sent at once to
ROBT L BUTTERFIELD
Clerk to the Hospital

Laboratories of Pathology
AND PUBLIC HEALTH.

FOURTH ASSISTANT PATHOLOGIST required The appointment is open to any well qualified man who has recently completed his hospital career but preference will be given to one who can produce evidence of special aptitude for Clinical Pathology and Serology The appointment is a whole-time one
Commencing salary £500 per annum
Applicant should forward full particulars and copies of not more than three testimonials to The Secretary Laboratories of Pathology and Public Health 6 Harley Street W 1

North Devon Infirmary,
Barnstaple

Wanted end January duly qualified HOUSE SURGEON (Gentleman) Salary £150 per annum with board apartments and laundry Appointment to be for not less than six months
Applications stating age qualifications, with copies of testimonials, to be sent in on or before Monday Jan 21st addressed Honorary Secretary

Resident Medical Superintendent required by February 1st for a small Hostel for Ex service men suffering from nerve strain at Romford. Salary £500 p.a. all found—Write stating experience etc. to Secretary RECUPERATIVE HOSTELS, 20 Hanover Square, W 1

DR. J. FIELD HALL
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28 Craven Street, Strand, W C 2
Telephones { GERRARD 4657 / GERRARD 2099
Telegrams FIELDHALL, WESTRAND LONDON

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Secretary W. WALSHE.

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All Nurses are insured under Employers Liability Act.

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Nurses reside on the premises and are available for urgent calls, Day or Night.

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(In conjunction with the MALE NURSES' ASSOCIATION),
29, York Street, Baker Street, London, W 1.
(Mrs.) MILLICENT HICKS *Superintendent.*
W. J. HICKS *Secretary*

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TRAINED NURSES for **MENTAL** and **NERVOUS CASES** can be had immediately
Apply to LADY SUPERINTENDENT 19, Nottingham Place London W 1 Telephone: Mayfair 6420

NORTHERN BRANCH—Apply LADY SUPERINTENDENT 57 Clarendon Rd Leeds Phone: Leeds 2016

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12 Victoria St NOTTINGHAM Tele 5334 & 5 & 33 Bowling Green St. LEICESTER Tele 1040

Leek District—Good middle-class PRACTICE for disposal with introduction £1 500 House available on lease full particulars sent in confidence on application to the Secretary
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3 PARTNERSHIP JUNIOR PARTNER required in a good-class Country Practice within 30 miles of London Share worth £700–£800 a year to start and increase later Exceptional scope Suitable house will be found Prem £1 400
4 THIRD SHARE of Panel and Cash Practice on the confines of the City and returning £1 600 a year for sale to active Junior Ample scope Succession as may be arranged
5 LONDON—General PRACTICE of between £1,100 and £1 200 a year on the confines of good residential district for sale with good introd at £1 600 Small panel Convenient house on lease at moderate rental
6 LONDON N.—Old estab PRACTICE until recently returning £800 a year for sale at £700 Panel £100 Good scope Convenient corner residence garden etc on lease at £85 Genuine reason for transfer
7 REQUIRED by L.R.C.P. PRACTICE or PARTNERSHIP of £1 000 £1 500 in S.W. or West of England
8 REQUIRED Upper middle class PRACTICE of £1 000–£1 500 in or near London or Varsity town House to rent but would buy later Good garden essential

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WATERGATE HOUSE,
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S.W. COAST—Old-established non-panel PRACTICE Income £1,016 p.a. 7 appointments Nice house Premium 1½ years purchase
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SOUTH WALES—Old-established G.P. in residential district Panel over 1 100 Average income nearly £2 000 Premium £2 500

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(Established over 40 years)
4 & 5, ADAM STREET, STRAND, W C.2.
Telegrams "ERSOMIAN LONDON"
Telephone GERRARD 399 (After Office Hours—EPSOM 695.)

Printed Prospectus of Terms, etc., post free on application.

Northern County—£1,500 a year Unopposed Very old-estab Near sea. On rail Warm climate Panel nearly 600 Same hands 30 years Good house and garden Rent £40 Personally investigated.—Apply No 7470

South-West County—£400 a year Increasing On coast. Good house and garden. Panel about 450 Vendor retiring Small town on rail —Apply No. 7467

London Suburb, N—Over £2,000 a year General PRACTICE Panel over 2 000 Middle and working-class practice Small house Very little midwifery Moderate terms.—Apply No. 7464.

Essex—Partnership Nearly £2 000 a year Old-established Great scope. Small house available to rent. Panel 900 Unopposed Practice. Half Share for disposal.—Apply No 7461.

X-Ray Practice — Unusual opportunity offers to an experienced Radiologist to secure an excellent connection in a large Hospital Town with appointments Good house with up-to-date equipment —Apply No 7450

Spa Practice—Nearly £3,000 a year Good old-established Practice suitable for an experienced graduate with means.—Apply No 7438

North Town—Partnership, £2 800 a year Half share for disposal Panel over 3,500 Great scope.—Apply No 7451.

Open Air Sanatorium, £6,000 a year Old-established. Splendid premises on lease Every investigation Net profits over £1,500 Premium very moderate.—Apply No 7426

North-West County—Over £3 500 a year Old-estab Large town. Panel nearly 3 000 Good house on lease Moderate terms. Apply, No 7423

Lancashire—£3,500 a year, PARTNER wanted Good Suburb of large Town with Hospital. Good fees. Panel £1,000 a year Good house available. Half share for sale.—Apply No 7444.

Partnership—North - East Coast. Over £4,500 a year Non panel half share for disposal to experienced man with hospital experience Apply No. 7434.

Sanatorium for disposal Old-established thriving Institution Can accommodate over 50 patients. Over £2,000 a year profit Excellent freehold property thoroughly equipped. Now full Owner retiring will sell for value of property and effects.—Apply No 7424

Wales Coast—Over £900 a year Good general PRACTICE. Small panel Good house and large garden Residential Seaside Resort. Prem. £1000—Apply No. 7419

Eastern County—Urgent £800 a year Unopposed. On rail. Panel over 500 Detached house on lease Schools near Personally known. Premium 1½ years' purchase.—Apply No 7319

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Eastern County—Over £1,000 a year Old-established Town on rail. Panel 600 Large house and garden on lease Partnership introduction. Apply No 7385

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HOME COUNTY.—(10) PARTNER required in well established Practice about £4,000 per annum in pleasant Residential District under ten miles from London. House contains 4 bedrooms, &c. Rent £80. Premium one third share two years purchase. Cottage Hospital.

EASTERN COUNTIES.—(11) Very old-established unopposed country PRACTICE nearly £1,950 per annum, near Coast. Panel about 800. Exceptionally beautiful old house (5 bedrooms) in acre ground on lease also 20 acres farm land if desired. Splendid shooting. Premium one and a half years purchase.

SOUTH OF ENGLAND.—(12) PARTNERSHIP in old-established Practice averaging over £5,000 per annum in pleasant Market Town. Panel 1,800. Good house (6—7 bedrooms) with nice garden. Rent £62 10s. Premium one fourth share two years purchase. Incoming partner should hold D.P.H.

NORTH WALES.—(13) Old-established PRACTICE nearly £ 30 per annum in small Seaport Town. Panel 150. No midwifery or night work. Rent of house (7 bedrooms, garden half an acre) £ 0. Premium £750.

MIDLANDS.—(14) Old-established unopposed PRACTICE £1,150 in Agricultural and Residential District. (Appointments worth £330. Panel 490.) House contains 12 rooms. Rent £3. Premium one and a half years purchase.

MIDLANDS.—(15) PARTNERSHIP in an old-established practice £3,000 per annum in Country Town. Panel about 1,400. One third or one fourth share at one and three quarter years purchase.

SURREY.—(16) PARTNERSHIP in middle and working-class Practice about £3,000 per annum in first rate Residential Town. Large Panel. Good detached house (6 bedrooms) to rent. Share up to two-fifths at one and three quarters years purchase. Good hospital.

NORTH OF ENGLAND.—(17) Old-established PRACTICE of £1,460 per annum in Country District. Panel 810. Very good house (5 bedrooms) in charming grounds two acres. Prem. practice, house and grounds £4,000. Mortgage could be had on house.

FAVOURITE HOME COUNTY.—(18) PARTNERSHIP in good-class Country Practice about £3,700 per annum in delightful residential district. Visits up to £22s. Excellent modern detached house (7 bed and dressing room) in grounds of three and a quarter acres to be sold. Cottage Hospital. Premium one half share two years purchase.

SOUTH OF ENGLAND.—(19) Old established PRACTICE of £1,700 per annum in Residential Town. Panel worth £ 0 per annum. Detached house (4 bedrooms &c.) Rent £.0. Premium one and a half years purchase.

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SOUTH-WEST OF ENGLAND.—(21) Well established good middle class PRACTICE in Export Town. Receipts average £1,53 per annum. No panel. Good house (5 bedrooms &c.) Rent £150. Premium only £ 0 0.

BORDERS OF SURREY AND HANTS.—(22) JUNIOR PARTNER required in Practice in charming residential country District. Panel 730. Share worth about £1,000 at two years purchase. Preliminary Assistantship.

EASTERN COUNTIES.—(23) PARTNERSHIP in old-established practice about £2,300 per annum. In first rate Town. Panel about 2,050. House (9 bed and dressing room) standing in own grounds to be sold. Premium one-half share one and three quarters years purchase.

SOUTH OF ENGLAND.—(24) PARTNERSHIP in good class non panel practice of £2,400 per annum in beautifully situated Country Town near the Coast. One-third share for disposal at two years purchase. Partner should be Oxford or Cambridge graduate, not over 35 and preferably M.R.C.S. England.

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EAST COAST.—(28) Popular Resort. Old-established middle and working class PRACTICE of £1,140. Panel 861. Rent of house (5 bedrooms) £60. Premium one and a half years purchase.

LANCASHIRE.—(29) PARTNERSHIP in very old-established mixed practice £3,500 per annum in Manufacturing Town. Panel about 2,500. Commodious house (6 bedrooms). Rent £84 10s. inclusive. Premium for one half share one and a half years purchase or near offer. Hospital and chance of getting on staff.

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SURREY.—(31) PARTNERSHIP in good middle class compact practice over £2,600 in Residential District easy distance of London. Panel 1,200. Premium two fifths share two years' purchase. Practice investigated by Association's Accountant.

CHESHIRE.—(32) PARTNERSHIP in good middle and working-class practice over £3,200 per annum in Manufacturing Town. Panel returns about £1,000 per annum. Modern detached house (6 bedrooms) for Sale. Premium one half share one and a half years purchase. Hospital and plenty of scope for special work.

SOUTH-WEST OF ENGLAND.—(33) PARTNERSHIP in old established Practice about £3,500 per annum in beautifully situated Country Town near Coast. Panel 3,000. Very good house (6 bedrooms, &c.) Rent £70. Premium one half share one and three quarter years purchase. Hospital and scope for Surgery.

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SURREY.—(38) PARTNER required in good class non-dispensing Practice over £4,000 p.a. in first rate residential district. Incoming Partner should hold a University degree not over 35, and keen on medicine. Premium one fourth share two years purchase.

CHESHIRE.—(39) Important Town Old-established mixed class PRACTICE averaging £3,500 per annum. Panel 2,000. Good house with 6 bedrooms held on lease. Very suitable for 2 young practitioners keen on surgery. Cottage Hospital (40 beds). Premium £5,000 (or near offer) to include all book debts amounting to over £3,000.

SOUTH COAST.—(40) Popular Health Resort. PRACTICE averaging £1,300 per annum. Small panel. House on sea front (3 beds) rent £60. Prem. £1,950 (or near offer). Scope for Surgery.

SOUTH-EAST COAST.—(41) Favourite Health Resort. PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1,750, including appointments £170 (about). No panel. Premium two-fifths share two years purchase and up to one half in two years. Partner should be 28 to 30 single. Preliminary Assistantship.

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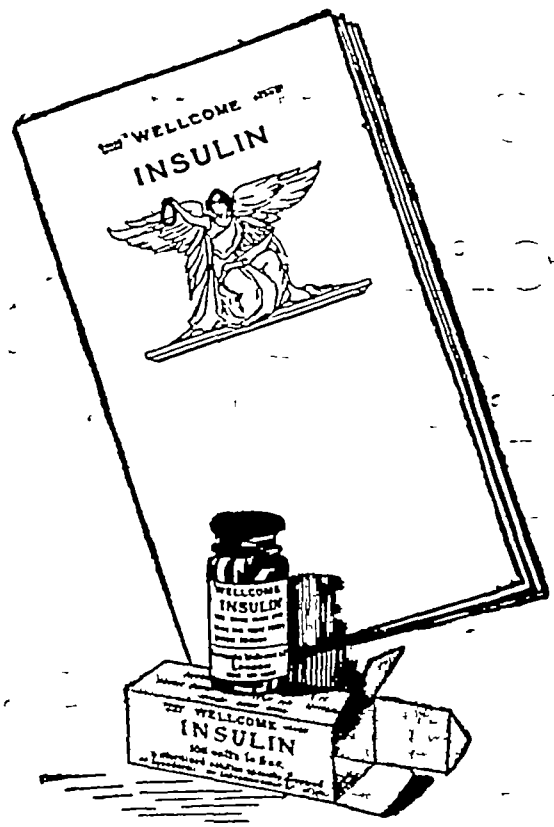
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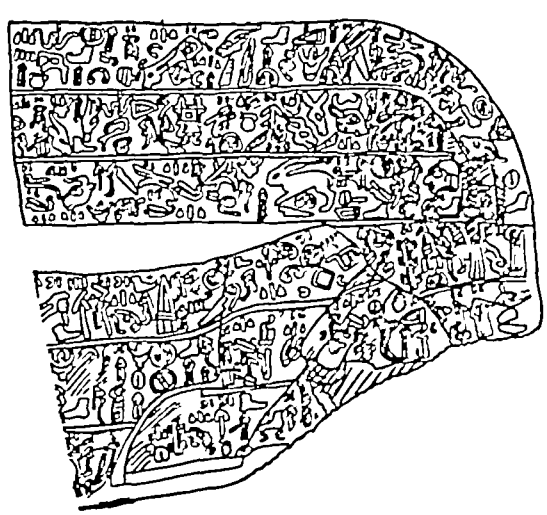
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INSCRIPTION IN THE UNKNOWN HITTITE TONGUE AND SCRIPT—The Hittite hieroglyphic characters consist of representations of parts of human beings and animals of entire animals, and of various objects, a few of which we can recognise, such as a sword and a yoke. There is no doubt as to the direction in which it should be read Judging by analogy (as with Egyptian), and by other indications known to scholars its *boustrophedon* character is clear—the faces turn in a different direction in alternate lines—and the writing must be read towards the faces The above inscription from the body of a sculptured lion begins, therefore, as at present placed, at the left of the uppermost line or register and runs on from the right of the second line, and so on always in alternate directions Groups of signs placed one above the other in the same line appear to read downwards Inscriptions often begin with a head or whole human figure with the fingers touching the lips and there appear to be sufficient reasons for taking this sign to mean that the individual composing the inscription is making the declaration found in it The discoveries so far made would seem to show that the Hittite empire builders used their hieroglyphic script for monumental inscriptions on stone and cuneiform for letters, despatches, etc Most of the hieroglyphic inscriptions are of comparatively late date in their history but from the presence of certain monograms in this script on the monuments of their northern and earliest capital it is judged that its evolution had already begun in the fourteenth century B C It is suggested that the Hittite system may have been one of the competing scripts for world use when that compiled by the Phœnicians, from various sources, was actually adopted

DATE Hittite hieroglyphic script in evolution c 1400–1300 B C ? The present inscription c 1000 B C–c 900 B C



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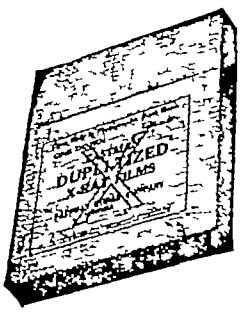
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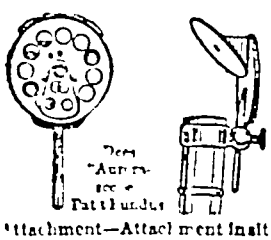
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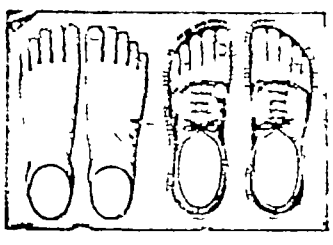
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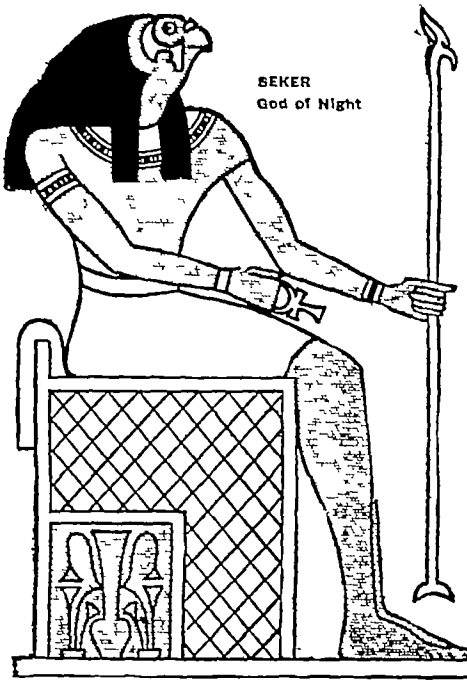
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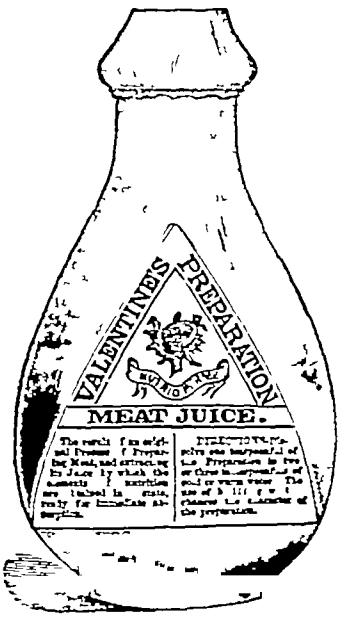
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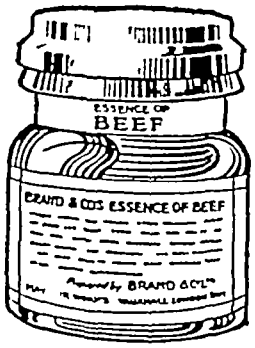
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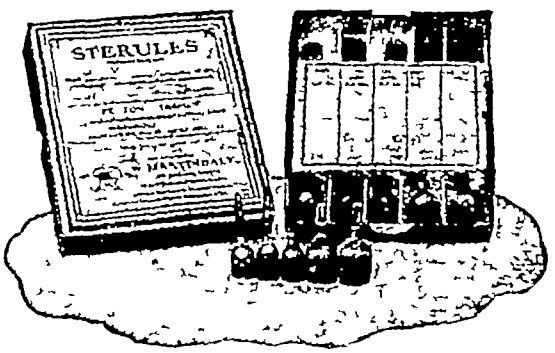
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One thousand doctors recommend it

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In cases where lactation is insufficient or poor in quality, the addition of ALMATA to the mother's diet usually results in marked improvement This has been fully demonstrated in practice, and the following is an extract from a doctor's letter on the subject:

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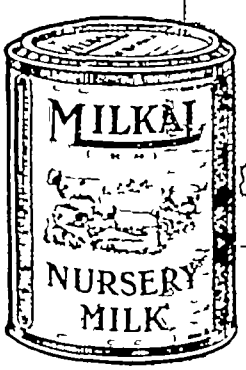
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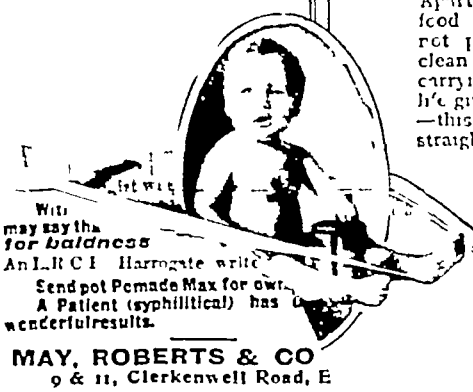
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INFLUENZA AND SEQUELÆ The unique soothing properties of Angier's Emulsion, its favourable influence upon assimilation and nutrition and its general tonic effects, make it eminently useful both during and after influenza It has a well-established reputation for efficiency in relieving the troublesome laryngeal or tracheal cough, correcting the gastro-intestinal symptoms and combating the nervous depression and debility It is particularly adapted to the treatment of catarrhal symptoms, whether respiratory or intestinal

Angier's Emulsion combats intestinal toxæmia, aids digestion, promotes nutrition, overcomes nervous depression, increases the patient's power of resistance, hastens convalescence

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The Aftermath of Acute Infections

(Impoverished Blood, Depleted Tissues, Exhausted Vital Forces)

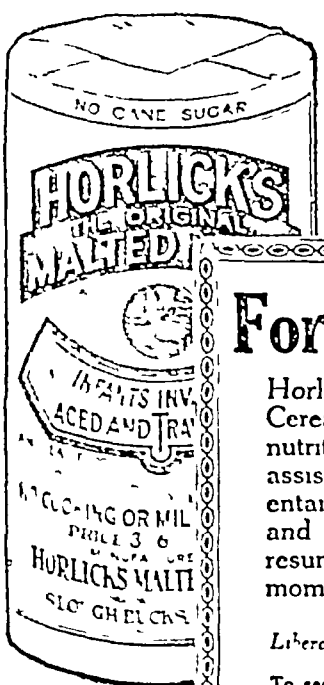
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Compound Syrup of Hypophosphites "FELLOWS"

Is a time-honored and proven tissue builder and tonic
It is valuable in convalescence from exhausting illnesses.
It is easily assimilable and pleasant to take

Write for samples and literature

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For Invalids and Convalescents

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HORLICK'S
THE ORIGINAL
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The FORMULA of ROBOLEINE

is of the greatest significance to all medical men who are engaged in the work of combating malnutrition Here is an interesting table which clearly defines the function of this valuable food

FORMULA	FURNISHES	PROMOTES
RED BONE MARROW (from the long bones of oxen)	Lecithin and Cholesterin and increases Haemoglobin	Growth of Children, prevents rickets, maintains the normal temperature of the body and renders it resistant to bacterial disease
JELLY (from the rib bones of oxen)	Lecithin and Cholesterin also as a food for the central nervous system	Promotes growth and is antineuritic
EGG YOLK (containing Lecithin)	A valuable metabolic agent and nerve food	Elaborates healthy tissue, promotes digestion, and acts as a laxative
"CREAM OF MALT" made from the finest germinating Scotch Winter Barley	Maltose, Diastase and Protein	Acts as a preventive of all kinds of scurvy
NEUTRALISED LEMON JUICE		

'Roboleine' has been prescribed for the past 16 years with very great success, of which an instance is provided by the Governor of the London Hospital in a letter to the manufacturers dated 26/7/23 Bearing in mind the great difficulties encountered in the successful treatment of slum children —many in the advanced stages of anæmia and suffering from rickets—these words contain conclusive proof of the power of 'Roboleine'.

"The effect upon some of our anæmic and rickety children has been MAGICAL."

The Governor of the London Hospital

ROBOLEINE

THE ONLY TRUE BODY-BUILDER

Clinical Sample and Literature on request from

OPPENHEIMMR, SON & COMPANY, LTD.,

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The Management of an Infant's Diet

The use of Mellin's Food in cases of Malnutrition, Marasmus or Atrophy.

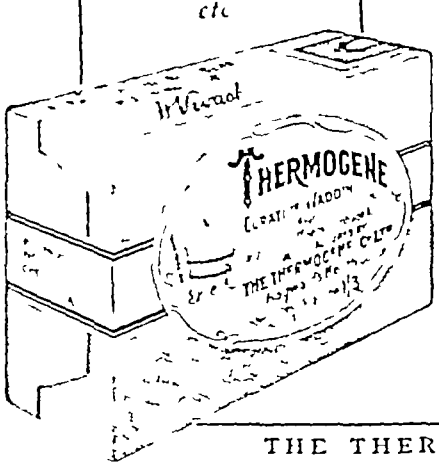
MELLIN'S FOOD 4 level tablespoonsful SKIMMED MILK 8 fluid ounces WATER 8 fluid ounces	*Analysis:*	FAT	49
		PROTEIN	2 28
		CARBOHYDRATES	6 59
		SALTS	58
		WATER	90 06
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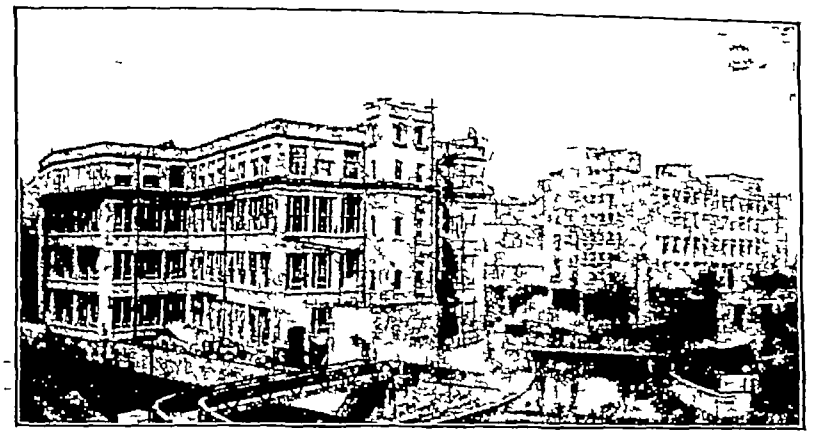
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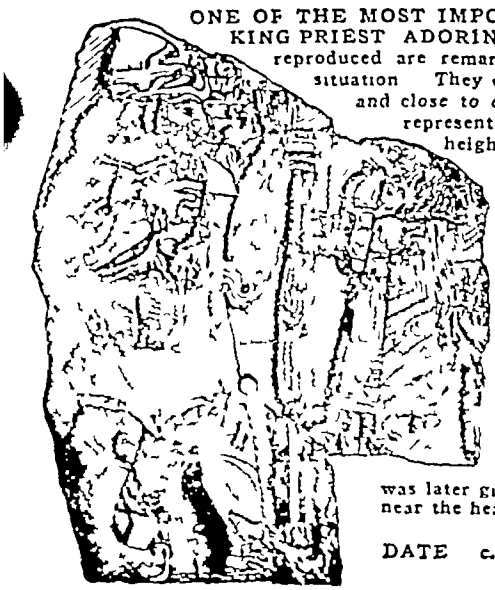
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ONE OF THE MOST IMPOSING MONUMENTS OF THE ANCIENT EASTERN WORLD THE KING PRIEST ADORING THE HITTITE GOD OF CULTIVATION —The sculptures here reproduced are remarkably impressive by reason of their subject their workmanship and their situation They occur on a rock at the foot of the almost perpendicular mass of the Taurus and close to one of the sources of a raging, impassable torrent. Carved in relief, they represent the Peasant god, a gigantic figure 14 ft high and the king priest, 8 ft in height The god is clad in a short sleeved vest or tunic, with a broad girdle he wears a pointed cap upon which are seen the horns indicating divinity his feet are covered with heavy boots reaching high enough to protect the ankles and calves and ending in flaps at back and front. He holds in his hands his gifts to mankind—in the left, ears of corn in the right, a vine branch with clusters of grapes A portion of an implement seen before his right foot is believed to represent a plough The king in a richly woven garment and embroidered mantle wears the skull cap of the priest He clasps his hands before his face in adoration The deep significance of this group becomes apparent when it is remembered that there was originally in Anatolia no natural soil which simply awaited cultivation The waste land had to be transformed and made productive, and this was first done by a strong toiling god, according to the belief of the Hittite pioneers, who, themselves in the person of the working peasant carried on his labours The Hittite god of cultivation would appear to embody a very early conception of Herakles who would have been the principal deity of this region for the name HERAKLEIA was later given to Eregli in the near neighbourhood of the figures The hieroglyphics near the head of the god no doubt contain his Hittite name.

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PORTRAITS OF HITTITES OF CARCHEMISH REPRESENTED IN BAS RELIEF.—Excavations at Carchemish the southern and later capital of the Hittites, have already revealed the presence of a number of sculptured slabs such as the one here reproduced. As only a small portion of the site, and that only of the uppermost layer has yet been worked it is not possible to reconstruct their history in this city one of the chief centres of their empire Other evidence however seems to show that Carchemish was under the suzerainty of the northern Hatti at least as early as the 14th century B C for the Hittites of Carchemish are mentioned sixth in the list of allies of the 'Kheta' in the Egyptian record of the battle of Kadesh in 1280 B C. It is also mentioned in the cuneiform archives of their northern and earlier capital. It would seem that it became the chief seat of the empire in the 12th century B C It became also the battle ground in the great struggle of the Oriental Empires Here the Pharaohs of Egypt and the Kings of Assyria were resisted for centuries by such men as those here reproduced. It is interesting to note that although the Hittites were constantly engaged in war their monuments have up to the present yielded no single example of battle scenes When warriors are represented they are taking part in religious processions as in the accompanying illustration The sculptures at Carchemish bear evidence of outside influence that of Assyria. But the question has been raised as to whether the facts are not rather that the Hittite sculptors obeyed the earlier traditions of Sumer and that the art of Assyria having received its first inspiration from the same source the Assyrians would be as it were merely the cousins of the Hittites in art not their ancestors The Hittite empire-building impulse began in the north and came to an end with the fall of Carchemish c. 717 B C. in the south Its power had protected the west from earlier encroachment its breakdown allowed the west the freer scope it now began to n ed for its own development.



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In the exceptional cases, in which an early diagnosis is made owing to the presence of subacute combined degeneration of the cord or of Hunter's glossitis suggesting the possibility of Addison's anaemia, or when the discovery of achlorhydria in a case of gastric or intestinal dyspepsia is followed as a routine measure by a complete blood examination, the blood picture generally presents some at any rate of the features which are characteristic of the fully developed disease, even if the degree of anaemia is very slight or actually non-existent

Thus in one of my cases of subacute combined degeneration of the cord the patient had achlorhydria He did not look pale, and on December 12th, 1922, his red corpuscles numbered 5,600,000 per c mm, his haemoglobin percentage being 85 But, although the colour index was only 0 76, the average size of his red corpuscles was increased from the normal of 7 22 μ to 8 86 μ, and well marked anisocytosis was present, the Price-Jones chart of his red cells being quite typical Nine weeks later, on February 25th, 1923, the haemoglobin percentage had fallen to 46, and the red corpuscle count to 2,500,000 per c mm, the serum was yellow, and van den Bergh s test, which was negative at first, gave an indirect positive reaction After this, however, steady improvement occurred, and by April 8th the haemoglobin percentage had risen to 86 and the red corpuscle count to 4,500,000 per c mm

THE CAUSE OF THE ANAEMIA

The observations of William Hunter,[3] begun in 1886, proved that Addison's anaemia is caused by excessive blood destruction, which leads to the deposition of excess of iron-containing pigment in all the viscera

It has long been known that the blood serum in Addison's anaemia is definitely yellow, whilst that in non-haemolytic anaemias is nearly colourless Hijmans van den Bergh[5] has shown that this colour is due to excess of bilirubin in the blood The depth of the colour and the degree of van den Bergh s "indirect" reaction for bilirubin in the blood are a measure of the activity of haemolysis

The characteristic lemon colour of the skin in Addison's anaemia is a less intense colour and is of a different tinge from that of even very slight obstructive jaundice, in spite of the high concentration of bilirubin in the blood Only if the hyperbilirubinaemia exceeds the leakage point and bile appears in the urine, as may happen in the acute haemolytic crises which often occur in the course of the disease, does actual jaundice with discoloration of the conjunctivae occur Van den Bergh has shown that bilirubin is altered in certain of its properties after excretion in the bile, so that any bilirubin which is reabsorbed can be distinguished from that which has never left the blood stream It is thus possible by means of van den Bergh's reaction to distinguish hyperbilirubinaemia caused by haemolysis from that caused by reabsorption of bile in obstructive jaundice, even if the latter is so slight or the examination is made at such an early stage that no bile has yet appeared in the urine and jaundice has not developed The lemon-yellow colour of the skin in Addison's anaemia is probably caused by staining with bilirubin, which has not yet undergone the changes in its characters which excretion into the bile brings about Bilirubin re-absorbed after these changes have occurred leads to the skin and conjunctivae becoming stained the familiar colour of ordinary jaundice

ACHLORHYDRIA IN ADDISON S ANAEMIA

Since 1897 when Martius[4] first drew attention to the absence of free hydrochloric acid from the gastric contents in Addison's anaemia it has gradually become recognized that the secretion is almost if not quite, invariable Thus Ewald using the old fashioned test meal found achlorhydria in every one of 75 cases Zadek[5] obtained the same result in 50 cases and according to Weinberg[6] it was present in every one of the 105 cases of Addison's anaemia in Martius's clinic at Rostock between 1900 and 1917 Levine and Ladd[14] using an Ewald test meal and obtaining samples of the gastric contents whilst fasting and every three-quarters of an hour afterwards, found free hydrochloric acid only three times in a series of 108 cases In one of the exceptions the blood picture and symptoms were typical of Addison's anaemia and the diagnosis was confirmed *post mortem* but in the two others the diagnosis remained doubtful even at the autopsy

Recent investigations with the fractional test meal have shown that the free hydrochloric acid is invariably absent throughout the whole period of digestion (Fig 4) In other conditions, such as cancer of the stomach, it is not at all uncommon to find a small quantity of free acid and occasionally even a large quantity in one or more of the fractions when the resting juice and the contents removed at the end of three-quarters of an hour or an hour both contain none, but this is never the case in Addison's anaemia Complete achlorhydria was present in every one of my 24 cases examined by the fractional method

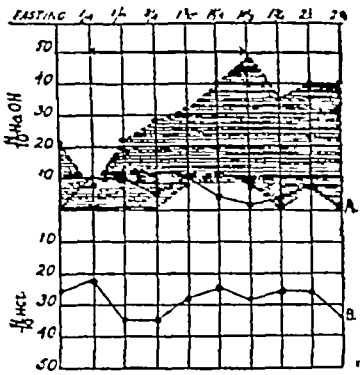


FIG 4.—Fractional test meal in case of Addison s anaemia A represents total acidity free HCl is absent but B represents amount of N/10 HCl required to produce free acid The shaded area represents the limits of free HCl in 80 per cent of normal people

It is clear, therefore, that before a case can be diagnosed as Addison's anaemia in spite of the presence of free hydrochloric acid in the gastric contents the clinical and pathological features must be subjected to special scrutiny Weinberg[6] has reviewed all cases in which sufficient clinical details were available and in which Addison's anaemia was diagnosed in spite of the presence of free hydrochloric acid in the gastric contents, and concludes that in every instance the diagnosis was doubtful

Gastric analysis may give information of real help in diagnosis, the presence of free hydrochloric acid in any fraction of a test meal being a decisive point against Addison's anaemia, whereas the discovery of achlorhydria would considerably strengthen the probability of such a diagnosis being correct At the autopsies on the only two cases in Guy's Hospital in which a diagnosis of Addison's anaemia had been made in spite of the fact that free hydrochloric acid was present in the stomach, no evidence of haemolysis was present, one patient was found to have infective endocarditis, and the other, who died of pneumonia, had the microscopical changes in the spleen typical of Hodgkin's disease

It has been suggested that the achlorhydria is secondary to the anaemia But there is abundant evidence that the achlorhydria precedes the development of the anaemia There is generally a more or less long history of digestive disturbance, of the type which may result from uncomplicated achlorhydria, preceding the first symptoms of anaemia One of my patients, for example, had suffered for fourteen years from intractable diarrhoea, which completely stopped directly he was given hydrochloric acid after our diagnosis of Addison's anaemia had led to the discovery of his achlorhydria In two cases achlorhydria was actually discovered twelve years (Bie,[10] Gross[11]), in two others ten (Faber,[12] Wilkinson), and in others seven (Faber, Cabot and Morawitz[13]), six (Levine and Ladd[14]), five (Kuttner[15]), three (Faber, Wilkinson), two (Charles Hunter[16]), and one year (Levine and Ladd) before the onset of anaemia In Faber's three cases the blood was examined when the achlorhydria was discovered, there was no sign of anaemia, and the haemoglobin percentage was 100, 95, and 90 respectively

If achlorhydria were secondary to the anaemia, or even if it were secondary to gastritis produced by the same toxin which caused the anaemia, cases would occur in which normal gastric secretion could be observed giving place to hypochlorhydria and finally complete achlorhydria as the disease progressed Such a sequence of events, for example, has been observed in cancer of the stomach But achlorhydria is found in all cases of Addison's anaemia at whatever stage of the disease the examination is made, and no case has been recorded in which either a normal secretion or even hypochlorhydria has been discovered at one period and achlorhydria on a later occasion

The achlorhydria persists when the anaemia has almost

or completely disappeared, either spontaneously or as a result of treatment Thus in four cases at Guy's it was still present when the haemoglobin percentage was 85, 82, 80, and 100 respectively, compared with 45, 38, 23, and 46 respectively some months or years before Still more remarkable is the case of a man, who seventeen years ago was in the London Hospital for typical Addison's anaemia with 700,000 red corpuscles per c mm and complete achlorhydria The achlorhydria is still present, though for years he has been perfectly well, when shown recently before the Medical Society of London by Maitland-Jones,[17] his red corpuscles numbered 5,200,000 per c mm

The achlorhydria is thus far more constant than any other symptom, not excluding the anaemia Even the anisocytosis and increase in the average size of the red corpuscles may in rare instances disappear completely during remissions and after apparent recovery, though the achlorhydria persists

There is no constant change in the gastric secretion in any other form of anaemia Thus fractional test meals in four consecutive cases of gastric or duodenal ulcer, complicated by severe secondary anaemia due to haemorrhage, gave curves of exactly the same form as would have been expected in the absence of haemorrhage, the percentage of haemoglobin was 30, 33, 48, and 49, figures which are quite as low as one would expect to find in an average series of cases of Addison's anaemia when first examined (Fig 5) In two cases recorded by Campbell and Conybeare[18] of secondary anaemia caused by rectal haemorrhage with a haemoglobin percentage of 44 and 42 respectively, and in two cases of chlorosis with a percentage of 25 and 48, the curves of gastric secretion were normal Campbell and Conybeare also report a fatal case of Hodgkin's disease, in which the haemoglobin percentage was 25 and 17 on two occasions three months and three weeks respectively before death, a test meal given the same day as the first count and again a week after the second showed that free hydrochloric acid was present, though in small quantities It is obvious, therefore, that anaemia does not cause achlorhydria

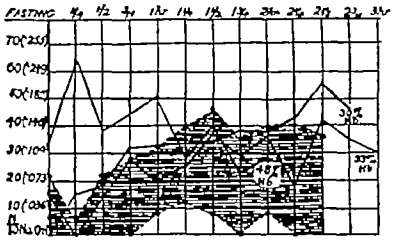


FIG 5 — Fractional test meals showing curves of free HCl in three cases of secondary anaemia with 30 33 and 48 per cent haemoglobin respectively

There is, I believe, nothing specific about the achlorhydria which is an essential predisposing cause of Addison's anaemia It is in most cases caused by constitutional and congenital absence of gastric juice—achylia gastrica—in which no hydrochloric acid and very little or no pepsin are secreted, but it may also be caused by acquired achylia and by any condition in which such acid as is secreted is at once completely neutralized

1 *Constitutional Achylia Gastrica and the Familial Occurrence of Addison's Anaemia*

Martius in 1897 expressed the belief that the majority of cases of achylia gastrica are primary or constitutional, and that comparatively few cases are secondary to some local disease, such as gastritis or cancer Fragments of mucous membrane, which I have had removed during an operation for appendicitis in patients with achlorhydria, have generally looked perfectly normal and have always shown the usual number of healthy living oxyntic cells

Constitutional achlorhydria is probably due to an inborn deficiency in the functional capacity of structurally normal gastric glands In favour of this view is its occurrence in different members of the same family Thus Albu[19] discovered it seven times in more than one member of a family, and it was present in two out of three sisters who consulted me at different times on account of slight digestive symptoms

There is some evidence that the constitutional incapacity of the gastric glands to secrete hydrochloric acid is congenital Thus it was already present in 4 per cent of the hundred medical students examined by Bennett and Ryle[1] and the fifty examined by Campbell, the age of the majority being about 19 or 20 Albu has observed achylia gastrica in thirty-one children less than 10 years old, the youngest being only 4, and among the families of patients with Addison's anaemia examined by Weinberg were children with achylia aged 3, 4, 5, 6, and 10 (two) The children had been brought to Albu on account of anorexia, feeble development, or diarrhoea On the other hand, the children examined by Weinberg were quite healthy, and their gastric secretion was only investigated because one or other parent had Addison's anaemia and achlorhydria

Congenital achylia gastrica is the inherited factor in the cases of familial Addison's anaemia, which have been recorded with increasing frequency since Gulland first drew attention to the subject in 1907 Such familial cases have been recorded by Gulland and Goodall[23] Gilbert and Weil,[24] Patek,[25] Bartlett,[26] Matthes,[7] Roth,[9] Levine and Ladd (nine),[14] Cabot (two),[9] Schauman (seven),[20] Mustelin,[21] Hastings Gilford,[2] and Professor Houston of Belfast (three), the number in a family was in one case six, in one five, in four four, in three three, and in the rest two

Still more important are the cases in which various members of the same family of a patient with Addison's anaemia are found to have achlorhydria, though apparently in perfect health Such families have been described by Martius,[6] Queckenstedt,[22] Faber,[1] and Schauman [20] Weinberg[9] examined the gastric contents of twenty two children and two sisters of twelve patients with Addison's anaemia and achylia gastrica in Martius's clinic Nine of the children and one sister of seven of the twelve patients had achlorhydria The most striking history was that of a man with Addison's anaemia, who had four children of these a boy of 10, a boy of 6, and a girl of 4 had achlorhydria At this early age it is obvious that the abnormality must have been *constitutional and congenital and not acquired*

A lady of 54 recently came under my observation for pyelitis Hearing that her sister had died at the age of 36 of Addison's anaemia, we gave her a fractional test meal, although she had had no digestive symptoms except a prolonged attack of diarrhoea some years before We found she had complete achylia This was doubtless a familial abnormality, predisposing to Addison's anaemia in her sister and perhaps to the diarrhoea in herself

The majority of people with constitutional achylia gastrica are none the worse for it, beyond being subject to attacks of indigestion, and especially nausea and diarrhoea, which quickly improve with the administration of dilute hydrochloric acid Some probably pass through life without even suffering from any digestive symptoms In others the achylia appears to predispose to the development of cholecystitis, appendicitis and rheumatoid arthritis In a small proportion of cases the other factors appear, which lead to the development of Addison's anaemia

According to the statistics of the Registrar General for 1921, about 9,000 per million of the population in Great Britain over the age of 20 die annually and of these 65 or 0 7 per cent, die of Addison's anaemia The number of cases erroneously diagnosed as Addison's anaemia is probably no greater than that of cases in which the disease is mistaken for some other condition such as cancer If it be accepted that about 4 per cent of all adults have achlorhydria, it is also presumably present in 4 per cent of those who die As the proportion of cases in which the achlorhydria, which is followed by Addison's anaemia is acquired and not constitutional is probably very small, it follows from these statistics that about one in six, or 16 per cent of individuals with constitutional achlorhydria ultimately develop Addison's anaemia

2 *The Connexion of Chronic Gastritis and Atrophy of the Achlorhydria and Addison's Anaemia*

Samuel Fenwick[24] in 1877 observed that the mucous membrane of the stomach was markedly atrophied *post mortem* in some cases of Addison's anaemia and in recent years Faber has upheld the view that achylia gastrica including that which is associated with Addison's anaemia is always due to gastritis But the pathological changes in the stomach in achylia gastrica are often so slight and

patchy, large areas with normal glands being present, that the achylia cannot be due to actual destruction of all the secreting tubules

The origin of the gastritis can, I believe, be best understood by a consideration of the functions of the gastric juice Quite apart from its specific activities, the gastric juice softens any hard and dry particles of food which reach the stomach as a result of insufficient mastication, and dilutes such chemical irritants as alcohol which may reach it in a too concentrated form The achylia gastrica, which is an inborn error of function, unconnected with any organic change in the stomach, is thus likely sooner or later to be complicated by chronic gastritis As it frequently gives rise to no symptoms of any kind, the individual receives no warning that he must be exceptionally careful to chew his food thoroughly, to avoid mechanical and chemical irritants in his diet, and to avoid swallowing very hot or very cold food or drink In many cases the chronic gastritis produced in this way is complicated by an infective gastritis caused by invasion of the mucous membrane by streptococci from the mouth, which would have been destroyed by the acid of the gastric juice in normal individuals By the time that obvious symptoms have developed, and still more so by the time that death occurs from some secondary or independent disease, the gastric mucous membrane may show definite changes If the achlorhydria were secondary to the gastritis, secretion of gastric juice would return when the gastritis disappeared as a result of treatment But this never occurs

3 *Achlorhydria of Alcoholic Gastritis and Cirrhosis of the Liver*

I have seen one case of alcoholic cirrhosis of the liver associated with Addison's anaemia The patient had symptoms of chronic gastritis, and a fractional test meal showed that complete achlorhydria was present In my experience cirrhosis of the liver is generally accompanied by complete achlorhydria, secondary in all probability to the alcoholic gastritis, as I have watched the return of a normal curve of secretion during treatment by careful dieting and complete abstention from alcohol It is probable, therefore, that when Addison's anaemia develops in a patient with alcoholic cirrhosis of the liver, the achlorhydria, which is an essential factor for its development, is secondary to the alcoholic gastritis and is not primary and constitutional If the patient could be persuaded to abstain permanently from all alcoholic drinks, the return of normal gastric acidity would render the prognosis unusually hopeful

4 *Achlorhydria after Gastro-enterostomy and Gastrectomy*

In one of the Guy's series of cases Addison's anaemia followed gastro-enterostomy Except when performed for duodenal ulcer this operation is frequently followed by complete achlorhydria owing to the rapid drainage of the stomach and the neutralization of the gastric juice by the alkaline fluids entering through the stoma from the proximal loop of jejunum (Conybeare[35]) Achlorhydria acquired in this way probably provided the essential predisposing cause for the development of the anaemia

Hartman[36] records the case of a man, aged 58, in whom W J Mayo excised the whole stomach for carcinoma At that time his red blood corpuscle count was 5,520,000 per c mm He did very well for about a year, but then became progressively weaker and more anaemic Twenty months from the date of operation his red count was 2,000,000 per c mm the haemoglobin percentage was 53, and the colour index 1 3, there was slight anisocytosis and poikilocytosis A year later he was still weaker, and his blood showed similar but more severe changes Thus a patient, who had been completely deprived of gastric juice by the removal of his stomach, developed within a couple of years the blood picture of Addison's anaemia, which Hartman also regards as invariably associated with achlorhydria He suggests that the characteristic picture of Addison's anaemia might have been discovered if a blood examination had been performed on Moynihan's 7 patient, who died from severe anaemia of less than twelve months' duration, three years and eight months after complete gastrectomy for cancer, without any abnormality being found at the autopsy Dr J R Bell tells me of three other cases of Addison's anaemia which followed the artificial achylia produced by total gastrectomy performed for cancer in Vienna

5 *The Achlorhydria of Gastric Cancer and Addison's Anaemia*

In 50 per cent of cases of gastric cancer complete achlorhydria is found with the fractional test meal, and oral sepsis is, of course, not uncommon The conditions required for the development of Addison's anaemia and subacute combined degeneration of the cord may therefore be present in cancer of the stomach In a case of typical subacute combined degeneration of the cord recently under my care, with the characteristic blood picture of Addison's anaemia, complete achlorhydria, and glossitis, a tumour was felt under the left costal margin, and each fraction of the test meal contained obvious blood After his very septic teeth had been extracted, an exploratory laparotomy was performed and revealed an inoperable growth of the stomach The patient died ten days later, about a year after the first appearance of nervous and digestive symptoms It seems very probable that the achlorhydria was secondary to the growth of the stomach, and that this allowed the intestine to become infected from the mouth and so led to the development of neurotoxic and haemolytic poisons

Degeneration of the Spinal Cord in Addison's Anaemia

In the last twenty-five years spinal cord symptoms have been recognized in Addison's anaemia with increasing frequency as they have become more systematically looked for Thus in 1918 Woltmann[38] found "indisputable evidence of the destruction of nervous parenchyma" in 80 6 per cent of 150 cases, which were subjected to a detailed neurological examination at the Mayo Clinic This corresponds closely with my own experience, and with the figures obtained by Minnich,[39] who discovered degenerative changes in 77 per cent of the spinal cords of a consecutive series of fatal cases of "pernicious" anaemia

I believe that no definite line can be drawn between Addison's anaemia accompanied by changes in the spinal cord, and subacute combined degeneration of the cord accompanied by anaemia The difference is simply one of degree, and depends upon whether a haemolysin or a neurotoxin is the more active If either toxin is first produced alone, there is more time for it to give rise to marked changes, thus when Addison's anaemia is rapidly fatal there may be no time for nervous symptoms to develop, or, if they do develop, they may be trivial in comparison with those observed in cases in which the nervous degeneration has progressed for many months without any anaemia There appears to be no essential difference between the clinical symptoms or the pathological changes in the spinal cord except in their severity, whether the nervous degeneration or the anaemia predominates

Nature of the Anaemia Associated with Subacute Combined Degeneration of the Spinal Cord

In some of the nine cases reported by Risien Russell, Batten, and Collier[40] in 1900, in their classical description of subacute combined degeneration of the cord, no anaemia was recognized throughout the disease, in others it developed towards the end, whilst in others it preceded the manifestation of nervous symptoms by many months. They stated that repeated examinations of the blood "failed to reveal the alterations found in pernicious anaemia," the changes being those characteristic of secondary anaemia However, in his latest article on the subject, published in 1921, Collier[41] states that a careful investigation of the blood changes at various stages of the disease and of *post-mortem* findings in a large series of cases has convinced him that the blood changes in every case are identical with those met with in the various stages of Addison's anaemia, and that the typical *post-mortem* picture of the disease occurs frequently in subacute combined degeneration

Our experience[12] entirely agrees with that of Bramwell and Collier. The anomalous results obtained on examination of the blood in many cases is due to the fact that the blood picture of Addison's anaemia in its most characteristic form is only present when the anaemia has attained a moderately severe degree. In the early stage of blood destruction, which is rarely recognized in uncomplicated cases of Addison's anaemia, but is that which is most frequently present when a case of subacute combined degeneration first comes under observation, the picture is far less characteristic. The colour index is often under 1, nucleated red corpuscles are rarely present, but there is always some anisocytosis, and in the five cases of our series in which Price-Jones[4] curves were charted, the result obtained was typical of Addison's anaemia. Moreover, the blood serum was abnormally pigmented, and van den Bergh's indirect reaction for bilirubin was positive.

The lemon-yellow colour, which Collier observed in many cases before he came to the conclusion that the anaemia was of the "pernicious" type, is quite characteristic of the latter, and affords just as good evidence of haemolysis as the Prussian-blue reaction obtained in the liver and sometimes in other organs after death. This reaction, although present in almost all cases of typical Addison's anaemia, is sometimes absent in subacute combined degeneration, because the blood destruction has not been sufficiently severe and prolonged.

Achlorhydria in Subacute Combined Degeneration of the Cord

J. R. Bell and I[14] have had the opportunity of investigating twelve cases of typical subacute combined degeneration of the cord by the fractional method of gastric analysis. In all of the twelve free hydrochloric acid was completely absent throughout the period of digestion. Dr. J. F. Wilkinson of Melbourne informs us that he discovered achlorhydria in a patient who consulted him for digestive symptoms a year before the first signs of subacute combined degeneration of the cord appeared, and Szlapka[43] has described a similar case in which the interval was two years.

For purposes of control gastric analyses were made by Bell in a series of typical cases of disseminated sclerosis and tabes dorsalis. In eight consecutive cases of disseminated sclerosis achlorhydria was never found, the curves of acidity being the same as would be likely to occur in a series of eight normal people. Of nine consecutive cases of tabes dorsalis one was found to have achlorhydria. The remainder had curves which fell within normal limits, though in two cases it was somewhat high. As 4 per cent. of normal individuals have achlorhydria the single case in this series is probably of no importance (Table I).

TABLE I.—*Results of Fractional Test Meals in Various Conditions*

	Number of Cases.	Achlorhydria		Low Acidity	Normal Acidity	High Acidity
		Number	Per centage			
Normal (Bennett and Ryle[21])	100	4	4	1	87	8
Various medical diseases (Bell)[44]	425	63	14.8	53 (12.5 %)	05 (48.3 %)	104 (24.4 %)
Carcinoma of stomach	13	6	46	4	3	0
Addison's (pernicious) anaemia	24	24	100	0	0	0
Subacute combined degeneration of cord	12	12	100	0	0	0
Tabes dorsalis ..	9	1	11	1	5	2
Disseminated sclerosis	8	0	0	1	7	0

The diagnosis in doubtful cases may be greatly helped by gastric analysis. The presence of free hydrochloric acid in any fraction of a test meal is a very strong point against the diagnosis of subacute combined degeneration, whereas the discovery of achlorhydria greatly strengthens the probability of such a diagnosis being correct. In three recent cases, which presented features very suggestive of subacute combined degeneration, a normal curve of gastric acidity was discovered. Each eventually proved to be a case of syphilitic disease of the spinal cord.

It has been stated that severe cachexia as well as Addison's anaemia, may be associated with similar changes in the spinal cord, but we have been unable to find any detailed description of such cases, the majority of which appear to have been due to cancer of the stomach. I have, however, already referred to a case of my own, in which subacute combined degeneration and Addison's anaemia developed in a patient with cancer of the stomach. The achlorhydria resulting from the latter was probably the cause of the intestinal infection, which led to the spinal degeneration and the Addisonian anaemia.

It has generally been stated that subacute combined degeneration of the cord may occur without any anaemia. We have, however, seen no reports of such cases in which blood examinations have been made during the last two or three weeks of life, and Byrom Bramwell's[45] case, in which anaemia of a typical Addisonian form developed during the fortnight before death shows how necessary it is to do this before concluding that the nervous disease runs its whole course without being complicated by anaemia. I have already mentioned a case in which an acute haemolytic crisis lasting three months occurred in a man suffering from subacute combined degeneration of the cord, whose haemoglobin percentage was 85 before and 100 after the crisis, though the lowest point it reached during the crisis was 46. It would, however, not be surprising if in a small proportion of cases no anaemia occurred at all, because there is no reason why in some cases a neurotoxin might not be produced without a haemolysin, just as the latter are certainly produced in a considerable number of cases without the former.

It is interesting to note that cases of subacute combined degeneration occur with a family history of Addison's anaemia. Thus the father, paternal grandfather, paternal uncle, and brother of a male patient of mine with the nervous disease, achlorhydria, and anaemia, died of the anaemia. But fortunately the three children of the patient had normal gastric secretion, so that there is no reason why they should inherit the disease. The grandfather of another male patient of mine died of Addison's anaemia, and Willson[16] has recorded the case of a woman with the nervous disease whose two maternal aunts died of the anaemia.

Oral Sepsis and Glossitis in Addison's Anaemia

In 1900 Hunter[3] introduced the now familiar term "oral sepsis" to describe the infective condition of the mouth, which is an undoubted factor in the pathogenesis of numerous diseases and demonstrated for the first time the extreme importance of its association with Addison's anaemia. Improved methods of investigation and especially radiography, have only confirmed the view he put forward nearly a quarter of a century ago. It has sometimes been said that the occurrence of Addison's anaemia in edentulous patients proves that the association with oral sepsis is not invariable, but the vast majority of edentulous patients are only edentulous because they have had severe oral sepsis, and the latter may have laid the foundations of the disease before the teeth were extracted even if a considerable interval elapsed before its presence became obvious. Moreover there are other sources of sepsis such as the tonsils and nasal sinuses, which may in exceptional cases provide an alternative primary focus of infection. I have never myself seen a case of Addison's anaemia or subacute combined degeneration of the cord in which evidence of oral and in exceptional cases pharyngeal sepsis could not be found on careful investigation.

The sore tongue, which is now widely recognized as a very common symptom of Addison's anaemia was described by William Hunter in 1889, and in the thirty-four years which have since elapsed he has repeatedly directed attention to it as an essential feature of the disease which he has seen in every case—150 or more—of which he has full records. I have, however, certainly seen one fatal case in which soreness of the tongue had never been complained of

which its appearance remained perfectly normal throughout the illness

Hunter believes that the characteristic glossitis is secondary to the oral sepsis, the infection spreading in most cases from septic teeth to the neighbouring part of the tongue The glossitis thus produced may be the focus from which the intestines are subsequently infected, if the teeth are removed before the disease has developed, as there is often a history of recurrent attacks of soreness of the tongue before the onset of symptoms due to the anaemia In two patients of Schauman's the glossitis preceded the discovery of anaemia by five and ten years respectively

The patient complains of soreness of the tongue, which is increased by highly seasoned food and by hot food and fluids, so that he cannot eat or drink anything which is not cold The soreness may amount to actual pain Red patches appear, especially at the tip and edges, and small vesicles may form The glossitis varies greatly in degree from time to time, and the acute inflammation with its accompanying soreness may disappear completely for long periods, being sometimes present only for a few days or weeks at a time In quiescent periods evidence of past glossitis may be afforded by fissures or by smooth patches, from which the papillae have more or less completely disappeared

Familiarity with the characteristic features of the glossitis of Addison's anaemia may make it possible to diagnose a case before the symptoms caused by the anaemia have appeared I was recently consulted by a lady on account of soreness of her tongue, the appearance of which was so suggestive of Hunterian glossitis that a complete investigation was carried out and revealed the presence of blood changes typical of Addison's anaemia together with complete achlorhydria, and Dr R D Passey has told me of a similar case under his care

According to Hunter the glossitis is quite specific, and occurs in connexion with no other disease But I have seen glossitis identical in appearance with that occurring in Addison's anaemia in at least three cases of severe, but not haemolytic, anaemia, one of which was secondary to cancer of the colon, so I cannot regard the presence of a sore tongue in an anaemic patient as conclusive evidence that the anaemia is of the Addisonian type

The Evidence of Intestinal Infection in Addison's Anaemia and Subacute Combined Degeneration of the Cord

In 1889 Hunter suggested for the first time that Addison's anaemia is due to excessive destruction of blood caused by the absorption of haemolytic poisons from the alimentary tract he thought that these poisons were produced in specific lesions affecting particularly the tongue and stomach but also the intestine His own later investigations and those of many other observers have confirmed his main thesis that a haemolytic toxin is produced in the digestive tract But whatever we may conclude as to the significance of the specific glossitis he described, there seems little doubt that any gastritis present is secondary to the achlorhydria, which is a constant predisposing factor and is in most cases constitutional and congenital in origin The observations which I shall now describe show, I believe, that a definite infection of the intestine with a haemolytic streptococcus is present in Addison's anaemia, but Faber and Bloch using improved methods to prevent *post-mortem* changes, found that it was not, as was formerly believed, associated with any inflammatory or atrophic lesion of the intestinal mucous membrane

Streptococci are almost invariably present in the sockets of septic teeth, whether the individual is otherwise healthy or not But so far as our observations go the *Streptococcus longus* is not often found in the contents of the duodenum removed during life with an Einhorn tube, except in Addison's anaemia and in subacute combined degeneration of the cord In four normal individuals and in eight cases of infective jaundice from Gallipoli investigated by me with C J Martin in Lemnos in the autumn of 1915, no streptococci were present Among 56 patients suffering from various other conditions the duodenal contents contained the *S longus* in only nine instances, and in these they were generally very scanty and slow growing In seven of the 56 cases achlorhydria was present, together with very severe oral sepsis in two and slight pyorrhoea alveolaris in three, but in spite of this no streptococci were found In every one of the ten cases of Addison's anaemia and the five cases of subacute combined degeneration of the cord which we have investigated the *S longus* was found on cultivation of the duodenal contents In the more recent cases Dr A Knott has investigated the haemolytic power of the streptococci, he found that they were always haemolytic in the anaemia cases, but never in the others

The contrast between the 10 9 per cent of controls in which streptococci were found with 100 per cent of patients with Addison's anaemia and subacute combined degeneration of the cord is so striking that it is, I think, fair to conclude that an infection of the intestine with a haemolytic *Streptococcus longus* is an essential factor in the production of these diseases In any case, the presence of the *S longus* in the duodenum is evidence of active infection of the intestine In two of my patients with subacute combined degeneration of the cord an autogenous vaccine made from the *S longus* isolated from the socket of an infected tooth gave rise to a temporary aggravation of the sensation of pins and needles in their hands and feet each time it was injected, but this was followed eventually by the almost complete disappearance of the symptom

A small number of observations on the bacteriology of the duodenum have been published since our first communication on the subject, and they confirm our results Thus in fourteen normal individuals examined by Bogendörfer[47] the contents, though not sterile contained neither *B coli* nor streptococci In four out of six patients with hyperchlorhydria examined by Goiko the duodenal contents were sterile, and in the remaining two a very small number of organisms were found On the other hand, in seven cases of achlorhydria examined by Goiko[48] and eleven by Bogendörfer large numbers of bacteria were always present, in the majority of cases these included *B coli*, but the *S longus* was not found In the only two cases of Addison's anaemia investigated a haemolytic streptococcus was isolated by Bogendorfer in addition to the bacteria found in the other cases

I believe that the reason why achlorhydria is an essential predisposing cause of Addison's anaemia and subacute combined degeneration of the spinal cord is because the loss of the antiseptic action of the normal gastric juice alone makes it possible for the bacteria, which reach the stomach from the mouth when oral sepsis is present, to infect the intestine But the association with oral sepsis with achlorhydria only leads to the development of Addison's anaemia when the sepsis is due to infection with a special streptococcus, which produces haemolytic and neurotoxic poisons when it has established itself in the small intestine Knott has recently made the important observation that dilute hydrochloric acid exerts a much more powerful bactericidal effect on streptococci than on other organisms, such as *B coli* and staphylococci

In addition to the bacterial toxins it is possible that others are produced by the action of the organisms on the proteins, which reach the duodenum in a completely undigested form owing to the absence of the normal digestive activity of the gastric juice

In whatever way the poisons are produced it is probable that one of them is specially toxic for the blood and leads on absorption to a haemolytic form of anaemia, and that another is specially toxic for nervous tissues and leads to combined degeneration of the spinal cord In most cases the former toxin is the dominant one, but in a small minority of cases the latter is the more important Although one or other may appear to be present alone in the early stages, it is rare for the haemolytic toxin, and still more rare for the neurotoxin, to be produced without the other throughout the course of the illness

Remissions

One of the most remarkable features of Addison's anaemia is the frequency of remissions during which the patient feels perfectly well A slightly lemon-yellow colour may

still be detected in his skin, but he no longer looks abnormally pale The spleen is generally still palpable, and gastric analysis shows that complete achlorhydria is present In a large majority of cases the blood picture is still abnormal The colour index remains over 1, though the number of red corpuscles may be nearly normal and the haemoglobin percentage exceed 100 The average size of corpuscles remains greater than normal and definite anisocytosis is present, but no nucleated cells or poikilocytes are found, and van den Bergh's reaction is either very faint or completely absent In very exceptional cases the blood picture is normal or shows nothing more than a slight anaemia of a secondary type

In remissions, in which the blood picture still shows some of the characteristics of Addison's anaemia, toxins are probably still being produced and slight blood destruction is still occurring In the remissions, in which the blood picture is normal, there is probably no toxaemia, consequently no excessive haemolysis occurs and blood formation in the bone marrow takes place in a normal manner Unfortunately these cases tend to relapse almost as surely as those in which blood destruction and pathological activity of the bone marrow have never ceased

Zadek[8] has found by examining a specimen of bone marrow removed from the middle of the tibia that the red marrow with its preponderance of megaloblasts, which is always found in fatal cases of Addison's anaemia, is present during life in the active stages of the disease, but is replaced by normal yellow marrow, containing mainly fat cells with a few normocytes and only a very small number of megaloblasts, during remissions, whether these are associated with a blood picture which is still abnormal or with one which is normal in every way It is clear, therefore, that Ehrlich's theory that Addison's anaemia is a primary megaloblastic degeneration of the bone marrow is incorrect The changes which occur in the marrow are secondary, and result from an attempt to compensate for the prolonged and excessive blood destruction, being analogous to the changes which occur in anaemia following severe haemorrhage, and perhaps also in part from reaction to the same toxin which produces the haemolysis Sometimes in the early stages, and in rare cases during remissions, the blood picture shows none of the changes which result from the reaction of the bone marrow, although some anaemia may be present, which van den Bergh's test shows is haemolytic in character The characteristic features of the blood in Addison's anaemia are due to the reaction of the bone marrow to the toxaemia, and the stage when it appears and its degree at any period depend upon the varying power of reaction of the marrow in different individuals Remissions are caused by partial or complete cessation of the toxaemia, and not, as has often been maintained, by the megaloblastic regenerative activity of the marrow, which Zadek's observations on the bone marrow have shown is no more manifest during remissions than it is in normal individuals The occurrence of remissions in which the blood picture is perfectly normal confirms this view

I believe that the partial or complete disappearance of toxaemia which results in remissions is brought about by the development of a certain degree of immunity towards the infection, this originating either spontaneously or, more commonly, as a result of treatment, which has led on the one hand to a diminution of the virulence of the infection, and on the other to greater resisting power of the patient as a result of improvement in the anaemia brought about by the administration of arsenic and by transfusion The almost inevitable relapse occurs because the infection has not been completely overcome, and because the achlorhydria—the essential predisposing cause—is permanent and unaffected by the general improvement A remission can only pass into complete recovery if the intestinal infection is annihilated and the primary source of infection is completely and permanently eradicated The achlorhydria then would no longer matter any more than it does in the large majority of other individuals who have constitutional achylia gastrica Remissions in Addison's anaemia are thus strictly analogous to those in duodenal ulcer in which the predisposing hypersthenic stomach is also constitutional

TREATMENT

The Intestinal Infection

The most important part of the treatment of Addison anaemia and subacute combined degeneration of the cord is to overcome the intestinal infection and so arrest the development of the neurotoxic and haemolytic poisons Oral sepsis should be thoroughly dealt with, as Hunter first demonstrated in 1900 Every tooth which shows the slightest sign of infection on expert clinical examination should be condemned An *x*-ray photograph should be taken of all the remaining teeth, however healthy they may appear, and the least evidence of apical infection or periodontitis should lead to their removal In most cases every tooth will have to be extracted If the tonsils are infected they must be enucleated, it should be remembered that infected tonsils are not necessarily large, and that severe infection in a flat tonsil may be hidden behind the anterior pillars of the fauces Chronic nasal catarrh and infection of the nasal sinuses should also be looked for, and, if discovered, thoroughly treated As the removal of infected teeth or tonsils is sometimes followed by an acute haemolytic crisis and aggravation of the nervous symptoms owing to the sudden absorption of large quantities of toxin from the raw surfaces, it is wise to give two or three injections of streptococcal vaccine prepared from the teeth and tonsils before removing them

The achlorhydria should be corrected by the administration of large doses of dilute hydrochloric acid The dose usually given is quite insufficient Anything less than a drachm of dilute acid given as a single dose during a fractional test meal does no more than barely neutralize the alkaline gastric contents for a quarter of an hour At least a drachm and a half are required to produce anything like the normal acidity throughout the period of digestion of a test meal (Fig 6), and two drachms or more are required for an ordinary meal As Knott has shown that even a trace of free hydrochloric acid is strongly bactericidal for streptococci, the exact strength of the acid is comparatively unimportant Pepsin is also very deficient or absent so a grain should be added to each drachm of dilute acid in order to improve the gastric digestion About 6 drachms of the acid should be mixed with a pint and a half of water to which sugar and the juice of three oranges or two oranges and one lemon are added The mixture makes a very palatable beverage, about one-third of which the patient should drink just before and during lunch another third before and during dinner and the rest fasting in the morning about an hour before breakfast This first dose is probably the most important, as the acid can then act on the bacteria in the stomach and duodenum in a concentrated form, undiluted by food If there is any difficulty in taking the acid it may be diluted by the addition of more water The patient should continue to take it without intermission for the rest of his life, as, even if the intestinal infection appears to be overcome, the achlorhydria remains permanently in the large majority of cases

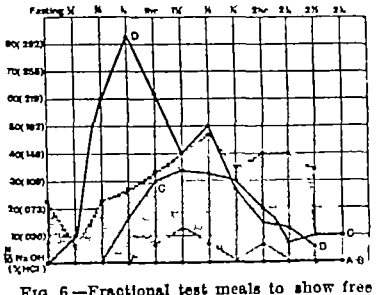


FIG 6.—Fractional test meals to show free HCl in a man with subacute combined degeneration of the spinal cord A without addition of acid—complete achlorhydria B with addition of 3j dilute HCl (*B P*) in 3iv water (=0.3 per cent HCl) taken with the gruel—complete achlorhydria C with addition of 3iss dilute HCl in 3 j of water—normal curve D with addition of 3ij dilute HCl in 3viij water—hyperchlorhydria curve The shaded area represents the limits for free HCl of 80 per cent of normal people.

Milk, which has been soured with an active lactic acid bacillus, should be given It is best taken between meals so as not to be rendered inactive by the hydrochloric acid Most patients can manage half a pint three times a day without difficulty Though this remedy has lost much of the popularity it had a few years ago, there is no doubt

that it is a very efficient means of rendering the intestine a less suitable culture medium for most pathogenic bacteria

Finely powdered or granulated charcoal absorbs gas in the intestines and is the best remedy I know for intestinal flatulence It also makes the foulest stools almost odourless It seems reasonable to suppose that it may also absorb some of the haemolysin and neurotoxin produced in Addison's anaemia I therefore give a large tablespoonful of charcoal first thing in the morning and last thing at night

As it is very probable that the haemolytic streptococcus, which can be isolated from the duodenal contents obtained through an Einhorn tube, is responsible for the toxaemia which causes Addison's anaemia, I advise the administration of an autogenous vaccine prepared from the patient's own duodenal haemolytic streptococcus, or, failing this, from a dental or tonsillar streptococcus It should be given over a long period in doses so regulated as not to give rise to any general reaction

The important part played by the spleen in the haemolysis of Addison's anaemia was proved by Hunter, who demonstrated the large amount of free iron it contained in fatal cases, and showed that splenectomy increased the power of animals to resist poisoning with such haemolytic toxins as toluylendiamine Hijmans van den Bergh confirmed this by finding that blood removed from the splenic vein during splenectomy or after death in Addison's anaemia contained more bilirubin than the blood in the general circulation It would therefore seem natural that splenectomy should be useful in Addison's anaemia, as it undoubtedly results in the removal of one of the sites of blood destruction The results obtained in Addison's anaemia by splenectomy have not, however, in the past been sufficiently good to warrant the general adoption of the operation as a method of treatment I believe that this is due to splenectomy having been tried independently of other methods of treatment When employed in addition to the other treatment I have described it may prove to be of great value Two patients of mine, who had shown no improvement for several weeks, and whose haemoglobin percentage would rise to 20 or just above after each transfusion, only to drop again to 15 a few days later, had their spleens removed by Mr R P Rowlands and Mr L Bromley respectively Though they had been delirious and extremely prostrate, they at once felt better after the operation, and the condition of their blood rapidly improved, so that both were able to leave hospital a few weeks later in definite remissions All who had seen them during the weeks before the operations agreed that this improvement must almost certainly have been due to the splenectomy

Symptomatic Treatment

If the production of haemolytic toxins is arrested the blood shows spontaneous improvement This may be greatly accelerated by symptomatic treatment I need not say much about the treatment of the anaemia by arsenic, first introduced by Byrom Bramwell[49] in 1877, as it must be familiar to all of you It should always be tried, in the majority of cases Fowler's solution given by mouth proves quite satisfactory but occasionally some preparation which can be injected into the muscles or direct into the blood proves more efficacious

Direct transfusion of blood was tried by Thomas Bryant in a case of Addison's anaemia at Guy's Hospital in 1879 I am convinced of the great value of this method of treatment which generally requires repetition, often on several occasions Experience shows that in many cases it not only adds a quantity of healthy blood plasma with normal red corpuscles to that already circulating, and in this way produces an immediate rise of 5 to 10 per cent of haemoglobin, but it also frequently initiates a steady rise in the percentage when this has been stationary or actually falling

It might have been supposed that the cessation of toxaemia would not lead to any improvement in the nervous symptoms corresponding to that of the anaemia, although the progress of the spinal degeneration would be arrested But I have seen considerable improvement result, not only in the sensory symptoms, but also in the ataxic paraplegia, quite apart from the result of treatment by re-education and exercises This is probably due to the fact that the nervous tissue may be thrown out of action as a result of the toxaemia, but be still capable of recovering, if no more toxins are produced, this being comparable with what occurs in various acute infective conditions involving the central nervous system The degree of improvement which may occur depends therefore upon the amount of actual destruction of nervous tissue which is already present

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TREATMENT OF TUBERCULOSIS OF THE URINARY TRACT*

BY

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THE present century has witnessed a complete revolution in our ideas of the pathology and consequently of the treatment of genito-urinary tuberculosis There are few of those present at this meeting who have not witnessed the use of a Volkmann's curette in the attempt to ameliorate a bladder lesion, an error indicative of the faulty pathological teaching of fifteen years ago Progress in our conceptions of the disease is well shown by the attitude adopted at the congresses of urology held respectively in 1908 and 1913 At the former of these meetings the new teaching was in its infancy and on trial It was accepted tentatively The same subject was again set for discussion in 1913, and the general principles which guide us to-day were then established and accepted practically unreservedly

The predominance of symptoms of cystitis, which is such a marked feature in this disease, was responsible for the view held previously—that the bladder was the organ primarily affected, and that the kidney became secondarily infected This led to surgical energy being directed to the bladder instead of the kidney Now we know that the kidney is primarily at fault, that almost invariably the disease is unilateral in its early stages, and that the bladder is affected secondarily We know also that the other kidney will become affected in a very large proportion of cases, at a later date, and that if we remove the primarily involved organ the prognosis of the disease will be good, both as regards the bladder, which will heal, and as regards the other kidney, which is not very likely to become secondarily infected

*Part of a paper read before the Manchester Surgical Society on March 16th, 1923

These elementary statements foreshadow the broad lines on which treatment must proceed in this disease The indications are, for the present, well established and generally accepted In the absence of contraindication, either in the opposite kidney or systemically, nephrectomy must be carried out without delay in every case, the surgical world is still awaiting the report of a single authenticated case in which Nature itself has accomplished an undoubted cure The discussion of treatment, therefore, resolves itself into one of detail

The form of anaesthesia to be employed at the operation requires consideration from two aspects (1) the effect on the remaining kidney, and (2) the possibility of lighting up foci of latent tuberculosis in the lung The former of these requires little discussion, that anaesthetic which irritates the kidney least being selected As regards the second, it should be remembered that Kelynack found that the *post-mortem* records show that 80 per cent of the subjects of renal tuberculosis had also pulmonary tuberculosis, an observation which indicates the desirability of the careful choice of an anaesthetic During the last eighteen months I have had the advantage at the Salford Royal Hospital of gas and oxygen for these cases, and I believe that this is the most suitable form of anaesthesia yet evolved for this particular disease In one case where I undertook the cystoscopic examination for another surgeon, and then passed the patient on to him for operation, I heard at a later time that he had died of pneumonia, and though I do not know that this was a tuberculous condition, the possibility should be borne in mind

The method of treatment of the ureter was greatly discussed about a decade ago, and even yet remains an occasional subject of debate By the majority of urologists it is considered that where the bladder will heal the ureter will also heal and become converted into a fibrous cord, and that the amount of tuberculous material discharged from the ureter into the bladder is insufficient adversely to affect that organ Braasch states that "Ureterectomy did not seem to affect the after-course materially In fourteen cases in whom ureterectomy was done with the nephrectomy, the sinus persisted fully as long as in the others" Caulk says "It is useless to try to remove the entire ureter since it heals with the bladder after the removal of the kidney, and that if one tries to remove the ureter, the most important part has to be left, that is the intramural part, and most men feel that such removal is unnecessary"

My own practice is to remove as much as can conveniently be taken away from an ordinarily generous loin incision, and I use the cautery in its division Usually the portions of the ureter which are most affected are found to be the upper and lower segments, as in the case of the vas deferens The middle section is generally but little involved, so that if the surgeon gets down as far as the beginning of the uninvolved area healing will be just as rapid as if an extra few inches were removed An exception should be made in ureters which are occluded at some point in their course If such a ureter be left the portion above the obstruction, being unable to drain itself into the bladder, must necessarily drain towards the loin incision, and the result will probably be a sinus in the flank

Ureteric obstruction is an important factor in renal tuberculosis, it complicates the diagnosis by removing from the urine pus and tubercle bacilli, and by saving the bladder from infection, cystoscopic indications, therefore, are absent It is said to occur in about 10 per cent of cases From the operative point of view it has also a considerable significance, because it predisposes to periureteral and perinephric sclerosis and adhesion, so that it is just in that particular case where one most desires to remove the ureter that the operation on the kidney is most difficult, and it will become a question in each case, after a difficult nephrectomy, whether it is desirable to prolong the operation for the purpose of removing the ureter In the cases where I have met it I have not thought it discreet to do so, especially as I have found the ureter, particularly in one case, bound down and presenting considerable obstacles for removal

It should be remembered that in the first few years of the new treatment of renal tuberculosis removal of the ureter was favoured, but was quickly given up as unnecessary and the cause of a higher operative mortality Kelly, who described an operation for removal of the kidney and ureter, together with a portion of the bladder wall surrounding the ureteric orifice, now states that this larger operation is rarely necessary Alessandri, Kapammer, Israel, and many others at one time recommended it but have given it up Schlagintweit in several cases cut the ureter and allowed it to retract into the wound No ill effects followed Taddei has demonstrated by animal experiments that the ureter closes more quickly when not ligated When ligated hollow spaces form in its walls resembling true cysts, when left untied there was no reflux of urine into the wound, and the ureter atrophied more quickly He therefore advised against ligation

In one case of my own, where the sinus remained for eighteen months following operation, I judged that it originated from the ureter I attacked the lower end of the ureter by a muscle-splitting incision in the iliac fossa, with the intention of removing it down to the bladder It proved to be a thin fibrous cord, and the sinus was due to involvement of the perirenal tissues as will be discussed later

Sinus formation is one of two sequelae which require consideration In addition to the case just mentioned, I have met it in three cases in one the sinus persisted for eight weeks and then closed, in a second it persisted for ten weeks, and in a third case the wound reopened after it had been healed for about a month, and persisted for about another month

Pardoe has shown that many wounds which are left undrained are liable to break down at a late period even after the patient has left hospital, as infection is slow to discover itself, it may escape observation if the cases are not followed in the out-patient department Cabot and Crabtree state that in their cases primary closure resulted in 75 per cent breakdown, the usual period being three to five weeks after the patient had left hospital I always, therefore, make a habit of draining the wound, even where a clean removal of the organ has been accomplished

Infection may originate from the stump of the ureter, yet, with the exception of those cases where the ureter is occluded, I believe that this is only a minor part of the truth, and that a more important source of trouble is the perinephric fat, which is in direct communication, not only with the subcapsular lymphatics, but also with those of the renal parenchyma, tuberculous foci are usually to be found in the fat itself It is easy to trace the route of these infections in a section of any portion of a tuberculous kidney Lines of infection, indicated by tubercles and round cells, radiate outward in streaks from the infected pelvic mucosa to the capsule In the capsule a network of tuberculous infection radiates to every portion of the gland These lymphatics in turn are in direct communication with those in the perirenal fat, and tubercles may generally be demonstrated therein, even in portions which appear quite healthy to the naked eye (Kidd, Kuester, Kelly etc)

The possibility of infection of the wound from such a source is obvious Several observers have recently laid stress on the importance of the removal of this fat at operation more rapid healing of the wound is said to be achieved In my opinion this is a more frequent cause of trouble than the stump of the ureter, and I always make an attempt to remove the fat after the nephrectomy In doing so great care should be taken not to injure the adjacent peritoneum and thus risk its contamination

The presence of these microscopic radiating lines of undeveloped and apparently abortive disease would suffice to account for the failure of attempts made in the early days to resect the obviously affected portions of the organ The network in the capsule and fat is also held responsible for the relatively bad prognosis of those cases where tubercle has attacked a fused or horseshoe kidney the process having spread by way of the capsule or fat to the adjacent organ

The second sequel requiring mention is the persistence of bladder symptoms for some time following nephrectomy I have followed many of my cases and examined them occasionally with the cystoscope The improvement of the bladder appears to depend on the condition of the organ at the time of operation in the earliest cases I had symptoms disappear immediately after operation while in

the latest cases, where sepsis and deep ulceration have been present, strangury, urgency, etc, will generally diminish considerably, but will rarely completely disappear, an intermediate course is followed by the average case

It has been said that bladder symptoms take as long to disappear after nephrectomy as they have persisted before it It may be useful to keep this very rough generalization in mind The permanent diminution in the capacity of the most severely affected bladders renders some frequency of micturition inevitable

In addition to the usual vaccine, tuberculin, and hygienic therapy of the post-operative tuberculous bladder, I may call attention to a method introduced by the French school At the French Congress of Urology in 1923 Heitz Boyer reported three cases of bladder tubercle in which he had used "l'etincelage"—that is, sparking—and since then several papers, notably one by Parisi and another by Raynaud, have appeared, giving the results and indications for this form of treatment Heitz Boyer considers that the indications are limited, for when symptoms of vesical trouble persist for a long time after operation, much the most usual reason is secondary infection In a few cases, however, we find another cause in tuberculous ulceration without any marked surrounding cystitis In three cases he destroyed such areas by what practically amounts to high frequency, taking in at the same time an area of surrounding tissue about 1 cm in extent After a period of reaction and sphacelation the membrane detached itself, and fresh epithelialization was complete in about one month Parisi, when reporting twenty-one cases from Marion's Clinic, gave these localized patches of ulceration as the chief indication for the employment of this form of treatment, though he remarks that good results are also to be obtained in secondary infections, especially when not too diffuse in distribution, and he attributes the improvement in these latter to the fact that the high frequency current has well recognized antiseptic properties The method involves the system of following up, by cystoscopy, all cases which have been submitted to nephrectomy and in which there is a rebellious cystitis—a routine which often discovers lesions insignificant out of all proportion to the extent of the symptoms which they are producing

Bilateral Renal Tuberculosis

This condition presents a different problem It is natural that the surgeon, who can now do so much for unilateral disease, should be ambitious to ameliorate the lot of the unfortunate sufferer who has progressed so far as to have his remaining organ affected The chief treatment for this complication should be good prophylaxis, and is therefore educational The patients should be seen and diagnosed at a time prior to the infection of the second organ

Once, however, the bilateral disease has been acquired two surgical measures may be considered—nephrectomy or nephrotomy of the more diseased kidney, but I believe the wisest course in the vast majority of cases is not to operate Even with modern methods of examination it is very difficult to be sure how far the disease in the opposite kidney has progressed, and it is to be remembered that these modern methods are the responsible factors in the enormous drop which the mortality from nephrectomy in renal tuberculosis shows This operative mortality (Thomson-Walker) has shrunk from 90 per cent in 1885 and 38 4 per cent in 1893, to 7 18 per cent in 1910, whilst the Mayo Clinic now records a primary death rate of 2 9 per cent In itself this is a vindication of the selection of unilateral cases only, the large proportion of this reduction being clearly due to the rejection of those cases in which the disease was bilateral Yet one or two clinics have in recent years been attempting the removal of the more advanced organ in carefully selected early cases The Mayo Clinic reports five cases in whom the diagnosis of bilaterality was made and substantiated at operation, and in whom the more diseased kidney was removed All were reported dead within a year The Washington Clinic states that "they have done this several times, but have always met with disappointment Tuberculosis has always progressed in the other kidney, and the bladder symptoms have never improved"

These writers represent with fairness the opinion of the majority of surgeons working in this field "Noli me tangere" may be said to be their watchword I personally subscribe to this attitude, believing that ultimately only discredit may be brought on surgery by the use of operative measures in bilateral renal tuberculosis, yet the opposite view is held by a minority of reputable urologists who consider that in properly selected cases nephrectomy will be beneficial Wagner, from the Zuckerkandl Clinic in Vienna, believes that "the lesions of the other kidney evolve more slowly, and that the operation concedes greater length of life to the patient Occasionally," he says, "healing may occur in the second organ" Desnos and Minet claim to have seen improvement of symptoms and general amelioration of the disease In two cases they have noted a survival of from two to four years Similar observations are credited to Rochet and Thevenot, Perrichon and Casper

Curiously enough these clinical views receive support from such experimental work as has been done on this condition Two writers, Uffreduzzi and Forni, working separately on bilateral renal tuberculosis induced experimentally in animals, have reached similar conclusions regarding the effect of the removal of one organ on the opposite kidney They found that after nephrectomy active hyperaemia occurs in the remaining kidney, and this results in greater resistance to the tuberculous invasion When the kidneys of these nephrectomized animals were compared with those of control animals, it was found that the lesions were more strictly localized in the former, and showed less tendency to cavity formation and a greater tendency to connective tissue production and sclerosis There was usually an arrest in the extension of the tuberculous process, with the appearance of fibrous tissue, and the animals in general lived longer than control animals, whilst clinical cure was occasionally obtained

These results may point to the line of surgical progress for the future, but at present the more cautious policy will probably meet with the greater reward

A CASE OF PYO-PERICARDIUM

BY

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THE following record is of interest, exemplifying the difficulties of diagnosis in similar cases

A male child, aged 2½ years, was admitted to the Manchester Northern Hospital on March 23rd, 1923

History

The parents stated that he had been perfectly well until three months before, when he was admitted into another hospital for the radical cure of a right inguinal hernia He was discharged, however at the end of ten days owing to an outbreak of measles in the ward, no operation having been performed as he had developed a troublesome cough Since that date the child had been going downhill, being feverish at nights, with loss of power in the limbs, and a persistent cough The appetite remained good and the bowels regular

Examination on Admission

The child appeared to be somewhat ill, with outstanding pallor There was a high degree of anaemia and some cyanosis of lips and ears but his general condition and nutrition were otherwise excellent

Circulatory System—The child showed signs of orthopnoea and was most comfortable when well propped up and leaning towards the left side A troublesome dyspnoea became marked whenever the chest was examined There was no bulging over the precordium, the apex beat was diffuse and weaker than normal no thrill of friction fremitus being present The cardiac impulse was displaced to the left, not coinciding with the left lower border of cardiac dullness which showed no definite increase The heart sounds were pure although possibly slightly muffled There were no bruits The radial pulse was consistently rapid and of low tension Venous pulsation was markedly present in the jugular veins Examination of the blood showed no abnormal cells present, but a leucocytosis the total white corpuscles count being 13,434, giving 9 683 leucocytes and 3,750 lymphocytes.

Respiratory System—The child had a persistent cough with a brassy note which was paroxysmal in type and devastating in its severity it somewhat resembled the late cough in pertussis Inspection of the chest showed both sides moving equally On percussion no dullness was detected at the bases but there was a loss of resonance at the centre of the right lower lobe In this

area the breath sounds became harsh and puerile and frequently suggested bronchial breathing, otherwise there was no change in the quality or character of the respirations

All other systems were normal

Course of the Illness

During the three months in which the child was in hospital the temperature was of a swinging character rising nightly, and reaching 100° to 104° F The pulse and respiratory rates remained consistently rapid throughout the illness The appetite remained good and there was a small but steady gain in weight There was no vomiting except after the attacks of paroxysmal coughing, but in the later weeks the conclusion of the vomiting was followed by syncope The child complained of abdominal pain but denied the presence of any pain in the chest During the last ten days there was profound oedema of the face and legs followed by abdominal distension with free fluid in the peritoneal cavity The child died on June 29th

While in hospital the chest was explored on five occasions and no pus was found *X* ray examination revealed peribronchial thickening extending to the right base, and both apices were suggestive of tuberculous infection There was no marked enlargement of the heart shadow on the plates or screen though a print showed the increase of shadow more clearly

Pathologist's Report

The pathologist's report, kindly provided by Dr Sellars, states *Heart and pericardium* Weight 175 grams Extensive fibro-purulent pericarditis with adhesion and partial obliteration of the sac Some mediastinitis. No valvular lesions Heart muscle softer and more friable than normal The pericardium was distended with pus which was collected chiefly anteriorly to the heart *Lungs and pleura* There was no pleural effusion Some congestion and patches of bronchopneumonia in the lungs Adhesions between the pleura and pericardium and diaphragm and lower part of posterior thoracic wall *Liver* Weight 670 grams, intensely fatty *Spleen* Weight 67 grams, congested, Malpighian bodies *Kidneys* Weight 97 and 87 grams The abdomen contained some free, clear fluid, no enlargement of mesenteric glands

Microscopically the liver was intensely fatty with much venous congestion The kidneys and spleen were congested with no focal lesion The pericardium showed a fibro-purulent pericarditis with adhesions The condition must have lasted for some time Some organisms were found in the pericardial exudation they resembled pneumococci microscopically, but an attempt to confirm this diagnosis by cultural examination was not successful"

The points of interest in this case were both numerous and instructive First, the *x*-ray negatives showed mottling of both lungs, with no increase in the cardiac shadow, the prints, however, showed a definite enlargement of the heart Secondly, there was a persistent loss of resonance over the centre of the right lower lobe Thirdly, the clinical picture was such that a diagnosis of empyema was made and the chest was explored, with, of course fruitless results Fourthly, there was never any increase, on percussion, of cardiac dullness towards the right The case well illustrates the extraordinary difficulty of the diagnosis of pyo-pericarditis in the young child, and yet *after death illustrates a definite chain of symptoms which* should possibly be easily recognizable during life.

NON-PURULENT TENONITIS

BY

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PRIMARY serous tenonitis is a rare disease, with well defined characters and a tendency to recur It reveals in a striking way the anatomical connexions of the tissue which forms for the eyeball a socket, the capsule of Tenon That primary serous tenonitis is a distinct pathological entity is now generally accepted Berlin's view, given in an early edition of the Graefe-Saemisch *Handbuch*, that the clinical appearances are dependent on orbital cellulitis, is opposed in a later edition by Birch-Hirschfeld, who claims for primary serous tenonitis an etiology, clinical expression, and therapy of its own A purulent form of the disease is less infrequent It is almost always secondary to severe pyogenic infection of the interior of the eyeball (panophthalmitis) But when the intraocular infection is less virulent it happens that the exudation in Tenon's space does not become purulent but keeps a plastic character Only in purulent tenonitis do the contents of the space point and escape into the conjunctival sac

CASE I.—*Primary Serous Tenonitis*

After an interval of eight years a man aged 56 had a second attack of serous tenonitis The attacks were very much alike and were confined on each occasion to the right orbit A steadily increasing pain over the right frontal and temporal region together with a quickly forming and considerable swelling of the eyelids on the same side marked the onset of each attack The pain was of great severity making sleep impossible and giving the man a look of extreme suffering Not until the lid was separated by the fingers did the patient observe that he saw double Then also it was revealed that there was a bulky chemosis So far the description applies to each attack But on the first occasion the globe was slightly proptosed and immobile while on the second occasion no proptosis was observed and only the movements of rotation upwards and downwards were lost leaving weakened abversion and adversion Four days later improvement had set in The oedema of the lids and conjunctiva was less some of the lost motility was regained and the severity of the pain had diminished. At the end of a fortnight except for a slight suffusion of the bulbar conjunctiva the eye was normal, there was neither oedema nor diplopia No pathological change was noticed in the fundus during the attacks and the visual acuity remained full No determining cause of the attacks was found The accessory nasal sinuses were normal

CASES II AND III.—*Plastic Tenonitis Secondary to Intra ocular Infection*

Two patients with septic lacerated wounds developed unilateral tenonitis in association with metastatic choroiditis At the outset the clinical picture was that of panophthalmitis but neither perforation of the globe nor pointing over Tenon's capsule took place The affected eyes became blind from severe irido-choroiditis and a few weeks later one of them was enucleated on account of pain The operation was a tedious separation of the adherent parietal and bulbar layers of Tenon's capsule

According to Motais, *Tenon's capsule is part of the* fascial system in the orbit, which provides the muscles with their aponeuroses and the globe and lacrymal gland with their fibrous coatings Around the optic foramen the aponeuroses of the muscles blend with the periorbita and the fibrous sheath of the optic nerve, while, in front, as the four recti muscles diverge from one another their aponeuroses with the intermuscular extensions assume a funnel-like form, in which the eyeball is placed, like a ball in a cup Covering the outer surfaces of the muscles is a delicate fascial sheet, the fascia superficialis, which fuses with the sclera in front of the insertions From the fascia superficialis of the internal and external recti muscles arise, at points opposite the posterior pole of the eye, the internal and external check ligaments, which gain attachment to the lacrymal and malar bones respectively On the bulbar surfaces of the muscles there is a tougher and *more elastic fascial sheet, which near the scleral attach*ments of the muscles is reflected on to the surface of the eyeball The opposed bulbar and muscular layers are lined with endothelium and bound the cleft-like space of Tenon Some thin connective tissue bands, in which are vessels and nerves, traverse this space

By means of the emissary channels, through which the venae vorticosae leave the eye, Tenon's space is brought into relation with an intraocular lymph space, the supra choroidal space, and this relationship readily explains the occurrence of inflammation in Tenon's capsule secondary to pyogenic infection of the interior of the eyeball The stay-like action of the internal and external check ligaments on the deep tough layer of the rectal aponeuroses makes this layer an effective support for the globe and with the orbital fat, opposes the backward pressure of the orbicularis palpebrarum So that a collection of fluid in Tenon's space will be forced forwards and will escape through the thin fascia superficialis under the bulbar conjunctiva to form a uniform swelling the chemosis Birch Hirschfeld likens the formation of the chemosis to a safety-valve escape, which keeps the proptosis slight or may even obviate its occurrence

The restricted motility of the eye and the severe pain that accompanies an effort to move it are marked features of tenonitis Just as synovitis tends to immobilize a joint and to make movement painful, so with an inflammation of the capsule of Tenon, the socket of the eyeball In their etiology inflammation of a synovial membrane and of Tenon's capsule may be alike, for of Birch Hirschfeld collected cases of primary serous tenonitis rheumatism was the commonest cause

Only exceptionally does primary serous tenonitis run a course different from that of Case I Sometimes the visual acuity is so impaired from the effect of the exudation on the optic nerve that it is necessary to make an incision into the parietal layer of the capsule between the external and inferior recti But usually the use of compresses diaphoresis and sodium salicylate are followed by a rapid disappearance of the signs and symptoms of the disease

A NEW OUTLOOK IN CARDIOLOGY.

BY

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(From the Institute for Clinical Research, St. Andrews)

(*Concluded from page 61*)

AURICULAR FLUTTER

MacWilliam,[9] in his experiments on the mammalian heart, artificially produced auricular fibrillation. He was also able to produce another form of contraction which he called flutter. In fibrillation the individual muscle cells are contracting independently of one another, with the result that the movement of the auricle is a continuous quivering. In flutter certain of the muscle cells contract simultaneously, but at a great rate, and are ineffective so far as giving rise to a beat capable of emptying the auricle. The condition is closely allied to and probably of the same nature as fibrillation, and the one passes readily into the other. Langley has described a similar condition in the paralysed voluntary muscle where the fibrillating muscle may take on large rhythmic movements.

In my earlier observations I came across a number of patients with this condition, but I was not able to differentiate them until Jolly and Ritchie[10] described the condition in the human subject. The study of auricular flutter also reveals a number of instructive features. One advantage is that we can count the number of impulses which the auricle discharges, and we can recognize the number to which the auriculo-ventricular node responds. Here again we find the node in the same extremely susceptible condition. The auricular waves are usually somewhere in the neighbourhood of 300 a minute. It is only on rare occasions that the auriculo-ventricular node responds to each auricular beat. More frequently it responds to every second beat. Occasionally when the body is at rest it may respond to still fewer beats, and irregularly. This is shown in the series of tracings in Figs. 8, 9, and 10. In the first of these tracings the pulse rate is 150 a minute, while the auricular waves are double that number. These are represented by the downstrokes in the space *As* of the diagram (Fig. 8). In the space *AVN* the node is seen to respond to every second beat, and the shading after the response represents the refractory period which persists till after the next auricular beat comes down, so that every second auricular wave falls during the refractory period and is blocked, and the pulse (ventricular) rate is only half the auricular. The tracing (Fig. 8) was taken as soon as the patient lay down. In the course of a few minutes the pulse became slower and irregular, as shown in the figure (Fig. 9). After ten minutes the pulse became still slower but more regular (Fig. 10). In this tracing are shown the jugular and auricular waves at the rate of 300 a minute, while the pulse rate is 50. The diagram (Fig. 10) shows that the difference in rate of the auricle and ventricle was due to prolongation of the refractory period of the auriculo-ventricular node so that the impulses from the auricle failed to reach the ventricle. The slightest effort, such as standing up and walking a few paces, immediately raised the rate of the pulse to 150 beats, as in Fig. 8. More effort, and even violent effort, failed to increase the rate beyond this, and the reason is to be seen in the fact that the refractory period of the auriculo-ventricular node could not be shortened.

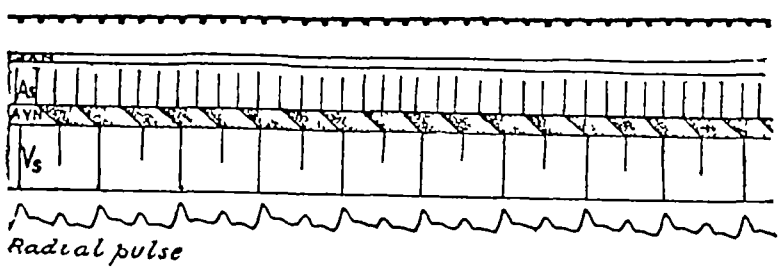


FIG. 8.—Tracing of the radial pulse during auricular flutter. The diagram shows the parts concerned in producing this type of pulse. The sino-auricular node is out of action as in Fig. 5A. The auricle is beating at twice the rate of the ventricle as every second auricular impulse falls on the auriculo-ventricular node when it is refractory.

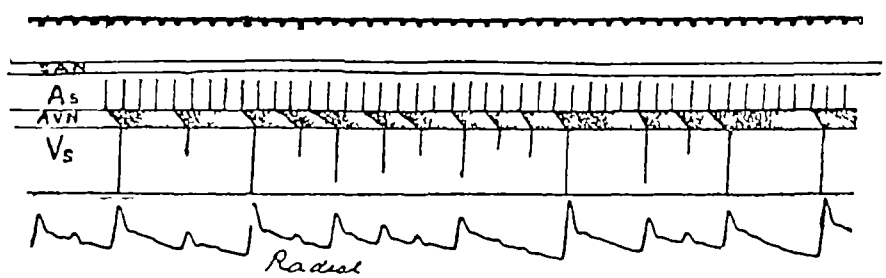


FIG. 9.—Shows an irregular radial pulse—the auricular waves are constant and the pulse irregularity is seen to be due to variations in the length of the refractory period of the auriculo-ventricular node. The radial tracing is a continuation of that in Fig. 8.

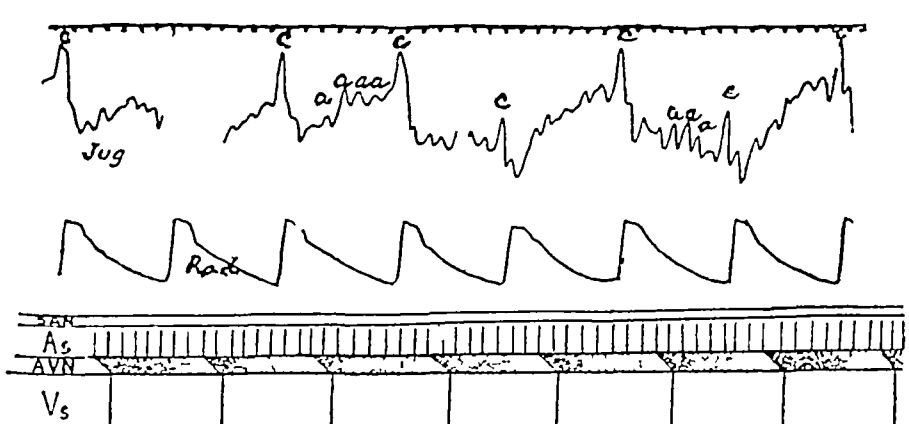


FIG. 10.—The tracing is a continuation of Fig. 9 and shows that the radial pulse has decreased still further in rate due to a still greater increase of the refractory period of the auriculo-ventricular node. All these variations in the pulse rate happened during a period of ten minutes and the tracings are parts of that continuous record. When the patient exerted himself the pulse increased in rate at once to 150 as in Fig. 8. The jugular tracing shows some of the small auricular waves (*a*) and are represented in the diagram by the downstrokes in the space *As*. The *c* waves are due to the carotid.

THE ACTION OF DIGITALIS IN AURICULAR FLUTTER

While I was groping amongst these cases I had one case which puzzled me at the time, and which I described in 1905[11] I had put it down as a case of auricular paralysis. The rate was rapid, and on giving digitalis the rate of the pulse speedily fell to 50 beats a minute. One day, though the patient was under digitalis, the pulse rate suddenly increased to 80 beats a minute. The digitalis was continued, and the doses increased, but the rate of the pulse did not decrease. A tracing taken of the radial and jugular pulses showed that the rhythm had become normal. When auricular flutter was recognized as a distinct entity, it was found a common experience for auricular flutter to pass into fibrillation and the rate of the ventricle to become very slow on the administration of digitalis, and on stopping the digitalis the heart frequently reverted to normal rhythm. This action is shown in Figs. 11, 12, and 13. When these three tracings are reproduced in the form of the diagram we have before us a number of interesting facts. The auricular waves in the space *As* in Fig. 11*A* give place in Fig. 12*A* to the short strokes representing the impulses of the fibrillating auricle, and at the same time there is shown the extraordinary refractory state of the auriculo-ventricular

node The diagram representing the normal rhythm (Fig 13A) shows the disappearance of this extraordinary refractory state, which, be it observed, occurs as soon as the sino-auricular node has resumed its activity, shown by the shaded areas in the upper space S A N, notwithstanding that the heart was under the influence of digitalis

It may be remarked in passing that there is something about this effect of digitalis which we do not understand The effect is not only upon the auriculo-ventricular node, but also on the auricle which passes from flutter to fibrillation Following the auricular fibrillation which has come out of auricular flutter, the sino-auricular node resumes its function and the heart returns to the normal rhythm It is to be noted that such a result only occurs in that form of auricular fibrillation which follows flutter I had hoped that, by pushing the digitalis in ordinary cases of auricular fibrillation, a similar result would follow, but although I have tried it in hundreds of cases I have had not a single success In a few cases of advanced disease of the heart digitalis has produced auricular fibrillation, and a stoppage of digitalis has been followed by a resumption of the normal rhythm We are therefore forced to the conclusion that auricular fibrillation in these cases is different in some way from the more common kind

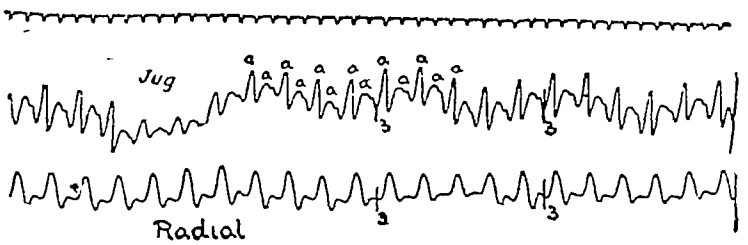


FIG 11.—Tracing of the jugular and radial pulses during auricular flutter (auricular rate 280; ventricular 140) The reason for the varying height of the *a* wave is that every second auricular contraction falls during ventricular systole so that more blood is thrown back into the veins and the *a* waves are therefore larger

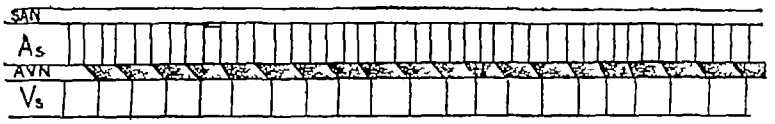


FIG 11A.—Diagram representing the events in Fig. 11. The auricular waves fall on the auriculo-ventricular node which responds to every second impulse as in Fig 8 with the result that the ventricular rate is half the auricular one

THE USE OF INSTRUMENTS

About the time that it was recognized that the auricle had passed into fibrillation the electro-cardiograph came into use I was amongst the first, if not the first, to see the value of this instrument in throwing light upon some forms of irregularity of the heart In 1906 I proposed to the late Professor Waller to bring some of my patients from Burnley to London to get a record of the condition I called auricular paralysis, but he said it was not feasible At that time few people accepted my teaching that the auricle had ceased to function When I went to London in 1908 I was fortunate to meet Thomas Lewis and to interest him in the subject of heart irregularities, and drew his attention to the possibilities of the electro-cardiograph It is not necessary at this time of day to dwell upon the splendid work he has done on this subject

At the outset I foresaw the limitations of the method in that it would be of little use beyond revealing the nature of certain disturbances of rhythm As I have said, the object which from the outset of my investigations chiefly interested me was the functional capacity of the heart or heart failure, and it was clear to me that the electro-cardiograph would be of little or no help in this matter The inability to realize this has been the cause of the failure of all attempts to estimate the functional capacity of the heart by the use of this instrument

The reason for this failure becomes quite evident if we but realize what it is the instrument shows There are two great systems in the heart, one concerned in regulating the function of the heart, and the other concerned in supplying the organs of the body with blood The electro-cardiogram reveals disturbances of the regulating processes, but throws no light upon functional capacity

In contrast with the usefulness of the electro-cardiograph for this purpose we have in the sphygmograph an instrument which reveals facts of a valuable kind in that the sphygmogram is a record of the output from the heart, and is therefore a manifestation of the functional activity of the heart

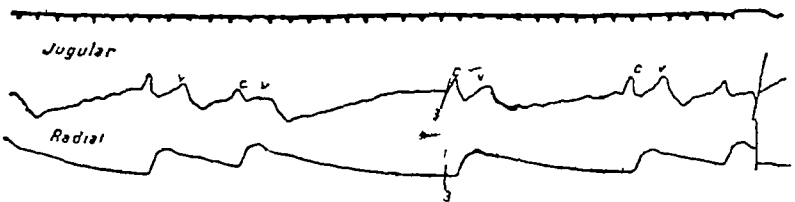


FIG 12.—Tracing of the jugular and radial pulses from the same patient as Fig 8 after digitalis Auricular fibrillation is present and the ventricular rate is 40 p r minute



FIG 12A.—Diagram of Fig 12 showing the auricle has now passed into fibrillation and that the refractory period of the auriculo-ventricular node is greatly prolonged and variable in duration giving rise to ventricular beats at rare and irregular intervals.

The Radial Pulse as an Indicator of the Output of the Heart

If we look at such a tracing of the radial pulse as shown in Fig 14 we see some remarkable variations in rhythm and in the size of the beat With the sudden onset of this type of pulse the patient from whom this tracing was taken became weak and breathless, her face in a few hours became dusky and puffy, the heart dilated, and the liver enlarged, and she could not lie down because of breathlessness After ten hours the pulse suddenly altered, as shown in Fig 15, and at once the patient experienced a sense of relief, and in a few hours the dilatation of the heart and liver had disappeared, and the duskiness left her countenance, and from that moment she could go about her work with ease and comfort The interpretation of the sphygmogram explains the whole matter and in so doing reveal some of the most important things connected with vital processes

The pulse tracing in Fig 14 is typical of auricular fibrillation and occasionally a similar type of tracing found as in Fig 9, in auricular flutter but in no other condition The cause is the same in both auricular fibrillation and flutter

Where this radial tracing differs from all other forms is in the fact that in all other irregularities of the pulse the size of the beat has a distinct relation to the length of the pause that precedes it—the longer the pause the bigger the pulse beat This is due to two things (1) the length of the pause enables more of the fibres of the ventricle to recover and to take part in the contraction and (2) during the longer pause more blood has accumulated in the ventricle While this also occurs in auricular fibrillation there is often

present another peculiarity in that there is no such relation—and a small beat may occur after a long pause and a large beat after a short pause This is a peculiarity which is distinctive of the pulse in auricular fibrillation and flutter A similar peculiarity is found in the pulsus alternans, but there the rhythm is not irregular, moreover, it is frequently present in auricular flutter

When we consider all the possibilities we are forced to the conclusion that in producing such pulse beats the ventricle is varying in the strength of its contraction, and this can only be due to the fact that only a portion of the fibres participate in the contraction of the ventricle which produces the smaller beats, while more fibres participate in the contraction which produces the larger beats

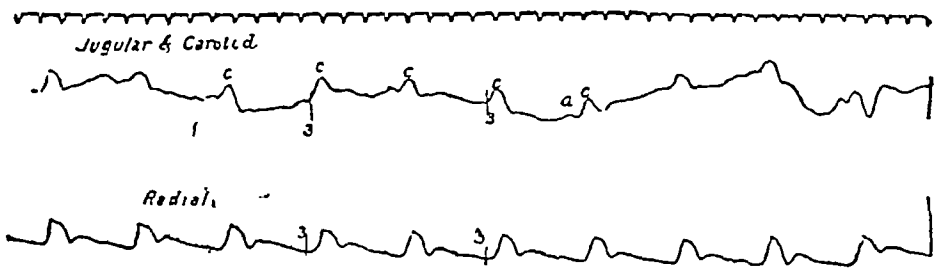


FIG 13.—Tracings showing the normal rhythm which varied with auricular fibrillation as shown in Fig 12 The heart rate is 70 per minute and the *a c* interval normal

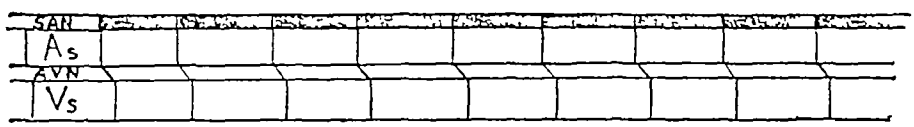


FIG 13A.—Represents the events in Fig 13 The rhythm is shown to be regular and the sino-auricular node is active and governs and controls the auricle the auriculo-ventricular node and the ventricle

When we come to inquire why the ventricle should behave in this way, we must recognize that the ventricular contraction is entirely under the control of the auriculo-ventricular node We know that *the stimulus for contraction in auricular fibrillation* originates in the auriculo-ventricular node, and the question arises, How comes it that the auriculo-ventricular node should act in this way? Here again it is necessary to revert to one of the laws that have emerged from our investigations in St Andrews—*the Law of Fluctuation*

I have already pointed out that the cell activity varies in a remarkable manner under the influence of agents that hasten or delay the metabolic processes which restore the functional energy of the cell When the cells are grouped together this increase and decrease of the rate of restoration is shown by an increase or decrease of function This is diagrammatically illustrated in the sino-auricular node in Fig 4A where the variations of the pulse rate are shown to be due to variations in the rate of recovery of the sino-auricular node

I pointed out at the same time another result of this variation in cell activity in that all the cells did not recover at the same rate As a consequence of this, in an organ, some cells are active while others are inactive When those that are active cease to function, the inactive ones become active In this way there is a continual fluctuation in cellular activity

In the dysrhythmia and irregularity of auricular fibrillation (Figs 8, 9, and 14A) the shading of the auriculo-ventricular node represents variations of the time of recovery of the cells of the node The auricular rate is 150 a minute and the ventricular rate is 150 a minute or less representing the ventricular systole that number These vary in length, representing the pulse beats in Fig 14 These variations in the space *Is* of the pulse beats in Fig 14 These only variation or fluctuation of rate AVN the node is seen to represent the activity of the auriculo-ventricular node When the ventricle produces the smaller beats only a few cells of the auriculo-ventricular node are active and send impulses which affect a few fibres of the ventricle In producing the larger beats more cells send impulses to the ventricles, while in producing the biggest beats all the cells of the node may send impulses to the ventricle

This point of view assumes that a contraction of the ventricle is under the control of the auriculo-ventricular node and that when there is an imperfect action of the node there results imperfect contraction of the ventricle

Such a view is contrary to accepted beliefs of the manner in which the ventricle contracts, but it must be recognized that these beliefs are based upon a very imperfect understanding of the heart's contraction It has not yet been found out in what way an adequate knowledge of the heart's contraction can be acquired, and we are searching for the *appropriate method* There are two ways which help to throw some light upon the subject As I have stated, the part played by one element of the reflex arc can not be recognized when all elements are working harmoniously in normal activity A defect or disturbance in the action of an element *in the arc will often reveal the part it plays* In disease we get a fertile source for the disturbances of the different elements of which the arc is composed So far, many of these disturbances cannot be explained by the limited knowledge we possess at present, and some new conception is necessary for their interpretation The analysis of the phenomena on the lines indicated in this paper has resulted in the conception that the ventricle is completely under control of the auriculo-ventricular node, and *that the small* beats are due to participation of only a portion of the fibres of the ventricle in the contraction, and this again is due to impulses being discharged from the auriculo-ventricular node which affect only a portion of the fibres of the bundle which convey impulses to the ventricle

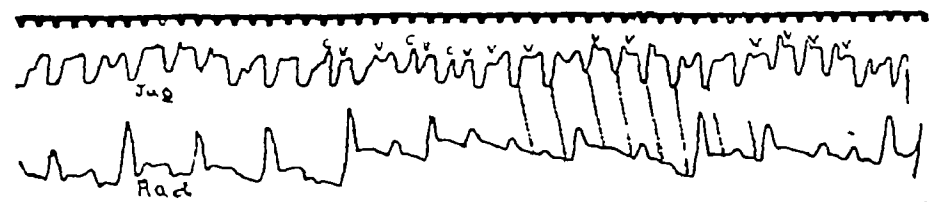


FIG 14.—Simultaneous records of the jugular and radial pulses The radial pulse is irregular of a kind typical of auricular fibrillation inasmuch as there is no relation between the length of the preceding pause and the size of the beat The waves (*v c t*) in the jugular tracing are due to the ventricle and are characteristic of auricular fibrillation in that they show no auricular wave At times there is no evidence of a beat in the radial but there *is one v wave in the jugular showing* that the ventricle contracted but so feebly that the wave in the radial was not sufficient to raise the level of the sphygmograph (See diagram Fig 14A)

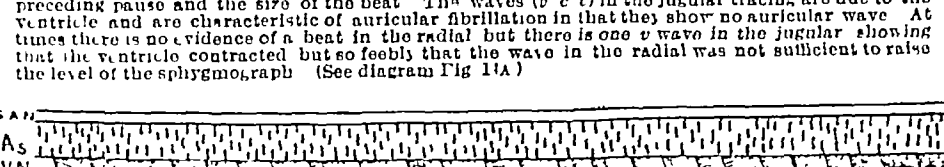


FIG 14A.—A diagram representing the events in Fig 14 In the sino-auricular node space there is no sign of activity The short strokes in the space *As* represent the impulses from the fibrillating auricle The space A V N repre ents the auriculo-ventricular node and shows its varying activity and the irregularity of the pulse is seen to be due to the varying periods of recovery of this node The low strokes in the space *Is* represent the ventricular systoles as shown in the radial pulse The systoles vary in size and in force The length of the strokes represents the output of the heart as shown in the radial tracing

Another method of studying the subject is to be found in the recognition of the laws which govern other muscular organs We know the activity of such organs as the bowel and the uterus is variable, and the variation depend upon the number of fibres that participate in the contraction of the muscle of these organs The same principle applies to the contraction of voluntary muscles the number of fibres participating in a contraction may vary—the number depending upon the number of neurones which convey the impulses to the muscle This principle is well illustrated by

the action of the diaphragm where the movements are regulated by impulses which reach it by the phrenic nerve At the beginning of inspiration a few fibres contract, and as the inspiratory movement increases a greater number of fibres are involved At any time these numbers can be controlled by the will In this instance we see how completely muscle contraction is under the control of the regulating process This control cannot be demonstrated by experiment, for we cannot imitate the normal stimulation of the phrenic nerve, in an experiment when the phrenic nerve is stimulated there is no gradation in the contraction of the diaphragm

Seeing, then, that there is a law applicable to muscular organs, both voluntary and involuntary, we can reasonably conclude that the same law applies to the heart, although it is masked by the peculiarities of development, and at first sight is difficult to recognize The interpretation I have given of the action of the heart brings it within the same law that governs the action of other muscles

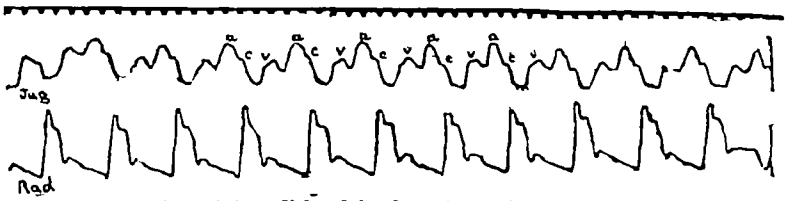


FIG 15.—Tracings of the radial and jugular pulses with the normal rhythm In the jugular tracing the waves *a* are due to the auricle and the waves *c* to the carotid

THE CAUSE OF HEART FAILURE

The manifest and distinctive evidences of heart failure to which reference has been made, as following the onset of auricular fibrillation, can be explained when the character of the pulse tracings in Figs 14 and 15 are compared The movement of the blood from the left ventricle to the right auricle is mainly dependent upon the force of the ventricular systoles The action of only a few fibres of heart muscle is bound to throw out blood with a force barely sufficient or insufficient to carry the blood round the circuit As a result of this the blood gradually stagnates in the parts where the pressure is least, as in the extremities The blood to the liver by the portal system has to pass through one set of capillaries before it reaches the liver, and in consequence the force of the ventricle is here at its weakest, and hence the reason for the engorgement of the liver which is so frequent an accompaniment of heart failure in auricular fibrillation

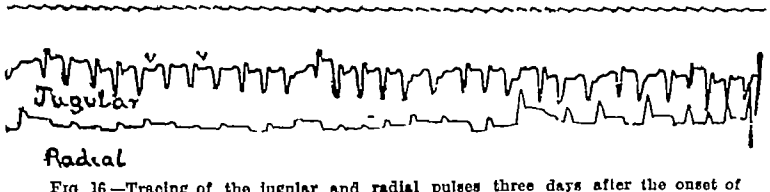


FIG 16.—Tracing of the jugular and radial pulses three days after the onset of abnormal heart action and great heart failure The radial pulse was scarcely perceptible to the finger and the tracing was got with difficulty The jugular pulse is of the ventricular type each wave corresponding to a radial pulse beat The rate is 170 beats per minute



FIG 17.—Tracing of the radial pulse from the same patient as Fig 16 showing the effect of digitalis The rate is 65 and the beats are now full and effective and all signs of heart failure have disappeared.

This explanation of heart failure shows that the view so long held of "back pressure" is not true The back pressure view was based upon the evidences of stasis to which I have just referred, and on the notion that when a murmur revealed a leaking valve, that leaking valve accounted for back pressure Anyone who takes the trouble to study his patients and watch the gradual onset of heart failure will have no difficulty in realizing the fallacy of the back pressure theory

RECOVERY FROM HEART FAILURE

In the description I gave of a patient from whom Fig 14 was taken it was shown that extreme heart failure followed speedily on the onset of auricular fibrillation, and this figure was taken while she was suffering from this cause. The sudden resumption of the normal rhythm which is shown in Fig 15, taken a few hours after the normal rhythm was resumed, was accompanied by a rapid disappearance of all signs of heart failure

From these two tracings, and from the conditions in which the patient was while they were taken, we can recognize the reason for heart failure and its disappearance In Fig 14 most of the heart beats were weak and imperfect on account of the participation of a few fibres only in the ventricular contraction In Fig 15 the contractions are full and complete

Fig 16 was taken from a man 57 years of age He was a gamekeeper, and was in a good state of health, and led a vigorous life He had had an attack of rheumatic fever in boyhood, from which he had apparently made a good recovery On two occasions a month before I saw him he had been seized with attacks of great prostration and breathlessness. These attacks lasted a few hours and suddenly ceased Three days before I saw him he had had another attack which had not ceased but had continued When I saw him he was very breathless and had to sit upright in bed, breathing in a laboured fashion His face was dusky, and his lips and ears slightly cyanosed The pulse was small and so rapid that it could not be counted by the finger A tracing was taken with considerable difficulty, which showed the imperfect beats in Fig 16 The rate was 160 a minute The heart was only slightly increased in size For two days this greatly increased rate continued, and he was then put upon digitalis After a couple of days the rate began to decrease until it fell to 50 beats a minute on the sixth day of taking the digitalis (Fig 17) The digitalis was stopped, and resumed when the rate began to increase until the dose was found which kept the rate about 60 beats a minute With the fall of rate all signs of distress disappeared, and within three weeks he was able to resume his work and experienced no inconvenience so long as he took the digitalis

In this instance we find that the recovery was due, not to the cessation of auricular fibrillation, but to the disappearance of the imperfect beats, and we can infer how this was brought about The digitalis acted by rendering the auriculo-ventricular node less excitable so that although the impulses from the auricle continued unlimmished, the node did not respond to these so readily With the longer rest the cells of the node probably all participated in sending impulses to the ventricle

It is probable that this effect was brought about by the action of the digitalis upon the vagus nerve The slowing of the rate of the ventricle and its more complete contraction is sufficiently explained in this way without assuming that the digitalis had any effect upon the ventricular muscle just as the disappearance of the symptoms of heart failure followed the more efficient ventricular contractions when the normal rhythm was resumed as shown by Fig 14 In many cases bodily inactivity results in great slowing of the pulse rate with disappearance of the imperfect beats in both auricular fibrillation and flutter and at the same time the symptoms of heart failure subside The process of recovery is the same as by the action of digitalis

THE IMPERFECT BEAT IN AURICULAR FIBRILLATION

The increase in rate which so frequently occurs in auricular fibrillation has led to the conclusion that the increase in rate was the cause of the heart failure. This view has seemed justified by the fact that with the slowing of the heart the evidences of heart failure gradually disappeared.

A fuller investigation, however, has revealed that the mere increase in rate is not sufficient to account for the heart failure, for we find many instances of great increase in rate of the normal rhythm with no signs of heart failure. In other words, a great increase in the rate may be accompanied by an efficient output of blood, while a similar increase in rate with auricular fibrillation is accompanied by a deficient output of blood.

From what has been said it will be seen that the reason for this difference is the efficient contraction of the ventricle in one case, and the imperfect contraction of the ventricle in the other case.

When we look at a great number of cases of auricular fibrillation we find variations that follow its onset, which can be placed in three groups. In one group the onset is accompanied by no increase in the rate — indeed, the rate may become slightly slower. The irregularity of the heart is characterized by a relation of the size of the beat to the length of the pause which precedes it. In these patients the onset is not followed by any sign of heart failure, and they may pursue laborious occupations without discomfort. In them effort does not cause any unusual increase in the rate, and the pulse beats are full and effective.

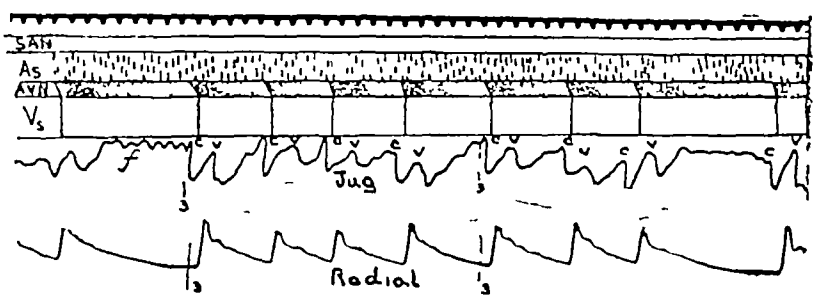


FIG. 18.—Simultaneous tracings of the jugular and radial pulse when at rest. The diagram shows sino-auricular node inactive, the auricle in fibrillation, the auriculo-ventricular node varying in activity, giving rise to the peculiar radial pulse. All the radial beats are full and effective. Compare with Fig. 19. Note the fibrillation (*f*) waves in the jugular pulse.

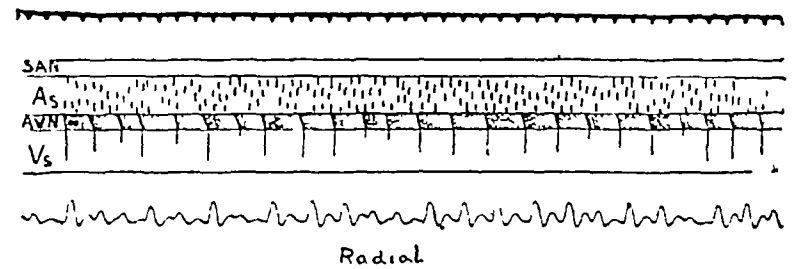


FIG. 19.—Tracing of the radial pulse taken from the same patient as Fig. 18 after slight exercise. The rate is 170 and the pulse beats are imperfect. The nature of the condition is shown by the diagram.

There is another group in whom the pulse rate is not increased at the onset of auricular fibrillation, but may even be decreased so long as the body is at rest (Fig. 18). The pulse beats in these cases are also full and efficient. When, however, effort is made, the rate becomes abnormally increased and the pulse beats weak and ineffective (Fig. 19). When the body is at rest the rate gradually falls and the ineffective beats become fewer until they disappear (Fig. 18).

There is a third group in whom from the outset the pulse is rapid and the beats in the main small and ineffective (Fig. 16), and in these cases heart failure may set in at once, the patient may become unconscious and even die, but as a rule the patient only suffers great breathlessness and weakness. In some, within a few hours of the onset, cyanosis, dilatation of the heart and liver, with orthopnoea, may set in. This condition may persist for days and weeks, but there is generally a tendency for the rate to decrease. Some of these patients are extremely susceptible to digitalis. Digitalis acts not only by slowing the rate, but causes the small imperfect beats to disappear and, with their disappearance, all signs of heart failure also disappear (Fig. 17). So long as digitalis is taken in sufficient doses and the pulse rate kept moderate the patient may be able to undertake laborious work.

These are the main groups, but there are a great many variations which belong partly to one group, partly to another. So long as it is possible to keep the heart from running away with the imperfect beats it may show little impairment. The heart failure which follows the onset of auricular fibrillation and flutter is due to the impaired output of blood, brought about by the imperfect contraction of the ventricle. The varying degrees of heart failure are due to other factors, such as the absence of disease of the muscle fibres of the ventricle or its presence in varying degrees, and such diseases of the valves as embarrass the ventricles in their work.

VENTRICULAR FIBRILLATION

The disturbances in the auricle (fibrillation and flutter) which follow on the cessation of the activity of the sino-auricular node find a parallel condition in the ventricle. When the auriculo-ventricular node and bundle cease to control the ventricle, the ventricle at once passes into fibrillation, and, as MacWilliam[12] has so clearly demonstrated, the ventricle becomes ineffective with each fibre rapidly contracting independently of other fibres. As a consequence there is a total cessation of the output of blood from the ventricle, the patient becomes unconscious, and if the fibrillation is continued beyond a few seconds death ensues. The question arises, Where does this change take place?

If we look at the parts concerned in regulating the function of organs we find one part very sensitive to agents. This is the junction of the efferent neurone with the cells of the organs—such as the neuro-muscular junction of muscle. It is in the terminal branches of the nerve, or the receptors of the muscle cells, that such agents as atropine and curare act in producing paralysis, and it is also in these structures that agents like adrenaline act.

We are still profoundly ignorant of the connexion between the cells of the auriculo-ventricular bundle and those of the ventricular muscle, but it is probable that there is here a sensitive part which is susceptible to agents which interfere with the passage of impulses from the bundle to the muscle. Reasoning from analogy, the suggestion arises that it is here that the disturbance occurs which produces ventricular fibrillation.

The purpose of making this suggestion is to draw attention to a part of the heart which needs further examination, in order not only to demonstrate the anatomical relation of parts but also the part they play in the functioning of the muscle.

THE ACTION OF REMEDIES

This way of looking at affections of the heart has a significance applicable to a great many other organs. It can safely be said that the principles which have guided to the revelation of the features of heart failure are applicable to the study of affections of other organs. But this study has shown principles which have a still wider application. In pharmacology, for instance, and the use of remedies in general, the principles revealed here are of special importance. It has long been a matter of humiliation that the action of drugs has never been understood, even when they acted beneficially. The work of experimental pharmacologists receives little consideration from the physician, for the latter finds that his results seldom agree with those of the laboratory. The reason for this divergence became clear to me when I was engaged in the investigation of auricular paralysis. For ten years I gave digitalis freely to all sorts and conditions, and when I collected and analysed the results in only a few cases could its effect be demonstrated

These cases were chiefly patients with auricular fibrillation, and patients with a slight impairment of conduction between auricle and ventricle In both instances digitalis was often remarkably effective in producing a slowing of the pulse I recognized in both cases that there were present forms of disease which favoured the action of the drug, and I put forth the view that the action of digitalis was modified by the disease that was present The idea underlying this statement seems so simple and reasonable and so obvious that it may appear not worth discussing But as a matter of fact it is one of those fundamental principles the neglect of which accounts for the deplorable state of therapeutics to-day This will be realized when the principle of the reflex arc is understood I have pointed out that the agents of disease in producing the symptoms of disease and the phenomena of ill health do so by acting on certain parts of the reflex arc or regulating processes Drugs and other therapeutic measures act in the same way and affect the same structures It is manifest, then, that if a drug which acts upon a certain structure be administered to a patient in whom that structure is already disturbed by the agent of disease, the action of the drug would be different from that on structures which are unaffected As the experimental pharmacologist deals only with healthy structures, we see why his results differ from those of the physician The recognition of this principle in therapeutic investigation will do a great deal to give precision to our practice, as it has done in the treatment of auricular fibrillation, and do away with that prescribing of useless remedies which is one of the least creditable features of modern medicine

The failure to recognize this principle leads to many enterprises being undertaken without the knowledge necessary for their success, such as the investigation into the dangers of anaesthetics and of anaphylaxis

Capillary Paralysis

In one of our discussions at the St Andrews Institute I raised a question which had long puzzled me—the nature of heart failure, so called, which occurred in acute infections, as in puerperal fever, and the rapidly fatal infection that followed some surgical operations The pulse in these conditions becomes extremely feeble, while the heart does not dilate When I mentioned this and wondered why the pulse became so small, Professor Herring suggested that there might be no blood in the heart to pump out I was struck by this suggestion, and my mind immediately reverted to the observations of Bayliss[13] upon wound shock, and Dale[14] upon histamine shock In both these conditions there was a resemblance to what I had recognized in the malignant infections, and the phenomena in histamine shock has a remarkable resemblance to the features present in this condition Dale has shown that in histamine shock the blood accumulates mostly in the capillaries of the extremities I recalled a *post-mortem* examination I once made upon a woman who had died from puerperal fever It was one of those painful and tragic experiences which every now and again confronts a doctor A colleague who had been in consultation upon a woman with puerperal fever, whom he had examined, was met upon his way back and asked to attend a primipara in labour She was successfully delivered, but took ill the following day and speedily died The same night he was called out to another confinement, with the same disastrous result At the *post-mortem* examination on one of them we could find nothing to account for the death The heart contained but little blood, and showed no signs of damage There was no stasis of blood anywhere, and the reason for death was inexplicable

In our investigations in St Andrews we had recognized that the capillaries of the skin were in a state of fluctuation Among certain individuals, at times, the skin of the arms or legs becomes mottled, showing patches of a dark colour and patches of a paler hue By encircling these patches with a ring of ink, in a few minutes we found that the dark patch became pale, and the pale patch became dark There was evidently some influence at work which produced this variation, and it indicated the capacity of the capillaries to dilate and contract Subsequently, we found that Krogh[15] had made an elaborate investigation of this capillary fluctuation, and demonstrated that the capillary field if fully dilated had an enormous capacity so that a portion of the capillaries could contain all the blood in the body

In studying the heart failure which follows auricular fibrillation, we cannot but be struck with the condition of the peripheral circulation In many cases the face and lips become dusky and blue, and there is oedema of the dependent parts The contrast between this condition of the peripheral circulation and that which precedes death from a malignant infection is striking Here the face is pale and sunken, and there is no oedema

The reason for this difference seems to be that in the former case the capillaries are in no way affected and that they retain their contracted or controlled condition and the stasis is due to a deficient force of the ventricular contraction In the infections, on the other hand the capillaries are greatly dilated and the blood is retained within them, so that only a portion of it circulates

So far we have had little opportunity of testing this view but I tried it in the following observation A girl suffered from acute pneumonia with high fever and delirium On the seventh day she seemed to collapse and the parents were in great distress, the face, which had been flushed had become pale The pulse had become small, though not very rapid, and the child had sunk into stupor, which the parents feared heralded the onset of death I considered the condition to be a consequence of the crisis and it occurred to me that it might be possible to differentiate this from shock and the condition of collapse that follows malignant affections I thought that if it were the latter condition the functions of the brain would be suspended So I poked the girl in the ribs, and told her to open her eyes This she did then I asked her to smile, and she smiled, and I concluded that the condition was not one of capillary paralysis, and that she would recover, which she did The collapse which follows the malignant infection shows pallor, stupor, and a feeble pulse, but in the latter case the patient cannot be roused to give an intelligent response

The purpose of this reference to capillary paralysis is to direct attention to a field for exploration which has been almost entirely overlooked Though capillaries are such simple structures we are ignorant of the many parts they play in the economy It is manifest that they are subject to variations in activity like all other organs consisting of active cells There are processes concerned in *regulating* their activity, and we know so little of them that we are not able to recognize, and far less interpret, many of their most distinctive manifestations *It is necessary here also that new methods of research be employed*, and, so far as we have gone, the application of the principle of the reflex arc promises to be as fruitful here as in its application to the interpretation of cardiac phenomena

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[11] Mackenzie J New Methods of Studying Affection of the Heart BRITISH MEDICAL JOURNAL March and April 1905

[12] MacWilliam J A Cardiac Failure and Sudden Death BRITISH MEDICAL JOURNAL, 1889 i 6 see also August 11th 1923

[13] Bayliss W M *Intracranial Injection in Wound Shock* 1918

[14] Dale H H and Kellaway Anaphylaxis and Anaphylactin *Philosophical Transactions* of the Royal Society B vol ii 1913

[15] Krogh *Anatomy and Physiology of Capillaries* 1923

THE first lecture of the course for 1924 at the Royal College of Surgeons of England will be given on Monday January 21st, by Mr R St Leger Brockman (Sheffield) on drainage in acute appendicitis Other lectures will be given on January 23rd by Mr R M Handfield-Jones, on retroperitoneal cysts on January 25th by Mr Sidney Forsdike on cancer of the cervix on January 28th by Mr Frank Cook on the toxæmias of pregnancy and on January 30th by Mr Alexander Fleming on antiseptics in local and general infections The first lecture in February will be given on February 1st by Mr C Fox Jefferson (Manchester), on injuries of the cervical spine The lectures, which will be given at 5 p m on each day will be continued during that month Further particulars will be published later

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ABSCESS INVOLVING LIVER, MEDIASTINUM, PERICARDIUM, AND ABDOMINAL WALL

On the evening of August 14th, 1923, I was asked by a colleague to see a case which he found difficult of diagnosis

The patient, a woman aged 23, was tossing restlessly in bed She was very emaciated and a red spot blazed in each cheek The temperature was 99 6° F, and the pulse uncountable and thready I was informed that she had been healthy up to three weeks before, when she had had a slight bicycle accident, not involving any serious apparent injury It was impossible to obtain any helpful information as to the symptoms and signs presented since the accident She complained chiefly of pain in the left hypochondrium There was a slightly movable, non-fluctuating tumour in the left hypochondrium about two and a half inches from the middle line and two inches from the costal margin It was apparently beneath the rectus, but owing to some rigidity it was difficult to ascertain whether it was in the muscle or not The left half of the abdomen was all more or less rigid and tender There was no connexion between the liver or spleen and the lump, which was separated from them by resonant areas Between it and the heart, however, there was a definite band of impaired resonance Several times during the examination of the abdomen attention was diverted by exclamations of fear by the patient, and her face expressed agonized terror, such as that seen in angina pectoris This directed attention at once to the cardiac area, where the following signs were discovered

The area of cardiac dullness extended some three inches to the left of the mid-clavicular line, the right border being in its normal position The heart sounds were somewhat faint, and there was great rapidity of action, but otherwise it was normal Over the right third of the area of cardiac dullness one could hear loud dry friction sounds synchronous with the respiratory movements *There appeared to be no pericardial rub*

The liver was enlarged, the left lobe markedly so, the lower border of dullness being about three inches below the xiphisternal notch The lungs were quite clear, splenic dullness was normal, and the right side of the abdomen free from signs or symptoms I made the diagnosis of mediastinal abscess with perforation through the diaphragm, and considered the lump in the left hypochondrium to be a collection of pus, but the girl's condition was so extremely critical that it seemed hopeless to operate She died a few hours afterwards, becoming suddenly collapsed

Post mortem Examination.—On opening up the chest and abdomen pus gushed out from all directions There was free pus in the abdominal cavity, but no sign of peritonitis The left lobe of the liver had become a sac full of pus which gushed out when the knife was introduced The upper surface of the lobe was adherent to the diaphragm, which was thickened and perforated at this point The mediastinum and pericardium were both full of pus, the pericardium was distended with a large quantity of pus, and the heart was lying in a bath of it The pus had broken through the pericardium and bathed the surface of the base of the left lung It had burrowed down through the diaphragm at another point and entered the abdominal wall The lump proved to be a collection of pus It had burrowed down in the left iliac region and a great collection of it lay between the transversalis and internal oblique This had burst into the abdominal cavity, and it was this burst which evidently caused the sudden collapse and death The liver was generally enlarged and the right lobe was full of small multiple abscesses The lungs were very congested but free from abscesses The heart, stomach, appendix spleen, large and small bowels were all healthy, as also were the gall bladder, ducts, and vessels, and the kidneys The pus had a very offensive odour

F BENNETT JULIAN, *M C*, M B, Ch B, M Sc

Liverpool

A CASE OF STONE IN THE KIDNEY

THE following case is similar to that recorded by Mr R Ogier Ward in the JOURNAL of September 29th, 1923 (p 563)

Venkata Reddy an Indian ryot aged 47, was admitted to the wards of the first surgeon General Hospital Madras, complaining of a hard tumour in the upper left half of the abdominal cavity of seven years duration with a history of paroxysmal attacks of pain during the period Colonel Symons operated and removed the kidney The patient recovered and left the hospital well

Pathological Report.—The kidney weighs 3 lb 10 oz it measures 8½ inches from pole to pole and has a breadth of 4½ inches at its maximal points It is packed by large calculi varying in size from a marble to a mango The pelvis occupy distended calyces and have an irregular faceted arrangement The kidney parenchyma is reduced in places to a rim of cortex showing microscopically a few functional glomeruli and considerable interstitial increase Individual stones are rough on the surface have a yellowish white colour and are lamellated on section These lamellae closely resemble sandstone in colour and consistence Around most of the promontories this cortical rim is lost and the calculi are supported by renal capsule only A report from the chemical examiner states that they are composed mainly of triple phosphates, that no uric acid is present, and only a small amount of organic matter

The point of interest in the chemistry of these stones is that they contain triple phosphates only Such stones are rarely found in the pelvis and parenchyma of the kidney It is probable that the primary lesion was a pyelitis (gonorrhoeal history) followed by calculus formation in the kidney, resulting in renal obstruction, distension of calyces hydronephrosis, and further extreme phosphatic deposit in the form of multiple calculi

Medical College, Madras W LEONARD FORSYTH

Reports of Societies.

POST-OPERATIVE AND PUERPERAL MENTAL DISORDERS.

A JOINT meeting of the Sections of Medicine, Neurology, Obstetrics and Gynaecology, Psychiatry, and Surgery of the Royal Society of Medicine was held on January 8th in the Society's rooms to discuss post-operative and puerperal mental disorders Dr T B HYSLOP was in the chair

The CHAIRMAN, in introducing the subject, said that there would probably be little difference of opinion on certain points They would be agreed on the importance of heredity, of anxiety and other mental conditions in predisposing towards these mental disorders Doubtless the bodily point of view was also to be considered The effects of severe labour, the suppression of lochia, and the fact that there had been a previous attack all were important When a patient had suffered from an attack of puerperal mania she should not become pregnant again for at least two years after recovery He would ask whether anxiety was liable to bring about puerperal insanity or not He always remembered an old Scottish medical proverb "Look out for the brown-eyed puerperal" It was a curious fact that a large proportion of women with puerperal insanity were brown-eyed There were two main types of puerperal insanity the acute submaniacal type, sometimes going on to mania, and the stuporose variety, of which a subheading might be that type in which hallucinatory phenomena predominated Sometimes the mother awoke from sleep insane, and those cases in which, in that condition, she committed crime opened an important medico-legal question

Sir CHARTERS J SYMONDS said that in forty years' experience he could only recall four cases in which insanity was the immediate result of a surgical operation The condition was therefore presumably very rare His first case was an elderly man who suffered from prolonged intestinal obstruction Toxaemia might have determined the attack Two days after a lumbar colotomy had been performed symptoms similar to delirium tremens commenced The patient was removed to a strong-room and recovered in six weeks He was nursed in hospital The second case was a young woman of emotional temperament who had a bad suppurative appendicitis Shortly after operation she developed mental symptoms of a delusional nature Here again an intoxication might have been the cause of the symptoms The third case was that of a highly intellectual old man who also suffered from an acute attack of appendicitis and the fourth was a prostate case in an excitable Jew who after operation developed mania The speaker's advice was not to remove the patients to a mental hospital The attack was usually of short duration and would be cured in six weeks Turning to the question of delirium tremens after injuries, and especially after fractures, he believed that sometimes paraldehyde could avert an attack

Dr JAMES COLLIER believed that mental aberration after severe operations on the brain was very rare, although mental reduction was common enough Similarly lesions of the brain were usually associated with the latter and not with the former condition—general paralysis and syphilis being excepted Even with lesions of the frontal lobe mental symptoms were generally entirely absent or of little exteriorized as to give little help in local diagnosis Post-concussive insanity never seemed to occur even after

very severe operations upon the brain Hence he felt convinced that Meyer's theory that post-concussive insanity was the result of traumatic oedema of the brain could not be correct Oedema of the brain might be seen in its highest known form in conditions of cerebral tumour and yet with no resultant post-concussive insanity He could only recall four cases in which operations upon the brain had been followed by insanity Three cases were almost identical They were cases of tumour of considerable size situated in the central region of one hemisphere A wide extirpation was performed The shock of the operation was profound in all, and mania of a violent type appeared early on the third day after operation and persisted till death occurred within a fortnight There were in none of these cases antecedents of family or of personal insanity, of alcohol or syphilis Nor had any sepsis occurred, nor was any obvious cause of death found at autopsy The fourth case, one of a large and old standing tumour of the right occipito-temporal region, widely decompressed by Mr Sargent, developed delusions a week after the operation and became suspicious, erotic, and dirty He was eventually placed under certificate, but six months later his mental state recovered and remained normal till his death, two years afterwards, from haemorrhage into the growth *It seemed that operations upon the brain, and serious injuries to the brain, did not give rise to insanity much more frequently than did operations and injuries to less vital structures* It was difficult to make generalizations from cases of post-operative insanity There had been no heredity of insanity in any of the cases which he had seen, nor to his knowledge had any recurrence of insanity taken place in cases which recovered He did not think that anxiety and fear were factors, for he had seen the condition occur in the most stolid and unemotional of patients The severity of the operation seemed not to count since insanity had followed the most trivial of operations Post-operative insanity had followed every type of anaesthetic and even operations done with no anaesthetic The cases occurring in children at an age when transient insanity was very uncommon were striking and were said always to recover As regards their actual cause and origin these cases seemed as intangible as did cases of non hereditary insanity in general

Mr ALECK W BOURNE said that in order to define the obstetrical relationships of puerperal insanity in both etiology and prognosis he had analysed the notes of a number of cases, a few under his own care, and others from Queen Charlotte's Hospital, Paddington Hospital, St Thomas's, and the General and the City of London Lying-in Hospitals Two difficulties had been encountered in making the analysis first, that the notes were generally scanty, and secondly, that the patients had been quickly transferred to an infirmary and thence to an asylum

Etiology—Details were available in 61 cases In some instances there was a history of antecedent instability, but it was clear that physical puerperal diseases played a large part as exciting causes *In 9 of the 61 patients no cause* of any kind of insanity was apparent, 5 were single and 4 married The hypothesis that anxiety during pregnancy might be the cause of a breakdown under the stress of labour was confirmed by the fact that the single patients constituted 36 per cent of the whole The chief organic disease often associated was one of the forms of puerperal sepsis

Uterine infection, with or without blood infection, accounted for 18 out of 61, or 27 per cent, and of these 18, 13 were serious, some of them proving fatal Of the 18 cases 5 were described as being only of slight degree, and it was doubtful how far it was an exciting cause There were 3 cases of severe and persistent pyelitis, rheumatic infection and cardiac disease was noted in one case, and severe influenza in another

After uterine infection the next most important organic disease was eclampsia, of which there were 9 cases, or 13 5 per cent All in which the condition was noted were married The character of the labour—whether normal or difficult and complicated—appeared to have no etiological significance Of 65 confinements of which details were given, there were 8 cases of difficult labour (12 per cent) with various conditions, including severe haemorrhage, manual dilatation of the cervix, and forceps extraction In several of these patients the insanity was probably due to infection

Primigravidae formed 59 per cent of the total, second gravidae formed 14 per cent, third gravidae 8 per cent and those confined for the fourth or more times accounted for 19 per cent The patients with evidence of antecedent unstable mental equilibrium, or a bad family history, numbered 18, or 27 per cent Four of the 18 were epileptic 3 were single women In 4 there was a history of previous sojourn in an asylum, while 5 had suffered puerperal insanity after previous confinements, and 5 came of a stock in which insanity had appeared in former years Two patients had suffered from great anxiety during pregnancy, and it was probable, as perhaps in the case of illegitimate pregnancy, that a severe anxiety had contributed to the mental disease after the confinement A third patient had had previous mental trouble for a short time at puberty, and during her second pregnancy had undergone a great deal of household trouble which caused her to give way to fits of temper Her first pregnancy and confinement had been uneventful

Time and Manner of Onset—Of 64 cases 4 developed insanity during the latter part of pregnancy, one was feeble-minded, a second showed no physical disease Both were melancholic and stuporose and were still in asylums A third patient became insane during pregnancy, while some obscure fever with meningeal symptoms developed After labour she grew worse, but was declared not to have true meningitis She died within a few weeks The fourth case thought she had phthisis, which caused her great anxiety and rendered her melancholic, but she recovered her mental equilibrium in two months after delivery Six patients became mentally affected during labour, of whom some were eclamptic, 39 cases showed the first symptoms during the first week, and only 18 were first affected during the second week Three cases became insane from three to six weeks after delivery, of whom one had a collateral history and had been in an asylum twice since her confinement The other two cases suffered from prolonged and severe sepsis, and one died The incidence of insanity was equally common on the third to the seventh days, while only one case was reported on the second day The manner of onset was very similar in the great majority There had usually been some nights of sleeplessness, after which the patient was described as being "peculiar," inasmuch as she talked with a little incoherence, which showed some deep-seated anxiety From this indefinite state she quickly developed more obvious symptoms, such as aversion for food and the baby and delusions that she was being poisoned or given chloroform, that the baby was not her own Becoming more and more agitated and restless, by the second day she was trying to get out of bed, exposing herself or making spiteful attack on nurses Most of the cases were maniacal within three days, constantly screaming and throwing their limbs about A lesser number became depressed and stuporose or morbidly religious with intervals of weeping and hymn singing

Results—Sufficient details of the after histories had been obtained to show a mortality of 13 patients out of 58 (22 per cent) Of the 13 fatal cases 6 died of the effects of infection, while 2 died by self-destruction jumping out of the window, 2 died of cardiac failure one after eighteen months in an asylum, while the cause of death of the remainder was not given Of the patients who survived 36 had been traced 28 (78 per cent) had been discharged from asylums or infirmaries after a varying time as "recovered" while 4 were relieved Occasionally patient described as 'relieved" had been readmitted Four patients were in asylums in a chronic condition of insanity Of 7 patients in whom there was no obvious etiological factor 6 recovered, and 4 other of whom nothing was stated also recovered Cases of uterine infection traced numbered 13, of these 6 died and 7 recovered Three of these recovered mentally after nineteen, eighteen and eight months respectively while the other 4 patients were discharged after only a few weeks The 6 cases of eclampsia traced had all recovered The

majority in a few weeks, 2 were in the asylum for six and nine months respectively Only 9 patients who had had previous attacks of insanity or a bad family history could be traced, 3 recovered, 3 were relieved, and 3 are still confined to the asylum The time before recovery varied from two weeks to three years, the average being six and a half months

The evidence as to prognosis showed that it depended upon the severity of the organic disease Half of the fatal cases died of some variety of infection, while of those cases of infection of which later details were available half died Eclampsia, on the other hand, tended to produce only a brief period of insanity

Of all the survivors 77 per cent recovered their mental health It was not possible to give any figures of the liability to repetition of puerperal insanity from the notes collected, but from letters received from patients' husbands and asylum reports it seemed clear that if a patient who had previous attacks or a collateral history of insanity became pregnant subsequently she was prone to become again insane, as happened in five of these cases but should insanity be only a symptom of a serious organic disease, such as puerperal sepsis or eclampsia, the probability was that it would not recur in a future puerperium

Sir Maurice Craig remarked that surgeons might not always know which of their cases broke down, for mental deterioration sometimes began weeks or months after operation, and minor mental disorders sometimes continued for years He agreed that they might overstate the importance of the factor of heredity as a predisposing cause of post-operative insanity, but nevertheless hypersensitivity must have their earnest consideration Emotion and anxiety were also important They should remember that the appearance of stolidity was often very deceptive Sleep after operation was most important They should endeavour to avoid the lowering of blood pressure, especially in a patient whose pressure was already low The presence of pus might be found to predispose toward the condition

Dr H J F Simson suggested that something might be done to prevent the condition of puerperal insanity Infection should be avoided The question whether a woman who had suffered from the condition should be allowed again to become pregnant was very important If that were the doctor's decision the information should not be given to the wife, for this knowledge itself, in unstable persons, sometimes had a bad effect He believed that mentally unstable women suffered more from shock than their normal sisters They should therefore be kept quiet in the early stages of labour, and after the birth of the baby

Dr J Carswell said that a group of cases had to be distinguished from idiopathic insanity Amongst the poorer classes there were many cases of lactation insanity At 35 or so these women went into a stuporose condition which was really an exhaustion psychosis It was a most important duty of the medical man attending the case to see that a mother had a sound sleep within twenty-four or forty-eight hours of the birth of her baby

Dr Cuthbert Lockyer thought that if cases of puerperal insanity following infection were removed to a mental hospital there should be on the staff of that hospital a skilled gynecologist and obstetrician to advise on and to treat the important local condition

Mr A Cattell believed that great harm was often done by surgeons being overanxious to get their patients out of the nursing home quickly

PREVENTION OF STILLBIRTH

At a meeting of the Cardiff Medical Society on January 8th the President Mr W Martin, in the chair Dr Gilbert J Strachan read a paper on the prevention of stillbirth He pointed out that at present 3 per cent of all foetuses were stillborn, and that 1 to 1·3 per cent might be regarded as inevitable stillbirth being due to such causes as anencephaly or thrombosis of the umbilical veins, the problem for consideration was how to eliminate the other 2 per cent The pathology of the various conditions found in stillborn children was then touched with special reference to the various intracranial and visceral injuries, the signs of foetal distress, and the value of a thorough ante-natal examination The pelvis should be accurately measured in every patient, especially in a primipara and the relative size of pelvis and foetus estimated in the later months by Munro Kerr's method The lie of the foetus and the position of maximum intensity of the foetal heart should also be ascertained As a result of the information so gained it could be predicted whether birth would probably be normal or not, in the latter case, if pelvic contraction were severe, Caesarean section could be planned In moderate degrees of contraction induction of labour as late in pregnancy as possible was recommended In a breech case prophylactic external version should be performed, while, if the occiput was posterior, an attempt at rectification by Burst's method should be made If maternal syphilis were found, treatment by galyl injections was recommended, and if at birth the blood of a child gave a positive Wassermann reaction similar treatment should be instituted in appropriate dosage within the first week of life Any sign of toxaemia should be treated by physical rest, elimination by skin, kidney, and bowel, and proper dieting It was emphasized that, although ante-natal treatment of this kind could accomplish much, without proper intra-natal management of labour and its complications the results would continue to be unsatisfactory If there was a moderate degree of pelvic contraction and forceps extraction was contemplated it was recommended to wait as long as was safe in order to ensure proper cranial moulding Whenever forceps were applied they should not be screwed more firmly than was just sufficient to grip the head In an occipito-posterior case, if the head did not turn spontaneously, bimanual rectification was recommended, and Lamond Lackie's method was suggested if the uterus was not thinned In a breech case, first seen in labour, patience was counselled, after the birth of the legs the body should be kept warm and suprapubic pressure applied Dr Strachan emphasized the fact that in ante-partum haemorrhage the danger to the mother was so great that the claims of the child had to be disregarded On account of the great risk to foetal life accompanying breech presentation Potter's version was condemned The treatment best for the foetus would be usually found best also from the point of view of the mother

Normal Involution in the Thymus

Dr H A Haig gave a demonstration of the process of normal involution in the thymus, and slides were shown illustrating the process of replacement of its lymphoid tissue by fat and fibrous tissue Some time after the sixth month of intrauterine life there appeared in the interstitial tissue of the thymus specialized connective tissue cells known as lipoblasts, and these were subsequently found in the lymphoid tissue as well These cells, after becoming grouped together in the lymphoid and interstitial tissue, gradually underwent differentiation into typical fat cells, very much as adipose tissue was formed in any other region of the body, during the intermediate stages such lipoblasts contained typical sudanophile granules, from which true fat was ultimately formed Coincidently, the lymphoid tissue underwent atrophy, and in some cases definite fatty degeneration could be demonstrated both in the lymphocytes and also in the Hassall's corpuscles, in addition, an increase in the connective tissue stroma took place A slide was shown of a thymus of a six months' foetus in which no lipoblasts could be demonstrated, the lipoblasts were either formed later *in situ* in the gland from connective tissue cells, or they wandered in from the anterior mediastinum, the lipoblasts found subsequently in the lymphoid tissue appeared to have wandered in from the interstitial tissue

In answer to a question by Dr Cameron on the histology of the thymus in cases of status lymphaticus Dr Haig stated that, first, the normal process of involution was in abeyance and secondly, there was a definite increase in the lymphoid tissue of the organ, associated with increase of lymphoid tissue in other regions of the body, where such tissue was normally situated

MEDICAL SOCIETY OF LONDON

A PATHOLOGICAL meeting of the Medical Society of London was held on January 14th, when the President, Dr HERBERT R SPENCER, was in the chair

Contracted Pelvis with History of Labours

The PRESIDENT exhibited a contracted pelvis with a three-inch conjugate, the child was born after labour induced at the thirty fifth week, and survived The pelvis, photographs of which are reproduced, was generally contracted and flattened, with an obstetric conjugate diameter of three inches It is number 749 of the Obstetric Catalogue (1911) of University College Hospital The measurements of the pelvis, in centimetres, are as follows Iliac spines 24, iliac crests 25, external conjugate 15, obstetrical conjugate 7 5, transverse of brim 13, oblique of brim 11, diagonal conjugate 9 5, posterior superior iliac spines 9, ischial spines 11, ischial tuberosities 10 5, tip of sacrum to bottom of symphysis 9 5, depth of symphysis 4 Dr Spencer said the patient succumbed to an extended abdominal hysterectomy for cancer of the cervix performed in January, 1907 The following is the history of her labours in 1888 cephalotripsy was performed, and afterwards the hand was introduced into the pelvis and found the true conjugate to be exactly three inches (Fig 1) In 1889 premature labour was induced by bougies at the thirty second week The child passed the brim easily, but survived only two days In 1890 premature labour was again induced by bougies at the thirty-fourth week, the child lived only three hours In January, 1892, premature labour was again induced by Champetier de Ribes's bag at the thirty-fifth week The bag was employed instead of bougies on this occasion owing to the visceral injuries found in the foetus after the previous inductions The child, which shortly after birth weighed 5 lb 1 oz , had developed into a well grown girl 15 years of age at the time of her mother's death, and grew up into a healthy woman Since 1892 Dr Spencer had never intentionally induced premature labour for contracted pelvis before the thirty-fifth week For pelves in which the conjugate was as small as three inches Caesarean section was nowadays preferable to induction of premature labour This note is published to emphasize the importance of not inducing labour for contracted pelvis before the thirty-fifth week For pelves with 3¼ inch conjugate induction gives good results, notwithstanding the statements of some experienced obstetricians that the children so delivered did not survive He had dealt more fully with this question in his presidential address, and limited himself to the publication of this *pièce justificative*

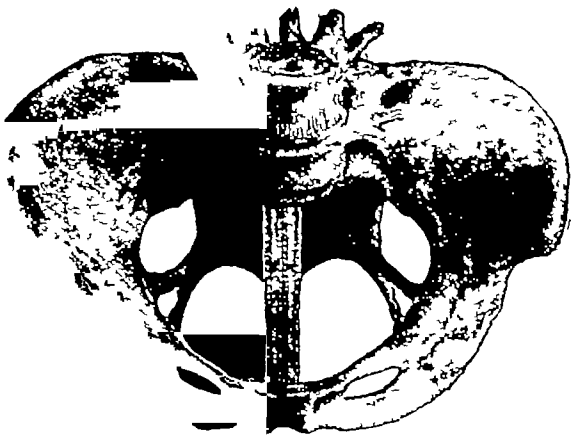


FIG 1.—Photograph of pelvis from above showing three-inch rule in the conjugate. (One-third natural size.)

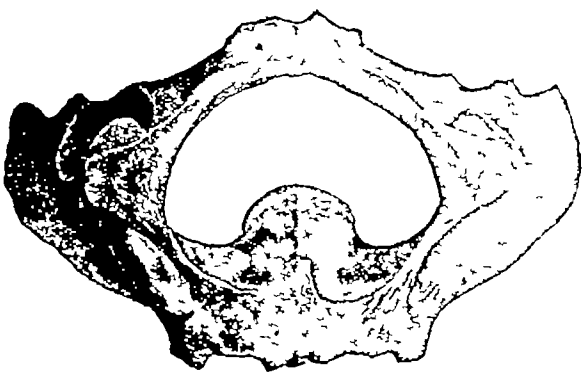


FIG 2.—Photograph of pelvis from below showing outlet. (One-third natural size.)

Low-power Photomicrography

Dr H C BUTTERFIELD late Graham scholar in pathology of the University of London, described an improved and simplified method of low-power photomicrography The apparatus, which is illustrated in the accompanying drawing (*p 114*), was designed to overcome those disadvantages of low-power photomicrography which are associated with the microscopic system of lenses and taking advantage of modern developments in the manufacture of modern photographic anastigmatic lenses to attain that end Its construction and the method of its employment were the outcome of an attempt to get a satisfactory photomicrograph of low power (five linear diameters) of an entire section in order to show the broad relationships of one tissue to another in the same section The first attempt with a microscopic system of lenses were by no means perfect, and a trial was then made with an anastigmatic lens of photographic type and short focus This showed such an advance on the other method that it seemed worth while to design a permanent apparatus which would simplify the operation and get still better results The apparatus depicted in the accompanying line drawing is the final outcome of the work and has hitherto fulfilled all requirements within the limits of its application

The special difficulties of low-power photomicrography —that is, of magnifications between the limits of five and fifty linear diameters— are those of curvature of the field and consequent limitation of the area of acute definition to a relatively small circle, insomuch that the falling off in definition from the centre of the field to the periphery is sufficiently marked to be very obvious within the limits of the standard lantern slide—a circle of three inches diameter Other disadvantages are the cumbrous apparatus necessary in the ordinary method and the many adjustments involved in its use

In the apparatus Dr Butterfield has designed, a short focus lens of true *photographic* type is employed and covers a relatively enormous area with acute definition, since it is corrected for flatness of field over an angle of 30 degrees on either side of the central axis as against the 2 or 3 degrees of the microscopic system of lenses

The objects in view in constructing this apparatus were

(1) To enable low power work to be done with no apparatus beyond an ordinary camera and an electric lamp with an opal glass bulb (2) To permit of series of sections being photographed rapidly and all on the same scale under these simple working conditions An instance of this point would be the photography of a series of brain sections in tracing lesions through the brain stem (3) To obtain photographs of large area to replace drawings of objects and sections up to a magnification of forty diameters with greatly lessened cost greater accuracy and freedom from the personal factor inseparable from drawings

The apparatus consists essentially as shown in the accompanying drawing, of a replica of a simple form of microscopic stage fixed at right angles to a wide brass tube which slides over an inner tube This inner tube is fitted over a lens screwed into a circular brass plate which has a thin margin pierced with screw holes for attachment to a lens panel of a camera of the field quite

bellows, or Sanderson type The inner tube has a milled ring which can be rotated and gives control of the iris diaphragm of the lens from the outside

In use the outer tube with the stage is removed the slide fixed to the latter by means of the clips and the portion to be photographed centred in the aperture of the stage The bellows of the camera is extended until the distance from the ground glass focusing screen to the nodal point of the lens (in the standard pattern this corresponds to the stem of the securing screw shown on the right of the figure) is equal to the number of magnifications required multiplied by the focal length of the lens employed in inches, plus one focal length—that is ten diameters will require an extension equal to eleven focal lengths of the lens The outer tube and stage bearing the slide is then slipped over the inner tube until the object is sharply defined on the focusing screen and the exposure completed in the ordinary way

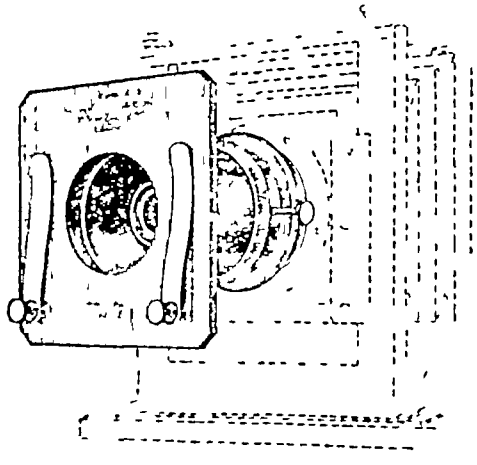
The following table shows the amount of camera extension required for varying degrees of magnification from five to twenty-five linear diameters with the standard lens of 1 4 inches focal length

5	linear	diameters	require	8 4	inches	extension
10	,,	,,	,,	15 4	,,	,,
15	,,	,,	,,	22 4	,,	,,
20	,,	,,	,,	29 4	,,	,,
25	,,	,,	,,	36 4	,,	,,

The outer tube screws into the back of the stage and, if desired, can be removed and replaced with a shorter tube to enable a lens of 0 9 inch focal length to be used, giving a magnification of forty linear diameters at the maximum extension of thirty six inches

Both these lenses are mounted so as to be capable of use in the microscope where large areas of flat field are required for visual purposes and their component glasses are arranged in the reverse of the usual order, since under these conditions of use the normal relationship of object, lens, and plate are reversed as compared with ordinary photographic conditions, where the distance from lens to object is very great as compared with the distance from lens to plate As used under these conditions the size of the plate covered sharply from corner to corner ranges between the standard quarter plate and a plate measuring 15 in by 12 in

In practice the best illuminant has been found to be a half-watt type of incandescent electric lamp having an opal glass



bulb used at approximately two inches from the object slide In dealing with magnifications below eight linear diameters even diffused lighting can be obtained by interposing between lamp and object a sheet of flashed opal glass not less than one inch from the surface of the stage In dealing with sections stained with haematoxylin and eosin the best results have been obtained by interposing between light and object a light filter of stained gelatin, the green of the Ilford tricolour set, cemented between two glasses In this position the glass need not be optically worked and there is no risk of interference with the corrections of the lens In the case of specially stained sections other filters would be used—with monochromatic stains a filter approximately complementary to the dye employed will give the best results bearing in mind the yellow colour of half watt light and its deficiency in green rays The best results have been obtained under the light conditions with the Ilford process panchromatic plate and the Wellington ortho process plate, using in each case the standard pyro-soda developer with a small proportion of potassium bromide

All the operations except plate manipulations are carried out in an ordinary room or the laboratory with no other apparatus beyond a camera on its tripod and a Pullolite bulb on a standard reading-lamp fitting Dr Butterfield expressed his thanks to Messrs Hawksley and Sons for their efficient carrying out of the design, and to Messrs Aldis Brothers, the makers of the lenses employed, for their interest in the matter.

URINARY COLI INFECTIONS

THE annual Hunterian Lecture was delivered before the Hunterian Society of London at the Mansion House on January 14th by SIR JOHN THOMSON-WALKER upon the subject of "*Bacillus coli* infection of the urinary tract" SIR H E B BRUCE-PORTER was in the chair

SIR J THOMSON-WALKER commenced his lecture by saying that there were two sources from which the infecting bacillus might be derived—infection from an extraneous source, or auto-infection by a bacillus from the intestines of the patient The latter was the chief subject of his lecture There were many barriers preventing the passage of bacteria into the lymph and blood stream The intact intestinal epithelium, the Peyer's patches and solitary glands, the appendix, and the lymph glands along the ileo-colic vessels made a chain of defences. It was a pity that the modern surgeon so often forgot these facts and removed a perfectly healthy appendix In clinical work it was found that the passage of bacteria through the intestinal wall was facilitated by atony of the intestinal muscle, by adhesions, and by chronic inflammation of the mucosa with or without ulceration He believed that spontaneous *Bacillus coli* infection resulted, in a large proportion of cases, from some disorder of the bowel A striking example of cause and effect was found in the appearance of a bacilluria after operations upon the bowel, the pelvic organs in the female, or the rectum He had seen a number of cases in which a urinary infection directly followed a course of energetic Plombieres treatment of the bowel In abdominal operations the mere handling of the intestines might be followed by a bacilluria He did not know of any account of the bacteriology of the blood during the time immediately preceding the development of symptoms of a haematogenous infection of the urinary tract, but on the clinical side there was a definite series of prodromal symptoms There were usually four or five days during which the patient suffered from loss of appetite, a little headache, and nearly always there was some bowel trouble Sometimes there was irritability of the bladder There was one root of infection that had long seemed to him probable, but proof of which was difficult to obtain—direct infection through the wall of the renal pelvis, ureter, or the bladder itself from the adherent bowel

Acute Infections

The symptoms of an acute urinary infection with *Bacillus coli* often began with a sudden urgent desire to pass water This was followed by intense bladder irritation and strangury After a few hours of bladder irritation there was a rigor The urine might contain blood With the rise in temperature there was often flatulent distension of the bowel Frequently pain was present It might at first be vague and felt in the abdomen or back, but soon it became localized as a dull heavy ache in one loin In addition there might be such pain along the line of the ureter as almost to amount to renal colic On palpation there would be tenderness in one loin On the other hand, another set of symptoms sometimes developed—those of prostatitis or seminal vesiculitis Yet again, there might be neither renal pain pointing to pyelitis nor symptoms of prostatic inflammation and obstruction The commonest course was for the attack to last ten to fourteen days, but they should never forget the tendency of these cases to relapse It was well to warn the patient of such a possibility, and keep him in bed for at least a week after the temperature was normal Certain cases presented points of unusual difficulty Some showed a sudden high temperature The urinary symptoms might be so slight as to be overlooked In children the fact that it was often difficult to get an uncontaminated specimen of the urine made diagnosis specially difficult There were cases in which the bowel symptoms overshadowed the urinary ones, but in such cases treatment of both bowel and urinary tract was important Again, the aching pain of pyelitis might be mistaken for appendicitis, but it should not be, for the pain would be over the kidney, there would be tenderness of the affected kidney, and the urine would show bacilluria A great quantity of blood was sometimes passed in the urine in the early stage of urinary infection This might

precede for some days any bladder or kidney symptoms, and so might be exceedingly puzzling In examining these cases of acute urinary infection an important point was to permit as little instrumental interference as possible The bacteriological examination of the urine should be undertaken at once, and arrangements made for the preparation of a vaccine for later use Daily palpation of the kidneys was important A rectal examination should not be forgotten, for the prostate or seminal vesicles might be the principal seat of infection without producing symptoms other than those of cystitis

Chronic Infections

With regard to chronic urinary infection with the *Bacillus coli*, the lecturer referred to three groups

1 Recurrent pyelitis and cystitis
2 Chronic cystitis with quiescent pyelitis
3 Bacilluria with chronic toxaemia

There were two interesting types of recurrent pyelitis In one there was a persistent infection of the renal pelvis or bladder, which flared up at times into an acute attack Sometimes a streptococcal tonsillitis might be the cause of an acute exacerbation of a *Bacillus coli* infection of the urinary tract The second type included those cases which had a sterile urine between the attacks In the male this might be due to an infected seminal vesicle, but in the female it was usually due to some reinfection from a chronic condition of the bowels, such as chronic stasis or chronic appendicitis The chronic cystitis with quiescent pyelitis was particularly troublesome It might be due to a local condition of the bladder or a chronic infection of the pelvis of the kidney

By *bacilluria* Sir John Thomson-Walker meant an infection of the urine, usually with the *Bacillus coli* but sometimes with other bacteria, where there was no inflammation, or a minimal amount of inflammation of the urinary tract It was possible in such pure cases of bacilluria to produce, by irritating doses of hexamine, such a reaction in the mucous membrane of the urinary tract as would bring about a deposit of mucus and pus in the urine Two classes of general symptoms might occur with bacilluria There might be obscure and sudden rises of temperature These, in the speaker's student days, used to be known as "febricula" Often it was really an acute toxaemia from bacilluria Then again there might be a chronic toxaemia with its lack of energy, headaches, fibrositis, and long chain of attendant ills In investigating a case of chronic urinary infection an examination of the urine would give little help in localizing the disease Cystoscopy, ureteric catheterization with an examination of urine from each kidney, examination of the secretion from the prostate and seminal vesicles, pyelography—all might be necessary Two conditions could cause the persistence of infection of the renal pelvis dilatation of the pelvis and stone

Methods of Treatment

Treatment of the urinary tract in an acute infection consisted in the administration of diuretics, alkalis, and urinary antiseptics No instrumental interference should at this stage be allowed An exception to this rule must be made where there was retention of urine A definite quantity of fluid in twenty-four hours should always be prescribed, about four or six pints was an average quantity The most powerful alkalinizing agent was sodium bicarbonate Ten or fifteen grains should be given every four hours until the urine was neutral

Hexamine was undoubtedly the best urinary antiseptic they possessed It was a combination of ammonia and formaldehyde and acted only by the liberation of the formaldehyde in an acid medium Many factors affected its antiseptic action, and important amongst them was the time during which the hexamine was in contact with the acid urine The simple chemical change from hexamethylene into formaldehyde was slow and gradual Hexamine, therefore, was of little value in kidney diseases or in infection of the renal pelvis

Lavage of the renal pelvis was a very valuable method of treatment where the focus of infection lay in this region He believed the following cases to be unsuitable for this treatment (1) Acute pyelitis with high temperature (2) Chronic and subacute cases where rigors followed the introduction of the ureteral catheter (3) Cases where there was infection of the prostate and vesicles (4) Cases where there was incurable infection of the lower urinary tract such as that accompanying malignant growths of the bladder, and sacculated bladders (5) Cases with obstruction in the lower urinary tract (enlarged prostate) (6) Cases with dilatation of the renal pelvis, even of a moderate degree (7) Cases with calculi of the renal pelvis

DISCUSSION

Dr NABARRO did not regard the haemal origin of *Bacillus coli* infection of the urinary tract as proved Blood cultures had repeatedly failed in chronic cases in children Dudgeon and his co-workers had investigated 160 cases Of these 116 were in female subjects and 44 in men The female was more susceptible, perhaps because of the shorter urethral passage He believed that vaccines reacted much more favourably in cases where there was some pus than in simple bacilluria

Mr J SWIFT JOLY said that one of their first investigations in chronic infection in adults should be a thorough *x* ray examination of the whole intestinal tract The results could be divided into three groups (1) cases in which there proved to be an obvious anatomical lesion, such as a chronic appendix, a kink in the colon, diverticulitis, etc , (2) cases in which there was no anatomical lesion, but the *x* rays showed delay, (3) cases in which there was no appreciable delay In chronic cysto-pyelitis renal lavage must be considered, but it was perhaps unwise when infection was bilateral Hexamine had *no* effect in the kidney itself He looked forward to a new antiseptic, perhaps a dye secreted by the kidney

Dr ARTHUR DAVIES suggested a theory of a submiminal infection of the blood stream and thence an infection of the kidney and especially the kidney tubules

Mr KENNETH WALKER strongly supported the blood-infection theory There might, if they were not careful be a severe flare up when pyelography was used in a coliform infection

Sir JOHN BROADBENT questioned whether normal bowel could transmit bacteria

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AT a meeting of the Brighton and Sussex Medico Chirurgical Society held on January 3rd, with Dr ELIOT CURWEN (President) in the chair, Mr BERESFORD showed a patient from whose wrist he had removed a dislocated semilunar bone X ray plates were also shown Dr H M CALT showed two large gall stones which caused obstruction and microscopical slides of adeno carcinoma of colon polypus of sigmoid, and head of *Taenia solium* Mr T H JONES read a paper entitled *Notes on intestinal obstruction* The prognosis of the complaint had not improved materially during the last thirty years the mortality ranged from 40 to 50 per cent mainly as the result of the absence of early diagnosis and treatment The chief causes of intestinal obstruction were hernias bands adhesions volvulus intussusceptions growths gall stones, diverticulitis paralytic ileus ulcers abdominal thrombosis of mesenteric vessel faecal impaction and the classical symptoms constipation vomiting abdominal distension pain and shock In diagnosis the first point was to determine whether the trouble was in the small or large intestine The colon was obstructed in 28 5 per cent of all cases but excluding strangulated hernia the colon was affected twice as often as the small intestine Enemata and *x* rays helped in diagnosis, but *x* rays were only useful in chronic cases Shock and toxaemia were the most serious complications the first should be dealt with by morphine after the diagnosis had been made and by a rectal saline with 5 per cent glucose added if thought fit Stomach lavage was often necessary Open ether appeared to be the most satisfactory anaesthetic and oxygen should be given for ten minutes after the operation Local anaesthesia had many objections The more difficult cases as regards treatment were those of acute colonic obstruction There were three varieties (1) where it was no certain whether the large or the small intestine was obstructed (2) where the obstruction was somewhere in the colon (3) where it was in a definitely known spot In the first [illegible] must be done, the obstruction detected and [illegible] short-circuiting performed In the second case it was difficult to decide treatment The patients were often [illegible] toxaemic and the less interference attempted the better it was for them Some surgeons advised a blind [illegible] the third case colotomy or caecostomy might be done [illegible] Median colotomy was not advised [illegible] keeping infection away if any further operation

Reviews.

MUSCULAR EXERCISE

THE appearance of a second edition of *The Physiology of Muscular Exercise*[1] brings again to mind the loss to science occasioned by the early death of the author, the late Professor F A BAINBRIDGE The subject of the monograph is one with which much of his own work had closely identified him and in which he had shown himself an able and original investigator The very real progress in the understanding of the phenomena of muscular exercise during the early years of the present century called forth this book in 1919, and the special service that Professor Bainbridge then performed was the critical presentation of that advance and the judicious emphasis of the further tendencies in the subject The outlook of the monograph was prospective, the author being more concerned to indicate the avenues of future progress than to effect an exhaustive chronicle of past work In that way was realized the ideal of a monograph which is not content to be merely a textbook But to such as attempt this ideal is added the responsibility that they should not shirk the duty of the frequent labour of revision required by the steady march of knowledge The editor of the series of "Monographs on Physiology" earned our gratitude, therefore, when he decided that the time was ripe for a further edition of this book It can be only a matter for very real regret that Professor Bainbridge was denied the privilege of elaborating his own handiwork—a privilege and a duty which his enthusiasm would have persuaded him readily to undertake Happily for the reputation of the series, and for the readers of this edition, the revision was delegated to so conscientious and inspiring a physiologist as Dr G V ANREP

The general character of the work has been wisely preserved From a consideration of the fuel of the muscle and the mechanical efficiency of the human machine we are led on to a discussion of the respiratory, cardiac, and circulatory changes associated with the supply of oxygen to the active muscles and thence to those mechanisms which are responsible for the wise co-ordination of these changes Chapters of wide interest are those concerned with the effects of athletic training and with the after-effects of exercise The valuable results of the expedition to the Andes and the experiences of the Everest pioneers have contributed to the extension of the chapter on exercise at high altitudes Place has been found for Krogh's fundamental work on capillary circulation and for the extension to man of the momentous researches of A V Hill on the isolated muscle, notably in respect to the relation between the efficiency of muscle work and the rate of its performance, again, to the limitations of excessive exercise

he past few years have served to clarify ideas of the id base equilibria of the blood and tissues, and this demands in turn a clearer statement of the relation of hydrogen ion concentration to the phenomena of muscle contraction This problem has been particularly well presented

The laboratory worker will not be slow to appreciate the value of this monograph It is not too much to hope that it will find as it deserves, a wider public among all those who are concerned with the preservation of the health and the efficiency of the community We would not persuade our administrators and our employers of labour to read this book nor would we encourage them to regard the muscle worker merely as a machine At the same time we would appeal to those who are responsible for educating our masters—if there be any such—to teach them something of the capacity the potential efficiency, and the limitations of the human engine If they will not be persuaded on social grounds then we will give them an economic argument

[1] *The Physiology of Muscular Exercise* By the late F A Bainbridge M A M D Cantab D Sc F R C P F R S Second edition revised by G V Anrep M D D Sc Lond Monographs on Physiology London and New York Longmans Green and Co 1923 (Med 8vo, pp 226 23 figures 10s 6d net.)

ANGINA PECTORIS

THERE are few subjects in medicine which have received more frequent attention from physicians in successive generations than angina pectoris, and the latest contribution to the literature by Sir JAMES MACKENZIE will receive the careful attention of the profession The monograph is the result of thirty years' consideration of the problem and has led the author into the investigation of certain fundamental factors His views on some of these have already been published, and constitute part of his work on the mechanism of pain and the theory of disturbed reflexes in the production of symptoms

Mackenzie defines angina pectoris "as a condition in which a series of symptoms are produced by the heart, of which pain is the most prominent" The symptoms other than pain which may be present are "constriction across the chest, the sense of great depression, pallor in some, flushing in others, an increased flow of saliva, etc" The *angor animi* of older writers takes such a subsidiary place in the discussion that dolor pectoris might almost be considered a more appropriate title for the book

After considering the question of the production of visceral pain in general and applying the results to the circulation, the author reasons that cardiac pain is probably produced in such circumstances as produce pain in other organs Cardiac pain is the cry of exhausted heart muscle when it is called upon to contract but has not a sufficient blood supply for the purpose, as may arise from some alteration in the coronary arteries This he considers to be the main cause of primary angina pectoris As pain can be produced or increased by special susceptibility of the sensory nerves, so conditions much less grave than those which arise from coronary disease can produce pain of equal or greater intensity in persons who have a specially sensitive nerve-receiving mechanism These cases he describes under the heading of secondary angina pectoris and considers it a benign and curable condition The conception of angina pectoris is thus widened to include all varieties of conditions from the most grave cardiac disease to the slightest functional derangement in which pectoral pain is the prominent symptom Angina becomes a protective mechanism to limit effort in much the same way that dyspnoea may do in other cases

Cases of cardiac disease are thus broadly divided into two groups (1) those in which symptoms arise from the effect of a deficient circulation in other organs, as in the lungs, causing dyspnoea, (2) those in which symptoms arise from defective blood supply to the heart with exhaustion of the heart muscle and the production of pain Passing to consider the pathology, the author finds in disease of the coronary arteries with the resulting deficient blood supply to the heart muscle, the lesion which best accords with his hypothesis and at the same time with the facts, as ascertained *post mortem*, which have come under his own personal observation Records of 160 cases are given in an appendix which occupies 95 pages

We confess to being somewhat disappointed in the presentation of the arguments adduced to support the author's views, and cannot think that the last word has yet been said on the pathology of this disorder There is a certain degree of circumlocution which militates against accurate deduction The author has avoided discussing other well known views We should have liked a definite expression of opinion on Allbutt's view, more particularly as it is one which is dependent on a "disturbed reflex" We also fail to appreciate exactly how, if exhaustion of heart muscle is the whole explanation of the pain, certain patients die with hearts so exhausted that the circulation is most inefficient and yet no pain is experienced Some other factor has still to be sought to complete the pathology

The book is the outcome of long experience and much thought and will be welcomed by physicians as an able contribution to an important and at times awe-inspiring branch

[2] *Angina Pectoris* By Sir James Mackenzie M D F R S F R C P etc Oxford Medical Publications London Henry Frowde and Hodder and Stoughton 1923 (Cr 4to, pp xvi + 233, 77 figures 2 coloured Plates 30s net.)

of medicine It is well produced and contains numerous diagrams and graphic records and a few full-page illustrations of *post-mortem* specimens of the heart in this disease

A PRACTITIONERS' HANDBOOK OF PSYCHIATRY

DR G RUTHERFORD JEFFREY has written an eminently practical volume on *Common Symptoms of an Unsound Mind*,[3] which is intended as a guide to general practitioners in dealing with their mental cases Instead of describing the various types of mental disorder in the conventional textbook manner, the author has thought it would be more helpful to deal with the symptoms of insanity as a whole, especially as they are met with in general practice, and to discuss briefly their significance The doctor has serious responsibilities thrust upon him in dealing with mental cases, and upon his opinion important issues may depend—the liberty of the individual, possibly the safety of others, and sometimes the question of a person's responsibility for a crime As the author points out, the practitioner may at any time be asked to express an opinion on a patient's mental condition, or in regard to some strange act of conduct, and owing to insufficient knowledge he may hesitate to take a decisive line of action or to express a definite opinion With such thoughts in his mind Dr Jeffrey therefore discusses the significance of delusions, disorders of perception, emotional disturbances, and alterations of conduct from the diagnostic and prognostic standpoints, laying particular stress on those symptoms calling for special precautionary measures

Dr Jeffrey emphasizes throughout his book the fact that the person suffering from unsoundness of mind is a possible source of danger to himself and to the community, and the recognition of this leads him to stress the value of segregation in mental illness His warnings are timely, at present there is a tendency to ignore the dangers associated with a psychosis, and many tragedies occur from a failure to recognize or admit their existence We are in agreement with Sir James Crichton-Browne's favourable comments on this book In an interesting foreword he points out that it will enable the family doctor who peruses it to recognize those cases which he may justifiably retain under his own care, and, what is of equal importance, to recognize those in which prompt removal from home or institutional treatment is advisable It is because Dr Jeffrey adheres to the strictly practical aspects of psychiatry that his book will be found so definitely useful to the practitioner

MEDICAL EXAMINATION OF AIRMEN

THE *Medical Examination of Airmen*[4] is a translation of the book by MAUBLANC and RATIÉ, reviewed in our columns three years ago, it describes the methods employed at the French school of flying, and contains an account of the tests the authors use for estimating reactivity to sensory impressions and to changes of equilibrium The original volume had a preface by Professor Broca, the translation, which has been made by Dr Norman Ball, late R A M C, contains an introduction by Wing Commander Martin Flack, C B E, M B, Director of Medical Research, Royal Air Force In it he says that, given proper selection, the medical care of the flier is largely preventive It is the duty of medical officers to watch over their flying personnel, to see how pilots are withstanding the effects of flying, and to take proper steps to combat at an early stage the onset of flying stress and to mitigate its effects For this reason, periodic medical examination, as required by the International Aeronautical Convention, is a necessity He adds that it is important that medical officers should be acquainted not only with the methods used in their own country, but with those of other countries, as well as with the progress of research into the various medical aspects of aeronautics As we said when reviewing the first edition, the book should be in the hands of all medical men who have to do with aviators or the selection of candidates for aviation, and we are glad to welcome the English translation as a well directed attempt to fulfil the requirements mentioned in the introduction

NOTES ON BOOKS

THE book on *Physical Diagnosis*, by Dr R C CABOT professor of medicine in Harvard University, has reached its eighth edition[5] It has undergone general revision the sections dealing with *x* ray diagnosis have been rewritten and a number of new *x* ray pictures have been inserted The book makes no pretence of being exhaustive in every field—for instance, the technique of the Wassermann test is not described, nor mention made of the use of the cystoscope or ophthalmoscope As a record of the author's personal experience and recommendations the book has a definite value and the clear descriptions of procedures with the deductions to be drawn are very helpful Although few of the domains of specialism in medicine are noticed, yet the book gains in that the diagnostic methods in more common use receive a *fuller consideration than is generally the case*

A reviewer is apt to take up a book treating of sex problems with hesitation, lest the subject be treated unpleasantly—perhaps prurientl or hysterically, perhaps on the other hand too much on the lines of rigid eugenics, ignoring all human affections No reader need be afraid of any such faults in opening this little volume entitled *Family Love*[6] It is written by a married lady with a family of her own She discourses wisely and tactfully, with a fine commingling of frankness and modesty, concerning birth, growth, adolescence, love, marriage, fatherhood, motherhood, fidelity, and other like themes What she has to say on the particularly difficult subject of how much children should be told about sex development is exceedingly well said, and the book *can be safely recommended to parents* who feel that they want guidance on so delicate a question

In *Poison Mysteries in History, Romance, and Crime* Mr C J S THOMPSON, M B E,[7] has compiled a popular book which will interest those who take an unscientific interest in such things The first part consists of some account of the poisons used from the most primitive times, whether in the ordeal for detection of crime, in the commission of crime, or in the chase Owing to the lack of any accurate knowledge of the symptoms and pathological appearances in cases of poisoning, the many picturesque accounts until the nineteenth century are of little scientific value The second part, entitled "Poison Mysteries,' contains short accounts of the most notable British cases during the last century and a half Mr Thompson has thus made up an attractive little book, which may well replace a shilling shocker, if studied by writers of fiction it will enable them to escape some of the pitfalls of impossibility into which the best of them is liable to fall

The customary analysis by the *Publishers Circular* of *books* issued during the past twelve months shows that a *total* of 12,274 was published in the United Kingdom during 1923 This is an increase of 431 over the number for 1922 and makes last year second only to 1913 in the history of British publishing as regards output In the classified analysis for 1923 *the following* works on medicine, public health, *etc were published* new books 270, translations 14 pamphlets 56, new editions, 93 The total, 433 compares with 360 in the previous year Under the general heading Science a total of 678 books is given compared with 597 in 1922 In enumerating the books published, each complete publication is counted as one, whether it is in one or more volumes, and serials that appear later as a collected volume are counted as one on the appearance of that volume All publications of forty eight pages or less are counted as pamphlets

[3] *Common Symptoms of an Unsound Mind A Guide for General Practitioners* By G Rutherford Jeffrey M D F R C P E F R S E Medical Superintendent Bootham Park Mental Hospital York with a foreword by Sir James Crichton Browne M D LL D D Sc F R S F R S E etc London H K Lewis and Co Ltd 1923 (Cr 8vo pp xviii + 268 7 6d net)

[4] *The Medical Examination of Airmen* A Practical Guide for use in the Examination of Members of the Air Service and its Recruits By Dr Maublanc and Dr Ratié With a preface by Professor Broca and an introduction to English readers by Wing-Commander Martin Flack C B E M A M B Translated from the French by Norman Ball M R C S L R C P late R A M C London John Bale Sons and Danielsson Ltd (Cr 8vo pp xii+99 25 figures)

[5] *Physical Diagnosis* By Richard C Cabot M D Eighth edition revised and enlarged London Baillière Tindall and Cox 1923 (Med 8vo pp xxi + 536 473 figures 6 plates 25s net)

[6] *Family Love* By Leonora Eyles Foreword by Dr Robert M Fir London and New York A Melrose Ltd 1923 (Cr 8vo pp xi + 141 4s 6d net)

[7] *Poison Mysteries in History Romance and Crime* By C J S Thompson M B E London The Scientific Press Ltd 1923 Cr 8vo pp 412 12 plates 16s (1 net)

THE MEDICAL RESEARCH COUNCIL.

ANNUAL REPORT

(*Concluded from page 82*)

BIOLOGICAL ACTIONS OF LIGHT

AT the National Institute for Medical Research Dr Leonard Hill and Dr Argyll Campbell have found that exposure of the head to light and heat rays, from summer sun or carbon arc, rapidly increases the temperature of the brain, although the blood temperature is not much altered, they have also confirmed the view that light rays heat subcutaneous tissues more than do dark heat rays Dr Eidinow and Dr Hill have also examined the effects of temperature on the biological action of light Using hay infusoria, it was found that at 20° C these organisms were killed by exposure to the mercury vapour lamp in one-third of the time required at 10° C , the controls were unaffected by similar temperature variations Parallel results were obtained for the action of light on the skin Investigations have also been made into the penetration of tissues by ultra-violet rays Using infusoria as the test of lethal action it has been found that a layer of rabbit's mesentery 5/1000 mm thick protects, and that the cornea of the eye is impervious to the rays Effects of light on the inside of the eye are therefore not due to the ultra-violet rays

Dr D T Harris has found that ultra-violet rays have a stimulating effect on the metabolic rate of small animals, this effect is annulled by the simultaneous application of visible light The action of the radiant energy is directly upon the animal and not merely on the air breathed Pigment seems to be an important factor in influencing the metabolic rate, exposure to the same dose of external temperature produces a larger drop in the metabolic rate in a black animal than in an albino

FILTRABLE VIRUSES

The report mentions research work which is being carried out on the following diseases, believed to be caused by filter-passing organisms—influenza, vaccinia and variola, herpes, chicken sarcoma, pleuropneumonia of cattle, and canine distemper Dr M H Gordon who is engaged in a systematic study of the virus of vaccinia, has obtained some definite results of which an account is to be published shortly Dr T G M Hine, working with him has been engaged in studying the technique of tissue culture in order to find its value in the cultivation of filter-passing viruses *in vitro* in symbiosis with growing tissue cells For the most part, however, the investigations of filtrable viruses are still in the initial stage

Dr Gye's work on chicken sarcoma, carried on in the Department of Experimental Pathology and Bacteriology of the National Institute of Medical Research, Hampstead, is of considerable interest It has been supposed that the disease was due to a filter-passing virus but Dr Gye has succeeded in cultivating an organism regularly in fluid and on solid media which passes through the filters as yet he has not succeeded in producing a sarcoma by inoculation into a normal chicken of the organism thus isolated and grown

Mr Dobell has been chiefly occupied with experiments directed towards the improvement of technical methods necessary for the investigation of certain filtrable viruses and other very minute micro-organisms, including spirochaetes

DIET IN RENAL DISEASE

At St Thomas's Hospital Professor Maclean and his colleagues have been engaged in an attempt to determine experimentally whether protein diet is harmful in renal disease Although text-books commonly affirm the necessity for withholding protein in both acute and chronic nephritis, there is a lack of real evidence that protein as such is at all injurious indeed there is some evidence that its withdrawal is not infrequently the cause of some of the symptoms which badly fed patients suffering from nephritis so often show It is hoped that this investigation will help to settle the question of the use of protein in renal disease

METABOLISM IN CHILDREN

In the Department of Applied Physiology Dr Campbell has been making further observations of the chemical exchanges of the body and their efficiency in children under treatment for surgical tuberculosis by exposure to open air and sun It was found that the metabolic rate was lower at night, with the children in a drowsy state, than during the day, but that the rate remained higher than the standard basal figures found for patients in closed chambers

OESOPHAGEAL PAIN

Dr Poulton and Dr Payne are completing an investigation into oesophageal pain, and the tentative conclusion held at present is that pain occurs when there is contraction in one segment of oesophagus and a forcible stretching of the segment just below, a condition present when a large bolus of food is being forced onwards by a peristaltic wave of contraction Dr Poulton and Dr Campbell have been investigating breathlessness and treatment by oxygen with a new form of respiration apparatus with closed circuit

INDUSTRIAL MEDICINE AND INDUSTRIAL FATIGUE

Dr J S Haldane's research on dust inhalation and pulmonary disease has disproved the suggestion that the comparative harmlessness of coal and shale dust when inhaled is due to the presence of organic matter in them which stimulates phagocytosis This supposition has been proved to be erroneous by experiments involving the inhalation of shale and garden earth in which the organic matter had been destroyed by heating to redness Mention is made in the report of work on miners' nystagmus, miners' "beat knee," "beat hand," and "beat elbow," and various investigations into industrial health statistics

After reviewing the past work of the Industrial Fatigue Research Board, the report outlines the policy which this body intends to pursue in the future—namely, to study chiefly some selected general problems which affect industries as a whole for example, the optimum spell for work of different kinds, the personal factors in accident causation, the physiological aspects of ventilation and machine design in relation to the requirements of the operator

TEMPERATURE AND WORK

Research upon the effects of the cooling power of the atmosphere on the body during muscular work were continued by Dr Hill and Dr Campbell in the Department of Applied Physiology of the National Institute of Medical Research, Hampstead The cooler conditions were found to relieve the heart, and the pulse rate was found to be an efficient indicator of comfortable conditions for work, being lower under cool conditions than under warm conditions Various kinds of work were compared, and in all types of work the heart was relieved by cool conditions The new self-recording kata-thermometer invented by Dr Schuster has been erected on the roof of the institute and continuous kata-thermometer records of the English climate are being obtained, the stoking of the heating apparatus of the institute will be controlled by these measurements The kata thermometer is being utilized more and more for measuring ventilation in mines and for securing proper working conditions in factories

BIOLOGICAL STANDARDS, ASSAY, AND MEASUREMENT

The routine biological control of salvarsan preparations has been continued and the standard tests are now applied to all, including German salvarsan preparations which are offered for sale by manufacturers or importers in this country, and wherever necessary the new test for therapeutic potency is made in addition to that for toxicity The testing of samples of insulin made in or imported into this country for public sale has also become part of the routine work of the institute under the direction of Dr Dale The tests imposed are for potency and sterility

Dr Hartley has completed his work upon the preparation of a British standard for diphtheria antitoxin, this being based by international agreement on the existing German standard The work carried out by Dr I J Wyler on the sero-diagnosis of syphilis under the international scheme for the determination of serological standards has shown that less doubtful results are obtained by the Sachs-Georgi and Sigma reaction than by the traditional Wassermann reaction

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SATURDAY, JANUARY 19TH, 1924

CARDIOLOGY

FROM the time that the Egyptians portrayed the weighing of the heart in the presence of Osiris to the present, when so much attention is being paid to the weighing of the evidence adduced from the symptoms it produces when its function is interfered with, the heart has always had for the physician a special interest During the past fifteen or twenty years that interest has been intensified, owing chiefly no doubt to the impetus given to the study by Mackenzie's work on the cardiac irregularities by means of the polygraph, and more recently by the work of Lewis and his collaborators in elucidating the mysteries of the intrinsic cardiac mechanism by means of the electrocardiograph Another aspect of the subject, long neglected, has recently attracted attention through the attempt that is being made to investigate the possibilities of prevention of heart disease

During and after the war the problem of assessing the functional efficiency of the heart assumed a national significance, and in the histories of many of the pensioners can be read the mistakes which have been made in diagnosis and prognosis There can be no doubt that coming into contact with these cases on medical boards has done more than much writing to wean many medical men from their previous erroneous ideas, and while there is much room for still further breadth of outlook, these boards have proved a most valuable post-graduate course

As part of the work being undertaken at the St Andrews Institute for Clinical Research on the significance of symptoms of disease, those of heart disease have naturally received a share of attention, and the article on 'A new outlook in cardiology' by Sir James Mackenzie, which has been concluded in this number of the JOURNAL, embodies the results of some of the investigations made at the institute Nothing but good can come from looking at a difficult situation from a new standpoint provided that what is good in the old is not rejected along with the bad Some of the results recorded in the article will be found to be in agreement with current opinion, while others will be seen to be opposed to widely accepted views, in the case of the latter it will be necessary to weigh the evidence carefully and to avoid fallacies in argument before rejecting or adopting the conclusions

Auricular fibrillation has received no more attention than its importance warrants The theory put forward in Sir James Mackenzie's essay is that it is due to cessation of action or paralysis of the sino auricular node, but it would seem that there must be some other factor at work, for, as is mentioned in an earlier part of his discussion, *the auricle continues to beat regularly and effectively when the specialized tissue of the sino auricular node is destroyed*' That in auricular fibrillation the S A (sino auricular) node is out of action is generally accepted That a new rhythm has developed which has its origin in circus movement is widely held, and the painstaking investigations which have been made in this connexion cannot be lightly set aside Further, the effects of quinidine sulphate in causing the cessation of circus movement by an action that has been more fully investigated than that of most drugs in common use and the return of the S A node to its normal control of the auricle, suggests that the circus movement and resulting fibrillation have put the S A node out of action rather than that the opposite has happened The action of the auriculo-ventricular node and the control exerted on it by the S A node admits of more than one interpretation When auricular fibrillation is present a much increased number of impulses which electrical curves show to be irregular, are showered on the node, and might be expected to explain part at least of the irregularity that is present in the ventricle That the A V (auriculo ventricular) node is unable to deal with more than about one third of these is the rule, and that the whole of the node may not recover its function uniformly to deal with all that number is a reasonable surmise An additional factor has been suggested to explain part of the ventricular irregularity—namely, that there is here the same modification of function which underlies alternation of the heart and which is most commonly seen in hearts whose rate has accelerated from any cause The difference in the effect of digitalis on the ventricular rate in auricular fibrillation and in normal rhythm may be likewise explained by the state of fatigue induced in the A V node when it is bombarded with about 450 impulses a minute Since the A V node or bundle displays a higher degree of block the more numerous the impulses that are showered on it from the auricle (as in flutter and fibrillation), so digitalis might be expected to operate in producing further block when conditions were already favourable for its production while with a normal rhythm of about 70 a minute fatigue of the node or bundle would not be present

The opportunities of studying ventricular fibrillation in the human subject are infrequent though the condition may be a common *ante mortem* phenomenon The parts of the intact ventricle which are known to be possessed of rhythmical power are the bundle and its main branches but how far this extends into the finer arborizations has not been demonstrated In portions of heart muscle the power of rhythmical contraction would appear to be a function of the muscle cells It was in 1912 that Alexis Carrel published the results of his experiments on the life of heart muscle separated from the organism, and demonstrated rhythmical contraction in the tissue Starling in the Harveian Oration has drawn fresh attention to this fact, and to the further interesting point that heart tissue cultivated at that time is still alive and contracting rhythmically The conditions are very different from those that obtain in the intact heart and the results do not settle the question as to the possibility of a part of the heart other than the A V node and bundle acting as a controlling influence in producing co-ordinated contraction of the normal ventricle

Much remains to be discovered regarding the action of the heart in health and in disease, and only by the correlation of the results obtained by viewing the problem from all standpoints may we hope that accuracy may ultimately be attained

SPIRITUAL HEALING IN THE ENGLISH CHURCH

IN 1920 the Lambeth Conference passed a resolution asking the Archbishop of Canterbury to appoint for the general guidance of the Church a committee to consider and report upon the use with prayer and the Laying on of Hands of the Unction of the Sick

other spiritual means of healing" The chairman of the committee was the Bishop of Oxford, and there were thirteen other clerics, including six bishops, amongst its members, the medical profession was represented by Sir Clifford Allbutt, Sir Robert Armstrong-Jones, Dr William Brown, Dr J A Hadfield, Dr W H Rivers, and Dr Jane Walker The report of the committee has just been issued[1], it was signed last August by all the members except Dr Rivers, who died in 1922, and the only reservations are made by Sir Clifford Allbutt and Sir Robert Armstrong-Jones, who dissociate themselves from the recommendation of the use of Unction The committee divided its work under three headings the first, the historical question of the evidence for what is called the Ministry of Healing, secondly, a comparison between the different methods of healing and the consideration of their relation to Christian thought, thirdly, the question whether a Ministry of Healing should now be recognized and sanctioned

The report of the committee will perhaps cause disappointment not only to the enthusiastic supporters of what is called spiritual healing but also to those who may have looked forward to a reasoned statement on the matter, based on investigation of evidence It may be that the Archbishop himself felt some doubt about the meaning of the report In his introductory note he says "I circulate [the report] in accordance with the terms of the Lambeth Conference Resolution It will not, however, be supposed that I am thereby claiming responsibility for what the report contains" The committee leaves the whole of its first question—the historical evidence for the Ministry of Healing—to the Rev A J Mason, D D , whose views are contained in an appendix to the report, written in consultation with the Dean of Wells (Dr J A Robinson) In the final paragraph of this very interesting appendix Canon Mason says "When it is urged that a 'Ministry of Healing' should be 'recognized,' history leads us to ask whether it is a manner of ministration or an order of ministers for which recognition is desired, or both" The rest of the committee appears to have omitted to read this passage, as the report itself fails to supply a definition of the term

The committee seems to have devoted its attention chiefly to the second division of its task—a comparison between the different methods of healing and the consideration of their relation to Christian thought It has laid down that "the power which heals the body makes use of three avenues of approach (1) material, as surgery drugs, diet, etc , (2) psychical, as suggestion and different forms of mental analysis, (3) devotional and sacramental" It is not quite clear whether this statement is to be regarded as an axiom or postulate but it is made to form the basis for a definition "'Spiritual' healing may be said to be that which makes use of all or any of these factors in reliance upon God, though in popular use the term is often inaccurately confined to the last" This definition of spiritual healing however true it may be, is perhaps not at the moment very helpful, for the popular use of the term has become so firmly fixed in consequence of the activities of sundry "healers" that the attempt to alter its meaning in the midst of widespread discussion may cloud the issue The committee goes on to say that in all these methods of healing—that is, material, psychical or devotional—faith is or may be an important element, working, so far as purely physical healing goes, irrespective of the grounds on which it rests, but that "in the third line of approach, where something more than physical healing is in view, the character and trustworthiness of the faith are of primary importance" A statement such as this ought, we think, to be more fully explained It is noted that in treatment from the material side drugs often depend for their effect on the confidence of the patient both in the physician and the prescription This is as much as to say that faith and suggestion are already at work Moreover, the physician is working with a mysterious partner the *vis medicatrix naturae*, "the real nature of which no scientific analysis can reveal" The assertion in these bald terms cannot be accepted

On the psychical side the committee gives some attention to the theories of Freud and Jung but finds that the question "whether these theories as to the ultimate origin of nervous diseases will be confirmed by scientific investigators of the future" is a matter upon which it does not feel competent to pass judgement But "since in human experience spiritual disorder often leads directly to moral and mental disorders" the committee recommends that those who have the "cure of souls" should be encouraged to study the psychological principles which lie behind these various methods of psychical treatment It hastens to say that analysis of the patient's relation of the problems moral and social, of his own life should not be carried out by unqualified persons The term "qualified persons," however, is not defined, they would appear to be individuals "working in close connexion with a well qualified physician," and they should have had training in psychology, ethics, and moral theology No clue is given as to whence they come or where they are to be found

The committee was more immediately concerned with the devotional and sacramental line of approach Here the appeal is direct to God, and the committee states that it has taken various forms as in "Christian science" and kindred doctrines "Within the Church it has occasioned the revival of systems of healing based on the redemptive work of our Lord' Disease is an evil to be combated in God's name and as a way of carrying out His will But "in fighting this evil we should recognize the weight of medical science in matters of diagnosis both on the physical and mental sides Spiritual healing must not exclude medical means or methods, which have their due share in the resulting recovery When real spiritual treatment has been used we claim that not merely is the disease healed or alleviated, but the whole nature of the patient raised to a higher level In other words, in spiritual healing the healing of the spirit is primary, the healing of the body secondary"

The committee delegated consideration of its third question—whether and in what form a Ministry of Healing should be recognized — to a subcommittee which conferred with representatives of different societies working within the Church The names of the members of the subcommittee are not given neither the representatives nor their societies are named, and no report is offered of the evidence tendered All we learn is that Mr Hickson, as in the case of Bishop Ryle's committee, was unable to attend The subcommittee reported that "there is considerable evidence that those who are definitely applying the truths of Christianity to patients suffering in mind or body with the definite belief and suggestion that it is the will of God, proclaimed by our Lord, that

[1] *The Ministry of Healing* Report of the Committee appointed in accordance with Resolution 65 of the Lambeth Conference 1920 London Society for Promoting Christian Knowledge New York and Toronto The Macmillan Co 1924 (Cr 8vo, pp 43 Price 6d.)

sickness as well as sin should be overcome, are obtaining remarkable results in many cases" We cannot but regret the absence from the report of the evidence on which this assertion is based, and that it contains no scientific statement of the nature of the results The committee acknowledges that no evidence of healing was found which could not be paralleled by similar cases wrought by psychotherapy without religion, and "by instances of spontaneous healing which often occur even in the gravest cases in ordinary medical practice" But in the committee's opinion, where the religious influence is of a wise and reasonable kind, "greater and more permanent results may be expected than from non religious methods" The committee "found no cases in which those who were practising 'spiritual healing' did not desire to work with the medical profession," but the committee does not seem to have inquired as to the terms of co operation demanded by the healers

The conclusions of the committee seem to us as nebulous as the history of its deliberations Among them are statements such as these "The Church must sanction methods of religious treatment of bodily disease, but in doing so must give full weight to the scientific discoveries of those who are investigating the interrelation of spirit, mind, and body" "No sick person must look to the clergyman to do what it is the physician's or surgeon's duty to do" "Whilst religious methods are applicable to all cases of sickness, they would seem to be most appropriate where moral or intellectual difficulties and perplexities have contributed to the disorder These deep lying roots of evil should be dealt with before any specifically bodily healing is attempted" "Then might follow treatment more immediately directed to the complete restoration of the patient" "Sometimes, again, a special gift of healing seems to be bestowed on a particular person" What exactly are such statements meant to convey?

We have felt bound to deal with this report in a somewhat critical spirit, because it seems to lack proper definition of terms and an ordered presentation of the subject No evidence is produced, and the conclusions are ambiguous

FOOT-AND-MOUTH DISEASE

In spite of the energetic measures taken to check it, foot and mouth disease continues its ravages In Cheshire, the area now chiefly affected, more than one sixth of the cows and heifers have already been sacrificed, in addition to a vast number of pigs and sheep During the last six months over two million pounds have been spent in compensation for animals slaughtered in an endeavour to eradicate the disease from the centres of infection Strong local representations on behalf of an alternative policy of isolation have been rejected, and the Ministry of Agriculture has been supported by many remarkable public expressions of authoritative opinion in favour of the official policy of slaughter It is, however, now announced that the Ministry has decided to permit a trial of isolation in a part of Cheshire

Continental experience shows that though the disease is there constantly present, large outbreaks occur at irregular intervals, it affords evidence also of a definite seasonal incidence which makes it probable that we are approaching the stage in the natural history of the disease when a decline is to be expected, so that the slaughter policy will operate with ever increasing efficiency in destroying the 'fleeing and exhausted enemy' as was picturesquely said by a Continental authority at the International Veterinary Congress in 1914

The acceptance of the official theory that foot and mouth disease is not continuously present in this country reconciles the farmers to the policy of slaughter, since they obtain compensation and at the same time it saves the important industry of exportation of pedigree stock from the embargo of foreign Governments The only qualification this statement requires is that when, as in 1922, the Ministry's funds did not permit the continuance of the policy of slaughter, isolation was practised, apparently with ultimate success, although at a serious loss to the farmer owing to deaths (2 5 per cent) and the deterioration of condition in nearly two thirds of the survivors Nevertheless the prevalence of the disease shortly diminished, and eventually almost ceased The experience of Germany and Holland is similar slaughter cannot there be carried out in face of an extensive prevalence of the disease, and must be replaced by isolation and other similar measures Nevertheless the alleged impossibility of efficient isolation gives the Ministry of Agriculture a stranglehold on research

That this stranglehold in the hands of the Ministry's officials is very real and has caused a complete suspension of research is borne out in a very remarkable manner by recent correspondence in the *Times* In 1920 an expert committee, under the chairmanship of Professor Robert Muir, was appointed by Lord Lee, then President of the Board of Agriculture, to investigate foot and mouth disease After some months the work of this committee ceased, and no report ever appeared to explain the nature of the committee's investigations, the conclusions it reached, and the reasons for its mysterious dissolution *Recently*, however, it has been affirmed that 'no definite progress was made" by this committee, and its lack of success has been used to justify the postponement of further researches In a letter to the *Times* (January 3rd) Sir A Griffith Boscawen, at one time President of the Board of Agriculture, said that *the labours of the committee were brought to an end at their own suggestion since they saw no prospect of coming to any satisfactory solution*" To this statement both Professor Muir, the chairman and Professor Beattie who was a member of the investigation committee, have made illuminating replies It appears from Professor Muir's letter in the *Times* (January 14th) that "At the outset it was laid down by Lord Lee as an essential condition that the investigations should not be carried out on land' A floating laboratory had therefore to be equipped and rendered efficient for isolating infected animals Work had only just been got under way and an active virus obtained when the committee was informed by the Ministry that departmental expenses were to be reduced, *and was asked* to state whether any results had been obtained which gave hope of ultimate success as the Ministry was not prepared to continue the expenses of a routine attack on the problem As the investigations had not passed the preliminary stage an answer in the negative had to be given 'The committee had *accordingly to recommend*, though with great reluctance, that under the financial and other conditions laid down a cessation of the inquiry was practically inevitable and they informed the Ministry accordingly In their report to the Minister the committee gave a provisional statement as to the conditions under which future investigation and expressed the opinion that the investigations *should* be resolutely pursued for a

considerable period of time—two years at least, and longer if any hopeful results were obtained "

Professor Beattie, in his letter (*Times*, January 9th), after stating that the Ministry of Agriculture, like other departments, had been asked to cut down its expenses at that time in connexion with the economy campaign, and that the investigation committee was invited to co operate in giving effect to this policy, adds that " other difficulties arose which I do not wish to particularize, wholly due to the unsatisfactory conditions under which the work had to be done," and that the report sent to the Ministry showed that the committee did not consider the problem insoluble, but that it felt " it was useless to attempt to solve it under the conditions imposed by the Ministry "

Lord Ernle, another ex-President of the Board of Agriculture, in an article in the *Times* published under the head " A call to science," says that the object to be aimed at is immunization of cattle, but that " it is idle to look for it till an artificial culture of the virus is obtained " We agree, but we do not accept his suggestion that an offer of £50,000 should be made for the discovery That is not a hopeful method The hopeful method was that adopted when Professor Muir's committee was appointed, and it is greatly to be regretted that its inquiry should have been stopped before it was well begun We agree with Professor Beattie that the position is serious enough to demand the removal of restrictions on scientific research, every facility should be given to scientific workers who are accustomed to deal with infectious disease and who have suitable facilities for undertaking investigations They should be set going at once while the infection is still prevalent in this country Professor Muir's committee would appear to have been delayed by the difficulty of getting virus The disclosures made in the course of the correspondence between ex-Presidents of the Board of Agriculture and members of the expert committee are disquieting and call for public inquiry We make no doubt that one outcome of such an inquiry would be to secure within reasonable limits the necessary freedom for well directed investigations, which, as has been said, should be set on foot before the present crisis has passed For this purpose the Ministry should provide funds, which it is in a position to do The inquiry must necessarily involve a reconsideration of the policy by which it is possible for the Chief Veterinary Officer responsible for the direction of the campaign against recurrent invasions of the magnitude of the recent outbreaks to discharge at the same time the duties of Director of Veterinary Research, and to do so with the necessary mental detachment In a recent issue of the *Journal of the Ministry of Agriculture* the attention of farmers is directed to an article intended to be a serious contribution to the foot and-mouth disease problem In this article an attempt is made, with the aid of numerous charts, to show that while some factors are uncertain there are very clear relations, both as regards seasons and localities, between bird movements and initial outbreaks of foot-and mouth disease Dr Landsborough Thomson (*Nature*, January 12th) has submitted the article, which is by Sir Stewart Stockman and Miss Garnett, to searching criticism It is difficult to accept the view that the problem of invasion can be approached with an open mind by one so deeply involved in the maintenance of an official policy which practically begs the question The editorial announcement in the *Journal* of the Ministry that Sir Stewart Stockman " is now carrying the investigation further, by seeking to determine by experimental evidence whether birds do actually convey the virus " will not, we imagine, satisfy the practical farmer, and it will certainly not seem to pathologists that Lord Ernle's " call to science " will in this way meet with a proper response Accepting Sir Stewart Stockman's contention at its face value it amounts to no more than this that " the circumstantial evidence as a whole is very far short of being able to establish a negative "—that is to say, it is not proved that birds cannot carry the infection This does not seem to take us very far We repeat, we agree with Lord Ernle that the first thing is to ascertain the nature of the virus, and that it is idle to look for immunization till an artificial culture of the virus is obtained On this point attention should be concentrated There are pathological experts in this country at this time highly competent to undertake an inquiry on well understood scientific lines, using a technique now established

A POLYGLOT PRINCIPAL

It was the jovous and buoyant Max O'Rell who once remarked that he understood seven languages—and a Glasgow man when he spoke slowly But here[1] we have a Glasgow man—or at least a Glasgow citizen, for he is the famous Principal of the second city's University—who takes one's breath away by the rate at which he juggles in verse with more languages than Max O'Rell ever knew " You pays your money and you takes your choice " of German, French, Latin, Greek, and Russian into Scots, of Irish, Greek, Low German, French, Spanish, Italian, Chekh, Gaelic, and Welsh Romani into English, of English into Norse, of English and Greek into German, of Scots and English into Welsh Romani, of Scots, German, and Greek into Russian, of Spanish into Latin, and of German into Greek And all through the book one thoroughly appreciates the fact that this erudite Gael strikes the strings of his *clarsach* with firm fingers, even although the ultimate effect produced on the mind is that of having taken part in a sing-song at the close of a particularly cheerful and harmonious meeting of the League of Nations To pick a few gems at random out of a bag of them, one may mention the translation of Beranger's " Mon Habit " into Scots, and those of the Russian popular ballad " The Cossack Chief " and Lermontov's " Cossack Cradle song " into English and Scots respectively But the more one re-reads this book of verse the more one is struck by its high quality, the culture of its author, and the wonder of how one head can comfortably carry all he knows Had he lived four centuries ago he would not merely have been that common product of Scotland, the wandering scholar, but a peripatetic professor able to settle down with comfort and lecture in any European capital he chose to favour *Echoes* should be in the hands of every Caledonian who prides himself on what the Scottish Celt has done—and is doing—for the imaginative literature of the world

SUBCUTANEOUS INJECTION OF VITAMIN A

If vitamins are to achieve the desired effect when given by the mouth they must be absorbed by the gastro intestinal tract Sometimes their absorption is hindered by severe digestive disturbances, and when this happens it is natural to seek some other route by which vitamins can be administered Recently Dr Olaf Bleyad[2] has been experimenting with the subcutaneous injection of a preparation of A vitamin which has been extracted from cod-liver oil by Dr E Poulsson, professor of pharmacology in the University of Christiania Animal experiments are held

[1] *Echoes* By Sir Donald MacAlister, K C B Third edition Glasgow Maclehose Jackson and Co (Post 8vo pp 211 7s 6d net)
[2] *Ugeskrift for Laeger*, December 20th, 1923, p 942.

to have proved that this preparation contains about one hundred times as much A vitamin as native cod liver oil The oil is saponified with liquor potassae in an atmosphere of nitrogen, and is shaken up with ether, which absorbs the non-saponifiable fraction containing the vitamin and the still unsaponified oil The saponification is repeated once or twice, and the shaking up with ether is repeated The ether is now distilled, the non-volatile residuum is dissolved in ethyl or methyl alcohol, and the inert cholesterin is separated by repeated concentration and standing at a temperature of 0° C The substance which is now left contains the vitamin, which is dissolved in ten times its volume of olive oil and sterilized A patient on whom Dr Blegvad tested this substance was a bricklayer, aged 54, who suffered from cancer of the liver and jaundice His diet had not been deficient in A vitamins, but xerosis of the conjunctivae with severe hemeralopia had developed, and he was much troubled by not being able to walk alone in the streets in twilight The motions contained undigested fat and showed other signs of faulty assimilation of food, and he was losing weight Dr Blegvad assumed that the quite adequate supply of A vitamins in his food was not being absorbed by the gut on account of the cancer of the liver and perhaps of the pancreas For more than six weeks the patient was given a diet particularly rich in A vitamins, but there was no improvement in the condition of the eyes He was then given every other day a subcutaneous injection of 1 c.cm of Professor Poulsson's preparation It was readily absorbed, and did not give rise to any local inflammatory reaction After two injections the xerosis had disappeared and the hemeralopia was less troublesome After six injections the patient could again see to walk in the streets in the evening and even read in dim light As Dr Blegvad point out, his method of giving A vitamins may prove to be important in the treatment of xerophthalmia where the absorptive capacity of the gut is impaired and the patient is in danger of permanently losing his eyesight There are some cases of keratomalacia in childhood in which it is impossible to avert permanent blindness by treatment with fresh milk and cod-liver oil given by the mouth, and it is for this class of case that the parenteral administration of A vitamins offers a better prospect of recovery than most other methods of treatment

MASSAGE IN MODERN MEDICINE

THE "founders' lecture" of the Chartered Society of Massage and Medical Gymnastics was delivered by Sir William Milligan at the house of the Royal Society of Medicine on January 14th The chair was taken by Dr Z Mennell, who explained, to an audience consisting wholly of ladies, that the lecture was an annual event, intended to commemorate all those who had organized the profession of massage in this country and had raised its standard of efficiency and ethics Sir William Milligan congratulated the society upon the excellent work it had accomplished already, it had helped to place massage and medical gymnastics in an impregnable position amongst the agencies in daily use to combat disease The practice of massage was of very ancient origin Homer, in the *Odyssey*, stated that beautiful women rubbed and anointed war-worn heroes in order to rest and refresh them, it appeared that at other times this rubbing was done by medical practitioners, by priests, or even by slaves The gladiators of ancient Rome were invariably massaged after combat, in the same way as to-day many football teams employed masseurs From the dawn of history systems of massage were practised by the Chinese (the first to employ blind masseurs), the Persians, the Indians and the inhabitants of the Malay Peninsula The medical value of massage was appreciated by Hippocrates who affirmed that rubbing could bind and loosen make flesh, and cause parts to waste Celsus was possibly the first heliotherapist, and Galen the first to advise the warming of the body before anointing and friction In the sixteenth century an ardent devotee of manipulative surgery was Ambroise Paré Turning to the place of the competent masseur or masseuse in modern medicine, the lecturer said that he or she was not merely a trained manipulator, but also a physiotherapist and to some extent a psychotherapist The criticism was sometimes made that the training of masseurs and masseuses was too elaborate and technical, but unless the foundations of the art were well and truly laid, the superstructure would be inadequate to meet modern demands There had been some regression from the appreciation of massage shown by the medical profession during the war, but the figures from the massage and remedial gymnastics department of Manchester Royal Infirmary revealed steady progress from 1919, in which year 2,812 patients were given 43,890 attendances and treatments, to 1923, when the patients numbered 4,482 and the attendances and treatments 65,677 In orthopaedic surgery few cases were treated to-day without recourse to massage and medical gymnastics *Restitutio ad integrum* was not always to be expected, but under the guidance of the surgeon, given skill, patience, and discretion on the part of the manipulator, as much restoration as possible could be afforded to the stiff joint or the mutilated limb In the treatment of such conditions as neurasthenia, neuritis, and infantile paralysis, the therapeutic armamentarium would be sadly depleted were massage, remedial exercises, and re-education wiped off the slate In the douloureux gentle stroking along the course of the affected nerve and firm pressure at its point of exit from the bony canal modified the severity of the condition In the intractable cases where removal of the Gasserian ganglion was not contemplated or was refused, and where alcohol injections failed to give relief, massage by percussion was at least worthy of trial In general the effect of head massage was soothing, and produced a tendency to repose if not to sleep Shakespeare understood this when *he put into the mouth* of Othello the words, "I have a pain upon my forehead here"—no doubt the severe paroxysms of supraorbital neuralgia—to which Desdemona answered, "Let me but bind it hard, within this hour it will be well" The lecturer spoke of the need for instituting a regular course of massage from the moment that facial paralysis or even facial paresis became apparent The facial musculature was peculiarly prone to rapid degenerative changes and procrastination was fatal to success He also instanced the value of massage in *haematoma auris*, or boxer's or footballer's ear, if permanent deformity was to be avoided in his opinion the surgeon who did not arrange for massage to be given in such a case was not doing his duty to his patient In the treatment of nasal obstruction breathing exercises were of undoubted value but they should be subsequent to not a substitute for removal of post-nasal adenoid growths It was necessary to be on guard against straining the importance of any particular measure A few years ago the importance of breathing exercises was exaggerated he recalled meeting one masseuse who told him she was treating a strained ankle by breathing exercises On the general question of the training of the manipulator, he laid stress upon the importance of the thorough grounding in anatomy and physiology which the Chartered Society had instituted He was satisfied that there was a great future before the profession and that it supplied something which was much needed by the community As long as the present excellent training was maintained and no extravagant claims were made and no [illegible] of charlatanism tolerated the profession of massage would

have the help of the medical profession and the gratitude of the public The masseur or masseuse was not intended to be a mere mechanic or manipulator, but one who appreciated with the physician or surgeon under whom he or she was working the reason and objective of the manipulations, and this appreciation would never be secured unless a high educational test was enforced

DRIED MILK

THE remarkable fall in the rate of infant mortality during the present century is sometimes referred to as a triumph for public health administration, and the principal credit is usually given to the work carried out by health visitors and others at welfare centres and in the homes of the people The introduction of milk concentrated by the removal of water must also have played a part in this reduction of child mortality, for it has been possible through its agency to provide a supply of nourishing food in a form which is not contaminated, as too often is the case with fresh milk It is possible to produce dried milk from good unskimmed milk, from skimmed milk, or from milk which contains less than normal fat content, and it is obviously important that the purchaser should know from which of these sources his supply has been obtained For his protection the Minister of Health has made regulations[1] which come into force on May 1st, 1924 They require that every tin or other receptacle containing dried milk should bear a label on which is printed in type of a prescribed size the words "Dried full cream milk," "Dried partly skimmed milk," or "Dried machine-skimmed milk" (or "Dried skimmed milk"), as may be applicable to the contents Dried full cream milk is to be that containing not less than 26 per cent of milk fat, dried partly skimmed milk contains less than 26 per cent of milk fat but not less than 8 per cent, and provision is made on the label for an indication as to the percentage between these limits, lastly, dried machine-skimmed milk or dried skimmed milk is that which contains less than 8 per cent of milk fat Each label must state the equivalent of pints of milk which the receptacle contains On the label of the dried partly skimmed milk the statement must appear that the contents must not be used for babies except under medical advice, and on that of the dried machine-skimmed milk there must appear in large type the words "Unfit for babies" The regulations provide for suitable alterations in the labels attached to receptacles containing more than 10 lb of dried milk A very useful regulation (No 7) is that in which a local authority, on finding that a consignment of dried milk in its district does not comply with the regulations, shall communicate with the local authority of the district in which the dried milk was manufactured or labelled, if such district is in England and Wales, and if elsewhere with the Minister of Health The department of the Ministry of Health concerned appears to have taken great pains in the drafting of the regulations, the administration of which, while entailing no hardship on the manufacturer or vendor, should be a boon to the community

INTERNATIONAL HEALTH AND THE LEAGUE OF NATIONS

WE have received from the Information Section of the League of Nations a summary of the work undertaken by the League in various fields during the year 1923 The paragraph dealing with international health records that a definite plan of co-operation between the League Health Committee and the Office International d'Hygiène Publique has been worked out and agreed to by all parties, and the new Health Committee of the League of Nations was duly constituted on that basis Interchanges of public health personnel between the different public health services, made possible by the generous donation of the Rockefeller Foundation, have taken place—one in Belgium, one in Great Britain, one in Austria, one in Italy, and one in the United States The task of creating a centre for world epidemiological intelligence has also been begun, and studies initiated as regards the standardization of antitoxic serums, the amount of dangerous drugs needed for medicinal purposes, the transmission of diseases by international waterways, and certain diseases, such as cancer, malaria, and sleeping sickness In addition the Epidemic Commission has co-operated in connexion with the refugees in Greece, and a small mission has made a six months' study of sanitary conditions in parts of the Far East The question of the suppression of the traffic in dangerous drugs was also greatly advanced during the year As a result of the detailed studies made during the past three years, and also of the participation for the first time of a delegation from the United States, it was found possible to make plans for the early convening of a committee of experts to arrange two international conferences, to be held in November next, one on the reduction of opium smoking in Far Eastern possessions, and the other on the limitation of the production and manufacture of dangerous drugs to the world's ascertained medical and scientific requirements Another paragraph states that the Committee on Intellectual Co-operation has built up a series of national committees in many different countries to serve as intermediaries between itself and intellectual circles in those countries This committee has also started at Geneva an international office of university information, and has made plans for a more effective international interchange of publications The question of Russian refugees scattered throughout various countries in Europe has been followed as thoroughly as funds permitted The model certificate by which it was hoped to expedite travel to places of employment has been adopted by thirty-two countries Most of the Russian refugees in Constantinople have now been evacuated from that city, many of them to France, for others it has been possible to go either overseas or, in many instances, to Russia itself

THE EDINBURGH PHYSIOLOGICAL CONGRESS

THE proceedings of the XIth International Physiological Congress, which was held in Edinburgh last July, have been issued as a supplementary volume to the *Quarterly Journal of Experimental Physiology*[1] The addresses to the congress are given in full That on insulin by Professor J J R Macleod of Toronto we had the opportunity of publishing on August 4th (p 165), and an abstract of the address on the identity of inhibition with hypnosis and sleep, by Professor I P Pavlov (Petrograd), was printed in our next following issue (p 256) That by Professor Charles Richet of Paris on the non-sensorial channels of knowledge, and the experimental method, appears here, we believe, for the first time It is printed in the author's native language Professor Pavlov's is an English translation The proceedings of the sections are reported in abstract only, the various communications being arranged in the alphabetical order of the authors' names The president of the congress, Sir E Sharpey Schafer, professor of physiology in the University of Edinburgh, succeeds in almost completely effacing himself in this volume, but a short account of his address of welcome to foreign members was given in this JOURNAL of July 28th (p 142) A list of all persons who enrolled themselves as members of the congress is printed, and shows that it was attended by a large number of physiologists from other countries, both on the hither and further side of the Atlantic

[1] The Public Health (Dried Milk) Regulations, 1923

[1] London Charles Griffin and Company (Large 8vo, pp 267 Price 30s)

THE AUSTRALASIAN MEDICAL CONGRESS
OF THE
BRITISH MEDICAL ASSOCIATION.

THE SCIENTIFIC SECTIONS

(Continued from page 74)

SECTION OF OBSTETRICS AND GYNAECOLOGY

ON Tuesday, November 13th, the President, Dr J A CAMERON (Ipswich, Queensland), opened the proceedings of the Section with an address based on his experience of 3,000 consecutive confinements personally attended by him in his private practice His results might be taken as fairly representative of general practice in an Australian town There were fifteen deaths in the series two due to ante-partum haemorrhage, two to post-partum haemorrhage, seven to eclampsia, and four to sepsis The two ante-partum haemorrhage cases were attended in the first instance by midwives only The two post-partum haemorrhage cases were attended by midwives, and Dr Cameron on arrival found each case moribund None of the seven eclamptic patients who died had sought any ante natal treatment Of the four septic deaths, one was probably due to ruptured uterus Thus of the fifteen deaths Dr Cameron considered ante-natal and intra-natal care should have saved all but three Stillbirth and neo-natal death accounted for 3 per cent of the infants Labour was induced twenty seven times eighteen times for contracted pelvis, seven for toxaemia, and twice in other cases Contracted pelvis was met with in 20 out of 1,972 mothers Dr Cameron stressed the necessity for (1) better training of students in midwifery, (2) an adequate supply of trained nurses, (3) ante-natal supervision, (4) better conditions under which labour might be undertaken He then briefly outlined the new maternity scheme of the Queensland Government, whereby the State was to be divided into a number of hospital districts, each with a fully equipped general hospital and with subcentres equipped for first aid and maternity services About seventy hospitals were to be built, administered by local committees who must maintain and staff them, and exact payment from patients according to their means The medical officers would be empowered to charge fees Working on these lines it was hoped that the maternal mortality might be reduced to 2 per 1,000, and the infantile to 2 per cent

Dr T G WILSON (Adelaide) then read a paper on "Surgical conditions resulting from labour" He indicated the measures of accurate ante-natal investigation which should be adopted to avoid the necessity for surgical interference after labour, and instanced the value of x rays in determining the relative size of the foetal head and pelvis He thought that the undiagnosed occipito-posterior position was probably the most common condition in labour calling for intervention, and that the use of forceps in unsuitable cases was responsible for very many cases of avoidable trauma

The afternoon session was opened by Dr F A MAGUIRE (Sydney) with an exceedingly interesting and instructive demonstration on the anatomy of procidentia, illustrated by section plates and lantern slides The paper was based on a specimen that was found in the body of an elderly female in the dissecting room of the medical school Dr Maguire removed the pelvis, froze it, and sawed it in the median sagittal plane into two halves The right side had been dissected from the median plane to display the viscera and the displacement which had occurred The left half was sawn into 25 mm sections, and each section was dissected as a check on the other half The specimen was probably unique The hope was expressed that Dr Maguire would amplify his work by the publication and reproduction of the beautiful plates and diagrams It would be a valuable contribution to the anatomy and treatment of uterine prolapse

Dr CHENHALL (Sydney), in a paper on abdominal pelvic ptosis, pleaded for a more scientific study of these difficult cases by physicians, and an avoidance of operative measures by the surgeon, unless they were imperatively demanded for relief

Dr FELIX MEYER (Melbourne), in a paper on the differential surgical treatment of prolapse of the uterus, advocated reconstruction of the pelvic floor by the vagina as effective in almost all cases, supplementary abdominal work seldom being necessary

A pathological demonstration was given by Drs TRINCA and FOWLER in the museum

On Wednesday, November 14th, Dr WINDEYER (Sydney) read a paper on the toxaemias of pregnancy He briefly referred to hyperemesis, accidental haemorrhage, and albuminuria, and then analysed 158 cases of eclampsia treated in the Royal Hospital for Women, Sydney, during a period of seven and a half years from January, 1916 to June, 1923 Of the mild cases 64 were primiparae and 40 multiparae, whereas of the severe cases 27 were primiparae and 27 multiparae There were 11 deaths in the series—a mortality rate of 6·96 per cent There were 3 deaths in 104 primiparae, and 8 in 54 multiparae Figures were given indicating that ante partum eclampsia tended to occur earlier in pregnancy than in intra partum cases The number of fits varied from one to thirty-eight The infantile mortality was 38 per cent Dr Windeyer discussed the interesting problem as to when labour should be induced in cases that had recovered from the eclamptic seizures, his figures indicated that induction, if there was a chance of a living infant, should not be postponed for more than a week The routine treatment adopted was as follows The patient was given a high soap and water enema upon admission, if this was returned clear a high magnesium sulphate and quinine sulphate enema was given If the patient could swallow she was given a purgative, usually pulv jalapae co 2 dr, if she was unconscious and especially if there had been vomiting the stomach was washed out, either with pulv jalapae co 2 dr or magnesium sulphate 2 to 4 oz run into the stomach before the tube was withdrawn In 13 cases the stomach was washed out Hot fomentations were applied to the loins at frequent intervals The patient was kept as quiet as possible, great care being taken that the airway was kept free of vomit and mucus, the throat was swabbed out and the woman kept lying on her side with her head low In 22 cases this eliminative treatment was all that was needed Oxygen was administered after convulsions if cyanosis persisted Morphine was used in 118 cases of this series, a few had up to 1½ grains the great majority not more than half a grain If the fits persisted veratrone was generally used, 72 cases had one or more doses of this drug In 13 cases veratrone was not preceded by morphine Venesection was usually reserved for the cases with persistent cyanosis, and especially those with symptoms of failure of the right side of the heart, it was performed on eleven occasions Saline solution was rarely used it was given intravenously in one case of this series, and subcutaneously in three

The obstetrical treatment had been as follows Caesarean section was performed twice Champetier de Ribes was used five times craniotomy was performed twice and forceps were applied on forty two occasions Induction was

performed in five cases of ante-partum eclampsia before the fits had ceased, in two cases fits had started during induction on account of albuminuria of pregnancy which was not responding to treatment

There had been a gradual decrease in the mortality from eclampsia at the Royal Hospital for Women for many years, this was due to (1) improved and practically routine nursing treatment, (2) a minimum of obstetric interference, (3) control of fits by reduction of blood pressure until the bowels were acting well, (4) avoidance of subcutaneous and intravenous salines, which were contraindicated, as the urinary secretion usually did not increase till twenty-four to forty-eight hours after delivery or cessation of fits

Dr R SCOTT (Hobart, Tasmania) who opened the discussion, congratulated Dr Windeyer on the very excellent paper and results he had presented

On Thursday, November 15th, a short combined session was held with the Section of Diseases of Children, the subject of discussion being breast-feeding

There followed a combined meeting with the Section of Radiology, when the treatment of uterine tumours was discussed Dr WORRALL (Sydney) presented the view from the surgical aspect He advocated the knife in all operable cases as being certain and radical, and would confine the use of radium and x rays to advanced cases of malignancy DRS CLENDINNEN, DENNIS, and FLECKER considered radiotherapy as a definite curative treatment in a vast majority of cases, and as a palliative which would prolong life even in advanced cases

In the afternoon the members visited the Women's Hospital, where clinical demonstrations were given by the staff in both the midwifery and gynaecological departments

On Friday, November 16th, Dr SCHLINK (Sydney) opened with a paper on gonorrhoea in women, and dealt with its prevention by prophylaxis and the control of prostitution The public must be educated by doctors, clergy, and schoolmasters, but it should be the duty of the parent to explain matters of sex hygiene to children approaching puberty He held that little good, and even actual harm, would come from classes of instruction to boys and girls The State Health Department should employ lecturers to address the adult public on the dangers, prevalence, and prevention of venereal disorders Despite the fact that public sentiment in English-speaking communities had always been against police regulation, Dr Schlink thought that registration should be given a trial, or brothels be licensed and all street canvassing strictly suppressed As regards the treatment of the infected person, the New South Wales Act provided for notification with secrecy and for compulsory treatment, but had failed to insist on detention until cure was effected Two principles governed treatment in the acute stage the prevention of the upward spread beyond the internal os, and the attempt to destroy the gonococcus in the areas involved The standard of cure should be based on—(*a*) Three negative microscopical examinations at considerable intervals to show (1) the absence of gonococcus, (2) the absence of pyogenic organisms, and if elsewhere than—namely, the urethra, Skene's glands, and the cervical glands (*b*) A negative test when read by Dr DUGUID (Adelaide) in breech cases, by DR WHITE and pregnancy, and by Dr JONES energic action between ergot and

INTERNATIONAL HEALTH WORK OF NATIONS

WE have received from the Inventy brought for teaching League of Nations a summary of ollowed a most instructive the League in various fields durntiating the comparative paragraph dealing with internationem and ductless glands a definite plan of co-operation betweer marsupials, by Dr Committee and the Office International has been worked out and agreed to by al with a visit to the new Health Committee of the League of N tical treatment of by members of

[1] The Public Health (Dried Milk) Regulation

SECTION OF OTOLOGY

Dr T S KIRKLAND (Sydney), the President, described a series of interesting rare cases Dr R H PULLEINE (Adelaide) discussed naso-pharyngeal catarrh, apart from sinus infection and hay fever, its causes and treatment Tonsil enucleation methods covered a wide range in regard to personal technique and use of instruments, but intratracheal ether anaesthesia and a suction apparatus were preferred by the majority Local anaesthesia appeared to have been largely abandoned, owing to the frequency of reactionary haemorrhage Dr CLIVE EADIE (Melbourne) dealt with the remote effects of chronic tonsillitis Cultures from the crypts of the removed tonsils grew virulent streptococci in a large percentage of cases

Dr FRANK ANDREW (Melbourne) dealt with intracranial suppuration of otitic origin In all cases where headache was present he exposed the dura freely at operation, since extradural abscess occurred more frequently than could be diagnosed before operation In sinus thrombosis he had found no need to tie the jugular vein when the limit of the thrombosis could be reached in the mastoid area Cerebral abscess must be dealt with in accordance with the presence or absence of a stalk A stalked abscess induced meningeal adhesions, and could be drained along the stalk without fear of the discharge infecting the meninges When the abscess was not stalked an artificial stalk was made by turning down a small dural flap A small hernia at once formed owing to the increased intracranial tension, around this adhesions quickly formed, and drainage was then carried out through this artificial stalk He warned against evacuating a large abscess suddenly, since the brain might fall away from the dura and let escaping pus infect the cerebro-spinal fluid He advocated fractional drainage, only a certain amount of pus being allowed to escape at each dressing until the abscess was emptied Dr STODDART BARR (Hobart) referred to his experiments on meningitis in 1909, when he advocated washing through from the lateral ventricle to the lumbar meninges

Dr KENT HUGHES (Melbourne) introduced the subject of sinusitis in children He believed that gross polypoidal degeneration might exist without any pus showing in the nose there being only a mucoid discharge He suspected a sinus infection when rhinitis, otorrhoea, deafness, lassitude, or headache was unrelieved after effective removal of tonsils and adenoids Dr ROBERT GODSALL (Sydney) described his operative technique in chronic frontal sinusitis He removed the bony sinus floor, and then the diseased mucosa could be removed *in toto* The wound was left open and the sinus allowed to granulate up Secondary suture was carried out when this had been effected, generally in from three to six weeks He claimed to have secured elimination of post-operative osteomyelitis by this method SIR WILLIAM MACEWEN remarked that Dr Godsall was carrying out sound surgical principles by this method of after-treatment

In a combined discussion with the Section of Neurology on lesions of the static labyrinth and cerebellum, Professor A E MILLS (Sydney) enumerated the causes of vertigo This was due to an irritable condition of the vestibular mechanism, so that normal stimuli produced exaggerated responses The irritability was caused by various toxins and the anoxaemia of a defective blood supply Dr A W CAMPBELL (Sydney) traced the development of the labyrinth and described its functions, also those of the cerebellum DR FRANK ANDREW (Melbourne) warned neurologists not to place too much reliance on the results of examination of the vestibular mechanism by otologists He decried the exaggerated claims made by certain writers of the importance of this method of examination in the interpretation of neurological problems Dr S A EWING (Melbourne) pointed out that infection could linger in a mastoid antrum and give rise to cerebral complications after all signs of tympanic involvement had cleared up Dr BRYAN FOSTER (Melbourne) discussed those cases of acute otitis media which became subacute without clearing up He advocated the Schwartze operation in all cases which were still discharging after six weeks From his operative experience it was his opinion that it was the acellular type of mastoid that failed to clear up A skiagram taken in the early stages of an otitis media would warn them of these cases

SECTION OF RADIOLOGY AND MEDICAL ELECTRICITY

On the first day Dr NUBET (Brisbane) described the radiological signs of early pulmonary tuberculosis, stressing the value of stereoscopic films, re-examinations, and co-operation with the physician In the afternoon there were exhibited, side by side, examples of the most perfect skiagrams of early pulmonary tuberculosis obtained by several members The techniques employed showed variations in exposure from 1/10 to 5 seconds, and in target film distance from two to five feet Some used the Potter-Bucky diaphragm, the majority did not Variations in kilovoltage were wide The discussion, opened by the President, Dr McDOWALL (Brisbane), led to the general verdict that in diagnostic value there was hardly any difference between any of the films, though Dr Hewlett (Melbourne) recently had changed over to the diaphragm, with most satisfactory results Call bladder technique was also discussed, Dr Praagst (Melbourne) sharing Dr Stuart Cross's appreciation of the value of the left antero-lateral view Cases of apparent cures of malignant neoplasms by deep x-ray therapy were demonstrated by Drs CLENDINNEN and FLECKER (Melbourne)

On the second day Dr NOTT (Adelaide) discussed radiography of the cranium, films of many interesting pathological conditions being shown by both the speaker and other members Dr FLECKER related his experiences in "deep" therapy

On the third day Dr CLENDINNEN described the technique and indications in the treatment of uterine tumours

On the fourth day Dr DENNIS (Melbourne) reported satisfactory results in the x-ray treatment of glandular diseases, especially in the case of the tonsils, prostate, exophthalmic goitre, and lymphadenomata Dr J G EDWARDS (Sydney), at a combined meeting, discussed the treatment of goitre

Some considerable time was spent on different days in informal discussions on special skiagrams exhibited by various members A committee consisting of the Melbourne radiologists was appointed to consider the formation of a radiological society

SECTION OF DERMATOLOGY

In the Section of Dermatology Dr R E HARROLD (Adelaide) dealt with some skin lesions of the face and their treatment, selecting acne vulgaris, acne rosacea, keratosis rodent ulcer, and epithelioma This paper was followed by one by Dr E H MOLESWORTH (Sydney) on the causation of rodent ulcer, in which he suggested that prolonged exposure to bright sunlight rich in penetrating ultra-violet rays of the skin of a race evolved in a dull, cloudy climate accounted for the rarity of lupus vulgaris and the frequency of rodent ulcer in Australia The bactericidal action of the rays accounted for the destruction of the tubercle bacilli, and possibly ionization also played a part On the other hand, the repeated stimulation of the basal layer of the epithelium resulted in the production of rodent growths In the discussion that followed it was held that the actinic rays of sunlight caused keratoses especially in fair skins Repeated effects of this kind led to the appearance of rodent growths It was also maintained that rodent ulcers were based on naevoid growths arising from the basal cell layer, the neoplastic nature resulted from the effect of injury or of stimulation by the actinic rays of sunlight

Papers on radium therapy by Dr HERMAN LAWRENCE (Melbourne) and on x-ray therapy by Dr S W SHIELDS (Melbourne) were fully discussed, and the value of these agents in superficial and deep cutaneous manifestations and in certain forms of surface malignant diseases was maintained Dr IVAN MAXWELL (Melbourne) gave an account of his work in connexion with urticaria and protein hypersensibility Among the other subjects introduced were the cutaneous manifestations of congenital syphilis by Dr NORMAN PAUL (Sydney) prophylaxis in dermatology by Dr C G CROWLEY (Melbourne), and mycosis fungoides Dr A W LINCH NOYES (Melbourne) reported an unusual instance of the last named condition and described the clinical and pathological characters of the lesions

CANNED FOODS AND HEALTH

IN the BRITISH MEDICAL JOURNAL of October 14th 1922 an account was given of investigations into the bacteriology of tinned meat and fish by Dr W C Savage Mr R J Hunwicke, and Mr R B Calder on behalf of the Food Investigation Board At that time investigation of a similar character on canned fruit, vegetables, and milk had not been made, or at any rate completed Recently, however, the Food Investigation Board has issued reports on these by two of the former investigators, Dr Savage and Mr Hunwicke, and the general conclusions which have been reached on the subject of canned foods as a whole have been embodied in the Milroy Lectures, which were delivered by Dr Savage last year and which have now been published as part of the Cambridge Public Health Series in a volume on *Canned Foods in Relation to Health*[1] We have thus presented to us a more or less complete review of the present position of what is becoming an important economic and health question in connexion with the food supply of the United Kingdom

The researches of Dr Savage and his co-workers revolutionize the popular and, to a certain extent, the previous scientific views regarding the sterility of canned foods and the dangers of bacterial infection They have demonstrated the fact that tins which are passed as sound may, and often do, contain living micro-organisms in a dormant state The tins only become unsound when conditions such as access of oxygen by puncture or inadequate sealing, favour the vegetation of the spores of proteolytic or fermentative micro-organisms in their contents These micro-organisms, however, are not necessarily injurious to health In other words, the danger to health does not depend on the numerous varieties of non specific bacteria which have been isolated from canned foods, even when putrefactive changes have been caused either before or after the food is canned but only on the risk of infection by the specific bacteria associated with outbreaks of food poisoning These, Dr Savage tells us, are confined to the Salmonella group (*B enteritidis* Gaertner and *B aertrycke*) and the *B botulinus* Fortunately they are only rarely found in the canned foods imported into the United Kingdom

Canned Food Poisoning

With regard to the Salmonella group, *fifty-one outbreaks* of canned food poisoning in the United Kingdom have been tabulated by Dr Savage as having occurred since 1882 Sixteen of the outbreaks were due to living bacilli of the group, while as many as twenty seven were due to the undestroyed toxins formed before canning The cause of the remaining eight outbreaks was not definitely ascertained The facts clearly demonstrate the importance of adequate supervision of the raw material brought to the factories and of their sanitary condition and construction Twenty six of the outbreaks were caused by canned meat The place of packing could not be ascertained in all of the but in the case of fourteen of the more recent outbreaks between 1919 and 1922 the source was ascertained in ten In every one of these the tins came from South America which supplies 53 5 per cent of the canned meat imported into the United Kingdom It may be assumed therefore that the methods of supervision of raw material and canning in factories are less satisfactory than in North America, where the United States Federal Food Inspection Act of 1906 and subsequent supplementary legislation grant extensive powers of inspection and supervision Sixteen of the remaining outbreaks of Salmonella group poisoning were due to salmon and nine to other fish, crustacea or fruit The salmon outbreaks were mostly due to infection with living bacilli and point to the use of a lower degree of temperature in the so-called sterilizing or 'processing' of the can The bacilli and their toxins were thus arrived from infection at the place of canning and not from infection after the tins were opened The possibility of fish being so infected or of undergoing decomposition changes before canning is considerable, for much of the material is collected by outside agents who may wait some time before they obtain a

[1] Canned Foods in Relation to Health By W G Savage MD Lond DPH Cambridge Lecturer in Bacteriology at the London School of Hygiene and Tropical Medicine (Cambridge Public Health Series) Cambridge University Press 1923 (8vo pp 146 6 figures 6s net)

sufficient quantity to send to the canneries The first fish caught may thus begin to decompose before the whole catch is sold, and unless there is careful supervision the whole consignment of sound and decomposing fish is canned But, as already noted, non-specific putrefactive changes do not cause symptoms of food poisoning, and in the case of fish the contents of the tins undergo in time—like port, cheese, and Chinese eggs—maturation changes, which are considered beneficial rather than the reverse

Botulism

With regard to botulism only one instance—the Loch Maree outbreak in August, 1922—is recorded in the United Kingdom The infection came from a jar of wild-duck paste But it is far from uncommon in the United States and Canada Dr Savage has tabulated 84 outbreaks in these countries between 1906 and 1920, comprising 319 cases with 206 deaths In 52 of the outbreaks the foods consumed had been canned at home, and only 31 were caused by commercially canned food The source of the remaining one outbreak was doubtful Another important fact was that, with the exception of three outbreaks from tins of "clam juice" and one from preserved milk, all of the outbreaks were traced to tins of canned fruit or vegetables As the primary seat of the *B botulinus* is the soil, it is not difficult to understand why these articles were specially liable to infection In the report on canned fruit[2] this danger from botulism is fully considered, and some important practical points are brought out If the bacillus is present on the fruit before canning, the temperatures of "processing" hitherto employed are not likely to kill all the spores but will probably destroy any vegetative forms and toxins But the spores, if scanty, will not produce changes sufficient to cause the tins to be rejected as unsound On the other hand, as they are proteolytic and fermentative, they will cause the tins to be "blown" if suitable conditions exist for their growth on the contents The contents will also have an offensive odour It is therefore only when people are so careless as to consume food with these abnormal features that outbreaks of botulism from canned fruit will occur Non-vegetating spores of the bacillus are not injurious, as they do not develop and produce toxins when swallowed This is at least comforting, but it should be noted that highly spiced food may conceal the offensive odour of food decomposed by the *B botulinus* Incidentally, it may be mentioned in connexion with canned fruit that Dr Savage and Mr Hunwicke in their investigations discovered a hitherto unrecognized bacillus to which they gave the name *B pleofructi*, and which they regard as the chief cause of spoilage of tinned fruit It is coccoidal in form until it vegetates, when it grows into a long slender bacillus The organism is non-pathogenic to mice and guinea-pigs

Condensed Milk

With regard to condensed milk, no sound tins of sweetened milk were found to be sterile Most of these are imported from the United States The fact that they contain living micro-organisms, while otherwise unimportant, is of significance in connexion with infant feeding, as there will be a rapid increase of bacterial growth after the tins are opened, and they may remain open for several days before the contents are used up

General Considerations

Several other points of interest in the relationship of canned foods to health are brought out in Dr Savage's volume The possibility of there being vehicles for transmitting specific infectious diseases, such as typhoid, dysentery, or diphtheria, or animal parasites, is negligible, as the temperature of "processing" destroys these, while the survival of tubercle bacilli in condensed milk should be impossible if the time and the degree of heat given to the milk before condensation are adequate Chemical contamination by absorption of tin is also considered negligible, though possible if tins containing acid fruits are kept for a long time It is significant, however, that there has been no case of tin poisoning from canned foods during the last decade, although the consumption has increased enormously Finally, there is the important question of vitamins, and Dr Savage points out that the fat-soluble A vitamin is not destroyed by the canning processes, but that the anti-beri-beri and anti-scorbutic vitamins are A diet of canned foods must therefore be supplemented by accessory vitamin foods, such as marmite

In these remarks we have confined ourselves to the influence of canned foods on health, but the Food Investigation Board's reports and Dr Savage's volume contain a vast amount of other information, especially as regards "spoilage," which has an important economic bearing on the cost of these foods and the prevention of waste in food supplies Two appendices to the volume describe the complicated problems connected with "processing" canned foods and the laboratory methods of examining the tins To Dr Savage and his co-workers great credit must be given for placing the whole subject on a scientific basis, such as ought eventually to prove of incalculable benefit to the canning industry and the public generally

[2] *Canned Fruit* Food Investigation Board, Special Report No 16 by W G Savage and R F Hunwicke London H M Stationery Office 1923 (8vo, pp 34. 1s 3d. net)

Scotland.

STOMATITIS AND FOOT-AND-MOUTH DISEASE

IT has been reported in the daily papers that certain cases of foot-and-mouth disease have occurred recently among children in Glasgow From inquiries which have been made for us it appears that this statement must not be accepted as certainly correct It is true, however, that several cases of stomatitis have been reported to the Health Department of Glasgow as possibly due to the infection of foot-and-mouth disease They occurred in children last November and were carefully investigated In no instance was the milk supply traced to a dairy farm in which infected animals existed The source of the butter used in the family was also traced, but no evidence of connexion with foot-and-mouth disease in animals was found The symptoms in the children were those of infectious stomatitis, which is well known to occur at stated periods, especially in late summer In two cases the hands were affected secondarily to the mouth There was no distinguishing feature between the two cases and the ordinarily occurring infectious stomatitis, and there is no known test to distinguish them Following this an inquiry was made into the occurrence of stomatitis at a children's dispensary in the city, and it was discovered that from August 8th to November 17th, 1923, there had been an unusually large number of cases of infectious stomatitis The question of foot-and-mouth disease had not been raised and the cases were accepted as of the usual type seen there year after year associated with teething, pyorrhoea, carious teeth, alveolar abscess, etc Nearly 500 cases were traced and inquired into, of these 30 showed lesions inside the mouth only, 12 in the mouth and on the eyes, 2 on the face, lips, and hands, 2 in mouth and on the hands, and 1 on hands only Three adults were found affected 1 in the mouth only, 1 in the mouth and on the lips, and 1 on the hands only In no case could any definite association with foot-and-mouth infection be traced Although it is believed that man can contract the infection it will be seen that the Glasgow evidence is negative, it would, however, be desirable that all occurrences of infectious stomatitis should, while foot-and-mouth disease prevails, be carefully investigated to ascertain the source of milk and butter supply, or any other association with infected animals Though there are reasons to think that the organism is a filter passer, the information at present available is far from conclusive, as was pointed out in the leading article on the subject published on January 5th (p 25) It has recently been suggested as a possibility that the disease in animals may have its origin in man and that the infection when transmitted from him to animals may run a much more rapid and serious course The cases of stomatitis mentioned above as occurring in Glasgow readily yielded to ordinary treatment

MEASLES IN SCOTLAND

A meeting of representatives of local authorities and medical officers of health from the larger areas in Scotland, specially interested in the prevention and control of measles during epidemic periods, was held last week in the offices of the Scottish Board of Health, Edinburgh The meeting was convened by the Board with special reference to the recent epidemic of measles in Glasgow and contiguous areas, and to the continued high proportion of deaths from the disease that occurs in children under school age, and was presided over by Dr W E Elliot, Parliamentary Under Secretary for Health for Scotland The present position and further measures possible for improved control and treatment of the disease, both in rural and urban areas, were discussed in their medical and financial aspects Dr Elliot intimated a special limited grant from the Treasury to be administered by the Board in conjunction with the present grant in aid of maternity service and child welfare schemes in Scotland There was a full expression of opinion as to the general lines on which the grant might best be utilized, and the Board will issue shortly a circular letter to local authorities on the subject

GLASGOW SCHOOL CHILDREN

In the annual report on the work of the Glasgow Education Authority for the session 1922-23, reference is made by Dr E T Roberts, the principal medical officer, to several points in the physique of children Of the children examined 45 per cent were found to be suffering from "defects", among the younger children the percentage was 52 per cent The statistics show a considerable increase in the number of cases, and this is attributed in part to the industrial depression There were decided increases in the prevalence of chronic suppurative ear disease, of strumous ophthalmia, of impetigo, of bronchitis, and of anaemia The number of cases of scabies decreased The increase in middle ear disease is attributed in part to the severe epidemic of measles which occurred in the city early in 1922 With the object of determining whether the physique of school children as indicated by records of height and weight showed any appreciable change when compared with pre-war statistics, the figures for large numbers of children in the years 1909 1914 were compared with similar figures for 1919-1923 It is of interest to note that a post-war increase is shown by 13 out of 16 averages for various ages of boys and girls, thus apparently war time conditions have resulted in improved physique Evidence has accumulated that for the prevention and treatment of rickets the most important means consist of fresh diet, sunshine obtained by holding classes in the open air, and exercise

BRIDGE OF WEIR SANATORIUM

A report on the past year's work at Bridge of Weir Sanatorium by the superintendent, Dr James Crocket, is included in the Christmas magazine of the institution The number of patients treated and discharged within this period was 197, of whom 187 suffered from pulmonary tuberculosis Of the latter, 29, or 15 5 per cent , had the disease in an early stage, 69, or 36 8 per cent , were in an intermediate stage, while 89, or 47 5 per cent , were in an advanced stage The disease was arrested in 35 2 per cent , improvement was observed in 39 5 per cent , while 24 per cent showed no improvement, and 1 per cent died of the disease Naturally the most favourable results were obtained in the early cases, and in 79 3 per cent the disease was arrested The average period of stay of patients discharged was 9 4 months, while 26 7 per cent were in residence over a year Patients with pulmonary tuberculosis are found to have less than ordinary resistance to other maladies, and as a result many complications and intercurrent affections had to be treated, especially pleurisy, laryngitis, and indigestion The signs which had directed attention to the onset of tuberculosis were, in order of frequency cough most commonly, malaise or lack of endurance, pleurisy, digestive disturbances, haemoptysis, influenzal symptoms, and loss of weight A family history of tuberculosis could be elicited in 46 per cent of the cases, occurring in the direct line in about half and in collaterals in the other half With regard to treatment, most reliance was placed on rest, the patients often being kept in bed for three, six, or even twelve months Hyperaeration, practised as far as the climate will permit, hyperalimentation up to the limit of the digestive capacity, and hydrotherapy consisting of cold sprays or cold douche every morning, also formed part of the routine Tuberculin was used in 128 cases, and the effects were considered to have been beneficial in 79 6 per cent of the Artificial pneumothorax was attempted in a large number of cases, usually without success on account of adhesions although where collapse was possible the results were considered little short of marvellous

Ireland.

SALARIES OF POOR LAW MEDICAL OFFICERS IN THE IRISH FREE STATE

COMMUNICATIONS have recently been addressed by the Irish Medical Secretary to the Ministry of Local Government with regard to the salaries of dispensary doctors The following reply has been received from the secretary of the Ministry of Local Government

I am directed by the Minister for Local Government to acknowledge the receipt of your letter of the 1st instant and to state that the aim of the Minister is to secure as far as possible uniformity of the salaries of dispensary medical officers on a county basis and to act as far as possible in agreement with the local authority in securing this end without in any way derogating from his right to modify or refuse sanction to any proposals which may be excessive, or to fix salaries where existing remuneration is obviously and unjustly inadequate

The County Board of Health is the legal successor to the Board of Guardians for matters connected with the Poor Law and Medical Charities Acts, including the question of salaries and remuneration of dispensary medical officers and when the Westmeath County Board of Health adopted a scale of salary which as a whole the Minister considered fair and adequate for the requirements of the case, he accorded sanction thereto with such modifications as he deemed advisable The fact that salaries with higher maximum had been sanctioned in other counties was not, in the Minister's opinion a just and sufficient reason for withholding sanction It was also pointed out that the revised scale of salary was not to affect injuriously any existing dispensary medical officer in receipt of a higher scale than would accrue under revised conditions

In deciding scale salaries the Minister has always kept in view

(1) Extent and area of dispensary district
(2) Population and its constitution showing opportunities for private practice
(3) Actual work as shown by records where available (number of red and black tickets) and the number of dispensary depôts in each district
(4) Any other special circumstances

The Minister is in accordance with the Laoghis County Board of Health as regards the travelling allowances of the medical officers of Ballylinan and Borris in Ossory dispensary district and with the Board of Guardians of Kanturk Union as regards the salary of the medical officer of Milford dispensary district If detailed particulars are given as to the arrears of salary due to the medical officers of Kanturk and Carrickmacro Union or any other dispensary medical officer in An Saorstat the matter will be carefully investigated

The question of the salaries of the medical officers in the Connemara area of Galway county has now been determined and the Minister's decision communicated to the County Board of Health

THE CARE OF CRIPPLED CHILDREN

A description of the American Rotary scheme of child welfare was given recently to a Dublin audience by Mr Francis A Fitzgerald, who is a member of the Niagara Rotary Club Mr Fitzgerald dealt with the good results that have followed the study of crippled children with a view to finding out ways in which they can become self supporting, and then providing institutional treatment and education accordingly State effort eventually will be required, and the committee hoped to be able to inaugurate this and to help in the necessary work Sir James Craig M D emphasized the importance of specially trained people undertaking work of this kind, and also of parents being educated to look after the health of their children

England and Wales.

PRESENTATION TO DR J LLOYD ROBERTS

ON January 4th members of the committee of the Liverpool Royal Southern Hospital, friends and the medical staff, assembled to do honour to Dr Lloyd Roberts, whose resignation during the past year of the position of honorary physician to the hospital had caused universal regret among those with whom he had been brought into intimate contact As a token of their esteem and affection he was presented with a solid silver tray bearing an inscription commemorating his connexion with the hospital Dr Charles J Macalister opened the proceedings with an account of the signal services Dr Lloyd Roberts had rendered, not only to the patients, but also to the students during his tenure of office as honorary physician Appointed in 1904, Dr Lloyd Roberts devoted himself heart and soul to the interests of the hospital, and in this his example of assiduity and laborious work would ever remain for the emulation of all physicians Dr Macalister voiced the opinion of all present in expressing the hope that the necessary rest from his arduous duties would soon re-establish his health and that he would continue for many years in private practice The President of the hospital, Mr T Woodsend, expressed on behalf of the committee and the many subscribers to the testimonial their high appreciation of Dr Lloyd Roberts as a physician, and his untiring efforts for the good of the hospital He wished Dr Lloyd Roberts health and happiness, and many years of usefulness Dr Lloyd Roberts expressed his warm thanks for all the kind words that had been uttered by the previous speakers He briefly sketched his connexion of twenty years with the hospital, adding personal details of great interest to those present He appreciated very much the handsome present they had given him, which he would cherish always as a reminder of the happiest period of his medical career

THE CHAIR OF BACTERIOLOGY AT CAPETOWN

Dr William Campbell has resigned the post of bacteriologist to the city of Bradford on appointment to the Wernher Beit chair of bacteriology at the University of Capetown in succession to Professor T J Mackie The appointment carries with it the position of honorary bacteriologist to the New Somerset Hospital, which is the teaching hospital of the medical school in Capetown Dr Campbell had been in charge of the Bradford Bacteriological Laboratory since its establishment about six years ago In accepting the resignation the Health Committee of the Bradford Corporation expressed its best wishes for Dr Campbell's success in his new office

Correspondence.

NOTES ON THE INOCULATION OF MALARIA

SIR,—You have recently published three capable papers[1] on the treatment of general paralysis by blood inoculations of malaria I am not competent to speak regarding general paralysis, but blood inoculations may be used to throw considerable light on the subject of malaria, and I trust that you can allow me space to make a few suggestions for future experiments in the same line—which I gather are likely to be numerous

1 Dr S Ben-Harel has recently shown[2] that in a series of twenty-three blood inoculations of canaries with *Proteosoma* in Baltimore the red blood cell count begins to diminish even as early as the day after the inoculation, and long before the parasites become sufficiently numerous in the birds' peripheral blood to be detected The decline is progressive day after day, until from one-half to two millions of erythrocytes have disappeared from the original normal count (4·5 to 5 million per c mm), when the parasites reach a high enough figure to be readily discoverable in the peripheral blood of the bird Of course, many observers have shown that the red corpuscles tend to vary inversely to the number of parasites, but I do not remember that this law has been established before during days immediately following inoculation If it holds also regarding human malaria it should help in the detection of "larval" infections, and malaria inoculations against general paralysis may enable observers to clear up the question I should like to beg for daily erythrocyte counts to be made, beginning three days, say, *before* the inoculation

2 Could not more exact figures be given regarding the approximate numbers of asexual parasites injected into the subject and those found in his blood after the incubation period—*in order to enable us to calculate their rate of increase from the beginning*? I presume that the transfer of blood is to be made under exactly the same conditions and as quickly as possible in all comparable cases The object will be to discover whether there is really any, or any large, factor of personal resistance

3 A very important point is the question of relapses after treatment Are they being overlooked? In the list of fifty-one blood inoculations of malaria recorded in my *Prevention of Malaria* (Murray) there was scarcely one in which relapses were mentioned by the experimenters, and yet the subjects were certainly not all, or (?) any, cases of general paralysis or even of syphilis On the other hand we know only too well from our melancholy experiences during and after the war that mosquito-borne cases generally continue to relapse for years, even after several long courses of quinine Is this difference due to the circumstances that in the blood inoculations we deal only with asexual *Plasmodiae* and that these have already become partially exhausted in their first host, the original blood donor, and are therefore easily killed off by quinine in successive subjects? May we beg for very careful search for parasite relapses in these new experimental cases of malaria?—I am, etc,

41, Buckingham Palace Mansions, London, S W 1, Jan 12th RONALD ROSS

P S —I shall always be glad to help in the analysis of any figures which may be sent to me —R R

THE STANDARD OF FAT IN COW'S MILK

SIR,—Recently I published a pamphlet, *Some Observations on the Butter Fat in Milk*, to which you made reference in your issue of December 1st, 1923 (p 1054) In your issue of January 5th you refer to an editorial in the January number of *Public Health*, in which the value of the investigations and the validity of my conclusions are called in question Either these investigations are of value or they are not, and as the subject is of importance I feel compelled to reply to the criticisms made by the editor of *Public Health*

Before doing so I wish to point out that my pamphlet gives details of two investigations carried out at Moundsmere—the first in 1915 with the assistance of the medical officer of health for Hampshire, the second by a committee of the Medical Research Council, a number of whose members were present throughout the investigation, the sampling and analyses being carried out by Mr J R Fraser of the Government laboratory, whose services were kindly lent to the Medical Research Council for the occasion The editor of *Public Health* makes no reference whatever to this investigation, which produced similar results to the first so far as they pertained to the extreme and daily variations in the percentage of butter fat contained in the milk of individual cows and of the herd His criticism, although so worded as to cast doubt upon the value of both investigations, is directed solely against the first

With your permission I will repeat the criticisms and make my reply to each so that your readers may be in a position to determine their value Personally, I believe the criticisms to be valueless, and I remain satisfied with the results demonstrated, which are in accordance with similar observations that have been made weekly over a

[1] (1) W McAlister, BRITISH MEDICAL JOURNAL, 1923 ii p 696 (2) A R Grant, Ibid, p 698 (3) C Worster Drought and H C Beccle, Ibid, p 1256
[2] S Ben Harel, *Amer Journ Hygiene*, 1923, iii, 6, p 652.

number of years on my farm, and which I believe can be confirmed by anyone who chooses to take the trouble

(1) *Public Health* states "It is difficult to understand why these figures have made so belated an appearance" Some details of the 1915 investigation were given in my book *Farm Records and the Production of Clean Milk at Moundsmere*, published by *Country Life* in 1917 The complete figures were made public by me in a paper that I read before the West of Scotland Agricultural Discussion Society in Glasgow on January 28th, 1920, which was published in full on January 31st and February 7th 1920, by *The Scottish Farmer*

(2) The (1915) investigation 'was not undertaken in any way as an investigation bearing upon the controversial subject of a minimum standard for milk, and the work then undertaken and the results then obtained are not to be regarded as bearing upon that subject" The inquiry related primarily to the effect if any, upon the composition of milk as the result of changing the cow's diet from winter rations' to pasture only, but it will be observed that it was extended to noting the effect of varying the hours of milking (see my pamphlet, table iv, page 9) Obviously the immediate purpose of the inquiry would not affect the composition of the milk

(3) The sampling, method of milking and all such vital and important factors were without that strict supervision which would be necessary if the results of the investigation were to be used in this respect The medical officer of health for Hampshire provided Mr Slim, a member of his staff, who spent the period April 18th to May 26th at Moundsmere It was he who received the samples from the milkers as each cow was milked, and made all the analyses From personal observation I am satisfied that the milking done by my staff and the work done on behalf of the county medical officer of health was done with the utmost care and efficiency

(4) 'Many of the cows were in obviously poor condition I do not recall this, but upon referring to their yield I find that they gave a daily average of 17.31 *pints during the period* under observation while receiving winter rations and 19 54 pints when turned out to grass I am sure that their physical condition was at least not below that of the average dairy herd The yield was certainly not below the average

(5) The diet appears to be insufficient" My pamphlet gives exact particulars of the rations fed which were in accordance with those recommended by the South Eastern Agricultural College at Wye in their valuable pamphlet on the winter feeding of dairy cattle written by Mr James Mackintosh who kindly supervised the feeding of my cattle during the course of the 1915 investigation Their maintenance ration' provided a "starch equivalent' of 9 2 lb containing 0 80 lb of digestible proteins, in addition to which they received a "production ration' with a 'starch equivalent" of 1 78 lb, containing 0 58 lb of digestible proteins for each gallon of milk yielded, an addition being made in the case of cows giving three gallons or more of milk.

(6) 'The scarcity of grass at that time of 1915 was also remarkable and as a matter of fact the experiments had to be unexpectedly extended owing to the impossibility of turning out the cows to grass when there was no grass available The cows were turned out to grass in 1915 on May 6th during the subsequent eight years they have been turned out on the following dates—May 13th 12th 8th 13th 5th 6th 10th and 7th Before turning out to grass the animals received full winter rations and when turned out there was *ample grass*

(7) According to the dietary published by Mr Buckley there would appear to be, judged by modern notions an insufficiency of vitamins I am not aware that it is contended that the quantity of vitamins fed to cattle affects the quantity of butter fat in their milk but be that as it may pasture in May provides a maximum of vitamins and a winter ration in April that includes 60 lb of roots is a good ration a better one than can be supplied to the average British dairy herd

Some of your readers may be unaware that the editor of *Public Health* and the county medical officer of health for Hampshire is one and the same—Dr Robert A Lyster During and since the 1915 investigation he has never suggested to me any dissatisfaction in regard to that inquiry, his only comment being a written criticism of the inadequacy of my reference to his staff in regard to that work, in my book previously mentioned in this letter —I am, etc,

Basingstoke Jan 13th. WILFRED BUCKLEY

CANCER IN CHINA

SIR,—As throwing light on the etiology of cancer, all information on its occurrence in foreign countries is welcome I therefore do not apologize for asking you to be good enough to publish the following summary of his observations, which I have received from my nephew, Dr S G Peill, of the London Missionary Society, Tsangchow, North China

Carcinoma of the breast is very common also of the cervix, etc Next comes cancer of the oesophagus—though I have never had an opportunity to make a *post mortem* examination on one —it seems fairly certain that it is cancer from the symptoms, history, etc It may be due to the old men drinking frightfully strong, undiluted spirits hot Epithelioma of the tongue I have seen, but not of the lips The Chinese do not smoke long pipes and the long pipes all have fairly smooth non-absorbent mouthpieces Cancer of the stomach and pylorus is fairly common I did a gastro-enterostomy for one last year in a man over 60 Sarcoma is frightfully prevalent, though why I cannot tell Malignant ovarian cysts are pretty common too I have removed several Although the people eat much less meat than we do, yet all eat a good deal of pork during the year, especially at festive seasons

This is all the information I have been able to obtain, and it does not much help those of us who are searching for some connexion between cancer and the habits of civilized life The hospital at Tsangchow is in the midst of a large city population, though it also serves a wide agricultural district The patients are drawn from all classes, rich and poor Obviously the poorer Chinese are not likely to indulge much in eating pork or smoking tobacco

We need further and more detailed observations as to cancer and habits of life in all countries whose civilization differs markedly from our own —I am, etc,

Buckhurst Hill Jan. 8th. SIDNEY DAVIES

ACUTE LUMBAGO

SIR,—In his letter in your issue of January 5th, referring to his experience of Mr Souttar's method of treatment by quinine and urea hydrochloride, Dr William Russell says "In less than an hour the spasm was much relieved, and in quite a short time the tendency to disabling spasm was checked" If Dr Russell had got his medical friend to try the method described in a paper read by me at the Annual Meeting of the British Medical Association in Aberdeen in 1914, and published in the BRITISH MEDICAL JOURNAL in September of that year, I venture to think that he would have had even more immediate relief My method, besides giving a quicker result, has the advantage that it avoids having to puncture the skin by injection

The following letter from a doctor in Stirling to whom I sent a copy of my paper at his request, is worth quoting in support of my assertion:

I had my first chance of using your method for acute lumbago this week My patient is an engine-driver who was carrying a bucket of coals in his own house on Sunday afternoon He got a twist while pulling the bucket out from below a shelf Acute pain came on at once and he had to lie on the floor for two hours before he could be helped to bed

I saw him on Monday morning got him out of bed on to a chair with a great effort and obviously much pain I tried your method as well as I could from memory but without result He was put back to bed and his wife occupied the remainder of the day and all Tuesday poulticing his back and rubbing it with ung methyl sal co In the meantime I re-read your paper and called to see him on Wednesday morning He was no better and had had no sleep as the slightest turn in bed gave him pain and wakened him

We hoisted him out of bed again on to a chair I found the defaulting muscles close to the pine on the left side at the level of the iliac crest They were very tender but I brought him a little and then put him through your exercises In less than a quarter of an hour the pain had entirely gone He stood up walked across the floor got into and out of bed quite easily and finished up by standing on one leg and flexing the other to its full extent! The man said it was a miracle he was in another world and if he had been like that in the early morning he would have been driving the train to Crieff

It looks to me as if the cause of the trouble must be some displaced fibres of the muscle The pain could hardly be due to a torn muscle as I could immediately push my thumb with a great deal of force into the spot which was fifteen minutes previously exquisitely painful

Very many thanks for sending me the article and if ever I get an acute attack myself you must be prepared for a telephone message and a hurried visit to Stirling

—I am, etc,

Crieff Jan 8th. WILLIAM HAIG

*** Dr W Haig in the BRITISH MEDICAL JOURNAL of September 26th, 1914 (p 539), described the method as follows

(1) Deep thumbing of the lumbar muscles in front of which a painful area is usually found either in the middle line or to one or other side (2) fixing the part of the vertebral column below this painful region by firm pressure of the thumbs on each side of the spine and (3) making the patient perform movements of flexion acute dorsal flexion lateral flexion and rotation The result is the cure of the attack of lumbago and in most cases I have had to repeat the process

FOOT-AND-MOUTH DISEASE

SIR,—Many years ago, a big breeder of pedigree cattle saved the whole of his herd from infection by sprinkling the yards, stalls, and gateways with flower of sulphur daily It is cheap, simple, and harmless to mammals, but a germicide and destructive to the lower organisms Puffing sulphur on the tonsils was once a good treatment for diphtheria It is urged that the pastures could not be so treated, but the feet could easily be dredged every day, or the beasts driven through a shallow pit of dry sulphur, so that their feet sank well into it, and they constantly lick their feet

As there is no antitoxin of any value yet discovered (BRITISH MEDICAL JOURNAL, January 5th, 1924) there is now a golden opportunity to give sulphur a trial, it is better than doing nothing The cost and labour would be slight

Seeing there are two children affected in Glasgow, I should be glad to know the treatment adopted —I am, etc ,

Axbridge, Somerset, Jan 7th A V LECHE, M O H

*** Reference to the points raised in the concluding sentence of this letter will be found at page 128

THE MILITARY PREFIX

SIR,—The matter is not so simple as "Quondam Captain" suggests in your issue of January 5th For the medical man in home practice to revert to his civilian title is natural, but not so those, for instance, who have retired from practice Certainly if they took up parliamentary or other public duties immediately after the war they are naturally known by the rank which they then held It would be confusing to the electorate, even if possible, to revert to the prefix "Doctor"—to which some, like myself, are less entitled And in Parliament itself the use of the military prefix is of definite advantage in representing the medical services of the Navy, Army, and Air Force, and indeed in the general advocacy of public health

There must, of course, be no concealment, but rather outspoken pride in one's profession, while it is well for Parliament and public to be reminded that medical officers have as much right to the military title as combatants, and Territorials as Regulars Incidentally any officer who served through the late war has seen more active service than any regular officers had done before the war I think there must be not a few cases, like my own, where the retention of military title may be advisable or inevitable After all, modes of address, whether titles or names, have a psychological significance, far transcending their etymological origin, and cannot be divorced from their context —I am, etc

Hatfield Herts, Jan 8th F F IRREMONGER

SIR,—I should like to add a few words to the remarks of "Territorial" (January 12th, p 86) To my mind he is too generous in placing temporary commissions on a bare equality with Territorial commissions

I became a Territorial officer at the inception of that Force Long before the war I had my rank and the right to wear the uniform thereof, I was in fact a member of the R A M C

During the war I was stationed at a military hospital with a large mess There were but few regular R A M C officers, and I found that it was my place in the absence of regular officers of higher rank to preside at the mess, even though temporary officers of higher rank than myself were present, the reason being that I was a member of the R A M C and that the mess was a R A M C mess

Further, the Territorial officers used before the war to wear a T under the R A M C badge and we were ordered to discontinue this, the reason given being that it might, through ignorance, be taken to indicate a temporary officer I remained a member of the R A M C after the war until retired—*with my rank*—under the age limit

I submit that officers who voluntarily joined the Territorial Force before the war and thereby became members of the R A M C stand on a different footing from the temporary officers Certainly the junior Territorial officers did, as they drew much less pay

It is not justifiable for any subject to refuse to recognize a rank which has been granted by His Majesty, and to my mind it is a discourtesy to the King not to use the rank which he has granted —I am, etc ,

January 12th ANOTHER TERRITORIAL

SIR,—The letter signed "Quondam Captain" (January 5th, p 39) raises many points of interest which should not be lightly dealt with and dismissed without the fullest examination

The question of temporary service does not arise When the war started in 1914 a great number of people honestly imagined it would be well over by Christmas, but it soon became apparent that the nation was up against the toughest problem it had ever been called upon to face A huge army, consisting of millions from all walks in life, was rapidly enlisted Some 15,000 medical men were given commissions in the Royal Army Medical Corps, not counting the Territorial Force, the Special Reserve, the Volunteers, or Militia

As time went on it became clear that the ordinary meaning of the term "temporary," as applied on enlistment, required revision, and in 1916, or perhaps earlier (I am writing from memory), this was made the subject of an Army Council Instruction, and the term was ordered to be deleted, as it was considered that the temporary character of the services was no longer applicable The contract for commissioned medical officers which was at first yearly, became "For duration of the war"—that is to say, the form of contract was altered, and I know of a case of a captain, R A M C, who served from 1914 to 1923 In Ireland conscription was not in force, and a number of officers who relinquished their commissions at the end of twelve months were not allowed to retain their rank, according to the *London Gazette*, and I think I am right in saying that the decision to allow almost all officers on relinquishing to retain their rank was not arrived at until 1918 I wish to know now, what is wrong with this order of the King to retain the rank of colonel, lieutenant-colonel, major, captain, etc ? Have we not all been engaged in the most frightful war in history, when fifteen minutes' experience in front of German guns was far more dangerous to life than twenty years' service previously? What is the use of talking about "temporary service"—was not the entire army of that nature? It had to be The best brains of the nation were given in service for our country Is this order to be looked down upon? is it to be turned into ridicule? I am certain it was very fully considered before being given

I am not one of those who consider that the title major is in any way superior to doctor Some people address me as doctor, some as major, I do not check them and tell them they are wrong, although I saw lately some correspondence in which medical men objected to being called doctor I regret not being able to see eye to eye with "Quondam Captain," nor indeed with yourself The title, in this country at all events, will assist to keep ever present the fact, before the "stay at homes" who made their "pile," that at least we did our bit All officers who received commissions were eligible for all honours, and also liable to all penalties under the Army Act

I was gazetted out, "to retain the rank of major" I do not doubt that this was considered an honour, and as such I take it I know a lieutenant-colonel, D S O, in this part of the country who is an M P After joining up he rose rapidly and now serves in Parliament and retains his rank, which I sincerely hope he has no idea of dropping

I have never seen any military title on a brass plate, but I have seen scores of visiting cards, which I believe to be quite in order, if properly worded—for example, "Major Brown, late Royal Army Medical Corps"—I am, etc ,

Northern Ireland, Jan 7th MAJOR, LATE R A M C

SIR,—I understand that soon after the war a deputation of "ex-officers" interviewed the King When the latter was informed that many of them had received leave to retain

their rank, he stated that such were not ex-officers but were still officers

Under this ruling it is a matter of individual preference and inclination whether the rank should be stated or not — I am, etc,

January 12th W A F F

REPRESENTATION OF MEDICINE IN THE HOUSE OF LORDS

SIR,—Considering the immense importance of Medicine in the modern State, it would appear that medical men should not be content with their present modest position in the councils of the nation For instance, the striking disproportion in their representation in the Upper House, compared with that obtained by other professions and trades, calls for redress The Church is represented by the bench of Bishops, while large numbers of lawyers, military men, and company directors are to be found in the House of Lords But I believe there is only one medical peer

Surely Medicine is as important to the State as the Church Does not Medicine, at least equally with the Law, possess a profound knowledge of human nature and of the needs of the community?—while it also has a knowledge of science, on which modern legislation is so often based Medical training entails greater expense and more work than the legal course, while the practice of medicine requires as much brain power as the legal profession Great ability exists in the medical as in the legal profession The rewards and position in the State of the two professions should therefore be similar

One might ask why should the Upper House give such free entry to the great manufacturers of malt liquors and whisky, while a profession which confers incalculable benefits on the community by its discoveries and gratuitous services to the public, is left unrepresented?

Again, how many soldiers, whose calling necessitates the deaths of myriads of human beings, have been rewarded, quite deservedly, with peerages, while a medical man who, by his discoveries, saves millions from death and pain (and often, like the soldier, risks his life in his profession) is only on the rarest occasions so rewarded? The example of the late Lord Lister is the only one I can call to mind Is there any sufficient justification for this marked discrepancy?

When the long-projected reform of the House of Lords comes up for consideration, this absence of representation should be remedied In the Lower House it could not be so easily managed, as the most eminent members of our profession have little leisure to afford for elections and for the onerous attendances at party divisions there In view of the cost entailed in keeping up the dignity of a hereditary peerage, life peerages might be more suitable for medical men —I am, etc,

London W Jan 7th JOHN WARNOCK

Obituary

JAMES LAMOND LACKIE, M D, F R C P E,

Lecturer on Clinical Obstetrics University of Edinburgh

THE death of Dr J Lamond Lackie took place in the early morning of Saturday, January 5th, during his sleep, with startling suddenness Dr Lackie had on the previous day carried out his professional duties and had attended a social function apparently in excellent health, and had intended to perform an operation on the morning when he died The news of his death therefore was a shock both to his professional colleagues and to his numerous patients, among whom he enjoyed a very special degree of esteem and affection He has been cut off at the early age of 56 in the full activity of a large practice at a stage of life when he seemed, even to his most intimate friends to be in the fullest vigour and in the confident expectation of another score of years filled with busy and useful work Yet he achieved what the ancient Greeks regarded as the highest happiness to which mortals can attain—death during sleep

He was born at Montrose in 1868, and received his early education in that town, afterwards he attended classes in the Faculty of Arts of Aberdeen University for a short period He was advised by an old friend to turn his attention to medicine and he entered Edinburgh University as a medical student at the age of 17 A distinguished undergraduate career culminated in his taking the M B C M degrees with first class honours in 1889, when he was also awarded the James Scott Scholarship in Midwifery and Gynaecology In the summer of 1890 he acted as house-physician to the late Professor Greenfield, two of his fellow residents at this time being Professor Lorrain Smith and Dr Logan Turner The winning of the Scott Scholarship, however, largely determined his future specialty, and after acting for a time as assistant in a general practice at Ventnor, he returned to Edinburgh to fill the post of assistant to the late Sir John Halliday Croom Dr Croom was at this time one of the most famous Scottish gynaecologists and obstetricians, a man of great charm of manner with forcible and epigrammatic style in teaching. To him Lackie doubtless owed in some measure similar characteristics which he displayed in a very high degree Shortly after his return to Edinburgh Dr Lackie became tutor in gynaecology in the Royal Infirmary, and some years later lecturer on midwifery and diseases of women in the School of Medicine of the Royal Colleges In both capacities his ability as a lecturer and personal popularity with students were attested by large classes He graduated M D with honours in 1894, and became a Fellow of the Royal College of Physicians of Edinburgh in 1896 His reputation outside Edinburgh in the specialty he had adopted was recognized by his appointment at various times as examiner in midwifery and gynaecology in the Universities of Edinburgh, Aberdeen, Durham, and St Andrews, and he was one of the examiners for the Royal College of Physicians, Edinburgh and the Central Midwives Board for Scotland He had filled the post of gynaecologist to Leith Hospital, and at the time of his death held several important appointments As physician to the Royal Maternity and Simpson Memorial Hospital he had taken a prominent share in the recent development of that institution Dr Lackie took an active part in the foundation in 1910 of the Hospital for Diseases of Women at Archibald Place, an institution intended for those able to pay for board and maintenance but unable to pay for gynaecological treatment, here he became senior gynaecologist in succession to the late Dr Haultain He had been for many years an active member of the local Division of the British Medical Association and was for two years its president At the time of his death he was a member of the Council of the Royal College of Physicians of Edinburgh The success that attended the meeting of the Congress of *British Gynaecologists at Edinburgh* last summer was in no small measure due to his genial occupancy of the presidential chair, and the general esteem in which he was held As noted in our issue of December 1st 1923, p 1042, Dr Lackie delivered on November 14th his valedictory address to the Edinburgh Obstetrical Society on retiring from the President hip of that Society which he had held for two years His farewell followed by his death a few weeks later, has now a specially sad significance In this address he discussed some of the chief advances in obstetrics in recent years To some of these advances he himself made important contributions notably in his article on "Artificial rotation of the head in occipito-posterior positions" (1920), the article in the *Encyclopaedia Medica* on "Maternal changes during pregnancy" (1910), and one on "Caesarean section and alternative treatment" (1922)

In addition to his wide practice as an obstetrician and gynaecologist, Dr Lackie was greatly valued by his colleagues as an operator and consultant in these branches His death is deeply mourned by his numerous patients and by all with whom his professional and social activity brought him into contact In person he was a strikingly handsome man, and his tall and genial presence made him a well known Edinburgh figure His favourite sports brought him to the golf links and the curling rink where he made many friends, and he was also an excellent [illegible] and a keen motorist By his patients and intimates he was held in great affection and even those who knew him but slightly esteemed his never failing cheerfulness and kindliness of manner

Dr Lackie is survived by his wife, a daughter of the late David Williams of Llangennech Park, Wales, by his daughter, and by his son who is now a student at Cambridge The funeral service was held on January 8th in St George's Parish Church, of which Dr Lackie had been an office-bearer, and was attended by the President and Fellows of the Royal College of Physicians The interment took place in the Dean Cemetery, Edinburgh

We are indebted to Dr JOHN W L SPENCE (Edinburgh) for the following appreciation

To all his friends in Edinburgh and far beyond its bounds, the tragic and sudden passing away of James Lamond Lackie has come as a great shock While still in the prime of life and apparently in the enjoyment of good health, he has been cut off in the full vigour of a busy and useful professional life To those of us who were privileged to know him as a friend, the news of his death comes with a peculiar sadness and leaves a sense of emptiness in our lives He was a man of great charm of manner, possessing an enthusiasm in his work and in all he set himself to do, which stimulated those who came in contact with him Loyal, downright and sincere, he was ever willing and glad to give his help and advice whenever it was asked for Above all, he was one of the kindest of men and at the same time one of the most unassuming To know him was to find a most faithful and reliable colleague, one incapable of an unkind or ungenerous word or action

His sun has gone down while it was yet day, but the influence of his example and high ideals will live If we can follow him in some measure we will do well Those of us who knew and loved him best when they think of the apparent tragedy of his premature death will recall the lines of Tennyson

> And, doubtless, unto thee is given
> A life that bears immortal fruit
> In those great offices that suit
> The full grown energies of heaven

H A LATIMER, M D,

Formerly Direct Representative, General Medical Council

DR H A LATIMER, formerly of Swansea, died at Tunbridge Wells on January 10th, after a brief and painful illness.

Henry Arthur Latimer received his medical education at Guy's Hospital and took the diplomas of M R C S Eng and L S A in 1871 In 1895 he took the degree of M D Durh He settled in practice in Swansea and became surgeon to the Swansea Hospital, on his retirement from the active staff he was appointed consulting surgeon During his life in Swansea, where he was very actively engaged in practice, he found time to interest himself in the British Medical Association He was a member and for the usual period president of the South Wales and Monmouthshire Branch, and afterwards represented the Swansea Division in the Representative Body of the Association He was deputy chairman of the Representative Body in 1906-7 He was also a member of the Medico-Political Committee and vice-president of the Section of Surgery when the Association held its Annual Meeting at Swansea in 1903 The general esteem in which Dr Latimer was held by the profession is shown by the fact that in 1906 he was elected Direct Representative for England and Wales on the General Medical Council, and was re-elected in 1912 At the expiration of his second term of office he did not seek re-election When he retired from practice at Swansea in 1912 he was entertained at dinner by the Division and presented with a silver bowl, the reason being that the mess was a branch of the Territorial Forces and that the mess was a benefit to the Association in general, the Territorial officers in particular He had been gazetted T under the R A M C badge early and was a J P for Glamorgan. To discontinue this, the reason given being that through ignorance, be taken to indicate a lack of so much so that I remained a member of the R A M C after leaving Swansea his colleagues retired—*with my rank*—under the age limit given to him as the I submit that officers who voluntarily joined Medical quarters, torial Force before the war and thereby became members of the R A M C stand on a different footing from those who took porary officers Certainly the junior Territorial officers paid for as they drew much less pay

the borough and a member of the council and mayor in 1919-20 He was also an honorary life member of the St John Ambulance Association

Dr Latimer is survived by his wife, to whom we offer the sympathy of the profession He had one son, who was killed in 1916 during the battle of the Somme

We are indebted to Sir EWEN J. MACLEAN, M D, F R C P, for the following tribute

I think I first met Latimer in 1903 when the Association's Annual Meeting was held in Swansea, and when he was characteristically and actively urbane in helping to make the officials of the Sections and the visiting members and their friends happy and comfortable I soon learned that he was possessed of a strong as well as a very attractive personality, and that he was one of those men—all too few in our profession—who, achieving success and acceptance in practice, nevertheless feel and respond to the urge for communal service In both Swansea and Tunbridge Wells Latimer's fellow citizens appreciated and recognized his outstanding services in this respect, and accorded him also many tokens of the full measure of their affectionate regard It was inevitable that a man of his capacities, ready speech, and desire for service, would find in the remodelled Association machinery an avenue to high office through the Division, Branch, and Representative Body, and I have a clear recollection of hearing Latimer deliver to an annual meeting of representatives a delightful speech on the then burning question of the "Postal Vote" Frankly, I do not remember whether he was *pro* or *con*, but the incident remains in my mind as a focused memory of the attached and friendly regard in which we all held him, and which later found further expression in his election as one of the direct representatives on the General Medical Council Latimer could not fail to be prominent in any community in which he lived and moved, and he will assuredly be much missed and long remembered

ARTHUR CHARLES ROPER, F R C S,

Consulting Surgeon, Royal Devon and Exeter Hospital

WE greatly regret to record the death, on January 11th, of Mr A C Roper, at his residence, The Shrubbery, Exeter, after a short illness, at the age of 65 Arthur Charles Roper was a son of Mr C H Roper, a leading surgeon and Sheriff in Exeter, and grandson of Mr W Kennaway, Mayor of Exeter in 1830 and 1836 He was born in 1858, and received his early education at the Old Mount Radford School, entering later St Bartholomew's Hospital, London He took the diplomas of M R C S Eng in 1880, L R C P Edin and L M in 1881, and the F R C S Edin in 1890 In 1881 he took over the practice of his father in Exeter and rapidly came into prominence by reason of his surgical skill, being recognized as one of the leading ophthalmic specialists in the West of England He was closely associated with the Royal Devon and Exeter Hospital from 1896 onwards, and was appointed honorary consulting surgeon there in 1921 During the year 1920-1921 he took a very active part in the organization of the public appeal, which raised £6,500, and resulted in the addition to this hospital of the children's bungalow wards and the new Victory Ward In appreciation of his fine work in this connexion one of the wards in the children's bungalow was named after him In 1881 he began his long association with the West of England Eye Infirmary, and his other appointments included that of consulting surgeon to the Exeter Dispensary, the Exmouth Hospital, Sidmouth Cottage Hospital, Exeter Lying-in Charity, oculist and honorary consulting surgeon to the Western Counties Institute for Mental Defectives, and ophthalmic surgeon to the West of England Blind Institute In 1919 he received from the King of the Belgians the *Médaille du Roi Albert* in recognition of his work in assisting generally and acting as honorary oculist for Belgian refugees in Devon and Cornwall He was vice-president of the Ophthalmology Section at the Annual Meeting of the British Medical Association at Exeter in 1907, president of the South-Western Branch in 1912, and chairman of the Exeter

Division from 1913 to 1915. He acted as honorary secretary of the Exeter Division from 1915 to 1918, during the absence of Dr. Richard Eager, the honorary secretary, on war service. He was a member of the Branch Council from 1917 to 1918. At the time of his death he was chairman of the Devon Local Medical Committee, and a member of the Devon Panel Committee. In November 1920 he was elected Mayor of Exeter, and his interest in civic affairs was always keen. He was appointed a justice of the peace in 1922. He was the author of many articles in various medical periodicals. In 1888 he contributed papers on "The importance of early treatment of squint," and "The enucleation of the eyeball with intraorbital injection of cocaine," to the *Lancet*, in which in 1892 he published a report of the result of 480 cataract extractions. In the BRITISH MEDICAL JOURNAL in 1909 he published an article on "Common mistakes in ophthalmic practice," and *The Practitioner* of 1912 contained a note by him on a "Case of biliary pulmonary fistula." The *Journal of Ophthalmology* in 1907 included a paper by him on "Prolapse of the iris in the simple extraction of cataract, with analysis of 300 cases of extraction."

In addition to his professional work he took great interest in music, he possessed a very fine voice which was in great demand on local concert platforms, and he was, moreover, a talented actor. He took a prominent part in the formation of the Exeter Dramatic Society, and is still remembered especially for his rendering of the part of "John Wellington Wells" in the Savoy opera "The Sorcerer." He had been a member of the cathedral voluntary choir for some forty-five years, and was its senior member and joint honorary secretary. His interest in athletics was also great. For some time he was captain of the Exeter Cricket Club home team, a well-known croquet player—his handicap in connexion with the English Croquet Association being as low as one—and an enthusiastic golfer.

Mr. Roper is survived by a widow, two sons, and two daughters. One of his sons, Dr. F. A. Roper, is physician to the Royal Devon and Exeter Hospital and honorary secretary of the South-Western Branch of the British Medical Association.

G. A. H. BARTON, M.D.

Anæsthetist, Royal National Orthopædic, and Hampstead General Hospitals.

We regret to announce the death of Dr. G. A. H. Barton as the result of an accident while riding in Rotten Row, Hyde Park, on January 13th. George Alexander Heaton Barton was born in Hong Kong in 1865, and was educated at the De Aston School and St. Mary's Hospital Medical School. He received the diplomas of L.S.A. in 1886, M.R.C.S. Eng. in 1893, and L.R.C.P. Lond. in 1901, and obtained the M.D. Brussels degree in the same year. He had early in his professional career held appointments as house surgeon at the Royal Berks Hospital and as clinical assistant at St. Mary's Hospital, Paddington. Later he acted as anæsthetist at the National Dental Hospital and the Throat Hospital, Golden Square, and at the time of his death was on the active staff as anæsthetist to the Royal National Orthopædic Hospital and the Hampstead General Hospital. A Fellow of the Royal Society of Medicine, and an active member of the Harveian Society and the Kensington Division of the British Medical Association, Barton was a voluminous writer and a frequent speaker on subjects germane to his specialty. An apparatus which he designed for the administration of ether was used by him with success for many years. Among his longer publications may be mentioned a practical *Guide to the Administration of Ethyl Chloride* (second edition 1907) and an unconventional book of essays on matters relating to anæsthesia which appeared with the title *The Backwaters of Lethe* in 1920. Besides these works he contributed many papers to medical journals on such subjects as "The Ethyl Chloride Chloroform Sequence," "Alkaloids in Anæsthesia," "The Open Method of Ether Administration with some Modifications," and "The Eye in Anæsthesia." Barton also took part in several discussions of anæsthetic problems, such for instance as that on "Ether *versus* Chloroform," which continued in the correspondence columns of this JOURNAL through a considerable part of last year.

THE LATE SIR JOHN TWEEDY

We have received from Sir ANDERSON CRITCHETT, Bt., the following tribute to his old friend's memory:

The sudden death of Sir John Tweedy deprived British ophthalmology of one of its most distinguished representatives, and has robbed me of an old and much valued friend. Tweedy and I were fellow-students at Moorfields Hospital in the days of Bowman, Hutchinson, and my father, and I remember that even at this early period in his professional career he attracted the attention of our teacher by the searching nature of his questions, the accuracy with which he marshalled his facts, and the clarity of his reasoning when important matters of diagnosis and treatment were under discussion.

His fine literary qualities could not long remain hidden, and the proprietors of the *Lancet* showed sound judgement when they gave him a permanent post on the staff of that journal—a position which he occupied for many years, and had *a great admiration for his exceptional capacity for brilliant* literary work, which perhaps reached its highest point in the admirable Hunterian Oration he delivered during his presidency at the College of Surgeons, and in an address which I gave a few years back on medicine and ophthalmology at the Oxford Ophthalmological Congress I alluded to him as one who clothed original thought in academic language. I could not better that description to-day.

He was handicapped seriously by delicate health, which accounted for his too early resignation of hospital appointments, and for his decision, taken some years ago, to give up operating in private practice, although he possessed exceptional skill as an operator. He found the after-attendance, which often involved going out in all conditions of weather, was too trying, and he made the sacrifice.

We often met in consultation, and the extreme care with which he weighed the value of different points in each case, and the essentially unbiased judicial mind which he brought to bear upon them, convinced me that had he chosen the law for his life's work he would have risen to as eminent a position there as that which he achieved as a great ophthalmic surgeon.

Tweedy stood for and maintained the highest standard of professional life; he was never weary in well-doing, and for his unselfish devotion of time, energy, and health to the cause of the poor, and the suffering there are many who will hold him in ever grateful remembrance.

Dr. GEORGE HOYLE, M.B.I., who died at Brighouse on December 14th, 1923, aged 71, had practised fifty-two years of his life in general practice at Elland, Yorkshire. He was educated at Heath Grammar School, Halifax, and Edinburgh University, where he graduated M.B., C.M., and L.M. in 1873, and M.D. in 1895. Dr. Hoyle was a member of the Royal Medical Society, Edinburgh, and at one time president of the Halifax and District Medical Society. Since the establishment of the local branch of the St. John Ambulance Association he acted as lecturer and examiner, many thousands of students having passed through his classes. In 1909 he was elected an Honorary Associate of the Grand Priory of the Order of St. John of Jerusalem in England. Dr. Hoyle had been a Freemason since 1881, attached to the Savile Lodge, Elland, and subsequently received provincial honours with the rank of P.G. Deacon of West Yorkshire. When the war broke out he rendered invaluable service. Together with other local gentlemen he organized and acted as commandant of two local V.A.D. hospitals, for which he was created M.B.I. Dr. Hoyle was widely known and greatly respected throughout the West Riding of Yorkshire, and his death is much lamented by all with whom he came in contact. He leaves a widow, three daughters, and [illegible]

The funeral was attended by many representatives of the many organizations in which he had been an active participator

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DR LAURENCE A BAINE, who died on December 15th, 1923, had a brilliant career as a student, both at Birmingham and Newcastle-on-Tyne He had been an undergraduate in science of London University before taking up medicine He gained the Entrance Science Exhibition, the University, Tulloch, Hall, and Alder scholarships at Durham University, also the Gold Medal in Anatomy and the Hine Prize at the same university in 1886 He graduated M B, B S Dunelm in 1888, proceeded M D in 1890, and obtained the D P H Camb in 1891 Dr Baine settled in Hull about twenty years ago, and soon endeared himself both to his friends and patients The following tribute was paid to his memory in an address by the Rev E A Berry, vicar of the parish "Dr Baine," he said, "went among the people as a messenger of love, affection, and sympathy We remember him as a loyal, true, and faithful friend, some as a doctor with great charm and skill, others as a citizen loyal and true He was noted for his love of children, and sweet disposition to young life I have never heard of anyone who said an unkind word about him, and he himself could never have an unkind thought or do an unkind deed"

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A QUARTERLY Council meeting was held on January 10th, when Sir John Bland Sutton, President, was in the chair

The Late Sir John Tweedy

The death of Sir John Tweedy, LL D, F R C S, past President of the College, was reported A vote of condolence was passed in the following terms

> That the Council hereby express their deep regret at the death of Sir John Tweedy and their very sincere sympathy with Lady Tweedy and the members of her family in their bereavement *In doing so* the Council call to mind Sir John Tweedy's long association with the College as a Member of the Council and as a trustee of the Hunterian Collection and more especially his services to the College as President during three years of office The zeal and ability which he brought to bear in the discharge of many duties undertaken by him in the interests of the medical profession and for the welfare of the public bear witness to his unfailing sympathy and care for others throughout an active career and the Council believe that his unselfish devotion to duty will cause his name always to be held in grateful remembrance

Primary Fellowship Examination

At the Primary Fellowship Examination 38 candidates were successful and 106 were rejected (The names of the successful candidates were published in our issue of December 29th, 1923, p 1280)

Diplomas

The following diplomas were granted jointly with the Royal College of Physicians

D P H—E Benjamin Florence Bentham M L Bery F J Darbyshire May C Ferguson J M Ghosh M R Goverdhan Eleanor Harse F C Holtom I Lewis R C Lightwood W S McGillivray R H Parry H C G Pedler M K G Pillai Ruth W Plimsoll J Reid P M Rivaz C Ross Effie F A Samter N S Sethi R W G Stewart M L Sutcliffe I S Thomson J R Tibbles, J Whitby S A Withers

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE—A A N Barrada P N Basu M G Bhandari H Das W K Dunscombe A A Hearne H B Lee G R McRobert P S Mills W L Paterson, P S Selwyn Clarke T S Tirumurti H S Watters C L Wilmoth A D Wright

DIPLOMA IN PSYCHOLOGICAL MEDICINE—D R Alexander F G L Barnes J D Dyson A F Grimbly H D Hayes W J Lascelles D B M Lothian E E Pittman J Roy

DIPLOMA IN LARYNGOLOGY AND OTOLOGY—J B Horgan, W Wilson

Museum Demonstrations

Mr Clement E Shattock, F R C S, was appointed to give Museum demonstrations on March 31st, April 7th and 14th as Erasmus Wilson Lecturer, in place of Professor S G Shattock, prevented by illness from completing the course for 1923-24

Annual Election to Council

The election of members of Council will be held on July 3rd, and a reception in connexion with the annual exhibition of additions to the Museum will be held during the afternoon

Lectures

Sir D'Arcy Power was appointed Hunterian Orator for 1925 Mr Raymond Johnson was appointed Bradshaw Lecturer and Sir Arthur Keith Vicary Lecturer for 1924

Medical News.

THE usual half yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME have been prepared and will be published shortly, they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a post card notifying his desire to the Financial Secretary and Business Manager, British Medical Association, 429, Strand, W C 2 Those wishing to receive the indexes regularly as published should intimate this desire

THE joint Board of Research for Mental Disease of the University of Birmingham and the City Asylums Committee invite applications for the scholarship in mental diseases The scholarship, which is of the value of £250, is tenable for one year or more, and the recipient will carry out investigations under the direction of Sir Frederick Mott, honorary director of the Research Board Applications, endorsed "Research Scholarship," must be received by Mr E Eyles, Honorary Secretary, Council House, Birmingham, by January 30th

BY request of the Ministry of Health the Society of Medical Officers of Health has undertaken the selection of representatives from the United Kingdom to take part in the interchanges of health officers organized by the Health Section of the League of Nations For a course in general health administration to be held in the Netherlands (April 24th to May 30th) the Society has nominated Dr A T Nankivell, M O H Hornsey, and Dr T S McIntosh, M O H Hendon Urban District For a similar course in Denmark (June 1st to July 14th) the British representative will be Dr F T H Wood, O B E, M O H Bootle, and a medical officer of the Ministry of Health A third course in general health administration to be held in Switzerland (August 10th to September 20th) will be attended by Dr A B McMaster, M O H Dover, and Dr W H Davison, O B E, Assistant M O H Birmingham The Society has also nominated Dr W H Dickinson, O B E, of the Newcastle on Tyne Health Department, for a course in antituberculosis work to be held in Austria, France, Hungary, Belgium, Switzerland, and other European countries from February 6th to April 30th Dr Raymond Gamlin, Senior Assistant School Medical Officer at Liverpool, has been selected for a European course in school medical work, the dates for which are not yet fixed The Health Section of the League of Nations is enabled to defray the expenses of the courses by a generous grant from the Rockefeller Trustees

TWO short courses of lectures at the London School of Medicine for Women, Hunter Street, Brunswick Square, W C, are announced At 5 30 p m on Tuesday, January 29th, Dr Gibbon Fitzgibbon, Master of the Rotunda Hospital, will give the first of three lectures on the treatment of contracted pelvis The chair will be taken by Dr J S Fairbairn The two other lectures will be given on the following Wednesday and Thursday at the same hour The other course is on respiratory exchanges, and will be given by Professor W C Cullis at 5 p m on Thursdays, January 24th and 31st and February 7th and 14th Attendance at this course is recognized in connexion with the B Sc honours degree in physiology Admission to both courses is free

A LECTURE to the Manchester Medical Society on medicine and old ethics will be given by Sir Thomas Horder, Bt, M D, on Thursday next, January 24th The meeting will be held at the medical school at 4 30 p m

VARIOUS courses of lectures and demonstrations will be given at the Royal Sanitary Institute by well known authorities during the spring term of 1924 A free introductory lecture will be given on January 28th at 5 30 p m to the students in the several courses by Dr Charles Porter, chairman of the board of examiners A sanitary officers' course, comprising the subjects scheduled for the examinations of the Institute and the sanitary inspectors' examination board will commence on January 29th at 6 p m, and will include visits to public and private works illustrating sanitary practice and administration, with demonstrations on the routine of an inspector's office work and duties A course of practical training for meat and food inspectors will start on February 8th at 6 p m There will also be a course of lectures for health visitors and child welfare workers, commencing on February 4th, at 6 p m, with special reference to preparation for the health visitors' examination of the Institute Demonstrations and visits to infant welfare centres, clinics, and schools for mothers will be arranged Information about the courses and examinations can be had from the secretary, Royal Sanitary Institute, 90, Buckingham Palace Road, S W 1

DURING February, under the auspices of the Fellowship of Medicine, a four weeks' course in children's diseases will be given at the Paddington Green Children's Hospital, Royal Waterloo Hospital for Children and Women, Victoria Hospital for Children, and the "Children's Clinic" at the Western General Dispensary The course includes lectures and clinical and laboratory demonstrations, and the fee for it is five guineas, copies of the syllabus with full details can be obtained from the Secretary to the Fellowship at 1, Wimpole Street, W 1. The syllabus of the special course to be held at the Prince of Wales's General Hospital, Tottenham, from February 4th to 16th, can also now be obtained from the Secretary to the Fellowship A special course in ophthalmology will be given at the Central London Ophthalmic Hospital, Judd Street, from January 28th to February 22nd It will consist of clinical lectures and demonstrations, and include the use of the ophthalmoscope The fee for this course is three guineas

AT the December examination of the Dental Board of the United Kingdom, held in London and Manchester, 18 out of 20 dental mechanics who submitted themselves were approved, 22 out of 28 practitioners of twenty one years standing were successful, and 5 out of 12 war services candidates passed in Parts I and II, 2 in Part I, and 6 in Part II

A MEETING of the Medical Prayer Union will be held at the London (Royal Free Hospital) School of Medicine for Women, Hunter Street, Brunswick Square W C 1 on Thursday next, January 24th The medical school will be open for inspection at 4 30 p m , and the meeting will commence at 5 30 An address will be given by Dr Douglas Adam

FOUR public lectures on physic will be delivered by Sir Robert Armstrong Jones, M D , at Gresham College, Basinghall Street, E C , on January 29th 30th, 31st, and February 1st, at 6 p m The subjects of the lectures are headache, rheumatism, gout, and obesity

CONSTABLE AND CO , LTD , announce for early publication a new edition of Dr Hugh Maclean's *Modern Methods in the Diagnosis and Treatment of Glycosuria and Diabetes*

TWO courses of instruction under the direction of Professor M Jeanselme will be given at the Saint Louis Hospital, Paris, during the spring A course in dermatology will commence on April 30th, and a course in venereal diseases on June 2nd , the fee for either is 150 francs Both courses will include lectures, clinical and pathological demonstrations, instruction in the various forms of treatment, and visits to museums Further details may be obtained from the secretary of the Paris Faculty of Medicine, rue de l'Ecole de Médecine, Paris

AN epidemic of cerebro spinal fever has recently broken out in the garrison at Rochefort

THE first number of the new Italian journal, the *Rinascenza Medica*, to which we made brief reference recently, and the aim of which is to represent the more solid aspect of Italian science to the exclusion of matter of a pseudo-scientific character, promises well for the future success of the undertaking In an introductory article Professor Martelli traces the evolutionary course of medical science, leading finally to the present biological standpoint Following on this are three valuable original articles, upon which the main interest of the number depends (1) A detailed account of Professor Caronia's experiments on the infective agent of measles, (2) a description and discussion of the significance of the two early signs of pulmonary tuberculosis associated with the name of Professor Boeri—namely, tenderness in the supraclavicular fossa and hypertrophy of the anterior border of the trapezius muscle, and (3) the report by Professor Capellani of a remarkable case of supposed primary syphilitic lesion affecting a cervical uterine polypus In addition, the number contains therapeutical notes, reviews of recent books, short notices of articles of interest in the current periodicals, and of the meetings of scientific societies, and descriptions of clinical cases of more than ordinary interest. The paper is well got up in every way

AT a meeting of the Central Branch of the National Veterinary Association on January 3rd a resolution was adopted expressing the "utmost confidence in the judgement of the veterinary officials of the Ministry of Agriculture to deal effectually with the difficult problem with which they are at present confronted in connexion with the present extensive outbreak of foot and mouth disease"

A NEW issue of the *London Telephone Directory* is in course of preparation Any medical practitioner who contemplates installing a telephone and desires his name to appear in the forthcoming directory should therefore have the matter arranged before February 1st Communications on the subject should be addressed to the Controller, London Telephone Service, Queen Victoria Street, E C 4

Letters, Notes, and Answers.

As owing to printing difficulties the JOURNAL must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday and lengthy documents on Monday

IN order to avoid delay it is particularly requested that *ALL* letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office 429, Strand, W C.2, on receipt of proof

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London W C.2. The telegraphic addresses are

1 EDITOR of the BRITISH MEDICAL JOURNAL, *Attiology Westrand London* telephone 2630 Gerrard

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (*Advertisements* etc), *Articulate Westrand, London* telephone, 2630 Gerrard

3 MEDICAL SECRETARY *Meduscera Westrand London* telephone 2630 Gerrard The address of the Irish Office of the British Medical Association is 16, South Frederick Street Dublin (telegrams *Bacillus Dublin* telephone, 4737 Dublin) and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh*, telephone, 4361 Central)

QUERIES AND ANSWERS

RHEUMATISM AND EXPOSURE IN CHILDHOOD

"G " having encountered in Dr Mary Scharlieb's *Straight Talks to Women* a statement to the effect that the legs and thighs of children should be covered so that they may not suffer from rheumatism and consequent heart disease asks whether there are any data to support the belief that exposure of the lower extremities predisposes to rheumatism in childhood

MALE SERVANT LICENCES

"O H B ," who employs four male servants in attending to the bedrooms etc of a *private* sanatorium inquires what is the position as regards (*a*) licence and (*b*) unemployment insurance

*** (*a*) In L C C *v* Allen (1912, 29 T L.R p 20) the magistrate decided that the liveried servants of a contractor employed by him as drivers of vehicles in which defective children were under contract with the local authority, conveyed to school were not within the scope of the Act The ground given for his decision was that the men were being kept, not for the purpose of luxury or for any domestic purpose only, but were persons in the employment of a *contractor* for hire and in the way of trade On appeal being made to the High Court the Lord Chief Justice expressed his agreement with that view, though expressing some doubt as to the propriety of the 'luxury" argument In our opinion the main purpose for which the men are employed by "O H. B " is the deciding factor and not the actual duties on which they are engaged, and therefore we think licence duty is not payable (*b*) We are of opinion that unemployment contributions are payable

INCOME TAX

"J L M " inquires whether income tax is to be assessed on the individual year "

*** The three years' average rule remains in force Profits are assessable on the actual year's amount for the first year after a business or practice is set up and the same basis applies to salaries. The latter used, in certain circumstances to be assessed on a three years' average and the reference J L M ' quotes may be intended to refer to that species of income only

LETTERS NOTES ETC.

MALARIAL TREATMENT OF GENERAL PARALYSIS

DR. W CRAIG (Campbeltown) writes to point out that in the cases of general paralysis treated by malaria recently recorded the blood of one patient was passed on to another so that only in the first case did the patient receive blood not from a general paralytic. He suggests that it would be sounder for each general paralytic to receive blood pure with the exception of its malarial infection

FRACTURE INTO FRONTAL SINUS

DR C J HILL AITKEN (Kilnhurst near Rotherham) writes A young workman asked me casually to attend to a wound over the inner end of his eyebrow I put in two sutures and he returned to work Two days later the wound was swollen there was no redness or pain Two days later the swelling was still in the same condition and I opened up the wound but found no pus The patient then volunteered the information when he blew his nose the site of the wound bulged

asked the history of the cut It turned out that the wound had been caused by a flying rivet Rivets in cold weather readily snap off and may fly fifty yards A ray examination showed "a spicule of bone projecting from region of frontal sinus" This case is an example of a workman, in these so called degenerate days, who made light of his injury It is also an example of how Nature does her best to give points for a diagnosis and how these points may be missed

Clothes Moths

A NOTE upon the varieties of moths and clothes moths, founded upon a correspondence that had been taking place in *Nature*, was published in our issue of December 8th, 1923 (p 1126) Our contemporary has since published a short article by Dr A D Imms, founded on a paper by Mr E A Back, of the U S Department of Agriculture Dr A D Imms states that in the British Isles two moths, the larvae of which are destructive to fabrics, are very common, these are the case making moth (*Tinea pellionella* L) and the webbing clothes moth (*Tineola bisselliela* Hum) There is also a rarer moth, the tapestry moth (*Trichophaga tapetzella* L) The perfect insects, the winged moths are relatively short-lived, take no nourishment, and are in themselves harmless They are commonest in the British Isles between June and October The pupal or resting stage varies from about eight days in warm summer weather to a month or more in winter, the larvae are feeding for the greater part of the remainder of the annual cycle In general they live upon wool, fur, feathers, hair, and all fabrics manufactured from them, including clothing, furs, carpets, rugs, upholsteries, stuffed animals, brushes, and the felt in pianos The eggs are laid upon or between the folds of the fabric or within its meshes, and being fragile are easily crushed by brushing They hatch in about a week, the period being longer in warm and shorter in cold weather Fabrics well brushed or well beaten every two weeks are seldom seriously affected, and exposure to direct sunlight is also useful When clothing is to be stored domestically the best plan, it is said, is to seal it in paper bags or to wrap it very securely in several layers of quite unbroken newspaper Naphthalene, in the form of flakes or balls, should be placed among the clothing Camphor is decidedly less effective Commercially, or on a large scale, cold storage is the most certain of all preventives But fumigation may be used, hydrocyanic acid gas seems to be the best, as it does not injure furniture, fabrics, or plate, but the person using it must have an understanding of its dangers and must realize that it is inflammable Carbon tetrachloride is also effective and is free from the last named disadvantage Dry heat is an effective agent, and fabrics will be freed from all pests in a short time if exposed to a temperature of 130° F, the larvae of clothes moths are killed at lower temperatures Dipping fabrics in water at 140° F frees them from the eggs and larvae of clothes moths Certain popular remedies, such as powdered sulphur, hellebore, borax, lavender flowers, cayenne pepper, and reasonable strengths of tobacco powder, are, it is stated, of no value in keeping away these insects Of the three species the webbing clothes moth is the most abundant, its larvae spins silken tunnels wherever it crawls over the material which it is consuming When fully fed it constructs a silken cocoon intermixed with particles of fabric and excrement The case making clothes moth makes a portable habitation out of its silk, together with fragments of the material on which it feeds, pupation takes place within the case, which is sealed up and anchored to the fabric The tapestry moth constructs silk lined burrows through the substance of the material which it infests Perhaps the most practical point in Dr Imms's article is that, during the winter, attention should be given to clothes and fabrics which are not in use about every fortnight, as is, we understand, the custom of good housekeepers

Cupping and Counter Irritation

DR R W MORGAN (Gillingham Dorset) writes to express his interest in Dr Simons's letter (JOURNAL, January 5th, p 38), and in the article on the same subject by Dr Gubb (April 14th, 1923, p 639) He has, he says, practised the method for over twenty five years in suitable cases He learnt it when house surgeon to the late Professor Arnison at the Royal Infirmary, Newcastle-on Tyne Dr Morgan concludes by saying that it is a most useful therapeutic agent, which should never have been discarded

We may add that there is an article on dry cupping in the first edition of *Quain's Dictionary of Medicine*, which was published in 1884 It is there stated that the method had then already fallen into disuse "In some respects," the writer of the article (Dr Arthur Wiltshire) continues, "it serves the purpose of, but has a more powerful effect than, counter irritants, rapid and marked results being sometimes produced upon the circulation of inflamed or congested tissues" Among other purposes for which it was recommended the author mentioned renal ischaemia, and we may recall the address which Lord Lister gave before the Pathological Section of the International Medical Congress in 1881 (*Collected Papers*, Vol I, p 399) Though the address was on the relations of minute organisms of inflammation, it combated the view that all inflammation was due to micro organisms The mode of action and clinical value of counter irritation was discussed at some length, and in referring to the influence of the nervous system Lister said

"I have seen a strong and apparently healthy patient on whom lithotomy had been performed go on perfectly well until the first occasion of the passing of urine through the urethra as the wound healed He then had a violent rigor, and from that moment there was complete suppression of urine Death occurred from uraemic poisoning, and upon *post mortem* examination I found what had apparently been previously perfectly healthy kidneys affected throughout with most intense inflammatory congestion That I can only explain as occurring through the nervous system, by virtue of nervous sympathy existing specially between one part of the urinary tract and another Again, I have known a medical man affected with stricture pass, after an interval of many years, a bougie upon himself The first time he passed water after this had taken place he felt a cutting sensation in the urethra and had a violent fit of shivering He had all the appearance of being likely to follow the same course as the other patient—namely, that death would result from uraemia He sent for me when suppression of urine had already fully declared itself I had a piece of thin mackintosh cloth put under his back, and on this piece of mackintosh cloth, between it and the loins, I had placed a large mass of flannel wrung out of boiling water as hot as it could be applied, and the mackintosh cloth drawn rapidly round the body and fixed in position with a sheet pinned over it He, a medical man, accustomed to observe, told me afterwards that the effect of this seemed to be like the operation of a charm He experienced an immediate sense of relief, and in a very short time he passed water again, the kidneys resuming their functions Inflammatory congestion, caused sympathetically by irritation in the urethra, had been got rid of, and that by virtue of some thing acting on the principle of counter irritation—an irritant applied to the skin of the loins, the part of the surface which is most in sympathy with the kidneys"

DR A ALEXANDER (Wyehling, Kent) writes I was much interested and not a little entertained by Dr Robert J Simons's racy description of cupping (January 5th, 1924, p 38) For wellnigh thirty years I have practised cupping, and believe it justified both on physiological grounds and by results I carry a phial of methylated spirit in my bag and, finding wineglasses in the humblest of homes generally, am able to apply treatment on my first visit At the onset of lumbago and in intercostal and lumbar pains of muscular and aponeurotic tissues I have found cupping most useful In malingering and hysteria I have found the "popping" of the glasses on the sufferer's back a sovereign remedy In severe dyspnoea with cyanosis I have resorted to phlebotomy a good many times with the best of results

Brighter Biochemistry

EVEN biologists can relax and turn away for a space from *p* H and other mysteries "*Brighter Biochemistry*, being the illustrated journal of the Biochemical Laboratory, Cambridge," may be described as a Christmas number of a non existent periodical It is very good fun, though it takes a Cambridge biochemist to understand all the jokes But everyone will be able to sympathize with the plea of the professor who is afraid that if all his staff seek out affinities "Each man and maid, May in the end completely fade" Any reader of some modern efforts of German professors and German drug dealers will appreciate the account of "recent experiments on universal immunity," and also the paper by Jeremiah Fakem, D D, Ph D, on the synthesis of para aminoampholytic acid, which we take the liberty to reproduce in full

One hundred grams of crude coal tar are treated with two hundred c.c. of a hot mixture of strong sulphuric and nitric acids [This procedure was first noted in German Patents (D R P) for 1917] The mixture is brought to the boil and allowed to remain simmering for about one hour It is then cooled and filtered, first through a thick Chardin filter, and then through a Berkeland filter to remove any bacteria which may have escaped attack The clear filtrate is warmed to 60°, treated with a slight excess of alcoholic potash, and boiled under a reflux condenser for some hours The solution is then allowed to cool slowly When cool, fuming nitric acid is added in good excess (to twice the original volume) and three grams of a mixture of finely divided metallic dust is gradually poured in The metallic dust is composed of copper, iron nickel, tin zinc, and platinum in equiatomic proportions The object of this addition is to make use of the couple which is formed between one metal and another The sum total of the couples which exist between all the metals in solution is such that considerable activity results In fact, the coupling may be so great that oscillation of the reaction vessel may occur Harmonics of the oscillation are often noticed When the reaction has ceased, the solution is cooled, and placed in a strong glass tube closed at one end. Anhydrous ammonia is cautiously added Again the efficiency of the metallic dust method is apparent, for each metal catalyses the catalytic influence of the other metals on the velocity of the ammonia reaction The result of this is an extraordinarily rapid catalytic action and it is sometimes very difficult to bung (or seal) the glass tube before the anhydrous ammonia has taken effect Experience, however, will show how this may be done After the tube has been adequately bunged (or sealed), it is heated in an autoclave to 433°, at which temperature the formation of para aminoampholytic acid proceeds smoothly When the contents of the tube seem to be quite clear, the bung is removed (or the seal detached) and the contents carefully poured down the sink A note is then written to Messrs G A F Kahlbaum Berlin, and in eight months time a good yield of para aminoampholytic acid will appear on the laboratory table The substance may be recrystallized from hot water, ether, alcohol, ligroin, chloroform, benzene, toluol, or mixtures of these solvents The crystals are equiangular tablets belonging to the Pelman system M P 56 56° (very uncorr) The yield is 99 per cent

We may appropriately leave the academic groves of Cambridge with a quotation from Horace on our pen tip

ridentem dicere verum
Quid vetat?

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 38, 39, and 40 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 36 and 37

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 71

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

46. Insulin in the Treatment of Diabetes.

H DE STELLA and A. VERSTRAETEN (*Le Scalpel*, December 1st, 1923, p 1369) have treated five cases with insulin, and emphasize the importance of the estimation of the sugar content of the urine and blood, and the degree of acidosis, if any For the estimation of the blood sugar they employ a simplification of van Shaffer and Hartmann's method Their first case was that of a woman six months advanced in her second pregnancy Glycosuria occurred in her first pregnancy and persisted for a long time after delivery, reappearing at the third month of the second pregnancy, when it rose to 3 per cent in spite of rigorous antidiabetic treatment The patient received six injections (10 units each) between July 5th and 20th, and one of 20 units on July 23rd She was confined in September, and on October 15th the blood sugar was normal and the urine free from sugar and diacetic acid Another woman, aged 29, had suffered for three years from diabetes, which had appeared during pregnancy, she received daily injections (10 units each) of insulin, which resulted in a rapid and permanent reduction of glycosuria and a less marked reduction of blood sugar Two men, aged 64 and 60, obese and gouty, had severe diabetes, the latter patient being on the verge of coma Neither had been relieved by ordinary treatment The first patient received eight injections, which brought about progressive reduction of glycosuria, in the second case one injection (20 units) relieved the dyspnoea and headache The fifth case was that of a man aged 35, who had severe diabetes complicated by pulmonary tuberculosis His glycosuria was greatly reduced, but the tuberculous lesions were aggravated this confirms Rathery's and Blum s observations that insulin is contraindicated in tuberculous cases The authors conclude that (1) the immediate action of insulin is undeniable, (2) insulin (in these cases) did not increase perceptibly carbohydrate tolerance, (3) insulin is not a panacea—only one of the authors' cases was cured, (4) insulin gives marked relief to the most urgent symptoms—for example, thirst, asthenia, emaciation, and coma The authors observed no alarming sequelae, except that in the first case, fifteen minutes after a 20-unit injection, there was transient general malaise, sweating, and slight vertigo

47 Treatment of Typhoid Fever by Vaccines.

K D FAIRLEY (*Med Journ of Australia*, September 22nd, 1923, p 291) has obtained good results in a series of over fifty cases of typhoid fever treated by intravenous vaccines, but emphasizes the need of routine treatment also The febrile period was reduced by *about ten days, and, with care* in dosage, excessive febrile and focal reactions were avoided He regards a reactionary temperature of over 105° F as inadvisable, but considers a moderate reaction desirable Intravenous injection is usually *followed within an hour* by a rigor lasting half an hour, the temperature rises rapidly and remains high for from one to six hours, when it falls gradually or rapidly, and in twelve to *thirty* six hours is subnormal If the case is cured the temperature remains down, otherwise it rises again in the next few hours and another injection becomes necessary In uncomplicated adult cases, as soon as the diagnosis is made, polyvalent *B typhosus* vaccine is administered for three or four days, the initial dose should be about 120 million, and may be gradually increased to 200 million if necessary In young children a small initial dose of about 10 million should be given, in order to gauge the individual tolerance, the dose may later be increased The author stresses the importance of considering the degree of temperature when the injection is given, because, if it be high, there will be a greater tendency to excessive febrile reaction He therefore recommends that the vaccine be administered in the morning, or, if the temperature be then high after a preliminary reduction by sponging If no benefit results in four days persistence in this mode of treatment is useless It was found that a relapse of temperature due to the *typhosus* infection readily *yielded to further vaccine* treatment, but not if it was due to secondary infection There is stated to be no gain by using a paratyphoid A and B *plus* typhoid vaccine unless paratyphoid fever be present The author inclines to the opinion of Besredka, that the beneficial results of vaccine are due to the immunization of the intestinal cells, which develop the power of dealing with increased amounts of the virus, rather than to the production of antibodies in the blood The contraindications to vaccine treatment are stated to be perforation, severe haemorrhage, and severe secondary infection, mild haemorrhage, pneumonia, mild myocardial degeneration, meningeal symptoms, and severe toxaemia do not negative it, but are indications for the use of smaller doses He believes that early vaccine treatment will abort the disease and by limiting ulceration to the superficial coats of the bowel, lessen the risk of perforation

48. Bismuth in the Treatment of Syphilis.

F DIETEL (*Muench med Woch*, October 5th, 1923, p 1250) records his experience of bismuth preparations in the treatment of over 100 cases of syphilis The author concludes that bismuth has a prompt action in causing the symptoms and signs of syphilis to disappear, and considers it superior to mercury, but its action on the blood reaction was less definite The author s experience of this treatment has been favourable, but he does not think it can replace salvarsan the detection of living spirochaetes after repeated injections shows this definitely The combination of bismuth with salvarsan has been of good service, but judgement must be reserved as to the permanence of the results In comparison with mercurial treatment, the author emphasizes the absence of pain on intramuscular injection, the slight kidney changes, the comparatively harmless stomatitis, in addition to the more intense action on the disease of the bismuth preparations Hence bismuth can be satisfactorily combined with salvarsan in the treatment of out patients, and it is of good service in cases in which salvarsan treatment cannot be employed or continued

49 Treatment of Cerebro spinal Meningitis.

IZARD (*Paris med*, August 25th, 1923, p 142) records four cases to illustrate the importance of identifying the variety of meningococcus in the treatment of cerebro-spinal fever, and states that the action of a monovalent serum is more efficacious and more rapid than that of a polyvalent serum Smaller doses and less prolonged treatment are required, so that the meninges have much less chance of developing intolerance It seems that after having a rapid and definite action at first polyvalent serum ceases to act or acts only feebly In a case of very severe meningococcal septicaemia Izard obtained an excellent result by shock, following intravenous injection of antimeningococcal serum Owing to the state of the pulse and the violence of the shock it did not appear to be safe to repeat the intravenous injection, and an intramuscular injection of antimeningococcal serum was given In spite of the temporary improvement obtained by this means the general condition remained very grave, and recourse was had to the use of an auto-vaccine containing 200 million organisms per cubic centimetre, and a fixation abscess The latter had no immediate effect, but the vaccine produced two distinct falls of temperature, and recovery took place

50 The Etiology of the Common Cold

DURING the winter months of 1919-20 E O JORDAN J F NORTON, and W B SHARP (*Journ Infect Dis* November 1923 p 416) conducted an extensive statistical inquiry with a view to discovering the important factors involved in the etiology and pathology of the common cold A questionary was sent out to over 1,200 students at Chicago University to 200 at Pasadena in California, and to 200 at Galveston in Texas Analysis of the answers to the numerous questions asked brought out several points of importance (1) There was no definite correlation between the type duration, severity, and frequency of colds except that infrequent colds tended to run a milder and often shorter course (2) There was no clear evidence that climatic conditions played any part in the etiology of colds (3) Sixty four per cent of the persons believed that their colds were due to some strain on the heat regulating mechanism of the body such as chill, exposure to cold, draughts or wet shoes or clothing (4) Only 22 per cent believed that contagion was a factor in their induction (5) It was found that the number and severity of colds in persons who practised resistance building," by sleeping with open windows wearing light clothing, and taking regular exercise were just as great as in those who did not so live From a comparative study of patients who had colds and of those who had not it was concluded that there is no specific or group of bacteria which can be regarded as the specific causative organism In brief the authors are very doubtful whether the catarrh was the result of any specific infection [illegible]

51 Suppurative Trichophytosis Treated by Gram's Solution.

JEANSELME and BURNIER report two cases (*Bull Soc Française de Derm et de Syph*, July, 1923, p 356) The first case was that of a hawker, aged 52, who had a firm purplish fissured swelling on the right wrist exuding yellowish pus The patient had a horse which shed its coat very freely, the hairs of which contained *Trichophyton gypseum*. Treatment by fomentations, ointments, and applications of tincture of iodine failed The authors gave two intravenous injections (5 c cm. each) of Gram's solution diluted with 20 c cm of artificial serum, with an interval of eight days After the second injection the swelling disappeared completely, the first injection was well borne, but there was some malaise during the night following the second injection The second case was that of a woman, aged 25, who groomed horses and was in the habit of sitting on the stable floor and on the straw previously used for bedding down the horses She had a red infiltrated swelling on the left buttock which exuded on pressure thick yellowish pus, from which a pure culture of *Trichophyton gypseum* was obtained Ten days later a rounded herpetiform squamous plaque appeared on the right buttock Three injections of Gram's solution at intervals of six days cured both lesions

Surgery.

52. Treatment of Vesical Calculi

A E GOLDSTEIN and J F LUTZ (*Journ Amer Med Assoc* December 8th, 1923, p 1931) describe a new procedure for performing litholapaxy or stone crushing The bladder is distended with air, and the position of the calculus determined by means of the fluoroscope The lithotrite is then inserted, and, guided by the fluoroscope shadows, the calculus is grasped and crushed Spinal anaesthesia with apothesine, combined with subcutaneous injection of morphine and scopolamine, is recommended The authors claim that the time of operation is much reduced, that there is no possibility of accidents, that no haemorrhage or trauma results, and the operation is performed under visual observation The use of this method is, in their opinion, contraindicated by a calculus in a diverticulum, the presence of an enlarged prostate, or an undilated urethral stricture, the coexistence of a new growth, or the calculus being too large for [illegible] the lithotrite

53 Subperiosteal Resection in Osteomyelitis

H L BEYE (*Surg, Gyn, and Obstet*, December, 1923, p 732) considers the subperiosteal resection of the shaft of a long bone for osteomyelitis fundamentally unsound This treatment is based on the principle that after resection has removed the grossly infected bone osteogenesis from the periosteum will result in the development of a substantial new shaft The author detects three fundamental errors in this conception First, the operation may destroy bone which, if properly drained, would remain alive and play an important part in the restitution of the diseased shaft In some cases the medullary cavity may contain pus from end to end, and yet if properly drained complete healing may occur without formation of sequestra Moreover, necrotic bone may act as a support and prevent bending Secondly, regeneration of bone from the periosteum remaining after subperiosteal resection may be limited and stop far short of what is hoped In stripping the periosteum the more actively osteogenic bone may be left on the shaft removed with it, whilst the blood supply of the periosteum received through the Haversian system is interrupted Thirdly, deformities are likely to follow such an operation, with resulting disability In cases involving the femur or humerus it is impossible to maintain the normal length, and bending deformity is difficult to prevent The radical removal of diseased bone by this procedure does not necessarily mean that infection has been eliminated Reports and radiograms of a number of cases illustrating these points are shown in the article

54 Double Ureter

ROMITI (*Archivio Italiano di Chirurgia*, September, 1923, p 33) publishes a full account of five cases of pyelonephritis and double ureter, the double ureter was found at the time of operation This condition is a congenital abnormality, and, if complete, may sometimes be diagnosed by the detection of a double ureteral opening in the bladder, but if incomplete, cystoscopy does not help Catheterization of the ureter, and pyelography, may enable one to detect the abnormality, and separation of the urine in the bladder also helps Whether this condition of the ureter causes pyelonephritis is not certain, but diseased conditions of the kidneys are more common in such cases than where the ureter is normal Sometimes a portion only of one kidney is affected and in these cases it may suffice to remove the abnormal part of the kidney As a rule the condition does not give rise to symptoms (unless the kidney is affected), but, where the second ureter is situated very low down it may cause trouble some incontinence The frequency of double ureter varies from 1 to 10 per cent, according to different statistics, Photographs of the five kidneys are given, and a bibliography of recent literature on the subject.

55 Bone Changes in Varicose Ulcer.

ZAFFAGNINI (*La Chirurgia degli Organi di Movimento*, October, 1923, p 557) draws attention to the changes which may occur in the bones as the result of varicose ulcer, and gives records of eight cases, with radiograms The changes in the bone (not necessarily confined to the tibia, but sometimes affecting the fibula as well) are of the nature of an osteo-periostitis, and are partly due to the disturbance of the circulation and lymphatics, and partly to infection from the open ulcer They are usually slow in onset, and may give rise to no signs or symptoms unless the slight bone changes are observed by radiography As might be expected, the older the ulcer the greater is the bone change Radiography often shows calcification of the neighbouring arteries

56 Getting Patients up after Operation

R GRÉGOIRE (*Bull et Mém Soc Chir de Paris*, December 4th, 1923, p 1376) records the results of 51 cases of gastric operations where the patient was allowed up out of bed at an early date following the operation The operations included gastro-enterostomies, alone and combined with cholecystectomy, simple excision of ulcers, and hour glass stomach Malignant disease is not included in the series because these patients heal more slowly, and there is a tendency to ascites Out of a total of 40 gastro enterostomies, 26 were got out of bed on the following day, the remainder on the second to the fourth day Amongst the whole series of 51 cases there has been no immediate or late complication The argument for this procedure is the desire to avoid the post-operative complications of passive congestion and to give the patients the advantage of the stimulus of active movement' There has been no case of post-operative embolus, the wounds have held satisfactorily, and there has been no ventral hernia The abdominal wall was sutured with non absorbable sutures Twenty years ago it was the custom to keep patients in bed for three weeks after operation, this has been gradually reduced to twelve or fifteen days for abdominal and many other operations Grégoire suggests that this may be further reduced for operations above the umbilicus without danger and with advantage to the patient

57 Gall Stones from the Surgical Standpoint

MUSCATELLO (*Rif Med*, November 5th, 1923, p 1072) assumes that cholelithiasis is mainly a local affection, starting in the gall bladder Three quarters of the calculi are due to infection, and about one quarter are of metabolic origin, the rare cases of intrahepatic calculi are the result of obstructive stasis The influence of biliary stasis on calculus formation is shown by recent research into the anatomy and physiology of the gall bladder, which is more than a simple reservoir Its functions are to absorb water and inorganic salts, and in a lesser degree lipoids, albuminoids, and pigments, to regulate the flow of bile by means of rhythmical contractions of the parietes, and probably to add a secretion of its own Stasis may be caused by abnormal anatomical conditions of the gall bladder, but the main cause of trouble from the surgical standpoint is infection, which reaches the gall bladder either up, or, more commonly, down the bile ducts or via the lymphatics, probably the spleen also is related in some causal way to infection Cholecystitis without calculi is common, and the so called "strawberry" gall bladder forms a ready soil for the formation of calculi The various acute, subacute, and chronic secondary affections of the pancreas are briefly described In diagnosis careful history taking is important, the colic associated with a pure cholesterin (non infected) calculus is apt to be peculiarly sudden and painful, most of the other infected calculi are preceded by various dyspeptic symptoms and the colic is less sudden and less painful It is not wise to trust in the "innocence" of gall stones Medical treatment is mainly of use in initial non calculous forms of cholecystitis, when stones are present they cannot be dissolved, and even if some pass naturally there are always more left behind The author gives indications and contraindications for operative treatment post operation hernia can be avoided by a transrectal paramedian incision, and reduction or abolition of drainage.

Dermatology.

58. Metabolism in Dermatology

O L LEVIN (*New York Med Journ and Med Record*, December 5th, 1923, p 678) discusses the relation of certain skin diseases to metabolic disturbance His conclusions are as follows The products of faulty metabolism attack the skin through the vascular, nervous, and glandular systems, reacting upon its nutrition, innervation, secretion, growth, and repair The endocrine relationship in acne vulgaris is indicated by its frequent association with puberty, menstruation, hyperthyroidism, and disturbances of basal metabolism Acne is aggravated by constipation, acidosis, and a diet rich in carbohydrates The same applies to seborrhoea, and rosacea is also associated with utero ovarian activity and disease, as well as with hyperacidity and constipation, Debility, acidosis, and the dry skin of diabetics predispose to eczema, gout, rheumatism, and renal disease are causative factors in psoriasis Toxaemias, rheumatism, visceral disorders, and anaphylaxis figure in the etiology of the erythemas, urticaria is frequently anaphylactic and the result of toxaemias in general diseases or impairment of function of the thyroid or adrenals Prurigo may be relieved by the administration of thyroid Purpura is associated with the metabolic disorders of rheumatism, cancer, tuberculosis, nephritis, and diseases of the blood forming organs Dermatitis herpetiformis is at times an anaphylactic phenomenon, and may be associated with glycosuria, menstrual disorders, pregnancy, and the puerperium Pruritus occurs in nearly every metabolic disease, and an obstinate type accompanies endocrinasthenia An increased cholesterin content of the blood occurs in xanthoma, and the skin may be involved in leukaemia and Hodgkin's disease by infiltrations, nodules, erythema, urticaria, prurigo, and purpura Patients with disordered metabolism are often affected by sycosis, furuncle, and carbuncle The enumeration of the various skin lesions associated with impaired endocrine functions indicates the lines upon which further research is needed, bearing in mind the fact that dermatology must be studied in connexion with general medicine for treatment to produce any practical results

59 The Etiology of Warts.

E. V ULLMANN (*Acta Oto-Laryngologica*, vol v, Fasc 3 1923, p 317) inoculated his arm and also the vagina of a dog with an extract of a papilloma taken from the larynx of a 6-year old boy In both cases papillomatous growths developed at the site of inoculation several weeks later The child from whose larynx the papilloma was removed was slightly wounded in the upper lip during the process, and about three and a half months later several small flat warts appeared on the upper lip, spreading thence to the rest of the face It was noteworthy that though the inoculating medium was a papilloma, the appearance of the secondary growths varied with the site of inoculation The author removed some of the growth on his arm and inoculated a medical friend, on whose arm a rapidly growing papilloma developed The incubation period was barely five weeks—considerably shorter than that of the author's own case The facts that the period of incubation was shortened and the rate of growth increased by human passage suggest that these growths are due to an infectious inflammatory disease The author has also succeeded in cultivating growths on his skin after it had been inoculated with an extract of papilloma which had passed through a filter, and he submits that the laryngeal papilloma, which is closely allied to skin warts, should be regarded as the product of an ultra microscopic, filter passing virus

60. Blood Uric Acid in Skin Diseases.

J F SHAMBERG and H BROWN (*Arch of Derm and Syph*, December, 1923, p 801) present an analysis of a series of 280 cases of skin disease Marked variations in the uric acid content of the blood were found, excess occurring in eczema and pruritus, and sometimes in other conditions In order to establish normal figures for the amount of uric acid in the blood, seventeen apparently normal subjects were examined by the Folin Wu method and gave readings between 3 5 and 3 7 mg per 100 c.cm of blood This was exceeded in 44 per cent of the eczema cases in the series Considerable influence appeared to be exerted by the age factor, the highest readings being obtained between the ages of 40 and 80 It was greater in males than females and this the authors suggest is probably correlated with weight and diet They believe that a direct relationship exists between the occurrence of eczema and pruritus and the presence of a high blood uric acid, whilst admitting the possibility of accidental association The view is borne out by the striking results obtained in previously chronic cases when restricted to a purin free diet and it is noted that it is in accord with that held by physicians some years ago Over 50 per cent of the eczemas examined showed a high uric acid blood content without an accompanying rise in urea nitrogen or creatinine, a feature which is claimed as striking and possibly typical of eczema, in contrast to other skin lesions Further, it appeared to the authors that there was some parallelism between blood uric acid and the uric acid values in the epidermic scales of eczema cases, their observations tending to support the assumption of Fox forty years ago—namely, that salts of uric acid may find their way through the capillaries of the skin

61 Poisoning by Dyed Furs.

JACOBSEN (*Ugeskrift for Laeger*, October 4th, 1923 p 693) gives an account of investigations in Copenhagen concerning the origin of fur dermatitis Some 30 to 40 cases were treated between the spring of 1922 and the spring of 1923 and the cause of the disease was undoubtedly ursol or phenylene diamine Ursol itself is colourless, but when oxidized it gives rise to Bandrowski's base—an insoluble colouring matter which becomes intimately linked to the fur This is in the solution of ursol to which hydrogen peroxide is added Bandrowski's base is an atoxic substance which can be eaten in large quantities by experimental animals without ill effects but ursol is highly toxic Under properly conducted conditions the recently dyed fur is washed with sand and sawdust for seven or eight hours in revolving drums, through which a stream of water passes This washes away all the unoxidized ursol and all the Bandrowski's base which has not been linked to the fur When this process is scamped a little ursol is left, should the wearer of a fur be susceptible to ursol, dermatitis will result The remedy is to send the fur back to the factory where it was dyed, for thorough rinsing in running water

Obstetrics and Gynaecology.

62. Treatment of Chronic Leucorrhoea

A H CURTIS (*Surg, Gynecol, and Obstet*, November, 1923, p 657) remarks that chronic leucorrhoea, in the absence of gross disease of the pelvic organs, is most commonly due to infection of the cervix uteri, frequently to persistent discharge from a sacculated Skene's duct, or infection of a smaller urethral gland, and very rarely to infection of the corpus uteri If the cervix and the neighbourhood of the urethra are healthy, leucorrhoea may be attributed to congestion of the pelvic organs, or to deep seated pelvic infection but accurate determination of the morbid process is often impossible The pathological condition of the cervix is due to the presence of redundant hypersecreting glands, very often associated with granulations and strictures, bacteria in this region are not easily detected by culture, but from the standpoint of stubbornness of infection Gram positive diplococci are the most important By treatment on the following lines the author has secured cure in 86 of 104 cases of chronic leucorrhoea Under nitrous oxide anaesthesia the vicinity of the urethral opening is examined, and diseased foci in Skene's ducts or urethral glands are threaded on the blunt end of a needle, the lining being fulgurated or otherwise cauterized Later treatment of a diseased cervix consists in the surgical removal of the diseased endocervix by the Sturmdorf method radium treatment or a combination of local excisions with radium therapy Radium is preferred when the infection extends high within the cervical canal, when there are strictures near the internal os or when the discharge is profuse and creamy The application includes two 25 mg tubes in tandem—for seven hours in young women who menstruate regularly for a shorter period in the elderly over 35 The immediate consequence is a temporary increase of discharge, and a second dose may be necessary in the vast majority of cases cure is established within twelve months Curtis believes that chronic cervical disease is the cause of much general ill health and of many cases of arthritis He states that innocent cervical discharges may persist after the disappearance of infection and do not call for treatment if there is no mechanical disability

63. Syphilis and Stillbirth

ACCORDING to C TENCONI (*Ann di Ostet e Ginecol* October 31st 1923 p 521), about 70 per cent of the foetuses of syphilitic mothers do not survive until term In the experience of the Milan Maternity Clinic intrauterine death leading eventually to the issue of a macerated syphilitic foetus takes place twice as frequently in the seventh as in the eighth or ninth months together and about 80 per cent of all [illegible] foetuses are syphilitic Comparing the present [illegible] figures of the clinic the author reports that [illegible] macerated foetuses were born from 1912 to 1922 [illegible]

cent from 1919 to 1922, the syphilitic infection in all these cases was proved serologically or bacteriologically Taking into account abortions during the early months of pregnancy, and live births of syphilitic children, and believing that syphilis is more common in the wealthier than in the hospital classes, Tenconi calculates that at the present time well over 7 per cent of mothers are infected How great are the risks of the spread of this infection is shown by an analysis of 240 cases of macerated foetuses, all proved syphilitic, born during the war, no fewer than 180, or 75 per cent, of the mothers showed at the time of labour no clinically appreciable sign of syphilis For the most part there was nothing in the antecedent maternal histories which suggested syphilitic infection, and the disease was unsuspected by the patient

64 Surgical Treatment of Uterine Retroposition

G COTTE (*Lyon Méd*, November 25th, 1923, p 997) remarks that at the present time vaginal fixation and intra abdominal plications are recognized as useless in correction of backward position of the uterus, except as part of the treatment of a coexistent prolapse, because they are so often ineffective ultimately Ventral fixation, although somewhat out of fashion, is useful provided the operative technique is correct In France preference is accorded to ligamentary fixation of the uterus, the round ligaments being reached extra peritoneally by the Alquié Alexander method, or intraperi toneally by the Doléris operation The former procedure is a less grave intervention, but has the disadvantage of not permitting observation of the state of the pelvic organs, and surgical treatment of any morbid adnexal conditions The use of pessaries in treatment of retroposition is limited to a temporary use in early cases of backward displacement, especially of the large soft uterus left after labour or abortion Two types of patients are mentioned in whom surgical treat ment of retroposition by ligamentary or ventral fixation is likely to be a failure those with adherent retroflexion and chronic adnexal inflammation, and those in whom the uterus is of infantile dimensions, the vagina short, the vulva small, and the ovaries show fibrocystic degeneration The former group calls for hysterectomy, or a conservative adnexal operation combined with correction of the uterine displace ment Cotte's belief that backward displacement of the uterus gives rise to chronic morbid symptoms of pelvic origin leads him to perform corrective operations on the uterus, when necessary, in young persons who are receiving opera tive treatment for such conditions as appendicitis or hernia.

65 Pregnancy with Hydronephrosis of an only Kidney

C COLOMBINO (*Ann di Ostet e Ginecol*, October 31st, 1923, p 543) describes the case of a primipara, aged 21, who after five months' amenorrhoea complained of abdominal pain and distension The gravid uterus was found displaced to the right by a fluctuating tumour occupying the left hypo chondrium and flank Cystoscopy showed no ureteral orifice on the right, the vesical urine was of the same composition as the fluid obtained by catheterizing the left ureter, or by puncturing the upper abdominal tumour After intra muscular or intravenous injection of indigo carmine the urine was not coloured until five hours had elapsed In view of the impairment of the function of the single hydronephrotic left kidney pregnancy was terminated, six days later the renal tumour was greatly diminished in size, and indigo-carmine injected intravenously began to be eliminated one hour later Three months later the hydronephrosis had not increased in size, and except for some polyuria the patient's health appeared completely restored

Pathology.

66 Antihaemolysins and Haemolysins in the Urine

L CONDORELLI (*Arch di Patol e Clin Med*, August 15th, 1923, p 393), whose previous articles on this subject have been abstracted (see EPITOME, October 9th, 1920, para 356, September 17th, 1921, para 251), set out (1) to determine if an antihaemolytic substance really does exist in the urine, (2) to study its chemical nature, biological action, physio logical significance, and pathological varieties, (3) to investi gate the presence of haemolytic substances in the urine, and to study their nature, source, and mechanism His conclu sions were as follows (1) A normal individual eliminates daily in the urine about 0 40 gram of cholesterin ethers and about 0 70 gram of fatty acids (2) The cholesterin ethers, which are almost exclusively represented by the oleate of cholesterin, are antihaemolytic and anticytotoxic (3) The oleate of cholesterin secreted by the kidneys protects the epithelium of the urinary tract, which is always in contact with the toxic substances contained in the urine (4) The fatty acids contained in the urine may be divided into two groups (*a*) the first, which constitutes α haemolysin, has an intense and rapid haemolytic and cytotoxic action, and transforms haemoglobin into methaemoglobin, (*b*) the second group, which constitutes β haemolysin, haemolyses red corpuscles less rapidly than α haemolysin and after they have been agglutinated (5) The fatty acids in the urine represent toxic waste products eliminated by the organism Normally the haemolytic action of these fatty acids is com pletely counteracted by the antihaemolytic action of the oleate of cholesterin, normal human urine being always antihaemolytic

67 Increasing the Virulence of Attenuated Tubercle Bacilli

SOME interesting experiments are recorded by A BORREL L BOFZ, and A DE COULON (*C R Soc de Biologie*, December 1st, 1923, p 1109) in which the virulence of tubercle bacilli was increased from an almost negligible quantity to the normal height The strains studied were four in number They had been kept alive for many years by monthly sub culture on glycerin potato, and at the commencement of the experiment were almost avirulent, except in large doses It was found that by passing them through a series of guinea pigs, inoculated subcutaneously, the length of the consequent disease progressively diminished, till, after two to four passages, they were able to kill the animals in the same time as that taken by freshly isolated organisms Though this method was successful, it was not so effective as the intra cardial injection of comparatively large amounts of bacillary substance For instance, one case is quoted in which a bacillary strain, which on subcutaneous injection took 311 days to kill a guinea pig, was injected intracardially in a dose of 10 mg, the animal died in 72 days with numerous tubercles in the viscera A culture was obtained from the spleen and injected in a very small amount into another guinea pig, which died of generalized tuberculosis in 30 days A piece of the spleen of this animal inoculated subcutaneously into a fresh guinea pig brought about its death from generalized tuberculosis in 84 days Thus, after two intracardial passages the virulence was so exalted that, instead of not producing death till 311 days after subcutaneous inoculation, it proved fatal in 84 days By this method three of the four avirulent strains were restored to their normal virulence The other strain proved refractory, and attempts to increase its virulence were unsuccessful These results, though restricted in number, are of considerable interest, for they bring the tubercle bacillus into line with so many other organisms in the case of which it is found that residence in the animal body is often able to convert them from simple saprophytes into highly virulent and pathogenic parasites

68 The Action of X Rays in Mouse Cancer

J B MURPHY, J MAISIN, and L STURM (*Journ Exper Med*, November, 1923, p 645) bring forward experimental evidence to support the thesis that in spontaneous mouse cancer the curative effect of x ray therapy is due to the reaction in the normal tissues around the tumour, not to any direct effect on the cancer cells That this point may hold true also in human cancer is not improbable, for spontaneous cancer as it occurs in animals closely resembles the disease in man The experiments fall into three groups In the first it is established that a fragment of a spontaneous mouse cancer replanted in a previously x rayed area of the original animal failed to grow in over 70 per cent of the cases, while another fragment replanted in a protected area grew in over 80 per cent of the cases Secondly, an autograft exposed to the x rays after being implanted and established disappeared in 76 per cent of the cases, while another of similar derivation exposed to a like dose of the x rays and then implanted grew in 96 per cent of the cases Thirdly, tumours treated *in situ* with x rays and then replanted in an unrayed location on the original animal grew actively

69 Sugar Content of Cerebro-spinal Fluid

G H MOATES and J J KEEGAN (*Journ of Lab and Clin Med*, September, 1923, p 825), dealing with the quantitative determination of sugar in the cerebro spinal fluid, agree that it has a definite diagnostic value They used a modification of the Lewis and Benedict method, and 203 patients were examined The normal range of the cerebro spinal sugar was found to be between 0 040 and 0 068 per cent In most cases of epidemic encephalitis the sugar content was definitely increased and had a diagnostic significance It was found to be decreased in infectious meningitis, probably in consequence of the sugar reducing powers of the invading organisms There seemed to be no apparent relationship between this sugar content and the Wassermann reaction, colloidal gold test result, cell count, or the amount of globulin or total protein

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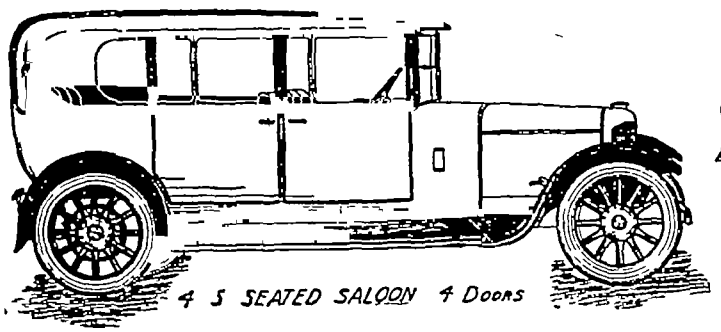
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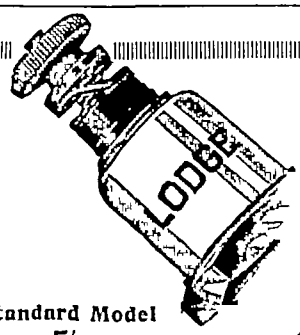
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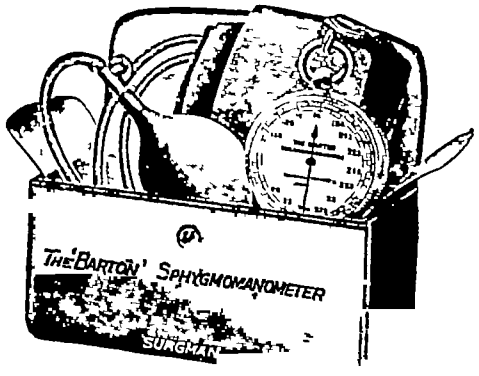
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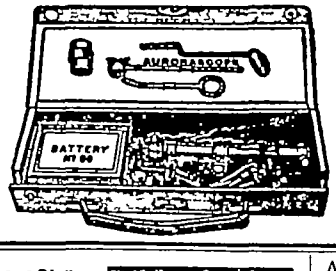
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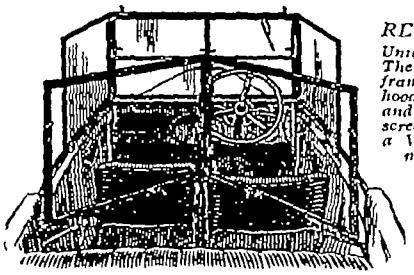
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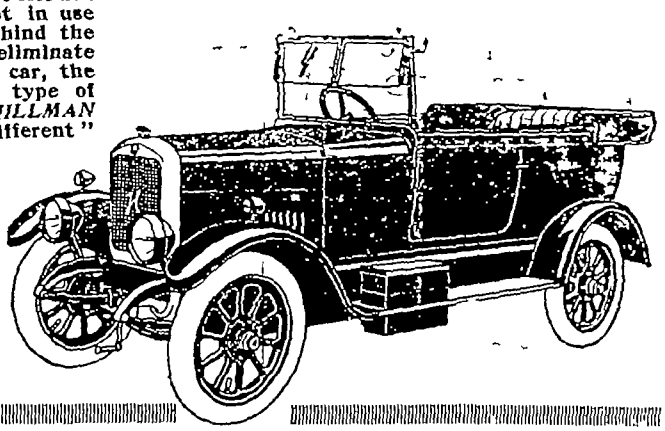
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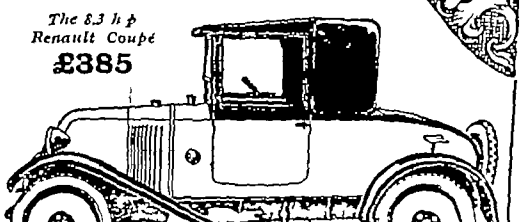
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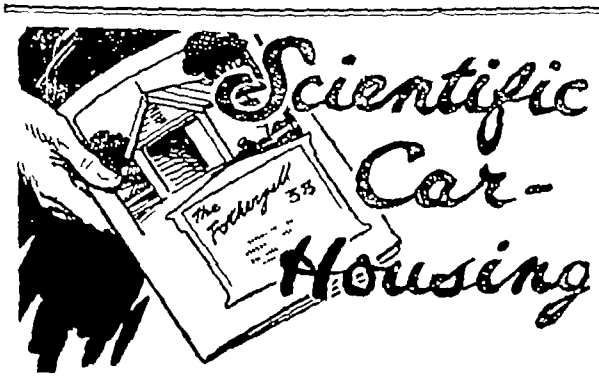
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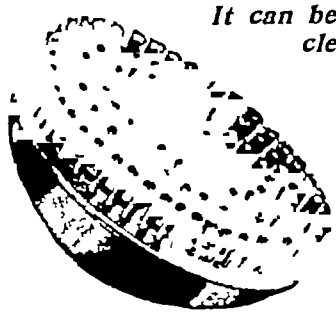
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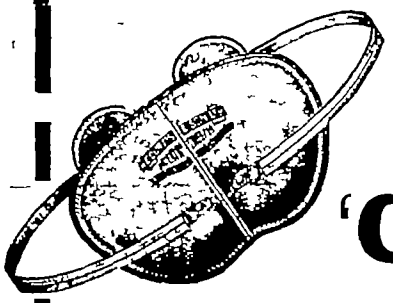
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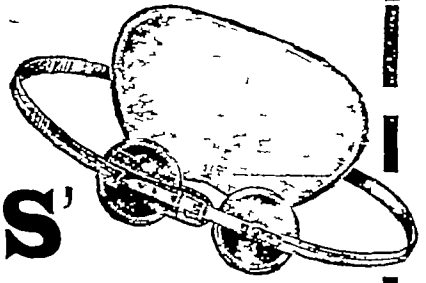
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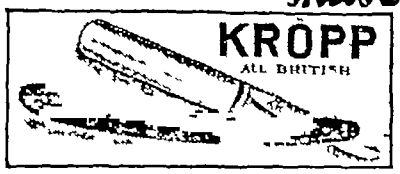
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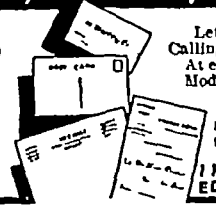
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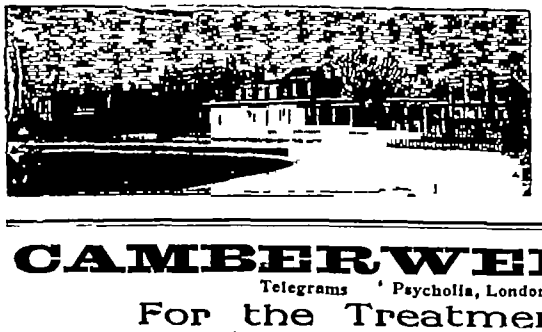
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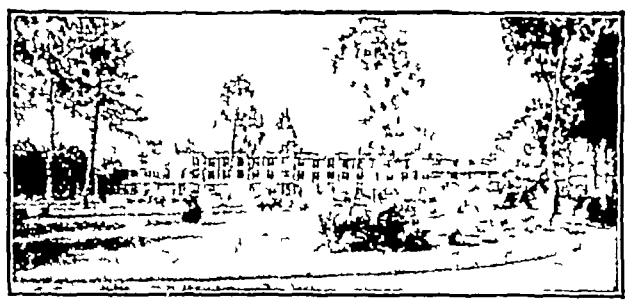
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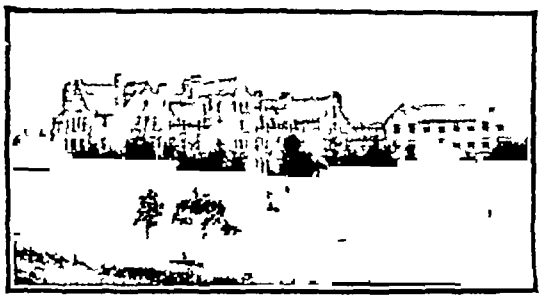
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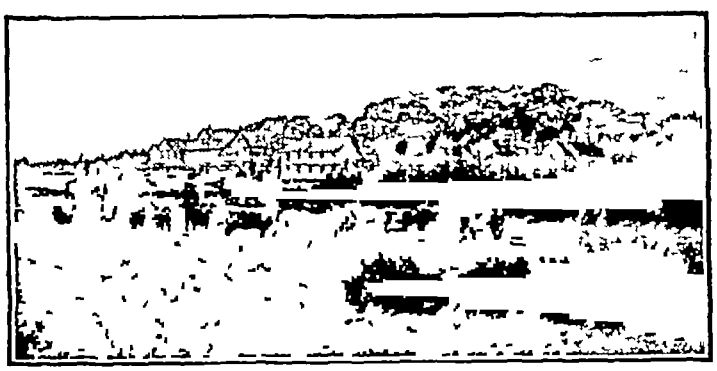
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Conditions of Service.—First year in Grade II Probationary
For admission to Grade I three years satisfactory service in Grade II is required
Applicants possessing on admission to the Service the qualifications required for both Grades will receive an initial salary of £400 per annum, and the allowances mentioned above

Medical Officers of Health are eligible for promotion to an Assistant Sanitary Commissionership. There are at present two such appointments. Salary £800–£960 per annum, and House Allowance

For further particulars apply to the Principal Civil Medical Officer and Inspector General of Hospitals, Colombo Ceylon.

Somerset County Council

ASSISTANT SCHOOL MEDICAL OFFICER.

The Committee invite applications from qualified medical men for the post of Assistant School Medical Officer In addition to school medical work the duties will include some venereal treatment work and experience in the modern methods of diagnosis and treatment of venereal diseases is necessary

Salary £600 A superannuation scheme is in force and the salary will be subject to any modifications that might be reached after discussion with the British Medical Association.

Canvassing will disqualify Applications by January 24th to the undersigned, from whom all particulars and an application form can be obtained

County Health Dept W G SAVAGE.
Boulevard, County Med Officer of Health.
Weston Super-Mare January 19th.

School Clinic Medical
ASSOCIATION OF GREENWICH AND DEPTFORD

Treatment Centre 22, Park Row Greenwich, S.E.10.

The Committee of the above invite applications from practitioners resident in Greenwich and Deptford for the following posts which will be vacant April 1st.

REFRACTIONIST three half days per fortnight.
PHYSICIAN for Minor Ailments, two half days per week.
AURAL SURGEON one half day per week at Operating Centre and one half day per fortnight at Treatment Centre.
ANÆSTHETIST one half day per week.

Applicants must be prepared to allocate 2½ hours to each Session.

The Salaries are at the rate of £80 per annum for each half day per week for the Aural Surgeons £75 per annum for each half day per week, for the Anæsthetists £66 per annum for each half day per week for the Physicians for Minor Ailments and £60 per annum for three half days per fortnight for the Refractionists.

Each appointment is for six months and two appointments for each post will be made, the second officer acting as substitute for the first during the first six months, and changing places with the first during the second six months.

The Aural Surgeons are required to have held a Hospital appointment in a Throat and Ear department, and to attend at the Cyril Henry Centre St. Mary's Street, Woolwich, to perform Operations.

The Aural Anæsthetist is also required to attend at the Cyril Henry Centre

Applications stating age state of health qualifications etc and testimonials should be sent to the undersigned on or before February 1st, 1924

The applications of those selected by the Committee will be submitted to the L.C.C for approval.

CHAS G WALLIS Hon. Sec.
23 Pepys Road, S.E. 14. Jan. 16th 1924

Manchester Royal Infirmary

ASSISTANT MEDICAL OFFICER IN RADIOLOGICAL DEPARTMENT

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment. Applicants must be registered and hold a Medical and Surgical qualification.

The appointment (non resident) is for twelve months renewable for a further period of twelve months, subject to the provisions of the Bye-laws as to notice.

Salary at the rate of £105 per annum.

Applicants must state age and send twelve copies of their applications and testimonials to the undersigned by 25th January 1924.

(By Order) FRANK G HAZELL,
General Supt. and Secretary

County Borough of West
HARTLEPOOL

ASSISTANT MEDICAL OFFICER OF HEALTH

Applications for the position of Assistant Medical Officer of Health are invited from duly registered medical men or women holding the Diploma of Public Health.

The Candidate appointed, who will act under the direction and supervision of the Medical Officer of Health will be required primarily to carry out the work in connection with Maternity and Child Welfare, and as Assistant School Medical Officer. In addition he or she will be required to undertake any duties in connection with the medical services of the Local Authority which may from time to time be assigned by the Medical Officer

Forms of application may be obtained from me

The inclusive salary will be £600 per annum

Applications endorsed Assistant Medical Officer of Health must reach me not later than Tuesday the 29th January 1924

HAROLD W STANTON Town Clerk.
Town Clerk's Office West Hartlepool,
18th January 1924

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION
Gloucester (140 Beds).

HOUSE SURGEON (Male) fully qualified required. Salary £175 per annum with board residence and laundry

Applications stating age qualifications and nationality with copies of not more than three recent testimonials to be addressed to the undersigned.

Gloucester G HUFFORD
January 14th Secretary

Manchester Royal Eye
HOSPITAL.

HOUSE SURGEON required. Applications with copies of testimonials to be sent to the Chairman Board of Management not later than the 26th January

W E PROPHET Secretary

Wanted an outdoor Assistant with view to partnership later, for private and panel Practice near Manchester State age, experience, and other essential particulars Usual bond —Address No 416, BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Wanted Assistant in high-class residential private Practice, E Yorks Scotch ex H P & H S, and good anæsthetist In door to commence. Married preferred Must be keen and hard worker Good salary and excellent prospects to suitable man.—Address, with testimonials, No 336, BRIT MED JOUR. Office, 429 Strand, W C

Wanted.—Assistant for small Town and Country Practice Eventual partnership to suitable, energetic, trustworthy man Scope for Surgery in up-to-date Hospital Scottish graduate preferred —Address stating age, qualifications experience etc No 422 BRIT MED JOUR. Office, 429 Strand

Wanted —Assistantship (view Partnership) in Country Practice preferred or Long Locum, by M B, Scotsman, highest references Motor cyclist etc —Address, "MEDICUS, 61, Woodbine Road, Gosforth, Northumberland.

Wanted Assistantship by M B, with view to Partnership or succession Experience in general practice, war service, abstainer age 28 single, large town preferred.—Address No 426 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2

Wanted — Part-time ASSISTANTSHIP or other part time work in London by M B, Ch B (Aberd), Woman 3½ years hospital experience general, children eye, radiology Interview —Address No 427 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted —Well qualified experienced ASSISTANT with view to early Partnership in good middle-class practice on South East Coast House available and good salary to capable, keen man, who must be able to undertake Surgical work.—Full particulars address in first instance, No 432, B M J Office 429 Strand W C 2

Wanted Engagement, any duration, in any capacity, general Practice or P H Moderate fee accepted Energetic was very successful in own Practice Very superior recent references —Address No 127 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Well qualified man, age 39, married steady, requires ASSISTANCY or BRANCH MANAGEMENT Some capital available in time —Address No 407, BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Woman, M B, Ch B, Scotch, wishes ASSISTANTSHIP in General Practice or post in Pathology or Research work. 3½ years exp General Ear Throat and Nose, Eye V D Anæsthetics Pathology Hosp post at present Excellent testmls -Add, No 423 B M J 429, Strand

Woman Graduate (M B, Ch B Aberdeen), desires ASSISTANTSHIP Experience in Mental Hospital and in dispensing —Address, No 334 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Woman, M B, Ch B recently qualified, keen and energetic, desires ASSISTANTSHIP or LOCUM Good testimonials —Address No 417 BRITISH MEDICAL JOURNAL Office 429, Strand, W C 2

Assistant, Welsh speaking, for Country Practice Panel and private Excellent opportunity for suitable man, without much capital, to obtain early succession to lucrative practice Sport if desired Offer absolutely genuine —Address, No 412 B M J Office 429 Strand, W C

Assistantship with view or PARTNERSHIP wanted, where good work done, well qualified married, age 35 good surgeon, energetic keen abstainer, experienced in general practice good anæsthetist and accoucheur best refs. given replies in confidence to No 419 B M J

Assistantship or L T wanted by Cambridge Graduate Guy's Age 27 Ex H S etc Some experience of general practice —Address No 421, BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2

Near East —Medical Officer required for Coaling Station Salary about £800 per annum, and bungalow, suitable for married man Three years agreement Passage paid —Apply, General Manager, SCHOLASTIC CLERICAL & MEDICAL ASSOCIATION, Ltd 12 Stratford Place London W 1.

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M.B, B Ch., requires ASSISTANTSHIP or LOCUM Well experienced in private and panel practice Ex H S Good Testimonials Free now —' Medicus,' 27, Vernon Terrace Manchester Road Sheffield

Part-time Work (London) wanted by M B, M R C S (British) with small private Practice short locums surgeries, literary work, &c Might incor ora small Practice of doctor retiring—Address No 424 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Young man, 4 years qualified, wishes ASSISTANTSHIP in good Practice, busy practice essential excellent references over 3½ years Disengaged from long Locum in one month — Address No 418 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2

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DUDLEY ROAD HOSPITAL

RESIDENT PHYSICIAN—NEW APPOINTMENT

Applications are invited from fully qualified medical practitioners for the above appointment.
Candidates must have had previous hospital experience in Senior medical posts and should possess senior medical qualifications
The gentleman appointed to the post will be the Senior Officer of the Medical Section. He will be required to assist in the training and lecturing of Nurses
The present hospital accommodation is approximately 750 beds, divided into Medical, Surgical, Gynæcological and Obstetrical sections, and there are completely equipped Pathological and Biochemical Laboratories, X ray, Electrical and Massage Departments
Commencing salary £650 per annum, rising by annual increments of £50 to a maximum of £750 per annum, together with full residential emoluments (furnished apartments, rations, laundry and attendance).

Applications are also invited from fully qualified medical practitioners, accustomed to administering anæsthetics for the post of
RESIDENT (3rd) ASSISTANT MEDICAL OFFICER.
Commencing salary, £300 per annum, rising by annual increments of £25 to a maximum of £400 per annum, together with full residential emoluments
Further particulars of the appointments may be obtained from the Chief Medical Officer, F W ELLIS M D, F R C S at the Hospital
Applications, stating age, experience and qualifications, accompanied by copies of recent testimonials should be forwarded to me not later than Friday the 25th January, 1924
Union Offices, JAMES CURTIS,
Edmund Street, Clerk to the Guardians
Birmingham 14th January 1924

Royal Manchester Children's
HOSPITAL
Outpatients Department Gartside St, Manchester

Wanted at once for the Outpatients Department an ASSISTANT MEDICAL OFFICER non resident, who will be appointed for the period ending 31st March, 1924 at a salary at the rate of £150 per annum and be eligible for re-appointment for a further six months at a salary at the rate of £200 per annum
Candidates must be doubly qualified and on the Medical Register Particulars of the duties can be obtained from the Secretary The hours of duty are from 9 a m till about 1 p m daily Duties to commence at once.
Applications stating age and accompanied by copies of testimonials to be sent to the undersigned at once By order
W M HUMPHRY, Secretary
14th January 1924

Cassel Hospital for Functional
NERVOUS DISORDERS
Swaylands, Penshurst, Kent.

RESIDENT MEDICAL OFFICER

Applications are invited for the post of Resident Medical Officer Candidates must be fully qualified unmarried, and preference will be given to a man who has had experience in the treatment of nervous disorders Salary £500 per annum with board, lodging and laundry The successful candidate will be expected to commence duty early in February
Applications should be sent to the Secretary Cassel Hospital, Swaylands Penshurst Kent

Lancashire County Mental
HOSPITAL, Winwick, Warrington.

ASSISTANT MEDICAL OFFICER required, Salary £300 per annum, together with board, furnished apartments attendence and washing valued at £150 per annum for Superannuation purposes, plus the Civil Service Bonus which at present is £132 0s 7d
Candidates must be registered under the Medical Act.
The appointment is subject to the provision of the Asylums Officers Superannuation Act, 1909
Applications, stating age etc, to be forwarded to the Medical Superintendent not later than the 31st instant.

Chester Royal Infirmary
(201 Beds)

Wanted ASSISTANT HOUSE SURGEON to commence duties 12th February 1924 Salary £150 per annum, with board lodging and washing Candidates must be doubly qualified and registered
Applications stating age and accompanied by copies of testimonials to be sent to the undersigned not later than 5th February 1924
J ROWSE MITCHELL, Secretary
15th January, 1924.

The London Lock Hospitals,
283, Harrow Road, London, W 9 and 91, Dean Street, London, W 1

HONORARY OPHTHALMIC SURGEON

The Board of Management invite applications for the appointment of Honorary Ophthalmic Surgeon Candidates must hold the F R C S (Eng)
Applications, accompanied by copies of three testimonials should be delivered to the undersigned on or before Monday, February 4th, 1924.
Copy of the Laws relating to staff appointments at the Hospital can be obtained on application to the Secretary
No personal canvassing of the Board or Medical staff permitted
By Order of the Board,
January, 1924 HY J EASON, Secretary

The Royal Infirmary, Hull

SENIOR HOUSE SURGEON wanted The Hospital contains 169 Surgical beds There are in addition a Resident House Physician, Assistant House Surgeon, three Casualty House Surgeons, Candidates must be fully qualified registered, and unmarried and preference will be given to such as have previously held a similar appointment The salary is £200 per annum, with board and furnished apartments.
The selected candidate will be required to take up duty at once to enter into an agreement to remain not less than one year and to give or receive three months notice to terminate his engagement.

South London Hospital for
WOMEN
South Side Clapham Common S W 4

APPOINTMENT OF ASSISTANT SURGEON

The Board of Management invite applications from fully qualified Medical Women for the appointment of Assistant Surgeon Full particulars may be obtained from the Secretary
Canvassing Members of the Board is not allowed
Applications with copies of testimonials to reach the Secretary at the Hospital not later than first post on Friday February 8th 1924

Royal Southern Hospital,
Liverpool

Applications are invited for the post of RESIDENT CASUALTY OFFICER to have charge of the Out-patient Department to commence duties on the 1st April next. The appointment will be for six months Applicants must be fully qualified, and will be required to give whole time to the duties Salary £150 per annum with board and residence.
Applications to be sent to the undersigned on or before Friday, 25th January 1924
ALLEN NALDRETT
Superintendent and Secretary

Royal Southern Hospital,
Liverpool.

Wanted Two HOUSE PHYSICIANS and Three HOUSE SURGEONS, to commence duties on the 1st April, next. Salary at the rate of £100 per annum, with board and residence The appointments will be for six months
Applications, and copies of testimonials to be sent to the undersigned on or before Friday, 25th January 1924. ALLEN NALDRETT
Superintendent and Secretary

The Miller General Hospital
FOR SOUTH EAST LONDON,
Greenwich Road, S E 10

HOUSE PHYSICIAN required (three other residents) Salary £150 per annum, with board lodging and laundry
Applications, stating age qualifications and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary

Elizabeth Garrett Anderson
HOSPITAL, Euston Road, N W

Wanted fully qualified medical woman to act as HALF TIME ASSISTANT to the Clinical Pathologist Appointment for six months from February next Salary at the rate of £100 per annum
Application with testimonials, to be sent to the Secretary, on or before Tuesday 29th January
IMOGEN H MURPHY Secretary

General Infirmary,
Salisbury (141 Beds)

ASSISTANT HOUSE SURGEON required to commence duty on February 16th Salary £150 with board, apartments and washing Candidates must be unmarried fully qualified and registered Applications with copies of testimonials to be sent to the undersigned not later than 25th January
JOHN S BIRBECK,
House Governor and Secretary

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.		
ENGLAND.		
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*		
SOUTH BANK, & ESTON *(Medical Aid Associations or Workmen's Clubs.)*		
WALES.		
ABERTRIDWR, GLAMORGAN *Windsor Colliery (Medical Scheme.)*		
EBBW VALE, MON *(Workmen's Medical Society.)*		
LLWYNYPIA, CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*		
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		
OAKDALE, MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*		
OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*		
	WALES *(continued)*	
	TONDU and ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	
	PUBLIC HEALTH.	
	CORNWALL EDUCATION COMMITTEE *(Woman Assistant School Medical Officer.)*	
	DARLINGTON EDUCATION COMMITTEE *(Assistant School Medical Officer.)*	
	DUNDEE COMBINATION PARISH COUNCIL *(Medical Officer (Resident) of the East House and Hospital and Duncarse Children's Home.)*	
	COUNTY BOROUGH OF GATESHEAD *(Assistant School Medical Officers.)*	
	GELLYGAER URBAN DISTRICT COUNCIL. *(Medical Officer of Health.)*	
	METROPOLITAN BOROUGH OF FINSBURY *(Assistant Medical Officer of Health.)*	
		PUBLIC HEALTH *(continued.)*
		CITY AND COUNTY BOROUGH OF LINCOLN *(Medical Officer of Health.)*
		LIVERPOOL EDUCATION AUTHORITY *(Assistant School Medical Officer.)*
		NOTTINGHAMSHIRE. *(County Medical Officer of Health)*
		PLYMOUTH EDUCATION AUTHORITY *(Woman Assistant School Medical Officer.)*
		BOROUGH OF PORTSMOUTH *(Medical Officer to the Portsmouth Child Welfare Centres and Municipal Maternity Hospital.)*
		ROTHERHAM UNION *(Medical Officer.)*
		COUNTY BOROUGH OF SMETHWICK *(Woman Assistant Medical Officer of Health and School Medical Officer.)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE. (Grenada with Carriacou, St. Vincent and St. Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *Senior Resident Physician.) (Senior Resident Surgeon.)*	Mr A. RADFORD M.C., F.R.C.S., 5 & 6, 4th Floor, National Bank Buildings Durban.	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R. MARSHALL ALLAN (Hon. Sec., Queensland Branch) Adelaide Street Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon. Sec., Victorian Branch) Medical Society Hall, E. Melbourne, Victoria.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr R. H TODD (Hon. Sec. New South Wales Branch), B M.A. Building 30-34, Elizabeth Street, Sydney N.S.W			WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, No 6, Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address 429, Strand, W C 2.
January 16th, 1924

By order of the Council of the British Medical Association
ALFRED COX Medical Secretary

The Hospital for Sick CHILDREN
Great Ormond Street London W C 1

An ASSISTANT PATHOLOGIST is required on the 1st March 1924

Gentlemen are invited to send in their applications addressed to the Secretary accompanied by copies of not more than three testimonials given specially for the purpose before 12 o'clock on Monday 4th February 1924.

The appointment is made for one year and is non resident

Salary £400 per annum, and allowance for substitute for annual holiday Twenty four Guinea

Candidates must be registered medical men and be prepared to take up the duties on the 1st March 1924

All candidates must appear before the Joint Committee at their meeting on Wednesday 6th February 1924 at 5 p.m

Forms of application copy of the rules for and details of the appointment will be supplied on application to the Secretary

By order of the Board of Management
JAMES McKAY Secretary

January, 1924.

The Hospital for Sick CHILDREN
Great Ormond Street, London W C 1

A CASUALTY OFFICER is required on the 14th February 1924.

Gentlemen must be Registered Medical Practitioners, and are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday 11th February 1924 accompanied by copies of not more than three testimonials given specially for the purpose

The appointment is made for one year but may be held subject to re-election for a period of three years.

The appointment is non resident and whole-time

Salary £400 per annum with luncheon and allowance for substitute for annual holiday Twenty four guineas

All candidates must appear before the Joint Committee at their meeting on Wednesday 13th February 1924 at 5 p.m precisely

Forms of application and copies of the rules may be obtained from the Secretary at the Hospital.

By order of the Board of Management
JAMES McKAY Secretary

January, 1924.

Bolton Infirmary and DISPENSARY
SECRETARY'S OFFICE.
(230 Bed including Auxiliary Hospital)

The Resident Staff consists of Resident Surgical Officer two House Surgeons and an Assistant House Surgeon

Applications for the appointment of an ASSISTANT HOUSE SURGEON are invited from Lady and Gentlemen having a registered Medical and Surgical qualification Salary £100 per annum with apartment boards &c.

Applications, stating age with copy of testimonials should be forwarded to the undersigned from whom further particulars may be obtained

ALBERT E. BRISCOE

A Junior Resident Medical WOMAN is required for the [illegible] HOSPITAL of the SALVATION ARMY [illegible] Lower Clapton Road E.

Applications (enclosing copies of testimonials) should be addressed [illegible] Hackney London E 5

THE

SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION,

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Telegraphic Address "TRITORM, WESDO, LONDON" *Telephone MAYFAIR 2400*

Practices and Partnerships for Disposal. No charge to Purchasers.

MIDLANDS—(1) PARTNERSHIP in very old-established Practice over £3 000 in Market Town Panel 1,250. Detached corner house (4 bedrooms) Rent £65 Cottage Hospital and scope for surgery Premium one-third or five-twelfths share two years purchase

NORTH LONDON—(2) PARTNERSHIP in very old-established good middle-class Practice in Residential Suburban District. Receipts average about £5 430 per annum No panel clubs or appointments Suitable house obtainable One-third share at first at one and three quarters years purchase and succession to whole practice later

SOUTH-WEST OF ENGLAND—(3) Very old-established middle and better-class PRACTICE over £4,200 in important Seaport Town No Panel or Appointments Commodious house in excellent position Rent £100 Premium one and a half years purchase

UP-THE-THAMES—(4) Middle-class PRACTICE worth about £500 in Residential District Small Panel, House with 4 bed rooms for sale. Premium for Practice £700

SOUTH COAST (5)—Good class non-dispensing PRACTICE, about £550, in favourite Residential Town No panel Consulting and waiting room available Premium one and a quarter years purchase

MIDLANDS—(6) Well-established PRACTICE of £1,400 per annum in Manufacturing Town in the Potteries No panel or midwifery Detached house (5 bedrooms) to rent Premium £1,800

MIDLANDS—(7) Steadily increasing PRACTICE, about £630 per annum, in Mining Village Panel 762 Modern and pleasantly situated house (4 bedrooms) Rent £50 Premium £900

LONDON (WEST)—(8) PARTNERSHIP in old-established Practice of £2,500 per annum Panel 2 600 One third share at two years purchase Incoming partner should be Englishman or Scotchman, aged about 30

SOUTH COAST—(9) Residential Town and Health Resort PARTNER required in good-class Practice. No panel No dispensing Exceptionally good house (5 bed and 2 dressing rooms) Share worth £900 or more, at two years purchase Partner should be University Graduate with leaning towards medicine

SURREY—(10) Small non-dispensing PRACTICE about £275 per annum in first rate Residential Town Small panel Excellent detached house (6 bedrooms) in one acre of ground to rent on lease. Premium (to include lease) £500

MIDLAND TOWN—(11) Old-established PRACTICE about £1 100 per annum in Residential Suburb Panel 700 House contains 9 bedrooms Large garden Price £1 900 Premium for Practice £1,500

NORTH-WEST COAST—(12) Well-established middle-class PRACTICE about £2 400 Non-appointments. Conveniently situated house to rent. Premium £3 000 part by instalments.

NORTH OF IRELAND—(13) Old-established middle-class PRACTICE about £2 500 per annum in Seaside Town (Appointments worth about £650 per annum) Good house (6 bedrooms) to rent. Premium £2,000

CAPE COLONY—(14) Unopposed PRACTICE of £700 to £800, in attractive district Excellent house (4 bedrooms) Large garden and paddock Work very light Premium £400

HOME COUNTY—(15) Very old-established PRACTICE £1 260 per annum in first rate Country Town Panel about 1,000 Not much Midwifery Double fronted house (6 bedrooms) Rent about £50 Hospital Premium one and a half years purchase

DEATH VACANCY—(16) Special Ophthalmic PRACTICE, London (West End) Income about £3,000 Excellent opening for well qualified gentleman Prem £500 to include some Instruments and Furniture

EASTERN COUNTIES—(17) Very old-established unopposed country PRACTICE nearly £1,950 per annum near Coast Panel about 800 Exceptionally beautiful old house (5 bedrooms) in acre ground on lease also 20 acres farm land if desired Splendid shooting Premium one and a half years purchase

SOUTH OF ENGLAND—(18) PARTNERSHIP in old-established practice averaging over £5 000 per annum in pleasant Market Town Panel 1 800/1 900 Good house (6—7 bedrooms) with nice garden Rent £62 10s Premium one fourth share two years purchase Incoming partner should hold D P H

NORTH WALES—(19) Old-established PRACTICE in small Seaport Town Receipts 1923 £550 Panel 150 No midwifery or night work. Rent of house (7 bedrooms garden half an acre) £50 Prem £750

MIDLANDS—(20) Old-established unopposed PRACTICE £1 150 in Agricultural and Residential District (Appointments worth £330 Panel 490) House contains 12 rooms Rent £35 Premium one and a half years purchase

SURREY—(21) PARTNERSHIP in middle and working-class Practice about £3 000 per annum in first rate Residential Town Large Panel Good detached house (6 bedrooms) to rent Share up to two-fifths at one and three quarters years purchase Good hospital

NORTH OF ENGLAND—(22) Old established PRACTICE of £1 460 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds two acres Premium practice house and grounds £4,000 Mortgage could be had on house

FAVOURITE HOME COUNTY—(23) PARTNERSHIP in good-class Country Practice about £3 200 per annum in delightful residential district Visits up to £2 2s Excellent modern detached house (7 bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

SOUTH OF ENGLAND—(24) Old-established PRACTICE of £1 700 per annum in Residential Town Panel worth £600 per annum. Detached house (4 bedrooms &c.) Rent £50 Prem. one and a half yrs. purchase

YORKS, WEST RIDING—(25) Old-established, rapidly increasing PRACTICE in residential district of large Town Income at present about £900 per annum. Panel 520 (increasing) House (4 bedrooms &c.) Rent £60 Great scope

BORDERS OF SURREY AND HANTS—(26) JUNIOR PARTNER required in Practice in charming residential country District. Panel 737 Share worth about £600 at two years purchase. Preliminary Assistantship

EASTERN COUNTIES—(27) PARTNERSHIP in old established practice about £2 300 per annum in first rate Town Panel about 2 050 House (9 bed and dressing rooms) standing in own grounds to be sold Premium one-half share one and three quarters years purchase

SOUTH OF ENGLAND—(28) PARTNERSHIP in good class non panel practice of £2 400 per annum in beautifully situated Country Town near the Coast. One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate, not over 35, and preferably F R C S England

SEASIDE TOWN AND HEALTH RESORT—(29) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old-established practice Share worth £1 000 p a at two years purchase.

LONDON, N W—(30) Well-established increasing upper middle-class PRACTICE in very desirable Residential District Receipts 1922 £556 (1923 to Oct 31st £602) No panel Appointments or Midwifery Excel and attractive residence (7 bedrooms) for sale Great scope Prem. £600.

NEWCASTLE-ON-TYNE—(31) PARTNERSHIP in practice about £3,000 per annum Panel 3 570 Premium for a one half share one and a half years purchase Ample scope for increase

EAST COAST—(32) Popular Resort. Old-established middle and working class PRACTICE of £1 140 Panel 861 Rent of house (5 bedrooms) £60 Premium one and a half years purchase

LANCASHIRE.—(33) PARTNERSHIP in very old established mixed practice £3 020 per annum in Manufacturing Town. Panel about 2 500 Commodious house (6 bedrooms) Rent £32 10s inclusive. Premium for one-half share one and a half years purchase or near offer Hospital and chance of getting on staff

NURSING HOME—(34) Fashionable Health Resort Gross receipts over £2 400 Fees £5 5s to £15 15 Exceptionally appointed resi with ample accom Prem for Goodwill furniture and fixtures £2,500

SURREY—(35) PARTNERSHIP in good middle class compact practice over £2 650 in Residential District easy distance of London Panel 1 200 Premium two-fifths share two years purchase Practice investigated by Association's Accountant

CHESHIRE—(36) PARTNERSHIP in good middle and working-class practice over £3 200 per annum in Manufacturing Town. Panel returns about £1 000 per annum Modern detached house (8 bedrooms) for Sale Premium one half share one and a half years purchase Hospital and plenty of scope for special work.

SOUTH-WEST OF ENGLAND—(37) PARTNERSHIP in old established Practice about £3 500 per annum in beautifully situated Country Town near Coast Panel 3 000 Very good house (6 bedrooms, &c.) Rent £70 Premium one half share one and three quarters years purchase Hospital and scope for Surgery

SANATORIUM—(38) For open air treatment of Consumption Well-established and excellently situated for the purpose Net profits £1 605 p a. Fees usually £5 5s weekly Premium £5,000 to include everything as it stands Profits can be readily increased.

SURREY—(39) PARTNER required in good-class non dispensing Practice over £1 000 p a in first rate residential district. Incoming Partner should hold a University degree not over 35, and keen on medicine Premium one-fourth share two years purchase

CHESHIRE.—(40) Important Town Old established mixed-class PRACTICE averaging £3 550 per annum Panel 2985 Good house with 6 bedrooms held on lease Very suitable for 2 young practitioners keen on surgery Cottage Hospital (40 beds) Premium £5 000 (or near offer) to include all book debts amounting to over £3,000

SOUTH COAST—(41) Popular Health Resort PRACTICE Receipts £1,923 Small panel House on sea front (3 beds), rent £80 Prem £1 950 (or near offer) Scope for Surgery

SOUTH-EAST COAST.—(42) Favourite Health Resort PARTNERSHIP (with view to Succession) in good middle-class non-dispensing practice about £1,750, including appointments £170 (about) No panel. Premium two-fifths share two years purchase and up to one-half in two years. Partner should be 28 to 30 single Preliminary Assistantship.

KENT AND SUSSEX BORDER—(43) Old-established unopposed PRACTICE about £1,500 in beautiful country district Panel 750 Modern house (5 bedrooms) in acre of ground to be Sold Premium one-and a half years purchase

ASSISTANTS AND LOCUM TENENS SUPPLIED **RESIDENT PATIENTS INTRODUCED**

Schools and Tutors in all parts of the Country and Abroad recommended for Boys and Girls

Revised and amplified edition of MEDICAL PARTNERSHIPS TRANSFERS AND ASSISTANTSHIPS (BARNARD & STOCKER) *Published by the Association, price 13/6*

All enquiries to be addressed to Mr A V STOREY, *General Manager*

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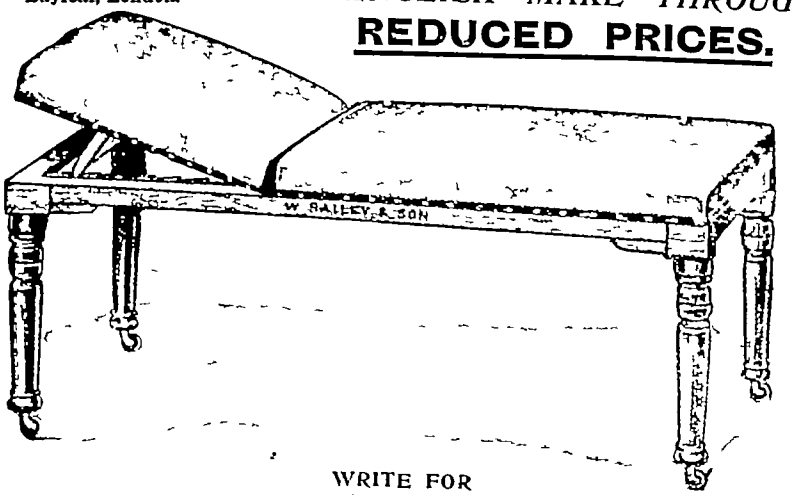


Fig C 3293.

Bailey's (Universal) Examination or Surgery Couch, strongly built and best finish throughout, Mahogany or Oak Frame Upholstered hair and best Rexine Leather Cloth (washable) patterns sent on application

£7 7 0

Leg Crutches and Sockets, extra £1 16 0

Mounted on Brass India-Rubber Tyred Castors, 15/ extra

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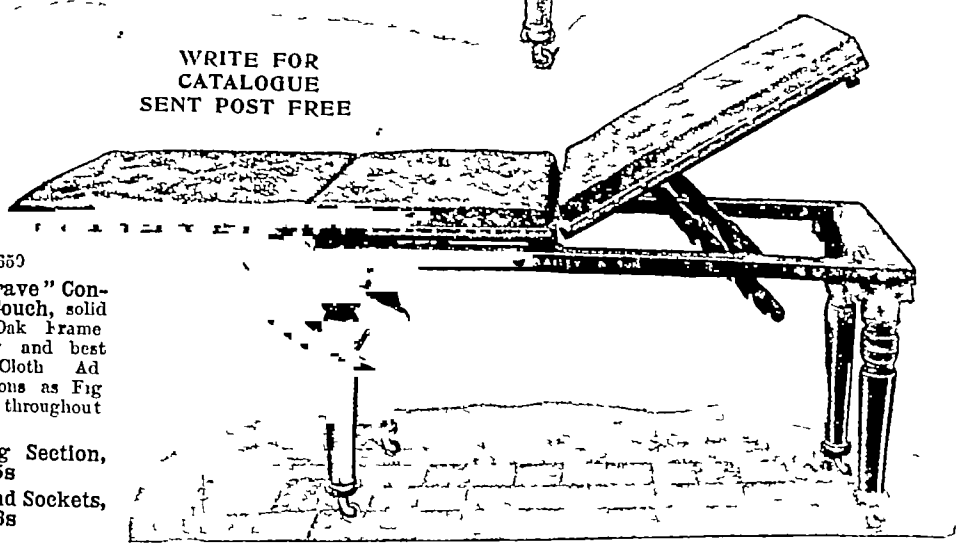


Fig C 1659

Bailey's "Belgrave" Consulting Room Couch, solid Mahogany or Oak frame Upholstered hair and best Rexine Leather Cloth Adjustable in positions as Fig 1645 Best finish throughout

£9

Detachable Leg Section, extra **15s**

Leg Crutches and Sockets, extra **36s**

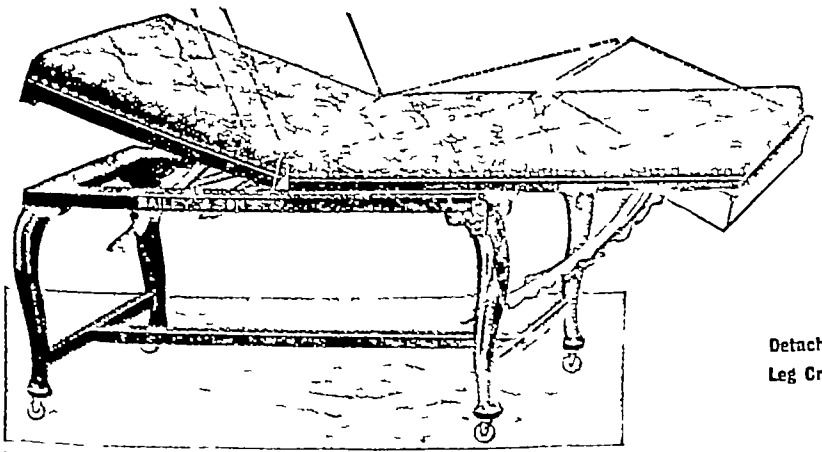


Fig C 1644

Bailey's Perfection Consulting Room Couch, handsome iron and best finish throughout solid Mahogany or Oak frame Upholstered hair and best Rexine Leather Cloth Interlaced plain (any colour Rexine) Adjustable and can instantly be converted into a chair for throat etc examinations

£10 15 0

Detachable Leg Section extra 15s

Leg Crutches and Sockets , 36s

Surgical Instruments and Appliances (NEW ADDRESS) 45, OXFORD STREET, } LONDON, W.1.
Hospital and Invalid Furniture - - 2, RATHBONE PLACE

Dependable Sutures



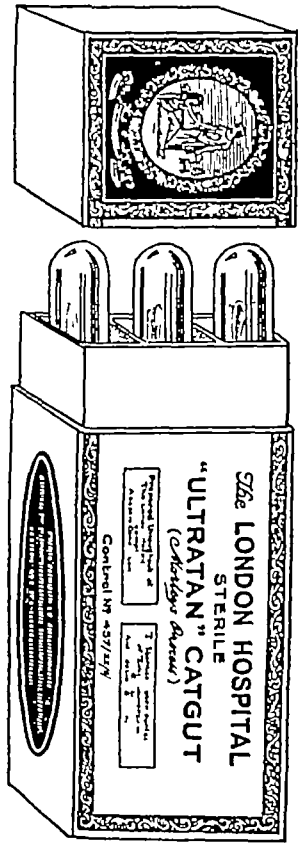
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"Ultratan" Catgut is prepared at the London Hospital, and is in continuous use in the 15 operating theatres there

It is claimed for London Hospital Catgut:

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The British Medical Journal



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WITH SUPPLEMENT.

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GOOD HEALTH ENO'S FRUIT SALT

INTESTINAL ATONY

ATONY of the intestinal muscles is at least as often a result, as a cause, of constant overstretching of the bowels through accumulation of waste In such cases it is generally difficult, if not impossible, to restore the muscular tone without first providing for the regular elimination of the intestinal contents

It is desirable to select for this purpose a laxative which will bring about a gentle flushing of the bowel through increased secretory activity of the intestinal glands But, unless the vessels and tissues are abnormally saturated with fluid, it is important that such aperient shall be taken dissolved in a liberal amount of water It is suggested that in ENO's 'Fruit Salt' —the original effervescent saline—we have a preparation fulfilling all the requirements

Its purity agreeable flavour perfect solubility, and efficient while painless action, have led to its extensive use by medical men

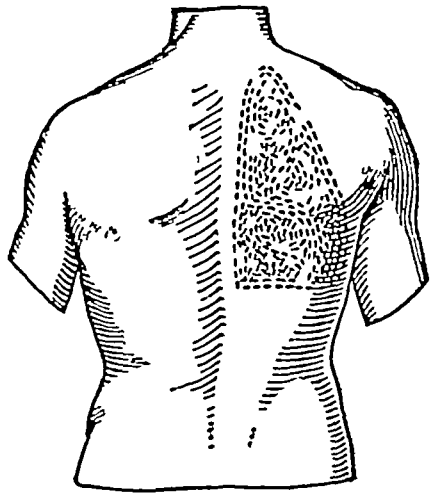
ENO's "Fruit Salt" is entirely free from mineral salts such as the sulphates of soda and magnesia and contains no added sweetening or flavouring agents

THE proprietors of ENO's Fruit Salt will send their pleasure to any member of the Medical Profession for his personal use a little Hints Health Use as desired) of their preparation with a copy of the Doctor's Pocket Dispenser This summarises briefly a few points in the dietetic use of fruit salts which often slip the memory Bound in black morocco limp

J C ENO LTD, LEVER HOUSE, VICTORIA EMBANKMENT E C 4

In Lobar Pneumonia strive for these 3 things

—To Reduce Pain
—To Combat Toxaemia
—To Support the Circulation



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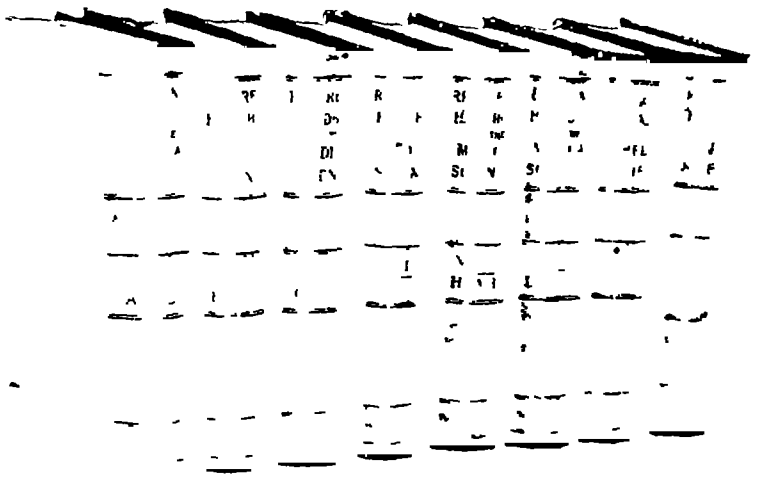
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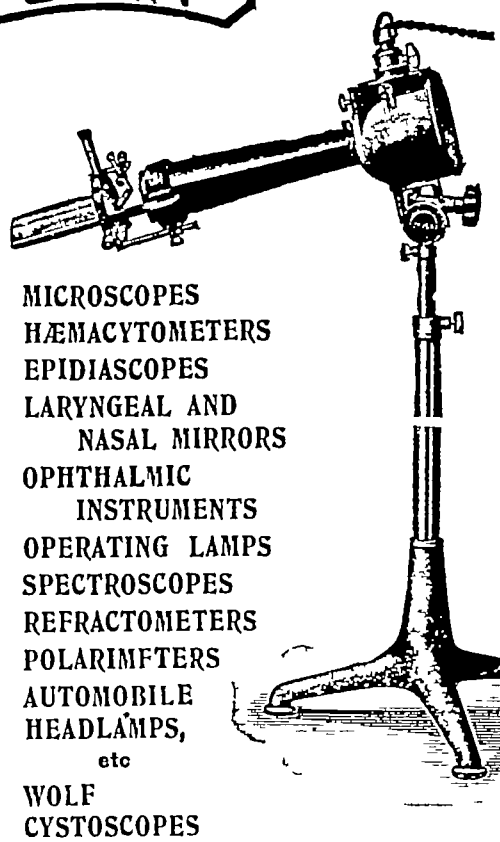
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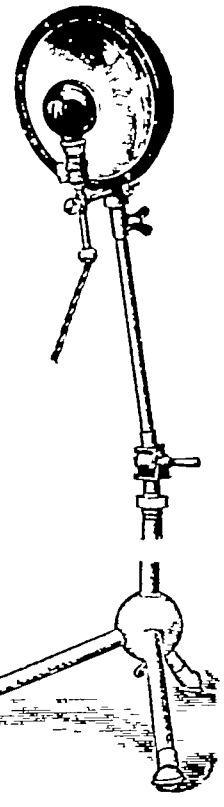
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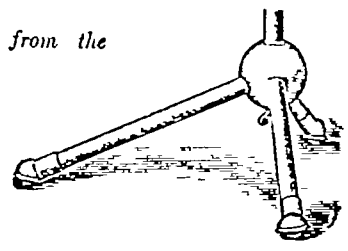
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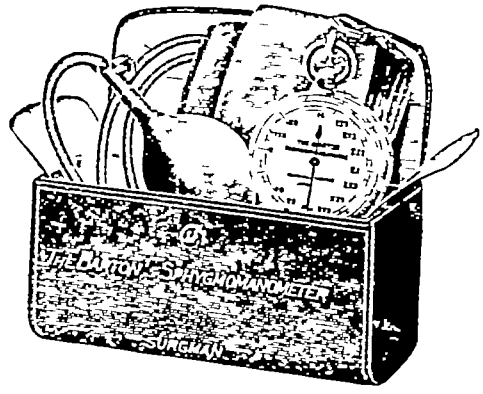


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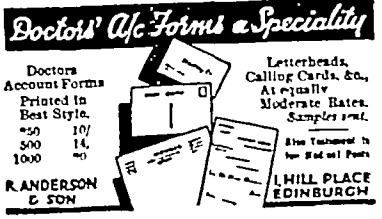
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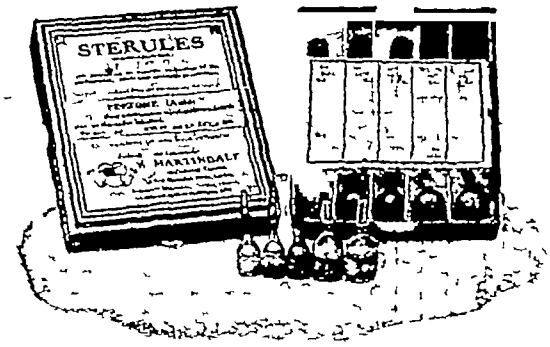
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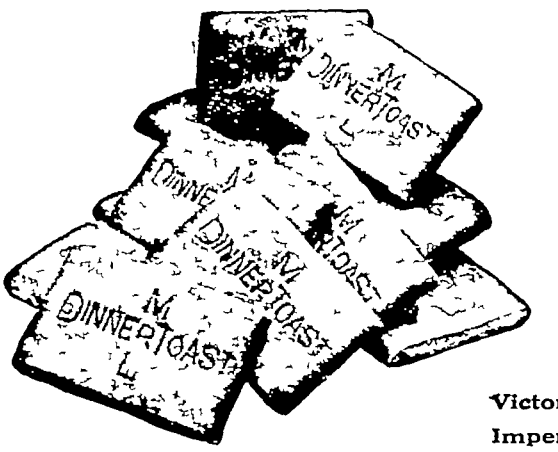
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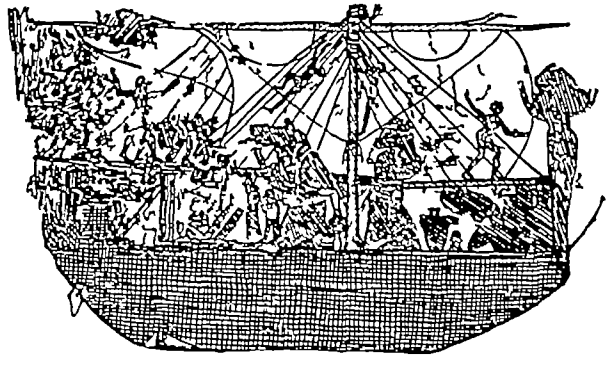


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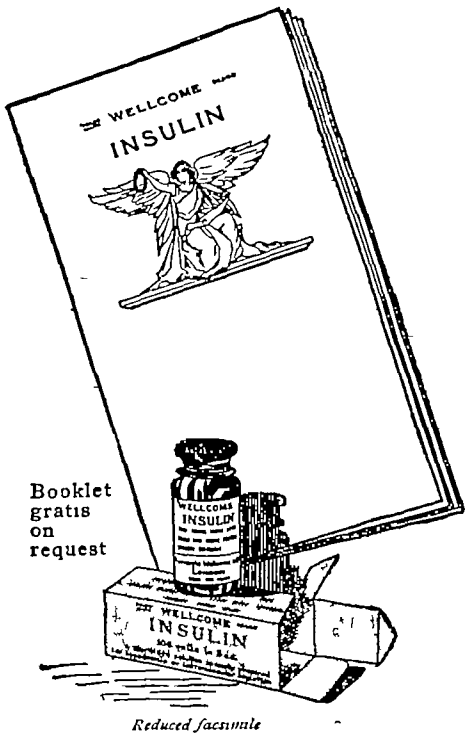
PHŒNICIAN MERCHANT-VESSEL ARRIVING IN AN EGYPTIAN PORT.—The Phœnicians were bold navigators and adventurous explorers In the interests of their commerce they sailed forth, compass less, into the open sea, directing their course by the Pole Star Perhaps they were the first to do this the Greeks called the Pole Star Phoenikê, the Phœnician Star They searched the world for minerals and ores, reaching the Scilly Isles and Cornwall where they mined for tin and lead They may also have pushed on to the Baltic for amber Nearer home they engaged in a busy export trade, selling their own industrial products and undertaking a large carrying trade for other peoples The ship here reproduced from a painting in an Egyptian tomb is typical of the vessels built and manned by the Phœnicians It has sailed perhaps from Tyre, round the coast and up the Nile to Thebes



DATE c 1450 B C

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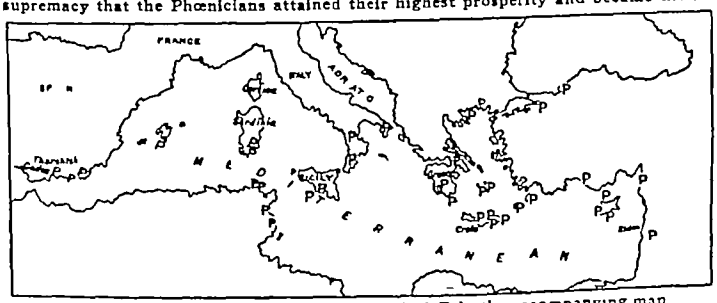
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MAP SHOWING PHŒNICIA AND HER COLONIAL SETTLEMENTS.—While there are not wanting ethnologists who maintain that the Phœnicians were akin to the Egyptians, most hold it proved that they were Semites of the Canaanite branch and closely related to the Hebrews. There is no record of the date of their migration to the more northerly coastal region of Palestine but it was long enough ago for them to have achieved already in the fifteenth century B C the individuality they then possessed, and which they retained until Alexander the Great sold into slavery the 30 000 of the inhabitants of Tyre who survived his long siege. Sidon appears to have been the pioneer city of Phœnicia from the seventeenth to the thirteenth century B C when Tyre became the leading city state. It was during the four centuries of Tyrian supremacy that the Phœnicians attained their highest prosperity and became the successors of the Minoans as masters of the sea. They founded trading stations along the coasts and in the islands of the Mediterranean they settled at Gades and Tharshish in Spain. These became flourishing colonies. The Phœnicians were a commercial and seafaring people unwarlike except when it became necessary to defend their commerce. They aimed at pursuing their vocation peacefully not by force of arms; they did not aspire to empire. Only towards the end of her existence did Phœnicia play a military part in world politics—in the struggle of her greatest colony Carthage with Rome.



Phœnician towns and settlements are marked P in the accompanying map

DATE From c 1600 B C (Settlement of Phœnicians in Palestine perhaps c 2500 B C)

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JELLY (from the rib bones of oxen)	Lecithin and Cholesterin also as a food for the central nervous system	Promotes growth and is antineuritic.
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THE EFFECTS OF THESE DISORDERS ON THE HEALING OF ULCER

There is only one way by which to approach this problem, and that is by the experimental method I will now give you a demonstration of the results of my observations upon the subject

There are four stages in the healing of a gastric ulcer, which, of course, overlap (1) The necrotic tissue and sloughs become separated from the base (2) The base becomes covered with healthy granulation tissue (3) The epithelium at the margin of the ulcer grows over the base in a single layer of flat cells which become cubical (4) Glands, beginning as invaginations in the covering epithelium, gradually grow and burrow in the cellular stroma, forming a new mucous membrane In the meanwhile the edges of the ulcer approach one another by contraction of the fibrous tissue formed in the deeper layers of the base The area thus left to be covered by epithelium varies somewhat in size in different cases, but this makes very little difference in the actual time of healing if the base of the ulcer is clean.

Effects of Variations in the Diet of the Animal

Differences in diet give the stomach different degrees of work with regard to secretion and motion The cat is a suitable animal for such experiments, because after a full meal of milk the stomach is empty in about three hours, whereas after a full meal of meat it is not empty for about twelve hours In a series of experiments, in which gastrotoxic ulcers were produced in these animals, I found that the base of the ulcer in milk-fed cats was in general completely covered with epithelial cells on the twentieth day, but that in the meat-fed cats the base was entirely uncovered, or the epithelium had reached the periphery but had left a large uncovered area in the centre of the ulcer This delay in growth of the epithelium was due to necrosis of the superficial cells of the granulation tissue base of the ulcer offering an effectual barrier to the overgrowth of the epithelium This necrosis was due to the prolonged action of the HCl of the gastric juice, and was accompanied by excessive formation of fibrous tissue in the base of the ulcer The meat remained longer in the stomach than the milk and excited a more copious flow of gastric juice, with the result that the ulcer was delayed in healing owing to necrosis of its base, the period of delay, however, not exceeding a variable number of days

Effects of Delay in the Emptying of the Stomach

Delay in the emptying of the stomach beyond the normal time and dilatation of the organ were produced by artificial pyloric stenosis in the cat In a series of experiments I found that the healing of ulcers produced in these animals was delayed in proportion to the degree of retention of the food in the stomach The delay occurred in the early stages and was due to necrosis of the granulation tissue covering the base of the ulcer, the epithelium being unable to grow over it In one case at the end of six weeks the centre of a thick sclerotic base was uncovered This fibrous condition of the base provides a very unfavourable stroma for the regenerated gastric glands to proliferate in, and the newly formed mucous membrane consisted in these cases of glands of the duct type only, dilated and of very irregular shape These changes were due not only to prolongation of the digestive process, but also to deficient neutralization of the HCl in the gastric contents by interference with the normal duodenal regurgitation The effects in these and the succeeding experiments were naturally very much more marked than in those dealing with mere variations in diet, the period of delay extending to weeks

Effects of Administration of HCl

In these experiments monkeys were used, the HCl being administered by tube early in the morning The acidity falls rapidly from neutralization by duodenal regurgitation of pancreatic juice, so that the HCl has only a short time in which to act Using strengths of 0·18 per cent HCl and upwards, a pronounced delay of two or three times the normal period of healing was observed, due to necrosis of the base of the ulcer as described above In such cases the newly formed mucous membrane was of the atypical variety Strengths of 0·1 per cent HCl and below produced no appreciable effect Matthes had already found that 0·5 per cent solution of HCl delayed the healing of an ulcer in a dog This method is a very imperfect imitation of hypersecretion and hyperchlorhydria

Administration of HCl together with Pyloric Obstruction

Monkeys were again used and the degree of obstruction confirmed by the x rays In these cases not only was hyperacidity of the contents and delayed emptying of the stomach secured, but duodenal regurgitation and neutralization were interfered with A summation of effects was here observed In all cases on the twenty-first day the base of the ulcer was covered with a large thick slough, which effectively prevented the epithelium from growing over the base

In human pathology precisely the same condition of the base is seen in acute ulcers which are delayed in their healing, and in chronic ulcers the healing of which is arrested—namely, necrosis of the connective tissue and secondary inflammatory thickening—and this condition of the base is the reason why the ulcers are delayed or arrested in their healing Delayed emptying of the stomach with prolongation of the digestive process, interference with the normal duodenal regurgitation which regulates the acidity of the gastric contents, and hypersecretion of the gastric juice, are the functional disturbances of the stomach which play their part in bringing about this state of affairs

TREATMENT

Restoration of the Normal Gastric Functions

The two objects we have in view are (1) to lessen the neuro-muscular irritability of the stomach, more particularly of the pylorus, and thereby facilitate the emptying of the organ and restore the normal degree of duodenal regurgitation, and (2) to reduce the amount of gastric juice secreted It is important to recognize at the outset that the disappearance of pain is no index of the restoration of normal gastric function and still less of the healing of the ulcer The food may be held up by the pylorus without exciting pain, and hypersecretion may also be present without the existence of this symptom Crohn has shown that hypertension of the pylorus is much more easily overcome than hypersecretion, which requires prolonged treatment, although pain has been long absent The degree of pyloric tone and the amount of gastric juice secreted vary in different people, and our aim is to restore our patient to the condition which is normal for him as an individual The age and condition of the ulcer can only be surmised in a vague kind of way, and since a chronic ulcer takes many months to heal we must divide the treatment devised to accomplish the two objects mentioned above into two stages (1) preliminary treatment, and (2) the subsequent treatment

Preliminary treatment lasts six weeks, during which the patient is put to bed to reduce his expenditure of energy, so that the diet may be reduced to a minimum, thus diminishing the stimulus of food and the work of the stomach The excessive irritability rapidly disappears and the work of the stomach is then gradually increased by increase of food until the patient is eating the full diet he is to be allowed He then gets up and proceeds to the subsequent treatment, during which he eats the full diet allowed—otherwise malnutrition and debility of the nervous system will result—masticating his food thoroughly and taking sufficient time and rest with his meals

Diet

In order to reduce the irritability of the pylorus the food in the preliminary stage must be liquid or semi-solid, finely divided, and free from irritants The gastric contents must be neutralized by an alkali during the later stages of digestion as the HCl acts as an irritant to the pylorus In the subsequent treatment the food must be such as to be easily disintegrated and peptonized and free from irritants

such as decomposed fats, acids, and food accessories, otherwise irritability of the pylorus will be excited

In order to reduce the amount of gastric juice secreted food must be selected which not only leaves the stomach easily, but which gives rise to a moderate flow only of this secretion Here I will remind you of one or two fundamental points with regard to the amount of gastric juice secreted in response to the ingestion of different protein foodstuffs The *extractives* contained in meat, and therefore in soups, beef-tea, and meat extracts, give rise to a maximal flow of gastric juice and in comparison they contain very little protein to take up the acid The flow is especially large if they are retained longer in the stomach by admixture with an inert substance such as starch This is the reason that *meat* causes such a large flow unless the extractives are boiled out of it Beef and mutton are more difficult to disintegrate than chicken and fish, stay longer in the stomach, and hence excite a greater flow of gastric juice *Bread* causes a much smaller secretion, but it is liable to be prolonged All vegetable proteins are more difficult to digest than animal proteins *Milk* also causes a smaller secretion than meat, and leaves the stomach easily unless tough clots are formed, but this can be overcome by citrating *Raw egg* causes a minimum or no secretion at all, if boiled, more juice is excited *Fats* inhibit secretion and lower its digestive power

In the preliminary treatment the foods are therefore presented in the following order, during the six weeks in bed milk, raw eggs, thin bread-and-butter, boiled eggs, cereals boiled in milk, pounded fish or chicken, mashed potato, sieved green vegetables, ordinary fish, chicken, mutton Meat extracts are not given at all, nor meats nor other foods which are not easily disintegrated The feeds should be given every three hours, beginning with 7 oz of milk at 7 a m , 10 a m , 1 p m , 4 p m , 7 p m , 10 p m , and afterwards three meals a day are built up in the above stages at 7 a m , 1 p m , and 7 p m , or other convenient hours These are the principles, and the details should be worked out for individual cases by the practitioner in attendance In general the food should pass the pylorus easily and excite the secretion of gastric juice as little as possible The subsequent diet allowed should contain an adequate amount of protein and carbohydrate, and as much fat as the patient likes in the form of butter, cream, boiled bacon, and oil if he chooses

The idea of giving an excess of fat in the form of olive oil in order to inhibit the secretion of gastric juice was suggested by Colnheim Such a diet may be encouraged in the case of people who like and can tolerate it, but they are in the minority The oil is apt to excite nausea and eructations, and even diarrhoea and vomiting in many people We must also remember that an excess of fat may cause an after-secretion of gastric juice

An excess of protein forms the basis of the diet in the Lenhartz treatment The first idea is that the excess of protein combines with the free acid of the gastric juice which would otherwise remain in the free state and damage the ulcer The feeds are not given at stated times but in small quantities very frequently during the day, and consist in the first instance of eggs beaten up with sugar and milk The amount is increased each day, the eggs are boiled and other foods are added, so that at the end of a fortnight the daily ration would be eight eggs, a pint and a half of milk, two ounces of minced meat, boiled rice, and bread-and butter The eggs are then gradually reduced and more meat added to replace them, and other foodstuffs up to a full mixed diet, the patient getting up at the end of a month The second idea is that anaemia and malnutrition prevent the healing of the ulcer, and therefore the above treatment is commenced at once whether bleeding is taking place or not

My criticisms of the Lenhartz diet are (1) That it is a wrong principle to endeavour to neutralize all the free acid by giving excess of protein, which simply increases the secretion according to the amount given and the time it remains in the stomach Such a diet is particularly liable to increase any hypersecretion which may be present (2) That it is much better to give meals at stated times such as the patient has been accustomed to and to neutralize the HCl by alkalis about one and a half to two hours after each meal, as occurs naturally (3) That it is wrong to feed a bleeding patient, because the blood clot which is closing the artery is easily dislodged by the movements of the stomach and by the vasomotor dilatation consequent on the ingestion of food, and it is disintegrated by the gastric juice Loss of blood is no obstacle to the healing of the ulcer, as I have shown you at the beginning

Rectal feeding should only be resorted to under two conditions (1) bleeding from the stomach, (2) uncontrollable vomiting, which is an uncommon complication of gastric ulcer The period of feeding need never be prolonged beyond a few days, and as soon as possible small mouth feeds are given frequently and the intervals gradually lengthened to three hours

Administration of Alkalis

We have seen that during digestion when the acidity due to HCl has risen to the average height of about 0 2 per cent the pylorus relaxes and regurgitation of pancreatic juice occurs into the stomach and brings down the acidity When the stomach is in the fasting condition and gastric juice is being secreted in normal or abnormal quantity the pylorus is continually relaxing to let out this fluid and permit of its neutralization by regurgitation of the intestinal juices In the majority of patients with gastric ulcer this pyloric relaxation and neutralization of the gastric contents is deficient The correct procedure to adopt in order to replace this deficiency is to give alkalis about *one and a half to two hours after each meal, and also once or twice during the night* if the patient happens to be awake By doing this the gastric contents are neutralized in the normal way and the hypersecretion is gradually reduced The best alkalis to administer are bismuth carbonate, calcium carbonate, magnesium oxide, and sodium bicarbonate Sodium carbonate is the chief neutralizer in the normal condition

This treatment by alkalis has been unnecessarily carried to excess by Sippy His method aims at completely neutralizing the HCl in the gastric contents Food is given every hour from 7 a m to 7 p m , and alkalis are also given every hour between the feeds and also every half hour between 7 p m and 10 p m The doses of alkalis vary, and sometimes large doses are used My criticisms of this method are (1) That the gastric juice is put out of action and digestion stopped (2) That this amount of neutralization is quite unnecessary, since free HCl below 0 1 per cent does no material damage certainly not sufficient to delay the healing of an ulcer (3) According to Hardt and Rivers this excessive and constant giving of alkalis in some people produces symptoms of intoxication

We must remember that we are not dealing with a mixture of chemical substances in a test tube, but that we are treating a human being and the best result will be obtained by putting him in the most natural condition possible

Atropine

This drug has its uses, but takes a distinctly secondary place in the treatment It varies very much in its effects in different cases, and in general, to produce a definite result large doses are required so that dryness of the mouth and other adverse symptoms are liable to result Its most important action in reducing the acidity of the gastric contents lies in its power to relax the pyloric sphincter and permit of duodenal regurgitation the actual diminution in the amount of secretion during digestion being of much less account The hypersecretion in the fasting stomach can be stopped by atropine, as shown by Crohn, if large doses are administered

Surgical Treatment

The only direct means of dealing with a chronic ulcer is to excise it Otherwise the aim of surgery is precisely the same as that of medicine—namely (1) to facilitate the emptying of the stomach and (2) to induce the regular evacuation of intestinal fluid into the stomach thereby neutralizing its contents in imitation of the normal process duodenal regurgitation I cannot on this occasion [illegible] prophylactic and other aspect of the treatment

A Clinical Lecture
ON
CHRONIC INTESTINAL STASIS,
OR,
OUR MECHANICAL RELATIONSHIP TO OUR SURROUNDINGS *

BY
SIR W ARBUTHNOT LANE, BT, M S, F R C S,
CONSULTING SURGEON TO GUY'S HOSPITAL

MOST of us are unaware of the extraordinary and remarkable evolutionary changes in the structure of the body which develop very rapidly during a portion of the lifetime of the individual Some changes may be in progress many years before they become recognizable, while others may appear in a few years or even in a few months or weeks

While in the dissecting room I studied the changes which the mechanics of the labourer undergo in consequence of the heavy and continuous work he performs, and I soon found that it was usually quite easy from the examination of the body to tell the occupation the labourer had followed during life I formulated three simple laws

1 Pressure produces changes in the structure and form of the bones and in the form and function of existing joints, while it determines the formation of new joints

2 Strain produces change in the form of the bones and in the form of existing joints, and also produces new joints

3 When, apart from the exercise of pressure or strain, it is important, from the altered mechanical relationship of the individual to his surroundings, that a mechanism should be modified or an entirely new one developed, such a change takes place

The changes take many years to develop, and they increase in proportion with the length of time in which the individual has been engaged in his laborious occupation

Another law is that the skeleton represents the crystallization of lines of force Any alteration in the mechanics of the skeleton by injury is followed by a recrystallization, which takes place with extraordinary rapidity in infancy A fracture with displacement of the fragments of a long bone at birth is followed in a very few days by abundant deposit of new bone along the lines of force, and extending from the extremities of the shaft This capacity to restore the skeleton diminishes with age, but exists in a high degree in youth

While the alterations in the structure and form of the bones and joints are readily intelligible, it is less easy to demonstrate those that take place in the soft parts Perhaps the most difficult to illustrate, though they are in some way the most obvious, are the changes that take place in the brain in consequence of its mechanical relationship to its surroundings, and those comprised in what is called education These changes, unlike those observable in the mechanics of the labourer, take place very early in life, when, as in the case of a fractured bone, changes are most rapid The combinations which the brain cells form with one another become definite and fixed, and this is so marked that it takes a very long time subsequently to alter these arrangements, even if it is possible to do so at all Such a combination of the cells of the brain may altogether unfit that organ for forming what might be called a common-sense view on any subject By common sense I mean the capacity to arrive at a conclusion which would appear true to a number of people engaged in a variety of occupations

The best example that suggests itself is the association of cells which results from the instillation of religious dogmas into the mind of the child at an early period of its existence The Jesuit, a most highly educated and intelligent teacher, realizes this thoroughly He knows, if he can control the education of the child during its early years, that later in life it is difficult or often impossible for the individual to destroy that crystallization of the cells and of their communications and to replace it by others I merely give this illustration to show that the intimate structure of the brain depends on its surroundings as much as, or perhaps infinitely more than, do the skeleton and joints The importance of this influence all through life is tremendous, and should be studied by educationists and lawyers, neither of whom seem to have any reasonable grasp of the subject

I will now consider the mechanics of the gastro-intestinal canal We must regard the mechanical relationship of this tract to its surroundings in the same manner that we have regarded those mechanical relationships which influence us from without, and look upon it as being for all practical purposes outside the body and not contained in it, and therefore subject to precisely the same laws

It is because most medical men are unaware of the laws I have enunciated that they cannot grasp the simple sequence of changes in the gastro-intestinal tract in chronic intestinal stasis This is due to the fact that the method of medical education during the more receptive period of student life has established such a fixed combination of their brain cells as renders it difficult or impossible for them to understand any new principle Dr Jordan, in the introduction to his work, *A Radiological Study of Chronic Intestinal Stasis*, points out that

> "Textbooks are, of necessity, arranged under headings classified according to organs or regions This system necessary for purposes of instruction has a fundamental fault It fosters the fallacy that disease involves individual organs whereas, in truth though only one organ cries out for help, the whole system is out of gear This fallacy has imbued the medical profession for so many generations—indeed, centuries—that it is most difficult to eradicate"

The system in which are comprised our food supply and our drainage scheme appears excellently arranged for the purpose For its perfect mechanical functioning it is necessary that the food shall contain a sufficient quantity of indigestible materials to afford work for the muscle fibre of the intestine throughout its length, and also that the contents of the tract shall pass along at a reasonable rate, and that they shall not accumulate in any particular section and so exert an abnormal strain on the mechanism by which the several parts of the canal are retained in position

It is obvious that, as in the case of the skeleton and joints of the body, if any abnormal strain is exerted on such soft parts as the membranes supporting the several portions of the drainage scheme corresponding definite changes must result, and because of the softness of these tissues the changes must take place with much greater rapidity than in the case of the skeleton I cannot lay too much stress on this, since it is of the most vital importance to the health and well-being of the individual

Quite a brief period of stagnation of the intestinal contents may result in very extensive permanent modification in the mechanics of the structures retaining the overloaded intestine in position and consequently in the functioning of the bowel itself

It is most important to remember that the younger the subject when exposed to this abnormal influence the greater is the change This is on all fours with the recrystallization of the skeleton in fractures with displacement of fragments in infancy

I am convinced that the bands which I shall consider may be formed very early in life, and that they are due largely to the constipation that accompanies artificial foods of any kind whatever which are used when the mother is unable to nurse the child

I believe that the freedom in savage life from the gastro-intestinal disorder culminating in cancer which occurs only in civilization is very largely dependent on the fact that the infants, during the most important portion of their lives, in which they are, as I have shown, very susceptible to alteration in their mechanisms, are suckled by their mothers for a long period In other words, the seeds of cancer are sown in infancy

That which is universally accepted as true in medicine is almost always wrong

* Delivered at the London (Royal Free Hospital) School of Medicine for Women

In civilized communities it is generally assumed that one action of the bowel every day is quite sufficient for health, and when the infant ceases to wear napkins it is taught to be constipated for twenty-four hours This habit of a daily action has apparently arisen from the steady and progressive elimination of all indigestible and bulky material from the food, in consequence of which the normal stimulus to more frequent actions is in abeyance

Delay in the evacuation of the intestines leads to the accumulation of heavy solid faecal matter in the pelvic colon This throws an excessive strain upon the outer layer of the mesentery of the colon about the junction of its iliac and pelvic segments which binds it to the iliac fossa This determines the formation of thin bands or tags of peritoneum, which extend from the iliac fossa progressively to the mesentery and finally to the colon as far as its anterior band of longitudinal muscle fibre These acquired bands, which are a crystallization of lines of force identical in character and function with the callus of a broken bone, gradually contract till they shorten and obliterate the structure and function of the mesentery, anchor the bowel, and finally rotate it on its longitudinal axis, and deform it to an extent corresponding to the degree of axial rotation In these several stages of fixation the lumen of the bowel becomes progressively obstructed at this point, and its mucous, muscular, and peritoneal coats become in consequence chronically inflamed and are tender on pressure

I call this anchoring of the iliac colon the first and last kink—the first because it is the earliest to develop, and the last because it is the lowest in the drainage scheme I cannot exaggerate its importance, as I believe its capacity for harm is tremendous and far-reaching, and that it is responsible for all the changes which are due directly and indirectly to chronic intestinal stasis It spells the failure of civilization and is a veritable Pandora's box It causes a damming back of the contents of the large bowel with a further crystallization in the layer of the mesentery which chiefly supports the overloaded large bowel proximal to it This is most marked at certain points—namely, at the level of the iliac crest, at the splenic flexure, and at a point below the gall bladder, where a band develops and, extending from the liver and gall bladder, descends and secures the transverse colon just beyond the hepatic flexure An especially strong layer suspends the caecum, with the object of opposing its descent into the true pelvis The caecum is also supported internally on its inner side by the end of the ileum and its mesentery which form its internal ligament, and on the under surface of this portion of the mesentery similar crystallization takes place as elsewhere in the colon and a decided kink and obstruction result This, like all other acquired bands, and indeed all other structures which develop to help to meet man's mechanical relationship to surroundings, at first serves a useful purpose, but later tends to shorten life The damming back of material in the colon results in an infection of its mucous membrane which progresses backwards along it from the situation of the last kink It is commonly spoken of as "colitis," which simply means infection of the mucous membrane of the colon by the organisms which thrive in its stagnant contents It is demonstrated radiographically by an extreme reduction of the lumen of the inflamed bowel

The appendix, whether free, or anchored by acquired adhesions produced to support the caecum, may in consequence of this infection become acutely or chronically inflamed When anchored to help to support the caecum and passing up to its attachment to the back of the mesentery, it runs behind the ileum and not infrequently controls and obstructs its effluent and accentuates the stagnation of its contents To this condition I gave the name of "controlling appendix"

The accumulation of material in the small intestine whether resulting from the overloading of the caecum or aggravated by an ileal kink or controlling appendix, produces a drag upon the duodeno-jejunal junction and a corresponding angulation and obstruction of the bowel at this point

The stomach continues to force its contents into the duodenum the contents of the obstructed duodenum cannot regurgitate into the stomach because of the sphincter action of the pylorus, and are unable to get through the duodeno-jejunal junction so that they overdistend the duodenum, and especially its first part, which is surrounded by peritoneum The struggles of the duodenum to force on its contents produce the pain which has been called "hunger pain," for the reason that the entry of food into the stomach is followed by the closure of the pyloric orifice and the cessation of further distension of the duodenum by gastric contents and the consequent relief from pain

The frequent distension of the duodenum results in the engorgement of its mucous membrane, especially of its first portion, and later in its abrasion and ulceration The forcible impact of the gastric contents upon the spasmodic and obstructed pylorus tends to produce infective changes in the mucous membrane about that orifice and these are very liable to become cancerous When the stomach dilates because of its inability to evacuate its accumulating contents through the obstructing pylorus the strain exerted along the lesser curvature by their weight results in infective changes in the mucous membrane in this position These tend to become cancerous later

The oesophageal sphincter becomes spastically contracted in consequence of the imperfect action of the stomach and the obstacle afforded to the passage of food from the stomach, infective changes ensue in its mucous lining which tend to become malignant The frequent passage of large masses of hard food through the portion of the oesophagus compressed by the bronchus occasionally determines similar changes in the mucous lining of this portion of the gullet

So much for the most important mechanical changes which result from stagnation of the contents of the gastro-intestinal tract

I would point out that the chief causal factor in the development of inflammatory foci varying in degree from engorgement to ulceration and cancer is traumatism The change in the mucous membrane takes place invariably in just such situations as common sense assisted by a slight knowledge of mechanics would lead one to expect it to occur These changes never arise by chance The other factor in their causation is the presence in the contents of the gastro intestinal canal of various infective organisms which invade the mucous membrane, whose vitality and resisting power has been lowered by traumatism

Curiously enough, the elongation and prolapse of the intestines which occurs in persons of low vitality, in whom there is only an imperfect attempt to control these effects by securing the intestine by acquired bands, has chiefly attracted the attention of surgeons, who do not realize that these conditions are sequelae and not the primary cause which is situated in the kink in the left iliac fossa To meet this dilatation elongation and prolapse of the viscera surgeons have performed many operations with the object of shortening the elongated bowel or fixing it in position It is hardly necessary to indicate the futility of such procedures except occasionally in the case of the pyloric Ulceration of the mucous membrane rarely occurs in the asthenic type of stasis but on the other hand organisms flourish with far greater readiness in the accumulated stagnant contents of the elongated dilated and twisted bowel with dire consequences to the patient

Besides these mechanical results of stasis there are those of which the obvious ones are the absorption of the fouling by organisms of the dammed up contents of the small intestine duodenum and stomach with the extension of the infection along the hepatic and pancreatic ducts producing changes in the liver and pancreas gall stones and cancer The mode of extension of the infection in these conditions is as apparent as the resultant change

The next series of changes we have to consider are those about by the absorption from the infected contents of the gastro-intestinal tract of more toxins than the liver is able to deal with These noxious substances are carried in the circulation are carried to every organ in the body and produce disastrous results in proportion to the degree of the toxicity of the blood which interferes with nutrition and also carries away the In various people differ in their

react particularly to toxins, and these peculiarities may be hereditary

The degenerative changes in the thyroid, adrenal, and other ductless glands, the heart and blood vessels, the nervous system, the eyes, ears, kidneys, liver, pancreas, uterus, ovaries, testes, prostate, breast, fat, skin, hair, lymphatic tissue of the naso-pharynx, and the gums and teeth—these two last being the most frequent and conspicuous of all—I have frequently described in detail, and I have shown how liable are certain of these degenerated organs—as the breast, uterus, ovary, and pancreas—to be infected with cancer Among the nervous symptoms may be mentioned intense headache, neuritis, neuralgia, sleeplessness, misery, complete mental and physical prostration, melancholia, epilepsy, disseminated sclerosis, delusions, paralysis agitans, dementia praecox, etc

Besides these changes which are the direct result of the supply of toxic blood to the tissues, we have a number of infections by organisms which occur because of the inability of the degenerated tissues to withstand their inroad These infections are not able to obtain a foothold in a normal healthy subject

Perhaps the most conspicuous at the present moment is cancer *Cancer never affects a healthy organ* In every case in which I have had an opportunity of verifying it I have found that the cancer patient was suffering from chronic intestinal stasis, and that the infection by cancer was an indirect consequence of this condition Cancers of the skin and tongue which are produced by chronic traumatism alone are not included in this category

If this assumption is correct, it is obvious that to prevent the development of cancer it is necessary to obviate the static changes in the gastro-intestinal tract which result from the diet and habits of civilization That an enormous amount of benefit and a corresponding freedom from cancer has been obtained by the use of paraffin is in my opinion undoubted I started to employ paraffin when I recognized the mechanics of chronic intestinal stasis, and have used it in every case since, as it would have been impossible and unnecessary to operate on all patients suffering from this disability Its usefulness is also confirmed by the extraordinary manner in which it has spread over the whole world I doubt whether any other material or drug has ever given anything like the same comfort and security from disease that it has By its use the irritation and harm which result from the action of a purgative are avoided, it acts on the principle of the flushing tank, rendering the motion soft and ensuring two or three free actions a day

The other diseases that affect the subjects of chronic intestinal stasis are rheumatoid arthritis, Still's disease, tubercle, Raynaud's disease, many splenic affections, ulcerative colitis, many skin diseases, diabetes, ulcerative endocarditis, gout, etc

Our chief interest at the present time, therefore, should be to prevent the development of chronic intestinal stasis, and so to obviate the incidence of the several conditions which are due directly or indirectly to its presence, of which latter group cancer interests the public particularly because of its frightful mortality and the physical and mental anguish so frequently associated with it

How is this to be done? It can only be effected by a complete revolution in our diet and in our habits of life We must assimilate them to those of the aborigines, among whom the entire stasis sequence is unknown, and the more thoroughly we approach the conditions of primitive life the more successful shall we be in avoiding the occurrence of a very great number of diseases

Roughly, it would seem that the diet should consist as much as possible of vegetable matter, that it should be consumed largely in a raw state to avoid damage to vitamins, that coarse indigestible material be retained in order to increase the bulk of the intestinal contents, and the stimulating action on the reflexes, that food which if kept becomes offensive and poisonous should be eliminated as much as possible, and that the consistence of the faeces be diminished and the frequency of evacuation increased Last, but not least, every possible endeavour should be made by mothers to suckle their infants for a sufficient length of time

So much for the prevention of stasis As to the treatment of the existing condition apart from medical measures such as a Curtis belt, paraffin of high viscosity, kaolin,* and abdominal exercises, all operative measures on any portion of the gastro-intestinal tract should be started by an examination of the last kink, and by the careful freeing of the bowel from its acquired attachment to the iliac fossa This must be done thoroughly and with the greatest care, and when the mesentery has been restored to its normal length and the bowel to its normal mobility any raw surfaces of mesentery must be accurately covered by peritoneum to obviate the formation of inflammatory adhesions

Perhaps of all operations in surgery this procedure is followed by the most wonderful effect The whole condition of the patient is transformed and he is rapidly restored to vigorous health After all this is not surprising, since it is because of this obstruction that all the other changes in the gastro-intestinal tract, whether mechanical or toxic, ensue I have on very many occasions derived the same advantages by this simple operation that I have previously had from colectomy at a considerably greater risk Because of the remarkable results which can be obtained by this procedure I am anxious that its value should become recognized

Having dealt with the last kink, the colon should be examined in its entire length to make sure that no secondary constriction has developed, and particularly in the region of the splenic flexure Any acquired band found controlling the lumen of the bowel should be carefully divided, and any raw surfaces deprived of peritoneum must be covered in accurately An inflamed or controlling appendix or an ileal kink should be looked for and dealt with if present

A CASE OF RETROPHARYNGEAL LIPOMA

(With Special Plate)

BY

SIR ROBERT WOODS, M CH (HON CAUS) DUB, FRCSI,

HONORARY PROFESSOR OF LARYNGOLOGY, DUBLIN UNIVERSITY

THE following case deserves to be recorded, if only on account of its rarity

A gentleman, aged 41, was sent to me on May 13th, 1923, by Dr Nesbitt He complained of "phlegm in the throat" for a very long time, getting worse for the past year

Inquiries addressed to the patient and some of his intimate friends made it clear that for at least twenty years he had not swallowed freely, food had to be taken in small quantities, very slowly and with frequent sipping He found meat the most difficult and rarely attempted to eat it oftener than once a day Pungent food always provoked a cough, and such things as sherry caused acute distress The voice had the characteristic twang one associates with retropharyngeal abscess or tumour For months past his breathing had not been free At night it became so stertorous that people within earshot were kept awake, and it was on more than one occasion the subject of complaint in hotels

On examination, the back wall of the pharynx was seen to be sharply bulged forward at the level of the base of the tongue, so as to come in contact with the epiglottis and prevent inspection of the larynx The tumour could be reached by the forefinger and was quite soft, but gave no impression of fluctuation His temperature and pulse were normal and there was no pain

A radiogram taken by Dr Hardman is reproduced in the accompanying plate (Fig 1) It showed that a tumour lay in front of the vertebral column, behind the pharynx and upper portion of the gullet, separating these structures by a distance of at least an inch The vertical line along the

* Kaolin which is recommended to prevent decomposition in the intestines may be dispensed by rubbing up with water and then gradually adding mucilage of tragacanth It can be flavoured to taste Details were given by Dr Pirie in the JOURNAL of November 24th 1923 (p 1011) He recommends about 3 oz of kaolin to 9 oz of water with 1 oz of mucilage, and that a port wineglass be taken six times a day

SIR ROBERT WOODS RETROPHARYNGEAL LIPOMA



FIG 1.—O Cricoid H Hyoid

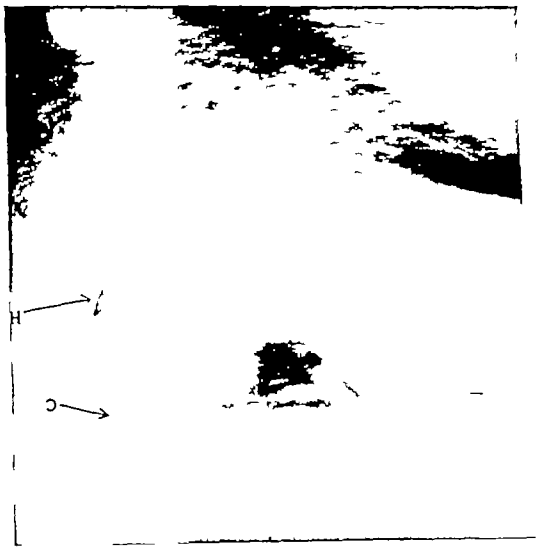


FIG 2.—O Cricoid H Hyoid

H WALLACE JONES DEXTROCARDIA



FIG 1

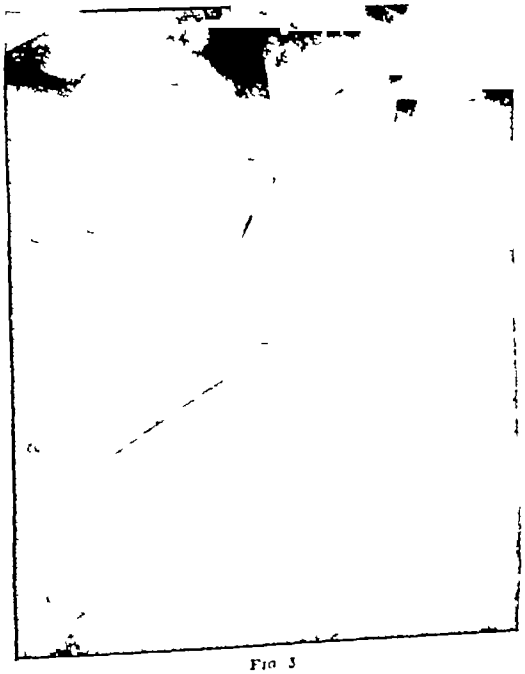


FIG 3

R N IRONSIDE AND C D SHAPLAND SPINAL COMPRESSION LOCALIZED RADIOGRAPHICALLY BY SICARD'S METHOD

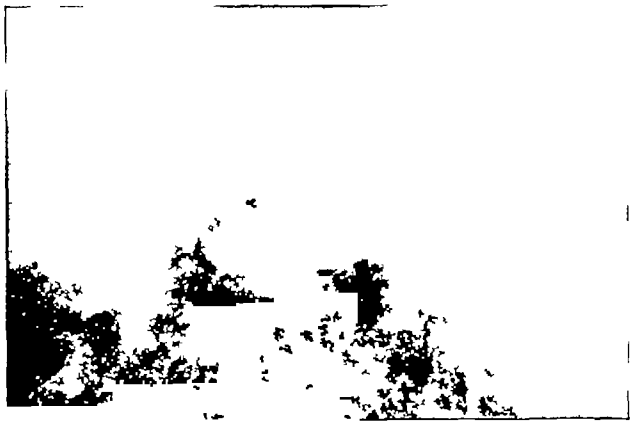


FIG 1.—Normal radiogram. Lipiodol shadow at level of sacral second spine—that is, termination of spinal theca.



FIG 2.—William W. Radiogram showing shadow of lipiodol. A piece of lead (λ¹) marks the lower limit of the shadow at the level of thoracic fifth spine—that is the uppermost limit of the tumour. Some of the oily drops appear below the level of the ob truction.

DAVID CAMPBELL THE HIPPOCRATIC FINGERS

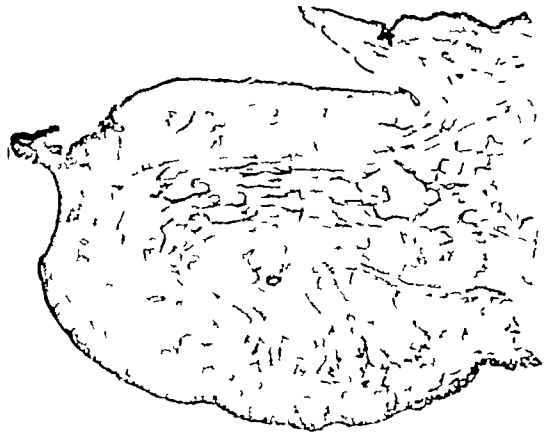


FIG 1.—Clubbed finger (×4).

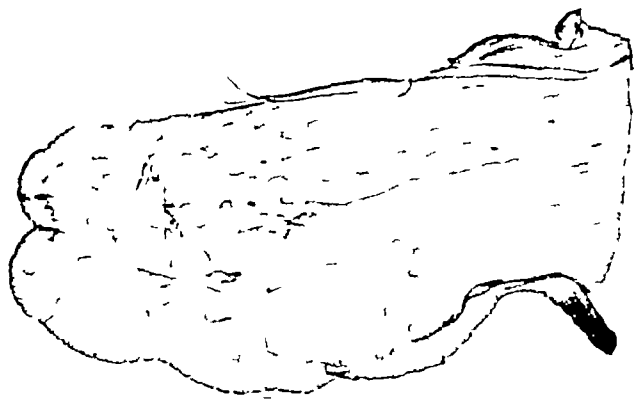


FIG 2.—Normal finger (×4).



FIG 3.—Nail bed, clubbed finger (×20).



FIG 4.—Nail bed, normal finger (×20).

front of the bodies of the vertebrae instead of being convex was somewhat concave forwards, a proof that the tumour had exercised prolonged pressure on the spine The lower border of the growth was level with the suprasternal notch I had never seen anything like it nor could I find any reference to it in literature

The length of the history and the appearance and feel of the tumour made it highly improbable that there was either an abscess or an infiltrating growth, a diagnosis of benign tumour was made and lipoma suspected Mr R C B Maunsell, V P R C S I, who saw the patient with me, agreed, operation was decided on and I had the advantage of his assistance at its performance

In debating how removal should be attempted subhyoid pharyngotomy was mentioned only to be dismissed, for, though that route might give good access, the danger of septic contamination from the pharynx was too great Dyspnœa during the anæsthesia was certain, and of the two methods of avoiding it—namely, the administration of ether by the intratracheal method or preliminary laryngotomy—the latter was selected Stertor began before anæsthesia was properly induced, but the insertion of the laryngotomy tube made matters quiet

After a change of gloves a free incision was made along the anterior border of the left sterno-mastoid muscle, the omo-hyoid was reflected, the superior thyroid artery ligatured and divided, and the tumour thus exposed It was found to be a lipoma of a very large size By gentle manipulation with the help of gauze sponges the growth was gradually drawn from its bed It was bigger than a man's fist, and quite filled a 2 lb jampot The sac of the pharynx where it was spread over the mass was quite thin, but it was not wounded One or two deep catgut sutures were inserted to lend the pharynx support during swallowing, and a drainage tube left in for a day

The patient was fed by enemata for the first forty-eight hours and subsequently by a tube for a few days, after which he swallowed well Recovery was uneventful Fig 2 is a corresponding radiogram taken some three weeks after operation The contrast between the relations of the hyoid bone and larynx to the vertebral column before and after operation is well shown

THE HIPPOCRATIC FINGERS

(With Special Plate)

BY

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THOUGH clubbing of the fingers has been noted by clinicians from very early times, and though much has been written of the conditions with which it is associated, there still exists great uncertainty, not only with regard to the mechanism of its production, but even concerning the simpler question of its morbid anatomy In the few cases in which such a finger has been examined microscopically no two observers agree as to the essential changes in the soft parts, although there is general agreement that the bone is not altered It is not surprising, therefore, that there is considerable difficulty in offering a satisfactory explanation of the manner in which clubbing arises, and this difficulty is certainly not diminished by the extraordinary variety of diseases in which the deformity appears I have been able to obtain a finger removed during life from a patient who exhibited a marked degree of clubbing, and I propose to compare the microscopical appearances of a longitudinal section through its tip with those of a similar section through a normal finger and to discuss briefly the mechanism of the production of clubbing

History

A woman aged 36 was admitted to the Western Infirmary Glasgow on October 4th 1921 with swelling of the wrists knees and ankles She stated that her illness commenced in March 1921 when she became easily tired was troubled with a short cough and noticed that her ankles were swollen and stiff without any accompanying pain In April the wrists became swollen and in May the knees were similarly affected During the latter month the tips of her fingers and toes became enlarged After two weeks the enlargement diminished to a considerable extent but at the end of June it returned and persisted From that time until the date of her admission to hospital there had been no alteration in the condition of her joints except that the swelling of the ankles had diminished slightly

Condition on Admission

Examination of the wrist joints showed that there was considerable thickening of the periarticular tissues In spite of this the movements of flexion and extension were complete in range and were not associated with pain The joints of both hands appeared normal but the tips of the fingers showed a marked degree of clubbing In both knee joints there was thickening of the periarticular tissues and synovial membranes There was considerable limitation of flexion especially of the left knee where excess of fluid was present in the joint The patient stated that she felt pain and stiffness in these joints only when she walked There was thickening of the periarticular tissues of the ankle-joints with no pain and no limitation of movement The toes of both feet showed marked clubbing

X ray examination revealed new bone formation underneath the periosteum at the lower end of the radius and ulna on each side Similar new bone formation was seen in the metacarpal and metatarsal bones and at the lower ends of the tibiæ and fibulæ At this time impairment of the percussion note at the left base and diminution of the respiratory murmur with a few coarse crepitations were the only physical signs of disease of the lung

After History

In December 1921, the proximal phalanx of the right little finger became slightly swollen and tender and a radiogram showed almost complete disappearance of the bone This was obviously due to malignant disease of the phalanx and accordingly the finger was amputated

Soon afterwards the physical signs of involvement of the left lung became more marked she developed metastatic growths in different parts of the body, and died on February 13th 1922

Post mortem Examination

A large mass of tumour growth was found infiltrating the left lung and histological examination showed it to be an endothelioma

The case therefore presented the usual features of pulmonary hypertrophic osteo-arthropathy arising from a malignant growth in the left lung There is one point however, in the history of the case which is of interest—namely, the very definite statement of the patient that after the finger-tips had become markedly swollen the swelling receded to a considerable extent for nearly four weeks and then returned

Figure 1 is a photomicrograph of a longitudinal section through the clubbed finger For purposes of comparison I was able to obtain a normal finger which had been removed by accident, and a photograph of a similar section made through the tip is shown in Fig 2 It will be noticed that the most striking difference is in the thickness of the part lying between the nail and the phalanx Figs 3 and 4 show photomicrographs of this part of the sections of the clubbed and normal finger respectively, and from these it will be seen that the greater thickness of the former is due to the presence of very marked oedema The connective tissue fibrils instead of running in compact bundles as seen in the section of the normal finger are separated from each other in many places widely There is no fibrous thickening of the rete mucosum, no dilatation of the capillary loops under the nail, no increase in the connective tissue and no [illegible] of fat such as have been described by Bubl[illegible] Liebermeister,[2] and Buzzard[3] respectively in [illegible] The essential difference between the clubbed and normal finger is the œdematous condition of the tissues especially of that part of it lying between the tip and the bone

It may appear undesirable to base a general [illegible] the facts observed in one case Nevertheless I [illegible] that œdema is the primary pathological basis of clubbing, and I propose to examine this view [illegible] of my own observations and those of others [illegible] place it is to be noted that, though in the majority [illegible] the condition is of slow development, and often [illegible] is permanent yet many cases have been recorded [illegible] clubbing appeared quickly and disappeared [illegible] when the prime cause was removed I have [illegible] appearance in a case of pneumonia and [illegible] during convalescence and similar observations [illegible] recorded by others West[5] described a case [illegible] empyema where marked clubbing developed [illegible] and disappeared when the patient recovered [illegible] think that the deformity was due to [illegible] like the [illegible] it is difficult to conceive any [illegible] other than œdema which would give [illegible]

marked symptomless enlargement of the tips of the fingers, and which would permit of them returning to normal in so short a time

In the second place clubbing of the fingers is known to occur in cases where there is definite obstruction to the venous return from the arms Gay[6] described the deformity as existing in both hands in a patient with double subclavian aneurysm, and Smith[7] had a case of right subclavian aneurysm where the fingers of the right hand alone showed clubbing In the latter there was obviously obstruction to the venous circulation of the limb by pressure of the aneurysm, for elevation of the limb for several days relieved the congestion and diminished the clubbing, while ligature of the subclavian artery almost entirely removed it Whatever views may be held as to the pathogenesis of oedema, there is no doubt that passive congestion plays an important part in its production, and, in these cases, it appears quite fair to suggest that there is no necessity to search for any other explanation

Clubbing of the fingers is seen most frequently in association with diseases of the lungs and pleurae bronchiectasis, *tumour of the lung, chronic phthisis with cavity formation*, abscess of the lung, pneumonia, and empyema In none of these cases is there any obstruction to the venous return from the limbs, and it is admittedly difficult to see how any of them could produce mechanically stagnation of the general circulation If, however, these various lung lesions be analysed it will be obvious that they possess one feature in common—namely, in all of them a definite, though varying amount of the lung substance has ceased to fulfil its proper function It follows therefore that the portion of blood which flows through the diseased area will not be ventilated, and accordingly the oxygen tension of the whole arterial blood will be lowered That this statement is not based on mere theory is shown by the results obtained in experimental work by Stadie[8] in cases of pneumonia and by Haldane[9] in cases where the lungs were damaged by gas poisoning In both types of disease it was found that the oxygen tension of the blood was definitely lowered—in other words, the patients suffered from anoxaemia It is not suggested that in all the cases under discussion the anoxaemia is severe in character, in the majority it is probably only slight, but it is important to recognize that it is present and that its essential feature is its chronicity

The transference of oxygen from the blood to the tissues depends upon the difference in tension of the oxygen in the blood and in the tissues It will be clear that if, from any cause, the arterial oxygen tension be lowered, the tissue respiration will be defective A small defect in tissue respiration may not produce any demonstrable effects on the individual, but, if it does, these will be seen in parts of the body where the defect is increased by a slower circulation These parts, owing to mechanical reasons, are the tips of the fingers and toes, and the nose This is very well illustrated in cases of pneumonia where sometimes cyanosis can be observed under the finger-nails before it has made its appearance in any other part of the body

It appears, therefore, justifiable to assume that in cases of clubbing arising from diseases of the lung there are present factors which lead to a chronic impairment of oxidation in the tissues of the extremities If this is correct, it will readily be seen how oedema can arise For, though the mechanism of the production of oedema is not exactly known, it is an indisputable fact that it is especially associated with conditions of imperfect oxidation

This conception is capable of wider application, and will explain the clubbing so frequently seen in congenital heart disease In this disease clubbing occurs more especially in cases of pulmonary stenosis with a patent foramen ovale and an incomplete interventricular septum, and it is to be noted that this is the condition most frequently associated with cyanosis Here again there is evidence of deficient aeration of the general blood supply It also explains the clubbing described by Stokvis[10] and van der Bergh[11] in the condition known as "autotoxic enterogenous cyanosis" In this disease there is present in the blood either methaemoglobin or sulphaemoglobin resulting from the absorption of the products of intestinal putrefaction These compounds of haemoglobin have little or no power to carry oxygen, and accordingly there is present a deficiency in the oxygen tension of the arterial circulation If it be recognized that chronic anoxaemia is present in both types of disease it will readily be seen how oedema of the tips of the fingers can arise

Apart from the conditions already discussed, clubbing has been recorded as occurring in a great variety of diseases chronic jaundice and biliary cirrhosis, chronic diarrhoea, isolated cases of purpura, carcinoma of the oesophagus, pyloric stenosis, congenital syphilis, leprosy, rickets, malaria, and others Any attempt to explain the appearance of the deformity as the result of some toxin common to diseases differing so widely in their essential qualities is not likely to meet with success It is much more reasonable to recognize that all the conditions mentioned have as a common factor marked impairment of the general functions of the body, and that clubbing is more likely to be the result of the consequent defective oxygenation of the tissues which occurs occasionally in these diseases

There are several difficulties in the way of accepting this explanation One is that, though clubbing is common in, for example, bronchiectasis, it does not appear in every case, though presumably *all patients suffer from some degree of anoxaemia* Variation in the signs and symptoms depending on individual peculiarity is, of course, common in most diseases and is generally very difficult to account for But it is a well recognized fact that the circulation in the extremities varies considerably in different individuals, and defective circulation in these parts is one of the factors in the explanation given here

Another difficulty is that pitting on pressure, the ordinary sign of oedema, is not present It is impossible, however, to argue from this that there is no oedema, for, according to Widal, the tissues can take up water until as much as 6 kilograms has been added to the weight of the body before any oedema can be detected by palpation Furthermore, Schwartz,[12] using the elastometer invented by Schade, has been able to demonstrate the presence of oedema in pneumonia when it could not be appreciated by the finger Besides, in a number of cases of clubbing of recent origin, I have observed that, if a little pressure be applied laterally to each side of the nail, palpation of the base of the nail gives a distinct "boggy" impression, as if the nail were lying on thick fluid In some cases this is very marked, while in others, particularly where the clubbing has persisted for some time, it is not so distinct

A third difficulty is that, though the explanation offered is in accordance with the histological appearances in the case described in this paper, it does not seem to be consistent with the appearances recorded by other observers It may be noted, however, that impairment of tissue oxidation in the extremities may lead to dilatation of the capillary loops under the nail, and it will be obvious that, if the oedematous condition persists for a long time, there will be connective tissue proliferation as a result of continued irritation

In the past, two theories have been put forward to explain the production of clubbing The first, which may be called the toxic theory, lays it down that in certain diseases—for example, bronchiectasis—a toxin is elaborated which gets into the circulation and produces its specific effect on the extremities of the fingers and toes Apart from the difficulty in the conception of a toxin produced in such an extraordinary variety of diseases and yet possessing such a specific action, this theory offers no explanation of the mechanical production of clubbing by the pressure of an aneurysm The other hypothesis is that put forward by Beclère,[13] who suggests that the venous blood naturally contains a toxic substance which provokes changes in the fingers, and that if during its passage through the lungs this substance is not removed from the blood, clubbing results He offered no suggestion as to the nature of the toxic substance nor the process by which it is excreted from the lung In my view it is unnecessary to invoke the conception of a special toxin, unless the metabolites produced in the extremities under conditions of imperfect oxidation can be regarded in this light

It appears, therefore, that the primary pathological basis of all cases of clubbing is oedema of the tissues of the finger tip, especially of that part of it lying between the nail and the bone I believe, further, that if this oedematous condition persists it will lead to an increase in the connective tissue and to the other changes which have been reported

Finally, I have tried to bring forward arguments to show that clubbing is the result of defective oxidation in the tissues of the extremities, whether produced mechanically by obstruction to venous return, or as the result of a general lowering of the oxygen tension of the blood affecting parts of the body where normally the circulation is slow. This seems to offer the best explanation of the recorded facts concerning this very interesting phenomenon, and incidentally suggests that Pigeaux's[14] conception of the development of the deformity was correct.

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TYPES OF DEXTROCARDIA.

(With Special Plate)

BY

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DEXTROCARDIA in its widest sense is the term applied to the condition in which the heart beats in a more or less permanent manner in the right half of the thorax.

This abnormality has been known from very early times, and the first recorded case was that reported by Severinus of Rome in 1643,[1] while Riolano,[2] also in the seventeenth century, reported two cases, one of which was Queen Marie de Medicis. Even as early as 1749 dextrocardia had been divided by Senac[3] into congenital and acquired groups. Most of these early cases were based on *post-mortem* findings, and it was not until the beginning of the nineteenth century, when auscultation and percussion became perfected, that many cases were discovered during life. In more recent times, owing to the application of x rays and the electro-cardiograph, the diagnosis has become comparatively easy.

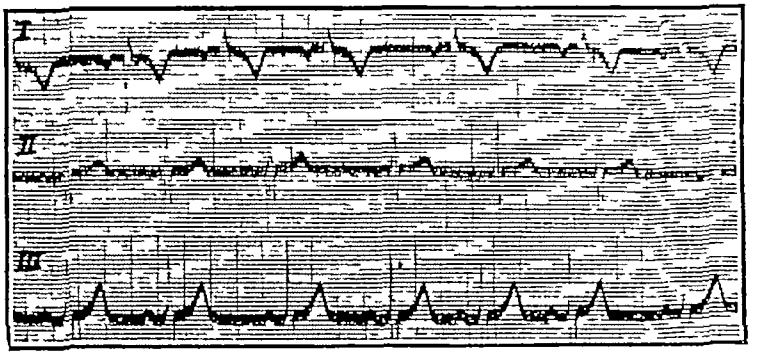


FIG. 2.—Case I. Transposition of heart and other organs. Lead I. inverted. transposition of Leads II and III.

Cases of dextrocardia may roughly be divided into congenital and acquired, but it is more usual to subdivide them in the following way:

I. *Inversions*.—Mirror image of the heart.
- (*a*) Complete.
- (*b*) Incomplete.
  1. Transposition of viscera with heart in the normal position.
  2. Complete inversion of the thoracic organs and a liver situated in the middle line.
  3. Inversion of the heart only.

II. *Dextroversions*.—Heart displaced to the right without inversion of the cavities.
- (*a*) Occurred during foetal life.
- (*b*) Acquired since birth.

INVERSIONS.

The complete variety is comparatively common, over two hundred cases are recorded in the literature.[4]

The incomplete type is, on the other hand, extremely rare.

Type 1 is seen in the case reported by Rover and Wilson[5]—a boy, 6 years old, who was found to have complete transposition of the viscera with the heart in the normal position. The lungs were included in the transposition, the three lobes being on the left side. The heart had a patent foramen ovale, pulmonary stenosis, and a rudimentary left ventricle.

Type 2 is represented by the celebrated case of Abernethy[6] in which the heart of a 10 months old infant was on the right side with the liver in the middle line, the rest of the organs being in the normal position.

Of Type 3 only two cases are recorded—that reported by Moffet and Neuhof[7] which was associated with patent interventricular septum, and that reported by Meyer[8] which was not associated with any other developmental error. This variety is very much rarer than one would suppose from the frequent ways in which it is described.

All these cases of inversion of the heart have what may be termed a "mirror image" of the normal heart—that is, with inversion of the cavities.

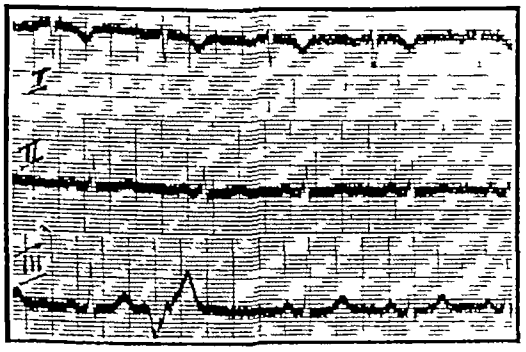


FIG. 4.—Case II. a case of complete transposition. The usual record of a transposition case—that is, Lead I. inverted.

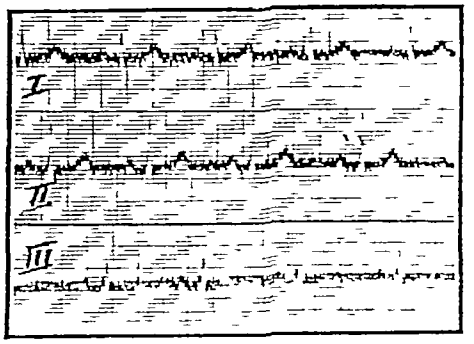


FIG. 5.—Case II. The normal record obtained when the right arm and left arm leads are reversed.

The electro-cardiographic record of complete inversion of lead I. will be the reverse of that of lead I. in the normal case, and leads II and III. in distinction to the corresponding leads in the main type or dextroversion in which the heart is displaced and which gives a normal record.

It is by means of the electrocardiograph in these cases that they are most

the cases of displaced heart or dextroversion The electrocardiogram is therefore of great help in those cases in which the transposition is confined to the heart, and in which the x-ray appearances are very similar

Dextroversions

Type (*a*) may be due to inflammatory conditions during foetal life or to defects in developments, such as absence of a lobe of the lung, diaphragmatic hernia, or to atelectasis

Type (*b*) may be due to changes in the left side of the chest pushing over the heart—such as pneumothorax, pyopneumothorax, haemothorax, and occasionally mediastinal tumours—or to changes in the right side, such as pleurisy, fibrosis of the lungs and pleura, or bronchiectasis drawing over the heart

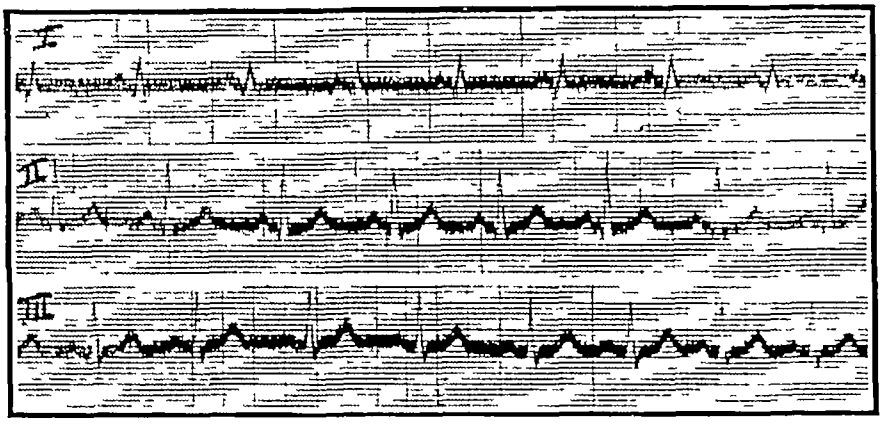


FIG 6—Case III Acquired dextrocardia. (Electrocardiogram normal)

In the congenital type there are often associated abnormalities of development, defects of the septum being common—a case with defect in the auricular septum was recorded by Foggie[9] and one with a defect in the ventricular septum by Moffet and Neuhof[7] Ordinary valvular disease is occasionally associated with the condition, as is seen in the case of complete transposition with mitral stenosis described by Owen[10] and by the fourth case of our series

Clerc and Bobrie[4] have drawn attention to the interesting fact that a heart beating to the right is often more irritable than one beating in the normal position, and patients often complain of palpitation and many of the symptoms of the "effort syndrome" without any definite evidence of cardiac failure This is very well shown in the third case of this series Occasionally dextrocardia tends to run in families, and a case of brother and sister with this condition is related by Neuhof[11]

In the following four cases of dextrocardia two of them belong to the transposition group and two to the acquired variety

Case I

Boy, aged 10, with complete ...sition He has no symthe condition has been ...t since birth Heart dullness the right of the sternum, liver ...dullness to the left, splenic dullness to the right The stomach resonance is on the right

X rays show transposition of heart, liver, and stomach (Fig 1) The electro-cardiogram shows typical inversion of deflections in lead I, with transposition of leads II and III (Fig 2)

Case II

A woman, aged 40—a case of complete transposition I am indebted to Dr Murphy and Mr R E Kelly for being able to include this most interesting case in this series She has been operated on by Mr Kelly for gall stones and an hour glass stomach—of course, on opposite sides to the normal patient He has drawn attention to the interesting fact that if dextrocardia occurs about 1 in 4,000, gall stones 1 in 10, and an hour glass stomach 1 in 1,000, the chances of any one individual possessing all three is about 1 in 40,000,000, and this patient therefore ought to be unique in the British Isles[12]

Her heart is normal in size, with an apex beat 3¾ in to the right in the fifth space, and her liver dullness is on the left side.

X rays show complete transposition (Fig 3).

The electro-cardiogram shows inversion of lead I with the usual transposition of leads II and III (Fig 4) Fig 5 shows a record from the same patient after the leads from the right and left arms have been reversed The record shows a normal deflexion in all leads

Case III

A woman, aged 35, who has known for the last twelve years that her heart has been beating on the right side She can remember a time, fifteen years ago when her heart was examined and said to be normal She had influenza and pleurisy two years ago, and most of her symptoms date from this time, when attention was again drawn to the fact that her heart was not in the normal position She now suffers from pain over the heart which radiates to the right shoulder and neck, with shortness of breath on exertion There is occasional sweating at night and she has had a winter cough for the last year or two

Her apex beat is in the fifth space, 4½ in from the middle line on the right side, the heart sounds are normal There is slight dullness over the lower lobe of the left lung with slightly deficient breath sounds and diminished vocal fremitus and vocal resonance The liver dullness is in the normal position

X rays show the heart on the right side, no evidence of pulmonary tuberculosis or any other lung disease The electro-cardiogram shows normal deflexion (Fig 6)

Case IV

A man, aged 27, who was suddenly seized with shortness of breath in 1917 while on active service in the East, and when examined by his medical officer was found to have his heart beating on the right side He now suffers from shortness of breath on exertion with pain across the chest and has occasional sweating at night There is slight bulging of the precordium, the apex beat is in the fifth space 3¾ in to the right of the middle line There is a well marked presystolic thrill and brut with a low rumbling diastolic brut at the apex No abnormal physical signs were detected in the chest

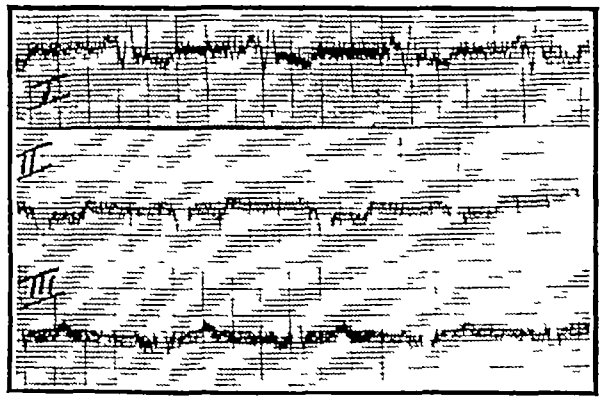


FIG 7—Case IV a case of acquired dextrocardia.

X rays show the heart displaced to the right with no signs of any change in the lungs to account for it The electro-cardiogram shows a normal deflexion (Fig 7)

In conclusion, I have to thank Dr John Hay for his very kind help in preparing this series, and also Dr R E Roberts for taking the x-ray photographs

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A CASE OF SPINAL COMPRESSION LOCALIZED RADIOGRAPHICALLY BY SICARD'S METHOD

(*With Special Plate*)

BY

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To the three cases of spinal compression localized radiographically after injection of lipiodol which were published recently by Mr Percy Sargent,[1] it is of interest to add the case here recorded. This valuable method of diagnosis was used first by Professor J.-A. Sicard.[2]

Lipiodol

Lipiodol is an oily substance of high specific gravity, chemically an additive compound of poppy-seed oil and iodine (40 per cent.), put up in ampoules. Owing to the iodide it contains, this substance is intensely opaque to x rays. X-ray examination will detect lipiodol in the tissues many months after injection as it does not easily part with its iodine content. For a similar reason it does not seem to cause injury to even the most delicate structures.

Technique

By means of a suboccipital puncture[3] 1 c.cm. of the lipiodol is pressed from a glass syringe through an ordinary lumbar-puncture needle into the spinal theca. Within the subarachnoid space the heavy oily drops obey the laws of gravity, and, if the patient is put in the sitting position, they fall slowly to the bottom of the thecal "test tube," where they collect. The normal radiographic shadow is then seen. It is bullet-shaped at the level of the second sacral spine (Fig. 1). But if a block exists in the spinal theca the lipiodol is there held up, and the lower limit of the shadow indicates the upper limit of a pathological narrowing of the spinal canal (Fig. 2).

Since the oil travels slowly down the subarachnoid space the best pictures are obtained at least twenty-four hours after the injection, when the substance has become "fixed" at the site of the block.

When demonstrating the upper limit of the compression, the x ray couch is tilted so that the patient's head is higher than his feet. To determine the lower limit of the compression, injections have been made below the lesion and the patient x rayed in the inverted position.

William W., aged 38 years. An intradural fibroma compressing the cord at the level of the seventh thoracic segment was diagnosed. At operation on June 29th 1923 so exact had been the radiographic findings that although only three laminae were removed the tumour was discovered in roughly the centre of the exposed portion of cord, pressing backwards upon its antero-lateral aspect on the right side. The mass was removed and the patient previously completely paraplegic is now slowly recovering the use of his lower limbs.

From the neurological findings alone one would have hesitated at a stage when operation was feasible to assign a precise level to the obstruction. The radiographic examination at once settled the exact level of the lesion in relation to the vertebrae.

The patient is under the care of Sir James Purves-Stewart and Mr. Wilfred Trotter, whose permission to publish the case we here gratefully acknowledge.

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SOME REMARKS ON GALL STONES

BY

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A YEAR or two ago, at a meeting of the Worcestershire and Herefordshire Branch of the British Medical Association, I showed some specimens to illustrate unusual cases of gall stones. Most surgeons who have had a long experience of such operations have removed stones by the hundred. I once heard of a thousand, but was sceptical until in May, 1921, I operated upon a female aged 27. [illegible] of the stones removed varied in size from [illegible] about 1/32 inch. The gall bladder was not large enough to contain them, its liver surface had disappeared and the stones were lying in a cavity formed by a depression in the liver substance and the under portion of the gall bladder. Some of the stones were lost during the operation, but those saved and counted numbered 3,370. The patient made an uninterrupted recovery.

In July, 1915, I was asked by Dr. Brocket of Stourport to see with him a man aged 73. The patient had a large meal of bacon, broad beans, and young potatoes on July 17th. In the evening he was seized with abdominal pain and vomited. On the following day Dr. Brocket found a small ventral hernia, which he reduced. The patient continued to vomit and had *no action of his bowels until* I saw him late in the evening. He was tender on pressure *over the epigastrium*, there was no rigidity and no increase in the rate of the pulse.

I advised his removal to hospital the next morning. He was so much more comfortable on the morrow that his admission was delayed until July 21st. He was then suffering from peritonitis. On the abdomen being opened there was an escape of bile, and hundreds of small biliary calculi, about 1/16 inch in diameter, were found scattered in the cavity of the peritoneum. There was a rent about 1½ inches long in the gall bladder. The patient died shortly afterwards. There was no history of any injury. This is the only case of spontaneous rupture of the gall bladder that I have seen, and I cannot find any record of one.

According to Pinardi[1] (November, 1920) "the diagnosis of intestinal obstruction due to gall stones has hardly ever been made before operation, as there are no pathognomonic symptoms. This variety of intestinal obstruction, though known for a long time, is relatively infrequent." Pinardi himself found only three cases due to this cause out of over 400 operated on for intestinal obstruction at a hospital at Turin. He says: "The condition is most frequently, if not exclusively, found in persons over 40, especially of the female sex. The most frequent site of obstruction is the lower end of the ileum."

My cases support this view. All the patients were females over 40, the stones were found three times in the ileum and once in the rectum. This probably depends upon the course they take, and the course followed by large gall stones is a varied one.

In the first case of the kind I met with the stone was impacted in the ileum of a lady aged 67. It weighed 285 grains. The patient was suffering from acute obstruction of the bowel. *I opened* her abdomen and excised the calculus which was impacted in the ileum *within 12 inches of the* ileo-caecal valve. The operation was performed in 1901, and the lady is still alive and well.

Another case was a woman aged 78. The stone also was impacted in the ileum within 12 inches of the ileo-caecal valve *and was causing acute obstruction* of the bowel. I opened the abdomen and excised the stone which weighed [illegible] grains.

A third case of exactly the same nature [illegible] aged 57 who was suffering from acute [illegible] I opened the abdomen and excised the calculus [illegible] within 12 inches of the ileo-caecal valve. It [illegible]

These last two cases occurred within four days of each other, the one operation was performed on November 21st, the other on November 25th, 1920.

In another case I found a stone impacted in the rectum of a lady aged 52. It had to be broken up before it could be passed. The portions saved weighed 170 grains. It is probable that the calculus had ulcerated its way from the gall bladder to the large intestine, as it is unlikely that it would have passed the ileo-caecal valve. Another large calculus, weighing 150 grains, I discovered in the gall bladder of a lady aged 54. The gall bladder had become adherent to the anterior abdominal wall and the stone was ulcerating its way out towards the surface.

Another stone, not so large as the previously mentioned but weighing 80 grains, was found by me in a lady aged 54 between the gall bladder and the transverse colon. Their walls had become adherent and ulcerated, and the calculus was passing between them.

[illegible]

[1] Pinardi. British Med. J. [illegible] para. 115.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF ACNE VULGARIS

ACNE VULGARIS is unfortunately still considered by a good many medical men as a disease very little influenced by treatment and which must run a long and protracted course This is to be deplored, because cases should be treated early to avoid marked scarring, even in chronic cases most of the signs of the disease can be removed within a month under a form of treatment which requires very little alteration in different cases

Pure cases of acne vulgaris are practically non-existent, they present a mixture of comedones and pustules, in some the acne bacillus predominates and there are more comedones, in others the *Staphylococcus epidermidis albus* is more abundant and more pustules are present

I have not found that dieting exerts much influence on the disease, except in the cases of young girls, who seem to feed on sweets and chocolates to the exclusion of almost any other food, but, generally speaking, excess of carbohydrates in the diet is bad, fruit and green vegetables are good

The patients should be ordered enough of the following powder during the day or at bedtime to ensure two good motions a day pulv rhei 2 to 5 grains, pulv sulph precip 30 grains To this powder may be added sodium bicarbonate, bismuth carbonate, or charcoal if necessary Rhubarb, as pointed out by Sabouraud, seems to have a specially beneficial action in acne

The parts affected by acne should be cleared of all grease with a mixture of ether and alcohol, equal parts, then steamed, and the most conspicuous comedones extracted with a comedo extractor and the larger pustules opened with a fine tenotome and the pus evacuated

The patient should be ordered three warm baths a week of twenty minutes each, in which should be dissolved 15 to 30 grams of zinc sulphate, according to the tolerance of his skin, and he should dab his face with the water while in the bath In addition he should apply the following lotion to the affected parts night and morning sulph precip 2 to 5 dr, zinci oxidi 2 dr, pulv camph 20 grains, pulv tragacanth 1/2 dr, aqua calcis ad 8 oz The sulphur should be increased according to the tolerance of the skin, with a break occasionally if necessary, the patient may also with advantage use sulphur soap for his toilet

This treatment, which is really extremely simple, will in less than a month completely transform the worst type of case of acne vulgaris, and if the doctor looking after the case will take the trouble to remove a few comedones and to open a few deep pustules whenever he sees the patient, he will find that 95 per cent of all the lesions have gone in less than a month and that new ones are no longer appearing In addition most of what is left of the disease at this stage can be dealt with by the electro-cautery, cauterization, or x rays, but the average patient will not trouble about seeing a specialist on that account, being well satisfied with the results already obtained

Even in the worst possible cases, those of army pensioners of five and more years' standing, I have always had quick and satisfactory results The treatment is a combination of the method advocated by two of my teachers, Dr Sabouraud of Paris and Dr Douglas Heath of Birmingham, with a few additions

The scalp condition in acne patients should also be attended to if greasy, scurfy, or both In men, washing with sulphur soap three times a week will generally remove the condition In women, washing once a week with sulphur soap and the daily application of a lotion containing mercury perchloride and salicylic acid will also generally be successful The scalp condition should be attended to in all these cases because seborrhoeic conditions lead, among other things, to a form of diffuse alopecia, and very often also to a crop of boils on the back of the neck

As a warning, I wish to point out that about 1 per cent of general skin patients are intolerant to the external application of sulphur, but personally I have never seen it in patients suffering from acne vulgaris

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A MUCOUS POLYPUS OF THE UTERUS CAUSING POST-PARTUM HAEMORRHAGE

As a cause of post-partum haemorrhage this condition is so rarely met with that a brief history of the case appears worthy of record

Mrs D, aged 39 years, was delivered of her third child at a private hospital in the country on October 2nd, 1922 Her previous confinements had been normal, with normal recoveries In the case of the third the labour was again normal and the patient went on well, as I am informed, till the evening of the eighth day, when she was suddenly seized with severe and alarming haemorrhage, during which she was quite blanched and required the presence of the doctor at her bedside all night The haemorrhage was ultimately arrested and she was allowed to go home three weeks after admission to hospital, but was instructed to remain in bed for another week This she did, but at the end of that time bleeding came on again, though it was not excessive It ceased in a few days (She was unable to suckle the child)



A month later she came to the metropolis for a change, but had been here only about six days when haemorrhage again set in, and became so alarming that I was asked to see the patient on December 12th—that is to say, about ten weeks after the birth of her child She was then very pale and much alarmed on account of her previous attacks of haemorrhage With iodoform gauze plugging, frequently repeated doses of ergot, and raising the foot of the bed, bleeding ceased in a few days

On December 20th, Dr Schalit administering the anaesthetic, I dilated the cervix and felt a small growth, not larger than a filbert, at the very top of the fundus uteri I removed the growth with a curette, and the patient has remained well ever since, menstruating regularly and normally and improving in every way

I made a microscopic examination of the growth, and Mr W J Owen, histologist to the Australian Institute of Anatomical Research, kindly made the photomicrograph here reproduced In the figure (low power) numerous enlarged glands, lined with columnar epithelium, are seen in cross-section, lying in a stroma of rounded cells exactly like those of the normal mucosa The surface of the growth is covered with a layer of columnar epithelium

It is remarkable that so small a growth should have caused so much trouble

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Reports of Societies.

PHYSICAL GRADING OF THE POPULATION

A *special discussion* was held at the Royal Society of Medicine on January 21st on the grading of the population from the *point of view of physical fitness* The President (Sir William Hale-White) was in the chair

Air Commodore D Munro, R A F, *who opened the discussion*, said that his audience would be asking what practical possibility there was in peace time of obtaining recruits to show the state of physical fitness of any large section of the population, and, if obtained, to what practical use they could be put The value of such records was obvious They would be of service to the Ministry of Health, to teachers of physical culture, to industrial psychologists, and to students of eugenic problems Physical fitness, however, was not capable of exact measurement Certain values could be expressed for physical qualities, but physical disabilities could not be exactly measured, and a clinical examination to discover disabilities in every case was plainly out of the question He believed that certain tests in use in the Royal Air Force for the assessment of the physical fitness of pilots would supply the necessary information These tests did not give results indicating the aptitude of the subject for special employments, they did not pick out the skilled manipulator—for such work accessory tests, such as the reaction time test, would be needed—but they did show physical and mental endurance The first was the mercury U-tube test

With the nose clipped the subject was asked to empty the lungs completely inhale fully, blow the mercury into a tube to 40 mm and maintain it there without breathing for as long as possible the pulse being counted in periods of five seconds during the performance of the test The average time of holding up the mercury was between 50 and 60 seconds A marked rise in pulse rate was unsatisfactory, and [illegible] factory sign of cardio-motor instability, was a [illegible] second or third period of five seconds, follo [illegible] normal or below normal

This test afforded information as to the stability of the centres controlling respiration and circulation, and indirectly the stability of the nervous system generally It had also a psychological value in that it indicated resolution to "carry on" under difficulties and the power of endurance against fatigue The factors involved were the state of oxygenation of the blood, the respiratory efficiency and the tone of the blood vessels Empirically the test had proved of great value in the R A F as an indication of capability for physical endurance

The other test was the response of pulse to exercise

The pulse rate was taken with the subject sitting down and the total number of beats in 60 seconds recorded If the pulse was unsteady it was counted in periods of five seconds until the minimum constant rate was obtained The subject was then directed to stand up and the number of beats in the first five seconds multiplied by twelve was recorded as the rate per minute in the standing up pulse With the subject still standing the examiner recorded the lowest steady rate to which the pulse fell Regulated exercise was then carried out by the subject placing one foot on a chair and standing alternately on the floor and on the chair five times in fifteen seconds the speed being regulated by the examiner raising and lowering the subject's wrist in every three seconds At the end of fifteen seconds the pulse was counted in periods of five seconds the time which it required to fall to its steady rate being recorded in addition to the rate per minute in the first five seconds after exercise

This test threw light on the splanchnic vasomotor control and enabled one to differentiate between true and false tachycardias Possibly also it would assist in assessing the seriousness or otherwise of valvular lesions as expressed in terms of "bunts"

These tests were simple in application the results could be expressed numerically they could be easily codified apart from gross disabilities and from special qualifications such as vision, they gave a good indication of the general neuromuscular and constitutional tone of the individual and the psychological element in the endurance test was of real value The chief disadvantage of the tests was that temporary toxæmias upset them and mild influenza or even a heavy cold was sufficient to cause a remarkable deterioration in the results, so that in order to complete the picture it would be necessary to supplement the records obtained from these tests by noting and recording any gross physical disabilities and relevant details of past histories He was conscious of the much greater difficulty of making tests in civil life compared with the Services, where the obtaining of information was easy He hesitated even to express an opinion as to the agency that could be used for collecting data Whatever agency was employed, the co-operation of the Medical Research Council would be essential He was convinced that at some time or other a system of health classification of the population would be established, though perhaps not on the lines he had tentatively suggested that evening

Sir Arthur Keith said that in the course of his remarks Air Commodore Munro had stated that he (Sir Arthur) favoured stature as a standard of fitness That was not quite correct He simply used stature in the *Report of the Ministry of National Service* as representing an intimate combination of factors including length of limb and muscularity If fitness worked out in the same way as did stature he believed that of 1,000 men in the population about 700 *should be in grade 1, about 200 in grade 2 75 in grade 3* and 25 in grade 4 He was prepared to admit that all the appearances upon which *judgement as to efficiency had been* based—stature, weight circumference, and expansion of chest—might on occasion prove misleading and from the physical appearance of any man one could not assess true fitness But it was necessary to make a rough estimate and there were certain physical conditions which one could say were not consistent with efficiency The tests which Group Captain Flack had proposed for the Air Force constituted a great advance on anything which had been available before

Dr William FitzGerald spoke of the large proportion of men unfit for general service whom he had the opportunity of examining during the war Their condition so impressed him that he visited the homes of some of them and found disappointing conditions Very many of these men had disabilities affecting ears nose or tonsils or perhaps the feet, which ought to have been attended to in childhood The tests outlined by Air Commodore Munro however valuable, could not be expected to replace sound clinical examination Moreover, in peace time the population would not stand the application of such tests

Sir Duncan Rhind also remarked on the serious percentage of men who were not found fit for any military or other active service The proportion of these "unfits" had been confirmed from other sources than the recruiting depots, and was much higher than it ought to have been

Group-Captain Martin Flack said that it was intended that the tests of which Air Commodore Munro had spoken should be only supplementary to the ordinary clinical examination They were designed to show the physiological condition of the subject and the likelihood or otherwise of his endurance of *long-continued physical exertion* The tests showed mainly the efficiency of the controlling centres of respiration and circulation They *indicated* also nervous control It seemed clear that if a man persistently breathed blood which was not well oxygenated his whole nervous system was likely to change so that he became hyperæsthetic There was no doubt that marked respiratory inefficiency tended to be associated with laxity of the whole of the trunk muscles and therefore there was a pooling in the venous reservoir A man with such inefficiency could only overload at the right side of the heart and his blood pressure went up After a time there was a marked rise due to the stimulation of the depressor nerve A fit man could hold up the 80 mm of mercury for sixty second without the pulse being markedly increased in rate the unfit man might not be able to hold up the column for more than thirty second and his pulse response was bad so that instead of maintaining 72 to 84 he went up to 144 or 156 in ten to fifteen seconds

Sir Thomas Lewis said that tests to be efficient must approximate to the conditions of [illegible] He did not know how they could arrive at an opinion as to whether a man was fit for a route march with full kit and [illegible] of sent out on a march under the conditions [illegible] course there were some men who could [illegible] distinctly unfit The crucial test was [illegible] his work, and so how he got through

Dr F W COLLINGWOOD wanted a test which would determine not only physical endurance but character There were men who passed all physical tests, but showed inability to submit to discipline Dr G H HUNT asked the relative importance which Air Commodore Munro attached to the two tests His own experience was that the exercise tolerance test gave a better result than the endurance or mercury *U-tube tests* Colonel SYLVESTER-BRADLEY spoke of the altered incidence of some disabilities affecting recruiting The change which had taken place could not be referred to an altered opinion among examining doctors The rate of rejection for varicose veins had decreased through successive decennial periods The rate of rejections for flat-foot had gone on increasing, and the rejections for diseases of the middle ear also had markedly increased Surgeon Commander DIGBY BELL spoke of the system in Sweden whereby men were encouraged to pass certain tests periodically, and were given badges for continuing proficiency

Sir W HALE-WHITE said that as a member of the final appeal tribunal during the war the thing which struck him was the very light-hearted way in which recruiting officers treated the question of nervous instability The tribunal was able to allow appeals on the ground of epilepsy more often than for any other cause The harm that was done to the country, notably the swelling of its pensions bill, by the passing of men with nervous diseases into the army, was tremendous

Air Commodore MUNRO, in a brief reply, said that the discussion had turned on military conditions, but he had been thinking rather of civil ones He agreed that "the proof of the pudding was in the eating," and that the real test was whether a man did the job, but when it came to flying personnel at least one could not put on an untested man to do the job first The tests which he had described were applied to every officer in the Air Force, including the senior officers, once a year, and also before they were posted overseas But the tests were only to be considered as part of a multiple examination, and it was the general assessment which was the important thing

PANCREATIC DISEASE

A MEETING of the Liverpool Medical Institution was held on January 10th, with the President, Professor J HILL ABRAM, in the chair

Dr ROBERT COOPE read a paper on the diagnosis of pancreatic disease After dealing with the difficulties of diagnosis in these cases he discussed briefly the acute and subacute lesions of the pancreas and then clinical features Concentrating more particularly upon chronic disease of the gland—for example, scleroses of various types, and cancer—he mentioned certain helpful diagnostic points which could be drawn from a consideration of its anatomical situation, its physiological functions, and the association in certain cases of similar trouble in the liver The clinical picture of chronic pancreatic trouble was then discussed, d a critical review was made of the various tests of reatic function In his experience it was rare in c pancreatic disease to get a marked excess of fat in the faeces In cases with excess of fat it was y present as split fat and associated with blockage e bile duct Loewi's adrenaline mydriasis test was satisfactory as it was sometimes misleading in cases of gall stones without any obvious pancreatic movement The diastase content of the blood and urine was usually normal, or low, and therefore of little help A helpful and simple finding was the presence in the faeces, under certain strictly controlled conditions, of marked striation of all the muscle fibres seen under the microscope It was probably the putrefaction of this undigested muscle fibre which gave the intense indoxyluria seen in many of these cases Glycosuria was comparatively rare, a finding not surprising in view of the pathology of conditions causing blockage of the duct Dr Coope had had no experience of the examination of the ferments obtained by duodenal intubation, but mentioned Carnot's results, and his view that lipase is the most satisfactory ferment to examine from the point of view of diagnosis of pancreatic insufficiency

Dr H S PEMBERTON read a paper on the action and therapeutic value of insulin After an account of its properties the action of insulin on glucose *in vitro* was discussed Five theories of activity in the living organism were considered, stress being laid on the glycogen-forming view He described experimental work carried out by Dr Cunningham and himself in frogs, on galactose curves in the blood, and on the differences in glucose content of arterial and venous blood in normal and diabetic conditions On the therapeutic side three clinical types of diabetes mellitus were described, in only one of which insulin treatment was indicated and was generally effectual Complications were considered, and the relations of sepsis to coma and ineffectual exhibitions of insulin illustrated by slides showing blood sugar and CO_2 combining power percentage curves The paper concluded with some pessimism as to the permanency of betterment in the diabetic as a result of insulin exhibition, but with an acknowledgement of the advance which insulin had caused in the study of carbohydrate metabolism

Dr A G GULIAN had found insulin with restricted diet very effective in cases of severe diabetes in young adults Several of these cases had the insulin gradually reduced and had now been sugar-free for a considerable time after having stopped taking insulin, but of course their diet was restricted He also mentioned the interesting case of an old man in whom chronic pancreatitis had been noted by a surgeon when performing an operation for infective cholecystitis, this patient, who later developed diabetes, had done extremely well with treatment by insulin when other methods of treatment had not been satisfactory By using restricted diets and insulin the scourge of diabetes could now be treated satisfactorily The assistance of the laboratories was most valuable

Dr D R OWEN read a note on an abdominal aortic aneurysm, which occurred in a man always in good health previously A week after an attack of pain in the back diagnosed as lumbago he was sent into hospital as an acute abdomen case He suffered from shock, distension and tenderness of the abdomen, but there was no rigidity, and no vomiting At first it was thought there was a tumour in the region of the sigmoid, and pancreatic disease was considered although there was no glycosuria The pain subsided and an expansile tumour of the abdominal aorta was then clearly felt One day later, and three days after the acute attack, the patient had another acute attack, collapsed, and died The *post-mortem* examination showed clots of varying age in a retroperitoneal collection of blood from a rupture in a diffuse aneurysm about two inches above the iliac bifurcation There was extensive ulceration and calcification of the aorta and the leaking of the aneurysm probably accounted for the attacks of pain The first acute pain occurred whilst at work, and gave the case a forensic as well as a clinical interest Such cases were usually operated upon, but in this case the only treatment was the intramuscular injection of saline containing horse serum, and the general treatment of shock

INFLUENCE OF LEAD ON CELL GROWTH

A MEETING of the North of England Gynaecological and Obstetrical Society was held on December 21st, 1923, at the Liverpool Medical Institution

The President, Professor BLAIR BELL, gave an address on "The influence of lead on normal and abnormal cell growth, and on certain organs" He reviewed the history of the researches that had been carried on for the last fifteen years, and described the present arrangements for the conduct of the work, with a reference to the valuable co-operation of a large staff, including the heads of various departments in the University of Liverpool and their assistants He also paid a tribute to the generosity of the Lay Committee which undertook the general management of the organization and provided a large annual sum for a limited period The amounts granted covered the entire cost, not only of the laboratory researches, but also of twelve free beds for the treatment of poor patients suffering with cancer The account of the investigations conducted was divided into various sections (1) The poisonous effects of lead generally (2) The effects of lead

on normal animal and vegetable growth (3) The action of lead on the *chorionic epithelium* (4) Changes produced in cancer cells by the action of lead (5) A large series of chemical investigations, including

(*a*) The chemical affinity of lead and other substances for the phosphatides which seemed to account for the effects produced by lead on growing tissues

(*b*) The hydrogen ion concentration of the preparations had been accurately estimated, for previous observers had laid some stress on this matter in relation to growth moreover it was also thought that the influence of the hydrogen ion concentration of the tissues upon the preparation used should be known

(*c*) An important piece of work had been conducted in regard to the influences of cholesterol and lecithin in normal and abnormal conditions on the type of emulsion of which the cell membrane was composed

(*d*) The making of suspensions of lead (colloidal preparations) had occupied considerable time and although a permanently stable preparation had not yet been prepared attempts were still being made

(6) The clinical work conducted over three years was next discussed Since a number of cases of carcinoma and of sarcoma believed to be cured had been previously shown it was thought unnecessary to give a detailed account of the cases

The President then described the method of intravenous injection and the possibility of a compound of lead and cod liver oil being used for intramuscular injection was mentioned Reference was also made to the value of ionization in certain cases, and to the employment of x rays after the lead treatment A large number of sarcomata and carcinomata in various parts of the body had come under observation The results of the treatment of 122 cases were given, and it was emphasized that these cases were for the most part of a very difficult character, many patients having died within a few weeks of being seen for the first time Finally, the difficulties attendant on the treatment of carcinoma in any circumstances were mentioned It was urged that satisfactory results could only follow treatment by way of the blood stream, and that the local effects of operation, x rays and radium although in some cases favourable, could not be regarded in any way as a final solution of the matter Further difficulties indicated were, in the first place, the problem of ensuring that the growth received a sufficient quantity of lead to prevent further disease developing and, in the second place to provide that the lead be fixed there and be not excreted A true colloidal preparation of calcium had been used in an attempt to shut in the lead taken up by the tumour

THE CAUSE OF CANCER

A MEETING of the Section of Obstetrics of the Royal Academy of Medicine in Ireland was held in the Royal College of Physicians on January 4th, the President, Dr LOUIS L CASSIDY in the chair

Dr W M CROFTON read a paper on the cancer problem He pointed out that the cancer cell differs from the normal cell in the possession of ferments which enable it to hydrolyse living protoplasm and so to survive and to reproduce itself at the expense of the living tissues of the body The only normal cells of the body which have a similar power are the chorionic cells and both are outside the control of the nervous system The chorionic cells develop from those of the blastodermic vesicle known as the primary germ cells and are really part of the asexual generation or phorozoon The function of the cells is destroyed at the time of the development of the placenta by the maternal phases which are activated by the internal secretion of the pancreas It was suggested that the cancer cell was really of the nature of a phorozoon the normal cell having degraded to this stage as the result of chronic abnormal stimuli and enabled to live owing to a change in the body fluids Dr Crofton suggested that in many cases if not in all the stimulus was caused by chronic infection with non pathogenic bacteria and that the change in environment which enabled this stimulus to become effective was the result of destruction of the by pathogenic germs In expl Crofton cited Baird's hypothe generation, and gave an interc metabolism in the body

The PRESIDENT said that Dr theories (1) that the cause of c ferments in the blood particul it could be demonstrated migh cancers (2) that by means of cancer, but also every other di observers seemed to think th little help either in the diagnc The serum of a healthy patient but the serum of a cancer pati cancer cells The fundamental in serum was not yet understo of cancer origin appeared to be of the cervix it probably held of the breast He was of opini be taken not to diagnose a ca e had been demonstrated to be examination

Dr W LEVITT said he was body had the power of successf gression of undoubted cancer Samp on Handley believed that was an everyday occurrence life some people were able to fi present treatment for cancer w if some cells were left behind with them It cases of definit cured there must be some cases touch of the balance would swi forces If the treatment of method was properly applied to give a stimulation dose

Dr F ZWEIFEL said that in r with tar on mice and found after tar painting, it was pro of the skin In factories wh tar cancer of the testis was co sugar tolerance was lowered personally he had never found Ir If cancer was treated by dee should always be tested Tha associated with chronic irritati Sometimes patient after op rectum lived for many years recurrence even if so long a elapsed after the operation breast he had found that abou suffering from this condition h in the breast after pregnancy

Dr R J TOTTENHAM said that cancer in women at climacteric or after it and in renals were worthy of consid r chole terin had been found to those gland and cancer cell cholesterin In e t tu been found to be mor

Dr D CASSON said that it was cell began to proliferate at utter the stimulus which start this was the cas the aspect futile In e of cancer of t deal of evidence in favour of cancer of the uterus there was it an endocrine disturbance w stimulation of cancer in the

Dr C THEW said that Crofton regarded a cancer cell cell which under the influ a new normal individual Th

Reviews.

A TEXTBOOK OF OBSTETRICS AND GYNAECOLOGY

THE appearance of *A Combined Textbook of Obstetrics and Gynaecology*,[1] by Professor MUNRO KERR of Glasgow, Dr HAIG FERGUSON of Edinburgh, and Drs JAMES YOUNG and JAMES HENDRY, will at once command considerable attention because, apart from the distinguished personnel of the authors, their book is of particular interest as a pioneer, or perhaps rather an experimental, volume in the combination of the two subjects Theoretically there is much to be said for this combination, just as there is much *in favour of the combined teaching of both subjects* by the same teachers The combination ought to give the student a broader outlook, and help him to realize the intimate interrelations between the two branches of medical science and practice dealing with the reproductive organs of women From the more utilitarian standpoint the combination permits of the anatomy and physiology of the genital organs and such border-line subjects as ectopic pregnancy being discussed once only, and so eliminates considerable repetition and overlapping With these considerations in mind the reader turns first and with expectation to the connecting chapter which links up the first 600 pages, dealing with obstetrics, to the remaining 400, which deal with gynaecology, and in it we find references to the various gynaecological conditions whose etiology is traceable to obstetrical conditions This chapter is, however, somewhat disappointingly, a catalogue, and the reader will be apt to feel that an opportunity has been lost to give expression on more philosophical lines to the essential unity of the two subjects Almost all the important practical points are specified, but there is no mention of the profound effects which pregnancy and labour may produce indirectly on the functions of the reproductive organs, amongst others, through the nervous system

As already stated, the earlier and larger part of the book is devoted to midwifery, and the authors follow accepted lines in the arrangement of their subject matter The chapters on the special anatomy and physiology of the female organs are adequate, while the description of the early development of the ovum and placenta is particularly well done The chapter on the physiology of pregnancy is freshly and interestingly written and contains a good digest of the most modern work on this subject, which of itself makes it well worth reading The chapter on the toxaemias of pregnancy gives a very fair review of the whole subject, and the remarks on the possibilities connected with toxaemia in the early months—before the existence of toxaemia is generally recognized or recognizable as such—are of special interest The section on abortion is practical but bears traces of insufficient revision, grammatical errors appearing on nearly every page

No great exegetical power is required to attribute the [illegible]ter on ectopic pregnancy to Professor Munro Kerr [illegible]es a lucid and impressive account of this serious [illegible]n, but we are afraid that it may be found to [illegible]er over the head of the ordinary medical student, [illegible]s little or no clinical experience

The whole section on normal labour is well written, and exhibits a sound and judicial outlook which is doubtless the ripe fruit of the writers' experience No mention is made of the possible use of forceps in the rotation of an occipito-posterior position of the head which remains persistent and in which manual rotation is for any reason unsuccessful, and we are inclined to think that two hours is rather too short a time to give the head before deciding that spontaneous rotation will not occur In the section dealing with asphyxia of the newly born child we were surprised to see Schultze's method described, as we thought it had been given up in all hospitals as a dangerous procedure The writer also damns with faint praise the method of direct insufflation, which has saved the lives of many infants and is amongst the very best possible methods All the obstetric operations are described with lucidity and for the most part well illustrated

The later part of the book, dealing with gynaecology, gives a very readable and satisfactory account of the subject The chapter on fibroid tumours is particularly good, but in view of the special interest which has recently been aroused on the subject of adenomyoma it is disappointing to find that absolutely no reference is made to the recent theories as to the origin of these growths outside the uterus The chapter on ovarian tumours is also most excellent, although here again one seeks in vain for any reference to the etiological possibilities suggested by Sampson's work

We are inclined to think that the descriptions of gynaecological operations are unnecessarily full, and there seems a certain lack of proportion in the space devoted to different operations For example, three operations for haemorrhoids—not a gynaecological condition at all—are described, while no mention is made of the method of treating them by injection Again, two whole pages are devoted to the illustration of Pozzi's operation for contraction of the external os, which is, in our experience, very rarely performed in this country The space thus occupied might with great advantage have been devoted to fuller illustration of some of the few operations which the young practitioner is actually likely to be called upon to perform It seems unnecessary to illustrate three different methods of operating for inversion of the uterus, which is a condition nobody but a specialist is likely to have to deal with, and a specialist only rarely

The general impression which the book leaves is unquestionably good, but it shows evidence of some lack of care in the correction of proofs Small misprints are extraordinarily common and there is a disconcerting lack of uniformity between the different authors in regard to the exact anatomical and pathological terminology they adopt We feel by no means sure that this experiment of combining the two subjects in a textbook for students is likely to be successful A book containing more than a thousand pages is too large for a student's convenience, while if the volume is intended for more advanced readers it lacks some of the detail which they will naturally look for, and also the references to literature which are such an important feature in a book intended for consultation The illustrations are excellent, and the courtesy with which the different authors acknowledge their own or each others' illustrations from their other contributions to literature is most striking The publishers are to be congratulated on the make-up of what is really a very admirable volume, and we trust that it will have a most successful career

[1] *A Combined Textbook of Obstetrics and Gynaecology* By J M Munro Kerr, M D, F R F P and S Glas, James Haig Ferguson, M D, F R C S Edin, James Young D S O M D, F R C S Edin and James Hendry, M A B Sc, M B Edinburgh E and S Livingstone 1923 (Roy 8vo, pp xx + 1006, 474 figures, 35s net)

CHRONIC INTESTINAL STASIS

Chronic Intestinal Stasis (Arbuthnot Lane's Disease)[2] dedicated to, and fortified by a foreword from, Sir W Arbuthnot Lane, enthusiastically styled "The Father of Stasis," is a radiological study and a rather dogmatic account of the subject by Dr A C JORDAN, who has been closely associated with the *x*-ray diagnosis of this condition It is generously illustrated by 315 figures, the vast majority being clear and successful radiograms, and embodies much of the author's previously published work, including his presidential address to the Hunterian Society on "Stasis and the prevention of cancer," which appeared in our columns at the time (BRITISH MEDICAL JOURNAL, 1920, II, 959), there is, therefore, as so often happens in these circumstances, a little repetition

The author insists that the adverse cycle, which eventually leads to a high grade of chronic intestinal stasis, begins in early childhood or even in infancy as a result of the "education" inculcated by the mother or nurse, it favours constipation, the effects are described in detail and illustrated by cases and skiagrams In this way the familiar ground is covered and emphasized—for example, Lane's "first and last" kink of the iliac colon, which is so common that some surgeons, thought by the author to be

[2] *Chronic Intestinal Stasis (Arbuthnot Lane's Disease) A Radiological Study* By Alfred C Jordan C B E, M D Camb M R C P Lond Oxford Medical Publications London Henry Frowde and Hodder and Stoughton 1923 (Cr 4to, pp xi + 230, 315 figures 25s net)

unfamiliar with stasis, have regarded it as a normal variation, as it is the earliest reaction of the mesocolon to the strain of an overloaded pelvic colon it is spoken of as the first to appear, and as it is the lowest in the bowel it is also designated the last The mechanism of the production of ileal stasis and the obstructive action of Lane's ileal kink are graphically demonstrated by nearly twenty skiagrams A study of congenital undescended caecum, based on twenty-three observed cases—the details of twenty being recorded, with a rather larger number of skiagrams—shows that, although many of the patients had suffered very little until two or three years before they came under observation, constipation was well marked in fifteen of them A warning is given against operation on mobile caecum without due consideration, it is pointed out that causal factors, such as elongation of the pelvic colon or bands obstructing the splenic flexure or iliac colon, should if present be relieved The copiously illustrated section on the appendix explains the action of the "controlling appendix" on the caecum and on the ileum, and diagrams of the condition found at operation supplement the skiagrams previously taken The relation of ulcer of the stomach and duodenum and of gastric carcinoma to chronic intestinal stasis is fully described Cardiospasm is explained as due to intestinal stasis, and no reference is made to Dr A F Hurst's view of achalasia or want of relaxation of the cardiac sphincter rather than active spasm as the causal factor in idiopathic dilatation of the oesophagus, which is a synonym for cardiospasm and does not commit us so far

This book, with its essentially personal expression of opinion, perhaps loses some of the desirable broadness of view by the rather scanty reference to other workers The account of the medicinal and surgical treatment of stasis is followed by a special chapter on the treatment by kaolin It is spoken of as a "colloidal," but from the physicist's point of view any emulsion of kaolin may be so designated Kaolin, or china clay, is chiefly used for making porcelain It is official in the *British Pharmacopoeia*, where it is described as "A native aluminium silicate, powdered, and freed from gritty particles by elutriation" Its therapeutic action, when administered internally, depends on the fact that it absorbs toxins For dispensing it is ground up with water and made into an emulsion with mucilage of tragacanth It does not seem necessary to use a proprietary preparation

ENCYCLOPAEDIA MEDICA

THE tenth volume of the second edition of the *Encyclopaedia Medica*,[3] containing articles "Obligate" to "Potash," now edited by Dr ALEXANDER GOODALL, has followed the ninth volume with little delay, and promises well for the editor's declared ambition to complete the edition by the end of 1924 Of the fifty-one principal articles, four are new—namely, those on oxygen by Dr H Whitridge Davies, on pensions by Dr Hugh Richardson, on physical exercises by Miss Honora Wickstead, and on the surgery of the pituitary by Mr A J Walton Lighteen articles have been rewritten and two articles have been revised by fresh hands

In his well written article Mr A J Walton discusses the pathological changes in the pituitary and points out that an adenoma of the anterior lobe which might cause hypersecretion of that portion may by pressure induce atrophy and hyposecretion of the remainder His experience leads him to think it probable that most cases showing hypersecretion are due to functioning adenomas and those with hyposecretion to cysts or parapituitary growths The indications for operation and the relative dangers of operation and of the disease are considered and the choice of operation discussed The new article on oxygen has been appropriately entrusted to Dr Whitridge Davies, who with Professor J Meakins has in preparation a work on the respiratory function in disease Dr Hugh Richardson deals with the medical aspects of the administration of war pensions and the general relation of the medical profession with the Ministry of Pensions

The longest article, occupying eig is that on paralysis which has bee Collier, and, under the heading or ataxy, includes disseminated scl Friedreich's Marie's and Sanger Patton's account of animal paras and deals succinctly with this ex pages Mr J J M Shaw's acco illustrated by six striking plates Professor J A Milroy includes a in his account of the physiology Cairns Forsyth has rewritten th the pancreas The revised article clinical aspects of pneumonia are w McLeod reviews the most recent v the crisis and the method of ac serum, Dr A Fergus Hewat wri treatment, and describes his expe injection of quinine urea hydroc article is on polycythaemia vera by congratulate on the success of the

[3] *Encyclopaedia Medica*. Second edition. Vol. x. Obligate to Potash. Edited by Alexander Goodall, M.D., F.R.C.P.E. Edinburgh: W. Green and Son, Ltd. 1923. (Roy. 8vo, pp. 672, 7 plates, 78 figures. Cloth.)

OTOLOGY

THE fourth edition of the textbo by Dr GUSTAV BRUHL, is a very trated work Previous editions supervision of Professor Politzer this new edition recalls the loss death The text is carefully writ well up to date The great feat is the admirable collection of ill and pathology of the ear The are excellent and there is, in ad drawings in black and white, avoided photographs, which usu idea of the original The book the illustrations alone, for by the education in otology

Those who may have to lectur aural or laryngeal cases will welc *Nursing*,[3] by Dr HARDIE NEI subject admirably, and a few w grams and some photographs i the patient and the duties of th but well executed piece of wor convenient, but it seems unfort tains thirty-one pages, so u efu not have been published at a l is to the nursing profession that

Dr BECK states in the forewor *in Diseases of the Nose, Throat* felt the need for such a work that he has produced does no account of the subjects it is n followed Mr Arnold Bennett and that have interested me critic armed, the author has skimmed touching here and there on mat engaged his attention Som altogether, other of the utmo with such brevity that scarcely gleaned and so far as we have described For example the u carcinoma of the pharynx an oesophagus are dismissed in ext of the larynx described a h inadequately and in a confused distinction between growth ori in other part of the larynx reader turns he will find not a

[3] *Textbook of Nursing*. By Hardie Neil, M.D., F.R.C.P.E. Edinburgh: E. & S. Livingstone. 1923. (Cr. 8vo, pp. 316. Cloth. 6s. net.)

of the disease, but a few points that have interested the author The writing is often slipshod Of extradural abscess the writer says, "The most frequent location is in the temporo-sphenoidal lobe," and elsewhere the meaning is often obscure Treatment, apart from surgical treatment, occupies rather an unexpectedly large part of the text, and it is a relief to turn to it, for the writer's recommendations are based upon pathological foundations, and it follows, therefore, that his views upon treatment are strictly scientific The volume is profusely illustrated Many of the illustrations are borrowed or modified from other works, these are excellent and well chosen and add greatly to the value of the book There are, however, a great number of photographs of patients' heads, of pathological specimens, and of histological preparations These latter convey no idea of the colour and but little of the form and detail of the original, so that their value is small, probably it is their inclusion that has rendered the book so very expensive The specialist in otology and laryngology will find his attention drawn to some points of interest and to some recent work To the student and the ordinary post-graduate the book will make no appeal either by its contents or its price

DENTAL SURGERY AND PATHOLOGY

A NOTABLE sign of the times is to be found in the preface to the fifth edition of COLYER'S *Dental Surgery and Pathology*[7], in it we are told that when the last edition of this work was published one critic expressed the view that the usefulness of the book might be increased without adding to its bulk if less space were given to the description of operative procedures and more space were allotted to pathology The suggestion has been adopted, with happy results Good operative technique in the making of fillings, etc, can be learned at any of the dental schools From men of Sir Frank Colyer's experience the student wants information and guidance on what now bulks so largely in the public view, the medical side of his profession The author has always written with this aspect of the matter in mind, and in this new edition of his well known book he shows clearly how dependent is the proper practice of dentistry on a sound knowledge of pathology

The general medical reader will be interested to note that as an agent in eruption of the teeth the gubernaculum is coming into its own again, while eruption itself is credited, on the authority of Dr Still, with a list of misdeeds small enough to make it probable that the old saying "bel enfant jusqu'aux dents" can rarely with justice be applied, yet sufficient to make us suspect that some agent other than a normal process of growth may have been at work He will perhaps be inclined to take exception to the assertion that chorea is a functional condition, and to regard the suggestion that it may be a dental reflex as a dangerous doctrine in that it tends to obscure the serious import of the symptom He may ask wherein lies the difference between "morbid anatomy" and "pathology," or between "ulcerative gingivitis" and "ulcerative stomatitis" The ophthalmic surgeon may not be content that the only reference to glaucoma should take the form of a suggestion that it may possibly be precipitated as a dental reflex—he might be more content if dental sepsis were boldly incriminated as the actual cause of many cases The nasal surgeon may not agree that curetting the diseased mucous membrane gives the most satisfactory results in chronic antral disease, nor the stomatologist that the earliest evidence of chronic superficial glossitis lies in the well known smooth red patches—he will probably have noted signs of inflammation long before this stage is reached But these matters, though interesting, are of minor importance, and all readers will derive great advantage from having at hand a book in which subjects on the border-land of medicine and dentistry are dealt with in a thoughtful and unbiased manner In this respect we may especially recommend the chapter on the treatment of "pyorrhoea," and the way in which the vexed question of extraction is handled There is a good note by Mr Steadman on the use of local anaesthetics, but we must take exception to the curt dismissal of local anaesthesia as unsafe in cases of arterio-sclerosis and heart disease Clinical experience does not seem to bear this out The book finishes with a short chapter by Mr Stanley Colyer summarizing the value of x rays to the dentist, it will help to place radiography in its true position as an aid in diagnosis

The dental student knows Sir Frank Colyer's book well, and with him it is sure to retain its well deserved popularity

Under the somewhat cumbrous title of *The Diseases of the Periodontal Tissues due to Infection in their Relation to Toxaemia* the Dental Board of the United Kingdom has published in a small volume reports of the series of four lectures by different authors it instituted to further post-registration study[8] They are for the most part concerned with dental sepsis, the first, by Mr J Howard Mummery, is on patho-histology, the second, by Mr J G Turner, on local clinical symptoms, the third, by Sir William Willcox, on systemic effects, and the fourth, by Professor E E Glynn, on the organisms That this division of the subject was well conceived is shown by the fact that there is practically no overlapping or repetition The result is practically a survey and an exposition of the latest knowledge and views on dental sepsis—with the exception of treatment The volume is published in response to many requests, and both the Board and the lecturers may be congratulated on a well deserved compliment There are numerous and excellent illustrations

NOTES ON BOOKS

PROFESSOR JULES LEFEVRE'S book, which has been translated into English and published in a volume entitled *A Scientific Investigation into Vegetarianism*,[9] is a vigorous plea for a return to a diet that is as old as the hills and was advocated by many eminent philosophers, poets, and knights of the burning pestle Man's teeth and alimentary canal, it is urged, show that he should be neither carnivorous nor omnivorous, but frugivorous, like the apes A distinction is drawn between vegetarians who eat butter, cheese, milk, and eggs, and those who eschew animal products of every kind, and for these the name "vegetalians" is suggested Flesh eating, M Lefevre affirms, received official scientific sanction only in the middle of the nineteenth century in the fashion for excitants, but now tuberculosis is almost the only disease for which the profession prescribes a high meat diet, and he refers to "that filthy production of fatty degeneration the cod liver oil still given to children" With the fate of a prophet in his own country Gleizs's work of 1,300 pages in 1840 stimulated Manchester to start a vegetarian society and the vegetarian renaissance in England, and then the idea was taken up in Germany, America, and later in France Meat with its stimulating effect is held to be responsible for neurasthenia and to favour alcoholism and narcotic drug habits In describing the toxic effects of a meat diet the diathetic conditions called by the French arthritism and hepatism, with serious lesions, such as renal and arterial disease and cirrhosis, are insisted on, and the greater prevalence of illness in winter is ascribed to increased consumption of meat taken under the erroneous impression that it is necessary to withstand the cold Professor Lefèvre concludes that vegetarianism is the only régime which without overstrain or intoxication allows the full development of the muscular and heat producing powers of the body.

In commemoration of the thirty fifth year of her official connexion with Hunter College, New York City, her pupils and friends have dedicated to Dr Margaret Barclay Wilson a volume of *Essays and Studies*,[10] consisting of fifteen articles mainly dealing with educational subjects Special mention may be made of the essay by Dr Annie Sturgis Daniel on the medical education of women in the United States

[7] *Dental Surgery and Pathology* By J F Colyer KBE FRCS, LDS Consulting Dental Surgeon to Charing Cross Hospital Fifth edition London Longmans Green and Co 1923 (Demy 8vo, pp xiv + 913 6 plates, 951 figures 32s net)

[8] London The Dental Board of the United Kingdom, and Constable and Co 2s 6d net

[9] *A Scientific Investigation into Vegetarianism* By Jules Lefèvre Professeur au Lycée Pasteur Authorized translation by Fred Rothwell London John Bale Sons and Danielsson Ltd 1923 (Cr 8vo pp 189 7s 6d)

[10] *Essays and Studies in Honor of Margaret Barclay Wilson Teacher Physician Librarian Author* New York Columbia University Press 1922 (Med 8vo pp xiv+151 13s 6d net.)

SPIRITUAL HEALING IN AUSTRALASIA

WE have received a communication, accompanied by numerous newspaper cuttings, from a medical woman in New Zealand who has lately taken part in Mr J M Hickson's spiritual healing mission in that country This lady has no doubt, after what she has seen, that remarkable *results and cures follow these missions, and even take place* before the "laying on of hands" by the missioner in *patients who are prayed for in the churches* As one of the doctors "on duty" during Mr Hickson's mission, she had the opportunity of seeing some 600 sickly, deformed, blind, and deaf sufferers gathered for healing on one day, and of observing the quietly devotional atmosphere of the assemblies, with nothing spectacular or emotional in the methods employed While recognizing that "health and peace of soul" will remove "anxious fears" from the sick, and thus promote healing, she came to the conclusion that a "more certain and greater Power" was at work As evidence our correspondent gives brief notes of three cures in young children, whose youth excluded explanation by imagination, faith healing, or suggestion, and she concludes by suggesting a public conference between leading doctors, ministers of healing, and some bishops for the purpose of deciding what attitude the medical profession should take in the matter

From the newspaper cuttings sent by our correspondent it would seem that Mr Hickson's Christian healing mission in Australasia has been a triumphant progress The services were crowded Sick people were brought in motor cars and special trains Clergy, sisterhoods, nurses, and ambulance men helped to order the work, and in some places the sick were marshalled by the police An article on spiritual healing, written by the Bishop of Goulburn, Australia, who was a member of the Lambeth Conference Committee, has been reprinted from the *Church Standard* of August 12th, 1921, up to a fourth edition In this article mention is made of Mr Hickson's missions in the United States and in India, his audiences are stated to have included twelve hundred Mexican pilgrims, mostly Roman Catholics, in search of health, Jews who came to "the man who was so near God", members of the Greek Church, devotees of "Christian science" and "new thought', Copts, Mohammedans, and Hindus There is evidence, therefore, of a profound emotional disturbance, notwithstanding our correspondent's note of the absence of the spectacular and the emotional in the methods of healing We propose to examine briefly the three cases of reported cure, and to recall once more some historical facts in this crusade

Case 1—A child of 4½ years General muscular paralysis Head dropped on to left shoulder and fixed Did not talk or walk Arms powerless At once after the healing by the missioner's hands she raised the head straight up turned it and looked brightly up at her mother On examining her carefully we found her able also to move both arms and she stood upon her feet for the first time in her life She has steadily improved since that day

Case 2—A girl of 8 years Deaf and defective Had never spoken clearly Began to brighten three days before the mission (Had been prayed for in her church) Immediately after the healing looked up and said 'Mother' clearly Was no longer deaf, and *is developing rapidly*

Case 3—A boy aged 8 years Infantile paralysis Never walked Legs flail like muscles atrophied Carried by mother to the altar Walked down himself looking at his feet all the way in amazement and saying loudly, Look at my feet

It may be remarked in the first place that two of these three patients were hardly so young as to be entirely insusceptible to emotional surroundings Secondly in two of the cases the diagnosis is extremely indefinite What is "general muscular paralysis"? And to what extent and *why was the girl of 8 deaf and defective?* Thirdly, where is the evidence that these three patients were examined in a *competent manner before the laying on of hands? To the* newspaper reports our correspondent frequently adds the note, "Seen by me" But she does not say at what stage of the proceedings With a record of 600 patients gathered together on one day it seems unlikely that any proper medical examination was undertaken before the treatment We cannot accept as evidence of the existence of disease our correspondent's note that "so far no medical men who treated these (published) cases before their cure at the missions have written to deny the fact of disease having been present" We venture to think an observer "*on duty*" *should herself* have re to confirm the diagnosis We will not *doubtful value* of recorded cures which do figures in a mass of hundreds or thousand We would accept the production of a singl diagnosed and recorded cure in organic di tion for investigating the alleged method

We cannot accept our correspondent ground for demanding a bench of doct bishops to decide the attitude of the p towards spiritual healing We think ou justified by some facts connected with th the movement, facts of which our corre pe unaware

We believe we are right in saying tha when Mr Hickson first came to this count he had accidentally discovered that he po touch" He believed, in fact that he p unusual in human beings, which transm fingers, would heal disease Similar clain in all ages and amongst many nations ha such powers still awaits scientific investi it would appear Mr Hickson began to de of a merely physical power, and ascribed duced in his patients to the manifestatio When the Church Congress was held in L time was ripe for discussion of this another professor of spiritual healing styling herself M D , U S A , had arrived Church of England was stirred with the n the healing mission of the primitive chur of London presided at a meeting of the C which Mr Hickson, Miss Reed, and oth As a result of this movement the British resolved to investigate the matter and a mittee was appointed to investigate M Mr Hickson gave this committee a court produced several cases in which he belie been successful Not a single case con committee in which actual organic disea have been cured, with the exception o had enlarged glands of doubtful natu Otherwise the nearest approach to app the case of girdle and lightning pain Two or three patients were conscious th diminished or entirely relieved their p remained In June, 1910 a number of t JOURNAL, entirely devoted to the di cu of faith healing was issued

In the meantime a layman Mr C become interested in the matter and succeeded in gathering together a com and doctors which met at the Chapte under the chairmanship of Archdeacon Bishop Ryle, Dean of Westminster Sir Sinclair as chairman and the enlarg committee met at the deanery of W examination of many witnesses who believed in spiritual healing The com approval of the Archbishop of Canterb presented to him its report from wh issue of September 8th 1923 (p 428) has succeeded in getting any further in for support of the claims of healers In of their failure to withstand cold inspe many healers from producing their cu Mr Hick on did not consent to ap Ryle's committee and more recently t of Norwich failed to take up the ch and produce his cases of alleged cure

BETEL-CHEWING AND CANCER.

BY

R L SPITTEL, F R C S,

SURGEON, GENERAL HOSPITAL, COLOMBO.

DR LEITCH'S courteous and liberal-minded reply (BRITISH MEDICAL JOURNAL, October 13th, 1923) to my letter on this subject has induced me to send him a specimen of what I take to be a good example of betel-chewer's cancer—a carcinomatous ulcer of the cheek, beginning in that part of the buccal mucosa lying against the almost black molars and bicuspids, encrusted with rough deposits of tartar and lime. The absence of gloss and the leucoplakia of the mucous membrane outside the craggy edge of the ulcer give a fair idea of what the early or even precancerous stage is like in this form of cancer, for the growth has occurred in the centre of a chronically irritated patch. I look forward to Dr Leitch's opinion of the specimen I have sent him. (See below.)

Regarding the rough deposits on the teeth of betel-chewers, Mr C. T. Symons, to whom I sent specimens, reports that they consist of organic matter, and the carbonates, phosphates, tartrates, and a trace of chlorides, of calcium and sodium. How much of this deposit is due to tartar and how much to chunam, it is difficult to say. Chunam consists of calcium hydroxide. The 1 per cent. of solids in saliva consists (besides protein, mucin, and ptyalin) of "inorganic salts of which calcium salts form a considerable proportion and are apt to be deposited as tartar on the teeth" (Bainbridge and Menzies). The deposit on the darkly pigmented teeth of betel-chewers differs from the tartar encrusting the teeth of ordinary individuals, in being more abundant, more patchy, and more generalized over the tooth surface, especially that against which the quid most often lies. I do not think there can be much doubt that, even if chunam is not deposited as such on the teeth, it, by providing an excess of calcium to the acid radicles of the saliva (carbonates, phosphates, and tartrates), aggravates the tendency to the deposit of salts.



Dr Leitch very kindly invites my opinion as to the age incidence of buccal cancer, its frequency, latent period, and course.

The age incidence is interesting. Buccal cancer is met with most frequently between the ages of 35 and 50, with a tendency towards an earlier age than is usual with most forms of carcinoma. Of women, particularly Tamil women, is this more especially true. I have on many occasions seen it in them between the ages of 25 and 30. The explanation may lie in the probable fact that (*a*) betel-chewing is begun at an earlier age among Tamils than Sinhalese, and Tamil women are the more inveterate chewers, seldom being without a quid in their mouths. The relatively early incidence of betel-chewers' cancer in both races is perhaps due to the habit begun in early childhood. Carcinoma of the tongue, so rare among the women of Europe, is by no means uncommon among the women here. The earliest age at which I have seen cancer was a case of epithelioma of the penis in a youth aged 19.

Frequency.—Dr G. Thornton has kindly drawn my attention to the Registrar-General's mortality statistics for cancer in Ceylon in 1921. Although little reliance should be placed on these figures (those for cancer of the breast and uterus, for instance, being obviously incorrect) they are interesting from the relative point of view *buccal cancer* 163, cancer of the digestive system 137, cancer of uterus 20, cancer of breast 13, cancer of other organs 97.

Latent Period.—It is very difficult even to generalize on this. Precancerous leucoplakia often merges into definite carcinomatous change within a few months of its appearance, on the other hand leucoplakia may exist for years as such, and in some cases leucoplakic fields may present several discrete foci of low grade malignancy (clinical and microscopic) without developing frank characters. One remarkable instance of this is shown in the photograph. The entire buccal mucosa was leucoplakic, the tongue glossy, and the oral orifice contracted, the lips were scored with hard-edged fissures, warty in places, the mouth was intolerant of any food that smarted in the least. The whole appearance was suggestive of a baking of the mucous membrane with lime. And yet this man could not be induced to forgo his betel-chew any more than many another with even foul fungating carcinomata ulcerating through the cheek! The glands were not markedly involved, but operation was out of the question. I watched this case for years. It is not uncommon for an individual to go to bed with a quid in his mouth and to continue his chew on awakening the next morning!

Course.—The case just mentioned is exceptional. Buccal cancer is, as a rule, very fatal. It invariably recurs, even after wide removal of growth and glands *en bloc*. But the patients here submit to operation much too late. To continue the comparison with cancer of the penis: the latter, if taken reasonably early, is comparatively benign, and may be expected not to recur provided the inguinal glands, which should not be appreciably enlarged at the time of operation, are removed with the penis, especially the glands about the saphenous opening, which, as a rule, are early involved and are placed at the gateway to deeper and less accessible metastasis.

The *betel-chew* is composed of betel leaf, sliced areca nut, crude tobacco leaf, a touch of chunam (slaked lime), and sometimes a small fragment of a resin called *Ianpoo* (catechu?). The Veddas or wild aborigines chew various barks together with lime obtained by burning snail shells (*wantalo*).

As for Dr J. Campbell's contention that we should not be satisfied merely with attributing cancer to irritation, but should look further afield to some source of infection, probably in the soil, I am not competent to offer an opinion. All I maintain is that betel-chewing, for one thing, does seem to determine the frequency of buccal carcinoma.

In conclusion I am sorry I have not more definite evidence to offer at present, but hope to be able to do more in the near future now that we keep detailed cancer statistics at the General Hospital. If the large hospitals in India would provide their figures, this problem of the bearing of betel-chewing on cancer of the mouth would no doubt be solved satisfactorily.

We have received the following note from Dr Archibald Leitch:

Mr Spittel has kindly sent me a specimen of buccal cancer removed from a betel-chewer. The tumour projects from the inside of the cheek as a hemispherical mass which is not markedly ulcerated. A section from the angle of the mouth right through the cheek reveals the fact that the cancer has spread through and replaced the tissues almost up to the external skin. Histologically it is a typical epithelioma, with a considerable amount of keratinization, growing in areas densely filled with round cells, amongst which are several multinucleated masses. The mucous membrane beyond the tumour proper shows the usual picture of leucoplakia and the papillary processes are much exaggerated and also undermined by extension from the more developed malignant lesion.

A PERIODICAL devoted to methods of production and the scientific study of milk has been founded. Its title is *Milchwirtschaftliche Forschungen*, it will be edited by Professor Grimmer of Königsberg, and will be issued six times a year by the firm of Julius Springer in Berlin. The annual volume will contain 640 pages. The price of each number is stated to be "6 — Mark, 1·40 Dollar."

British Medical Journal.

SATURDAY, JANUARY 26TH, 1924

MEDICAL HYDROLOGY

A COURSE of lectures on medical hydrology under the auspices of the University of London Board to Promote the Extension of University Teaching will be given at the University in the week commencing May 5th, 1924. It will comprise one or more physiological discourses on the action of "natural remedies" and systematic lectures on the treatment of incipient and chronic disease by means of waters and baths. It has been arranged by the Board at the instance of a Committee for the Promotion of *Teaching of Medical Hydrology, representing the International Society of Medical Hydrology and the Section of Balneology and Climatology of the Royal Society of Medicine*. The course will be supplemented by demonstrations in London and by a study tour to Bath and Cheltenham. The fee for the course is three guineas, and further particulars can be obtained from the honorary secretary of the Hydrology Teaching Committee, University Extension Department, University of London, South Kensington, S.W.7. A complete programme will be issued later.

We publish elsewhere in this issue a letter from members of the special committee setting out its objects and indicating the means by which it is hoped they may be attained. The profession will entirely approve the measures proposed to encourage the more exact study of medical hydrology *and to disseminate information with regard to it and with regard to other methods commonly included under the term physical therapeutics*. We *have often* called attention to the neglect of British spas by the British public and by British medical practitioners, and have on several occasions indicated the reasons which seem to account for this unfortunate attitude. Our efforts have not produced any obvious result, but we will not be discouraged in well-doing. The British spas did very excellent work during and after the war in treating men incapacitated by rheumatic affections and by arthritis due to various causes. In addition to mineral waters and physical exercises various physical remedies such as diathermy and the high frequency current, were employed. Combined physical treatment was used with good effect at the physical clinic for disabled officers in London opened by a private committee in 1916 and afterwards supported by the Red Cross. At the special surgical hospital at Shepherd's Bush a complete hydrological installation was established in 1917 as part of the physical treatment department. Similar departments were conducted in many Red Cross hospitals at the command dépôts at Heaton Park near Manchester and at Tipperary and at military hospitals at Cardiff and [illegible]

its behalf, suggest that a permanent advisory committee should be appointed in this country There is here no body exactly analogous to the Académie de Médecine, and if a committee is to be established it might perhaps best come into existence through the joint action of the Imperial School of Hygiene and the Medical Research Council, with the countenance of the Ministry of Health

Lastly, to touch upon another aspect of the matter, we agree that there is need for greater co operation among the British spas, but we are clear that there is still greater need for the better organization in each spa for the comfort, and for the control of the habits, of patients frequenting them In the several excellent mineral water hospitals in this country to which patients of limited means are admitted such control exists, but for the average intellectual worker who pays his own way there is very little control He goes to a hotel, and very often medical opinion has not sufficient influence with the municipal authorities and hotel keepers to get him the diet which best suits his condition and to encourage him to adhere to it In every spa there should be a hostel or hostels administered with the sole object of getting patients well, where they would be limited to a suitable diet prescribed by their physicians, and required to take sufficient rest and sleep These things are done at certain institutions in this country, such as Duff House at Ruthin, the New Lodge Clinic in Windsor Forest, and probably at other similar institutions the names of which do not occur to us These things were done, and probably are still done, at Carlsbad and Marienbad, where every patient is required not only to take the waters, but to live by rule We believe that the general lack of such institutions and such control at spas in this country are among the chief causes of the exodus to foreign spas which the members of the Medical Hydrology Committee deplore

PAGET'S DISEASE OF THE NIPPLE.

THE intimate connexion existing between carcinoma of the breast and the chronic changes at times observed in the nipple, and known under the name of Paget's disease of the nipple, was discovered by Sir James Paget and described by him in the year 1874 The discovery was limited to the fact of the constant or almost constant association of the two lesions, that is to say, when the changes in the nipple are present the existence of a carcinoma in the substance of the breast may be predicted with tolerable certainty The observation has been abundantly confirmed by subsequent investigators, but owing to the complexity of the matter it was long before any demonstration of the intervening links in the chain of events upon which the association of the two lesions depends was forthcoming We are indebted to Mr Sampson Handley for the first serious attempt in this direction, he formed the opinion, after a most thorough microscopical research, that the carcinoma of the breast is the primary condition, and that the affection of the nipple results from obstruction of the subareolar lymphatics by cancerous permeation spreading from the growth This explanation, based on a number of carefully observed facts, has many supporters, but the inherent difficulties of the problem inevitably precluded a proof complete in every detail, and it has not at present received universal acceptance A second attempt in this direction has recently been made by Sir G Lenthal Cheatle [1] The material upon which the investigation was based included whole sections of eight breasts affected with the disease, together with partial sections of other breasts similarly affected, affording the opportunity, in the author's customary manner, for a more complete and extensive survey of the lesions than has fallen to the lot of any other observer

We have already given an account (EPITOME, December 8th, 1923, para 408) of Sir Lenthal Cheatle's investigations, but we may recall here that the main feature of the new theory is that the lesion of the nipple, hitherto regarded as of the nature of a chronic dermatitis, is in fact a carcinoma His conclusions are that "(1) Paget's disease of the nipple is carcinoma, (2) carcinoma of the breast, with which Paget's disease is usually associated, is a primary carcinoma of the breast epithelium, (3) the connexion between (1) and (2) is that the agent of irritation which is inducing Paget's disease is also concerned in producing primary carcinoma in the epithelial cells of the underlying breast tissue, which is reached by means of the mammary ducts

With regard to the first proposition, one of the complications of the problem is that cancerous permeation of the lymphatics from the deep growth is very liable to extend towards the skin, and the advancing cell columns may even invade the epithelium in the area of the Paget's disease, thus producing a deceptive appearance of carcinoma of the skin Any attempt to establish the diagnosis of a primary carcinoma of the skin from the appearances in specimens of this kind may, therefore, lead to false deductions Cases are, however, met with in which it can be asserted with some degree of confidence that no lymphatic invasion has occurred from the deep growth An interesting instance of this kind is described and illustrated by Sir Lenthal Cheatle there was present a carcinoma involving the upper region of two ducts, together with extensive Paget's disease of the nipple and a small carcinoma deep in the gland, from which, however, no lymphatic invasion had occurred into the tissues subjacent to the diseased area of skin The point of interest is that, notwithstanding the absence of lymphatic invasion from beneath, the epithelium showed changes, such as invasion of the subepithelial tissue, indicative of carcinoma, not only in the main area of disease but also in isolated areas not in continuity with it, suggesting a multicentric origin of the growth There were present, therefore, cancerous changes in the skin area, without any subjacent lymphatic permeation to account for them, and the conclusion seems inevitable that the skin lesion must be of the nature of a carcinoma There is, however, another possibility that should not be overlooked—namely, that a carcinoma may possibly develop in an area of chronic dermatitis, and that appearances in the epithelium suggestive of carcinoma may in reality be due to the presence of the growth

The theory of the carcinomatous nature of Paget's disease can only be tested satisfactorily by studying the general histological characters of the lesion, more especially in relation to such points as the degree of cell proliferation and tissue invasion exhibited by it Sir Lenthal Cheatle's original and suggestive paper initiates a new line of thought in an interesting region of pathology, and will without doubt arrest the attention of pathologists

[1] *British Journal of Surgery*, vol xi No 42

IRREGULAR PRACTICE IN THE UNITED STATES

RECENTLY we had occasion to refer briefly to certain special difficulties medical reformers have to encounter in the United States, owing partly to the fact that the licensing of medical practitioners is a State and not a national matter. There is no statutory controlling body equivalent to the General Medical Council, but excellent work is being done by the Council on Medical Education and Hospitals of the American Medical Association. It holds an annual congress, and that in Chicago last March was concerned also with the work of the Council on Health and Public Instruction, the Association of American Medical Colleges, and the Federation of State Medical Boards. The report of a special committee on graduate medical education was presented by its chairman, Dr. Louis B. Wilson, director of the Mayo Foundation of Medical Education and Research. For the purpose of the report most of the schools and various hospitals in the States had been visited, great improvement since a preliminary survey three years previously was observed, though "there still remain institutions in which the conditions are almost inconceivably bad." Opportunities for graduate study are sought by those desirous of becoming specialists, or improving their knowledge of a specialty already practised, and by general practitioners. The granting of certificates based on insufficient study is denounced by the committee. It appears that diploma-like certificates of attendance only may be displayed and easily mistaken by the public for certificates of proficiency. The committee recommends that graduate medical schools should be divided into six classes—A-1 to C-2. Class A-1 is to consist of "those which have adequate equipment, which are furnishing acceptable graduate courses of instruction in all the various specialities, and which grant advanced degree or diploma-like certificates only to students who are qualified to receive them." Class C-2 consists of those which offer courses in any specialty too short to ensure any reasonable degree of efficiency or which give advanced degrees or diploma-like certificates for such unduly brief courses. It is alleged that one institution grants such a certificate after one week of study. During one of the discussions much that was interesting and in part entertaining also was said regarding cults and "cultists." In Alabama osteopaths have begun to raise their standards, but in the Southern States there has been a chiropractor invasion, and as fast as one chiropractor was convicted another would appear. It is hoped to teach the public that massage, manipulation, hydrotherapy, electrotherapy, and all other "single idea" panaceas are only of limited value, and their employment in many conditions worthless or dangerous. 'Cultists" should be classified in the public mind 'as *limited* practitioners." In Ohio and many other States the Medical Practice Act has been amended to permit the State *medical board* to examine and license individuals to practise a limited brand of medicine and surgery. Fourteen limited branches were specified, but some licensees defied the department. In two years twenty-eight were prosecuted successfully before a jury but each appealed and continued to practise. Then the law was amended, and each day's practice has become a separate offence, so that in the first two months of the present year in Ohio 162 chiropractors had been arrested, 70 had been tried and convicted, 11 *cases had been dismissed* and 81 were pending. This vigorous action had led many unlicensed individuals to leave the State, whilst others remained in jail to pose as martyrs. In Kentucky the policy is to recognize all cults, and to submit those who practise them to examination "in the fundamental branches," so that the osteopaths have been reduced from 267 to about 25 or 30, and the majority of these have graduated in medicine. Any person who fails in his examination and continues to practise is prosecuted, and his examination papers are 'filed so that the jury will know he did not know anything. Our lawyer appeals to the jury on that basis, and not infrequently we have a rough and tumble fight. The population in that neighbourhood turns out to hear the trial, and our attorney, an ex-governor of the State, a real leader of men, when he gets through, has educated the public to the importance of enforcing the medical practice act."

"PUNCH" AS AN ANTHROPOLOGIST

MR. PUNCH, according to Sir Arthur Keith, is not only a humorist and a moralist, but also an anthropologist, and in the capacity of a close and accurate observer of mankind the satiric old gentleman, introduced by Sir Arthur, entertained a large company at the social evening of the Royal Society of Medicine on January 16th. Something of the exaggerative quality of the caricaturist's art may have transferred itself to Sir Arthur Keith himself when he declared that by far the best British textbook on anthropology was the file of *Punch*, but he went some way to prove his contention by throwing on the screen a number of sketches which have appeared in our contemporary, eliminating the attached jokes, which were often quite fortuitous and drawing attention to the characterization of the faces and heads. *Some of the more extreme physiognomies* shown in the pages of *Punch* might be supposed to correspond to nothing in real life, but Sir Arthur Keith said that in the Museum of the Royal College of Surgeons he could show specimens from which the artists might have got their inspiration. Most of the drawings shown represented contrasts of age, sex, pursuit, social status, national type, or the still more curious contrasts of temperament and physical build, as between the well fleshed old colonel on the military tribunal and the thin nervous, quite unmilitary applicant. In the small chubby boy who frequently appeared in the sketches in contrast to his father, the points to be noted were the extremely small neck compared with a head whose size was not noticeably smaller than that of his parent. The expansion of the neck said Sir Arthur Keith, was generally the most obvious mark of adult years, and in individuals of great muscular strength the back of the neck attained an almost terrifying development. On the other hand it sometimes happened that the long fragile neck of the girl persisted far into womanhood, and the *Punch* artists were rather fond of depicting women with this type of neck. The jaws, forehead and nose, again took usually a more pronounced development in adult life, but one curious thing which was a godsend to the artist, was the occasional appearance of a man with little development of jaw and forehead but a quite pronounced development of nose. The nose appeared to be under a different dominance as to growth from the rest of the features and an examination of the jaw alone would not enable the anthropologist to predict the character of the nasal prominence. Among the sketches which Sir Arthur Keith had collected were several which brought into contrast two women, one young and the other elderly, and he drew attention to the subtle differentiations between age and youth, the more remarkable because often the older woman was dressed as girlishly as the younger. The advancing years showed themselves most markedly in the mobile parts of the face, the lips, and especially the eyelids. Those delicate shutters, at work continuously, were the first of the features to reveal age changes. Sir Arthur Keith went on to illustrate what he considered to be the primitive face, taking as an example a French peasant, a face in which there was great width between the cheek-bones, while the distance from the roof of the nose to the chin was short. The modern Englishman on the other

hand, quite frequently had a long narrow face with large orbits—a kind of face which was absolutely unknown in Europe before Roman times, although Julius Caesar possessed it to perfection Sir Arthur Keith called it the Julian face, and another quite distinct type he named, after a modern successor of Caesar, the Winstonian! The face of Mr Punch himself was worthy of some study It was often said that the face of Punch was that of a man suffering from acromegaly, but Mr Punch's face was not a pathological face, in fact, the modern countenance tended to develop in the direction of Mr Punch's nose and chin, a circumstance the more remarkable when it was remembered that the figure originated in North Italy many centuries ago Punch had also a distinctive type of round head It was a mistake to suppose that there was only one type of round head, actually there were six or seven types, all of them as distinct from one another as any one of them was distinct from the long narrow head The special English type of round head was well illustrated in Lord Curzon Sir Arthur Keith's final example was a delightful study entitled "The sliding scale in Harley Street," showing a number of aristocratic persons who had disguised themselves in poor clothes, but were quite unable to dissemble their gentility, awaiting their turn in the consulting room Sir Arthur Keith's dissertation was greatly appreciated by the audience, who compelled him to prolong his talk after he had lectured for the prescribed half-hour

RELIGION AND THE "NEW PSYCHOLOGY

MR BISHOP HARMAN contributed recently to the *Hibbert Journal* an article in which he discussed the bearing of the psychology upon religion His arguments are intended especially to prove that religious conceptions evolved the intuition of generations of seekers after truth have now been shown by the new psychology to be biologically correct It is an interesting theme Human nature has changed but little, and dynamic psychology is now dealing with the same conflicts which have troubled mankind throughout the ages All great philosophers and religious teachers have recognized that it is not so much the external forces of nature which man has to fear, but the disrupting forces within himself The contention is that external stresses play only a minor part in the production of neurotic states, they are the product of a disharmony within, the man whose inner life is tranquil and harmonious can meet the blows of fate with fortitude and courage This is essentially the teaching of the new dynamic psychology Mr Harman finds much in biblical literature which accords with the teaching of the Vienna school in its emphasis upon the fundamental influence of sex He realizes that parenthood, the outcome of sex, has an immense effect upon the individual and the community, and that there is no social relation which has at one and the same time a greater moderating and a greater stimulating influence The distortion of the sexual impulse into other than reproductive aims was condemned by the Hebrew prophets and the early Christian teachers One of the greatest lessons in this connexion was given by St Paul, who was not content to pass over an immorality that had the sanction of national custom, but declared that these deeds were in themselves of the most serious import, involving little less than a perpetual relationship, albeit forged in a momentary action "he that is joined to an harlot is one body" Mr Harman rejects the view that the new psychology panders to self-indulgence It does not say, "resist not evil," but urges the need for a full development of control by facing evils as they arise, overcoming them and not shrinking from the struggle It recognizes that perpetual struggle which St Paul so tellingly described in the words "For the good that I would I do not but the evil which I would not, that I do I delight in the law of God after the inward man but I see another law in my members, warring against the law of my mind, and bringing me into captivity to the law of sin which is in my members" While this is a confirmation of the doctrine of original sin, or rather bias, it denies the inhuman implications of that doctrine It says in effect to the sufferer "Come now, and let us reason together, though your sins be as scarlet, they shall be as white as snow" Finally, we find raised the question whether the new psychology throws any light upon the conception of the soul and the over soul as the motive power behind all mentality While Mr Harman thinks that it brings no evidence to bear—certainly no direct evidence—he suggests that the fundamentals of the new psychology may have an indirect bearing by way of analogy on the problem of the indestructibility of the soul The body, he says, is a congeries of a myriad cells, each retaining its own sensibility and its reactions in its degree, though all combine to make the sensibility of the whole, and asks why we may not infer a like condition in those limitless extensions of it which we can neither see nor handle, but which we may conceive are there In these illimitable realms individuality may, it is suggested, be maintained distinct even though it be one with the greater whole These are speculations, and the soul conception can neither be proved nor disproved He points out, however, that belief in it has been and now is the mark of some of the most virile peoples of the earth, and that these same peoples have, by a similar process of intuition, arrived at secondary religious principles which are founded on sound biological laws Is there not, therefore, he asks, reasonable ground for concluding that the summation of those principles—the intuition of the soul and of the over-soul as the essence of all things, and of the indestructibility of the soul—is equally true? We will not presume to attempt to answer this question, but we may observe that the views expressed in the article under consideration as to the significance of Freud's teaching in respect to immortality will not be readily accepted It is difficult to see how Freud's teaching has even an indirect bearing on the subject He is a strict mechanist and determinist, and as a philosopher altogether gloomy and pessimistic A more fruitful discussion would have centred round Jung's psychological and philosophical teaching This is closely allied to that of J S Haldane as a physiologist and Bergson as a philosopher

MELANURIA IN THE ABSENCE OF MELANOTIC GROWTHS

MELANOMAS and the nature and origin of melanin were fully discussed by Mr W G Spencer in his Bradshaw Lecture (November 17th, p 907) In this connexion a recent paper by Peter[1] is of interest, as it raises the subsidiary question of the relation of melanuria to the localization of metastases Although in the past isolated cases with the pigment melanin in the urine but without any melanotic growths in the body were reported, it has generally been thought that there was some error of observation—for example, that the urinary pigment was really indican—and that even in the presence of melanoma the urine does not contain melanin unless there are secondary growths in the viscera In 1910 Eppinger, in an extensive review of melanuria, argued that it occurs only when the liver is extensively invaded by melanotic growth, because a normal liver breaks down any melanin that may get into the circulation Much interest, therefore, attaches to Peter's case of melanuria without melano-sarcoma in a black-haired, dark-skinned boy, 13 years of age, who had ascites and hydrothorax but no localized areas of cutaneous pigmentation, and

[1] Peter, J P *Arch Int Med*, Chicago, 1923, xxxii, 709

for some time before death passed urine constantly containing a chromogen with all the reactions of melanin Repeated tappings gave a fluid, sterile on culture, with lymphocytes as the predominant cells The Wassermann reaction was negative, but the tuberculin test was positive At the necropsy there was no melanotic growth, but the spleen (10 oz) was enlarged and the liver (13 oz) was extremely cirrhotic and small The author considers the case unique in that melanuria existed in considerable amount in the absence of a melanotic growth, in connexion with Eppinger's views, he discusses the question whether or not the melanuria depended on the extensive destruction of the liver It is suggested that some of the melanotic pigments which produce the normal coloration of a dark person might find access to the blood, and, in the absence of normal liver function, escape destruction and so pass out in the urine If this be true it would be natural to expect that in the black races cirrhosis and other destructive lesions of the liver would be, at least sometimes, accompanied by melanuria, but at present no evidence of this kind is on record

KOCH'S EAST AFRICAN DIARY

THE first instalment of Koch's East African diary has been published in the *Deutsche medizinische Wochenschrift* The diary was given to this journal by Koch's widow Professor Kleine, one of Koch's companions on his expedition, has edited it and written a preface Robert Koch was 64 years old when, early in April, 1906, he left Berlin for Africa under instructions from the German Government to investigate the problems of sleeping sickness His companions were his wife, Professors Beck and Kleine, and Drs Kudicke and Panse The main problem—the etiology of the disease—had been solved by David Bruce and his colleagues, it was known that the *Trypanosoma gambiense* was the infecting organism, and that the infecting agent was the *Glossina palpalis* The disease, however, had not been transmitted experimentally from man or animals to the tsetse fly, and the conditions favouring the life-cycle of the trypanosome were still in many respects obscure It was not clear how the numberless glossinae lived in those large areas which were uninhabited by man, and one of the many tasks Koch set himself was to learn what animals, if any, acted as the host of *Trypanosoma gambiense* He hoped that certain administrative measures might help to stamp out the disease, and tentative arrangements were made for the isolation of the subjects of sleeping sickness in concentration camps He hoped also that clearing away the brush in the shade of which the glossinae flourished, and the withdrawal of encampments from the most dangerous areas, would help to arrest the disease His disappointment with atoxyl as the means of breaking the life-cycle of the parasite is common knowledge, but his belief in the susceptibility of sleeping sickness to chemotherapy has been justified in the recent successes achieved with "Bayer 205" A striking feature of Koch's diary is its detachment As his commentator, Professor Kleine remarks, Koch carried his "objectivity" to extremes he has little to say of his personal impressions, of his feelings from day to day towards his companions and life in general, and of his personal discomforts He had often to live on a monotonous diet and to travel on foot for eight hours at a time under a scorching sun Big gaps in his diary were due to illness caused by sandfly infection He suffered from lymphangitis and foot injuries which were slow to heal, his wish to have his big toes amputated to hasten recovery found no response among his companions His reticence in personal matters was carried to such an extreme that when, at long range, he shot through the head a crocodile in the water, he merely entered in his diary, "A crocodile was shot" To a companion of Koch this diary is of interest by what it omits as well as by what it states, and its value to the average reader is considerably enhanced by Professor Kleine's notes

SMALL POX IN 1923

THE exact statistics of small pox prevalence in England in 1923 are not yet available, but the Minister of Health (Sir W Joynson-Hicks) stated last week that during the year there were, in round numbers, 2,500 cases Accepting this figure the notifications for the past thirteen years have been as follows

Year	Cases.	Year	Cases.
1911	289	1918	63
1912	121	1919	311
1913	113	1920	280
1914	65	1921	336
1915	93	1922	973
1916	159	1923	2 500
1917	7		

The decline from 1911 to 1917 was remarkable, no less remarkable is the increase from 1917 to 1923 In 1923 June and July were the heaviest months, this being the time of the Gloucester epidemic In August and September the prevalence was much lower, the minimum being 17 cases in a week Since that time an irregular increase has gone on In the last four weeks of the year there were 292 cases, and 195 in the first fortnight of 1924 The counties chiefly involved throughout 1923 were Gloucester, Derby, Nottingham, and the West Riding of Yorkshire The disease continues to be very mild in type, so that cases are apt to be missed, but infectivity is low What England is threatened with is the addition of mild small-pox to the list of its endemic diseases It differs from other such maladies in being quite definitely preventable by known and easily available means There seems no likelihood, however, of these means being applied throughout the country on any scale sufficient to stamp out the infection Fortunately everyone who so chooses can by successful vaccination and revaccination make himself and his family immune to small pox This is in effect what Sir William Joynson-Hicks advises in his farewell message as Minister of Health Those who accept his warning will make themselves safe those who do not will have to take the risk Meanwhile the general public in invaded localities will have to submit to the anxieties which small pox brings, to the interference with business, and to the heavy costs entailed by the provision of hospital accommodation and maintenance, with the various other outlays incurred by endeavours to control a disease which, if the proper means were thoroughly used, would be practically non-existent in Britain

ROCKEFELLER GIFTS FOR PATHOLOGY AND BIOCHEMISTRY

AT the meeting of the Senate of the University of Cambridge this week a grace was proposed gratefully accepting the offer of the Board of Trustees of the Rockefeller Foundation to endow the School of Pathology in the University The Trustees will provide £100,000 for the building of a pathological institute and its general maintenance, and will contribute £33,000 towards endowment, the university undertaking to find a like amount for the completion of the endowment A similar offer, it is understood, has been made to the University of Oxford for the benefit of the department of biochemistry The offers were made at the same time as those previously announced to Edinburgh and Cardiff, but in the case of the two English universities they were received immediately after the last meeting for the term, of the two governing bodies

ALBERT ABRAMS AND THE "E.R.A." CULT.

THE death has been announced this week of Dr Albert Abrams of San Francisco, the discoverer of the Electronic Reaction of Abrams (E R A)

Dr Abrams was born in 1863 and practised for many years in San Francisco In 1910 he founded the practice of spondylotherapy, a cult allied to osteopathy and chiropraxis In 1916 he introduced his theory of electronic reactions [1]

This latter cult has attracted widespread popular attention, has found hundreds of followers in America, and has now invaded this country Adverse criticism of the work of the dead is an unpleasant task, and if only there was a prospect of Abrams cult dying with him we should be glad to say nothing further The cult has, however, been a highly lucrative one, for it has caught the popular fancy, possibly because its jargon concerning electrons and specific vibrations resembles the terminology of wireless Mr Upton Sinclair,[2] in a defence of Abrams, stated that many of his disciples were making 1,000 dollars a week The cult claims to diagnose and cure all diseases, particularly malignant disease, and obviously a popular cult making such claims will inflict an incalculable amount of harm on the community if its claims are unjustified

For these reasons we publish the following notes on the E R A cult, the materials have been collected during the last few months, and the notes were awaiting final revision when the death of its founder was announced The course of development of Abrams's theories was roughly as follows His idea would seem to have been partly derived from the works of Baines,[3] who measured the skin potential in different individuals and in different parts of the body, and claimed that these potentials were modified by disease The currents Baines detected were of the order of 0 01 milliampère, and could only be detected by delicate galvanometers Baines suggested that disease could be diagnosed by electrical measurements

Abrams used the movements of the stomach as an indicator the passage of currents instead of a galvanometer His final technique is described in his book[1] as follows resistance coil is connected with two electrodes, one electrode is placed over the stomach and the other over some other part of the body, a positive reaction, indicating the passage of a current, is shown by a contraction of the stomach, this contraction is measured by percussion A moderate resistance in the circuit abolishes the reaction, but when the resistance is increased further, a positive reaction suddenly appears at a certain resistance The ohmage at which the reaction becomes positive is termed the "vibration rate" The vibration rate is constant for each individual, for each organ, and for each disease

Thus far the argument is at least comprehensible, but the next step is difficult to follow The current measured by the resistance coil is stated to be a force unknown to science, which Abrams has termed "electronic vibrations" None the less these vibrations can, we are told, be measured by an ordinary rheostat

After the publication of the book referred to, Abrams further developed his theories He concluded that, "A single drop of blood with its billions of electrons is a condensation of the multitudinous vibrations of the human body" Hence the presence of the patient was unnecessary for the measurement of his electronic vibrations, a single drop of the patient's blood would do instead

The final method of electronic diagnosis adopted by Abrams was as follows A drop of the blood, a smear of the saliva, or the signature of the patient, is put in a box called the "dynamizer", this is connected in series with three rheostats, termed the amplifier and the reflexophones, and the last reflexophone is connected with the forehead of a healthy person or "medium" The changes in stomach dullness are measured on the medium, and the vibration but the emanations coming from the drop of blood is being evils the reflexophones The theory therefore is that from the saliva, or signature which is being examined, which St from the "dynamizer" electronic emanations for the good uld not, that the rheostats and enter the medium, in whom they cause characteristic changes in abdominal dullness These emanations can be arrested by throwing in resistance in the rheostats, and thus the specific rate of the electronic vibrations is measured

The measurement of these electronic vibrations is stated to yield the following information concerning the person furnishing the drop of blood, saliva, or signature—namely, race, religion, sex, nature of all diseases present, and location of all localized diseases

The machines furnishing these results were investigated by a competent electrician, who concluded[4] "these 'reflexophones' are merely crude rheostats, capable of measuring small amounts of ohmic resistance, but inaccurate in every one of these measurements They would be thrown out of any high school laboratory Better rheostats than these can be bought for $1 each at any store selling electrical toys"

Abrams further concluded that disease is merely the expression of a certain vibratory rate Something with a similar rate can be imposed upon it and destroy it He therefore produced a machine, the "oscilloclast," which would produce any desired vibratory rate and thus might be expected to cure all diseases This reduced the diagnosis and treatment of disease to a final stage of simplicity A single series of measurements with the diagnostic machine furnished the vibratory rate of the disease present, and the cure consisted in application of the required vibratory rate by means of the oscilloclast

The oscilloclast was also examined by a competent electrician, who found[5] that the machine consisted of a small electric motor driven by the ordinary lighting current, this drove a current breaker The machine also contained an induction coil, a resistance, and a condenser, from the last there was a lead running to an electrode which was connected to the patient

The electrician also found that the construction of the apparatus displayed profound ignorance of elementary electricity, for it contained four closed circuits, and the most delicate galvanometer failed to show any current in the lead going to the patient The machine has been described as like "a contraption put together by a ten-year-old boy, who knows a little about electricity, to mystify an eight-year-old boy who knows nothing about it" This particular machine may have been an unfavourable sample, for in other instances feeble currents have been produced in the terminal lead Abrams's reply to this criticism was that the force or energy produced by his machines was "unappreciable, unidentifiable, and unmeasurable by any known form of scientific instrument"

Professor R A Millikan, a Nobel prizeman in physics, examined some of Abrams's machines in October, 1923, and his report contains the following remarks[6]

"Indeed from the standpoint of physics the claims set up by Abrams and his followers are the height of absurdity They talk about finding the vibration frequency or vibration rate of each particular kind of disease, and then claim that they can destroy the micro organism which has that vibration rate by imposing upon it from without its own frequency or vibration rate Yet when they are making a diagnosis they attempt to find the natural frequency of the disease by inserting more or less electrical resistance into a circuit which cannot oscillate at all, and therefore has no vibration frequency, and if it could oscillate the period could not be changed by inserting more or less resistance"

Millikan also pointed out that the oscilloclast produced frequencies of the order of 400 or 500 per second, whereas the frequency of electronic vibrations is billions of times greater

The claims made by Abrams would appear to be singularly easy to test, in particular his claims regarding diagnosis The *California State Journal of Medicine* offered in 1917[7] to submit 200 samples of blood from patients in the university hospitals to Abrams, and to publish the results whether favourable or adverse This offer was refused, although it would, if favourable, have established Abrams's reputation on a firm basis

Recently Abrams tested a sample of blood at Boston but ore members of the Massachusetts Medical Society, agnosed[8] streptococcal and tuberculous infection, con-

[1] Pet

genital syphilis, and intestinal sarcoma; unfortunately this test was inconclusive because the donor refused to submit to a *post-mortem* examination on the grounds that he was in perfect health

Various reports have appeared from time to time in the *Journal of the American Medical Association*[8] of the results furnished to doctors when they sent samples of blood to Abrams's disciples for diagnosis One guinea-pig was found to have congenital syphilis, and another a sarcoma, and a sheep was found to be suffering from gonorrhoea; but these animals were lucky compared to the rooster who was found to be suffering from congenital syphilis, gonorrhoea, carcinoma, sarcoma, epithelioma, chronic malaria, and diabetes

The *Scientific American*[10] recently submitted six samples of pure cultures of bacteria for diagnosis to an E R A practitioner, who failed to spot a single one of them correctly Some of the reasons given for failure were that the red borders of the labels were fatal to the accuracy of the diagnosis, and that the electronic vibrations of the writer of the labels was another serious source of error There are apparently a host of similar reasons which can be advanced when any particular test fails

Moreover, the E R A cult has begotten a number of subcults Abrams stated last year that forty imitations of his machines had been produced Each practitioner naturally states that his technique is the perfect one, and that all others are subject to error Most E R A practitioners, moreover, seem to decline to submit to stringent tests on the ground that they are too busy healing the sick The disproving of the claims of the cult is therefore a task like the slaying of the hydra

The E R A cult is popular and profitable in America and has drawn into its ranks a large proportion of what may be called the *demi-monde* of the American medical profession, and, needless to say, innumerable tales are in circulation relating miracles performed by the cult in diagnosis and treatment Unfortunately an atmosphere of faith appears necessary for the appearance of these miracles, for we have not heard of successes obtained in tests carried out under stringent test conditions and on a reasonably large scale

The basic theories of the E R A cult correspond with none of the known laws of physiology or physics, and they must represent either the most epoch-making discovery yet made in medical science or else at best a delusion The claims regarding practical achievements in diagnosis and treatment are even more astounding than the basic theories A considerable number of persons are making very handsome profits out of the practice of this cult There are many independent investigations on record which have yielded absolutely unfavourable results The claims of the followers of the cult as to its powers of diagnosis are such that adequate tests should be easy to devise It is to be hoped that some of Abrams's disciples, out of regard to his memory and their own reputations, will seek an opportunity to submit their claims to some adequate public test

In conclusion, we again express our regret at being obliged to write in such a sceptical tone regarding the work of one recently deceased The matter, however, is of grave public importance, and the interests of the living must be considered as well as the respect due to the dead The E R A cult claims to be able to diagnose and treat serious diseases, including malignant disease, and such a claim if erroneous cannot fail to inflict an enormous amount of harm on sufferers from such diseases, and indeed must entail the unnecessary sacrifice of many lives

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THE AUSTRALASIAN MEDICAL CONGRESS
OF THE
BRITISH MEDICAL ASSOCIATION.

THE SCIENTIFIC SECTIONS

(Continued from page 127)

SECTION OF PREVENTIVE MEDICINE AND TROPICAL HYGIENE

At the first and second sessions various phases of tuberculosis were considered

Dr CUMPSTON stated that the tuberculosis death rate for the Commonwealth was lower than in any country except New Zealand The rate was 61 per 100,000 in 1922 Under 5 years of age the mortality was raised, between 5 and 14 years there was a fall, followed by a sharp rise which reached its maximum in females at about 27 years and in males about 50, and remained high in males until 65 years The death rates in Queensland showed the extremely low figure of 3 per 100,000 for all forms of tuberculosis

Dr PENFOLD summarized the results of nearly 1,000 autopsies performed at metropolitan hospitals These showed that 25 per cent of males and 23 per cent of females had lesions of tuberculosis Von Pirquet's test performed on 500 school children gave 70 per cent of positives, and a similar figure was obtained among medical students Hospital patients gave positive reactions in 60 per cent of cases An examination of dairy herds had shown nearly 17 per cent of the cows to be suffering from tuberculosis, while bovine infection was present in 26 per cent of pathological material examined from the Children's Hospital A preliminary examination of milk supplied to Sydney from suburban dairies detailed by Dr Ferguson had shown an entirely negative result

Dr HARVEY SUTTON had found only 25 cases of pulmonary tuberculosis among 70,000 school children subjected to clinical examination Dr PURDY showed that the mortality rate from tuberculosis in Sydney was three times as great for labourers as the mean of all occupations A spot map for Sydney had illustrated the fact that the incidence and death rate were correlated with the density of the population Dr HOLMES showed that among invalid pensioners tuberculosis had not developed in any persons whose residence in Australia was less than five years Dr S A SMITH stated that in Broken Hill tuberculosis was twenty-three times as common in mine workers whose lungs showed fibrotic changes as in those free from such changes Among "silicotics" who went to live in the country tuberculosis developed in only 2 per cent of cases whereas it was found in 27 per cent of those who remained in densely populated areas

Dr H W PALMER regarded the functions of a sanatorium as twofold—namely, education of the patient and the cure of his disease Dr HISLOP agreed with Dr Palmer, and outlined a complete scheme for dealing with the tuberculous patient, which he advocated should be controlled by one authority Dr MCDONALD outlined the results of the work of the tuberculosis dispensary at the Royal Prince Alfred Hospital, Sydney He stressed the necessity for having a dispensary attached to the hospital

The third session was taken up by a discussion on the control of diphtheria Dr SAWERS pointed out that the number of cases notified increased in March, April, and May, and greatly diminished in December An increase in the case incidence was also seen as one passed from the north to the south of the continent Dr MORGAN stated that for practical purposes bacteriological diagnosis was based on morphological appearances Dr BURNELL outlined the history of a swabbing campaign among the school children of Broken Hill where over 5 000 children were examined, of whom 1 per cent were carriers In many cases the condition cleared up spontaneously antibacterial serum was used with success in some obstinate cases Dr FERGUSON gave particulars of the application of the Schick test to the scholars of two country towns in New South Wales In one over 20 per cent reacted positively and in

the other over 30 per cent A lower degree of immunity was found among the girls Dr MOORE detailed the steps taken against diphtheria in Bendigo Over 7,000 scholars and teachers were swabbed, and 9 69 per cent found to be "carriers" In the more congested areas the rate was from 10 to 11 per cent, but fell to 5 per cent in the rural districts Superficial examination showed only 13 per cent of the "carriers" to have "healthy throats" The Schick test was performed on 1,600 children, 45 9 per cent of whom reacted positively Active immunization with toxin-antitoxin mixtures was carried out on the positives No serious reactions were met with in any cases, and none at all in the younger children Dr SCHOLFS advocated a thorough inspection by the practitioner of the other members of a family in which a case of diphtheria had been found This practice he considered more reliable than swabbing Dr SINCLAIR set out the statutory powers for the control of the disease, and laid emphasis on the importance of the infectious person in spreading the disease

The fourth session was devoted to industrial hygiene Dr A J LANZA defined the industrial physician as one who gave all or part of his professional services to industry He likened the industrial physician to the public health official in his opportunities for preventing disease Industrial hygiene comprised the adaptation of the worker to his work (by physical examination), the regulation of working conditions, and the provision of means for the early recognition and prompt treatment of conditions arising from occupation Dr F KERR stressed the importance of accurate mortality records in public health work He regarded standardization as essential, particularly in respect of age and diagnosis A comparison was then made of sickness rates in various branches of the public service It was found that among Victorian State school teachers for the period under review an average of seven working days a year was lost The principal disabling diseases were influenza and neurasthenia Approximately 80 per cent of female teachers did not lose time through menstruation This compared with Stuigis's conclusions among working women in Pennsylvania, 65 per cent of whom were able to work without discomfort during menstruation, while 30 per cent required a short rest only Among clerical officers in taxation and postal departments the average time lost was 10 6 days a year, whereas the loss was 6 16 days among men working on the Victorian railways A loss of six days a year was the equivalent of the incapacity of 2 per cent of the industrial population of Australia, or the loss of 50,000 workers annually Dr CARLTON A ELLIS dealt with the results of his work among tramwaymen Sight, hearing, and hernia were the important conditions inquired into His results showed that of 2,000 men examined 600, or 30 per cent, were regarded as entirely physically fit, minor defects being present in the remainder Out of 1,005 candidates for admission 218 were rejected, of whom 106 had defective vision or physical deformity

Dr D G ROBERTSON read a paper embodying his observations in Australia and other countries He considered industrial medicine to be an essential part of the public health programme, having as its aim to help both employees and employers to make use of the resources of science in reducing the suffering and loss due to physical disabilities, disease, and premature death It was an important function of Government to protect the workers in dangerous and unhealthy trades This involved legislative and administrative control, periodical examination of workers engaged in these trades, and notification of occupational diseases The duties of medical inspectors of factories were enlarged upon, as well as the effect of the National Health Insurance legislation The scope of duties of the Health Section of the International Labour Office he regarded as of great importance, enabling each country to know what was being done elsewhere

Dr G H TAYLOR contributed observations on colour testing as the result of his experience as railway medical officer, Sydney He concluded that the use of Stilling's plates, together with the Edridge Green or modified Williams's lantern, gave a high degree of reliability as to colour vision His experience had shown a different facial expression in the colour blind from that in the efficient during the examination of wools The colour blind person had inflection in his voice without warmth Stammering was much more common among the colour efficient than among the colour blind

Dr PURDY dealt with sickness and accident in its relation to employment Among the employees of the Sydney Council the claims for sickness were three times those for accident, and the hours lost from sickness twice those lost from accident There had been a marked fall in the sickness rate by a reduction in hours and abolition of Saturday work Overtime, he considered, should only be worked in times of emergency It tended to increase the time lost through sickness

At the fifth session Dr SAWYER dealt with the variety and range of knowledge essential to the profession of public health He voiced the necessity for specialization of workers, and emphasized the need on the part of the health officer and administrator for intensive training in general public health sciences The full-time health officer with special training was much needed to advance the public health Equally important was it that the head of each governmental organization should have a scientific training and outlook he should be a sanitary statesman

Colonel LONGLEY showed by a comparison of the typhoid figures of Australia and other countries that the sanitary position of the Commonwealth was unsatisfactory Of twenty-two countries of which the death rates from typhoid were shown, Victoria was sixth, South Australia eighth, Tasmania tenth, New South Wales thirteenth, Western Australia fifteenth, Queensland eighteenth Taking the various States, and comparing the rates in country towns with the average for the States, it was seen that in quite a number both morbidity and mortality from typhoid exceeded the average for the State by a considerable factor To improve the conditions which existed co-operation between neighbouring municipalities with the establishment of joint health services under full-time specially qualified officers was advocated

The sixth session was devoted to the consideration of papers on tropical hygiene A review of malaria in Australia by Dr CILENTO showed the existence of several endemic centres in Northern Queensland and the Northern Territory Surgeon Commander T A KIDSTON, in his paper on the application to the naval service of malaria prophylaxis, dealt first with the arrangements to be made for protecting the ship from mosquitos Where it was not possible to anchor off-shore the use of metal or wooden frames and of cotton net was necessary to protect openings, while at the same time mosquito harbourings must be obliterated Quinine prophylaxis might be necessary but had its value more for temporary landing parties Where prolonged landing was undertaken permanent measures of clearing and draining should be carried out, and worked from the specially selected camp as a base

What the Australian Hookworm Campaign had accomplished was the theme of Dr SWEET'S paper The objects of the campaign were (1) to map Australia and its dependencies with regard to hookworm disease and carry on control operations where disease was present, (2) to devise and institute practical and economical methods for permanent control Victoria, South Australia, and Tasmania were found unaffected, while in Western Australia the infection was strictly limited An endemic area extended along the coastal strip of the northern rivers of New South Wales, and thence along the Queensland coast to Cooktown The disease was endemic also in the Cape York Peninsula Papua and New Guinea were heavily infected Hookworm was usually found endemic where the rainfall was above 45 inches, while south of 32 degrees south latitude no endemic disease was found no matter what the rainfall

Dr WHEATLAND described two unclassified fevers met with in Northern Queensland coastal regions The coastal, or so-called Mossman, fever was first described by Smithson (1910) and Clarke (1913) This disease had a continued fever accompanied by pains in head and body, and usually also by painless enlargement of certain groups of lymphatic glands It had to be distinguished from dengue, typhoid, bubonic plague, and climatic bubo Sarina fever similarly was characterized by a continuous elevation of temperature,

but had a more sudden onset than typhoid Both fevers were met with commonly in field workers, and in both it seemed probable that an insect was concerned in their transmission

A review of the bowel parasites in Australia by Dr CHARLTON showed their infrequency so far as present information went Hookworm was definitely endemic in certain areas Of protozoological parasites the only one of importance yet discovered in Australia was *Entamoeba histolytica* Shearman's investigation in Western Australia pointed to endemic infection Dr Charlton considered that the freedom from outbreaks was due to lack of suitable environment Dr RICHARDS reviewed the extent of filariasis in Australia Evidence of the disease had been found in a number of coastal towns in Queensland, while Brisbane and Ipswich were heavily infected Beyond the coastal range Queensland towns had not been found infected, though Charters Towers had produced a considerable number of cases The type of parasite was definitely *Filaria bancrofti*, and the host the mosquito *Culex fatigans*

(To be concluded)

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The New Ministry

APPOINTMENTS to the principal offices in the new Ministry were announced on Tuesday evening Mr Ramsay MacDonald (Premier) takes also the office of Foreign Secretary Mr J R Clynes will be Lord Privy Seal and Deputy Leader of the House of Commons Mr Arthur Henderson is Home Secretary, Mr J H Thomas, Colonial Secretary, Mr Stephen Walsh, War Secretary, Lord Chelmsford, First Lord of the Admiralty, Brigadier General C B Thomson, Secretary for Air, Sir Sydney Olivier, Secretary for India, Mr John Wheatley, Minister of Health Mr Noel Buxton, Minister of Agriculture, Mr C P Trevelyan, President of the Board of Trade, and Mr William Adamson, Secretary for Scotland Sir S Olivier was Permanent Secretary of the Board of Agriculture from 1913 to 1917, and Assistant Controller and Auditor of the Exchequer until 1920 when he retired from civil service The new Secretary for War started life as a coal miner and was afterwards a miners agent, he was Parliamentary Secretary to the Ministry of National Service and to the Local Government Board between 1917 and 1919 The Right Hon William Adamson, Secretary for Scotland, has represented West Fife since 1910, he is general secretary of the Fife, Kinross, and Clackmannan Miners Association, and has held the office of chairman of the Parliamentary Labour Party

Mr John Wheatley, the new Minister of Health, was recognized in the last Parliament as one of the ablest debaters of the Glasgow Labour group Fifty two years of age he began work in a coal pit when he was only 11, and continued in such service until he was 22 He is now proprietor of a Glasgow publishing business His interest in public affairs dates back to his election to the Lanarkshire County Council in 1910 Two years later he was elected to the Glasgow Corporation He has been vice-convener of its Housing Committee and chairman of the Scottish Labour Housing Association He has evinced concern for the provision of dwellings

The House of Commons on January 22nd adjourned till Tuesday, February 12th, to enable the new ministers to become familiar in some degree with their offices and duties before meeting Parliament.

Small pox and Chicken pox

Sir W Joynson Hicks informed Mr Leach on January 21st that six deaths from small pox were registered during the year 1923 the outbreak being fortunately of a mild character As regards chicken pox figures were at present available only for the first three-quarters of the year the number of deaths during that period was 41 During the first eleven months of the year eight deaths were attributed to vaccination while five deaths attributed to other causes were considered to be associated with vaccination The figures for December were not yet available He could not say without notice what proportion of the fatal cases were vaccinated cases but he had recently gone into the matter and found that the proportion of those who had not been vaccinated was very large among cases of small pox He was satisfied that the cases notified as small pox were that disease

Sir W Joynson Hicks said on January 21st, that he was advised there was no difficulty in obtaining from reputable firms supplies of glycerinated calf lymph of reliable quality The suggestion that supplies such as those provided to public vaccinators by the Ministry of Health should be made available at a reasonable charge for private medical practitioners would involve if adopted a large and costly extension of the present Government supply, and he was advised that there was no need for this course to be taken

Foot-and Mouth Disease Scientific Research

Mr Wood (for the Minister of Agriculture) stated on January 7th in reply to Mr Lunfield that the total net expenditure on foot-and mouth disease in connexion with the epizootic was so far £1 107 820 The total gross commitments for compensation amounted to £2,418 000 In 1920-21 an experimental investigation at sea was conducted by distinguished pathologists medical and veterinary without result The cost of this investigation was £12 665 For the current year approximately £60 000 were allocated to the Ministry for general investigation into animal diseases While no portion of this was specifically allocated to foot and mouth disease investigation certain experiments were being conducted under the control of the Ministry's veterinary officers

Pensions Ministry

In reply to Mr Mardy Jones Mr Clarry and Mr Barker who pleaded that the convalescent centre at Barry should not be closed the Minister of Pensions (Major Tryon) said that it was anticipated that the requirement for accommodation at convalescent centres for treatment and training would not justify the retention for the whole of the current year of all the four separate centres A decision as to the centre or centres to be closed and the date of closing must await further detailed examination of the applications received up to the date of the closing of the waiting list on December 31st In the event of a centre being closed suitable provision would be made for completing the treatment and training of the men among whom transfers from one centre to another were already not uncommon The number of men who received treatment and training at Barry in 1923 was 569

Major Tryon also stated that in cases where the finality of the award had been set aside by the tribunal a decision meant no more than that in the opinion of the tribunal the case was not yet suitable for final decision In such cases the man was examined immediately after the tribunal's decision by a Ministry Medical Board with a view to an award of any compensation for which he was eligible Major Tryon further said that to protect the State from loss by improper use or disposal of great-coats and blankets loans to tuberculous pensioners a small charge had hitherto been made when the article was not returned in a reasonable condition The whole question of supplying these necessities otherwise than by loan was under consideration

Major Tryon stated that a section of the duties of the regional director London region were being transferred to headquarters Arrangements were in progress which would effect further transfers at a later date but the date for the final abolition of this region which had been decided upon had not yet been fixed

Major Tryon said in reply to a question that the provision of treatment for tuberculosis was a matter for local health authorities acting under the supervision of the Minister of Health It was a standing arrangement that Boards of Guardians should notify the Pensions Department of any case in which a disabled ex-service man was receiving treatment for his war disability in a Poor Law institution and in such cases all possible steps were at once taken to secure the patient's removal to a suitable hospital

Major Tryon stated on January 21st that during the past three years, in the cases of less than 2 per cent of the men in receipt of pensions (or about 18 000 men) had a disability been found on medical grounds to have been aggravated or worsened by service instead of attributable to it In 3 500 cases on the other hand the diagnosis had been changed from aggravated to attributable

Unqualified Medical Practice—Dr G E Spero (Stoke Newington) asked on January 18th whether the Minister of Health was aware that owing to advertisements issued by unskilled untrained and unqualified people practising medicine and surgery claiming special knowledge and ability to cure such dreaded diseases as cancer etc many lives had been seriously endangered and in some instances lost and whether the Minister was prepared to take immediate steps to prohibit such persons from advertising in any shape or form Sir W Joynson Hicks said that his attention had been called to a recent case where it appeared that a patient might have been misled by an advertisement but no information was available as to the extent of the evil to which reference was made and he doubted whether legislation to prohibit unqualified medical practice would be regarded as uncontroversial

Combined Incapacity and Death Certificates—Mr A T Davies inquired on January 21st whether the attention of the Minister of Health had been called to the new issue of insurance incapacity certificates on the reverse side of which was a death certificate and whether in view of the general opinion of medical men as to the indelicate nature of the inclusion of such death certificate any action would be taken The Minister replied that he was arranging for the issue of new certificates at an early date

Scotland.

EXPECTATION OF LIFE IN SCOTLAND

An address on the Scottish life tables, 1921, was delivered to the Faculty of Actuaries in Scotland on January 14th by Dr J C Dunlop, Registrar-General for Scotland Dr Dunlop submitted six life tables based on the census of 1921, and stated that complete life tables for Scotland had been published after the censuses of 1871, 1901, and 1911 The principal interest in the tables now submitted lay in their use as a means of comparing the effects of the present health conditions of the community with the effects of those existing in the recent past From consideration of the general male table it appeared that the expectation of male life in Scotland at the age of birth was 53 08 years, increasing to 59 19 years at age 2, and thereafter falling to approximately 59 years at age 14, 40 years at age 26, 30 years at age 38, 20 years at age 51, and 10 years at age 67 These expectations were considerably greater than they were at the time when any of the earlier tables were compiled Thus the expectation of life of male children at birth in Scotland had been 39 79 years in 1871, 44 71 years immediately prior to the inquiry in 1901, and 50 1 years in 1911 On comparison with English tables it appeared that the expectation of life in Scotland at all ages under 60 was now somewhat greater than in England The outstanding feature of tables constructed in respect of unmarried and married males respectively was that the rate of mortality among unmarried males was considerably higher than in the married The greater expectation of life among the married was, Dr Dunlop considered, to be explained by supposing that it was influenced not only by the conditions of marriage, but by a process of selection previous to marriage, so that the more robust and healthier joined the married ranks The expectation of life among wives was also materially greater in the Scottish tables than that of spinsters, which again was greater than that of widows up to age 72 In England the same difference existed, though it was not so great The general conclusions were that the expectation of life, both male and female, was increasing, and was now greater than it was even ten years ago, and that the expectation of life among the married was markedly greater than among the unmarried

EDINBURGH MATERNITY HOSPITAL

At the last monthly meeting of the directors of the Edinburgh Royal Maternity and Simpson Memorial Hospital, it was reported that the cases attended in the hospital and at their own homes for the year 1923 were as follows Intern, 1,852 (323 single, 1,529 married), extern 628, from Leith branch 639 total 3,119 Ante-natal department, new cases 1,494, revisits 4,565 These figures show an increase over those for the previous year, and are the highest in the hospital's experience During the year 115 nurses were trained in the hospital The directors appointed Dr R W Johnstone an ordinary physician to fill the vacancy caused by the death of Dr J Lamond Lackie Dr Douglas Miller and Dr W F Theodore Haultain were appointed assistant physicians to fill vacancies caused by the promotion of Dr Johnstone to the post of ordinary physician and by the retirement of Dr H Oliphant Nicholson

CARE OF THE FEEBLE-MINDED IN SCOTLAND

An address on care of the feeble-minded was given in Edinburgh on January 16th by Mrs Fern, chairman of the After-care Committee, Paisley The speaker gave an historical outline of the subject, and mentioned that public interest had been greatly quickened in Britain by the Royal Commission of 1904 There was in Scotland at the present time institutional accommodation for only 1,500, and there were no colonies nor hostels for feeble-minded persons although there was a crying need for them Only thirteen education authorities had special schools or special classes in ordinary schools for these pupils There had now, however, been formed a Scottish Association of Care Committees, with a whole-time organizer, and it was hoped that this new movement would bring about a complete revolution in the outlook for the feeble-minded in Scotland

Ireland.

ARMAGH BOARD OF GUARDIANS AND ITS MEDICAL OFFICERS

THE Armagh Board of Guardians has, in response to the application of the dispensary medical officers for increased salaries, adopted a scale of commencing salaries for each dispensary district, the salaries to be increased by £10 after each five years of service until the maximum salary is reached The Board makes the following observations

Whether the flat rate of salaries at present in operation is suitable or not is a matter of opinion, but we desire to point out that it was adopted on the application of the medical officers themselves when they sent a deputation to the guardians on February 25th, 1919, and judging from their application, dated May 12th last, to have their salaries increased from £200 to £300, they wish to continue an arrangement under which at present one medical officer's salary is equivalent to 1s 6d for each red and black ticket he receives, while the same amount paid to another medical officer is equivalent to £1 9s 7d for each ticket, yet the Ministry suggest that each of these two salaries should be increased by the same amount It has already been pointed out to the Ministry that only a small part of the time of each medical officer is occupied in the discharge of his official duties and having regard to the fact that each enjoys a large and lucrative practice, in our opinion the salaries paid at present are ample

WITHDRAWAL OF GRANT FOR MEDICAL CERTIFICATION

We published on January 12th a statement of the position which has arisen with regard to the remuneration for 1924, proposed by the Irish Insurance Commission (Free State), for the certification of medical benefits under the Insurance Act, owing to the withdrawal of the certification grant by the Minister of Finance The circular letter sent by the secretaries of the Irish Medical Committee to the borough and county medical committees contains the following paragraph on the subject

The outstanding monetary facts are (1) That in 1920 the remuneration for certification, arranged for 1916 was increased 40 per cent , (2) in 1922 the increase given in 1920 was reduced to 20 per cent over that agreed for 1916 (3) the proposals for 1924 mean a further reduction which brings the remuneration down to about 9 per cent over the figures fixed for 1916 For the years 1922 1923 the capitation rates stood for boroughs, etc at 1s 6d , counties at 2s 4½d , No 2 counties at 3s It is proposed for 1924 to reduce these three capitation rates to 1s 4d 2s 1½d and 2s 8d respectively, thus leaving the remuneration for 1924 about 9 per cent higher than that agreed for 1916 but 11 per cent less than the remuneration for 1922 and 1923, and 31 per cent less than that paid in 1920 and 1921

India.

EUROPEAN MEDICAL SERVICES

THE Royal Commission on the Superior Civil Services when at Allahabad, at the end of November, received a memorandum from the United Provinces Association of European Government Servants dealing, among other matters, with the question of medical attendance, which it considered an important factor in the future of European services in India The rapid process of elimination of the European doctor is viewed with grave concern, and the Association pleaded that the conditions in the Indian Medical Service should be so considerably improved as to attract again recruits from England, that the present disabilities and grievances of the European doctors should be removed, and that the whole position with regard to European medical attendance be definitely faced and the present policy reversed by legislation if necessary

The Royal Commission received reports and proposals from other associations, including the Bombay Medical Union, the Bombay Medical Council, and the Sind Medical Union

INFANT MORTALITY

In the latest report of the Public Health Commission with the Government of India attention is drawn to the very high infant mortality in Indian cities In Poona City the death rate below the age of one year is 876 per 1,000, in Bombay, 667, in Cawnpore, 580, and in Calcutta, 330 The *Pioneer*, commenting on these figures, observes

that this serious mortality is largely attributable to the carelessness and ignorance of those who attend the mothers during childbirth, and to other preventable causes

ANTIMALARIAL WORK

In the Calcutta *Guardian* of December 7th, Dr G C Chatterjee suggests the formation of emergency anti malarial units of not more than five men each, who would be able to take energetic measures in village outbreaks of *fulminating* malaria In addition to the diagnosis and treatment of the malignant form of the disease, prophylactic quinine treatment would be administered, and the villagers so instructed and influenced that jungles, pools, and imperfectly drained areas might be dealt with systematically Mosquito-proof tents and uniforms would be necessary for the unit It is proposed that the scheme should be financed on a voluntary basis

Correspondence

DICHOTOMY

SIR,—I understand that dichotomy is an offence against professional principles, but certain recent experiences have convinced me that some misapprehension exists as to what exactly constitutes this practice I should be grateful to be enlightened The following are examples

1 A consultant is asked to include in his operation fee an anaesthetic fee for the general practitioner, and not to disclose the amount to the patient

2 A similar case in which the consultant is asked not to disclose the fact of any part of the operation fee going to the general practitioner for the anaesthetic

3 A consultant in discussing fees with a general practitioner says, "My fee will be sixty-five guineas which will include five guineas for your coming to be present at the operation"

4 After a consultation at the home of a panel patient (for which the practitioner cannot, of course obtain a fee directly) the consultant sends the practitioner a guinea as his fee for attending the consultation

5 After an operation at a private house the consultant, having received his fee says to the practitioner, "How much shall I give you of this?"

I should be glad, Sir, of some opinions as to whether any or all of these are attempts at dichotomy, and as such to be condemned by the profession If they are, I respectfully suggest that publication of this letter may be of advantage to the good name of our profession, if, on the other hand, they are legitimate, it is as well that everyone should know it, so that they may carry out these practices openly if they wish to do so

To sign this letter would be to disclose the place in which I practise, which I think is hardly desirable at this stage, but I enclose my card in confidence —I am, etc,

FAIRPLAY

THE PROMOTION AND TEACHING OF MEDICAL HYDROLOGY IN ENGLAND

SIR,—We desire your support in bringing before the profession the need for systematic teaching of medical hydrology, by which term is to be understood the science of treatment by waters internally, and by heat, cold, and other agencies in baths and external applications The General Medical Council have now definitely recommended that instruction in physical treatment should be included in the teaching of therapeutics, and we believe that the science of medical hydrology must be the foundation of such instruction

A Joint Committee of members of the International Society of Medical Hydrology and the Section of Balneology of the Royal Society of Medicine has been formed to promote the teaching of medical hydrology in England, and has already established a course of lectures on the subject under the London University Extension Board It has further drawn up a statement and presented it to the Ministry of Health, pointing out how far we in England have fallen behind Continental countries in this direction and how this state of things may be remedied

Through the medium of your columns we now seek to inform the medical profession generally of our aims, which may be summarized as follows

1 *Research* —The establishment and endowment of a central institute and laboratory for encouraging and co-ordinating systematic research into the physical and chemical properties and the pharmacological action of the British medicinal waters, and of the action and use of baths

2 *Teaching* —Post graduate courses in London and at other universities Students inclusion of systematic lectures in the courses on therapeutics Practical study tours to British spas

3 A complete *survey* of British medicinal waters

4 Official *authorization* of such waters (Compare the official authorization of drugs in the *British Pharmacopoeia*)

5 For the purpose of carrying out these objects the establishment of a permanent *Advisory Committee* analogous to the French 'Commission des Eaux Minerales

Of the total working time lost by the population through illness a very large proportion is due to chronic diseases of the rheumatic type, which are more effectively treated by hydrological measures than in any other way That this is already recognized in some quarters is shown by the voluntary contributions made to our great mineral water hospitals by working-class organizations and other bodies responsible for the health of the poor But it is not only the poor and the so-called working class that need to be considered, for, as authorities have already pointed out, a great field of usefulness exists for such treatment at the health resorts in the early and preventive treatment of many diseases which seem to be peculiar to the strenuous life of to-day, and which may, perhaps, be summed up as premature breakdowns These conditions seem to affect particularly the brain workers of the nation, and their consequences, though less obvious, are perhaps of even greater importance than those previously referred to

The importance of research and instruction in the treatment of these conditions, among others, needs no argument, and it is to effect this object that we are directing our efforts

On behalf of the Committee—We are, etc

C W BUCKLEY,
W EDGECOMBE,
R FORTESCUE FOX,
R G GORDON

36 Devonshire Place London W 1 Jan 17th

SPIRITUAL HEALING

SIR —I have read your leading article on spiritual healing in the English Church (January 19th p 119) You say some hard things of the report published under the title "The Ministry of Healing" I imagine that most open minded doctors who read that report will support your stringent criticisms

The fact of the matter is that as a profession we look to the Church, not to assist our treatment by methods that may savour of obscurantism but to fulfil a much higher and also much harder function—namely the interpretation of suffering as an aspect of Christian philosophy It is perhaps because organized Christianity is so feeble on the philosophic side that it seeks to assert itself on the therapeutic side

A few months ago a bishop was preaching in the chapel of a public school, the earthquake at Yokohama was one of the subjects touched on He solemnly explained to the boys that he believed God's purpose in sending this visitation was to inspire us with a sense of gratitude for our security from similar catastrophes If this is the best that organized religion can do in the way of a cosmic philosophy it is quite certain that no sort of co-operation is possible between it and a profession which is expected to think scientifically Many doctors have indeed learned to value highly the co-operation of certain clergymen who out of their own experience have learned to help the suffering and the dying in making those most difficult adjustments that are called for by illness But I submit that these individual clerics owe their helpfulness not to their training, nor yet to their priestly status but to an insight into

In conclusion, my theory is, briefly, that summer diarrhoea is primarily a specific infection producing an unhealthy condition of the intestinal mucous membrane which both favours the growth of virulent organisms of many varieties (non-specific) and may even be the means of so changing the nature or feeding habits of certain mild parasitic strains as to render them virulently pathogenic and harmful

If Dr Nabarro's theory of the metabolic upset due primarily to the debilitating influences of a hot season with faulty feeding as an additional factor were true in its entirety we should expect every hot season to bring forth its crop of typical cases, but this is not the case Dr Nabarro states or implies that a hot "*dry*" summer (the italics are mine) is necessary for an outbreak of summer diarrhoea Tropical experience would lead one to believe that another equally important factor—wet—is necessary before many cases of diarrhoea occur In a station such as this during the hot scorching summer months of April and May and the first half of June there is little illness of any sort The sun renders pathogenic organisms, and more especially their means of transport such as flies, etc, as uncomfortable as it does us, and it is only after the rains break that diarrhoeal diseases assume any importance The same factor, I believe, operates, though to a lesser degree, at home It is more than a possibility that in the full-blown clinical case of diarrhoea the primary infective agent has been "crowded out" by secondary more virile organisms, and that we cannot as it were see the wood for the trees or rather for the overgrowth —I am, etc,

British Station Hospital, Secunderabad, Dec 10th 1923 S SMITH, Capt R A M C

PROPHYLAXIS OF MALARIA AND BLACKWATER FEVER

SIR,—Dr Rand (January 12th, p 85), writing from Bulawayo on the prevention of malaria and blackwater fever, makes a number of statements in regard to the dietetic prophylaxis of these diseases, but, while giving some reasons which appear to be rather loose and theoretical for the methods he advocates, adduces no scientific proof thereof

Dr Rand also speaks of blackwater fever as occurring in "the person who might fitly be described as a malarial cachectic" This is not the experience of many observers and I would like to know what definition Dr Rand would give of malarial cachexia Repeated minor attacks of subtertian malaria insufficiently treated by quinine are notable in the previous histories of cases of blackwater fever, but it is rare to see haemoglobinuria in malarial cachectics

He counsels avoidance of "extremes of weather, fatigue, and worry" in the prevention of malaria—an admission of weakness It is possible, as I have proved in my own person, to undergo all these things without suffering malaria if our methods of prophylaxis are sound

Can Dr Rand produce evidence that a diet containing the egg-plant, gelatin, and aloes is protective against malaria and blackwater fever? If not, he is confusing the main issue in malarial prevention —I am, etc,

London, W C 1, Jan 15th. H S STANNUS

EARLY HUMAN EMBRYOS

SIR,—It would be kind of you to make known our pressing need for early human embryological material An investigation is being made of the ductless glands and other organs of the human foetus by members of the staff of the anatomical and histological departments of the London (R F H) School of Medicine for Women Up to the present the greater number of foetuses received from our hospital and other sources are aged from six months upwards, the younger embryos being scarce We should be grateful to any reader who could send us such material The following suggestions for sending it are offered

1 The fresh material should be fixed for at least one day before sending in 5 per cent formalin made up with tap water if normal saline is not available

2 In complete abortions the sac should be carefully snipped to allow free entry of the fixing fluid

3 Small embryos travel best in fixing fluid, the receptacle should also contain sufficient cotton wool to prevent damage by shaking

4 Larger embryos, after fixing for at least two days in 5 per cent formalin, may be packed up with cotton wool sealed in the formalin, and the whole wrapped in oil silk or like material

5 Material in central London districts could be called for on receipt of a telephone message to Dr Lucas Keene at the London School of Medicine for Women, 8, Hunter Street, W C, between 9 a m and 5 p m any day but Saturdays and Sundays

It is scarcely necessary to say how extremely important it is to obtain material as fresh as possible A short history of the case, including age of mother, notes of previous pregnancies, also whether syphilitic or no, adds greatly to the value of the specimen We shall be only too glad to report to the sender findings of any interest should he so desire —We are, etc,

London, Jan 21st M F LUCAS KEENE, E E HEWER

PATHOLOGISTS TO PROVINCIAL HOSPITALS

SIR,—It appears from inquiries (generally a series of questions) which we receive here, that many provincial hospitals are considering the appointment of a pathologist who would be limited to specialist consulting practice, and after a subsidy from the hospital for about two years would carry on without it It is a very sound procedure and worked out excellently here within one year

The only drawback is the question of a holiday The hospital work could be reduced to an essential minimum, which could be done by the co-operation of the staff, the house-surgeons, and the laboratory assistant Stained slides could, if necessary, be sent to the pathologist (taking a microscope with his luggage) for report The private work, on which his livelihood depends, could not so be arranged, and the worry as to what was happening would spoil any holiday A pathological locumtenent does not seem to exist, and even if he did the poor (in money only) pathologist could not afford to employ him!

I should be glad of suggestions from brother and sister workers who may also be isolated The only way out that I can see is to exchange work for (say) four weeks in the summer a worker by the sea might like to spend a month in an inland city, a Londoner might like a month in the country My last holiday was a fortnight in August, 1922 I was then in the R A M C —major, D A D of Pathology, S C In view of the increasing numbers of isolated pathologists on provincial hospital staffs, I think that a rather pressing problem needs discussion, and if possible, solution —I am, etc,

January 19th H ST ARNAUD AGATE, Pathologist, The General Infirmary Salisbury

THE MILITARY PREFIX

SIR,—The sentiments expressed by "Territorial" in his letter in your issue of January 12th, p 86, impel me to ask whether the military and medical professions are comparable, and is the latter less worthy? Certainly the aim and objects of the medical profession, concerned as they are with the saving of human life, are not inferior to those of the military, nor is the practice of medicine less arduous or free from danger With regard to the last paragraph of his letter, I am acquainted with very many men who have served overseas during the war, and a few who merely changed their clothes and stayed at home Now, Sir, every man who has been on active service will understand what a gulf exists between service abroad in war time and service at home The spirit of comradeship and contempt for pettiness developed on active service cannot be understood by one who has not experienced it Of my acquaintances I do not know a single one who has been on active service who would bother his head for a moment about the military prefix, but of my few acquaintances who soldiered at home, curiously enough, I find they all desire to retain it, indeed I know of retired regulars, who since retirement prefer to be known as doctors. Obviously, Sir, I regret I must remain

January 15th. ANONYMOUS

Obituary

SIR ARCHIBALD DOUGLAS REID, K B E, C M G D M R E

Superintendent Radiological Department St Thomas's Hospital, London

It is with profound regret that we record the death of Sir Archibald Reid, at Chur, Switzerland, on January 15th Archibald Douglas Reid was the only remaining son of Dr Douglas A Reid, J P, late of Tenby, and was born on July 14th, 1871 He received his early education at Bradfield College, and became a medical student at King's College He took the diplomas of M R C S Eng and L R C P Lond in 1901, and at an early date found his field of activity in the new science of radiology He worked in the *x*-ray department of the hospital, and quickly established himself as one of the pioneers in the application of *x* rays to medicine No doubt it was in the early days, when the dangers revealed subsequently at so great a cost were unknown, that he received damage which in his later years troubled him so grievously

It was at King's College Hospital that he came under the stimulating influence of Sir Watson Cheyne, then in the full vigour of his surgical career Reid was one of the first radiologists to appreciate the value of applying stereoscopy to *x*-ray work, and from his earliest days he was an ardent advocate of this method During his student career and afterwards he made many friendships which lasted throughout his life In 1914, soon after the outbreak of war Reid was selected to take charge of the *x* ray work for the British forces at home and abroad He was from 1914 to 1919 President of the War Office X-ray Committee He devoted himself to this work with characteristic energy, and, aided by his colleagues, evolved out of chaos an organization which by the end of the war had developed into a complete and comprehensive plan for the smooth working of radiography in every field in which our armies were engaged It is no exaggeration to say that Reid's personal qualities, of abundant energy and overflowing cheerfulness, often helped his colleagues round difficult corners when without those stimulants they would have despaired of carrying on He was honoured in 1917 with the C M G and in 1919 received the K B E for his war services

Reid held the post of radiologist at King's College Hospital until the year 1911, when he was invited to take charge of the radiological department at St Thomas's Hospital, where, as superintendent, he held office till his death He was also at different times radiologist to the Westminster Ophthalmic Hospital, the Evelina and Paddington Green Hospitals for Children, consulting radiologist of the Queen Alexandra Military Hospital at Millbank, the Royal National Hospital for Consumption at Ventnor, and the Cray Valley Hospital He was joint secretary to the Radiology Section of the International Congress of Medicine held in London, 1913, and was an honorary member of the American Rontgen Society He was president of the Electro-Therapeutic Section of the Royal Society of Medicine for the year 1911-12, a member of Council of the Rontgen Society, and chairman of the Educational Committee of the British Association of Radiology and Physiotherapy On this committee he rendered valuable service, and was associated in the preliminary work which led to the formation of that body and the establishment of the diploma in radiology and electrology at Cambridge University In 1920 he took the diploma in medical radiology and electrology, submitting for the honour a thesis on a radiological subject

On the foundation of the Society of Radiographers three years ago he became its first president, and held the post for two years In this new work his energies found ample scope, and he was largely instrumental in giving the society a firm foundation The provision and endowment of an institute for the rapidly developing science of radiology became a pressing question soon after the end of the war Reid became deeply interested in a scheme to provide a suitable home He was chairman of a provisional committee, and at the time of his death was very actively engaged in the detail work for the establishment of the institute It is a misfortune that his influence should be lost before the completion of the scheme, it is earnestly to be hoped that in one form or another his memory will be perpetuated in an organization of whose utility and need he was so ardent an advocate

He edited the English edition of Ledoux-Lebard and Ombredanne's book on the localization and extraction of projectiles, he wrote an article on *x*-ray diagnosis of calculi for the 1905 edition of Rose and Carless's *Surgery*, and one on the treatment of rodent ulcer for Cheyne and Burghard's *Manual of Surgical Treatment* At the bilingual congress of radiology and physiotherapy held in London in 1922, he read the opening paper on the abnormal stomach, incorporating in it the research work he was then doing with the assistance of a grant from the Medical Research Council, on the study of the duodenum and duodenal ulcer by the serial film method

He was an ardent supporter of all methods of protection of the operator and did valuable work on the Protection Committee set up for this purpose

Sir Archibald Reid's death came as a great blow to his colleagues, who up to the time of his departure for Switzerland were in almost daily contact with him It was known that he had had a serious illness three years ago, from which he made a good recovery He had been troubled for some years with radio-dermatitis and increasing disability had impaired his reserve strength, but despite these physical disadvantages he kept on with his work Many a time he attended meetings where other men would have stayed at home, he never grumbled at his lot, hiding his sufferings under a cloak of levity and wit, which those who knew him realized must often have been but a screen for acute suffering He faced his disabilities with a fine courage, which commanded the respect of all his friends The end came suddenly, unexpectedly, and Reid was gone from the midst of a host of friends who will miss his bright personality and the encouragement of his example

To Lady Reid, in her sad bereavement, we would extend the sincere sympathy of all her husband's friends and colleagues

The funeral took place at Chur, Switzerland, on January 17th A memorial service was held at St Thomas's Hospital on January 21st

In response to our request Mr THURSTAN HOLLAND has sent us the following appreciation of his friend's work

Archibald Reid's tragic death will leave a gap in the British *x* ray world which will remain for a long time For many years he has been a driving force which has been felt, and his early work in helping to establish the value of *x* ray diagnosis in kidney stone cases was of the utmost value His duties at the War Office during practically the whole course of the war were carried on so thoroughly and with so much tact as to be invaluable Those of us who were brought into intimate contact with him and whose privilege it was to assist him, know that he spent both himself and his time lavishly, and thought of nothing except what he could do to increase the efficiency of the army *x*-ray work In the past year he used his influence in starting the British Institute of Radiology, and again it was his personality and tact which overcame many difficulties and which brought him many helpers, his death at this stage of its affairs is nothing short of a disaster Those of us who knew him well know how courageously he met the damage which *x* rays had done to his hands, and the splendid optimism with which he faced his many operations

His place at St Thomas's Hospital will be hard to fill, his personality attracted younger men, a visit to the *x* ray department on one of his days was well worth while Reid never kept anything back, he and his assistants were always anxious to show everything that was being done one never visited his department without learning something of value His energy and enthusiasm were an inspiration to all those working with him His friendship, given to some of us was an asset of value

marriage, and with the death last year of his brother, Sir James Thursfield, and his own increasing infirmities, the desire of life waned, and he had learnt to welcome the approach of death His final illness began in December of last year, and his pain and discomfort increased so rapidly after Christmas that he hailed the prospect of relief by surgical means, although he knew well that that relief would almost certainly be by death He died quietly in his sleep after an operation

SIR DYCE DUCKWORTH, Bt, writes

Dr Thursfield was a remarkable man His activities were fully recognized in the town of his adoption, and have left their mark there He never forgot to recognize the highest calls of his profession, and to take its proper position on all occasions He well earned his popularity in the town and neighbourhood, and was active till his health failed He had a beautiful garden which gave him joy and interest to the last of his days His son, Dr Hugh Thursfield, is physician to St Bartholomew's Hospital and to the Great Ormond Street Children's Hospital

MR J LIONEL STRETTON of Kidderminster sends the following personal appreciation

I have enjoyed intimate friendship with the late Dr Thursfield since my boyhood He was a handsome man with a great personality As an accomplished physician he soon won the respect and affection of a large number of patients He was a man to look up to His advice was sought by many in the profession and was always given generously and with decision He was a strong man with high ideals and deep convictions, which he expressed forcibly and courageously—a true gentleman, and a hater of all cant and humbug In addition to his professional work he took a deep interest in the hospital and its extension, and in the public life of Leamington, where he became one of the chief citizens In his home life he was an ideal husband and father He himself attributed much of his success in life to the fact that in his youth he was compelled by circumstances to work hard and to economize One of his favourite sayings was Happy is the man who is born poor

Such men as he are far too few in our profession We are the poorer for his loss, but he has left an example which should be an inspiration to the younger men, and encourage them so to follow in his path of high endeavour and strenuous labour that they in their turn may leave behind them the same great reputation for loftiness of aim and nobility of character

The Services.

NAVAL MEDICAL COMPASSIONATE FUND

AT the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on January 15th, when Surgeon Vice Admiral Joseph Chambers, C B, C M G, Medical Director-General, was in the chair, the sum of £75 was distributed among the several applicants

DEATHS IN THE SERVICES

Fleet Surgeon Henry Harries, R N (retired), died at the Hoe Park Nursing Home Plymouth, on January 12th, from injuries received while hunting with the Dartmoor hounds on January 10th He attended a meet at Ivybridge, and while taking part in a fast run his horse put its foot in a hole and fell, falling on him and fracturing his pelvis, death was due to pneumonia He was educated at University College, London, and took the M R C S in 1882 and the L R C P Lond in 1883, he entered the navy and attained the rank of fleet surgeon in 1900 He was surgeon of H M S *Boadicea* the flagship of Vice Admiral the Hon Sir E Fremantle, K.C B, on the East Coast of Africa, when he served with the Naval Brigade in the punitive expedition against the Sultan of Vitu in October, 1890, he was senior medical officer of Commander Montgomerie's advanced guard during the night attack of October 25th, and was mentioned in dispatches, receiving the Africa General medal with clasp He had retired from the navy before the recent war, but rejoined for service, serving as a member of the Medical Board of the Naval Hospital, Plymouth

Captain Montague Bryan Tuke, *M C*, R A M C (S R), of Kwa Magwaza, Melmoth, Zululand, died at Jamestown, South Africa, on January 14th, from the after effects of gassing in France in 1918 He was the fifth son of George Montague Tuke, of Sutton Valence, and was educated at the Middlesex Hospital, taking the M R C S and L R C P Lond in 1914 He joined the Special Reserve of the R A M C as lieutenant on September 30th, 1914, and became captain six months later, he was gazetted to the Military Cross on March 26th 1918

VITAL STATISTICS FOR ENGLAND AND WALES, 1923

WE are indebted to the Registrar General for the following statement regarding the birth rates and death rates and the rates of infantile mortality in England and Wales and certain parts of the country during 1923 The statement is issued for the information of medical officers of health The birth rate and infantile mortality rate for London have been provisionally corrected for transfers

ENGLAND AND WALES

Birth Rate, Death Rate, and Infant Mortality during the Year 1923 (Provisional Figures)

	Birth Rate per 1 000 Total Population	Death Rate per 1 000 Population (Crude Rate	Deaths under One Year per 1 000 Births
England and Wales	19 7	11 6	69
105 county boroughs and great towns, including London	20 4	11 6	73
157 smaller towns (populations from 20 000 to 50 000 in 1921)	19 8	10 6	68
London	20.2	11 2	61

The death rate for England and Wales relates to the whole population, but that for London and the groups of towns to the civilian population only

The birth rate of England and Wales as a whole is the lowest recorded except during the war years 1917-19, while the death rate and infantile mortality are the lowest on record

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

AT a congregation held on January 18th the following medical degrees were conferred

M B B CH—E C Malden J H. Porter
M B—*Yik Shing Wan
B CH—G T Henderson G C Millis R Jackson

*Admitted by proxy

Medical News.

THE lectures at the Royal College of Surgeons during February begin with that on injuries of the cervical spine, by Mr Geoffrey Jefferson, on Friday, February 1st On Monday, February 4th, Mr Kenneth Walker will deal with the internal secretion of the testis, on Wednesday, February 6th, Mr Page will discuss the surgical treatment of osteo arthritis, and on Friday, February 8th, Mr W Heneage Ogilvie will lecture on the infection of the upper alimentary tract On Monday, February 11th, Mr Sampson Handley will lecture on general peritonitis, on Wednesday, February 13th, Mr R Lawford Knaggs (Leeds) on osteogenesis imperfecta, on Friday, February 15th, Mr V E Negus on the mechanism of the larynx, and on Monday, February 18th, Mr Cecil P G. Wakeley on some actions of radiations on living tissues

THE Fellowship of Medicine announces a short course of clinical demonstrations in dermatology to be given at the Hospital for Diseases of the Skin, Blackfriars, each afternoon from January 28th to February 10th Clinical lectures on the more important tropical diseases will be given at the London School of Tropical Medicine, Endsleigh Gardens, on Tuesdays and Thursdays from February 5th to 28th A combined course in children's diseases has been arranged for the whole of February by the four following institutions Paddington Green Children's Hospital, Royal Waterloo Hospital for Children and Women, Victoria Hospital for Children, and the "Children's Clinic" at the Western General Dispensary Copies of the syllabus of any of the courses, with particulars of fees, can be obtained from the secretary to the Fellowship of Medicine, No 1, Wimpole Street, London, W 1

A NEW post graduate course at the National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury, W C, will begin on Monday, February 4th, and end on March 28th The course will include clinical lectures and demonstrations, out patient clinics, lectures on the anatomy and physiology of the nervous system, the pathology of the nervous system, and neurology of the eyes There will also be clinical demonstrations on methods of examination

DR J A MURRAY, Director of the Imperial Cancer Research Fund, will give four lectures on cancer at St Thomas's Hospital, beginning on Thursday, February 21st, at 5 p m , when Sir George Makins, G C M G , F R C S , the treasurer of the Fund, will be in the chair The lectures which will be illustrated by lantern slides, will be addressed to advanced students of the University of London and to others interested in the subject Admission is free

UNDER the auspices of the Health Organization of the League of Nations a number of medical officers from foreign countries are about to visit England to study public health administration A reception in their honour will be held by the Royal Sanitary Institute at its house, 90, Buckingham Palace Road, on Tuesday, February 5th, at 5 p m

DR T D ACLAND has, at the invitation of the Minister of Pensions, accepted appointment as honorary consulting physician to the Ministry

DR. BENJAMIN SUMNER, on his retirement from the post of honorary gynaecologist at the Bootle Borough Hospital, after thirty four years service, has been presented with his portrait in oils A duplicate portrait will hang in the hospital

A HUDDERSFIELD Practitioners Mutual Help Association has been formed for the administration of a scheme for mutual help during holidays and illness A meeting of those willing to join the association will be held at the Huddersfield Royal Infirmary on Wednesday, January 30th, at 8 15 p m , to elect a committee and arrange for putting the scheme into operation

DR J HEDLEY MARSH, honorary surgeon to the Macclesfield General Infirmary and medical officer of health for Macclesfield, has been appointed to the commission of the peace for that borough

MESSRS G BELL AND SONS, Ltd , announce for early publication *Radium, X Rays, and the Living Cell* (with Physical Introduction) by H A. Colwell, M B , and Sidney Russ, D Sc

THE eighteenth Voyage d études médicales (V E M) will be made to the Mediterranean watering places, starting from Aix en Provence on April 17th and ending at Nice on April 23rd It will be under the direction of M A Carnot, professor of therapeutics in the Faculty of Medicine, Paris, and M E Rathéry, assistant professor The number of participants is limited to 180 The cost will be 450 francs Before this main tour there will be another, limited to 60 persons and costing approximately 350 francs, it will start from Carcassonne on April 15th and reach Aix en Provence on April 17th A number of watering places, including Amélie les Bains, will be visited by motor car, and also the university town of Montpellier After the main tour there will be a third to Corsica starting from Nice on April 23rd and ending at Nice or Marseilles on April 27th The maximum number that can take part in this tour is 60 , it will cost 400 francs The French railways will grant a reduction of 50 per cent to doctors and their wives or daughters and to medical students from a frontier station Full information can be obtained from Madame M C Juppé-Blaise, representative of the French Spas, at the Office Français du Tourisme, 56, Haymarket, S W 1

MRS PYE-SMITH, widow of Dr Philip Henry Pye Smith, F R S , physician to Guy s Hospital, bequeathed £1,000 to the governors of Guy s Hospital, to endow a bed in the "Philip" Ward in memory of her husband, and gave to the Royal College of Physicians his gold medals

ALL the blind candidates entered for the recent massage examination of the Chartered Society passed They were trained in the massage schools of the National Institute for the Blind by an entirely blind staff The majority of blind masseurs and masseuses have their own private clinics The secretary of the massage department, National Institute for the Blind, 224, Great Portland Street, W 1, will gladly answer any inquiries

DR AUBREY A MONTAGUE, chief medical officer, Fiji, has been appointed a Member of the Executive Council of the Colony of Fiji

THE *Journal of the Kenya Medical Service* for December, 1923, contains several valuable articles, including one by Dr H S de Boer, on the outbreak of plague in Nairobi a note on railway medical services by Dr V M Fisher, and shorter articles on intestinal obstruction due to parasites, on yaws, and on antimalarial measures Clinical notes and letters are included, and the whole journal reflects credit on the originator and editor, Dr C J Wilson Although the periodical bears the title of the *Journal of the Kenya Medical Service*, the circulation is not confined to medical officers in the Government services, and two contributions to the present number come from outside their ranks It is a typewritten, not a printed, publication.

INSURANCE CAPITATION FEE

The Court's Award

NINE SHILLINGS

THE award of the Court of Inquiry into the remuneration of insurance practitioners is as follows

WE, the undersigned being the Court of Inquiry appointed by a minute of the Ministers of Health and the Secretary for Scotland dated the 12th December, 1923, have inquired into the matter mentioned in such minute and hereby report that the amount of the Capitation fee per insured person per annum on the basis of which the Central Practitioners' Fund under Article 19 of the National Health Insurance (Medical Benefit) Regulations, 1924, should be calculated as from the 1st January, 1924, so as to afford adequate remuneration for the time and service to be given by general practitioners under the conditions set out in those Regulations in connexion with the medical attendance and treatment of insured persons due regard being had to the service in fact rendered under the Regulations hitherto in force (such Capitation fee not to include any payment in respect of the supply of drugs and appliances nor any payments to meet the special conditions of practice in rural and semi-rural areas) *is nine shillings*

In the course of the inquiry it was stated on behalf of the Minister of Health and the Secretary for Scotland and on behalf of the British Medical Association that our finding was only intended to be binding for the year from the 1st January, 1924, to the 31st December, 1924, but that both parties desired the Court to make a recommendation covering such longer period as we should think fit

We therefore recommend that the Capitation fee of nine shillings so found by us should remain in force for a period of three years from the 31st December, 1924

T R HUGHES
F C GOODENOUGH
GILBERT GARNSEY

January 23rd 1924

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated*

IN order to avoid delay it is particularly requested that *ALL* letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429 Strand London W C 2 The telegraphic addresses are

1 EDITOR of the BRITISH MEDICAL JOURNAL *Aitiology Westrand London* telephone 2630 Gerrard
2 FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand London* telephone 2630 Gerrard
3 MEDICAL SECRETARY *Medisecra Westrand London* telephone 2630 Gerrard The address of the Irish Office of the British Medical Association is 16 South Frederick Street Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin) and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate Edinburgh* telephone, 4361, Central)

QUERIES AND ANSWERS

INCOME TAX
Residence Abroad

"E P H" resides in China and derives income as follows (*a*) Salary from a public appointment there (*b*) interest on 5 per cent war loan 1929-47 and (*c*) dividends from companies registered some inside and some outside the United Kingdom

* * We assume that neither E P H nor his wife maintains a residence in this country He is not liable to British income tax on (*a*) or (*b*) though (*b*) would be liable if he were ordinarily resident here and absent temporarily only As

visible pulsation The movements of the diaphragm were greatly diminished, and numerous small black shadows, some as large as nuts, were seen in the mediastinum and around the root of the lungs Exploratory puncture yielded fluid so deeply blood stained that it suggested that the heart had been punctured. It was decided to aspirate the pericardium, but the patient died before this could be done *Post mortem*, the pericardium was thick, rigid, and adherent to both pleurae and the sternum, on separating them more than a litre of sero-haemorrhagic fluid escaped The epicardium and pericardium were coated with thick layers of lymph and covered with numerous tubercles ranging in size from that of a pin's head to that of a pea The heart muscle was pale but appeared otherwise healthy The lungs were very compressed, congested at the bases, and filled with miliary tubercles, numerous lymph glands, some softened, others calcified, were found around the hila The other viscera were also studded with tubercles The primary focus appeared to have been in the bronchial glands, the pericardium was infected secondarily, and finally there was an acute generalized infection.

Surgery.

76 Nasal Lesions Associated with Optic Neuritis

G LIÉBAULT (*Rev de Laryngol, d'Otol et de Rhinol*, December 15th, 1923, p 943) describes the latent posterior nasal sinus disease, with no gross signs in the nose, which gives rise to oculo orbital symptoms These symptoms clear up after the opening and aerating of the sinuses There are two other groups of cases, in the first of which there is a certain amount of discharge in the posterior part of the nasal passages, more particularly on waking in the morning, and secondly, the group of more advanced cases in which there are masses of polypi in the sphenoidal and ethmoidal cells, and in the nasal passages, with a profuse purulent discharge The first and often the second group of cases give rise primarily to ocular symptoms and are seen by an ophthalmologist In the first group of cases the author considers that there are always some signs, such as an enlarged middle turbinal bone compared with the other side, and that unexplained retrobulbar neuritis, if due to sphenoidal or ethmoidal suppuration, is always accompanied by some objective signs A SARGNON (Ibid, p 948) gives details of investigation and treatment of such cases He finds that radiography is useful in some cases, but often indefinite or misleading Transillumination of the sphenoidal sinus by placing a light against the inferior wall and inspecting the anterior wall is, however, very useful, and should be practised in all cases Inspection by anterior and posterior rhinoscopy is most important, and usually suffices for diagnosis The author's procedure is to remove the posterior end of the middle turbinal, and any ethmoidal cells that block a direct view of the sphenoidal sinus orifice This is done with Luc's forceps under local anaesthesia, and is usually accompanied by a profuse haemorrhage, which is stopped by packing with vaselined gauze for forty eight hours Many cases recover after this procedure, but, if they do not, the sphenoidal sinus is widely opened up and drained by removing the anterior wall at a second operation; this usually results in a cure

Strangulated Hernia Containing Stomach

N ELISCHER (*Zentralbl f Chir*, December 15th, 1923, [illegible]) records two cases of this rare condition He states only 11 previous cases have been described, and, of these, 5 were incarcerated Spiegel has described a case of strangulation of the stomach in a femoral hernia Von Elischer's first patient was a coachman, aged 71, who had had a left inguinal hernia as large as a man's head for a year, which he reduced every evening One day after severe exertion he was unable to do this. The swelling was elastic and tympanitic At the operation the sac was found to contain the entire stomach (half full of food) the transverse colon, omentum, and mesentery Bassini's operation was performed, and the patient made a good recovery The second case was a landowner, aged 53, who had had a left inguinal hernia for thirty years, which he was able to reduce Three days before the operation, after a heavy meal, strangulation occurred The hernia was as large as a man's head and very tympanitic The operation was performed under local anaesthesia The sac contained fluid, the entire distended stomach, omentum, and mesentery Reduction was impossible until the stomach had been punctured and 15 litres of dirty brown fluid and very offensive gas escaped The radical cure could not be performed, and after an interval of two months the hernia recurred Von Elischer describes the mechanism that produces this rare type of hernia

78 Post-traumatic Spinal Deformities

F JONES (*Journ Amer Med Assoc*, December 1st, 1923, p 1860) considers that Kümmell's disease, or post-traumatic spondylitis, should rank as a distinct clinical entity Three distinct stages can be recognized the stage of initial injury and shock, the stage of "relative well being," when there is no evident disability, and the third stage, which appears after the lapse of months or even years, and includes permanent angular kyphosis and the return of severe local and radiating pain Compression fractures are not always present, but after some little time there develops a slow and gradual collapse of the vertebrae in consequence of the damage done to the spongy bony tissues, resulting in atrophy later The differential diagnosis from tuberculosis, spinal neurosis, hypertrophic arthritis, strains, and the true ankylosing type of spondylitis, has to be made, the prognosis depends on the early recognition of the disease and the application of immobilizing apparatus.

79 Oxycephaly

MERLINI (*La Chirurgia degli Organi di Movimento*, October, 1923, p 461) publishes six cases of deformity of the skull due to premature or pathological ossification of the cranial sutures Each case is illustrated by photographs and radiograms In the ordinary process of growth the skull cap follows the growth of the brain, if premature closure of the sutures takes place the effects will depend on the number of sutures affected and the particular suture involved (synostosis of the vault is more serious than that of the base of the skull) The earlier the synostosis the worse the effect One of the commonest results of premature synostosis is oxycephaly, due to premature closing of the coronal or sagittal suture, secondary changes also occur in the face, orbit, and palate as the result of pressure The most frequent synostosis is that of the sagittal suture, causing the boat-shaped type of skull Two causes of the condition are suggested syphilis and rickets, of the two the more common is rickets From the radiographic point of view the two most important features are the digitate impressions and the juga cerebralia, a basilar lordosis can sometimes be observed In slight cases the symptoms are not marked headache of the migraine type is common, giddiness, convulsions, epilepsy, bilateral exophthalmos, nystagmus, inequality of the pupils, and partial blindness have all been noted As regards treatment reference is made to several attempts at cure by removal of bone, and the author recommends early and extensive removal of bone in the fronto parietal or equatorial region He concludes with a bibliography of some sixty references

80 Non-union in Fractures

F J COTTON (*Boston Med and Surg Journ*, November 29th, 1923, p 845), in dealing with the question of non union or delayed union in fracture cases, points out that this may be due to malnutrition, constitutional disease, or to great loss of bone, as in gunshot wounds Three types occur (1) absence of union after a period of months, as in the femur—these are problems of correction and fixation rather than of nutrition, (2) those which are wobbly or springy, the result of delayed union, (3) those with definite mobility but plenty of callus formation, which are non unions requiring operative treatment The causes may be some interposition between the bones, imperfect setting, or imperfect fixation The treatment of the displacement cases involves real fixation of the properly trimmed ends The ends of the bones must be squared and kept in place by a plate and splints, in some cases small grafts should be used about the freshened edges In simple cases of delayed union the bone nutrition is often impaired, and can be improved by curetting the bone with the addition of grafts to fill the gap This provides for fixation and stimulation, and with splints gives rigidity "Chip grafts" should come from porous bone and may be taken from the inner anterior aspect of the tibia Most important in all cases is the stimulus resulting from increased circulation, and for this the method of artificial congestion is preferable, though massage is also useful Diathermy, where two high frequency currents meet within the limb and develop heat, is also very valuable, since the heat is produced where required and promotes a better circulation, and consequently better bone callus formation Restoration of function to the limb, if it can be accomplished without moving the fragments, gives good results

81 Emergency Treatment of Wounds of the Knee Joint

C SEMB (*Norsk Mag for Laegevidenskaben*, November, 1923, p 976) reviews the 32 cases of penetrating wounds of the knee joint admitted to his hospital during the past ten years Of the 30 cases uncomplicated by fractures 14 reached hospital in an aseptic condition and 16 were septic on admission The treatment adopted before admission consisted

in 13 cases in applying a dry dressing, in only one of these cases did the wound prove to be septic, and in this case the patient had dressed the wound himself with non sterile rags In 6 cases moist compresses had been used, and every one of these cases proved to be septic In 6 of the 7 cases in which the wound had been sutured it was septic when the patient reached hospital Drainage had been established in 2 cases, both of which showed severe sepsis Hence the author's conclusion that the best emergency home treatment consists of immobilization with a dry sterile dressing To fuss with sutures and drainage tubes is to promote sepsis

Neurology and Psychology.

82. Malaria Treatment of General Paralysis

P MÜHLENS (*Klin Woch.*, December 24th, 1923, p 2340) draws attention to the dangers attending the treatment of general paralysis by inoculation with blood from malarial patients Some unfortunate accidents and fatal cases known to the author lead him to emphasize the importance of a thorough knowledge of the symptomatology and parasitology of malaria The following rules are most important (1) Malarial and recurrent fever inoculations are only permissible in hospitals which are quite free from lice, bugs, and anopheles gnats (2) The inoculations should only be given to patients with sufficient resisting powers, and not to old cases of general paralysis The earlier the treatment is given the better is the prospect of good results Before beginning the malarial inoculations it should be ascertained if the patient can tolerate quinine (3) For the malarial inoculations only cases of pure tertian malaria should be used (4) The course of the blood infection should be controlled by daily blood examinations by experts (5) In cases of sudden and marked malaria quinine should be given immediately (best as 1 gram doses of quinine urethane by intramuscular injection), other indications for checking the infection are rapid loss of strength and definite jaundice (6) The patients so treated should not leave the institution until they have been free from the parasites for four weeks Most of the fatal cases after malarial inoculation have occurred in wasted advanced cases of general paralysis in which the infection was not controlled by an expert daily and not checked at the right time by quinine The author refers to cases in which, after inoculation with supposed tertian malaria, the patients developed the severe tropical form of the disease, and emphasizes this risk By paying heed to these rules discredit will cease to be attached to the method of treatment of general paralysis which he thinks the best at present It is at least certain that a large percentage of the cases of general paralysis treated by malarial and recurrent fever infection have remained for years free from relapses and able to do their work

83. Psychological Factors in Digestion

G R HEYER (*Arch de med., circ y esp.*, August 4th, 1923, p 210) remarks that the influence of psychological factors on digestion has been well known since the classical experiments by Pavlov on dogs In man, on the other hand, it has hitherto been impossible to obtain similar results, partly owing to the impossibility of carrying out a similar operation and partly because experimental methods cause a considerable psychological change in the subject In order to obtain a definite result it is necessary first to become acquainted with the psychological state of the subject, and secondly, to study the secretory and motor activity of the stomach and intestine after ingestion of food For this purpose continuous extraction of gastric and duodenal juice was carried out while the subject was put in a state of profound hypnosis, and the movements of the stomach and intestine were at the same time studied on the radioscope screen Rapid improvement took place as the result of suggestions made during hypnosis

84 Recurrent Infantile Paralysis

G PEREMANS (*Le Scalpel, November 17th, 1923, p 1319*) states that there are exceptions to the general rule that one attack of infantile paralysis produces immunity from subsequent infection Levaditi, Flexner, and Lewis have demonstrated the presence of antibodies in the blood of patients who have recovered Nevertheless, well authenticated cases of second attacks have been recorded, including two cases in New York during the 1916 epidemic Peremans reports the case of a girl, aged 4½ years, whose appetite had been failing for a month, when morning vomiting began, which increased in frequency, and she had two convulsions, of two minutes and twenty minutes' duration respectively On admission she was very weak, tremulous, and held her head between her hands The pupil reactions were slow, there was slight stiffness of the neck, and Kernig's sign was present on both sides The knee jerks were normal, Babinski's sign and ankle-clonus were absent The temperature was 38 5 C., the pulse rate 104 Tuberculous meningitis was suspected, but no clinical nor laboratory tests substantiated this diagnosis In fifteen days the patient made a good recovery and was discharged, the final diagnosis being 'anterior poliomyelitis For three months morning vomiting continued either before or after breakfast, she frequently awoke and cried at night, and eight days before her readmission persistent bilious vomiting set in The child remained in bed complaining of pain in the left loin and the right side of the head the temperature was normal Four days later she could not move her legs and screamed if her head were touched, there was no loss of consciousness Her neck movements were limited and painful, with some stiffness, deglutition was normal and passive movements of the lower limbs did not cause pain There was flaccid paralysis of the left leg the left arm was also weak and the left hemithorax moved less than the right, the left abdominal reflex was feeble and the left knee jerk absent, whilst the right knee jerk was active The Babinski, ankle clonus, and Oppenheim signs were all absent, the temperature 38°C, and the pulse rate 110 The diagnosis of infantile paralysis was confirmed by laboratory tests A year later, in spite of orthopaedic treatment, she had developed talipes equinus In August, 1922, there was a third attack, accompanied by similar symptoms to the second, but affecting the upper limbs to some extent She recovered from this, with the exception of a slight atrophy of the intrinsic muscles of the hands

85. Psychasthenia.

F H KOOY (*South African Med Record*, December 8th, 1923 p 534) distinguishes psychasthenia as a compulsory neurosis from neurasthenia, which is really a member of the intoxication group of neuroses He approaches the study of the obsessions, which are the characteristic symptoms of psychasthenia, by considering first those mental processes which have compelling force in normal persons and then examining the circumstances in which these processes pass into pathological obsessions Such compelling forces are the emotions, rhythm and melody, the contrasting of ideas, routine, and the urge to completion All these are caused by the particular construction of the individual mind, and the fact of its being subject to the laws governing the whole animal kingdom They only become pathological when they occur in a condition of lessened psychical tension in which the personality is softened and uncertain They may have existed from early life and have become obvious later as the result of physical disease or certain psychical traumata Treatment involves attacking the fundamental symptoms, strengthening the personality by inspiring confidence and a feeling of safety and certainty and regularizing the patient's life by mapping out his routine for the day each case must be treated individually

Obstetrics and Gynaecology.

86 Kielland's Forceps.

O HORN (*Ugesk rift for Laeger* December 13th, 1923, p 905) has used Kielland's forceps in 70 cases, and has come to the conclusion that when a careful examination of the position of the head is made beforehand, and some skill has been acquired in the use of these forceps they possess certain advantages over other patterns Kielland demonstrated his forceps at a meeting of the Danish Gynaecological Society so long ago as 1911, and since then they have been extensively used in Germany and Austria, but not much in Denmark The distinctive feature of Kielland's forceps is their construction, which enables them to seize the sides of the infant's head in the position least likely to injure it Axis traction forceps on the other hand are constructed in such a manner that they occupy the sides of the maternal pelvis but not necessarily the sides of the infant's head Among the author's 70 cases there was only one maternal death, and this was due to pulmonary embolism on the fourteenth day In no case was there a complete rupture of the perineum Of the 6 deaths among the infants there was not one which could be traced to the forceps In about 50 cases the forceps left no lasting mark on the infant's head When the author first began to use these forceps he often noticed a well defined mark close to the external canthus of the eye, but during the last few years he has not observed it In a few cases there was slight facial paresis which usually disappeared in a day only in one case did it last eight days. The author refers in detail to several cases in which Kielland's forceps served him well, and he insists that when they fail to move the head in spite of vigorous traction it is always desirable to remove them and explore with half or the whole of one hand to find out whether the forceps had been applied in the most suitable position In one such case the second

application of the forceps speedily terminated labour This case was also instructive in that axis traction forceps had been first used and had failed.

87 Premature Placental Detachment.

R W HOLMES (*Amer Journ Obstet and Gynecol*, November, 1923, p 517) discusses the relationship of utero placental apoplexy to placental detachment, based upon personal and reported observations in about 900 cases The symptoms of placental separation are identical, whether the etiology of accidental haemorrhage be traumatic, degenerative, or toxaemic, but two findings strongly in favour of a toxaemic origin are signs of systemic toxaemia (for example, albumin uria, increased blood pressure) and extreme hardness of the uterus The distinction between the terms "absolutely concealed" and "relatively concealed" blood is of no value, the former being merely the precursor of the latter The occurrence of sickness, faintness, abdominal pain, etc, in advanced pregnancy is strongly suggestive of premature detachment even in the absence of external haemorrhage, and it is the early recognition of the detachment more than any special method of treatment which determines a successful issue Vaginal delivery by digital dilatation, version, and rapid extraction is usually the best course, followed by manual removal of the placenta and the application of a utero-vaginal tampon Pituitrin should be administered during extraction, and saline or blood transfusion be performed as soon as possible, only in fulminating or severe cases with a tight cervix is Caesarean section indicated Routine removal of the uterus in toxaemic types is deprecated, hysterectomy being reserved for uteri which do not retract, or for infected cases With early recognition and prompt delivery a mortality of 30 or 50 per cent. should be reducible to 5 or 10 per cent.

88 Prevention of Foetal Asphyxia

R A BARTHOLOMEW (*Amer Journ Gyn and Obstet*, October, 1923, p 418) urges all engaged in obstetric practice to be on the alert for foetal asphyxia, and should it occur, to try to deliver the mother as soon as possible The death of a child during labour is practically always due to asphyxia, the cause of which, whether maternal or foetal, may act slowly or quickly In the first stages of asphyxia the foetal heart is decreased in rate owing to a lack of oxygen and an increase of carbon dioxide in the foetal blood stimulating the cardio inhibitory centre in the medulla Later the respiratory centre becomes stimulated and asphyxia results owing to efforts at breathing being ineffectual Thus a foetal heart which is slowed during contractions of the uterus to 100 a minute, though it increases to normal after the pain is over, should be regarded with suspicion, and the heart sounds should be auscultated more frequently If the foetal heart rate is below 100, both during and in the interval between pains asphyxia is imminent, and the mother should be delivered at once if possible If this is not possible the administration of oxygen to the mother, as recommended by Spears, often prolongs life until effective treatment can be carried out It is especially necessary to auscultate frequently during the second stage and to have forceps in readiness should signs of approaching asphyxia manifest themselves, such as persistently slowed heart rate or a sudden extension of the partially crowned head in spasmodic movements indicating violent efforts to breathe on the part of the child The author contradicts the statement that a quickened foetal heart beat is also diagnostic of asphyxia, though theoretically it should occur, he has never seen such a case, and he does not attribute great significance to accelerated heart beat during labour Besides the slowing of the foetal heart the passage of meconium in a vertex presentation almost invariably denotes a tendency to asphyxia, though in a breech case it has no pathological significance

Pathology.

89 Iso-agglutinins in the Blood of the Newborn

B DE BIASI (*Journ Amer Med Assoc*, November 24th, 1923, p 1776), as a result of the examination of 100 newborn children and their mothers, has been able in every case to group the infants' serums according to the Moss classification, demonstrating thus the presence of iso-agglutinins and iso-haemolysins In no case, however, were the corpuscles of the mother agglutinated by the serum of the infant, even though there was a difference in the groups He deduces, therefore, that mothers may act as donors for their newborn children without compatibility tests for agglutination and haemolysis being necessary In the event of such a test being desired the cross agglutination one is preferable, in view of the compatibility being not dependent on group similarity

90 Physiological Value of Adrenaline

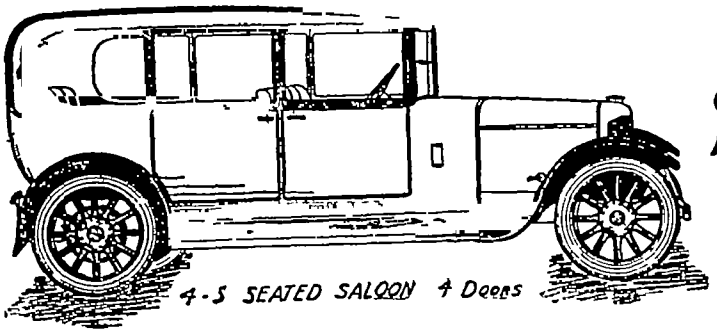
N PENDE of Messina (*New York Med Journ and Med Record*, October 17th, 1923, p 469) strongly controverts the views of Gley, Hoskins, Stewart, and Swale Vincent, who claim that adrenaline has no physiological importance in the system, Gley holding that it is probably a product of waste or excretion, while Stewart considers it a relic of a remote phylogenetic epoch and regards the syndrome of suprarenal insufficiency as showing "nothing definite or characteristic" Pende describes his own experiments, which reproduced the clinical symptoms of Addison's disease He observes that "in man, as in animals, there is no definite correspondence between the extent of the lesions and the gravity of the symptoms until the lesion reaches a stage where the organism can no longer utilize its complicated mechanisms of functional compensation" Pende concludes by claiming that his experiments have been fully confirmed by clinical observation, for it is well known that many patients die suddenly from the effects of suprarenal insufficiency, and that *post mortem* evidence of very extensive and chronic degeneration is found in both suprarenals, but no symptoms develop until both organs have been almost completely destroyed

91 The Pathology of the Suprarenals

CH WILLEMS and N GOORMAGHTIGH (*Le Scalpel*, July 28th, 1923, p 825) introduce a new classification of suprarenal tumours in accordance with recent discoveries They distinguish between tumours originating in (*a*) the cortex, and (*b*) the medulla, and restrict the term "hypernephroma" to aberrant neoplasms of cortical origin found in the kidney Other tumours are described as "cortico-suprarenalomata," including (*a*) simple hyperplasias, (*b*) adenomata, (*c*) carcinomata and mixed forms (mesotheliomata) They also describe tumours of sympathetic nervous origin, and "paraganglio mata"—rare malignant tumours The "neuroblastoma" is histologically indistinguishable from small round celled sarcoma The suprarenals may also be the seat of metastatic growths—melano sarcomata or myelomata The authors describe the secondary sexual changes induced by these tumours Suprarenal growths may cause shooting pains in the loins, and oedema of the lower limbs (due to pressure on the inferior vena cava) is frequently an early symptom, but these tumours may not be discovered until they have attained a considerable size In the case of malignant tumours metastases frequently occur, especially in the cranial bones, sternum, and long bones, melanodermia being sometimes observed The tumours of medullary origin comprise ganglioneuromata, neuroblastomata (erroneously described as sarcomata or gliomata), melanotic tumours of ganglionic origin, paragangliomata, and cystic tumours These tumours of medullary origin usually occur in childhood, before the age of 9, but some cases have reached the age of 14 years The majority of these tumours are malignant and metastases occur early

92 Influence of High Partial Pressures of Oxygen upon Bacterial Cultures

BY submitting animals to an atmosphere containing a high partial pressure of oxygen—such as 86 to 90 per cent —for twenty four hours or longer it is possible to set up pulmonary irritation and pneumonia Cultures taken from the lungs of such animals show very few organisms, indicating that the pneumonias are irritative rather than bacterial H T KARSNER, H H BRITTINGHAM, and M L RICHARDSON (*Journ Med Research*, September, 1923, p 83) determined to ascertain if this paucity in bacteria was due to an inhibitory effect on the organisms of the high oxygen pressure Their experiments consisted in streaking a thin saline suspension of a twenty four hour agar slant on the surface of a couple of plates of nutrient agar One plate was used as a control and was incubated under the usual atmospheric conditions, whereas the other was placed in a large glass jar, into which oxygen was passed from a pressure tank. When a partial pressure of between 83 and 99 per cent was obtained the inlet stopcock was closed before the outlet, so as to ensure that the oxygen in the jar was under ordinary barometric pressure Ten strains of organisms were studied, mostly of different species, and the differences both in the number and in the size of the colonies on the two plates was noted It was found that two strains of *Proteus vulgaris* were completely inhibited from growing in the oxygen jar, inhibition, definite but not so marked, was also recorded for a haemolytic streptococcus, though no diminution in the number of colonies was found in the cases of *B typhosus* and *B mucosus capsulatus*, there was yet a pronounced diminution in their size Five other organisms—pneumococcus, staphylococcus, *B coli*, *B subtilis*, and *B pyocyaneus*—were not affected at all by the unusual oxygen tension It may, therefore, be concluded that it is not this action which is responsible for the low bacterial counts in "oxygen pneumonia"



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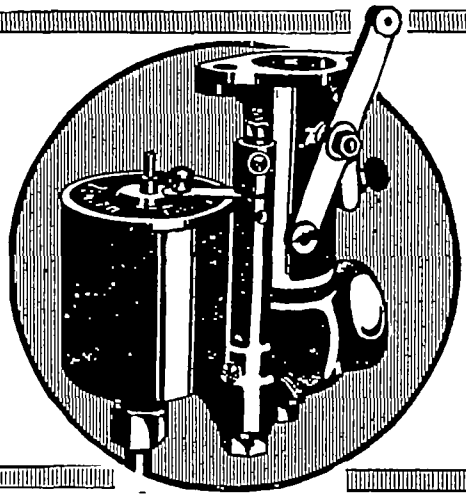
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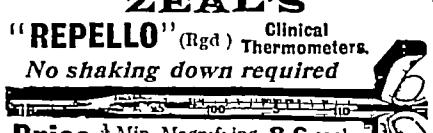
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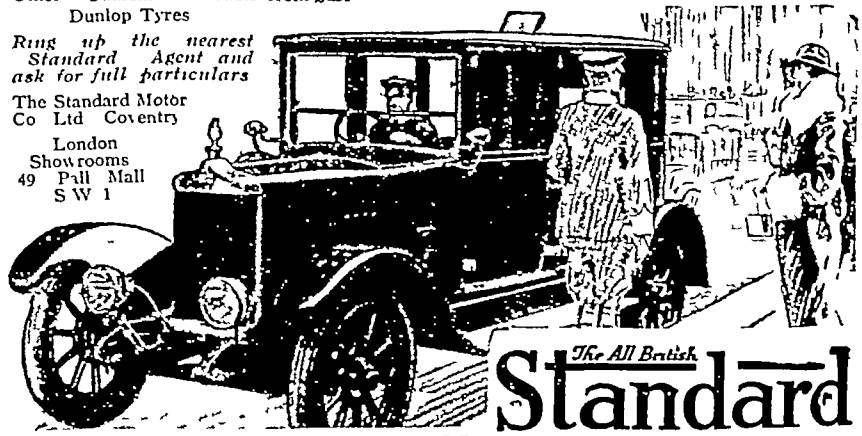
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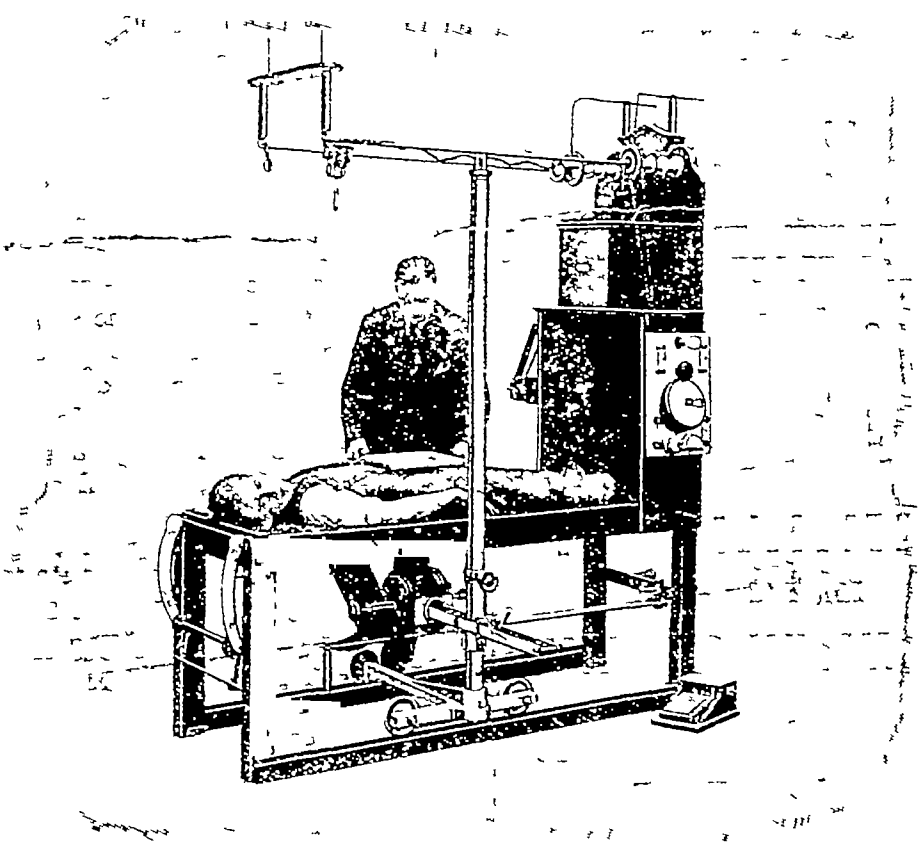
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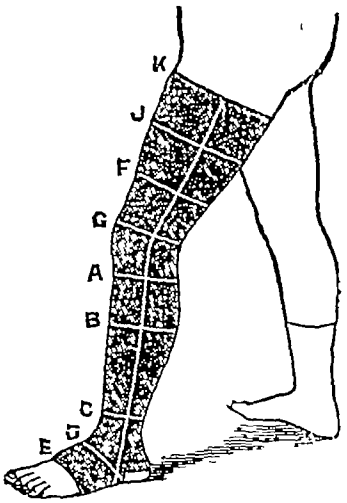
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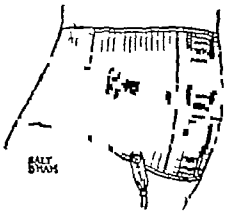
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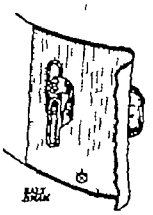
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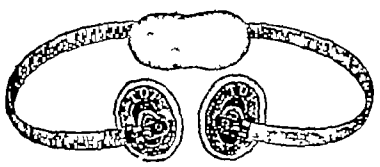
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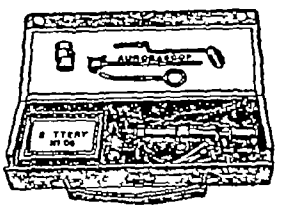
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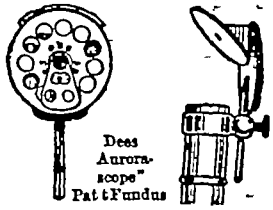
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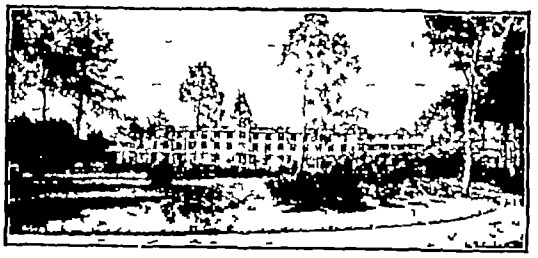
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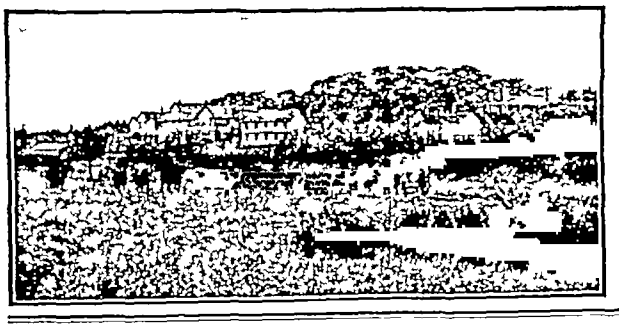
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PRIMARY F R C S COURSE.

A Course of Instruction for the June Examination will begin on *Monday January 5th 1924* and will be conducted as follows:—

Anatomy and Embryology—Prof J ERNEST FRAZER F R C S (*Professor of Anatomy* in the University of London)
Physiology and Histology (with practical classes)—Prof B J COLLINGWOOD O B E., M D (Professor of Physiology in the University of London)

Fee for the Course £16 16s 0d or £9 9s 0d for either section separately This fee includes membership of the Students Club during the period covered by the Course

For further particulars apply to the School Secretary

OAKLANDS SCHOOL,

Jersey, Channel Islands.

PREPARATORY SCHOOL FOR BOYS

Founders

SIR JESSE BOOT Bart LADY BOOT
Lieut.-Gen SIR ERNEST DE BRATH K C B
M V BLACKER DOUGLAS Esq
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SIR GEORGE MACARTNEY K C I E
The Rev G O MORGAN SMITH

Headmaster

The Rev G O MORGAN SMITH M A., Ph D., F C S (St Catharine's College Cambridge Lille University France)

GRADUATE STAFF

The School stands in its own magnificent grounds of 18 acres Own farm Beautiful climate healthy situation Every modern convenience Electric light

BOYS TAKEN AS WHOLE TIME BOARDERS.

Apply for Prospectus, &c to the Headmaster Dr MORGAN SMITH.

St Bartholomew's Medical COLLEGE

FINAL F R C S

REVISION CLASSES preparatory to the Final F R C S in May next will begin on Thursday February 14th

For particulars and form of application for admission apply to The Dean, St Bartholomew's Hospital, E C 1

Manchester Royal Infirmary.

The POST GRADUATE LECTURES given by the Honorary Staff in Medicine, Surgery and Special Subjects will re-commence on Tuesday, January 29th, and will be continued each week on Tuesdays till May 20th.

In addition a COURSE OF LECTURES on ANÆSTHETICS will be given on Mondays, February 4th, 11th 18th

All Lectures will begin at 4 15 p m , and will be free Details may be obtained from the Secretary for the Post Graduate Lectures

Shropshire Orthopædic HOSPITAL, Gobowen, near Oswestry

COUNTRY OPEN AIR WARDS 300 BEDS

GIRL STUDENTS WANTED to learn Orthopædic Work and prepare for the Conjoint Examination of the C S M M G Three years training Salary, first year, £16 second year £20 all found, uniform —Apply, Miss HUNT, R R C

Liverpool School of Tropical MEDICINE

COURSES OF INSTRUCTION (lasting three months) for the Diploma and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th —Prospectus from the Hon DEAN, School of Tropical Medicine University of Liverpool

Home School for Backward and DELICATE CHILDREN (estab 1904)

Specialists Patients received Modern educational methods and handicraft training Horticulture garden games and occupations Entire charge if desired Elder girls admitted Terms moderate —Apply Principal Hatherley Brake Cheltenham.

City of Birmingham.

RESEARCH SCHOLARSHIP

The Joint Board of Research for Mental Disease (University of Birmingham and the City Asylums Committee) invite applications for a Scholarship in Mental Diseases of the value of £250 per annum

The Scholarship is for one year but renewable for another year or more. The scholar will carry out investigations under the direction of Sir FREDERICK MOTT Hon Director of the Research Board Candidates must be graduates of a University in Medicine or Science.

Applications endorsed "Research Scholarship" with copies of not more than three testimonials must be received by the undersigned not later than January 31st, 1924.

E EYLES,
Council House Hon Secretary
Birmingham January, 1924

University of Leeds. LEEDS MATERNITY HOSPITAL

UNIVERSITY TUTOR IN OBSTETRICS AND RESIDENT MEDICAL OFFICER

Applications are invited for the above post. The Officer will perform the usual duties of a Resident Officer in the Maternity Hospital (70 beds and Districts) and also assist the Teaching Staff in the supervision and training of the University Students in Obstetrics

Candidates must be registered and preferably have had some experience in an Obstetric Clinic

Salary at the rate of £300 per annum, with board and residence in the Hospital

Applications accompanied by copies of testimonials should be sent on or before Feb 15th to The Secretary Clinical Obstetrical Committee, The Maternity Hospital, 42 Hyde Terrace Leeds

York City Mental Hospital, Fulford York

Required a LOCUM TENENS at once Salary Seven Guineas (£7 7s Od) weekly with furnished apartments board etc , to be a duly qualified and registered Medical Practitioner, (registered under the Medical Acts 1858)

Applications stating age with recent testimonials to be sent to the Medical Superintendent

Medical Department of CEYLON

SANITARY BRANCH

Applications are invited from Ceylonese, who possess British qualifications in Medicine and Public Health for appointments as MEDICAL OFFICERS OF HEALTH in Ceylon.

There are two grades in the Service, and the emoluments and qualifications necessary are as follows:—

GRADE I

Qualifications —D P H or B Sc. (Public Health), of any British University or other Examining Body in the United Kingdom

Emoluments —£500-£775 per annum by eight annual increments of £30, and one of £25 Motor Transport Allowance of Rs. 75 per mensem, and House Allowance, according to station

Efficiency Bar —Before £650

GRADE II.

Qualifications —D T M and H of London, Cambridge, Liverpool, or Edinburgh, or Certificate in Tropical Medicine and Hygiene of the London School of Tropical Medicine

Emoluments —£275-£450 per annum by annual increments of £25

Same allowances as in Grade I.

Efficiency Bar —Before £500

Conditions of Service.—First year in Grade II, Probationary

For admission to Grade I, three years' satisfactory service in Grade II is required

Applicants possessing, on admission to the Service the qualifications required for both Grades will receive an initial salary of £400 per annum, and the allowances mentioned above

Medical Officers of Health are eligible for promotion to an Assistant Sanitary Commissionership. There are at present two such appointments Salary £800-£960 per annum, and House Allowance

For further particulars apply to the Principal Civil Medical Officer and Inspector General of Hospitals Colombo, Ceylon.

"Discovery" Expedition

SURGEON required for medical care of Staff and Crew of Expedition and participation in research into whaling and other scientific work Age not over 10 Candidates must be fully qualified in medicine and surgery and registered in the United Kingdom, and should be prepared for a life not free from hardships often under Antarctic conditions

Previous Arctic or Antarctic experience will be a recommendation

The work will be mainly on board the vessel "Discovery (750 tons), and occasionally on shore Preliminary training in the scientific work will be arranged if necessary

The salary will be £600 and the engagement for 2½ years in the first instance Free messing when on board the ship Assistance will be given towards any extra premium required on life assurance policy The appointment is neither permanent nor pensionable

Candidates should apply in writing for the necessary forms of application to the Secretary, "Discovery Committee Colonial Office Downing St , S W 1 Completed applications should reach him by the 14th February An extension of time will be allowed if necessary in the case of candidate abroad

County Borough of West HARTLEPOOL

ASSISTANT MEDICAL OFFICER OF HEALTH

Applications for the position of Assistant Medical Officer of Health are invited from duly registered medical men or women holding the Diploma of Public Health

The Candidate appointed, who will act under the direction and supervision of the Medical Officer of Health, will be required primarily to carry out the work in connection with Maternity and Child Welfare and as Assistant School Medical Officer In addition he or she will be required to undertake any duties in connection with the medical services of the Local Authority which may from time to time be assigned by the Medical Officer

Forms of application may be obtained from me The inclusive salary will be £600 per annum

Applications endorsed "Assistant Medical Officer of Health must reach me not later than Tuesday, the 29th January, 1924

HAROLD W STANTON Town Clerk.
Town Clerk's Office, West Hartlepool,
18th January, 1924

Dundee Royal Infirmary

HONORARY ASSISTANT PHYSICIAN FOR DISEASES OF THE SKIN required The Directors invite applications with testimonials to be lodged with the Secretary on or before Monday, 4th February

Holland (Lincs) County COUNCIL.

TEMPORARY APPOINTMENT OF MEDICAL OFFICER OF HEALTH & SCHOOL MEDICAL OFFICER

The Holland County Council invite applications for the above temporary appointment from duly qualified medical practitioners holding a Diploma of Public Health Applicants must have had experience in the duties of a Medical Officer of Health and Tuberculosis Officer

The salary will be £1 100 per annum with travelling allowance in addition.

Applications accompanied by testimonials must be lodged not later than the 8th February next with the undersigned from whom further particulars may be obtained.

Sessions House, H C MARRIS
Boston, Clerk of the Holland County
26th January, 1924. Council

Royal Devon and Exeter HOSPITAL, Exeter (200 Beds)

SENIOR HOUSE SURGEON

Applications are invited for the post of Senior House Surgeon (Male) which will become vacant at this Hospital on March 1st. The appointment is for twelve months, but candidates are eligible for re-election

Salary at the rate of £250 per annum with board apartments and washing

Applications giving full particulars as to age, qualifications together with certificate of registration and copies of three recent testimonials should be sent to the undersigned on or before Monday, 4th February, 1924

By order of the Committee
S S COLE Secretary

Dated 18th January 1924

South London Hospital for WOMEN

South Side, Clapham Common, S W 4.

APPOINTMENT OF ASSISTANT SURGEON

The Board of Management invite applications from fully qualified Medical Women for the appointment of Assistant Surgeon Full particulars may be obtained from the Secretary

Canvassing Members of the Board is not allowed.

Applications with copies of testimonials to reach the Secretary at the Hospital not later than first post on Friday February 8th 1924

The United Services Fund.

HOLIDAY HOME FOR TUBERCULOUS EX SERVICE MEN, BOURNEMOUTH

Applications are invited for the post of RESIDENT MEDICAL SUPERINTENDENT of the above Institution of 80 to 100 Beds to be opened shortly for the reception of Convalescent cases of Tuberculosis. Candidates must be unmarried

Salary £500 per annum, with board, lodging, attendance and laundry

Application stating age date of registration, qualifications, experience etc , with copies of three recent testimonials, to be sent to The Organizing Secretary United Services Fund, 29, Cromwell Road London S W 7, on or before the 9th day of February, 1924.

The Gloucestershire Royal INFIRMARY AND EYE INSTITUTION, Gloucester (140 Beds)

HOUSE SURGEON, Senior (Male) fully qualified required Salary £175 per annum with board residence and laundry

Candidates who have had previous experience as Resident Medical Officers preferred

Applications stating age qualifications, and nationality with copies of not more than three recent testimonials, to be addressed to the undersigned

Gloucester G HURFORD
January 17th. Secretary

Westminster Hospital, Broad Sanctuary, S W 1

A vacancy has been declared this day in the office of ASSISTANT SURGEON to this Hospital Gentlemen desirous of becoming candidates must be Fellows of the Royal College of Surgeons of England not practising Pharmacy or Midwifery Each candidate will be required to transmit a Certificate of his age and to attend the House Committee with his testimonials on Tuesday the 13th day of February, 1924 at 4 o clock

By Order of the House Committee
CHARLES M POWER,
8th January, 1924. Secretary

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.		
ENGLAND	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme)*	METROPOLITAN BOROUGH OF FINSBURY *(Assistant Medical Officer of Health)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs)*	TONDU and ABERKENFIG GLAMORGAN. *(Workmen's Medical Scheme.)*	CITY AND COUNTY BOROUGH OF LINCOLN *(Medical Officer of Health)*
WALES	**PUBLIC HEALTH.**	LIVERPOOL EDUCATION AUTHORITY *(Assistant School Medical Officer)*
ABERTRIDWR GLAMORGAN *Windsor Colliery (Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE *(Woman Assistant School Medical Officer)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
EBBW VALE, MON *(Workmen's Medical Society)*	DARLINGTON EDUCATION COMMITTEE *(Assistant School Medical Officer)*	PLYMOUTH EDUCATION AUTHORITY *(Woman Assistant School Medical Officer)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	COUNTY BOROUGH OF GATESHEAD *(Assistant School Medical Officers)*	BOROUGH OF PORTSMOUTH *(Medical Officer to the Portsmouth Child Welfare Centres and Municipal Maternity Hospital)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	GELLYGAER URBAN DISTRICT COUNCIL. *(Medical Officer of Health)*	ROTHERHAM UNION *(Medical Officer)*
OAKDALE, MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*		COUNTY BOROUGH OF SMETHWICK *(Woman Assistant Medical Officer of Health and School Medical Officer)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou, St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon Sec. of Division or Branch.	Town or District.	Hon Sec. of Division or Branch
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *Senior Resident Physician.) (Senior Resident Surgeon)*	Mr A. RADFORD M.C F.R.C.S., 5 & 6 4th Floor National Bank Buildings, Durban.	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute)*	Dr R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr FRANK DAVIES (Hon. Sec., Victorian Branch) Medical Society Hall b. Melbourne, Victoria.
NEW SOUTH WALES *(All Friendly Society Appointments.)*	Dr R. H TODD (Hon. Sec. New South Wales Branch) B M.A. Building 30-34, Elizabeth Street, Sydney N S W			WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec. Western Australian Branch No 6 Bank of New South Wales Chambers, St George's Terrace, Perth.

Address 429 Strand, W C 2.
January 23rd, 1924

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

The Hospital for Sick CHILDREN
Great Ormond Street London W C 1

A CASUALTY OFFICER is required on the 14th February 1924

Gentlemen must be Registered Medical Practitioners, and are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday 11th February 1924 accompanied by copies of not more than three testimonials given specially for the purpose

The appointment is made for one year but may be held subject to re election for a period of three years.

The appointment is non resident and whole time

Salary £400 per annum with luncheon and allowance for substitute for annual holiday Twenty four guineas

All candidates must appear before the Joint Committee at their meeting on Wednesday 13th February 1924 at 5 p m precisely

Forms of application and copies of the rules may be obtained from the Secretary at the Hospital.

By order of the Board of Management
JAMES McKAY, Secretary

January 1924

The Hospital for Sick CHILDREN
Great Ormond Street London W C 1

An ASSISTANT PATHOLOGIST is required on the 1st March 1924

Gentlemen are invited to send in their applications addressed to the Secretary accompanied by copies of not more than three testimonials given specially for the purpose before 12 o'clock on Monday 4th February 1924

The appointment is made for one year and is non resident

Salary £400 per annum and allowance for substitute for annual holiday Twenty four Guineas.

Candidates must be registered medical men and be prepared to take up the duties on the 1st March 1924

All candidates must appear before the Joint Committee at their meeting on Wednesday 5th February 1924 at 5 p m

Forms of application copy of the rules for and details of the appointment will be supplied on application to the Secretary

By order of the Board of Management
JAMES McKAY Secretary

January 19 4.

Stockport Infirmary
PHYSIO THERAPEUTIST

Applications are invited from fully qualified Medical Practitioners who are trained Physio Therapeutists for the above position

A reasonable honorarium will be paid

Applications, stating age qualifications and special training together with copies of three testimonials should be delivered not later than Tuesday the 29th inst. addressed to the undersigned.

EDWIN J PEARCE Secretary Supt

Bedford County Hospital

Wanted for a term of not less than 6 months from February 11th an ASSISTANT HOUSE SURGEON male unmarried duly qualified to act in Medicine and Surgery

Salary £130 per annum with board lodging and laundry

Applications stating age nationality qualifications and present position of education qualifications and present appointments together with three references must be sent to the secretary The County Hospital Bedford

Wanted—Assistantship by M R C S L R C P, single 35 energetic, keen abstainer thoroughly experienced in general practice (4 years) Good Accoucheur 3 yrs hospital exp, general children E N Th Excel testm London pref—Address, 516 B M J, 429 Strand, W C 2

Wanted.—Assistant for small Town and Country Practice Eventual perm to suitable energetic, trustworthy man Scope for Surgery in up to-date Hospital Scottish graduate preferred—Add stating age qualifications experience etc No 422 BRIT MED JOUR Office, 429, Strand

Wanted—Assistant, industrial Practice Midlands Refes (copies), nat (birth) age keen worker but little night work and midwifery Dispenser keep Good, increasing salary to good man Motor cyclist. Address, No 538, BRIT MED JOUR., Office, Strand W C 2.

Wanted—Well qualified, experienced unmarried, ASSISTANT, with view to ultimate succession in important Glamorgan Practice. Give full particulars enclosing photo—Address, No 527 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Wanted—Assistantship by M B B Ch, B A O, age 33 Experience in private and panel Practice 4 years Single Protestant. Excellent references—Address No 526 BRITISH MEDICAL JOURNAL Office 429 Strand.

Wanted Engagement, any duration in any capacity, general Practice or P H Moderate fee accepted Energetic was very successful in own Practice Very superior recent references—Address No 127 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistant, Welsh speaking, for Country Practice Panel and private Excellent opportunity for suitable man, without much capital to obtain early succession to lucrative practice Sport if desired Offer absolutely genuine—Address No 412 B M J Office 429 Strand W C

Assistantship wanted by single man (in or outdoor), 6 years exper in Panel and private practice Reliable energetic and interested in work good appearance and manners very popular with patients Cyclist, good refs.—Add No 528 B M J Office, 429 Strand, W C 2

Assistant wanted, age 25–30, single indoor at first, general and panel town Practice Kent. State fully experience height and all essential particulars—Address, No 531 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C

Assistantship or Locum wanted by M B B Ch (woman) recently qualified Resident student appointments held Keen and energetic willing to cycle Free for interview Resident in S Wales—Address No 537 BRIT MED JOUR Office, 429 Strand W C 2

M R C S, L R C P, L D S (Eng.), London Hospitals R M O, R S O R C O, H P H S Exp G P Good operator Anæsthetist, &c English married æt. 30 yrs desires ASSISTANTSHIP Surgical Institutional post or M O to Comp Eng or abroad.—Add, No 515, B M J 429 Strand.

M.B., Ch B, young, exprned G P keen booked appointment end of March desires to fill in interval by ASSISTING busy Doctor in return hospitality and nominal fee. London or South Coast preferred (not essential)—Address No 509, B M J Office 429 Strand W C

M.B, B Ch (Nat Univ Irl) desires ASSISTANTSHIP Age 25 male, single Irish R C recently qualified Keen energetic and good anæsthetist Very superior testimonials. Moderate salary with good prospects—Address No 530 B M J Office, 429 Strand W C

M. R C S, L R C P, aged 29 engaged during day would undertake EVENING WORK in London—Address No 517, BRITISH MEDICAL JOURNAL Office 429, Strand W C

Medical Man highly recommends married couple, middle age, as HOUSEKEEPERS at Surgery, or similar occupation—BARNES, 30 Mary's Road, Wood Green N

Practitioner experienced in intravenous and intrathical medication for syphilis etc offers to do the work for doctors who are too busy or who have not acquired the necessary technique West or Central London—Address No 506 BRITISH MEDICAL JOURNAL Office, 429 Strand

Lady Dispensers supplied, qualified experienced and also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR LADIES Preparation for Examinations Blood sugar estimation before and during Insulin treatment can be carried out by those Dispensers recently qualified from the College—Secretary, 7, Westbourne Park Road W 2.

Lady Dispenser-Book-keeper, qualified, experienced, dressings, nursing ex Civil Servant good car driver desires POST in York or South Yorkshire Would exchange with present post in Scarborough district if desired—Address, No 536 B M J Office, 429 Strand W C 2

Lady Dispenser, also qualified NURSE, desires POST for a few hours daily Morning or evening Institution or Private work.—Address No 513 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2

Lady Dispenser, Hall, with experience disengaged good references—Address No 521 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2

Lady Secretary, experience with Consulting Physician seeks RE-ENGAGEMENT Liverpool district preferred Can drive Car—Address No 535, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

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EACH ADDITIONAL LINE	1/6

An average line contains six words

All remittances by Post Office Orders must be made payable at the General Post Office London No responsibility will be accepted for any such remittance not being so safeguarded

Advertisements should be delivered, addressed to the Manager 429 Strand, London, W C 2 not later than first post on Tuesday preceeding publication

Note—It is against the Rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

FOR LOCUM TENENS APPLY TO Mr. PERCIVAL TURNER

The Oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals

4, ADAM STREET, STRAND, LONDON, W C 2

Teleg: 'Epsomian London" Phone: Gerrard 399

After 5 p m.—Phone: Epsom 695

Foreign Appointment—LOCUM wanted in Tea Plantation in India, healthy district with view to succession in a year to lucrative appointment worth over £1,000 a year Very low premium required Unusual opportunity—Apply by letter only in first instance to sole agent, PERCIVAL TURNER, 4 Adam Street London W C 2

Locum Tenens, disengaged—Very experienced in private and panel work. Sold own practice Abstainer, excellent testimonials and references Moderate terms expens s from here or Birmingham—Add, MEDICUS Granville, Woodland Road, Colwyn Bay, North Wales

Locum.—Institution or other, wanted by late R S O and R M O of large Teaching Hospital. Experience Administrative, Surgical E N T, Eyes Age 35—Address No 522 BRITISH MEDICAL JOURNAL Office 429 Strand, W C

M.R.C.S., L.R.C.P., 1922, desires LOCUM TENENCY for February and early March Experienced and good references—O B BYRD, 21 Harbord Road, Waterloo, Liverpool

M.B, D P H, with over 25 years experience in health work, is willing to undertake LOCUM work—Address No 507, BRITISH MEDICAL JOURNAL Office, 429, Strand, W C

LOCUM TENENS

PROVIDED

Apply to

Mr. W. S. ATKINS

(Late of ARNOLD & SONS, London)

43, BEDFORD STREET, STRAND, W.C.2.

Telegraphic Address:

"Positions, Westrand, London."

Telephone, Regent 229.

Wanted—Country or Small Country Town PRACTICE suitable for 2 partners (not North) unopposed or little opposition producing over £2 000 p a, fair proportion of panel Good House with large garden and about 3 acres of Grassland at rental preferred Wish to settle at once Capital available—Address, No 510 BRIT MED JOUR. Office 429, Strand, W C 2.

Wanted, Country or Country Town PRACTICE producing over £1 000 per annum Panel not objected to Good house and garden essential—Send full details in confidence, to Mr W S ATKINS Medical Transfer Agency, 43 Bedford Street, Strand, W C 2

Wanted by M.B, age 37, a middle and working-class PRACTICE of £1 500 or more with good panel in London or the South or Midlands Now free and can pay cash.—Apply BLUNDELL & Co, 22, Craven Street, Strand, W C 2

Wanted—Middle and working class PRACTICE yielding from £1,000 to £3,000 a year in London or any good town Partnership entertained—Apply, PEACOCK & HADLEY, 19 Craven Street, Strand W C 2 (No charge unless sale effected)

Wanted—Practice of about £2 000 a year, with panel in country by an experienced practitioner, with ample capital, unopposed preferred—Details to No 2791, c/o Mr PERCIVAL TURNER, 4 Adam Street Strand, W C 2

Wanted—Small easily worked PRACTICE at seaside or health resort, or pleasant suburb in S E or South of England Non panel preferred—Address No 504, BRITISH MEDICAL JOURNAL Office 429 Strand, W C.

Birmingham—Wanted by exp rienced practitioner a General PRACTICE of £1 600 or more mainly panel or cash, small house preferred good waiting and consulting rooms—Address, No 505 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Chichester and District.—Doctor is desirous of purchasing PRACTICE or PARTNERSHIP in this District gross receipts £1 200/£2 000 per annum Old established practice preferred—Address full particulars No 519, BRITISH MEDICAL JOURNAL Office, 429 Strand W C

Country Practice for Sale in East Riding—Apply, BLEASDALE, Ltd, York

For Disposal—A good PRACTICE is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised—Full information free on application to 4 Adam St., W C 2

For Sale.—London, S.W. Middle-class PRACTICE non panel, compact, easily worked Excellent house garage and garden on lease Income last 2 years averages £1 000 per annum Premium 1½ years purchase—Address No 512 BRIT MED JOUR. Office 429 Strand W C

For Sale—South Midlands, small old-established, Artisan and panel PRACTICE, been neglected, owing to ill health from War Service average receipts £350 Midwifery not encouraged Great scope what offers—Add, No 508, BRIT MED JOUR, 429 Strand W C

For Sale, market town PRACTICE with Panel and Appointment Scope for surgery West country No agents—Address No 529 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2

London, S E —A Cash and Panel PRACTICE situated in a thickly populated district and producing over £2 600. Panel about 1500 Plenty of scope. House situated in central position containing 3 bedrooms etc. Rent £45 per annum Premium 1½ years purchase —Apply, quoting Follo 631, Mr W S ATKINS, Medical Transfer Agency, 43, Bedford Street W C.2.

Lancs — Old-established PRACTICE in pretty district, owner retiring Nice house, excellent garden tennis lawn garage Receipts nearly £1 200 Panel 800 Appointments £ 80. Very compact and easily worked. Price £4 000 house and practice Large mortgage on property arranged. — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd 88, King Street

North West Coast — A General PRACTICE situated at a favourite Seaside Resort. Average receipts about £2, 50 Fees 5/8 upwards. Plenty of sport (Trout and Salmon fishing) Ample scope to considerably increase income Double-fronted house specially built for Doctor and containing 5 bedrooms etc. Rent £75 per annum —Apply quoting Follo 639 Mr W S ATKINS Medical Transfer Agency 43 Bedford Street Strand W C 2

North-Lancashire Town — Old-established PRACTICE Average net receipts £1,180, excluding Appointments £280 Panel 810 Expenses exceptionally small. House for sale Ample accommodation Large garden Premium for house and practice £4 000 payment by arrangement.—LEE & MARTIN Ltd 71 Temple Row Birmingham

Staffordshire - Old-established panel and private PRACTICE Average receipts £1 400 Transferable appointments Panel 1 430 No midwifery Good house for sale or rental. Premium for practice £1,800 —LEE & MARTIN Ltd. 71 Temple Row Birmingham.

N of Ireland —A general PRACTICE situated at a seaside resort. Receipts £2 000 Fees 7/6 upwards. Several appointments held Excellent house containing 6 bedrooms &c. Rent £100 per annum Premium £2 000 payable half down balance by arrangement —Apply quoting Follo 640 Mr W S ATKINS Medical Transfer Agency 43 Bedford Street, Strand W C 2.

Practice wanted, or Partnership introduction in Bournemouth or similar health resort in Southern County Good house with garden important Income from £1 000 Advertiser is an experienced graduate free to buy immediately Ample means —Apply M D, c/o Mr PERCIVAL TURNER 4 Adam St. Strand W C.2

Required at once, Practices and PARTNERSHIPS —Mr W S ATKINS (late of ARNOLD & SONS, London) has a large number of Clients who are seeking Practices and Partnerships and wish to settle down at once —Send full particulars in confidence to Mr W S ATKINS, Medical Transfer Agency 43 Bedford Street, Strand W C

Required in London or Suburbs. General PRACTICE or PARTNERSHIP with or without panel producing about £1,000 to £1,500 p.a. Ample capital.—Address No 520 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Required in London or Suburbs General PRACTICE with Panel producing over £1,000 p.a. Send full details in confidence to Mr W S ATKINS, Medical Transfer Agency 43, Bedford Street, Strand W C 2

Scotland — For Sale in a desirable County town, owing to retirement, an old established PRACTICE bringing in about £975 per annum including appointments Panel 450 considerable scope for expansion. Also a comfortable commodious house for sale conveniently situated for practice, can be purchased if desired — For further parties. Add No 106 B M J Strand

Seaside Residential Health Resort Lancashire Coast, Old-estab General PRACTICE, middle and upper class, for Sale Panel 1 400 aver receipts £3 300 p.a Vendor retiring Mod freehold house and surg in rear if locality If desired Part Intro —Add No 534 B M J Strand

Spa Practice, West of England for disposal Panel 2 000 Private practice worth £700 per annum. Good house Easily worked Two years' purchase. Any investigation.—Address No. 518 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

To Purchasers —Do not Buy without expert assistance With 40 years experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam Street, Strand W C 2 Telephone: Gerrard 399 Telegrams Epsomlam London."

Yorkshire — A general PRACTICE situated in a country district Receipts £2 500 Panel 500. Fees 5s upwards Excellent house &c rent £53 p.a. Premium £3 500 —Apply quoting Follo 645 Mr W S ATKINS, Medical Transfer Agency 4 Bedford St. Strand W C 2

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Third Partner wanted at once, 30 to 40 with knowledge of Eye work Keen on medicine and experienced. Gross income about £4 800 Two years purchase. S W Country town Cottage hospital. — Address No 533 BRITISH MEDICAL JOURNAL Office 429 Strand W C.

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INSTITUTION, Redhill, Surrey
(Under Mental Deficiency Act, 1913)

JUNIOR ASSISTANT MEDICAL OFFICER Required.

Applicants must be registered practitioners males, unmarried, and willing to assist in the games and amusements

The appointment is tenable for three years, if desired Inclusive salary commences £250 per annum, with board, residence and washing and increment £15 per annum up to £280 Good facilities for Post Graduate Studies, Classes and Examinations

Applications, stating age religion and qualifications with copies of three testimonials of recent date and two references, to be sent on or before the 18th February to the Secretary at the Office 14, Ludgate Hill, E C 4 The envelope to be endorsed "Assistant Medical Officer"

H HOWARD
22nd January, 1924 Secretary

City of Bradford.

MUNICIPAL GENERAL HOSPITAL, ST LUKE'S

HOUSE PHYSICIANS and HOUSE SURGEONS required

Salary in each case £200 per annum with board and lodgings

These appointments are for six months renewable for a further period of six months.

Application forms may be obtained from the Medical Officer of Health, Town Hall, Bradford, and should be returned not later than 7th February, 1924 N L FLEMING
Town Hall, Town Clerk.
Bradford 21st January 1924

Manchester Hospital for

CONSUMPTION AND DISEASES OF THE THROAT AND CHEST

Applications are invited for the post of RESIDENT MEDICAL OFFICER at the In patient Department Bowdon Cheshire (50 beds) Candidates must be registered Salary £300 with board apartments, laundry and railway contract to Manchester

Applications, stating age, with copies of testimonials to be sent in not later than February 8th, to Hardman Street C W HUNT,
Manchester Secretary

The Weir Hospital,

Grove Road, Balham S W 12.

ASSISTANT RESIDENT MEDICAL OFFICER (Male, unmarried) required Candidates must be fully qualified and duly registered

Salary £100 per annum, with board, residence and laundry

Applications, with copies of testimonials to be sent to the Secretary, from whom further information may be obtained

Queen Mary's Hospital for

THE EAST END Stratford E 15
Telephone: Maryland 2616 and 2617
Beds 168 Out patient Attendances: 119 066

HONORARY ASSISTANT PHYSICIAN

There is a vacancy on the Staff of this Hospital for an Honorary Assistant Physician.

Applications, with copies of testimonials from candidates, who must be duly registered practitioners either graduates of a University or Fellows or Members of a Royal College of Physicians should be lodged with the undersigned not later than February 9th 1924

RAPHAEL JACKSON Major,
Secretary

Birkenhead and Wirral

CHILDREN'S HOSPITAL,
Woodchurch Road Birkenhead

There is a vacancy for a HOUSE SURGEON (Female) duly qualified and registered, at the above Hospital Honorarium £100 with board residence and laundry

Applications stating age with testimonials (copies) to be sent to the Assistant Secretary at the Hospital.

West London Hospital,

Hammersmith Road, W 6

Applications are invited for the posts of HONORARY MEDICAL REGISTRAR HONORARY SURGICAL REGISTRAR, and HONORARY OBSTETRIC REGISTRAR for a period of one year eligible for re-election annually

The holders of the posts of Honorary Medical Registrar and Honorary Surgical Registrar must hold no appointments at a general teaching hospital during their terms of office. The duties include the preparation of the several Registrar's Reports for the year, and the supervision of the records of cases The candidates appointed must be available as substitutes for the Physicians and Assistant Physicians Surgeons and Assistant Surgeons as the case may be, and for emergency operations when required and be prepared to undertake such teaching for the Post-Graduate College as may be desired.

Candidates are required to be registered under the Medical Act, to send applications so as to reach me not later than Tuesday 19th February next, to attend the Medical Council Meeting on Friday, 22nd February, at 4 30 p.m., and prior to that date to call upon and send copies of application and testimonials to each member thereof to abstain from canvassing but nevertheless to send copies of applications and testimonials to each member of the Board of Management at whose meeting on Tuesday 26th February, at 5 p m candidates must be in attendance

H A. MADGE Secretary

Urban District of New

HUNSTANTON

APPOINTMENT OF MEDICAL OFFICER OF HEALTH

The Urban District Council of New Hunstanton will at their Meeting on Friday 1st February 1924, appoint a Medical Officer of Health for the Urban District of New Hunstanton (which comprises an area of 454 acres with a population of 3 038) at a Salary of £50 a year The person appointed will be required to reside in New Hunstanton and to devote such time as may be required for the efficient discharge of the duties The appointment will be subject to the approval of the Ministry of Health

Council Offices, H W WARD
New Hunstanton Clerk to the Council
21st January, 1924

London (Royal Free Hospital)

SCHOOL OF MEDICINE FOR WOMEN (UNIVERSITY OF LONDON)

A full time FIRST ASSISTANT in the OBSTETRICAL and GYNÆCOLOGICAL UNIT will be appointed from April 1st, for a period of two or three years. Salary £700 p.a plus 10 per cent. Superannuation contribution

Applications are invited to reach one of the undersigned by February 27th, from whom further particulars may be obtained

L M BROOKS, Warden and Secretary,
8, Hunter Street, Brunswick Square, W C 1
R R GARRATT, Esq , Secretary,
Royal Free Hospital, Gray's Inn Road, W C 1,

City of London Hospital for

DISEASES OF THE HEART AND LUNGS
Victoria Park, E 2 (bus, rail or tram Cambridge Heath, N.L.R.)

The Committee of Management are desirous of appointing a RADIOLOGIST The appointment entails a minimum of two attendances per week and there is an honorarium attached. Applications, accompanied by copies of testimonials, are invited to be sent to the Secretary not later than the first post Monday, 25th February 1924 Further particulars may be obtained from the undersigned

GEORGE WATTS Secretary

Central London Throat, Nose

AND EAR HOSPITAL
Gray's Inn Road W C 1

REGISTRAR FOR IN PATIENTS

There is a vacancy for the above named officer (male) He must be fully qualified and have had experience in the Specialty Honorarium at the rate of fifty guineas a year

Applications to be made at once to the Secretary from whom further particulars can be obtained

General Hospital,

Nottingham.

Wanted HOUSE PHYSICIAN Appointment for six months, commencing February 16th Salary at the rate of £200 a year with board, residence and laundry

Applications, stating age qualifications and experience with copies of testimonials, to be delivered to me not later than Wednesday February 6th. P M MACCOLL
House Governor

The Royal Infirmary, Hull.

SENIOR HOUSE SURGEON wanted The Hospital contains 169 Surgical beds There are in addition a Resident House Physician, Assistant House Surgeon, three Casualty House Surgeons, Candidates must be fully qualified, registered, and unmarried and preference will be given to such as have previously held a similar appointment The salary is £200 per annum, with board and furnished apartments

The selected candidate will be required to take up duty at once, to enter into an agreement to remain not less than one year and to give or receive three months notice to terminate his engagement.

Corporation of Plymouth

DEVON & CORNWALL SANATORIUM FOR CONSUMPTIVES, DIDWORTHY, SOUTH BRENT

Applications are invited for the appointment of a RESIDENT MEDICAL SUPERINTENDENT at this Sanatorium. Candidates must have had special experience in the institutional treatment of tuberculosis. Salary £550 per annum. Residence, board, laundry and light provided.

Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials to be sent to me not later than Tuesday 5th February, 1924

5, Princess Square, S CARLILE DAVIS,
Plymouth. Sec. to the Tuberculosis Committee

North Middlesex Hospital,

Edmonton N 18

Male ASSISTANT MEDICAL OFFICER required at the above Hospital, with over 1 000 sick beds and Out patient Department. As experience is very extensive, the candidate should have previously held a House appointment, and preference will be given to one with knowledge of routine of pathological laboratory

The appointment is a whole time one, living in. Salary £200 per annum, subject to the terms stated on the application form.

Applications to be made on forms to be obtained from the Medical Superintendent and Surgical Director

Lancashire County Mental

HOSPITAL, Winwick, Warrington.

ASSISTANT MEDICAL OFFICER required, Salary £300 per annum together with board, furnished apartments, attendence and washing valued at £150 per annum for Superannuation purposes plus the Civil Service Bonus which at present is £132 0s 7d.

Candidates must be registered under the Medical Act.

The appointment is subject to the provision of the Asylums Officers Superannuation Act, 1909

Applications, stating age etc , to be forwarded to the Medical Superintendent not later than the 31st Instant

The Middlesex Hospital, W 1.

Applications are invited for the post of RESIDENT MEDICAL OFFICER. Candidates must be registered Medical Practitioners and not less than 25 years of age

Applications should be submitted not later than 12 noon on Tuesday the 12th February 1924 For further particulars apply to the undersigned.

WALTER KEWLEY,
Secretary Superintendent

West Riding Asylum,

Wakefield.

Vacancy for JUNIOR ASSISTANT MEDICAL OFFICER (Male) Experience not necessary but Post graduate Medical or Surgical experience desirable Junior officers who decide to specialise in Mental Diseases receive complete training for the Diploma in Psychological Medicine of the University of Leeds, and on gaining this are eligible for promotion to senior rank Salary £400 rising by £25 per annum to £500 (and on promotion to £600) together with apartments, board, washing and attendance Pensionable under the Asylums Officers Superannuation Act, 1909

Applications to be sent immediately to the Medical Director

Elizabeth Garrett Anderson

HOSPITAL, Euston Road, N W 1

Wanted fully qualified medical woman to act as HALF TIME ASSISTANT to the Clinical Pathologist. Appointment for six months from 1st March Not 1st February as originally advertised Salary at the rate of £100 per annum

Application with testimonials to be sent to the Secretary, on or before Saturday February 2nd

IMOGEN H. MURPHY Secretary

The London Lock Hospitals,

83 Harrow Road London, W 9
and 91 Dean Street London, W 1

HON OPHTHALMIC SURGEON

The Board of Management invite applications for the appointment of Hon. Ophthalmic Surgeon. Candidates must hold the F R C S (Eng.) Applications accompanied by copies of three testimonials, should be delivered to the undersigned on or before Monday February 4th 1924. Copy of the Laws relating to Staff appointments at the Hospital can be obtained on application to the Secretary. No personal canvassing of the Board or Medical Staff permitted. By Order of the Board,

HY J BASON
Secretary

January 1924

Bolingbroke Hospital,

Wandsworth Common S W 11

Applications are invited for the post of HOUSE SURGEON (Male). Salary at the rate of £120 per annum with board residence and laundry.

Applications, with copies of testimonials should be delivered to the undersigned on or before Wednesday February 6th

W S RANDOLPH BISS
Secretary-Superintendent

MR. J. C. NEEDES,

(P W Needes).

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10/13, Bedford Street, Strand, W C.2

See Advertisement of Bovril Medical Agency Ltd., Page 39

DR. J. FIELD HALL

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W J HICKS *Secretary*

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YORKS.—Old-established Country Town G P Panel 1 500 Income £2,500 3 appointments Detached house with garden and garage, to let on lease Premium £3,500

LONDON S W.—Old-established G P within easy access of town Income over £3 500 p.a. Panel 900 House to let on good lease Three appointments

MANCHESTER.—Old-established G P Large detached house and garden separate surgery Panel over 1 000. Income over £3 000 Premium £4,000

WARWICK.—Small Country PRACTICE in pleasant district suitable only for young bachelor Panel 400. Income £450 Rent £21 p.a. Premium £350 for quick sale

ULSTER.—Old-established G P situated in residential seaside town Income about £1,500 Two appointment Nice house to let Plenty of sport Scope for surgery Small hospital. Premium £2,000

SOUTH WALES.—Old-established G P in residential district. Panel over 1 400 Average income nearly £2 000 Premium £2,500

PRACTICES WANTED

LONDON W S W and N W SOUTH COAST HOME COUNTIES SOUTHERN COUNTIES and WEST COUNTRY. Income ranging from £1 000 to £3 000 Panel and Non panel.

Please address all communications to the Manager Medical Transfer and Insurance Department

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SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION,

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DEATH VACANCY —(2) Good class non-panel PRACTICE in Bayswater London Receipts 1923 £583 Good house, rent under £100 Also special anæsthetic connection for disposal

MIDLANDS —(3) PARTNERSHIP in old-established Practice £3 000 per annum in excellent Country Town Panel about 1,400 One-third or one fourth share at one and three quarters years purchase

UP-THE-THAMES —(4) PARTNER required in old-estab PRACTICE in good Residential District within 20 miles of London Share worth £1 000 for premium of £1 200 The incoming partner should be under 32 and able to undertake Surgery

SOUTH COAST —(5) Good class general and ophthalmic PRACTICE of £2 000 per annum Excellent house to rent Premium one years purchase only

ITALIAN RIVIERA —(6) Season PRACTICE worth about £500 per annum and easily worked up to £600 to £700 per annum No midwifery or night work Premium £500

MIDLANDS — (7) PARTNERSHIP in very old-established Practice over £3 000 in Market Town Panel 1 250 Detached corner house (4 bedroom) Rent £65 Cottage Hospital and scope for surgery Premium one-third or five-twelfths share two years purchase

NORTH LONDON — (8) PARTNERSHIP in very old-established good middle class Practice in Residential Suburban District Receipts average about £5 430 per annum No panel clubs or appointments Suitable house obtainable One-third share at first at one and three quarters years purchase and succession to whole practice later

SOUTH-WEST OF ENGLAND —(9) Very old-established middle and better-class PRACTICE over £4 200 in important Seaport Town No Panel or Appointments Commodious house in excellent position Rent £100 Premium one and a half years purchase.

UP-THE-THAMES —(10) Middle-class PRACTICE worth about £500 in Residential District Small Panel House with 4 bedrooms for sale Premium for Practice £600

MIDLANDS —(11) Well-established PRACTICE of £1,400 per annum in Manufacturing Town in the Potteries No panel or midwifery Detached house (5 bedrooms) to rent. Premium £1 800

MIDLANDS —(12) Steadily increasing PRACTICE, about £630 per annum in Mining Village Panel 752 Modern and pleasantly situated house (4 bedrooms) Rent £50 Premium £900

LONDON (WEST) —(13) PARTNERSHIP in old-established Practice of £2 750 per annum Panel 2 600 One third share at two years purchase Incoming partner should be Englishman or Scotsman, aged about 30.

SOUTH COAST —(14) Residential Town and Health Resort PARTNER required in good-class Practice No panel No dispensing Exceptionally good house (5 bed and 2 dressing rooms) Share worth £1 000 at two years purchase Partner should be University Graduate with leaning towards medicine

SURREY —(15) Small non-dispensing PRACTICE about £275 per annum in first rate Residential Town Small panel Excellent detached house (6 bedrooms) in one acre of ground to rent on lease Premium (to include lease) £500

MIDLAND TOWN —(16) Old-established PRACTICE about £1 100 per annum in Residential Suburb Panel 700 House contains 9 bedrooms Large garden Price £1 900 Premium for Practice £1 500

NORTH-WEST COAST —(17) Well-established middle-class PRACTICE about £2 400 No appointments. Conveniently situated house to rent Premium £3,000 part by instalments

NORTH OF IRELAND —(18) Old-established middle-class PRACTICE about £2 500 per annum in Seaside Town (Appointments worth about £650 per annum) Good house (6 bedrooms) to rent Premium £2 000

CAPE COLONY —(19) Unopposed PRACTICE of £700 to £800 in attractive district Excellent house (4 bedrooms) Large garden and paddock Work very light Premium £400

DEATH VACANCY —(20) Special Ophthalmic PRACTICE, London (West End) Income about £3 000 Excellent opening for well qualified gentleman Prem £500 to include some Instruments and Furniture

EASTERN COUNTIES —(21) Very old-established unopposed country PRACTICE nearly £1 950 per annum near Coast Panel about 800 Exceptionally beautiful old house (5 bedrooms) in acre ground on lease also 20 acres farm land if desired Splendid shooting Premium one and a half years purchase

NORTH WALES —(22) Old established PRACTICE in small Seaport Town Receipts 1923 £550 Panel 150 No midwifery or night work Rent of house (4 bedrooms garden half an acre) £50 Prem £750

MIDLANDS —(23) Old-established unopposed PRACTICE £1 150 in Agricultural and Residential District (Appointments worth £330 Panel 490) House contains 12 rooms. Rent £35 Premium one and a half years purchase

NORTH OF ENGLAND —(24) Old established PRACTICE of £1 460 per annum in Country District Panel 8 0 Very good house (5 bedrooms) in charming grounds two acres Premium practice house and grounds, £4 000 Mortgage could be had on house

FAVOURITE HOME COUNTY —(25) PARTNERSHIP in good-class Country Practice about £3 000 per annum in delightful residential district Visits up to £2 2s. Excellent modern detached house (7 bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

SOUTH OF ENGLAND —(26) Old-established PRACTICE of £1 700 per annum in Residential Town Panel worth £600 per annum Detached house (4 bedrooms &c) Rent £50 Prem one and a half yrs. purchase

YORKS, WEST RIDING —(27) Old-established, rapidly increasing PRACTICE in residential district of large Town Income at present about £900 per annum. Panel 520 (increasing) House (4 bedrooms, &c) Rent £60 Great scope

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EASTERN COUNTIES —(29) PARTNERSHIP in old-established practice £2 213 per annum in first rate Town Panel about 2 050 House (9 bed and dressing rooms) standing in own grounds to be sold Premium one half share, one and three quarters years purchase

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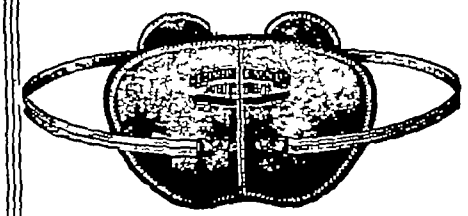
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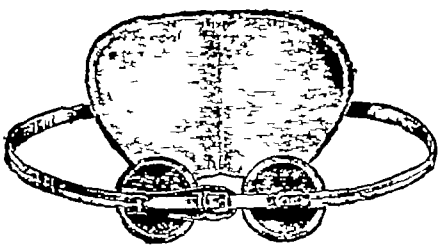
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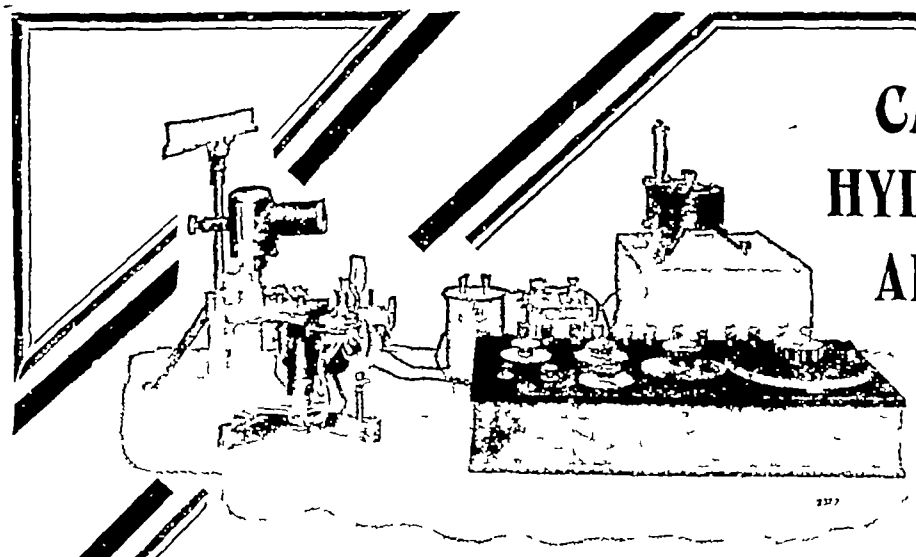
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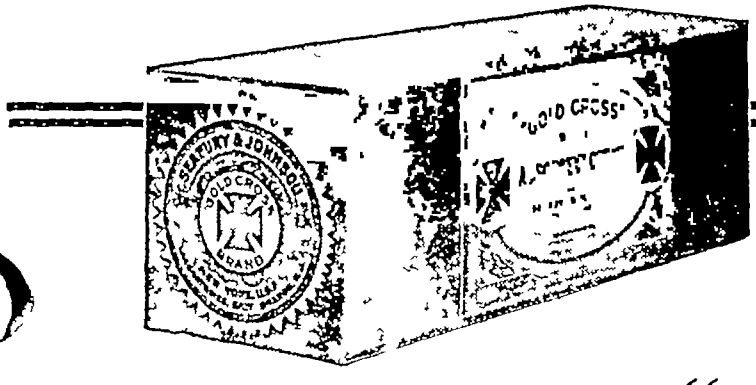
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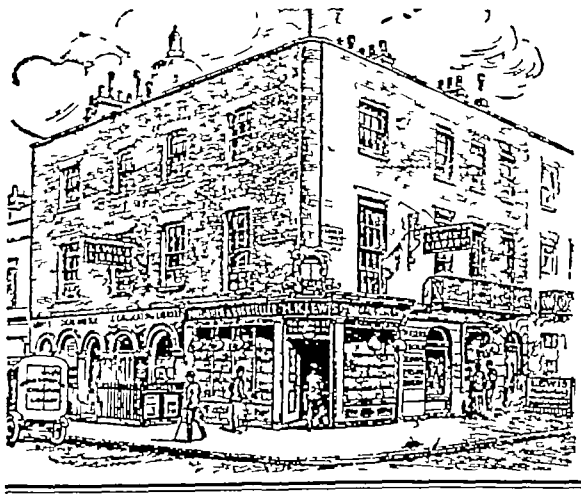
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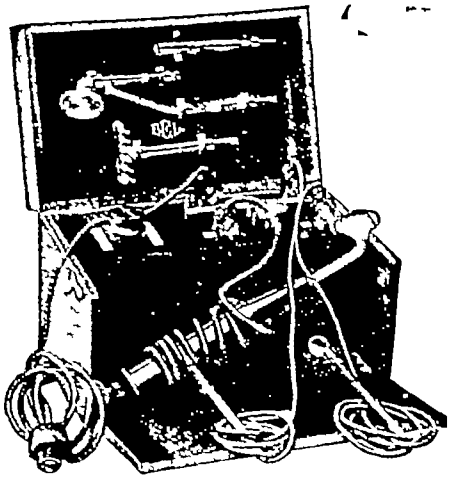
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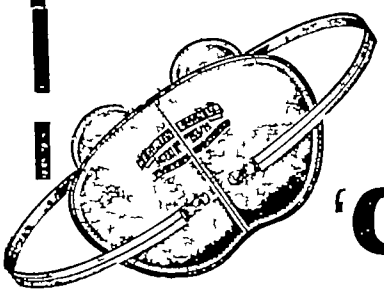
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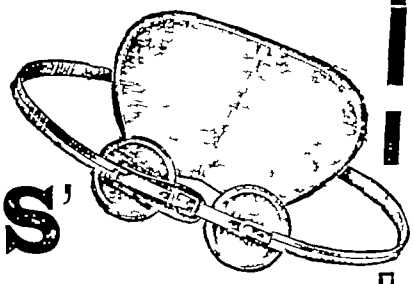
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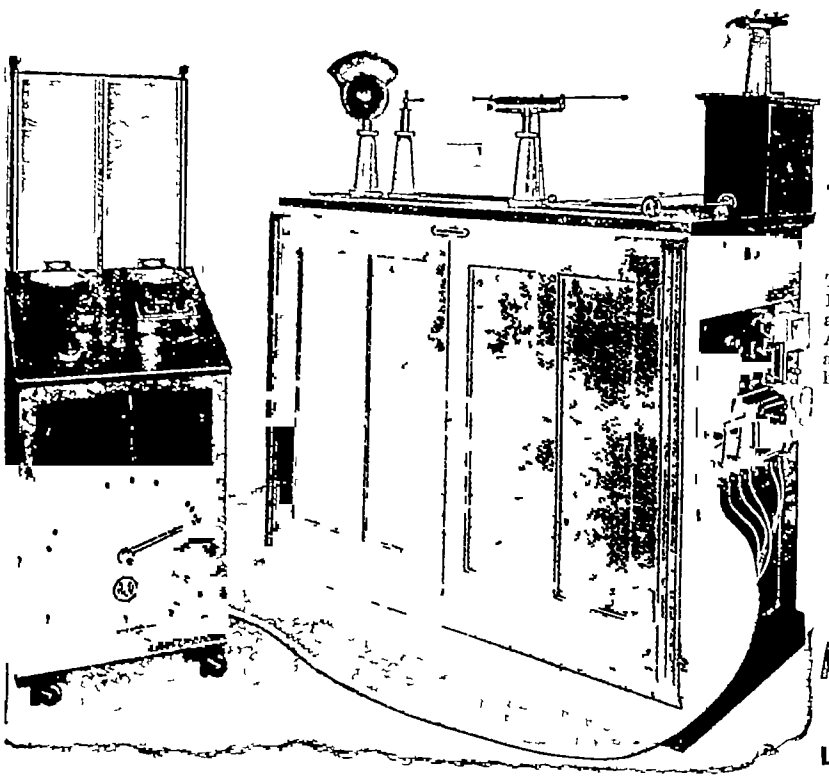
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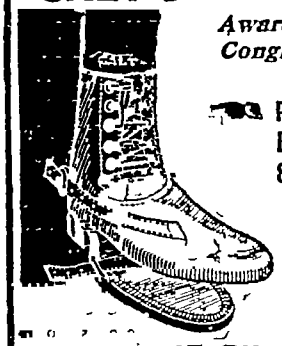
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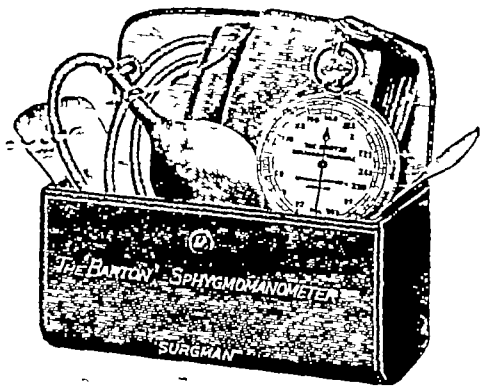
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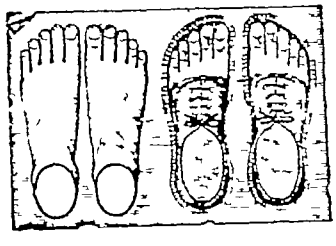
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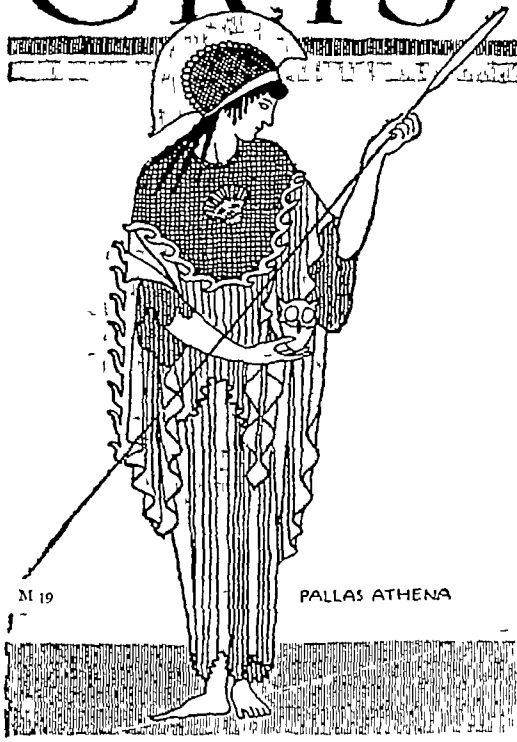
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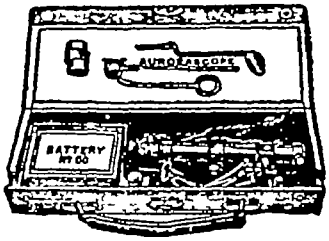
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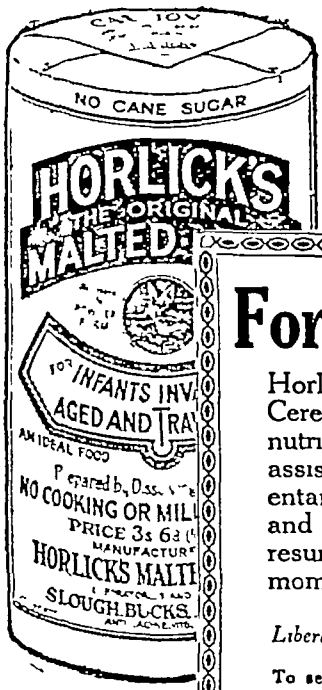
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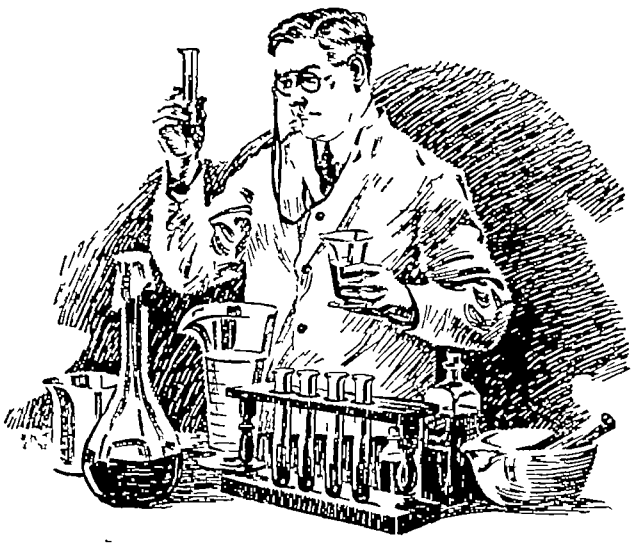
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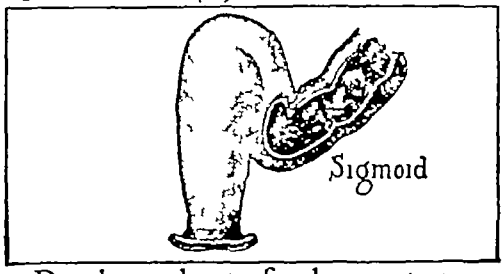
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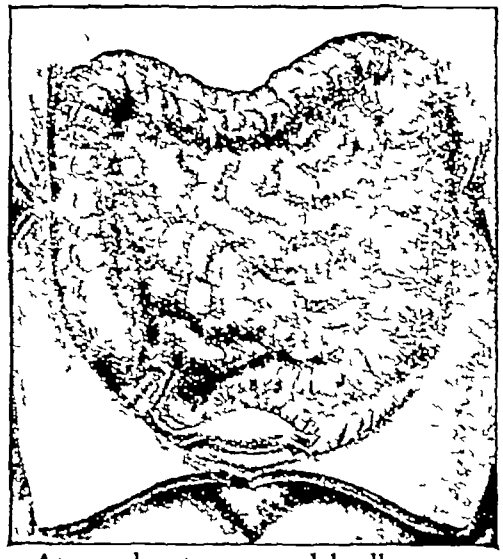
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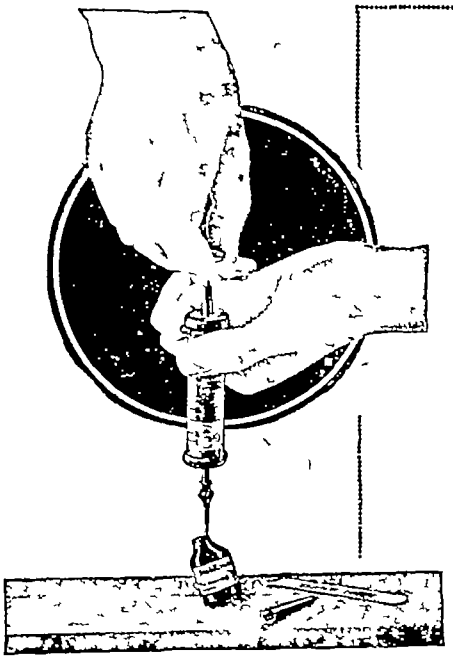
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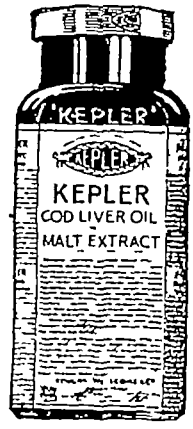
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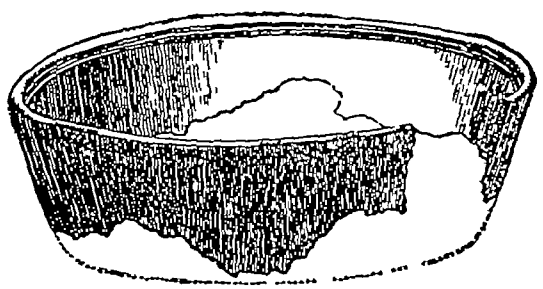
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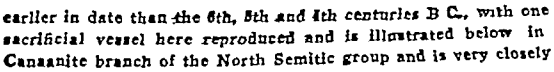
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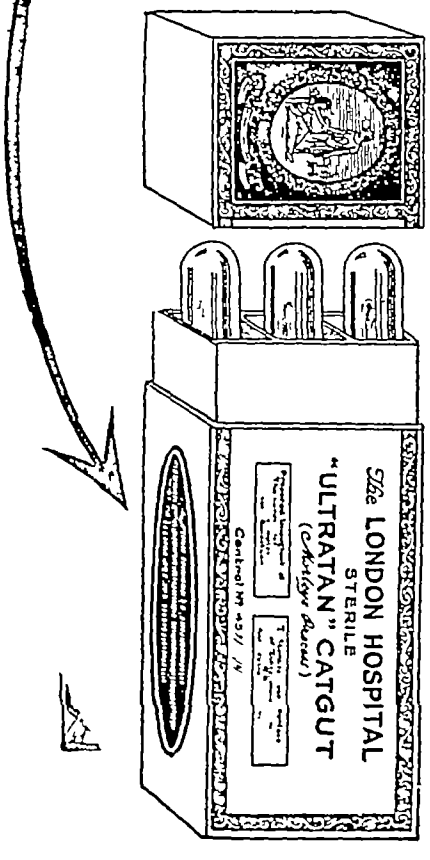
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Three Lectures
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CONTRACTED PELVIS

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FOR ADVANCED STUDENTS,
BY
GIBBON FITZGIBBON, M D , F R C P I ,
MASTER, ROTUNDA HOSPITAL

I

In considering contracted pelves certain measurements have been laid down as normal, and, strictly speaking, any pelvis with measurements less than these is contracted from an anatomical aspect From the obstetric aspect a more liberal view must be taken, as the condition only requires treatment if it interferes with normal delivery The pronounced cases of contraction arise from malformation and are associated usually with marked deformity The majority of such women do not marry or enter the domain of obstetrics, and the few who become pregnant are so obviously deformed that there is no question of treatment On the other hand, the lesser degrees of contraction occur in women who, although somewhat under the normal of general development, show no deformities or physical disabilities These women enter the province of child bearing with equal frequency to the women with anatomically normal pelves and so furnish the vast majority of obstetrically contracted pelvis cases The absence of physical disability excludes the suspicion of disproportion from the minds of these women and their friends, and consequently the question is frequently not raised until difficulty in parturition has developed This oversight is further promoted by the fact that numbers of small-built women go through parturition without any difficulty

From the obstetric aspect there are two factors that enter into the difficulty in delivery when all other conditions are normal, these two factors are the size of the pelvis and the size of the infant

The normal pelvis has been defined as having an antero-posterior diameter of 4½ in or 10 5 cm and a transverse diameter of 5¼ in or 13 cm at the brim The cavity of the pelvis is practically circular, with 5 in diameters at its greatest and 4½ in at the smallest planes The dilated outlet is also practically circular, with diameters of 4½ in The normal newborn infant is commonly looked upon as weighing 7 to 7½ lb , and the diameters of the head which engage in the pelvis with a normal presentation are both 3¾ in There is considerable variation on both sides of the average in the weight of infants and the size of their heads, little notice is taken of this unless it causes difficulty, but in the case of the pelvis anything under the average is classed as contracted In a given case the pelvis is of a certain size and remains so, but the foetal head is capable of reduction in proportion to its consistence Whether such reduction will be compatible with the well being of the infant depends upon the amount demanded, but it has an enormous influence upon the obstetric outcome

In the past various efforts have been made to classify contracted pelves in simple groups based upon the type and the dimensions of the antero-posterior diameter, with a view to laying down a suitable treatment for each group It was not till near the end of the last century that an attempt was first made to bring in the ratio of the foetal head as a means of checking the conclusions drawn from the estimated size of the pelvis, still, the number of anomalies was found to be very great This is well illustrated in the tables given by Munro Kerr in his work *Operative Midwifery*, and particularly in the tables made from cases observed by himself, his observation is worth repeating

> 'From these figures it is perfectly evident that the possibility of spontaneous delivery through a narrow brim is greater than is generally supposed and as my experience increases I am more and more convinced of this but I find it very difficult to persuade others of the fact

The tables which I have compiled for the purpose of these lectures illustrate this fact very clearly and correspond very closely with the results obtained by earlier observers They clearly demonstrate that it is not possible to classify contracted pelves so as to lay down the treatment of cases in groups, and further show that each individual case must be treated on its merits and with careful observation The degree of contraction greatly influences the prognosis of the case, but it does not exclude pelvic delivery even in the major degrees nor assure pelvic delivery in the minor degrees

When I took charge of the Rotunda Hospital I endeavoured to base my treatment of contracted pelvis upon the dimensions of the pelvis and the recognized methods of estimation In a very short time I found that doing so indicated Caesarean section as the treatment in a number of cases wholly out of proportion to what was found necessary by my predecessors, and patients who theoretically should deliver themselves easily failed to do so, while others who should be quite incapable of delivery by the natural passages delivered themselves easily and successfully without the question of contraction being raised until their measurements were considered afterwards In consequence I have adopted the practice of testing each individual case, with the exception of a few with pronounced evidence of disproportion From the practical point of view, I think this is important, and certainly for the teaching of obstetrics If the student is taught to look upon contracted pelvis as a condition calling for Caesarean section, when he goes into practice and meets a case in circumstances which preclude section he looks upon it as hopeless of delivery by the normal passages, calling for interference from the start, and as the result of this interference ending in disaster, and thus further confirming the belief that contracted pelvis means a hopeless case It is therefore essential to teach the student how to recognize contracted pelvis, how to estimate the proportions, and above all how to observe the progress of a case so as to recognize, at an early stage, those incapable of delivery through the pelvis, so that proper treatment may be adopted By so doing 70 to 80 per cent of cases of contracted pelvis will terminate after a no more difficult labour than normal cases, and those cases requiring obstetric surgery can be conveyed to where such can be properly carried out, before complications or distress have developed, and without being subjected to harmful premature efforts at delivery which preclude proper treatment

Contracted pelvis in itself has no detrimental effect upon a woman, and neither has normal labour in the presence of contracted pelvis The harm arises from the prolongation of ineffectual labour, and this is a gradual development With the present-day facilities for travel there are very few spots in these countries too remote for the conveyance of a patient to a centre where she can be safely treated before secondary complications have developed In those few places too remote the practitioner can deal with the case by possibly undesirable methods, such as craniotomy, when the impossibility of successful pelvic delivery has been demonstrated, but before complications have arisen and subsequent labours can be arranged for during pregnancy to be conducted under suitable conditions

VARIETIES OF CONTRACTED PELVIS

A very large number of types of contracted pelvis have been described, but these for practical purposes can be divided into four main groups containing the majority of cases and one miscellaneous group including the irregular and rare types The four main groups are

1 The symmetrically contracted pelves
2 The small round pelves or transversely contracted pelves
3 The generally contracted flat pelves
4 The simple flat pelves

These are all dependent upon the length of the diameters compared with the normal standard and each group includes variations of the ratio of the diameters so that the different groups approach each other

In the normal pelvis the antero-posterior diameter of the brim is the narrowest passage through which the foetus has to pass, the transverse diameter is amply spacious In contracted pelvis any or all the diameters may be reduced but it is reduction in the antero-posterior diameter that first influences the prognosis for delivery A

relatively small reduction in the antero-posterior diameter brings it down to the length of the diameter of the normal foetal head that has to pass through In the transverse direction there is room for a very considerable reduction before the size of the foetal head is reached When both the antero-posterior and the transverse diameters are reduced the influence is more pronounced because the power of the transverse diameter to compensate for the reduction in the antero-posterior is lessened, but this loss of compensation is not felt till the antero-posterior diameter is reduced to the size of the foetal head It is this that makes it advisable to divide contracted pelves into four groups based upon the diameters at fault In my tables there are 190 cases of contraction met with during one year I have not included cases with an external conjugate of more than 18 cm except in the table of round pelves and two cases with marked difficulty in flat pelves The average external measurements of these 190 contracted pelves are interspinous 23 25 cm (9 3 in), intercristal 25 85 cm (10 3 in), and external conjugate 17 78 cm (7 1 in), thus showing a considerable reduction in all the diameters, although some of the cases only had reduction in one diameter, as in the simple flat pelves and some of the small round pelves

The average weight of the infants born is 7 lb 0 3 oz I think I can claim that the cases I have classed as contracted pelvis are admissible compared with other centres, as the average measurements of 99 consecutive cases submitted to Caesarean section on account of contracted pelvis in another hospital were interspinous 9 2 in , intercristal 10 in , and external conjugate 7 2 in , while the average weight of the infants delivered was 6'lb 14¼ oz

Comparison of Average External Measurements in Rotunda Cases with Cases in another Hospital, treated by Caesarean Section

	I S	I C	E C	Weight of Infants
190 Rotunda cases	9 3 in	10 3 in	7 1 in	7 lb 0 3 oz.
99 cases submitted to Caesarean section in another hospital for contracted pelvis	9 2 in	10 0 in	7 2 in	6 lb 14¼ oz

I S = Interspinous I C = Intercristal E C = External conjugate

I have based the diagnosis upon external measurements, as these can be taken of every case, whereas other methods are impossible in numerous cases I take the intercristal measurement as the basis for the transverse It is more constant than the interspinous, which is often increased by splaying in the rachitic cases irrespective of the internal dimensions

Symmetrically Contracted Pelves

My first table shows 33 cases of symmetrically contracted pelves In this group the antero-posterior measurement ranged from 18 to 15 cm and the transverse diameter was reduced in proportion, thus the cases with a conjugate of 18 cm had an intercristal of within a fraction either way of 26 cm , and the case with a conjugate of 15 cm had an intercristal of 22 cm I am very strongly inclined to believe that this type of contracted pelvis is more an hereditary characteristic than a developmental fault, the women being merely a small-statured type, and therefore may be expected to have small infants compatible with the maternal pelvis This expectation is upset in some cases by a disproportionate paternal stature The proportion of low forceps to spontaneous deliveries in this group is not greater than the common average of all cases There is one case of upper strait forceps, and this must be considered due to the contraction, but the infant was large for the group Three patients were delivered by Caesarean section, in all the infant was small, two of the cases had had previous sections done The third case is especially interesting

A primipara was given a trial of labour, the proportions seemed bad At the end of twelve hours' labour the membranes ruptured and two hours later I decided to do a section, although my assistant, who had been watching the case, maintained that progress was perfectly satisfactory according to the principles laid down for prognosis, and indicated a normal termination I performed the section two hours later, and when I opened the uterus I found the head, very little moulded, had passed the brim so completely that I had to apply forceps to bring it up again The patient would probably have delivered herself within an hour, and has delivered herself spontaneously at term, in a subsequent pregnancy, of a 6¼ lb baby after ten hours' labour—one and a half hours second stage

Small Symmetrically Contracted Pelvis

External Conjugate	No of Cases	Spontaneous Vertex	Forceps: Low	Forceps: Upper or Middle Strait	Publotomy	Caesarean Section	Infant: Average Weight (lb/oz)	Infant: Born Dead or Died	Maternal Mortality	Other Presentations and Modes of Delivery
cm 15	1	—	—	—	—	1 R 6/5	—	—	—	
15½	—	—	—	—	—	—	—	—	—	
16	2	2	—	—	—	—	7/1	—	—	
16½	4	2	—	Upper 7/1	—	1 6/8	7/0	—	—	
17	6	4	1 8/4	—	—	1 R 4/10	7/1	—	—	
17½	11	9	1 6/4	—	—	—	7/2	—	—	Version for transverse, 7/5
	9	9	—	—	—	—	7/3	—	—	
	33	26	2	1		3				1

Note —In this and the following tables the actual or average weight of the infants delivered by any operative means is indicated by the smaller figures (for example 6/12) An asterisk indicates the mode of delivery of infants born dead or which died Forceps Low = head on perineum middle = head through brim but not to perineum upper = head still gripped by brim The average weight of infants is exclusive of difficult or premature cases R under Caesarean section indicates a repeated operation

The case treated by version for transverse presentation was a 2-para, admitted well on in labour with a hand prolapsed, her previous delivery was of a breech This malpresentation must be looked upon as due to the pelvis, although final delivery was relatively easy Altogether five cases, or 14 4 per cent , in this group called for greater operative interference than normal cases, or, omitting the unjustified Caesarean section, 12 12 per cent

Transversely Contracted or Small Round Pelves

The next table is of transversely contracted or small round pelves, it contains 69 cases The antero-posterior measurements run from the normal 20 cm down to 17 cm With each of the antero-posterior measurements there may be almost any degree of transverse contraction, thus one case had interspinous 21 cm , intercristal 23 cm , external conjugate 20 cm , and similar transverse measurements were associated with each antero-posterior measurement

Transversely Contracted (Round) Pelvis

External Conjugate	No of Cases	Spontaneous Vertex	Forceps: Low	Forceps: Upper or Middle Strait	Publotomy	Caesarean Section	Infant: Average Weight (lb/oz)	Infant: Born Dead or Died *	Maternal Mortality	Other Presentations and Modes of Delivery
cm 17	3	2	—	Upper 6/12	—	—	6/8	—	—	
17½	5	3	2 6/13	—	—	—	6/12	—	—	
18	36	27	3 7/1	Mid 3* 8/0	1 6/15	1* 8/4	6/15	2	—	Breech difficult.
18½	10	5	3* 7/2	—	1* 7/0	—	6/15	2	—	Breech arrested
19	9	2	2* 7/10	Upp 2* 7/15	2* 6/3	1 9/0	7/9	3	—	
20	6	?	1 7/11	—	2** 7/11	—	—	2	1	Breech easy Face forceps Face flexed spont.
	69	39	11	6	6	2		9	1	5

The antero-posterior diameter in this group is not reduced below 17 cm , as then, even with the maximum reduction likely to be met with in the transverse, the type of pelvis becomes first a symmetrically contracted and

after that point a generally contracted flat This group contains the greatest transverse contractions met with, excepting two cases where the antero-posterior was 15 or 16 cm, and thus brought the pelves into the type of symmetrically contracted This type of pelvis is difficult to account for, it is the male type The women are not badly formed, although some are decidedly small, many are quite average in stature

The most remarkable thing in this group is the incidence of difficult obstetrics Fourteen vertex presentations had marked difficulty at the brim, while two that passed the brim resulted in dead infants The incidence of low forceps is above the normal average, and was several times associated with more than normal moulding Besides the vertex cases, two out of three breech cases presented abnormal difficulty, and there were two face presentations with small sized infants in multiparae

There were in all 20 difficult cases, or 29 per cent, and with the exception of one case difficulty occurred with an external conjugate of 18 cm or greater An important feature of this type of pelvis is that the case may present very little evidence of disproportion early in labour The head, although not well into the brim of the pelvis, does not override in front

Generally Contracted Flat Pelves

The next table shows 70 cases of generally contracted flat pelves The antero-posterior diameter is not shown greater than 18 cm, as then none of the diameters are

Generally Contracted Flat Pelvis

External Conjugate	No of Cases	Spontaneous Vertex	Forceps: Low	Forceps: Upper or Middle Strait	Publiotomy	Caesarean Section	Infant: Average Weight (lb /oz.)	Infant: Born Dead or Died.*	Maternal Mortality	Other Presentations and Modes of Delivery
cm 15	2	1	—	—	—	—	7/4	—	—	1 premature 36 weeks 4/5.
15½	—	—	—	—	—	—	—	—	—	
16	5	4	—	—	—	—	8/0	—	—	Breech premature 32 weeks 3/15
16½	1	—	1* 8/5	—	—	—	—	1	—	
17	16	10	1 7/15	—	—	1 n 7/14	6/11	1**	—	1 premature 36 weeks 5/7 version for brow 7/6
17½	12	11	—	—	—	1 n 8/6	7/1	—	—	Perforation 2**
18	31	30	4 7/12	—	—	—	7/0	—	—	
	70	56	6			2		2		6

** Perforation done for macerated hydrocephalic foetus in eclampsia and in case of prolapsed cord pulseless followed by spontaneous delivery

reduced to those of the foetal head, even the 18 cm produces no effect on delivery In this group of cases the pelvic capacity is always greater than for any given external conjugate in a round pelvis The transverse diameter may be very little less than the normal with any degree of flattening, so that the pelvis nearly conforms with the simple flat and is better transversely than the symmetrically contracted The incidence of difficulty in this group is not great One large infant was delivered by low forceps with excessive moulding and died of intracranial haemorrhage, the necessity for low forceps is only average Two cases were delivered by section—one had previously been delivered by section, in both the infant was above the average size In a 3-para who had previously delivered herself normally a brow presentation was treated by version In a primipara the cord prolapsed when the membranes ruptured and the os was only two fingers dilated, the foetus was dead, so the head was perforated and spontaneous delivery followed This and the premature cases are inconclusive, and on the whole the cases with the 18 cm conjugate may be excluded so that the incidence of difficulty was 3 out of 32 cases or 9 38 per cent, or, including the prolapse of cord case and three premature cases, the percentage is 19 5

Simple Flat Pelves

My fourth table contains 18 cases of simple flat pelves The intercristal diameter was never less than 27½ cm, while the external conjugate was as low as 15½ cm Two cases are included with 18½ and 19 cm conjugates, which

Simple Flat Pelvis

External Conjugate.	No of Cases.	Spontaneous Vertex	Forceps: Low	Forceps: Upper or Middle Strait.	Publiotomy	Caesarean Section	Infant: Average Weight (lb /oz.)	Infant: Born Dead or Died.*	Maternal Mortality	Other Presentations and Modes of Delivery
cm 15½	1	—	—	—	—	1 8/12	—	—	—	
16	1	—	—	—	1 7/12	—	—	—	—	
16½	—	—	—	—	—	—	—	—	—	
17	2	2	—	—	—	—	8/12	—	—	
17½	3	1	1 8/4	—	—	1 n. 7/14	7/15	—	—	
18	9	6	3 7/9	—	—	—	6/15	—	—	
18½	1	—	—	—	—	1 6/12	—	—	—	
19	1	—	—	—	1 6/4	—	—	—	—	
	18	9	4		2	3				

would indicate a negligible reduction in size, but in both the head failed to enter the brim after a reasonable trial of labour, and delivery was effected by pubiotomy or section Both cases suggested rickets with splayed iliac crests Excepting these cases difficulty was in proportion to the degree of antero-posterior contraction, associated to some extent with the size of the foetus On the whole the infants tended to be larger than in the other tables Excluding the two large measurements for which spontaneous deliveries are not included, this group shows abnormal difficulty in 3 out of 16 cases, or 18 75 per cent, and the application of low forceps compared with spontaneous delivery is higher than in any other group The cause of this type of pelvis, excluding the rachitic ones, is difficult to suggest The most important character in a simple flat pelvis is the pronounced forward projection of the head, or even obliquity over the brim of the pelvis, when it is not incompatible with pelvic delivery

Rachitic Pelvis

The following table is composed of cases from the preceding groups Symmetrically contracted 6 cases 18 18 per cent Small round (transversely contracted) 12 cases 17 40 per cent Generally contracted flat 13 cases 18 57 per cent Simple flat 2 cases 10 10 per cent

Rachitic Pelvis Splayed Iliac Crests

External Conjugate	No of Cases	Spontaneous Vertex	Forceps: Low	Forceps: Upper or Middle Strait	Publiotomy	Caesarean Section	Infant: Average Weight (lb /oz.)	Infant: Born Dead or Died.*	Maternal Mortality	Other Presentations and Modes of Delivery
cm 16	4	4	—	—	—	—	7/9	—	—	
16½	2	1	1* 8/5	—	—	—	7/12	1*	—	
17	3	2	—	—	—	—	6/8	—	—	Version for brow 7/6
17½	5	5	—	—	—	—	6/12	—	—	
18	14	11	1 8/12	Mid 6/13	—	—	/1	—	—	Arrested breech 8/11
18½	1	—	—	—	—	1 6/12	—	—	—	
19	2	—	—	—	2 6/11	—	—	—	—	
20	2	—	1 -/11	—	—	—	—	—	—	Face forceps 7/6
	33	23	3	1	2	1		1		3

My last table is composed of 33 cases taken from the preceding four groups, they are cases that showed splaying of the iliac crests and suggesting a rachitic origin Whether other cases showed rachitic evidence without this characteristic I am unable to say as I have no definite notes, but the number of cases would be very small In the symmetrically contracted cases there were 6 splayed pelves, or 18 18 per cent , in the transversely contracted 12 cases, or 17 40 per cent , in the generally contracted flat 13 cases, or 18 57 per cent , and in the simple flat 10 10 per cent There is a remarkably close percentage in three of the groups, which suggests that though rickets is a cause of contracted pelvis it is not the dominant cause of any special type In the case of the simple flat pelvis the percentage of splayed crests is markedly lower than in the other groups, and rather conforms with the absence of other evidence of malnutrition which I think is observable in this group The influence of this pelvic defect upon parturition is not pronounced, only 5 out of 33 cases presented abnormal difficulty, or 15 15 per cent One large infant, delivered by low forceps through a small pelvis, died of intracranial haemorrhage, otherwise results were good and the incidence of low forceps little above the average, being dependent largely upon the size of the foetus

Taking the whole series of 190 contracted pelvis cases, 38, or 20 per cent , presented abnormal difficulty, or this was avoided by prematurity, requiring Caesarean section in 10 cases, pubiotomy in 8 cases, forceps to impacted head in 7 cases, and perforation after prolapse of cord in 1 case Eight of these infants were born dead or died, 1 was delivered by section, 4 by pubiotomy, 2 by forceps, and 1 perforated There was no evident cause of death in the infant delivered by section as the operation was done early I shall refer to the forceps and pubiotomy cases later Twenty-three cases, or 12 1 per cent , were terminated by low forceps, in only two cases was labour protracted, but in several others, as well as after spontaneous delivery, moulding was more than normal One infant was delivered dead after a hard rapid labour and prolonged second stage, one died an hour after birth, and one on the second day, cause of death unknown The incidence of forceps deliveries for all cases in the hospital during the year is 7 63 per cent , and for primiparae alone 16 66 per cent The majority of the low forceps cases in contracted pelvis were primiparae, so that the incidence in contracted pelvis is not greater than normal

Other Types of Contracted Pelvis

Besides the types of contracted pelvis with which I have dealt there are a great number of others, each of which is very rare, and taken together do not occur in more than 1 or 2 per cent of all cases of contracted pelvis in obstetrics, these cases may be grouped as irregularly distorted pelves In two years I have done Caesarean section on a case of assimilation pelvis, 1 case of spinal curvature with ankylosis of one hip, 1 case with fracture of the pelvis and marked exostosis, and 1 case of synostotic pelvis In another hospital in two years, out of 261 cases of contracted pelvis there were two cases of obliquity due to hip disease, one kyphotic pelvis, and one round pelvis associated with hip disease On the other hand, I have had cases of severe lumbar curvature and hip disease who have shown no contraction and have delivered themselves easily Such cases are the common illustrations of contracted pelvis in museums and textbooks This has the effect of impressing the student with the idea that such cases mainly constitute contracted pelvis, whereas they only provide a few cases, and it gives a very false value to the term "contracted pelvis" and its influence upon delivery

There is one more type of contraction to which I wish to refer

Contracted Outlet

It is only to be expected that with reduction in the brim of the pelvis there should be reduction in the outlet My experience is that if the brim will allow the head to pass there will be no greater difficulty at the outlet In my four years in the Rotunda Hospital I have never had difficulty in extracting a head that had advanced to the outlet I believe the cases of reputed difficulty due to the outlet are in reality cases of disproportion at the brim and all through the pelvis, which are not noticed until the head hangs up in the pelvis, and the difficulty in delivery is due to the distortion during the forcing of the head to the outlet, and consequent interference with the mechanism I never take measurements of the outlet, and therefore have to go to another hospital for figures I find out of 261 cases of contracted pelves 65 reported as contracted outlet not included in other groups, 41 of these cases ended in spontaneous delivery and 19 were terminated with forceps, 4 are not accounted for Only one was treated by section—a primipara not in labour I found no case treated by section on account of demonstrated difficulty at the outlet in previous confinements With the exception of rare types of distorted pelvis I consider contraction of the outlet, independent of other contraction of the pelvis, of little clinical importance

The Foetal Head

The second element in the production of disproportion is the size of the foetal head The estimation of this before birth is practically impossible There is a large range in the size of heads as well as in the weight of infants, and this variation occurs in contracted pelves as much as in normal cases

There does appear to be a tendency for women with contracted pelves to produce small infants, but not always enough to balance the contraction of the pelvis or to discount the larger heads In a normal case the head presents two diameters of $3\frac{3}{4}$ in to pass the brim, and there is ample space in all directions, so that heads considerably above the average size can pass In contracted pelvis there is less margin between the head and the pelvic brim and less scope for variation in size As a result of the diminished margin of space, the head is unable to fit down into the brim and so the principal indication of disproportion is produced—a head high and free above the pelvis It is not the bony pelvis that keeps the head high, but the interposed soft tissues, and these can be displaced only by labour, but when this has occurred the head frequently enters and passes the brim easily

Degree of Contraction

Although in my earlier remarks I have pointed out the failure of defining treatment by degrees of contraction, I think there is some advantage in grouping cases for teaching the prognosis of pelvic delivery Contracted pelvis may be divided into minor, medium, and major degrees For this purpose I take the antero-posterior diameter as a basis and govern it by its relation to the average foetal head and the transverse diameter of the pelvis The average foetal head may be taken as having diameters of 9 5, capable of reduction by moderate moulding to 9 cm

Degree of Contraction, showing Cases, Treatment, and Result Premature Deliveries included under Others

	No of Cases	Spontaneous	Low Forceps	Upper Forceps	Pubiotomy	Caesarean Section	Other	Percentage Difficult
Minor Degree C V greater than 9 cm transverse than 10 75 E C 18½ I C 26	?	?	1	0	3	2	1	?
Medium Degree C V 9 cm or greater than 8 transverse not less than 10 75 E C 18-16½ I C 25½	157	114	20	5	4	4	10	14 65
Major Degree C V 8 cm transverse 10 75 E C 16½ I C 25½	26	17	2	2	1	4	0	31 61

Minor Degree —This degree includes those cases in which the conjugate is better than 9 cm and the transverse better than 10 75 cm In this degree, with the maximum of contraction in both directions, the antero-posterior space is not incompatible with the passage of the average biparietal diameter This degree of contraction may be represented in external measurements by an external conjugate of $18\frac{1}{2}$ cm and an intercristal of 26 cm The

prognosis for pelvic delivery is very good and improves as either diameter increases above the minimum In my tables only seven cases of this degree are included, in which some trouble occurred, two of these were markedly rachitic, and in four others the foetus was considerably above the average size

Medium Degree —The medium degree includes all cases with the conjugate reduced to 9 cm , but not less than 8 cm , and a transverse reduced below normal but not less than 10 75 cm These measurements are represented by an external conjugate of 18 cm but not less than 16½ cm , and an intercristal reduced to 25½ cm When the conjugate is reduced to 9 cm it precludes the passage of an average biparietal diameter, but the average bitemporal diameter is about 8 25 cm , and capable of slight reduction The prognosis in this degree depends upon to what extent the bitemporal can be substituted for the biparietal, and this depends upon the transverse diameter When the transverse is normal, the maximum exchange can occur, the pelvis is simple flat in type, and the prognosis is good even with the conjugate reduced to 8 cm On the other hand, with the transverse reduced to 10 75 cm no change from the biparietal can occur, and its passage depends upon moulding, which has reached its limit of safety at 9 cm The pelvis is transversely contracted in type, and the prognosis, although good, is not better than the simple flat with an 8 cm conjugate As both diameters are gradually reduced the prognosis gradually gets worse Of my cases 157 come into this degree, and 23, or 14 6 per cent , had difficulty greater than low forceps or were premature

Major Degree —The major degree of contraction is when the conjugate is reduced to 8 cm No improvement is obtained even with a normal transverse, as the space is not compatible with the average bitemporal diameter The prognosis is bad for pelvic delivery Twenty-six cases come into this degree, and 9, or 34 6 per cent , were difficult

In all three degrees of contraction the prognosis is improved by a reduction of the foetal head below the normal average, while increase in the size of the head makes the prognosis worse

CARCINOMA OF THE COLON *

BY

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Carcinoma of the colon is a disease which is both common and insidious, which is absolutely certain to end the patient's life if not properly treated, but which may take several years to do so, it is probably one of the most favourable forms of malignant disease which is found anywhere in the body, for it is slow-growing, remains long confined to the bowel wall, does not spread rapidly to the neighbouring glands, and only tends to form metastases rather late in its course Unfortunately its symptoms are insidious and equivocal, and it is owing to this that its treatment is often delayed, so that the results are at present sometimes not so satisfactory as they might be It is well known that one of the main symptoms of malignant disease of the large bowel is obstruction, more or less acute, and perhaps it is fortunate that in many cases this onset of obstruction occurs early in the disease and calls attention to the need of operation, though it would really be greatly preferable for operation to be performed if possible before the obstruction sets in

In this paper I intend to deal only with cases of carcinoma of the true colon, and do not include the rectum, for two reasons first, because the diagnosis of the rectal cases is very much more easy and straightforward, and secondly, because, the rectum being an extraperitoneal organ, the operative treatment of carcinoma, when it occurs there, is rather different

Malignant disease of the large bowel is, of course, most commonly seen in the pelvic colon and caecum, but we meet with it not infrequently in the splenic flexure and the transverse and descending colons, while it is least commonly found at the hepatic flexure Microscopically it is usually of a true columnar type, but to the naked eye it appears in three very distinct forms, and I wish to lay especial stress on these three naked-eye types, for they have an important influence in both diagnosis and treatment The first type, or Type A, is the annular or ring carcinoma, which is the commonest form and gives the well known appearance of a string tied round the bowel, this is more common on the left side of the colon than the right, and it naturally tends to produce obstructive symptoms earlier than do the other forms The second form, or Type B, is the proliferating or fungating type, which grows into the bowel lumen and forms a large tumour and a palpable swelling This is commoner in the right side of the colon than the left, and is of comparatively slow growth The third type, or Type C, is the hard, craggy ulcer, which grows down into the bowel wall and infiltrates it widely This is, fortunately, rare in the colon, though common in the rectum, and I say fortunately because it is the most malignant of the three types, most prone to cause metastases, and also to give rise to the fewest and least noticeable symptoms The relative malignancy of these types is also of importance in the question of operative technique, as we shall see later, for it may greatly influence the extent and scope of the operation to be performed in any individual case Type C is the most malignant, Type B the least malignant, and Type A is of an intermediate degree of malignancy

Course and Diagnosis

In the diagnosis of this condition there are several features on which I should like to lay especial stress Most of these cases which a surgeon sees are either in a state of acute obstruction, or else come complaining of constipation and chronic obstruction, or of a tumour in the abdomen

Now all these conditions must be regarded as late developments in the case, comparable in a way to the development of peritonitis in a case of acute appendicitis, or of coma in a case of cerebral tumour Earlier diagnosis is admittedly difficult and may even be speculative, but it is most important that it should be made if possible, and there are usually certain symptoms which may give rise to a sufficiently strong suspicion to justify an exploratory operation These are, in the first place, colicky pains and uncomfortable sensations after meals, diffused more or less through the abdomen, and often accompanied by loud borborygmi and gurglings Sometimes a patient will state that these borborygmi and pains seem to pass up towards some particular spot in the abdomen and then disappear, and he will perhaps suggest that it feels as if there were a blockage at this point well before any really definite symptoms of obstruction are present Secondly, there is nearly always a history of a certain amount of irregularity in the action of the intestines, either diarrhoea or constipation, and the right and left hand sides of the colon appear to behave very differently in this respect for whereas in the case of a growth in the left side of the colon there is nearly always more or less marked constipation, in the right side of the colon a growth very rarely causes constipation, but more frequently diarrhoea and loose motions It is well known that a growth at the extreme end of the colon and in the rectum will cause prolonged diarrhoea, but this is really a spurious diarrhoea and not quite comparable with that due to a carcinoma in the caecum and ascending colon, it serves to call attention, however, to the fact that every case of diarrhoea in an adult which persists for more than ten days and does not promptly react to medical treatment urgently demands examination to see if there is a malignant growth, either in the lower end or the upper part of the colon The constipation, which in other cases is so marked a symptom, often gives the clue to the whole condition, and the sudden commencement of difficulty in getting the bowels to act in a middle-aged patient who has previously been perfectly regular in this respect is a most suspicious symptom.

* Extracts from a paper read to the Shrewsbury Division of the British Medical Association.

The difference in the type of intestinal irregularity which is produced by a carcinoma in the right-hand or left-hand side of the colon—namely, diarrhoea in the first case and constipation in the latter—is probably due to two facts:

(1) That the intestinal contents are far looser and more fluid in the caecum and ascending colon, and can therefore pass through any narrowed portion of the bowel more easily

(2) That the type of carcinoma found at the two sides of the colon is usually different

The commonest form on the left side is the ring carcinoma, and this, of course, soon narrows and obstructs the bowel, whereas in the right side of the colon we do not often see this variety, for the growth is more commonly of one of the other two types, and neither of these produces obstructive symptoms for some time This being so it is usually those cases in which the growth is in the caecum or ascending colon which come to the surgeon complaining of a palpable swelling in the abdomen Malignant disease of the colon is nearly always a slow-growing type of carcinoma, and the right side of the colon appears to give rise to growths which grow more slowly even than those in the left side, and it is not uncommon to find patients with growths of the caecum or ascending colon who have had symptoms for two or even three years and are yet tolerably fit and well

In addition to the symptoms of disordered intestinal function there are, as a rule, very definite changes to be found in the faeces blood is probably always present, not usually in large quantities, and it may need chemical or microscopic examination for its detection, mucus also is usually present, and often this is commented upon by the patient This presence of mucus in the stools is also of importance as affording some evidence as to the situation of the growth, for the nearer the carcinoma is to the lower end of the colon the greater the amount of mucus in the stools, while in the case of malignant disease of the caecum or ascending colon mucus is not often detectable at all Of this mucus a certain small amount comes from the ulcerated surface of the growth, but the bulk of it is probably secreted by the inflamed mucous membrane which is usually present above the growth Anaemia is another symptom of importance which is often present, and though it is not so severe as a rule as in cases of carcinoma of the stomach, it is often a very marked feature As soon as any slight tendency to obstruction sets in, often quite a long time before there are any signs of acute and absolute obstruction, there will be more or less distension of the abdomen, and wherever in the colon the growth is this distension will affect the caecum chiefly, and this distended caecum will be both visible and palpable

Certain accessory methods of diagnosis are often of use [illegible]mical examination of the faeces may demonstrate the [illegible]nce of blood which cannot be detected with the naked [illegible] while *x*-ray examination with bismuth or barium is [illegible]sionally, but not often, of assistance Bismuth or [illegible]rium meals are, I think, useless in this connexion, and if we are to gain any information in the case of disease of the colon the bismuth (or barium) must be administered by a high enema, and not by the mouth, in this case a 'filling defect" or a constriction may occasionally be seen in the bowel lumen, but I do not personally place very much reliance upon the presence or absence of these signs Rectal examination is, of course, of the greatest importance, for by its means not only may growths at the top of the rectum be felt, but at times carcinomata of the pelvic colon lying in the pelvis at the side of the rectum may be palpated through the rectal wall Bimanual examination under an anaesthetic will sometimes detect a growth which is impalpable by any other means Of almost equal importance is sigmoidoscopy, for by this means [illegible]s lying anywhere in the pelvic colon can be se[illegible]*ed Outlet* [illegible]s of their size and operability made [illegible]d that with reduction in [illegible]ons can be removed by th[illegible]ould be reduction in the outlet remember that not [illegible]f the brim will allow the head to pass situation for th[illegible]o greater difficulty at the outlet In my of the bowel [illegible] the Rotunda Hospital I have never had [illegible] extracting a head that had advanced to the palpation or by rectal examination, and it is therefore of the greatest use to be able to find out the condition of the pelvic colon for certain by means of the sigmoidoscope

Signs and Symptoms of Complete Obstruction

I wish now to pass from the diagnosis of malignant disease of the colon in its early and pre-obstructive stage to a consideration of the signs and symptoms which it produces when it is giving rise to complete and more or less acute intestinal obstruction This is, unfortunately, the stage in which a great many cases are seen by the surgeon, and, owing to the fact that there are one or two ways in which obstruction from this cause differs from that due to other causes, the condition is at times allowed to progress for several days before surgical treatment is established In a case of this kind there will usually be a history of symptoms pointing to a growth in the colon which have been present for some months, though this history will often take a considerable amount of extraction from the patient, and in fact in some cases it cannot be obtained When the final obstruction supervenes, although the blockage is absolute and no motions or flatus may be passed at all, yet there is often an absence of some of the classical symptoms of acute intestinal obstruction, and the condition may not appear to be at all acute in nature Pain and vomiting are often absent, at any rate for several days, and not infrequently the patient remains for a week or ten days without passing anything, without pain or vomiting, with a good pulse and a clean tongue, often the only symptom that points to the seriousness of the condition is the gradual and steadily progressive distension of the abdomen, which persists and after a few days may lead to a most enormous abdominal overdistension This distension affects first of all the right flank and right iliac fossa, but soon involves the whole of the abdomen, which becomes uniformly blown up and tympanitic, inasmuch as there will soon be a certain amount of clear fluid exuding from the hyperdistended bowel into the peritoneum, shifting dullness may be present in the flanks, but we must not be led into regarding the whole condition as due to ascites because of this The absence of pain and vomiting and the clean tongue, which are not infrequently seen, are probably due to two things (1) we are here dealing with a pure obstruction or blockage of the bowel without any strangulation of its wall, (2) the fact that the obstruction is so low down that the whole of the upper part of the bowel, large and small, can act as a reservoir for the accumulated intestinal gases and products for a long time The age of the patient, usually between 40 and 70, the absence of any other discoverable cause for the obstruction, its gradual onset, and above all the presence of a palpable and grossly distended caecum and ascending colon, will usually render the diagnosis of the condition fairly certain

TREATMENT

In considering the treatment to be adopted in these cases, I think that we must regard the subject from two standpoints first, what should be done in a case where obstruction, acute or subacute, is present, and secondly, what surgical methods are suitable in the early cases, in which there is no obvious obstruction I would further subdivide the cases met with under four headings those which are obstructed and where the growth is removable, the obstructed and irremovable, the non-obstructed and removable, and the non-obstructed and irremovable

Obstructed Cases

In the obstructed cases operation is, of course, a matter of more or less urgency, but a few hours' or even a day's delay is sometimes not of very great import, and I would urge that before any operation is undertaken for the relief of obstruction due to carcinoma of the colon the effect of one or two turpentine enemata should be tried These are not, of course, likely to cure the obstruction, but they do occasionally relieve it, and if this is happily the case the operation to remove the growth can then be [illegible]ne a few days later in a non-obstructed patient, and [illegible]prove far easier and safer and more satisfactory [illegible]ther cases the administration of these enemata [illegible]uga

will bring away a certain amount of flatus, and by so doing will lessen the distension and make the patient's condition better and the operation less troublesome It must be remembered that operation in an obstructed case is primarily done to relieve the obstruction and not to remove the growth, and that when obstruction is present no radical operation of removal of the growth and anastomosis of the bowel must be attempted, for its risks are far too great At the same time it is essential, when operating for obstruction due to carcinoma of the colon, to ascertain exactly where the growth is and whether it is removable or not, for the question of removing it later at a second operation, after the obstruction is relieved, is certain to arise To do this it is best to make an incision below the umbilicus and slightly to the right of the mid-line and insert the hand, great care should be taken not to allow the distended coils of intestine to escape, for this will cause increased shock, and there may be difficulty in getting them back The caecum should then be palpated to see if it is distended or empty, and remember that these very distended caeca are often easily burst by undue pressure If the caecum is distended the obstruction is in the colon, if collapsed it is in the small bowel In the case of a carcinoma of the colon the caecum will always be found to be distended, and the colon should then be examined, commencing in the pelvis, passing up the left side, across, and down the right side till the growth is felt The growth should then quickly be examined, both by palpation and inspection if possible, and special attention paid to whether it is fixed or not, and whether there are secondary growths elsewhere, in lymphatic glands, the liver, the pelvis, etc

Selection of Operation

Having ascertained whether the growth is removable or not the obstruction must then be relieved, and there are three main ways of doing this (1) By a colostomy or caecostomy above the growth (2) By short-circuiting the growth by anastomosing the bowel above the growth to that below the growth (3) By excising the growth, leaving the two ends of the bowel open and tying Paul's tubes into them On no account must the growth be removed and the radical operation completed there and then in one stage by anastomosing the bowel ends, for the bowel wall, in its distended, sodden, and septic condition will not hold the stitches well and disaster will result There is little doubt that of these methods a caecostomy or colostomy is the safest and easiest, and if the growth is very low down in the colon it may be the only procedure to be done, for there will not be enough bowel below the growth for an anastomosis to be possible

If, then, the growth is operable so that the patient will probably wish to have it removed at a later operation in two or three weeks' time, a temporary caecostomy or temporary colostomy, done without too big a spur, so that it will close itself or can easily be closed later, is undoubtedly the best method of relieving the obstruction with a view to resection of the growth later If, however, the growth is not operable and the question of removing it later does not arise, a colostomy, if done, will have to be permanent, and then we may hesitate rather as to whether it is not more pleasant for the patient to do a short-circuit rather than submit him to the unpleasantness of a permanent colostomy, even though the risk is slightly greater, and in these inoperable growths, unless the bowel wall is very distended and sodden, so that a short-circuit would carry a great deal of risk, I personally prefer, if possible to do the anastomosis rather than a colostomy In any case, if the growth is in the caecum and near the ileo-caecal valve, there will not be room to do a caecostomy above it, and as an ileostomy is not a justifiable procedure owing to the starvation and the digestion of the surrounding skin which it produces, a short-circuit between the end of the ileum and the colon below the growth is the only procedure to be done

The third method, that of excising the growth during the operation for acute obstruction and tying Paul's tubes into both ends of the bowel, is variously ascribed to von Mikulicz and to Paul, but I do not practise it, for it is an unnecessarily elaborate operation to undertake while the acute condition is present, and the necessarily distended condition of the bowel will interfere with the excision of the growth being as free and unhampered as it would be if performed later at a second operation

The results of these operations for acute obstruction due to carcinoma of the colon are in some ways disappointing for there is a very definite mortality attaching to them—somewhere in the neighbourhood of 25 per cent Although at times the patient appears to be remarkably fit in his general condition, yet after even so simple a procedure as a straightforward colostomy sudden collapse and death sometimes occur, while it is not unusual for the colostomy to fail to act, and so for the obstruction not to be relieved In some instances this failure of the colostomy to act is due to the way in which it is done, for the bowel is hyperdistended and on the verge of becoming paralysed, if now the colostomy is performed by simply bringing the colon out through the abdominal wall and inserting a Paul's tube into the side of it, the constriction of the protruding gut by the abdominal muscles may be sufficient to prevent the semiparalysed bowel from expelling its contents This can easily be prevented by using a prolongation of the Paul's tube which will run into the bowel for three or four inches, and which can be made by introducing a tightly fitting rubber tube into the Paul's tube so that the rubber stands out for two or three inches This little prolongation will ensure that the way out for the contents of the colon is not unduly constricted, and since I have taken to using it there have been far fewer cases in which the colostomy has failed to act Another wise proceeding is the introduction of one or two ounces of glycerin down the Paul's tube into the bowel as soon as the operation is finished

Non obstructed Cases

We can now proceed to consider the question of the treatment of those cases which are not yet obstructed, and this, of course, largely depends upon the question of whether the growth is operable or not It is in many cases exceedingly difficult to say whether any particular growth is going to be capable of removal or not until the abdomen is opened, though, of course, if the patient is very weak and debilitated, or has any other gross disease, or if secondary growths can be detected in the liver, glands, or elsewhere, we can feel certain that nothing in the way of removing the growth should be done As a general rule a colonic growth which can be felt to be large —that is to say, which gives the impression of being bigger than a large orange—will very probably not be removable even though it is quite movable For it will be found to have infiltrated extensively into the root of the mesentery and into the surrounding structures

On opening the abdomen in one of these cases then, the first thing to be done is to ascertain whether the growth is operable or not—if it is small and movable and there are no secondary growths it is, of course, capable of removal a moderate amount of fixity by adhesions on to the posterior abdominal wall does not render it irremovable nor does the presence of glands on the side of the bowel or in the mesentery close by But if there is a big mass of glands at the root of the mesentery or further up on the aorta, or in the hepatic fissure, or if there are nodules of secondary growth in the liver, the omentum, or the peritoneum, especially that of the pelvis, no attempt will be made to remove the primary growth Should the growth for one or other of these reasons prove to be irremovable there is nevertheless a step that can be taken which will relieve the symptoms, prevent obstruction, and prolong life considerably, and that is the performance of a short-circuit above and below the growth This is best done by means of a lateral anastomosis between the bowel above and that below the growth, but it is well to remember that in many cases the ileo-caecal valve is continent and prevents backward regurgitation from the caecum into the ileum in this case, if the anastomosis is made between the ileum above the valve and the colon below the growth the caecum will become distended with gas and secretions which cannot pass down because of the growth, and cannot

pass up because of the ileo-caecal valve, and not only will this cause pain and discomfort, but there is also considerable danger of the caecum bursting or perforating This operation of short-circuiting an irremovable growth is well worth doing, for not only is malignant disease of the large bowel of slow growth, but when it is relieved from the irritation of faecal matter passing over it it will grow even more slowly The way in which the growth destroys life early is, of course, by causing obstruction, and once this danger is removed by the short-circuit many patients live comfortably for a considerable time, often two or three years, a colostomy, of course, achieves the same object, but it does so often with considerable permanent discomfort and distress to the patient

Removable Growth Not Producing Obstruction

We now come to our fourth and final class of case, in which there is no obstruction and the growth proves to be removable, and here our aim and object should be to excise the growth and reunite the ends of the bowel by some form of anastomosis straight away at one sitting Even in this case, where the growth is removable, there are certain eminent authorities who prefer to make no attempt at all to remove the growth, but merely do the short-circuiting operation, described above, in all cases, for they say that the risk of performing a short circuit is considerably less than that of removing the growth, and that if the growth is not removed, but a short-circuit is performed, the patient will probably live comfortably for two or three years, whereas even if the growth is removed he will probably suffer from a recurrence within two or three years Theoretically these arguments are true enough, but personally I have no sympathy with the conclusions to which they lead, for by removing the growth we offer the patient a reasonable chance of a permanent cure, at a certain risk, and I think that most patients would prefer to face this rather than to have a certainty of death within two or three years and less immediate risk at the operation Of course, if the patient is over 65, or is feeble and not likely to live long in any case, we may then rightly choose the short-circuiting operation rather than the radical removal The nature and scope of the operation and the anastomosis which should be performed when removing a carcinoma of the colon depend naturally upon the situation and extent of the growth, and the same operation will be done whether it is being performed as a primary removal of a non-obstructed growth or as a secondary operation after acute obstruction has been relieved a week or two before The procedure in general consists in mobilizing and freeing the growth and that part of the colon in which it lies, if necessary, and then removing the growth, a certain amount of bowel above and below it, and a deep V-shaped piece of the mesentery right down to the mesenteric root, and calculated to include all the glands and lymphatic vessels which drain that portion of the colon to be removed, all these structures being excised in one piece As these growths appear to extend microscopically rather further up the bowel than down it, and to spread especially in the submucous layer, it is customary to remove rather more bowel above the growth than below it The ends of the bowel are then joined together, either by lateral, end-to-end, or end-to-side anastomosis and it is a wise precaution to prevent an undue distension of the bowel above the junction with gas by making a temporary caecostomy as a safety valve If the union is low down in the colon this object will be equally well achieved by stretching the anal sphincter, or by passing a flatus tube up from the anus through the anastomosis and leaving it in place for a few days

So constant are these colonic growths in position that the operations which are performed for their removal are now more or less standardized Thus for growths in the caecum or ileo-colic colon, for sigmoidoscopy, for growths in the colon it is necessary to remove the ileum, the pelvic colon, caecum and the ascending colon in order that the size and operability may be assured, the glands outside the limits of the growth, can be removed by the surgeon, and the vessels are liable to interfere with the operation. It should be remembered that not less than the last few inches of the ileum and also the hepatic flexure, and the greater part of the transverse colon near the hepatic situation for the anastomosis of the bowel are the Rotter method customary in cases of carcinoma in the sigmoid and extractive the lowest five inches of the ileum, the caecum, the ascending colon, and a few inches of the transverse colon, and then to re-establish the continuity of the gut by uniting the ileum to the transverse colon by either side-to-side or end-to-end union In this case there is no means of providing a safety valve above the anastomosis, nor is there any need so to do, as the faeces are here quite liquid This operation must, of course, be preceded by mobilizing the caecum and ascending colon by means of an incision through the peritoneum of the posterior abdominal wall, on the outer side of the colon, and it will also entail a dissection of the lymphatics and glands up to the origin of the superior mesenteric artery In the case of growths of the transverse and pelvic colons, where there is a well marked mesentery, simple resection of the growth with a deep V of the mesentery and end-to-end union is sufficient, while if the carcinoma is in the descending colon or splenic flexure, as before, mobilization of the flexure and colon will be necessary, and then we must remove a few inches of the transverse colon, the flexure, and the whole of the descending colon When dealing with portions of the large bowel which are not completely covered with peritoneum, such as the descending colon, it is well to remember that it is not wise to perform end-to-end anastomosis, and that lateral or end-to-side unions are preferable if possible When performing a lateral or side-to-side anastomosis on the left of the colon, as after removal of the splenic flexure, I usually deliberately make an antiperistaltic anastomosis instead of the usual isoperistaltic one, for this reproduces to a certain extent the natural angle of the splenic flexure and turns the closed ends of the bowel and the raw edges where the mesentery has been cut, out into the retroperitoneal tissues and prevents them forming intraperitoneal adhesions

Some knowledge of the relative degrees of malignancy of the three types of growth which are met with, and to which reference has been made above, is important, for in the most malignant type—the hard, craggy ulcer—one would feel justified in performing a more extensive and more radical operation than would be necessary for one of the other two less malignant varieties, and we can, during the operation, balance in our mind the extent of the procedure rendered necessary by the degree of malignancy of the particular type of growth present, and compare it with the patient's strength and ability to stand such a procedure

The diagnosis of carcinoma of the colon in some ways resembles that of carcinoma of the stomach, for both are obvious in the later stages, but are difficult of diagnosis in the early stages, and this is the time when they should be subjected to operation if we are to offer the patient a reasonable chance of non-recurrence Of both diseases the surgeon sees more cases which are inoperable than operable, this alone should be sufficient to make us feel that, on a reasonable suspicion that either of these diseases is present, an exploratory laparotomy is more than justifiable

THE CUTANEOUS TUBERCULIN TEST

APPLIED TO A SERIES OF DEFINITELY DIAGNOSED CASES OF TUBERCULOSIS

BY

S L CUMMINS, C B, C M G, M D,

DAVID DAVIES PROFESSOR OF TUBERCULOSIS, WELSH NATIONAL SCHOOL OF MEDICINE, CARDIFF, AND PRINCIPAL MEDICAL OFFICER, WELSH NATIONAL MEMORIAL ASSOCIATION

In the BRITISH MEDICAL JOURNAL of April 21st, 1923 (p 673), Dr Charles McNeil describes a method of carrying out the cutaneous tuberculin test as follows

"A small circular area of skin on the front of the forearm is chafed with the sharp point of a darning needle until the epidermis is removed and the pink cutis vera exposed Care is taken to avoid bleeding The eye of the needle is now charged with undiluted old tuberculin, and pressed into the prepared vascular surface with a rotary motion A small bruised pit is thus formed from which the tuberculin is rapidly absorbed"

In the course of an investigation into a series of cases of tuberculosis, some pulmonary, others surgical, under treatment in certain of the residential institutions of the Welsh

National Memorial Association, it became necessary to ascertain the extent of their sensitivity to tuberculin, and the *McNeil technique* appeared to be a suitable one for the purpose As, however, it was desired to obtain, at the hands of workers in three different institutions, results that should be comparable, it was clearly necessary to standardize the test as far as possible, especially as regarded the size of the area of scarification A means of limiting the excursion of the needle-point to a definite area was found in the Abel Morrall metal gauge for knitting-needles, an instrument obtainable for a few pence, consisting of a plate of metal perforated with a graded series of apertures by which knitting-needles are measured Aperture No 3 was found to be of suitable dimensions for the test For use, the metal gauge was pressed firmly against the surface of the forearm of the patient, so that the skin bulged up slightly into the circular aperture Over the area of skin thus fixed and delimited the point of the needle was worked until a circular patch of cutis was laid bare The gauge was now removed, leaving a scarified area of standard size into which the tuberculin was rubbed after the method of McNeil The needles used were "Crescent" (sharp) carpet needles, which were chosen for their sharp points and capacious eyes, suitable for carrying and "rubbing in" the charge of tuberculin

In each case a series of six scarifications were made, three on each forearm, with a view to employing five strengths of tuberculin and a control The strengths of tuberculin used were as follows 2, 4, 8, 16, and 32 per cent These dilutions were prepared just before use by a "drop method" suggested by Professor Dreyer, F R S , sterile normal saline solution being used as the diluent and also as the control fluid This method is shown in the following table, published with the kind permission of Professor Dreyer

TABLE I.—*Professor Dreyer's Tuberculin Dilution Method*

No	Tuberculin		Saline	Dilution.	Strength (per cent.) of Tuberculin
1	1 drop	+	48 drops	1 in 49 4	2 02
2	2 drops	+	8	1 in 25·2	3 97
3	4	+	26	1 in 12 3	8 13
4	4	+	12	1 in 6.2	16 1
5	8	+	10	1 in 3 2	31 5

Saline to be dropped in first dropping pipette cleaned and dried Tuberculin dropped in Saline and tuberculin carefully mixed—without violent shaking Same dropping pipette to be used for same series of dilutions

(The dropping pipette used is that supplied for use in the Dreyer agglutination technique The tuberculin dilutions should be made up freshly for each series of observations as alterations take place on keeping In the usual methods of dilution in which measured volumes of tuberculin and diluting fluid are drawn up into a syringe or pipette successive diminutions of concentration being obtained by further dilutions measured with the same instrument there is a considerable fallacy due to the retention of an indeterminate quantity of tuberculin on the inside of the syringe from the last concentration used In Dreyer's method this error is entirely eliminated a point of great importance where accurate comparisons of reactivity are sought)

The tuberculin selected for the tests was P T O (B W and Co) Phials of this preparation, together with standard dropping pipettes and sterile salt solution, Morrall gauges and carpet needles, were provided for each institution, together with exact details of the technique to be employed The results of the tests were read after 24, 48, and 72 hours and on the fifth day

In all, 80 cases were investigated, these included 24 advanced pulmonary and surgical cases tested by me at Glan Ely Hospital, near Cardiff, 30 sanatorium cases, tested by Dr H E Watson at the South Wales Sanatorium, Talgarth, and 26 patients, some pulmonary and some surgical tested by Dr D A Powell at the North Wales Sanatorium, Denbigh The results are summarized in the following table

It will be noticed that the severe cases, for the most part young phthisical women and "surgical" children at Glan Ely Hospital and the North Wales Sanatorium, gave but a small percentage of "positives" with the more dilute tuberculin, though nearly all of them reacted to the concentrated doses At Talgarth, however, where the patients were males with, for the most part, a more favourable type of disease, the proportion reacting with weak tuberculin was considerable

TABLE II

Tuberculin Strength (per cent.)	Glan Ely Hospital (24 patients) Positive	North Wales Sanatorium (26 patients) Positive.	South Wales Sanatorium (30 patients) Positive	Total (80 patients)
2	7	6	17	30 = 37.5%
4	6	7	21	34 = 42.5%
8	9	9	24	42 = 52.5%
16	21	20	27	71 = 88 7%
32	24	22	8	74 = 92.5%

The results of the tests were, on the whole, best seen after forty-eight hours, although, as in the cases reported by McNeil, some of the reactions appeared late In the majority of cases the reactions were fading or had faded by the fifth day, but some few persisted for several weeks The relation of time and of the strength of tuberculin to the number of "positives" on each day of the observation is shown in Table III, based on the Talgarth cases only

TABLE III.
(Thirty cases)

Tuberculin Strength (per cent.)	After 24 hours	After 48 hours	After 72 hours	Fifth Day
2	9	13	10	5
4	13	18	15	8
8	19	21	19	12
16	23	27	22	15
32	25	26	5	19

Here it is seen at once that the number of cases showing a positive reaction is highest in every tuberculin concentration after forty eight hours, and that the numbers were already falling after seventy-two hours

Amongst the patients investigated by me at Glan Ely Hospital the two cases that gave the feeblest reactions both of them female patients with advanced pulmonary disease, died within three months of the tests Another patient a man suffering from advanced spinal disease as well as pulmonary tuberculosis, is now, at the end of three months from testing, rapidly nearing his end The patient, a male pulmonary case, that gave the strongest reaction—"double plus" with every dilution up to 2 per cent—*has greatly* improved and is making rapid progress under treatment

I learn from Dr Powell that the patients found by him to give a negative or doubtful reaction were all severe cases, one with acute phthisis and two *with advanced sacro-iliac* disease complicated by sinus formation These observations, taken with the tendency observed at Talgarth to well marked reactions even with the more dilute tuberculin, support the view, generally held, *that a sharp reactivity is associated* with good powers of resistance At the same time it was observed that many severe and advanced cases reacted fairly well, especially to the stronger concentrations of tuberculin and there is *little doubt* but that, had undiluted tuberculin been employed as recommended by McNeil, a positive response would have been evoked in every case Out of the 80 patients tested, a positive response, weak or strong, was noted *with* at least one "strength" of tuberculin on one or more of the days of observation in all but three cases—that is to say, in 96 2 of the total

My thanks are due to Dr A Brownlee Medical Superintendent Glan Ely Hospital and to Dr W H Tytler Central Tuberculosis Laboratory Cardiff for their kind help and to Dr H. E. Watson of the South Wales Sanatorium and Dr D A Powell of the North Wales Sanatorium for their co-operation in carrying out the tests and for their kindness in placing their results at my disposal.

OBSERVATIONS ON UNILATERAL DIURESIS.

BY

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At the Clinical Congress of the American College of Surgeons held at Boston in October, 1922, I had the honour of presenting an account[1] of what for convenience I termed unilateral diuresis, based on a study of 448 cases, in which both ureters were simultaneously catheterized and the specific gravity of the specimens recorded. Since then 50 further observations have been added, these do not materially affect the statistics then given, but tend to confirm the view I have so often expressed—namely, that diminution of the specific gravity of the urine on the affected side is of such frequent occurrence in certain disordered conditions of the kidney as to be of considerable assistance in diagnosis.

A small irritating stone in the pelvis of the kidney may give rise to a unilateral diuresis so definite and striking as to impress even the most casual observer, affording strong confirmatory evidence of renal disturbance in the absence of such gross signs as pus or blood in the urine. The following is an example:

A woman, aged 34, had had frequent attacks of pain in the left lumbar region, radiating to the lower extremity. The right kidney was movable. Although there was a history that in one of these attacks the urine had been dark in colour, repeated examination subsequently failed to discover blood or pus. A small amount of albumin was occasionally present. Pressure in the left renal region gave rise to pain in the right. *X* rays, which at that time were less reliable than at present, failed to demonstrate any abnormal shadow. The patient was advised by her medical attendant to have the right kidney fixed in position, on the supposition that its mobility might be responsible for referred pain in its fellow of the opposite side. Ureteral catheterization, however, showed that the left ureter was discharging more rapidly than the right, and that the specimen from that side had a specific gravity of 1005 as compared with 1015 on the right. There was albumin in small quantity on both sides, but the amount was greater on the left. Blood and pus were absent on both sides. Acting on this evidence notwithstanding the negative *x* ray findings, I explored on the left side and found a small calculus in the pelvis of an otherwise healthy looking kidney. The calculus was rough and irregular in shape, weighed half a gram, and was composed of calcium oxalate.

This observation was made in the year 1908, and impressed me so much that I began to keep a record of all cases in which simultaneous catheterization of the ureters had been carried out. In most of these the catheter was passed only a few centimetres into the ureter so that the rhythm and volume of the jets might be the more easily observed. The results have been described in the paper referred to.

As I have already said, a small renal calculus will produce in certain cases a rapid flow of pale, limpid urine of low specific gravity on the *affected* side. The flow from the *sound* side may be correspondingly diminished, and the specimen so concentrated that a copious precipitate of urates is rapidly deposited. The relative specific gravities *may be 1005 or less on the affected side, as against 1015* to 1030 on the sound side.

When a renal calculus has long been present other complications are introduced, such as pyelitis, hydronephrosis, etc., and in these conditions also the specific gravity will often be found lower on the affected side, possibly from a different cause. In tubercle of the kidney an exactly similar state of affairs is present. Lowered specific gravity was present in practically every case examined. In a large proportion it was 1005 or less, as against 1015 to 1025 on the sound side. A localized focus of tubercle communicating with the pelvis of the kidney may produce a diuresis on that side strongly resembling that caused by a renal calculus, as in the following case, recently under treatment:

A man, aged 35, who had had hip-joint disease when a boy, began to suffer from frequency of micturition three months before I saw him. Two months later a deposit appeared in his right epididymis. Tubercle bacilli were found in his urine. Specimens were obtained from both ureters. On the right side the flow was sluggish and the specimen was deep amber in colour, sharply acid, had a specific gravity of 1020 and was free from abnormal constituents. The flow from the left side was rapid and the specimen was pale amber in colour, cloudy, acid, had a specific gravity of 1010, and contained a small amount of pus and albumin. The percentage of urea on the right side was 1·94 as against 1·25 on the left, and that of sodium chloride 1·67 on the right as against 0·766 on the left. Tubercle bacilli were found in the specimen from the left. The amount of urine passed in the twenty-four hours varied from 40 to 50 oz. The left kidney was explored. Nothing abnormal could be seen on outward examination, except a little thickening of the ureter. On removal and section a small cavity about the size of a cherry stone *was found in the upper pole, communicating with a neighbouring calyx*. One grey tubercle was found in the cortex of the upper pole on stripping the capsule. The remainder of the kidney appeared perfectly normal to the naked eye. Microscopical examination showed a caseous area in the upper pole, surrounded by small round-celled infiltration. Portions of the remainder of the kidney were examined and found to be normal.

As in calculus, the later manifestations of tubercle produce changes in the kidney which seriously affect its structure and function, and are again associated with lowered specific gravity on the affected side.

A further example of the type of diuresis we have been considering is afforded by unilateral pyelitis. In cases with little involvement of the parenchyma of the kidney the picture closely resembles that of stone or early tubercle—namely, increased flow of urine of low specific gravity on the affected side, as in the following case:

A woman, aged 36, was examined six weeks after the onset of her illness. She had *frequency of micturition with pain during the act* and occasional small quantities of blood in the urine. *X* ray examination was negative, and coliform bacilli were found in the urine. The flow from the right side was more rapid than that from the left. The specimen from the right side was pink-coloured, contained pus and blood, and had a specific gravity of 1005. That from the left was free from pus, contained a few red cells, probably due to trauma, and had a specific gravity of 1015.

In cases of stone and pyelitis, on removal of the cause, the specific gravity and the flow soon become equal on the two sides, as in the following case, recently under observation:

A man, aged 34 years, previously healthy, was seized ten days before I saw him with severe pain in the left loin, radiating to the umbilicus. The pain was described as "terrible" and lasted until relieved by morphine two hours after its onset. He had a second more prolonged attack a week later, a third two days later still, and one shortly before being cystoscoped. In the later attacks the pain was described as lower down than in the first attack. Catheters were passed into each ureter. On the left side the catheter encountered an obstruction a short distance from the ureteral meatus, which was *negotiated with a little difficulty*. The flow from this side was vigorous and free, while that from the right was much more sluggish. The specimen obtained from the left side had a specific gravity of 1010, contained chlorides 0·304 per cent., urea 0·48 per cent., and was much greater in quantity than on the right. That from the right side had a specific gravity of 1030, contained chlorides 0·836 per cent., urea 2·16 per cent., and was discharged in drops, depositing urates on cooling. *X* rays showed a small shadow about the size of a large pin's head at the lower end of the left ureter. The patient was sent to a nursing home where he remained for four days. During this time he only passed about 20 oz. of urine per diem. On the evening of the third day a small, spiculated calculus was passed per urethram, and all pain ceased. Four and a half days later his ureters were again catheterized with the following result. There was no demonstrable difference in the rate of flow on the two sides. The specific gravity was 1015 on both sides. The specimen from the left side showed 1·45 per cent. of chlorides and 0·84 per cent. of urea, while that from the right showed 1·40 per cent. of chlorides and 0·78 per cent. of urea. In other words, the specimens on the two sides were now almost identical in composition, as regards chlorides and urea. On both occasions there were a few red blood corpuscles in the specimen from the left side, but no pus in either.

The cases just described illustrate a type of unilateral diuresis to which the term "acute" may be applied to distinguish it from the "chronic" variety in which more definite changes in the kidney are present. When the secreting structure of the kidney has been encroached upon by disease or new growth there is still a lowered specific gravity on the affected side, but the amount of urine secreted diminishes with the progressive involvement of the organ until most or all of the work is thrown on the sound kidney. This takes place in the later stages of calculus, tuberculosis, pyelonephritis, cystic kidney, hydronephrosis, pyonephrosis, and new growth. I have given examples of these in the paper referred to. The term "diuresis" as applied to these later stages, in which though the specific gravity of the urine is low the quantity is diminished, is obviously inaccurate. The following recent case is instructive:

A man aged 58 years, had noticed for a period of about six months the occasional presence of blood in his urine. The attacks were very transient and repeated attempts failed to locate the

origin of the blood The patient was fat and the kidneys could not be palpated X ray examination was negative Ureteral catheterization showed a specific gravity of 1015 on the left side as against 1025 on the right. There was a little blood in the specimen obtained from the left side by the ureteral catheter, but no colour was seen in the efflux before the catheter was passed The case was further complicated by the presence of a trace of albumin on the right side The flow on the left side was scanty compared with that on the right The chloride output was 0 33 per cent on the left side as compared with 1 25 per cent on the right The question here was whether the small amount of blood in the specimen obtained from the left side was due to trauma inflicted by the ureteral catheter I determined however to explore the left kidney assuming that a diminished flow of non purulent urine of low specific gravity on that side indicated much encroachment on the kidney substance probably by tumour At operation a large hypernephroma was discovered occupying almost the whole of the posterior surface of the kidney A strip of kidney substance remained anteriorly and at the poles

In the condition known as symptomless renal haematuria or essential renal haematuria there is less likely to be a diminished specific gravity on the affected side on account of the absence of gross changes in the kidney A difference in specific gravity on the two sides is therefore in favour of new growth rather than the less serious complaint The significance of this point in diagnosis, should it be substantiated by further observation, is obvious

I am now engaged with Professor Milroy, of the Physiological Department of Queen's University, Belfast, in an investigation of the relative chemical composition of the specimens from the two sides in these cases of unilateral diuresis Up to the present I have been chiefly concerned with the specific gravity test as a help in diagnosis The following is a short summary of the statistics given in my previous paper with this point in view

Renal Calculus—Forty-one unilateral cases were examined In 31 or over 75 per cent, the specific gravity was diminished on the affected side

Tuberculous Kidney—Thirty-eight unilateral cases were examined and the specific gravity was diminished on the affected side in 37, or 97 per cent

Unilateral Pyelitis—Thirty nine cases were examined and of these 33 or a little over 84 per cent showed a diminished specific gravity on the affected side

Tumours of the Kidney—Nine cases were examined and in 7 of these or 77 per cent, the specific gravity was lower on the affected side A tenth case (quoted above) was lately examined and here again the specific gravity was lower on the affected side—1015 as against 1025 on the sound side

Congenital Cystic Kidney—Two cases were examined both bilateral In one the disease was more advanced on one side and the specific gravity on that side was 1005 as against 1010 on the opposite side

Hydatid Cyst of the Kidney—One case was examined and the specific gravity on the affected side was 1005 as against 1015 on the sound side

Hydronephrosis and Pyonephrosis—Nineteen cases were examined and all showed as might be expected, a diminished specific gravity on the affected side

Movable Kidney—Fifteen cases were examined, and 8 showed a diminished specific gravity on the affected side

Renal Haematuria (including such diverse conditions as congenital haemophilia Henoch's purpura bilateral nephritis and the condition known as essential renal haematuria' or 'symptomless haematuria')—Thirty-seven cases were examined and in 9 only of these was there a diminished specific gravity on one side It is quite possible that in these exceptional cases unrecognized stone tubercle or tumour may have been present

Renal Pain—I have examined 44 cases of what has been described in the notes as renal colic In 27 of these or just over 61 per cent there was a diminished specific gravity on the side of the pain Further investigation of these cases might have revealed some of the conditions I have referred to above but for various reasons I had not the opportunity of continuing my observations on them

Wounds of the Kidney—These cases were investigated while on service in France during the war In 19 bilateral catheterization was carried out and of these 9 showed a diminished specific gravity on the affected side

In my previous article I discussed the causes of the phenomena just described It will be sufficient here to repeat what I said on the question of anuria and polyuria in renal calculus

While much has been written on unilateral and bilateral anuria very little has been said of the occurrence of unilateral diuresis from whatever cause produced My own experience is that unilateral diuresis is a much more common result of renal calculus than anuria The explanation of both phenomena is afforded by a study of the nerve supply to the kidney and its influence on the blood flow Through the splanchnic the kidney receives vaso-constrictor and vaso-dilator fibres The stimulus of a calculus in kidney or ureter may cause vaso-constriction and reduction or cessation of the secretion of urine on that side, due to diminished blood flow through the glomeruli On the other hand it may cause vaso-dilatation increased blood flow and diuresis My observations lead me to believe that the latter is the more common occurrence

Unilateral diuresis may occur without any pain whatever Cushny[3] discusses "pressure diuresis" seen in animals when one ureter is slightly obstructed, and states that it is almost certainly due to reflex vaso-dilatation and disappears at once when anaesthesia is deepened He suggests that a slight stimulus arouses a dilator effect, while a stronger one, such as the pain of a calculus, sets the more powerful constrictor in action and thus leads to anuria My observations, however, tend to show that severe pain in renal calculus is much more commonly associated with diuresis than anuria

In some rarer cases the specific gravity is increased on the affected side These occur occasionally when some slight obstruction is present, as in cases of movable kidney, where a kink is presumably the cause Cushny explains a similar phenomenon in animals by saying that the effect of the obstruction is to oppose the filtration pressure in the capsule A low resistance may reduce the amount of the filtrate considerably The smaller amount of filtrate passes more slowly along the tubules and more time is allowed for the reabsorption of water and sodium chloride It is difficult to understand why the same cause should produce at one time reflex diuresis and at another diminished flow and increased concentration of the urine

I have brought this subject forward to emphasize the value of a sign that may help in diagnosis where the surgeon is perhaps deprived of more accurate methods of investigation I have myself been placed in circumstances where even a reliable x ray plant has not been available, and have had to act on the information obtained by such examination of the patient as I could myself conduct

The statistics just quoted and the cases here recorded seem to me to be sufficiently striking to warrant greater attention being paid by urologists to the value of diminished specific gravity of the urine on one side as a sign of diagnostic importance in certain unilateral affections of the kidney

REFERENCE
[1] *Surgery Gynecology and Obstetrics* January 1923 pp 16–3 [2] *Lancet Journal of Surgery* 1917, v No 18 [3] *The Secretion of Urine* Longmans Green and Co 1917

RESECTION OF RIBS, SPLENECTOMY, AND SUTURE OF THE STOMACH AND DIAPHRAGM RECOVERY

BY

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A CHINAMAN, who had in his possession one hundred rupees in notes, was walking at night along the local mountain railway track with a friend with whom he was discussing the ways and means of sending this money to China As they sat down for a rest the friend stabbed him deeply in the left thorax A fight ensued during which the assailant made off, having been struck about the face The wounded man, still in possession of his money made his way to the station, where he collapsed in a Burman hut The distance he walked was about one and a half miles along the railway track

The assault took place about 9 30 p m The engineer in charge of the station took down the dying declaration prior to the arrival of the police Eventually the wounded man was transferred to the Namtu General Hospital about 2 a m when another ("official") dying declaration was taken by the Government magistrate in the presence of the accused, police, and Chinese interpreter This ceremony (which involved the burning of paper when taking the oath) took place in the operating theatre where everything was in readiness for operation

The patient was a well built robust Chinaman a Corporal in Mine coolie aged 22 There was an incised wound of the left chest wall in the anterior axillary line through which protruded a piece of omentum and air whistled loudly in and out of the opening The wound was 1½ in long and vertical in direction There were other wounds—namely an incised wound in the scalp

above the left ear, an incised wound of the left cheek, a punctured wound of the neck (left side), and an incised wound of the left middle finger Surgical emphysema was well marked and extended over the lower part of the left thorax and upper abdomen A director passed into the chest wound penetrated very deeply downwards, medially, and somewhat backwards, and on withdrawal was followed by a gush of blood During his evidence before the magistrate the patient had one fit of explosive vomiting and his general condition became much worse

Operation

The patient was anaesthetized with chloroform The original wound was extended inferiorly and medially diagonalwise The stab was found to have severed the costo-cartilage of the eighth rib, opening the pleural cavity and passing through the left cupola of the diaphragm, which was incised vertically for about 3½ in The eighth and ninth ribs in this situation were resected Further exploration showed that the spleen was wounded, and a portion of it had been sliced off and was free in the abdominal cavity Considerable haemorrhage was taking place As the wound was not large enough to deliver the spleen a horizontal incision across the upper left rectus was made While delivering the spleen a tear in the omentum close to its attachment along the greater curvature of the stomach was noticed, which on inspection disclosed an opening in the posterior wall of the stomach, the cut being 1¼ by 1/2 in , through it gastric contents escaped This opening was securely clamped The pedicle of the spleen was tied in two halves with thick silk and the spleen removed

The wound in the stomach was next attended to The rest of the abdomen was shut off to prevent further contamination and the rent sutured with catgut The peritoneal cavity in this situation was cleaned and mopped out with saline The tear in the diaphragm was next sutured with interrupted stitches of stout catgut The diaphragm was then carefully inspected from both pleural and abdominal surfaces The left lung was collapsed and was about 4 in distant from the upper edge of the operation wound The edges of the pleura were sutured with interrupted catgut and the peritoneum with continuous catgut A drainage tube 5 in long and 1/3 in diameter, to drain the left subphrenic area, and another 4 in long of the same diameter to drain the left pleural cavity, were inserted The rectus muscle was sutured with stout silk, as also the muscles and fasciae involved in the diagonal incision

During the operation and as soon as the pedicle of the spleen had been clamped half a pint of saline was given intravenously Saline was also left in the peritoneal cavity before closure Immediately after operation the following was given per rectum glucose 1½ oz , sod bicarb 30 gr , brandy 2 oz , saline to 10 oz Digitalin and strychnine, of each gr 1/100, was given every four hours, and the patient laid over on his injured side to allow freedom of the good lung and to facilitate drainage

After History

The patient had a long convalescence He had severe vomiting, developed pneumonia in his left lung, and his blood disclosed a heavy infection with subtertian malarial parasites, while he discharged freely and copiously through both tubes At one time a thick milky discharge from the abdominal tube was thought by the patient and his attendants to be milk We feared a gastric fistula His milk was therefore coloured with methylene blue, but our fears were proved to be groundless

He was given breathing exercises which involved blowing water out of one receptacle into another This caused him some amusement but later he looked upon it as a religious rite and did it conscientiously and seriously

A month from the day of the operation the patient walked about with the aid of a crutch, the abdominal wound was healed, whilst the t allowed air to whistle in and out, and a girl to flow His appetite was enormous (In his that experimental removal of the spleens in cats causes those animals to develop voracious appetites) He always complained of pain in his left shoulder, however, and later still his general condition became bad He continued to get thinner and the pain in his left shoulder region became much worse The discharge from his pleural cavity contained staphylococci and streptococci We did not think he was draining properly, and under local anaesthesia opened up the wound and withdrew 5 oz of thick pus A drainage tube 3/4 in in diameter was put in and the free end inserted into a bottle containing tincture of iodine and distilled water in equal quantities The patient was able to blow bubbles into this solution and on expiration fluid was sucked into his pleural cavity This did not produce coughing As the result of this treatment for six hours he developed severe iodism, but from that moment the septic temperature ceased and his condition continually improved The solution in the bottle was changed to one containing 1 in 100 lysol while large doses of potassium iodide were given by the mouth He used to walk about the hospital carrying his bottle slung from his shoulder like an army water bottle

He was eventually quite cured and left hospital with a very sound scar after having been in for nearly four months Auscultation of his left lung showed that the upper lobe was functioning

Remarks

1 It will be agreed that the patient's vitality was very good, that and his desire for revenge pulled him through his first week when things seemed hopeless (His assailant got six years' transportation, and the trial in its several phases took place at the hospital whenever the patient's evidence was required)

2 The diagnosis between prolapsed omentum and lung tissue is apt to be confusing, especially when air is whistling through the wound and the tissue expands and collapses with respiration

3 The path traversed by the knife must have been (i) thoracic wall (including rib cartilage), (ii) pleural cavity below the level of the lung tissue, (iii) left cupola of diaphragm on its steep parietal aspect where it, with the thoracic parietes, forms a deep cul-de-sac, (iv) parietal peritoneum, (v) large sac, (vi) visceral peritoneum (vii) spleen, (viii) large sac, (ix) small sac, and (x) stomach It will be remembered that the spleen forms part of the "stomach bed" (Birmingham), but that it is separated from it by a "niche of the great sac of the peritoneum" (Cunningham) The other organs which take part in the formation of the bed are separated from the stomach by the small sac As the peritoneum covering the posterior surface of the stomach forms part of the anterior wall of the small sac, the knife after traversing the splenic niche of the great sac must have entered the small sac, before piercing the stomach wall

4 The movement of the knife and its rewithdrawal during the struggle might also have caused (i) the tear in the omentum near the stomach wound, (ii) slicing off of a portion of the spleen, (iii) the length of the wound in the diaphragm, and (iv) prolapse of the omentum

5 The direction taken by the weapon would have been chiefly downwards, inwards, and also backwards Previous to this case we had to make a *post-mortem* examination for the police in a stab case The path traversed by the knife on this occasion was—thoracic wall, pericardial cavity just missing the left ventricle, left cupola of diaphragm near its summit, peritoneal cavity, extreme left edge of liver, extreme upper and innermost edge of the spleen, and so into the stomach (posterior surface) In this case a portion of spleen tissue intervened between stomach and liver, due to the enlargement of the spleen In this district it is "normal" for Chinamen to have large spleens We recently removed one weighing 5½ lb from a Chinese carpenter who had been stabbed [1] He made an uneventful recovery The usual weight of a healthy spleen in European countries is 5 to 8 oz

REFERENCE.

[1] Hefferman *Indian Med Gaz*, July, 1923 p 315.

THE EFFECT OF THYROID AND OVARIAN GLAND EXTRACTS IN CASES OF PREVIOUS MISCARRIAGE AND STILLBIRTH *

BY

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THIS paper is based entirely upon work done during the last eighteen months at the maternity clinic held at the Sheffield Maternity and Child Welfare Centre

Any expectant mother requiring advice may come up on Saturday morning at 10 o'clock to see the medical officer, it being clearly understood that no treatment is available beyond ordering the aperients liquid paraffin and molevac, or a malt preparation or a dried milk with a view to strengthening a mother who is being insufficiently nourished owing to the present economic situation, thus enabling her to be strong enough to feed her baby at the breast when it arrives The clinic is informal and entirely run by women Patients often wish to know if their confinements should be straightforward and whether it will be sufficient only to engage a midwife, and midwives wish to have this information before undertaking to attend a primipara This is exceedingly wise, and when the charts are completed after the arrival of the baby it is seen that an accurate forecast can be given

From February 1st, 1922, when the clinic was taken over, until December 31st, 1922, 73 charts were completed, in

* A paper read before the Sheffield and District Branch of the Medical Women's Federation

68 instances babies were born alive and healthy, four babies were stillborn, and the other mother miscarried early In two cases the mother attended once and was asked to come again, but failed to do so Another mother was a notified case of tuberculosis and very ill The fourth mother was given special treatment, to be described later, this she discontinued against advice, and one week later the baby was stillborn, prematurely Miscarriage threatened in the fifth mother when seen, and she was sent home to bed under the care of her own doctor, but a miscarriage was not averted Considering that very many patients come because there is something unusual which causes a midwife to suggest that they should attend, or often because previously they have had stillbirths, these results seemed encouraging

From January 1st to July 3rd, 1923, I think 87 charts have been completed without, I believe, one stillbirth being recorded These cases included three threatened abortions, two Cæsarean sections referred to the Jessop Hospital, and two cases of albuminuria with pre-eclamptic symptoms admitted the same day to the Jessop Hospital It will therefore be clear that, with ante-natal care, cases of stillbirth can be greatly reduced in number In Sheffield cases of stillbirth, where no doctor is in attendance, are notifiable to the Public Health Department, 142 stillbirths were so notified in 1922 The health inspectors visited in every case, and many of the mothers subsequently attended the clinic The results of investigation have been very disappointing That syphilis is not a very common cause of stillbirth is shown by the fact that in no case sent for a Wassermann reaction has a positive result been reported Further, 62 mothers out of 142 had previously had one or more—up to ten—other children born alive and no previous miscarriage or stillbirth In syphilis a living child may follow stillbirths, but the reverse is not so common It would be unreasonable to suggest that all these 62 mothers had developed syphilis since having the previous children Every mother who has a stillbirth is invited to come up to the Maternity Clinic should she again become pregnant

Nine cases where syphilis as a cause had been excluded and no other cause could be found were, by kind permission of the medical officer of health, treated during the pregnancy at the clinic by giving every night thyroid (1/8 to 1/4 grain) and ovarian extract (5 grains) Notes of these cases are as follows

Case 1—Aged 27 one previous pregnancy—stillbirth full time Treatment begun September 9th (sixth month) On October 14th the mother discontinued treatment October 21st macerated foetus

Case 2—Aged 29 one previous pregnancy—premature lived thirteen days Treatment begun October 14th (eighth month) October 27th full time child normal weight breast fed last seen aged 35 weeks weight 19 lb 6 oz

Case 3—Aged 29 five previous pregnancies—namely (1) three months miscarriage (2) full time stillbirth, (3) normal living baby (4) full time stillbirth (5) eight months stillbirth Treatment begun November 11th (sixth month) February 7th small baby weighing 3¼ lb lived one month The mother was in bed suffering from influenza when labour came on

Case 4—Aged 31 two previous pregnancies—(1) premature still birth (2) premature twins lived one week Treatment begun November 25th (sixth month) February 22nd full time living baby weighing 9¼ lb. Seen by inspector at four months—breast fed and doing well

Case 5—Aged 24 four previous pregnancies—(1) five months miscarriage, (2) six months' miscarriage (3) seven months premature, lived one hour (4) seven months premature lived a few minutes. Treatment begun November 25th (fifth month) March 22nd full time living baby weighing 5½ lb Seen on June 22nd at three months old, weight 10 lb

Case 6—Aged 20, one previous pregnancy eight months premature, died immediately from congenital abnormalities Treatment begun January 6th (sixth month) April 16th full time child weight 5 lb 6 oz, born in hospital did well for the first week but died on the eighteenth day cause of death unknown

Case 7—Aged 26 one previous pregnancy—seven months baby lived three and a half hours Treatment begun December 3rd (fifth month) April 22nd full time baby, normal weight Seen on July 7th at ten weeks old, weight 11¼ lb

Case 8—Aged 39 two previous pregnancies—(1) full time still birth, (2) two months miscarriage Treatment begun January 6th (fifth month), May 19th full time child weight 7 lb Seen on June 16th doing well not weighed

Case 9—Aged 29 three previous pregnancies—(1) three months miscarriage (2) six months miscarriage (3) three months miscarriage Treatment begun November 11th (third month) June 6th, full time child weight 11 lb Seen by inspector—doing well

Conclusions

1 In nine out of ten cases (90 per cent) the baby was born alive, and this might have been raised to 100 per cent if the other mother had continued her treatment to term, in seven out of ten cases (70 per cent) the baby lived and did well.

2 Out of twenty-three possible babies which might have been born to these patients previously, only three (13 per cent) were born alive, and in only two cases (barely 9 per cent) the baby lived, both babies were small at birth and awkward to rear according to the histories obtained

3 In only two out of ten cases the mother has another living baby In both cases two miscarriages or stillbirths have occurred in between, and in one of these, two preceded the first living baby

4 The two babies who died survived for one month and eighteen days respectively In this connexion it is interesting to note that other much smaller babies who have attended the dépot have done well One of my depot babies weighed 2 lb 10 oz when seen at a fortnight old, and is now a lovely healthy baby of six months It is essential that tiny babies should be seen early, and mothers having treatment are now instructed to send the baby at once if it is small

5 Three of the babies were above average weight (7¼ lb) at birth

6 The smaller babies attending the depôt have done very well and gained more rapidly than is normal

7 All the babies are breast-fed

8 All the confinements were normal

9 It is advisable to begin the treatment at five months or earlier, as in this case the baby tends to be bigger

10 The health of the mothers during pregnancy was greatly improved after they began the treatment

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

THE TREATMENT OF PARAPHENYLENEDIAMINE DERMATITIS

THE dermatitis produced by dyes derived from paraphenylenediamine is very severe and exceedingly painful and distressing to susceptible persons If not properly and promptly treated in the early stage it may last for many weeks or months and spread widely over the body The skin specialist as a rule only gets these cases in a late stage when little can be done to shorten the duration of the disease

I have recently seen two cases—one from hair dye and one from dyed furs—within a few hours of the onset of the dermatitis and the treatment here described was very successful in reducing the duration of the disease

CASE 1—*Hair Dye*

A paraphenylenediamine dye was applied on July 10th The hairdresser brought the patient to me on July 11th He was in great pain the scalp was acutely eczematous with oedema and exudation developing over the whole but not much beyond the hairy margin It was directed that the scalp should be thoroughly washed and douched with plenty of water gently dried and a solution of sodium hyposulphite (1 oz) in water (4 oz.) ordered The scalp was to be thoroughly sprayed with one part of this in two of warm water the washing and the lotion to be repeated every four hours On July 12th the oedema had increased and the face was more involved but the patient experienced great relief from the pain he stated that the first application of the lotion took away three-quarters of the pain and he had an excellent night's sleep I prescribed two more douchings with water and the hyposulphite lotion was reduced to one in four to be applied after the douching On July 13th the oedema of the face had increased but the scalp was less swollen exudation however was free A lotion consisting of plumbi subac tat fort 1/2 oz glycerin 2 dr and aq destil 10 oz. was prescribed to be used one part to two of warm water for the face and one part to four of water for the scalp Improvement followed and on July 17th the oedema of the face was greatly reduced, the scalp was far less inflamed and the patient was quite comfortable He did not require to consult me again and was I am told practically well in a fortnight

CASE II.—*Fur Dermatitis*

This patient was two years ago laid up for many weeks after wearing a new fur collar On November 15th, 1923, she wore a new coat with a dark fur collar for a short time The next morning she had some redness of the skin of the neck and discomfort On November 18th she again wore the coat for a longer time, and came to me on November 19th with an acute erythematous eruption of the neck spreading over the face and front of the chest Oedema was slight but increasing, and the smarting and burning were severe The same lotion as in the previous case was prescribed to be used after washing the parts thoroughly with superfatted soap and free swilling with fresh water afterwards After the application of lotion the skin was to be dusted with prepared calamine (2 oz) and starch (1 oz) On November 20th the inflammation was subsiding, the oedema had not increased and no discomfort was felt She was directed to continue the lotion for two days and then to use the dusting powder until quite well The patient was told to return in two days if not well, but it was not necessary for her to do so

A WINKELRIED WILLIAMS, M B, CM DPH,
Dermatologist Royal Sussex County Hospital, and Royal Alexandra Hospital, Brighton

FIBRINOUS BRONCHITIS RESEMBLING TUBERCULOSIS OF THE LUNG

THE following cases are of interest not only on account of their rarity but as showing the importance of washing doubtful clots in cases of haemoptysis

CASE I

M P, aged 21, was admitted to the Pendyffryn Hall Sanatorium on February 27th, 1923 Except for occasional pain on deep breathing, on the left side of the chest, he had nothing to complain of until January 31st, 1923, when, while on night duty abroad, he coughed up about 1 oz of blood This recurred twice during the same day and again two days later, and again, in smaller quantity, on February 11th His sputum was examined on two occasions in a laboratory, and on the second tubercle bacilli were reported as present

On admission, apart from some vague pains on both sides of the chest and a poor appetite, he showed no symptoms of organic disease Physical examination showed some falling in below the right clavicle, some slight impairment of resonance over the apex of the right upper lobe on its posterior aspect, and considerable *diminution of breath sounds over the whole of the right lung* X ray examination by screen showed diminution in lighting up of the right apex on inspiration, by film nothing abnormal could be seen The patient was put on graduated exercises and except that the rectal temperatures after exercise were a little higher than usual (quickly falling, however, to normal with rest) he continued without further symptoms until July 5th, when he had slight haemoptysis of about 2 oz The blood, which flowed briskly for a short time through the nose, was unaccompanied by cough or dyspnoea About half an hour after the haemorrhage stopped a large clot was coughed up, this, on being floated out in water, proved to be a bronchial cast These casts were sent to Sir Bernard Spilsbury, who reported them to be of a fibrinous nature showing no tubercle bacilli or other organisms in section Six days later the patient had another similar haemoptysis of about 3 oz, and again soon afterwards coughed up another larger bronchial cast which was about two inches long with a number of lateral branches Another clot coughed up a little later contained another small bronchial cast After this a few moist sounds were to be heard over the right middle lobe No further haemoptysis occurred before his discharge from the sanatorium on September 16th still showing diminution of breath sounds over the right lung All *moist sounds* had disappeared

CASE II

A male aged 30 with definite signs of tuberculosis of the lung, tubercle bacilli in large numbers in his sputum, and involvement of the larynx had several small attacks of haemoptysis during treatment, and on one occasion coughed up a similar clot to that described in Case I This on being washed in water proved to contain a cast of a fibrinous nature

The points of interest in these cases are

1 Their rarity

2 That a diagnosis of tuberculosis of the lung based on haemoptysis and the finding of tubercle bacilli in the sputum shows the danger of relying on a laboratory finding of tubercle on a single occasion It may be due either to an error in interpretation of the film or to a slide that has not been made bacteriologically clean

3 The suggestive absence of any shadow of tuberculous deposit in the lung in the x-ray film

4 The importance of washing any doubtful clots in cases of haemoptysis, if this was more frequently done, such casts might possibly be found to be less rare than they are supposed to be

BERKELLY ASH, MRCS, LRCP,
C BRODRIBB, MB, BS,
Pendyffryn Hall Sanatorium.

Reports of Societies.

BACTERIOLOGY OF DENTAL CARIES

AT a meeting of the Pathological Section of the Royal Society of Medicine on January 15th Dr J KILLIN CLARKE said that the meagre evidence available supported Miller's theory that dental caries was due to bacterial fermentation of carbohydrates with production of acid which decalcifies the teeth In this connexion considerable attention had been directed lately to the acidophile group of bacilli the members of this group were active producers of acid, in a high concentration of which they could live—in fact they grew best in a medium of a comparatively high acidity McIntosh, James, and Lazarus-Barlow had isolated acidophile bacilli from forty-four out of fifty carious teeth examined by them, and produced lesions resembling caries in healthy teeth placed in glucose broth cultures The teeth examined by these observers and others were in a fairly late stage of caries, with cavity formation, and the conditions in these cases were very different from those which obtained at the commencement of disease Dr Clarke was unable to isolate acidophile bacilli from early cases in which there was little or no apparent loss of enamel substance, but found another organism constantly present, this organism did not appear to have been described previously, and he proposed for it the name *Streptococcus mutans*

It appeared as a streptococcus on neutral media, but grew as a bacillus if the reaction became acid it was Gram positive, aerobic and facultatively anaerobic The colonies were very coherent and difficult to pick up off the surface of the medium, since they ran along in front of the needle It was an active producer of acid, but not acidophile, being quickly killed if the medium became acid, and refusing to grow on a medium with a reaction more acid than *p*H 5 6 All strains isolated were identical in fermentation and agglutination reactions *Streptococcus mutans* was isolated from thirty six out of a series of fifty teeth, in pure culture from eight, while in most of the negative cases colonies of the organism were seen, although it could not be isolated The lesions in these teeth were very early in the great majority of cases Acidophile bacilli were isolated only in the more advanced cases, where there was a break in the continuity of the enamel, or in cases in which the lesions were very shallow Attempts were being made to produce artificial caries in healthy teeth, by placing them in cultures of *Streptococcus mutans* The growth of the organism adhered strongly to the surface of the teeth and decalcification of the enamel took place with comparative rapidity Decalcified sections of a tooth kept in cultures for nine and a half weeks were exhibited, they showed the organisms, which had penetrated the enamel, invading the dentinal tubules The medium had been changed daily, so that the tooth did not remain for any length of time in an acid solution—in McIntosh, James and Lazarus Barlow's experiments the medium was changed only once a week

Although there was as yet no conclusive evidence that *Streptococcus mutans* was the cause of caries, the facts that it was found regularly in early cases, sometimes in pure culture, grew best at a reaction approximating that of the saliva, adhered to the surface of the enamel, and could produce lesions *in vitro* similar to those of caries, were certainly suggestive

Mr R T GUNTHER exhibited vertebrae of fossil crocodiles from the mesozoic strata of Oxfordshire, these showed coloured Y-shaped markings following the course of segmentally arranged intercostal arteries and veins The suggestion that these were arterial imprints received confirmation from the subsequent finding of such arteries in a recent crocodile, and from the discovery of lateral grooving of similar vertebrae in a crocodile from an older geological stratum That the imprints of these arteries, whether in colour or as grooves, had not been previously observed was due to the great scarcity of specimens exhibiting them, and, since the greater number of crocodilian vertebrae did not show them, Mr Gunther was inclined to regard them as pathological, and possibly as indicating an early case of arterio-sclerosis

Mr ALEXANDER FLEMING read a paper on the accuracy of measurements with capillary pipettes He described the various types of error which might occur and showed that, when the "wash" (fluid remaining adherent to the pipette) was eliminated, a volume of fluid as small as

5 c mm could be measured from a capillary pipette with great accuracy The "wash," which was the greatest error in measurement with capillary pipettes graduated in the ordinary way with a measured volume of mercury, was almost constant when the fluid was expelled from the tube at a constant speed, and with the pipettes in common use it amounted to about 3 per cent of the total volume The "wash" provided a progressive error in making a series of two-fold dilutions, to such an extent that at the eighth dilution the error would amount to about 13 per cent The author described a pipette graduated in such a manner that a series of dilutions in arithmetical or geometrical progression could rapidly be made with accuracy, and the error due to the "wash" be eliminated

DISEASES OF NUTRITION IN ANIMALS

At a meeting of the Section of Comparative Medicine of the Royal Society of Medicine on January 23rd, Sir LEONARD ROGERS presiding, a discussion was opened by Professor E MELLANBY on diseases of nutrition in animals

Professor MELLANBY said that modern research appeared to have done very little in the prevention of disease among animals and the improvement of their health The discovery of vitamins had created a new situation, though neither scurvy nor beri-beri, in which conditions the recent work on vitamins was best illustrated, seemed to represent a very important problem in animal nutrition Scurvy occasionally occurred in hogs, even less frequently in dogs Veterinary works laid down a very varied treatment for this condition Beri-beri was not common in animals, though it was met with in domestic fowls Rickets did not develop to any great extent in animals other than dogs, but gross errors in feeding would soon result in soft defective bones and deterioration of muscle One of the commonest dietetic mistakes in the case of animals was to feed them on cereals alone—barley, oats, meal, middlings, and bran Striking defects in the calcification of the bones resulted, as well as muscular lethargy There was something in the wheat germ which interfered with proper calcification It was not a question of the amount of phosphorus, nor the amount of calcium, nor was it the calcium phosphorus ratio His own view was that the germ contained something toxic One of the principal counteracting substances was fat-soluble A, given preferably in the form of cod liver oil Professor Mellanby had demonstrated by experiment that animals with soft and deformed bones and defective musculature due to wrong feeding were soon rendered normal by exposure either to sunlight or ultra-violet light In this benefit the teeth and jaws shared He had found that by gradations in dietary the degree of an animal's capacity to run or walk could be nicely regulated, and that often paralysis could be produced by grossly wrong feeding Badly fed animals had great thickening of the periosteum, and the muscle was marked by fatty infiltration, interfering with proper contracture

Miss HARRIETTE CHICK related how she had seen strikingly exemplified in children in Vienna the effect of sunlight in counteracting errors of diet A child living on a diet which in winter produced rickets had no rachitic symptoms in the summer, although the diet was unaltered One could not argue from one animal to another in respect of vitamin requirement, but she had no doubt that the quantitative evaluation of foodstuffs with regard to one animal could be applied to another, even though there might be considerable differences in susceptibility The experimental study of beri-beri showed clearly that probably the consumption of polished rice was only a particular instance of a general effect—namely that over-milled cereal of any kind would cause beri-beri by specious deprivation, not by any toxic action The disease was found among people who had food other than rice At the siege of Kut the British soldiers suffered from beri-beri, but when finely ground flour could no longer be procured and the men had to fall back on coarsely grained material the patients recovered

Colonel MCCARRISON said that there was a general impression that polyneuritis columbarum, which was produced by feeding pigeons on polished rice was the same condition as beri-beri This was not the case, for beri-beri in man was characterized by cardiac enlargement, which was as important as the polyneuritic symptoms, whereas in polyneuritis columbarum there was atrophy of the heart While vitamin B deficiency was at the basis of true beri beri, some other specific factor must be responsible for the heart condition Rice was grown and largely eaten over a wide extent of India, yet the vast preponderance of cases of beri beri occurred at the north-east coast of Madras, 500 out of 600 cases in the Indian army came from that territory Residence in an endemic locality seemed to impart some stigma to the individual which rendered him liable to the disease With regard to the influence of dietary on muscle, he emphasized the importance of the musculature of the gastro-intestinal tract, and attributed the great prevalence of gastro-intestinal disease to faulty food, which also predisposed to infection, and was probably an influence in promoting the occurrence of new growths

In the course of some further discussion, Mr HENRY GRAY said that ordinary feeding would not prevent dogs having rickets if they were always kept on the chain Very little rickets was found in the animals of experienced farmers because they understood the value of giving them fresh food off the farm He mentioned that as far back as 1817 the statement that rickets in the dog was due to bad food and lack of exercise was made by Blain, a veterinary surgeon Professor WOOLDRIDGE said that the question of dietetics for the lower animals was more an economic than a scientific one, and he emphasized the danger of sidetracking through emphasis on one particular point Dr M J ROWLANDS related his experience in feeding animals, chiefly pigs, and showed the importance of giving vitamins, which had resulted in considerable agricultural success Faulty feeding resulted in rickets even when the animal had sunshine and liberty Captain KIRK raised the question of the possible part played by the internal secretions in the causation of rickets A deficiency of hormones prevented an animal assimilating properly the lime salts it ingested Veterinary surgeons had been using cod-liver oil in cases of rickets for the past seventy years Professor HOBDAY said that in veterinary practice, when counteracting a tendency to rickets, the coarse form of cod-liver oil was preferred, as it seemed to be more efficacious than the refined

PEDIATRICS

THE meeting of the Section for the Study of Disease in Children of the Royal Society of Medicine, held on January 25th, with Mr R H ANGLIN WHITELOCKE, President, in the chair, was largely devoted to the discussion of cases

Dr GEOFFREY EVANS showed a case of interstitial nephritis simulating diabetes insipidus

The patient a schoolgirl aged 13 years was brought to hospital on account of thirst and polyuria Apart from these symptoms and an occasional headache, the child was in apparently good health Among the examinations carried out in hospital Maclean's urea concentration test showed gross impairment of renal function after 15 grams urea the percentage of urea was less than 1 per cent and only reached 1 gram in the first hour and 0·9 gram in the second hour

Dr C WORSTER DROUGHT showed a case of juvenile tabes dorsalis in a girl aged 10 years, together with a case of early Friedreich's disease in a boy of similar age for the purposes of comparison He briefly reviewed the literature on the subject. In 1875 the first case of juvenile tabes was reported

Mr O L ADDISON showed a specimen, the spleen from a case of Gaucher's splenomegaly

The child was brought to hospital with a complaint of bronchitis and debility Upon examination the spleen was found to be enlarged and the case was considered to be one of chronic pleiomacnaemia The treatment followed was removal of the spleen After sectioning the spleen there were found to be present the large cells typical of Gaucher's disease and it proved to be a very good specimen

Dr PARKES WEBER said that the material inside the cells was not doubly refractile and was therefore not a cholesterin ester He suggested that this substance was a combination of protein and lipoid matter and further that the condition might be due to an inborn error of metabolism

DR POYNTON asked two pertinent questions—was it possible to diagnose this condition? and, was removal of the spleen the right treatment?

MR ADDISON, in replying, thought the condition might be diagnosed by splenic puncture With regard to this particular case there had been definite improvement since the operation, but he could not say if this would be maintained The leucopenia was likely to be progressive, and the liver might enlarge Previous cases had lived to about 19 years and then died of some intercurrent disease

MR B WHITCHURCH HOWELL and DR W KINNEAR showed a case of fragilitas ossium, with blue sclerotics, and asked for suggestions as to treatment

The patient was aged 3½ years and had already had six fractures Her mother had had five fractures between the ages of 1 and 13 years She also had blue sclerotics The patient at the present time was being given phosphorus 1/200 gram night and morning

DR KINNEAR asked whether, on an analogy with rickets, any benefit would be derived from a mercury vapour lamp

DR ERIC PRITCHARD gave details of an infant who came under his care at 7 months of age suffering from great tenderness of the limbs, thought to be due to scurvy The tenderness was found to have been caused by multiple fractures This child was treated by the mercury vapour lamp, cod-liver oil, and alkalis, it recovered and was walking seven months later Strictly devitaminized food had been proved to cause softening of the bones in animals The bones had later hardened when the animal was given a vitamin diet and treated by the mercury lamp

DR ERIC PRITCHARD then showed a case of anaemia in a premature infant, treated by intraperitoneal injection of blood He detailed the two methods of injection in use one, by means of a blunt-pointed needle, the other, by means of a needle with a hole in the middle of its length Part of the abdominal wall would be pinched up, and transfixed by the needle, the central hole of which would then be in the peritoneal cavity Dr Pritchard reported a general improvement in the child's condition, although the amount of blood injected (20 c cm and later 25 c cm) was small

DR T IZOD BENNETT showed a schoolgirl in whom choreiform movements had persisted for four years DR WALTER CARR considered that the case was not one of chorea, but of encephalitis He thought the prognosis bad, therefore, and suggested an open-air life in the country, and no drug treatment

MR B WHITCHURCH HOWELL showed a case for diagnosis

The patient was a girl aged 4 years—the child of first cousins Small patches of muscle atrophy had recently appeared distributed irregularly over the body Associated with the muscle atrophy was probably atrophy of fat and subcutaneous tissue also

PARKES WEBER suggested that the case might belong group of lipodystrophia progressiva

other cases had been exhibited Dr BERNARD ...ad a short paper on methods of collecting records ...children He suggested that with all the organiza... now in existence for dealing with children, such as welfare centres, treatment centres, school inspections, special schools, general hospitals, seaside and country homes, it would be easy to collect statistics if a definite plan were adhered to In the first place it would be necessary for the experts on each disease under consideration to consult and agree upon the signs and symptoms to be taken as diagnostic of such disease Such findings should then be circularized to the various agencies A chief consultative and statistical centre would file all records Each child under treatment at one of the centres would receive a number showing that he belonged to that centre He would also be given a number at the chief statistical centre under which his complete history would be found, together with notes of transfer from one centre to another, and the local number ascribed to him at each centre Dr MYERS illustrated his lecture by hypothetical charts of a given case, showing how immediately upon application to the statistical centre a complete record of the child's medical history up to date could be obtained He also drew up a chart indicating the interrelation and the possibilities of further co-ordination between existing establishments Dr POYNTON put in a plea for recovery hospitals, if ever ...

STREPTOCOCCAL ENDOCARDITIS

A MEETING of the Section of Pathology of the Royal Academy of Medicine in Ireland was held on January 18th, the President, DR J T WIGHAM, in the chair

In the course of the proceedings, Drs T G MOORHEAD and E C SMITH showed specimens from a case of subacute endocarditis, due to *Streptococcus viridans* The patient, a girl aged 17, had been perfectly well until July, 1923, when she suffered from a febrile attack, resembling acute rheumatism, with painful and enlarged joints, an irregular temperature, and sweats She exhibited the typical syndrome of streptococcal endocarditis enlarged spleen, a trace of albumin present in the urine, and several skin emboli developed later *Streptococcus viridans* was easily obtained in culture a vaccine was prepared, and massive doses of polyvalent antistreptococcic serum were also given, but without improvement, death taking place about five months after the onset of the illness

DR E C SMITH said that the mitral valve was completely obscured by a greenish vegetation which extended up into the left auricle, forming an irregular thickened mass The aortic valve was only very slightly affected, and the other valves were normal The spleen weighed 1½ lb, and numerous infarcts were present in it and in the kidneys Cultures of the heart blood yielded a culture of *Streptococcus viridans*, and sections of the vegetations and of the infarcts revealed the presence of enormous numbers of Gram-positive cocci

The PRESIDENT asked if streptococci were present in the pus, sometimes simple plugs of streptococci were found in the kidneys, without pus formation DR J W BIGGER thought the usual organism found in heart conditions of this type was *Streptococcus mitis* He advised the identification of the organisms in all cases of streptococcal infection DR W D O'KELLY remarked that the vegetations grew up the auricle and not around it, as was generally the case DR H F MOORE thought that cases of this sort were extremely difficult to treat, various forms of treatment had been tried, but none of them were of any avail Immunization with the specific organism had been tried, but without success, as had also blood transfusion and stock vaccines

IRISH PUBLIC HEALTH

AT a meeting of the Section of State Medicine of the Royal Academy of Medicine in Ireland held on January 11th the President, DR N M FALKINER, read his presidential address He reminded the meeting that the first paper read before the Section was by Dr Thomas W Grimshaw, Registrar-General, on February 9th, 1883, and that of the original Council one still survived, SIR JOHN MOORE Many valuable papers had been contributed foreshadowing statutory enactments, thus showing that the profession in Ireland had performed its duty of forwarding legislation in public health during the past forty years The next subject mentioned was a report on suspected poisoning by carbon tetrachloride in the mass treatment of hookworm disease and a suggestion that the symptoms were due to the presence in it of tetrachlorethane (dope) The infant death rate was briefly discussed and the figures for Ireland for the year 1922 presented as follows For Saorstat Eireann 69 and for Northern Ireland 76 per 1,000 (unrevised) In opening the discussion on the status of the Diploma in Public Health, Dr Falkiner reviewed the proceedings of the General Medical Council since 1869, and made reference to the laudable action of Dublin University, which established a Diploma in State Medicine in 1870 The name of Professor William Stokes was notably connected with this achievement In conclusion the President suggested the following points for discussion (1) uniformity in education and examinations, (2) uniformity in nomenclature of degrees, (3) formation of a State public health service (4) a combination between the Irish universities and colleges for instruction and examination in public health qualifications, (5) the status of preventive medicine in preliminary medical education

SIR EDWARD COEY BIGGER referred to Acts of Parliament passed in the years 1913 to 1920 in the interest of public ... relating to the notification of

tuberculosis, provision of meals for school children, notification of births, venereal diseases, the Ministry of Health, and the enactments for the registration of nurses and midwives He then described the steps which led to the new regulations for the Diploma in Public Health in 1920, he had visited two universities, and found that the instruction in them for this examination was far from being uniform After that, he had suggested to a member of the Public Health Committee of the General Medical Council that newer subjects should be brought into the syllabus for this examination, and the new rules which were at present in force were started He was of opinion that no medical officer of health was proficient unless he had some knowledge of clinical medicine which would enable him to deal sympathetically with the difficulties of a general practitioner When the course of study for the D P H was lengthened from nine months to twelve months, the chemistry course was shortened, and the bacteriology course was lengthened Some were of opinion that the rules in connexion with this examination were now too stringent, but he personally thought they were not Later on it might become necessary to have a modified examination in connexion with the public services

Sir JOHN MOORE said that the question of nomenclature was provided for by Act of Parliament, in which there were three names given—State Medicine, Public Health, and Sanitary Science This also explained the relation which the General Medical Council held in connexion with the qualification of the Diploma in Public Health On and after January 1st, 1924, no candidate who had not begun to study for the diploma before that date could present himself for qualification under the old curriculum The new rules regarding the examination had been rather hardly spoken of by many people, and he personally thought that the study entailed under the new curriculum could not possibly be completed in less than twelve months In the past, medical officers of health had not infrequently come into conflict with medical practitioners, and he personally thought that it was most necessary that a medical officer should himself, before he took up that office, have been in practice, since this would enable him to sympathize with the medical practitioner He regretted greatly that when these regulations were drawn up all consideration of public services—the Navy, the Army, and the Air Force—had been overlooked It was extremely difficult for men in any of these services to get leave for such time as was required for study under the new regulations The strongest protest against the new regulations had been made by the Royal Colleges of England The rules now in force also made it very difficult for doctors in the colonies to obtain the diploma

Dr THOMAS HENNESSY said that in Great Britain there was a dictator of public health services, but in Ireland there had never been such an official, and he thought this was a pity In the Local Government Board the medical men had practically no power at all, and laymen always counted for much more than did the medical men He himself had often wondered what was the actual worth of the Diploma in Public Health In Limerick recently there had been an election for a tuberculosis officer, and there were three candidates, two of whom had the diploma The post was given to the candidate who did not hold the diploma, and the other two were rejected

Sir WILLIAM THOMPSON thought the work of preventive medicine was becoming more and more important, and that in the future medical men would be able to accomplish more good by it than by any other means The Act regarding the notification of tuberculosis was, in his opinion, not framed strongly enough By this Act it was only necessary to notify two classes of tuberculosis (1) surgical tuberculosis—cases in which there was a discharge and where the wound had to be dressed, (2) pulmonary tuberculosis in the last stage He felt sure that every medical man would agree with him that as regards the prevention of tuberculosis such notification was useless Regarding infant mortality, he based his figures on the registration of births For a number of years the infant mortality had been going down, and it was only during the last ten years that any Acts of Parliament had been brought in dealing with this matter, most of these Acts were voluntary and not compulsory

Sir WALTER BUCHANAN, referring to the first part of the President's paper, said that hookworm disease was one of the commonest in the world, and in some parts of India 90 per cent of the population suffered from it An excellent method of prevention was to paint the feet with tar, as when this was done it prevented the worm from getting through the skin Regarding leprosy, Sir Leonard Rogers had had apparent success in treating some cases of this disease He personally had seen a case of tubercular leprosy, with Sir Leonard Rogers, which had got well Whether this result was permanent or not he (Sir Walter) did not know, but even if it was not a cure it was certainly an amelioration He thought that this result justified the hope that a final cure would eventually be discovered

Dr T P C KIRKPATRICK said that the founding of the examination for the Diploma in Public Health in connexion with the College of Physicians was largely due to the work of Dr Grimshaw, who was a very ardent supporter of public health In March, 1882, he proposed that such a diploma should be established, and in February, 1883, at his instigation the College of Physicians granted it after an examination

Dr J C O'FARRELL thought that if the section of state medicine of the Royal Academy of Medicine in Ireland asserted itself more, and brought itself into contact with the health authorities in Dublin, a great deal of good could be done for the health of the community At present houses were being built in which the rooms were absurdly small these houses would accommodate large families, and probably there would be six children sleeping in each room Again, the supply of milk was absolutely unsatisfactory and not at all conducive to public health It was in cases like these that he thought the members of the section of state medicine should assert themselves to ensure that houses which were built had proper accommodation, that the rooms were large enough, and also that a proper supply of good milk was obtained for the poor of Dublin If the views of the section on these subjects were brought before the general public good would result

RENAL TUBERCULOSIS

AT a meeting of the Midland Medical Society held in the Medical Institute, Birmingham, on January 16th, Mr BERNARD WARD read a paper on tuberculosis of the kidney He drew attention to the fact that there had been a complete reversal of the view of the origin of the condition, for whereas a few years ago it was held that infection of the kidney was invariably secondary to tuberculosis of the bladder it was now considered that tuberculosis was almost invariably primary in the kidney itself There was no reliable evidence that a tuberculous lesion of the kidney ever stopped short of complete destruction of the organ but in most cases it was clear that in the early stages the infection was unilateral Dealing with the symptomatology Mr Ward pointed out that there were three types of cases (1) The commonest, about 80 per cent where the symptoms were those of cystitis (2) the haematuria type, about 10 per cent, (3) a rare calculus type The course of the condition varied Some of the patients had long periods of quiescence but only very rarely were free from symptoms Some of these cases died of uraemia after complete destruction of the kidney Mr Ward said that nearly all the cases sent to him with a diagnosis of renal tuberculosis had arrived too late for surgical interference, all the cases that he had treated by operation had been found in the course of routine examination of bladder irritability A review of statistics showed that nearly all the cases of renal tuberculosis treated by conservative methods died within five years of the onset of symptoms Contraindications to operation were active tuberculosis of the lungs, bones, or joints, and infection of the opposite kidney The paper was illustrated by an exhibition of specimens and by pictures shown on the epidiascope

In the course of the discussion that followed Mr DINGLEY stated that he had found at Leysin that renal tuberculosis was the sole form of infection that Rollier refused to treat by conservative methods and Mr BARLING

expressed the opinion that occasionally there was ground for operation even in the presence of bilateral infection

Dr W A POTTS read a paper on psychological analysis in relation to medicine and surgery, in which he outlined the principles underlying the methods of Freud and Jung He stressed the point that analysis should only be practised by those who had undergone a thorough training, including analysis of themselves Although psychological analysis was essentially suitable for the cases which presented no physical signs, it was nevertheless, he said, of great benefit in such conditions as exophthalmic goitre, in which the exciting factor was always an anxiety state The paper was discussed by several members

SEPTIC OTITIC THROMBOSIS OF THE SINUSES AND JUGULAR BULB

AT a meeting of the Medico-Chirurgical Society of Edinburgh, held on January 16th, with the President, Sir DAVID WALLACE, in the chair, Dr J S FRASER read a paper embodying an analysis of 26 cases of septic thrombosis of the lateral blood sinus and its tributaries, and 2 cases of primary thrombosis of the jugular bulb Seven cases occurred after acute middle-ear suppuration and 21 after chronic purulent otitis media, they were discussed in two groups—acute and chronic Dr Fraser referred to Dr Logan Turner's report of 5,957 cases of chronic middle-ear suppuration, 1,246 of which involved operative treatment He estimated that one in every 174 cases of chronic middle-ear suppuration had septic sinus thrombosis Only one of the 28 cases was operated on in private practice The actual etiology of the chronic ear suppuration was difficult to determine As regards the symptoms, earache was regarded as a "danger signal," and was present in all but one of the chronic cases, and headache was usual Discharge from the ear was present in all but one of the acute cases, as well as in the chronic cases Recurrent chilly sensations or rigors were regarded as the most important symptoms of septic sinus thrombosis The importance of noting an evening temperature of about 100° F in adult cases of chronic middle-ear disease was emphasized Septic sinus thrombosis showed a hectic, peak-like pyrexia, with sweating following the fall of temperature The aspect of the patient suffering from this condition differed markedly from that of one suffering from brain abscess In sinus cases the cheeks were flushed, the patient was mentally bright and said he felt well The danger of ignoring early symptoms of earache, rigors, and evening temperature was indicated by the mortality in the "delayed" cases Giddiness and vomiting were occasionally present, mastoid tenderness was by no means constant (3 of the acute and 13 of the chronic cases) Otoscopy was difficult in most of the cases, owing to the general swelling, and blood culture examinations were of little value In the 7 acute cases pus was present in the mastoid antrum and cells, 4 cases showed a pure bacterial growth, 3 a mixed growth Perisinus abscess was present in only 3 cases In deciding whether to open the sinus at once or to wait much help might be gained by the appearance of the sinus wall—whether reddish-purple or brownish-green and sloughy The procedure of dealing with the sinus and jugular vein was described In only one case did purulent meningitis develop, and labyrinthitis and brain abscess were not found in the acute cases Three cases showed metastatic abscesses Five of the acute cases resulted in recovery and two in death In all the cases of recovery hectic temperatures persisted for at least a week In one fatal case there was meningitis, lung abscess etc and streptococci were recovered from the heart blood The other patient died a month after the operation a hectic temperature persisting despite anti-streptococcic serum and blood transfusion There was no meningitis, and the cranial blood sinuses were healthy In many of the chronic cases cholesteatoma, with or without pus was found The bacteriology was investigated in all but 6 cases pure growths being present in 7, and mixed growths in the remainder In 14 cases a perisinus abscess was present, in several there was no antral disease In the majority of cases the jugular vein was ligatured After the operation the patient was usually in a condition of collapse and the wound showed little reaction for a few days, in favourable cases there was profuse suppuration and granulations sprang up Complications labyrinthitis in 8 cases, purulent meningitis in 4 on admission, in 5 it developed later, brain abscesses in 4 cases (3 cerebellar and 1 temporal), metastatic abscesses in 4 cases In several cases more than one of these complications was present

Results of chronic cases 11 were uncomplicated—9 recoveries and 2 deaths, 10 were complicated—4 recoveries and 6 deaths In only 4 cases was the recovery practically uninterrupted In 2 cases which recovered cerebellar abscesses developed and were evacuated In the 8 fatal cases septic thrombosis was found in the blood sinus beyond the point of operation and septic infarcts were found in the lungs If the acute and chronic cases were combined, the results showed that of the 28 cases operated upon 18 recovered and 10 died A lantern demonstration followed

Dr LOCAN TURNER remarked that during fifteen years in the department 190 patients with intracranial complication of ear disease had been operated on, and 81 recoveries had taken place These figures included brain abscess and meningitis as well as "sinus" cases Reference was made to the differential diagnosis between otitic sinus thrombosis and aural bacteriaemia or septicaemia, and certain cases of the latter condition were quoted

Dr DOUGLAS GUTHRIE referred to the increased difficulty of diagnosis in children In his experience at the Children's Hospital thrombosis of the jugular bulb was commoner than sinus thrombosis Meningitis was a commoner complication in otitis media in children than sinus thrombosis

Professor EDWIN BRAMWELL said that intracranial complications of otitis were now seldom seen by the physician in consulting practice, this was due, no doubt, to the greater attention paid to otitis by the better-taught patient The value of early operation was now more clearly understood, and cases were sent directly to the aural surgeon

Dr W T GARDINER referred to aural organisms in bacteriaemia and his experience of children who showed the pulse and temperature chart of sinus thrombosis, but had no rigors or sweating He was inclined to think that in the bacteriaemia cases the pyrexia commenced with the otitis media He had treated these cases with antistreptococcus serum, the children were aged from 4 to 9 and none died

Alimentary Sepsis

Dr CHALMERS WATSON gave an address on alimentary sepsis from the practitioner's point of view Regi He first to the work of Metchnikoff, Adami, and original Lane in relation to constipation and the pr aluable chronic disease Frank Kidd's work on bacte enacted, and it was pointed out that of 3,230 ma and petitions at the Edinburgh Royal Infirmary 39 per ce ealth concerned with acute or chronic disease of the a ned gall bladder, gastric or duodenal ulcer—all conditi lonide the bacteriological factor was important Atten stion fection over a long period might play a leading tri- the production of chronic diseases, and he illustra dis- point by reference to 11 male cases of uraemia, ed myocarditis, arterio-sclerosis, unresolved pneumonia, n nant disease, chronic arthritis, etc, which were a average of what is commonly found in a general me ward, and were doubtless produced by a slow toxic abs tion, differing in its mode of action in different individu In the routine examination of such cases Dr Watson pa special attention to (1) oral sepsis, (2) the state of the urine, and (3) the state of the bowel (1) Oral sepsis In the 11 patients, whose ages ranged from 20 to 60, 54 per cent of their teeth were absent, and all had pyorrhoea in marked degree The clinical histories showed that this condition of the gums and teeth preceded the condition for which they sought admission to hospital by many years (2) Urine All the 11 cases showed turbidity of the urine, from a faint haze to definite turbidity, and the deposits contained cells, bacteria, blood corpuscles, etc Further

examination showed that the bacteria found were similar morphologically and in culture to those present as saprophytes in the system (3) Stools In the cases above quoted a wash-out following an ordinary enema showed an offensive faeculent fluid with enormous numbers of bacteria in health the wash-out after an enema usually returned an almost clear fluid It was impossible to resist the conclusion that this condition represented an abnormal septic state of the digestive tract, especially when taken in connexion with the urinary findings Dr Chalmers Watson showed microscopic preparations from (*a*) a clean and septic mouth, (*b*) normal and abnormal urines, (*c*) films from second "wash-outs" in a clean and in a septic case, and (*d*) films from organisms grown from his new culture media, and said that the object of his paper was to invite practitioners to attempt to answer certain questions (1) Is it a fact that bacteriuria is very common in chronic medical disorders, the bacteria being similar to those in the bowel? (2) Is it a fact that in chronic diseases the bowel is in a septic state? (3) Is it possible that pathogenic action may be caused by normal saprophytic bacteria producing these common chronic disorders? (4) Does treatment directed to the removal of focal infections cause a striking improvement in the condition of the patient? He added that the consideration of disease from the Listerian point of view in no way minimized the importance of other etiological factors, such as heredity, strain, etc

The paper was discussed by Professor GEORGE ROBERTSON, Dr STANLEY DAVIDSON, Dr JAMES YOUNG, Dr ELLIOT DICKSON, Dr FREDERICK PORTER, and Dr A FERGUS HEWAT

Mr J W DOWDEN and Dr MORRISON showed a case of compound comminuted fractures of the proximal phalanges of the four fingers of the left hand due to injury with a circular saw, the dorsal extensor tendons being divided Dr Morrison had cleaned the wound and stitched the extensor expansions with catgut Active movements were very gently begun within twenty-four hours, and daily increased, with the result that within two months from the accident the patient could almost completely extend the fingers, flexion being practically complete The case illustrated the value of early active movement in severe injuries

Dr W A ALEXANDER showed three specimens illustrating unusual causes of acute intestinal obstruction (1) The ring of a knot on a Meckel's diverticulum (2) Herniation into the intersigmoid pouch (3) The presence of a tenuous band extending from the fundus of the uterus to the peritoneum over the apex of the bladder

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A MEETING of the Bath Clinical Society was held at the Royal United Hospital on January 4th, with Dr W P KENNEDY, the President, in the chair Dr R G GORDON showed a case of [illegible] bursitis with the typical signs described by [illegible] never before, and a case of Charcot's knee joint in tabes with [illegible] abnormal mobility Mr W G MUMFORD showed a [illegible] of multiple staphylococcal osteomyelitis, a case of swelling [illegible] both breasts due to rapidly growing carcinoma, and a specimen of a pregnant uterus removed because of a cervical fibroid Public Health [illegible] COATES showed a case diagnosed four years previously [illegible] cancer of the stomach A history of miscarriages [illegible] that this was really a case of gastric syphilis Dr [illegible] THOMSON showed a case of aortic disease with fibrillation

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On January 11th a clinical meeting of the Royal Medico-Chirurgical Society of Glasgow was held in the Glasgow Royal Maternity and Women's Hospital, with the President, Dr [illegible] MAITLAND RAMSAY, in the chair, when demonstrations were given by the members of the hospital staff Dr S CAMERON performed Caesarean section on a patient with marked pelvic contraction Dr J NORMAN CRUICKSHANK exhibited specimens illustrating the birth haemorrhages of the infant, and explained their mode of production He gave the results of the analysis of 400 *post mortem* examinations carried out in the research department of the hospital and showed the incidence of tentorial tears and of the various grades and types of haemorrhage met with The frequency of stillbirth associated with each type of lesion was also pointed out Two other series of preparations were shown one illustrating developmental anomalies and diseases of the newborn, and the other illustrating some of the maternal lesions in the toxaemias of pregnancy Dr D M LINDSAY demonstrated two new obstetrical instruments—(1) a decapitating thimble to facilitate the operation of decapitation, and (2) a new type of obstetric forceps Dr A N MCLELLAN showed a case of exophthalmic goitre complicating pregnancy Dr R A LENNIE showed two cases of cardiac valvular disease associated with pregnancy Dr J HEWITT showed cases of albuminuria in pregnancy Dr J H MARTIN showed a series of ante natal cases Dr J HENDRY showed two cases of rupture of the uterus and one case of bronchitis complicating the puerperium Dr D MCINTYRE showed a series of post natal cases

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AT a clinical meeting of the West Kent Medico Chirurgical Society, held at the Miller General Hospital on January 11th with Dr H S KNIGHT in the chair, Mr C A JOLL showed a man in whom a partial gastrectomy for chronic ulcer of the stomach with hour-glass contraction had been successfully performed, a case of intrathoracic goitre, and also a case of wedge-shaped resection of the stomach for epigastric pain Dr H PRITCHARD showed (1) A patient with bronchitis and asthma of six years duration, who had been treated with an autogenous vaccine four years ago and recently by proteinization with mixed typhoid and paratyphoid vaccine He had anticatarrhal vaccine also, and intensive iodide treatment as much as 160 to 300 grains could be given daily (2) A case of *aneurysm of the ascending part of the aorta* in a man without pressure symptoms Mr P B ROTH showed (1) A child who had suffered from a double congenital dislocation of hip This dislocation is reducible up to the age of 7 or 8 and a ledge forms above the acetabulum thus deepening it (2) A case of renal dwarfism in a child of 14 years She was forty-six inches high and had had knock-knees but a double osteotomy of the femora had corrected this and she could now walk Dr BUCHAN showed a case of painful oedema of both legs in a female, which had been described as of angioneurotic origin

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A PATHOLOGICAL meeting of the Liverpool Medical Institution was held on January 17th, with Dr R C DUN in the chair *After the exhibition and brief discussion of specimens* Dr N B CAPON *read a short paper on A case of tubercle in infancy*" The baby died of general tuberculosis on the forty-first day, and the mother with miliary tuberculosis three days later After a description of the clinical, *post mortem* and *microscopical findings*, Dr CAPON proceeded to review the possible channels by which an infant may become tuberculous While it is doubtful whether germinal infection ever occurs in man, there are numerous proved cases of intrauterine infection It is probable, however, that intra partum and neo natal infections are more frequent In the case under discussion, it is probable that the infection was neo-natal, for the child was in contact with his mother for the first twenty-five days of his life Mr G C E SIMPSON alluded to the *importance of the enlarged mesenteric glands*, and spoke of cases in which surgical treatment of these was advisable Dr R J M BUCHANAN and Dr F BARENDT also spoke, and Dr CAPON briefly replied He regretted that an examination of the mother's breasts had not been made He believed that this was another *possible route* of infection, though an unlikely one

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AT a meeting of the Manchester Medical Society on January 9th, with Dr E M BROCKBANK in the chair Mr H PLATT opened a discussion on The early mechanical treatment of acute anterior poliomyelitis *The serious disablement resulting* from this disease was in many cases the consequence of the deformity rather than of the paralysis and where special hospitals existed epidemics of acute poliomyelitis could be properly provided for The treatment in the acute stage was rest, prevention of deformity and continuous relaxation of the paralysed muscles, and these were achieved by immobilization of the child in a plaster-of-Paris bed or a well padded frame Standardized positions should be adopted for the different limbs to relax the muscles, and the period of immobilization should outlast the stage of pain and tenderness With recovery the fixation would be lessened and re education started

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AT a recent meeting of the International Society of the History of Medicine held in Paris it was unanimously decided to admit Austrian representatives

THE annual medical congress known as the Journées médicales de Bruxelles will be held at Brussels from June 29th to July 2nd Further information can be obtained from Dr René Beskers 36 rue Archimède Brussels.

Reviews.

HIPPOCRATES AND HIS SUCCESSORS

ALTHOUGH this is the age of the business man, and it is more than a hundred years since a dean of Christ Church could justly assert that a knowledge of Greek was a valuable financial investment, the lover of Greek is not neglected. Within the last few months two books have appeared which must give pleasure to any who care for the achievements of a race to whom we owe, directly or indirectly, almost all that makes life worth living. The second volume of the Loeb edition of Hippocrates[1] contains one of the most valuable of the Hippocratic treatises and several which are interesting, while Dr Moon's FitzPatrick lectures[2] are an attempt—we think a successful attempt—to bring into proper perspective the great physician, his predecessors, contemporaries, and successors.

Mr JONES, in the Loeb edition, continues to work in a manner which deserves our respect and gratitude, we do not always agree with his conclusions, but we find them always clearly stated and such as might fairly be reached by an acute and learned student. Dr Moon, like all other scholars, has had to take information respecting the teaching of many men who in their day made intellectual history at second or third hand, sometimes from the works of their bitter enemies, but has none the less contrived to write an interesting story.

One great value of such books as these is to lay romantic ghosts. To many people Hippocrates is no more real than Aesculapius or Apollo. To still more he comes invested with those qualities which led the old lady to remark that *Hamlet* would be a better play were it not so full of quotations. An edition of, say, the writings of Sir William Osler embellished with footnotes pointing out that such or such a clinical observation was quite correct would seem incongruous. Very few editors can refrain from adding such footnotes to an edition of Hippocrates, and Mr Jones deserves special thanks because he has refrained. On the other hand, it is absurd to treat the books of the Hippocratic collection as though they were verbally inspired, and neither Mr Jones nor Dr Moon has done so. In the hands of both these scholars the mythical hero becomes flesh and blood, perhaps we can convey to others some reflection of the pleasure we have received by sketching the character of Hippocrates as, fortified by a study of these two books, we conceive it. Whatever may be said against nationalism in its political relations, very great men are intensely national. One cannot conceive a French Shakespeare or an English Molière. Hippocrates for good and ill was a Greek of the Greeks. He displayed the faith in the universe as an ordered whole and the confidence that the mind of man could conceive that order which were national emotions, and which, in their consequences, deserved the splendid panegyric of the Roman:

> Primum Graius homo mortalis tendere contra
> Est oculos ausus primusque obsistere contra
> Quem neque fama deum nec fulmina nec minitanti
> Murmure compressit caelum.

To these we owe his steadfast faith that there was a scientific basis for the art of medicine, and they inform his most characteristic treatises. "I am about to discuss the disease called 'sacred.' It is not, in my opinion, any more divine or more sacred than other diseases, but has a natural cause, and its supposed divine origin is due to men's inexperience, and to their wonder at its peculiar character." That is essentially and characteristically Greek. But this serene confidence had the defects of its qualities, and it is Hippocrates' title to personal greatness that [illegible] the defects were less conspicuous than in any [illegible] week. In one [illegible] temporaries. The chief of these defects was [illegible] abscess etc. [illegible] insufficiency, which, as Mr Jones pointed out [illegible] heart blood. The quoted in reviewing his first volume, [illegible] operation a hectic [illegible] riment, observation, and classification [illegible] streptococcic serum [illegible] hological jargon, one might say that the meningitis and the [illegible] In many of the ch [illegible] without pus was fou [illegible] gated in all but 6 c [illegible] in 7, and mixed growth [illegible]

[1] With an English translation by W H S [illegible] d Library. London: W Heinemann. 1923. (10s net.)

[illegible] ece ors in Relation to the Philosophy of [illegible] on. M D Oxon. F R C P. London and New [illegible] Co. 1923. (Cr 8vo, pp ix+171. 6 net.)

classical Greek repressed the notion that there was, or could be, any subject of importance to man which could not be effectively described, "explained," by a logical hypothesis but must remain for generations a spur to the accumulation of facts rather than matter for ratiocination. Darwin's iron repression of his theory through so many years, Newton's holding back of his hypothesis, would not have been possible to Greeks of equal intellectual power. In this respect Hippocrates—as the *Epidemics* prove—was greater than his contemporaries, but still he was a Greek. In speaking of "Prognostic," Mr Jones writes:

> "Hippocrates was a genius who followed a will-o'-the-wisp, the Cnidians were plodders along the dreary stretch of road that lies before every advance in knowledge. Hippocrates did the wrong thing well, the Cnidians did the right thing badly."

This is, we think, a trifle too peremptory. We know very little about the semeiology of the Cnidians, and semeiology—as Galen was to prove *ad nauseam*—may become as fantastic as anything in the *Timaeus*. But there is evidence in, for instance, "Regimen in Acute Diseases," that Hippocrates had his share of that intellectual arrogance which was to bring disaster. "So much," he writes, "even a layman could correctly describe by carefully inquiring of each patient the nature of his experiences." But "even a layman" may be doing the right thing, and, as Macaulay said, the first shoemaker was a greater benefactor to his species than the philosophical author of the treatise *de Ira*, because shoes do keep one's feet dry, but Seneca never prevented anyone from losing his temper.

It is not true that a great man's practice is always more important than his theory. In practice, in his best works, Hippocrates was an Empiric, but some leaders of the *school* of Empirics assailed his memory, and his prophet Galen could find nothing bad enough to say of many Empirics. To the modern physician the "Tripod of the Empirics" must appear a quite reasonable plan of research. Dr Moon's assent to the opinion (of Neuburger) that the Empirics may be said to have surpassed Hippocrates in one respect, in that they "systematized the technique of medical procedure and sought to free clinical methods of thought from the subjectiveness of the individual observer," more than counterbalances his qualified agreement with the censure that the Empirics were "the Philistines of Medicine," especially since he observes that "the Philistine not infrequently possesses the saving merit of common sense." One wonders whether if a *corpus* of Empiric medicine had survived equal in bulk to, say, 10 per cent of the Galenical *corpus* we should not have advanced further and faster.

The moral of all this is, of course, the usual moral that we should read a great man's works ourselves and not merely what others have said of him. Hippocrates is now readily accessible, we can understand his strength and his weakness, can perceive both why he was great and why his genius failed to quicken medical science for so many centuries.

GYNAECOLOGY FOR MEDICAL STUDENTS

SINCE the last occasion on which we had the opportunity of reviewing Dr JELLETT'S *Short Practice of Gynaecology for Medical Students* it has passed through two or three editions and a considerable number of changes have been made in it. The most recent edition, the fifth,[3] has been brought carefully up to date and presents a most satisfactory and concise account of the whole subject on a level suitable for the senior medical student and for the young general practitioner. Dr Jellett seems to have struck a very happy balance between the amount of purely pathological teaching which he gives and the more strictly clinical matter. The section devoted to operative treatment is also useful and not too long or too full. The actual methods of operation recommended are those which he has himself found useful, and although probably no two gynaecologists would be entirely at one as to particular methods of operating, those which are described are mostly amongst the more generally recognized. Dr Jellett lays a great deal of emphasis on questions of the

[3] *Short Practice of Gynaecology for Medical Students*. By Henry Jellett. M D Dub. Univ. F R C P I. Fifth edition thoroughly revised. London: J. and A. Churchill. 1924. (Roy 8vo, pp. x + 428, 318 figures, 10 plates. 18s net.)

position of the uterus, and we are inclined to think that he stresses unduly some minor points in regard to this question

We are glad to see that full use has been made of the admirable work on menstruation collated by Dr Novak in his well known monograph, as this enables the very vexed subject of the etiology of chronic endometritis to be presented in the light of most recent observations and opinion The book is most admirably illustrated, and we would commend in particular the reproductions of microscopic sections, many of them borrowed from Jolly, others original, and yet others borrowed from various authors We are confident that this book will have as great a success as its predecessors, and can unreservedly commend it

NEUROLOGICAL DIAGNOSIS OF LEPROSY

In a generously illustrated monograph in English, dedicated to the memory of Danielsen and Armauer Hansen, on the *Neurological Aspect of Leprosy*,[1] Professor G H MONRAD-KROHN of Christiania rightly insists on the importance of a thorough neurological examination for the early diagnosis of leprosy, this is often forgotten in the search for cutaneous manifestations which may be so slight or atypical that they escape detection The monograph is based on 63 cases, most of which were in the leper hospitals at Bergen, 59 of these are carefully analysed

The clinical picture of nerve leprosy is, he argues, entirely due to a polyneuritis and not, as Nonne believes, to a combination of peripheral and central lesions The polyneuritis starts from the extreme periphery, but this ascending neuritis does not always spread by continuity from a cutaneous lesion, were this the case the skin manifestations would be much more numerous and extensive Although it is still doubtful whether nerve leprosy ever occurs without any cutaneous lesions at all, these may be very slight and extremely difficult to detect In addition, therefore, to ascending neuritis of cutaneous origin there is a haematogenous peripheral neuritis That changes occur in the spinal cord in all advanced cases, especially in the posterior columns, is now established, but they cause surprisingly little clinical evidence Although the trophic lesions causing leprotic mutilations have been attributed to central lesions, Monrad-Krohn believes that they are due to polyneuritis, because they are practically confined to the most distal parts of the limbs, the most characteristic being the concentric atrophy of the small bones of the fingers and toes without any changes in the skin

Of the cranial nerves the fifth and seventh are those most often and chiefly affected, symptoms connected with the others being relatively unimportant In the case of the fifth nerve the disturbance is usually confined to the sensory divisions, for in two cases only was there a unilateral motor paralysis As a rule the different forms of sensation are equally diminished, but there may be all kinds of dissociation, which, however, are never complete Out of the 59 cases, 41, or 69 5 per cent , had facial paralysis or paresis, and a table shows that it occurs in nodular as well as in maculo-anaesthetic leprosy The facial paralysis has a number of characteristic characters which distinguish it from other forms of facial paralysis—central or peripheral the upper part of the face, particularly the orbicularis palpebrarum and corrugator, is more often and more markedly affected than the lower part of the face, and the disorder is usually bilateral, the supra-oral muscles are affected more than the infra-oral, and this paralysis is less constantly bilateral than in the upper part of the face, there is extreme hypotonia or atonia, so that ectropion and dribbling of saliva are common, different parts of individual muscles are affected in a variable degree, fibrillary tremors are common, and stress is laid on the conclusion that only lesions of the terminal filaments of the facial nerve can explain these clinical manifestations, thus contradicting Nonne's belief that the facial paralysis is entirely due to central lesions The motor disturbances in the limbs are those of a peripheral polyneuritis, co-ordination is seldom affected, and Romberg's sign is practically always absent

The sensory changes are illustrated by twenty-four diagrams, hyperaesthesia usually precedes hypaesthesia, and though all forms of dissociation may occur, these are never complete or the rule The distribution of the sensory changes is that usual in polyneuritis—namely, most advanced in the distal parts of the limbs Deep sensation was remarkably well preserved, and it was found that, contrary to Harbitz's statement, joint sense was usually retained The plantar reflex was usually abolished and in two instances only was it extensive, the deep reflexes, except the Achilles jerk, were generally present, though they might be unequal The greatest difficulty experienced in differential diagnosis is in regard to syringomyelia, and it is frankly admitted that in some cases it must be left open The facial paralysis characteristic of leprosy is never seen in syringomyelia, and the bulbar lesions of the latter are most exceptional in leprosy Complete sensory dissociation points to a lesion of the cord and so to syringomyelia, but incomplete dissociation also occurs in that disease, so all that can be said on this point is that the more complete the dissociation the less likelihood of leprosy, and vice versa

DIAGNOSTIC METHODS

Diagnostic Methods, by Dr HERBERT THOMAS BROOKS of Los Angeles, California, now in its fourth edition,[2] is addressed to medical students, hospital residents, and practitioners, and purports to be a guide in routine physical examinations and laboratory tests in clinical pathology It fulfils these purposes, for the author has evidently exercised great care in choosing only up-to-date and reliable laboratory tests, in this latest edition tests that have become obsolete or have failed to give direct help in diagnosis have been omitted A new chapter has been added describing the latest methods of staining and examining smears, exudates, etc The accounts given of the Wassermann test, and the complement fixation test for gonorrhoea, will be appreciated by those who wish to train themselves to be independent of public laboratories The last chapter, containing a list of apparatus and solutions requisite for the complete equipment of a clinical laboratory, will help the practitioner to avoid those irritating delays which not infrequently arise through not having at hand some indispensable reagent

The book is not intended for advanced laboratory workers or those with ample time for research, who are rightly advised to use some more extensive work on clinical diagnosis of the type of Sahli's

ORAL HYGIENE

In a volume with the general title *Oral Hygiene*,[3] Dr SIM WALLACE has published four papers read before various medical societies, all dealing with the prevention of dental disease In the first he calls on the physiologist to reconsider the function of saliva, he believes it to be the promotion of oral hygiene, and not, primarily at all events digestive The "bolus" is roughly handled, and the author's description of feeding recalls that of the ever full mouth lately described by Mr Morley Roberts in a letter to this JOURNAL The views put forward are backed by sound arguments In the second paper, on vitamins and dental hypoplasia, the author contests the Mellanbys' claim to have produced hypoplasic teeth by withholding vitamins, on the ground that the hypoplasic area did not correspond to the period of deficiency, he seems to go a long way towards proving his point, he asserts also that dental caries is a disease found most abundantly among children fed on foods rich in fat-soluble A vitamin

The third paper, on food and feeding in relation to the teeth, is, perhaps, the best of the series Sugar is severely dealt with—"to supplement starchy foods with sugar

[1] *The Neurological Aspect of Leprosy (Specialtilled)* By G H Monrad Krohn (Videnskap selskapets Skrifter I Mat Naturv Klasse. 1923 No 15) Utgit for Fridtjof Nansens Fond. Christiania On Commission by Jacob Dybwad. 1923 (Imp 8vo pp 78 39 figures)

[2] *Diagnostic Methods* By H T Brooks A B M D F A C P Fourth edition. London Henry Kimpton 1923. (Demy 8vo pp 109 52 figures 8s. 6d. net)

[3] *Oral Hygiene* By J Sim Wallace D Sc M D I D S Lecturer on Preventive Dentistry King's College Hospital London Baillière Tindall and Cox. 1923 (Demy 8vo pp vii + 76 5s net)

resembles nothing more than sending coal to Newcastle"—and the statement is made that "certain bacteria in the mouth cause a fermentation of sugar, which results in a gummy substance being produced" Unfortunately, no reference is given Both caries and pyorrhoea are dealt with, and though the author's theory that the inception of pyorrhoea is due to stagnation of the secretions of the mouth rather than of the foods may not meet with wide acceptance, no one can read this lecture without profit

The fourth paper—on the progress of preventive dentistry—is of a more polemical nature, incidentally, this may perhaps explain why the author fails to make clear (p 51) what it is the tooth-paste vendors have or have not done! He deals shrewdly with the first report of the Dental Caries Committee, so shrewdly that the Council of the Odontological Section of the Royal Society of Medicine, it is stated, refused to publish that portion (the paper was read before the Odontological Section of the Society) After reading the paper we think the remarks need not have caused the Society to take this course After reading the paper also we do not find it as good as the first three The addendum, on child welfare, is mostly a compilation of press notices and might well have been omitted

ANALYTICAL MICROSCOPY

USEFUL books on analytical microscopy are so few that any new one will be welcomed if only it possess some novelty in matter or contain a special description interesting to those engaged in practical work Both of these qualities are to be found in the little work entitled *Analytical Microscopy*,[7] written by Mr T E WALLIS It is a little unlike ordinary text-books, for no attempt is made to present a completed scheme or connected sequence, the author has simply recounted his own experiences, but as these have covered a wide range and have caused him to enter deeply into the subject, the whole product contains a good deal of matter, and the disconnected branches of the subject are made to appear linked by features of common interest In the recital the clear expressions are used which are familiar to practical workers, to whose interest the volume will make a ready appeal It contains a chapter on quantitative microscopy which for the first time offers a scheme for the exact determination of percentages of the constituents of a powder The method, which has been elaborated and tested by the author, consists in counting the particles of substance in the microscopic field along with the spores of *Lycopodium clavatum* The proportion of particles to lycopodium spores is compared with the proportion found by a similar count in a mixture made to contain a known percentage of the matter to be estimated The degree of accuracy attainable by this procedure reaches to the order of 1 per cent This chapter is an important contribution to quantitative microscopy

NOTES ON BOOKS

A SERIES of monographs dealing with errors in diagnosis and treatment and their prevention has recently been issued under the general editorship of Professor J SCHWALBE[8] of Berlin, the editor of the *Deutsche medizinische Wochenschrift* They have been classified in seven main groups, consisting respectively of internal medicine, surgery, gynaecology and obstetrics, ophthalmology, otology, dermatology and venereal diseases, and pediatrics The section of internal medicine is subdivided into sixteen parts, of which we may mention those dealing with psychiatry, by Professor E Meyer of Königsberg, neuroses, by Professor L W Weber of Chemnitz and Professor O Naegeli of Zürich, diseases of the urinary organs, by von Koranyi of Budapest, with a supplement by T Fürbringer of Berlin on male sexual disorders, alimentary diseases, by Carl von Noorden of Frankfort, diseases of the upper respiratory tract, by Friedrich of Kiel and Albanus of Hamburg, diseases of the lungs and pleura, by Hermann Schlesinger of Vienna, diseases of the blood and glands of internal secretion by Naegeli of Zürich, and diseases of the organs of locomotion and zoönoses, by P Krause of Bonn Professor M Mathes director of the University Medical Clinic at Königsberg, has contributed to the series a volume on infectious diseases, it covers a considerably wider field than that by Professor Kleinschmidt on acute infectious diseases in childhood, in the same series, to which we recently drew attention (see BRITISH MEDICAL JOURNAL, July 14th, 1923, p 69), for it includes Malta fever, malaria, trench fever, relapsing fever, cholera, yellow fever, Weil's disease, tetanus, rabies, glanders, and anthrax The principles and details of diagnosis and treatment are set forth in the discussion of each disease In his volume on diseases of the nervous system in childhood Professor Julius Zappert of Vienna deals first with inflammation of the meninges, especially tuberculous meningitis and cerebro spinal fever, he deals next with Heine Medin's disease and other acute inflammatory diseases of the brain and spinal cord, then with chronic brain diseases, such as hydrocephalus, cerebral tumours, infantile hemiplegia, and mental deficiency, then with epilepsy and spasmophilia, and finally with psychogenic disorders, such as hysteria, neurasthenia, anxiety neuroses, and psychasthenia Yet another volume of the series is by Professors W Zangemeister and P Esch, of the Marburg University Women's Clinic, who write on errors in diagnosis and treatment relating to the newborn The first named author deals with the errors to be avoided in the management of the healthy infant in such matters as the dressing of the umbilical wound, the toilet of the mouth, care of the eyes, general treatment, and feeding In the second part, which forms the bulk of the book, Professor Esch describes the various injuries and diseases met with in the newborn The text is illustrated by photographs and skiagrams, and is supplied with an adequate index Like the other volumes in the series, the work is of a practical character and may prove useful to those familiar with the German language. The series, it is stated, is being translated into Italian, Spanish, and Russian.

The fourth edition of Lewandowsky's book on practical neurology,[9] which first appeared in 1912 (see BRITISH MEDICAL JOURNAL, October 12th, 1912, p 975), like the third, has been edited by Dr R HIRSCHFELD The principal new features are a full account of epidemic encephalitis, a special chapter on diseases of the extrapyramidal system, and a revision of the chapter on the estimation of disabilities necessitated by a law recently passed in Germany.

The seventh edition of Dr T L STEDMAN'S *Practical Medical Dictionary*,[10] of which the last edition appeared scarcely three years ago (see BRITISH MEDICAL JOURNAL, May 28th, 1921, p 781), contains between four and five hundred new words and several new plates, which with the others have been placed at the end of the volume A special feature of this dictionary, which adds greatly to its usefulness, is that eponymous signs, diseases, amputations, operations, and the like, are described under the proper names, so that no time is lost, as is the case with some other dictionaries, in which one is referred from the proper names to a description elsewhere The work in every respect comes up to the high standard which we are accustomed to expect in American medical dictionaries

The aim of *Paton's List of Schools and Tutors*,[11] which has now reached its twenty sixth annual issue, is, as its subtitle states, to assist parents in the selection of schools The work contains lists of scholarships and exhibitions, and indications of the range of fees at various schools, it contains many photographs of the schools and their grounds An alphabetical index of the principals of schools is appended

[7] *Analytical Microscopy Its Aims and Methods* By T E Wallis B Sc Lond F I C Ph C London Edward Arnold 1923 (Cr 8vo, pp viii + 163, 45 figures 6s net)

[8] *Diagnostische und therapeutische Irrtümer und deren Verhütung* Herausgegeben von Professor Dr J Schwalbe Leipzig Georg Thieme 1922.

[9] *Lewandowsky's Praktische Neurologie für Aerzte* Vierte verbesserte Auflage. By Dr R Hirschfeld Berlin Julius Springer 1923. (Med 8vo, pp xvi + 396 21 figures 10s)

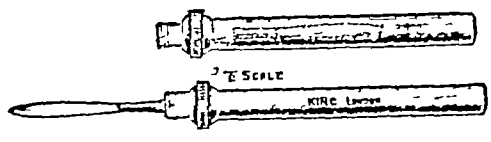
[10] *A Practical Medical Dictionary* By Thomas Lathrop Stedman M.A. M D Seventh edition London Baillière, Tindall and Cox 1923 (Roy 4to pp xi + 1131 15 plates 35s net)

[11] *Paton's List of Schools and Tutors (an aid to parents in the selection of schools)* Twenty sixth annual edition 1923-24 London J and J Paton (Cr 8vo pp lxxvi + 976. 5s)

MEDICAL AND SURGICAL APPLIANCES.

Pocket Surgical Knife

DR S BOYD FAULKNER (London N.1) has designed a pocket surgical knife always ready for immediate use The illustration shows its construction A Graefe knife or a heavier blade can be fitted The case is filled with absolute alcohol, and thus the blade when not in use is kept in a bath of spirit When required, the stopper is unscrewed and screwed into the case the reverse way By means of closely fitting cones, no washers are required to prevent the alcohol leaking into the pocket when carried in any position The blades are screwed in and can therefore be renewed The appliance is made by Mr A Charles King, 63, Ronalds Road, London, N 5



THE AUSTRALASIAN MEDICAL CONGRESS
OF THE
BRITISH MEDICAL ASSOCIATION

THE SCIENTIFIC SECTIONS

(Concluded from page 167)

SECTION OF DISEASES OF CHILDREN

THE Section of Diseases of Children held its first meeting in attendance at the presidential address to the Section of Surgery by Dr Gordon Craig (Sydney) on urology as applied to children The Section then adjourned to its own room, and Dr WADE (Sydney) delivered a brief presidential address of welcome

Dr FERGUSON (Melbourne) read a paper on congenital pyloric obstruction In diagnosis he relied largely on x-ray examination In cases of true stenosis all the bismuth was delayed, sometimes for as long as twelve hours, and the mass was seen as a rounded bolus, which with change of posture rolled about as if greased If after six hours most of the bismuth remained in the stomach he advised a Rammstedt operation In cases of spasm he employed a low fat, high carbohydrate diet in small quantities at short intervals, such as malted milk or condensed milk with plasmon added With the exception of sodium citrate he had discontinued the use of any drugs Dr Downes (Melbourne), Dr Green (Bendigo), Dr McDonald Gill (Sydney), and Dr Stephens (Melbourne) took part in the discussion

In the afternoon a demonstration of surgical cases was held at the Melbourne Children's Hospital

On Wednesday Dr DOWNES (Melbourne) read a paper on the treatment of tuberculous cervical glands The points he emphasized were (1) In a certain number of cases the first manifestation of the condition was an acute abscess (2) The tonsil was so frequently the unrecognized primary focus of the disease that tonsillectomy should be a routine measure (3) Except in infants primary excision should be carried out, unless the patient was living under good hygienic conditions and could be kept under constant observation (4) Caseating glands should be aspirated or incised and closed—not drained (5) Curettage was only justifiable when chronic sinuses were present (6) Tuberculin and heliotherapy were indicated in all cases (7) X-ray treatment was undesirable before radical operation

Dr MARJORIE LITTLE (Sydney), in a paper on dysentery in children, said it was characterized by sudden abdominal pain, marked straining, and frequent mucous and blood-stained motions containing little faeces The bowel was washed out and the first and last portions of the returned fluid were sent to the laboratory and examined within thirty minutes Of the series under review 86 cases belonged to the Flexner Y group, 6 to the Shiga group, and 25 to the late lactose-fermenting group The routine treatment had been 30 c.cm of polyvalent antidysenteric serum in 5 oz of a 5 per cent solution of glucose in saline, given by the intraperitoneal route As soon as the specific organism had been determined, specific serum was continued daily until the fifth day Dr Beare (Adelaide), Dr Webster (Melbourne), and Dr Ferguson (Melbourne) took part in the discussion

On Thursday Dr MARGARET HARPER (Sydney) read a paper before a combined meeting with the Section of Obstetrics on the establishment and maintenance of breast-feeding She referred to the reasons for weaning commonly assigned to the mother or the infant and explained that these were almost all fallacious and could be met

Dr ELSIE DALYELL (Sydney), in a paper on rickets, discussed the complemental influence of ultra violet radiation and the organic food factor on calcium and phosphorus metabolism It had recently been shown that there was an antagonistic pencil of light in the red area of the spectrum In Australia gross rachitic stigmata were rare, but minor manifestations were fairly common, mostly evidenced by the prevalence of carious teeth Dr Helen Mayo (Adelaide) and Dr Harvey Sutton (Sydney) took part in the discussion

Dr TRUBY KING (New Zealand) read a paper on the essentials for ensuring good nutrition in infancy as bearing on the prevention of diarrhoea The results of child welfare work in New Zealand were detailed Sixteen years ago, before this work had been established, the infantile death rate had been comparable with that of the Australian States (about 25 per 1,000 from gastro-enteritis) An extensive educative propaganda had been carried out As a result of these efforts no baby under 2 years of age had died from gastro-enteric disorders during the last five years in the city of Dunedin During the afternoon a demonstration of surgical cases was held at the Melbourne Children's Hospital

On Friday Dr NEWLANDS (Adelaide) read a paper before a combined meeting with the Section of Surgery on empyema (reported in the Surgical Section) Dr STEPHENS (Melbourne) remarked on the mortality of empyema in children under 2 years of age During an attack of pneumonia he performed aspiration or intercostal incision with a view to a rib resection later He removed two or three inches of the sixth rib, often with the periosteum Dr GRAHAM (Melbourne) read a paper on congenital syphilis In the treatment of infants deep subcutaneous injection of novarsenobillon had been performed under the ilio-tibial tract of the fascia lata The average dose given under 1 year was 0·33 gr A course of six injections had been carried out followed by a second or third course after an interval where indicated Dr Graham had concluded with others that no special benefit had resulted from the administration of mercury or iodides In children over 4 years of age the percutaneous intravenous route had been adopted As far as possible routine family testing had been carried out when one member had proved positive

In the afternoon Dr WADE (Sydney) read a paper on knee joint affections in infantile paralysis He described the resultant deformities of the various group paralyses — flexion deformity, genu recurvatum, and knock knee In the early stages of flexion deformity treatment with splints was adequate, but in cases of long standing an osteotomy was required, and in many cases of knock knee an osteotomy was advisable before the application of calliper splints The question of tendon transplantation was discussed and provided there was some power in the extensors the biceps alone or together with the semi membranosus could be inserted into the patella as described by Albee Arthrodesis of the knee-joint should be reserved for cases of complete paralysis of the knee-joint or for cases of excessive genu recurvatum with a marked flexion deformity where tendon transplantaton was not indicated

Dr TEECE (Sydney) read a paper on paralytic deformities of the foot and ankle He said that the completely paralysed foot was most easily dealt with In these cases Whitman's operation was advocated supplemented in the presence of marked dropping of the fore part of the foot by a wedge excision of bone The tendency in all cases of foot deformity was now towards arthrodesis and tenodesis

Dr MEEHAN (Queensland) described his treatment in (1) cases of complete deltoid paralysis of two years standing, (2) flail foot In the first of these cases arthrodesis of the shoulder-joint at 90 degrees abduction, with fixation of the humerus to the acromion by a tibial peg graft, was carried out In cases of flail foot astragalectomy, with backward displacement of the foot by Whitman's operation, was advocated and described in detail

SECTION OF NEUROLOGY AND PSYCHIATRY

Dr W COLIN MACKENZIE opened with a demonstration of the comparative anatomy of the brain, with special reference to Australian fauna, illustrated by lantern slides and specimens He traced the history of the assumption of the erect position from the bearded lizard of Australia to man, and argued that intelligence had a muscular basis He demonstrated the overflow of the cerebral grey matter in monotremes over the white matter—the opposite to that in the reptilian brain Dr SEWELL, in a paper on the evolution of the language mechanism showed how in the gradual development of brain from the lower animal up

to man the addition of structures to meet new environments resulted in the sensory areas becoming widely separated, and in the growth of association areas with their supragranular layer Speech was a highly intellectual process, and its deficiency was always associated with intellectual deficiency Professor HUNTER referred to Head's four clinical types of aphasia and their localization in the cortex, indicating how different forms of aphasia were caused by widely separated lesions with intellectual defect

Professor R J BERRY, dealing with the problem of the feeble-minded, illustrated with lantern slides the different types of neuronic arcs and the modification of brain structure with changing needs, he stressed the great importance of the supragranular layer and the short internuncial neurons which distinguished man from animals, and abnormal from normal mankind Mental subnormality arose from the deficiency or the improper functioning of these controlling cells He showed by statistics that crimes of the instinctive kind largely predominated over intellectual crimes, and that the brain in such cases was deficient in supragranular development In diagnosis the recognized tests of intelligence, brain capacity, and physical condition must be employed, and attention paid to the past personal and family history He added that the establishment of institutional colonies for mental defectives was one of the crying needs of Australia Professor HUNTER consulted Professor Berry on linking anatomy with func-

Our legislators must be made aware of the present omic waste and the future national deterioration which d result if this matter was not dealt with

Dr RALPH NOBLE set forth his experience in other countries of the work of detecting and preventing mental deficiency Compulsory sterilization had been abandoned in America, and the ban of marriage might lessen but would not prevent propagation of the unfit Medical men must explore the wider fields of preventive medicine with a view to improving the conditions of life and the general well-being of the people Sir JOHN MACPHERSON explained the measures taken in Scotland and England for dealing with the feeble-minded

Dr W A T LIND, in a paper on venereal disease and the abnormal mind, said that the lack of self-control in defectives was a frequent cause of venereal disease A history of gonorrhoea was obtained in 16 per cent of males in acute mental hospitals, and in 50 per cent in institutions for chronic cases In 1920, 10 per cent of the 474 deaths in Victoria hospitals for the insane were due to general paralysis, whilst many others also had a syphilitic cause Most early dementias were due to unrecognized syphilis Dr ARTHUR feared that Governments would not give the necessary money, and advocated a campaign by an authority not under the Director of Public Health He had been able to influence Parliament more by showing the members a congenitally syphilitic boy than by any other procedure Dr LIND said that the Wassermann test in congenital syphilis was unreliable after puberty, but the general fibrosis which occurred without the cell formation, in active disease, could not be explained unless it was syphilitic

Dr MCAREE, in a paper on sex and its influence in the causation of psychoses, said that the class with strong sex instincts and weak self-control provided the bulk of psychoses, though not all In ordinary civil life the sex impulse was more subjected to stress than was the impulse towards self-preservation His technique was a combination of analysis and suggestion practised concurrently, in some cases hypnosis was employed Dr RALPH NOBLE held that psycho-analysis should be confined to Freud's method The interpretation of dreams depended on the examiner Border-line cases might be aggravated into a state of definite psychosis, and only those patients intellectual enough to understand the underlying processes and to respond to re-education should be analysed Sir JOHN MACPHERSON remarked that this method of treatment was losing ground in Europe and in America

Professor LOWSON said that Freud regarded all emotions such as love affection, etc, as genetic derivatives of sex

Dr W E JONES read a paper on general paralysis of the insane, pointing out that there had been an increase in the depressed and demented types, whilst the classic type was becoming less frequent Auxiliary causes were alcohol, mental and business stress, war fatigue, fear, and horror The number of cases in Australia increased from 1905 to 1913 and then decreased—the increase might have resulted from the more certain detection by the Wassermann test, and the decrease be due to salvarsan treatment, which began about that time The death rate had fallen, though the population had increased Sir JOHN MACPHERSON referred to the alarming number of cases of general paralysis in 1888 to 1889 in Edinburgh Might there not be a special form of spirochaete concerned? Dr LIND said that head injuries were an important cause and might account for the increase in this disease after the war

Dr PAUL DANE, in a paper on the psychology of the criminal, said that the war had proved that reason and morality were a veneer covering a composite of brute forces Most tests explored the conscious only, the more important unconscious must be examined and laid bare, so that the cause of the delinquency might be exposed and conduct corrected Professor Berry's work had shown that much crime, drunkenness, and prostitution resulted from defect in the controlling supragranular layer of the cortex Dr Dane regarded mental conflict as being more important than defect Dr W E JONES thought that the intellectual group of criminals could only be taught self-control by suitable punishment

Dr DANE, replying, added that no one theory would explain delinquency—there were many causes probably, but conflict often ended in criminal acts

Dr MAUDSLEY, in a paper on the relationship between psychological processes and physiological reflex mechanism, said that every physical action had a psychical counterpart, and from a knowledge of the physical the psychological parallelisms could be traced Closer study of automatic movements of a primarily involuntary nature, of involuntary movements caused by the sympathetic system, and also of the interaction between the highest intellectual levels and the reflex levels, threw light on the production of "border-land" cases He cited Golla's experiments in psycho-galvanic reactions, in which it was concluded that only stimuli in the shape of thoughts which caused emotion would produce reaction The hysteric gave no reaction, though he showed all the manifestations of intense emotion Conflict would give rise to hysteria where emotional reactivity is lowered through an inborn defect Psychotherapy played a part in the treatment of these cases, but there seemed to be a physiogenetic as well as a psychogenetic factor, and re-education from both these standpoints was indicated Dr RALPH NOBLE did not agree that if the stimulus was strong enough it overflowed along the line of the sympathetic The basis of hysteria was a close relationship between the intellectual and physical There was conflict in every case, and the upset in the higher centre allowed the lower to function abnormally Professor LOWSON pointed out that any stimulus to which adjustment could not at once be produced resulted in an immediate response being recorded by the galvanometer Dr MAUDSLEY agreed that emotional conflict was behind every case, but, since all had conflicts, there must also be some physical defect of the neuronic arcs

Dr GAMBLE read a paper on the policy and possibilities of the psychiatric clinic, and suggested that it should be termed the "neuropathetic clinic," in order to include both neurology and psychiatry Those present agreed that there was need of such an institution and that the two studies now separated ought to be closely co-ordinated, possibly as part of a general hospital

Dr GARNET LEARY gave a description of stammering and its influence on education, with illustrative cases He said that stammering was fundamentally psychic, there was an inborn tendency to it, and it might develop as a result of imitation, shock, etc The ability to speak was present, but the fear of abortive attempts intensified the condition Corrective measures are directed at the psychic centres with a view to re-establishing harmonious interaction of the respiratory and articulatory muscles A pure musical tone or a child-like rhythmic cadence was advocated with prolongation of vowels

Dr J W SPRINGTHORPE, in a paper on psychotherapy in practice, reduced procedures to analysis, suggestion, and

re-education Freud's methods he considered sometimes dangerous and always cumbersome and tedious Re education was slower than analysis or suggestion, more laborious, and called for wider powers, but it was necessary for permanent results

DR BOSTOCK, in a paper on insanity in the Australian aborigine and its bearing on the evolution of mental disease, reached the following conclusions (1) Dementia is early, with increasing tendency to motor trends, and to visual rather than to auditory hallucinations, (2) paranoid types are not represented, (3) *dementia praecox and manic-depressive* forms occur, (4) *epilepsy* is probably more frequent in those in contact with civilization and may be a factor in race extinction, (5) confusional and other psychoses associated with senility and alcohol differ remarkably little from these states in the white population, (6) general paralysis of the insane is not infrequent and shows the demented form, (7) the aboriginal has not reached the evolutional stage where the neuroses and certain of the psychoses, hysteria, and the phobias exist

Professor CARMALT JONES, in a paper on the muscle pressure sense, stressed its importance in cases where diagnosis was difficult In tabes its loss was the most important symptom of the disease, is never absent in definite cases, and is often present when one or more of the classical signs is wanting Hysteria and profound degrees of paraplegia were the only other conditions known to him which showed loss of this sense The absence of deep reflexes and the presence of muscle tenderness did not form an essential combination in the diagnosis of peripheral neuritis this combination was found in tuberculous meningitis and in one case quoted of anterior poliomyelitis

VITAL STATISTICS OF ENGLAND AND WALES

WE published last week (p 176) a preliminary statement showing the birth rates and death rates and the rates of infant mortality in England and Wales in the 105 county boroughs and great towns and in 157 smaller towns containing from 20,000 to 50,000 inhabitants Similar statements have been supplied to us annually by the courtesy of the Registrar General for many years past, and it has seemed worth while to collect the figures for the five years before the war and the five years since The following table shows that there has been a downward tendency in the crude death rate and the infant mortality rate, and, with some considerable fluctuations, in the birth rate also

England and Wales

FIVE YEARS BEFORE THE WAR				FIVE YEARS AFTER THE WAR			
Year	Birth Rate per 1 000 Total Population	Death Rate per 1 000 Population (Crude Rate)	Deaths under 1 Year per 1 000 Births	Year	Birth Rate per 1 000 Total Population	Death Rate per 1 000 Population (Crude Rate)	Deaths under 1 Year per 1 000 Births
1909	25 6	14 5	109	1919	18 5	13 7[1]	89
1910	21 8	13 4	106	1920	5 4	12 4	80
1911	21 4	14 6	130	1921	22.4	12 1	83
1912	23 8	13 3	95	1922	20 6	12 9	77
1913	2 9	13 7	109	1923	19 7	11 6	69

[1] From the Registrar General's report for 1919

Some comments on the figures will be found at page 209

OUTBREAKS of typhoid fever have occurred in a large number of small districts in central Germany during the last few weeks as the result of infection of the water supply

AT the eighteenth French Medical Congress, to be held at Nancy in 1925, Professors M Labbé of Paris, K Petren of Lund (Sweden), and Dr Dantrebande of Brussels will read papers on acidosis, Dr Gallavardin of Lyons and Professor Richon of Nancy, on angina and Professors F Bezançon of Paris, J Parisot, and L Caussade of Nancy, on pulmonary gangrene

MYOPE CLASSES

BY

N BISHOP HARMAN, M A , M B CANTAB , F R C S ENG ,

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THE growth of interest, in this country and abroad, in the provision of special educational facilities for myopes and other short-sighted children, brings many inquiries into the arrangements of these myope classes In this regard a paper drawn up for the use of teachers may be of more general service in showing the scope and practice of the classes with which I am most familiar The publication of these notes will serve a further purpose if other eye surgeons or school doctors who have an oversight of myope classes would communicate the results of their experiences

HINTS FOR TEACHERS OF MYOPE CLASSES

The Children

1 Myope classes are established for the purpose of providing suitable education for children who are short sighted whose sight is too poor to enable them to do the work of the *ordinary school with safety*, and who yet see too well to be provided for in a school for the blind

2 The myope class will contain three types of children True myopes, who will form about two thirds of the number *on the roll, children with scarred eyes whose vision is poor* and children whose eyes have not developed properly and who therefore see imperfectly

3 The myopes have frail eyes, overstretched and therefore weakened Sight is also defective, even with the glasses they need and should always wear Certain of them have very high myopia, the medical record cards of these children are marked CARE, these children should wear red buttons on the breast to indicate that they need exceptional care If the monitors are always chosen from amongst the wearers of the red buttons no objection will be taken to the wearing of them

4 The children with scarred eyes see as through a fog Some are liable to recurrent attacks of inflammation especially if *they get overtired or wet* If an eye should get red apply a hot fomentation and send the child to hospital Where there is long continued freedom from attacks the scarring may get less dense and vision improve, enough possibly for some to return to the ordinary school

5 Children with congenitally defective eyes may, for the most part, do any work they can see to do

Teacher and Child

6 The teacher of the myope class is the pivot of its working On the initiative and resource of the teacher depend its success

7 The number of children allotted to each myope class is reduced below normal class standards since individual teaching is necessary

8 Individual care allows of the cultivation of the bent of the child better than large class methods, and increases the interest both to teacher and child

9 A child with more than average capability in any direction may be greatly benefited by encouraging him to help other children in the particular line of work in which he excels

10 Cultivation of thought and memory is the first end aration in the training of these children Teach by word pictures and stories, and illustrate by showing objects and bold black board drawings

11 Cultivate association memory *in the child* to the utmost Encourage each child to produce drawings on the blackboard, models in paper, or plasticine to illustrate the lesson given Especially let arithmetic be associated with concrete examples, so that it may be applied to actual conditions of life known to the child

Curriculum

12 Cultivate amicable relations with the normal school in which the myope class is housed Experience has shown that the heads of normal departments and class teachers are most willing to help the myope classes Keep a record of the work done in the normal standards day by day Keep your own children of similar age as near to the same level of work as possible, at least to the appreciation of the broad lines of that work

13 After any of your children have attended oral teaching in the normal school set them to write out *on their blackboards* the main facts of the lesson they have heard Let those of equal standing criticize each other's work Myopes must not make notes during oral lessons in the normal school

14 In blackboard work see that the surfaces are black and free from grease *soap and* water with a dash of paraffin *cleans* best Report defective boards to the proper authority *The*

chalk writing must always be done free arm fashion—that is, at full arm's length Chalk marks should be thick and heavy, and not spider lines The size of letters written on the individual blackboards should be two inches in body height for the smaller children and not less than one inch in body height for the older children Blackboard writing done by the teacher on the demonstration boards should be extra bold and large

15 Printing with the rubber types is one of the best exercises in precision and care that can be given to the older children The work fixes the sense of the printed matter in the mind better than any other measure Printing should be done upright against the wall in a good light The "copy" to be printed must be written out by the teacher on the blackboard, and not taken directly from a book by the child

16 Printed wall sheets of type of two inch body may be used for group teaching, and of type of one inch body for individual reading by children The sheet should be clipped on a blackboard at arm's length before the child

17 The sheets printed by the children, when of good quality, should be added to the class "library" It should be considered a high honour for a child to secure the acceptance of a piece of work for that library

18 It is possible for a good worker to print extensive passages from selected literature on rolls of paper which may be mounted on rollers for class purposes

19 Exchange surplus printed sheets with other myope classes, usually a steady supply can be obtained by single classes from centres where there are two or more classes

20 *Books, exercise books, pens or pencils, of any sort, are not to be used by any of the children in the class under any circumstances* These articles are to be reserved for the exclusive use of the teacher

21 The withdrawal of books of every sort from the use of *the children is done with the express purpose of cultivating* the habit of not reading Reading is too great a temptation for them, and one that must be avoided habitually Make the child's chief interest an outdoor interest, then the indoor interest of books will be diminished

22 Elder children may make permanent records of their work on black paper with white chalk, or white paper with black crayon, the writing to have a body size of not less than half an inch and to be done free arm fashion

23 Every form of handiwork that does not entail close and continuous examination of small objects or markings may be [illegible] well being of the people Sir JOHN MACPHERSON [illegible] the measures taken in Scotland and England for dealing [illegible] the feeble-minded

[illegible] cultivate the habit of *feeling* processes rather than [illegible] them Sewing is prohibited String work, large bead [illegible] knitting, netting, stick work, basket making, coarse [illegible] sting, woodwork, bent iron work, modelling weaving, may [illegible] ll be employed It is important to give each subject some additional associated educational value over and above that of the training of the hands in craftsmanship

Physical Conditions

24 Physical conditions react seriously upon the sight of these children Bodies must be held erect, stooping must be checked daily and hourly Work must be done at arm's length, therefore work must be large, peering means fatigue Children must not work facing the light this should fall from the left hand side

25 Glasses must be worn by those children for whom they are ordered, and when broken they should be replaced promptly

26 Children who live at a distance from the school should be examined on wet days to make sure their feet are not wet It is good for such children to keep an old pair of shoes at school for use on wet days

27 Luncheons should be inspected to ensure that the child has a sufficiency of food for the day

28 Lessons should be short, not more than half an hour at a time The sequence should be as varied as possible, so that lessons of similar order do not follow each other

29 When daylight is poor, suspend all blackboard and handiwork lessons, clear the floor of desks, and give singing, drill, physical exercises, or teach geography on a floor map about which the children can walk, or teach history by impromptu acting Blackboard and handiwork lessons should not be done by artificial light

30 Physical exercises for myopes may include all those taught to the normal children, except such exercises as involve the body being fully bent forward and downwards All drill and dancing may be taught but no jumping should be allowed These exercises may be done with the normal children Swimming may be allowed but not diving, the swimming lesson must be short especially for the children with scarred eyes Boxing is absolutely prohibited Ball games may be played with a soft ball but not in company with the normal children the short sighted children see slowly and so are handicapped and run an extra risk Skipping may be practised when this is done with regular alternation of the feet jumping and skipping with both feet together must not be done

The Doctor

31 Refer all difficult cases, or where some failure of vision is suspected, to the visiting eye doctor immediately Reports should be sent to the head office and not to private addresses Send the medical record in such cases Keep a note book in which any ordinary difficulty or question regarding the conduct of work may be entered Ask the eye doctor about these points at his visit, he is there to help you

The Parents

32 Cultivate friendly relations with the parents, welcome visits and inquiries from them The exhibition of the work of the children on specified occasions when parents and friends are invited greatly increases interest in the classes in all quarters, and makes both teacher and child feel that their class is not a side issue but in the full stream of scholastic progress

Other Myope Teachers

33 Cultivate the interchange of ideas with teachers of other myope classes everything you think of as a possible improvement is worth trying, and so also are their ideas, and the permanent utility of each suggestion should be checked by careful experiment and observation

Cinematograph and Other Entertainments

34 Attendance of children of myope classes at cinematograph displays should be discouraged Short-sighted children suffer readily from eye fatigue, which may cause more lasting injurious effects All forms of music should be encouraged, particularly playing and singing by ear

Employment

35 At frequent intervals discuss with the children, especially the elder ones, the various kinds of employment carried on in the neighbourhood, or other kinds known to you Point out the advantages of work for short sighted children that leads the worker to go out and about, and the disadvantages of work that means sitting indoors and at a desk or bench for many hours together

36 Keep a record of the work that your children go to when they leave school Invite them to let you know how they get on, and what changes they make in their work. There is much need of careful and continuous records of the progress of these children after leaving school

[illegible] *Medical Records*

[illegible] the galvanic reactions [illegible] Cards

37 The teacher should study these cards so as to appreciate the difficulties of vision of each child Ask the visiting eye doctor to explain what is not understood In making any inquiry regarding a child, the medical record card should accompany the inquiry When a new child is admitted to the class and no medical record is sent, apply for it to the head office These medical record cards are *strictly confidential* and should be seen by no one except the teacher and the doctors, or other officers of the education department Parents and friends are not entitled to see them

ROYAL MEDICAL BENEVOLENT FUND

AT the last meeting of the Committee twenty-five cases were considered and £299 voted to twenty-three applicants The following is a summary of the new cases relieved

Widow, aged 67, of F R F P S Glas who died in 1905 has six children The married daughters cannot give monetary assistance but send clothes occasionally The eldest son, a doctor, has five children of his own and is only able to allow the applicant 5s a week the second son allows a similar amount Voted £18 in twelve instalments

Widow, aged 80, of M R C S Eng who died in 1881 She mortgaged her property to start her son in business, but he died of consumption in 1915 before he could repay the loan Then owing to the war she was unable to pay the interest, and the mortgagees foreclosed, leaving her pennile s One daughter has six children and is in reduced circumstances but allows her mother 10s a week the other daughter, a widow living on a small income, allows 35s a week, which is more than she can afford Voted £26 in twelve instalments

Daughter aged 60, of M R C S Eng who died in 1884 The applicant has a superintendent s post at a hostel at £50 a year but is much over worked and is in danger of breaking down Voted £10

Widow, aged 57, of L R C P Edin who died in 1911 She is in very bad health and has only received £4 10s during the last twelve months by daily catering This case was brought to the notice of the Fund by the Charity Organization Society, which has been helping the applicant to pay her rent (7s 6d a week) Voted £10 the Charity Organization Society has been asked to administer the grant

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, K B E , M S , at 11, Chandos Street, Cavendish Square, London, W 1

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys The Guild appeals for second hand clothes and household articles The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W 1

British Medical Journal.

SATURDAY, FEBRUARY 2ND, 1924.

INSURANCE THE COURT'S AWARD

THE finding of the Court of Inquiry, in effect that the capitation fee on which the remuneration of insurance medical practitioners is based should be the sum of nine shillings, and that an agreement should be entered into whereby this should continue for four years, will be received with satisfaction by the profession on several grounds Though it involves a reduction on the payment which has been made during the past two years, yet this reduction is considerably less drastic than that which was to have been imposed by the Minister of Health or that which was urged by the officials of Approved Societies The profession has won its case against the Minister, and has reduced to an absurdity the suggestions and claims of the societies

The importance and extent of this victory can be truly gauged only by recalling the history of the last fifteen months At the beginning of this period it was recognized that an attempt to reduce materially the remuneration of insurance practitioners would be made by the Ministry of Health and by the Scottish Board of Health, and so plausible in many respects did the case for such a reduction seem, and so strong was the backing that it would evidently receive from several quarters, that a large number of practitioners were despondent in the matter, and much troubled as to their position if they should be faced with the necessity of accepting or refusing the low rate that was then spoken of The Approved Society officials began to claim that it was they who ought to determine the fee, and that this should not be more than 7s or 7s 3d Later, some of them took credit to themselves for extreme generosity in countenancing a fee of 8s , and this was the amount which the late Minister of Health decided upon as the correct one for a period of five years, allowing, however, what he described as the extreme figure of 8s 6d for a shorter period in order to secure the willing service of the profession The Conference of Panel Committees, acting on the advice of its executive, the Insurance Acts Committee, unanimously decided to reject both these alternatives, and to demand that the paramount position of medical benefit and the subordinate position of Approved Societies in this matter of remuneration should be defined to their satisfaction An extraordinary response to the appeal for the resignations of insurance practitioners in support of this position followed, and, faced with these, the Minister agreed with the Insurance Acts Committee on other points, including the appointment of a Royal Commission with wide scope and suitable personnel, and offered also either the fee of 8s 6d for the longer period or a Court of Inquiry to determine the capitation fee from January 1st, 1924 The Insurance Acts Committee and the Conference chose the Court of Inquiry, and the wisdom of this choice has been completely justified by the result To fight the decision of a responsible Minister, backed by the whole weight of his department of State and by the powerful political influence of an army of astute society officials with large sums of money and an excellent propaganda machinery at their disposal, has not been an easy task The decision of the Court is not only to the financial advantage of insurance practitioners, it is a proof that they were not moved by a mere grasping spirit in refusing the fee offered by the Minister, but were protesting against a standard of remuneration which would militate against efficient service to the public

The full report of the proceedings of the Court which we have published in the last three issues of the SUPPLEMENT reveals other grounds for satisfaction also A tribute should be paid to the care, patience, and interest which the Chairman of the Court, Mr T R Hughes, K C , and his colleagues, Mr F C Goodenough and Sir Gilbert Garnsey, gave to their task, and the fullness of opportunity which was allowed even to those who were in no sense parties to the Inquiry was very marked All the documents put in had evidently been very carefully considered, and such questions as were put by the Court went unerringly to the essential points of the case Few if any, who were present, or who even read the reports carefully, will dispute that the case of the Insurance Acts Committee was dominant by its clearness and logical presentation Nor can it be doubted that the advocacy of Dr Brackenbury—lucid in exposition and skilful in debate, with every figure and argument at his fingers' tips—was a decisive factor throughout the proceedings The case of the Ministry was set forth with care and moderation, but its figures were far from impressive and its reliance on the Civil Service bonus parallel was obviously misplaced The efficiency and effectiveness of the medical service was accepted and acknowledged by the Ministry, and the evidence offered by the Associations of Insurance Committees was directed almost entirely to this point The testimony of these Committees, the statutory bodies charged with the local administration of medical benefit, to the high character and ungrudging fullness of the work done by insurance practitioners was indeed remarkable in its emphatic unanimity The case of the Approved Societies, belatedly presented to the Court with all the advantage of having heard what the Ministry and the Insurance Acts Committee had to say, was cleverly put together and by one or two of their witnesses effectively stated, but there can be no doubt that it carried little weight, partly by reason of the antagonism to the profession occasionally manifested and by the general attitude shown throughout of being "willing to wound and yet afraid to strike" Even from this quarter, however, some statements as to the general good work of insurance practitioners were forthcoming

There was no hesitation or doubt whatever in the pronouncement of the Court as to the efficiency of the attendance and treatment given to insured persons The Chairman described the smallness of the number of disciplinary cases as "remarkable" and "amazing" and said that no evidence was before the Court casting doubt upon this efficiency This will certainly, after all that has been said in some sections of the press and by some society officials, be noted with as much satisfaction by the public as by the medical profession It is indeed one of the most pleasing results of the Inquiry

Upon the efficiency of the certification arrangements more doubt was cast Even in this matter, however, the vague statements of the society officials as to what they could say if only they would were not very convincing, and the actual evidence of widespread laxity of certification by practitioners was

conspicuous by its absence There can be little doubt that societies have quite legitimate complaints with regard to certification, and that in the aggregate the number of cases of imperfect certification may be large, but the proportion of such cases to the total number of certificates is evidently exaggerated in the minds of society officials by reason of a quite natural lack of medical knowledge and understanding of the conditions of medical practice It will be all to the good if this Inquiry has led, on the one hand, to a fuller appreciation of the difficulties of exact diagnosis and the still greater difficulty of determination of incapacity for work, and on the other hand to a realization both by the Ministry and by society officials of the genuine and strong feeling among insurance practitioners that the whole body of certification rules should be considered afresh with a view to their being made more simple

To sum up, there is no doubt that the situation from the beginning has been wisely handled by the Insurance Acts Committee of the British Medical Association on behalf of the profession, and that the extraction of the offer of an independent Court of Inquiry from a determined Minister and the acceptance of this offer was a triumph of leadership and organization For this result the profession owes a great debt of gratitude to Dr Brackenbury and his colleagues of the Insurance Acts Committee, and to the Medical Secretary, Dr Cox, and the Deputy Medical Secretary, Dr Anderson

The character of the Court and the conduct of its proceedings have been such as to establish confidence in its pronouncements and its finding The light of such a Court, cast upon statements and suggestions which poisoned the atmosphere in which the insurance service was carried on, but which failed when confronted with the demand for evidence, should tend to a permanent betterment of the position, and though the actual finding of the Court still, in our opinion, leaves the capitation fee at too low a figure, the profession will be prepared, as the Chairman suggested, sacrifice something for the sake of security and settlement

THE "E R A." CULT AND RATIONAL MEDICINE

In the notes on the "E R A" cult published last week (p 164) only a passing reference was made to one important feature in the spread of this cult—namely, the way in which it has been eagerly seized on by all who for one reason or another dislike the orthodox practice of medicine, by this term we mean the practice of the arts of diagnosis and therapeutics founded on the basic sciences of pathology, pharmacology, bacteriology, physiology, etc

The lines of thought of the chief supporters of the E R A cult are well illustrated in the little pamphlet[1] published by *Pearson's Magazine* This pamphlet contains reprints of letters by Mr Upton Sinclair, Sir James Barr and the editor of the magazine, Mr Alexander Marky The pamphlet is, of course, an impassioned defence of the E R A cult and all its works and contains denunciations of orthodox medicine

One of the fundamental theories developed by Abrams was that practically the whole of mankind is suffering from congenital syphilis to a greater or less degree This has suited the antivaccinationists exactly and they are reaping in triumph the claim that syphilis is spread by vaccination In the pamphlet to which we have referred is an article entitled "A challenge," by Mr Alexander Marky In it we read (p 6) that "Through the Electronic discovery we find that practically all of us are infected in various degrees of dilution, and—with few exceptions—*vaccination with impure vaccine was the agent that introduced disease infection into our bodies*" We find also the following quotation from Mr Upton Sinclair (p 21) "But now, when you mention his name the average San Francisco physician shakes his head and says, 'Oh, Abrams! He's crazy!' And if you ask why he is crazy, you will be told, first, he claims to locate disease from a drop of blood, second, he claims to tell paternity from a drop of blood, third, he claims that cattle have syphilis, and that you can get it from vaccination" The general tone of the pamphlet as regards the medical profession is indicated by the following charitable observation quoted by Mr Marky concerning a small-pox epidemic in Kansas (p 29) "*Is any other conclusion possible than that this 'made to order' small-pox epidemic was deliberately promoted to boom business for medical doctors at a time when legitimate pickings were unusually poor?*" One feels that Sir James Barr is in curious company

Another of Abrams's discoveries was that every disease sets up electronic vibrations of a specific rate, and that each disease would be cured by imposing such vibrations from outside Abrams concocted his machine the "oscilloclast" to produce such vibrations, but also he claimed that drugs produced vibrations, and that drugs cured by producing vibrations rates of the same frequency as the disease The hypothesis has been hailed by some homoeopathist as a new gospel, for it fits in beautifully with their theory that "like cures like," and the idea of electronic vibrations is sufficiently elastic to provide an explanation for their belief that a drug can act at such a dilution or potency that a single dose contains less than a molecule of the drug So now we are promised a brand-new science—that of physical homoeopathy

Perhaps it may be thought that the BRITISH MEDICAL JOURNAL is taking undue notice of a cult which should sink naturally beneath the weight of accumulated absurdities It must be remembered, however, that the slow cautious progress of medical science, based on rational induction, is a process wholly antipathetic to the average person, who, on the other hand, delights in miracles wrought by mysterious means, and particularly miracles associated with emanations, magnets, and electric sparks The fact that the basic theories of the cult violate most of the known laws of physics, moreover, presents no difficulty to the ninety-nine per cent of the educated community who are wholly ignorant of these laws

[1] *The Electronic Method of Diagnosis and Treatment* Reprinted from and compiled by *Pearson's Magazine* 1923

SIR JOHN BLAND SUTTON

MEMBERS of the honorary staff of the Middlesex Hospital, members of the Board of Governors, and old pupils and friends gathered together on January 24th at the Victoria Hotel at a congratulatory dinner held to honour Sir John Bland-Sutton on his election to the Presidency of the Royal College of Surgeons of England An occasion so full of interest was bound to appeal to a wide circle, and in spite of the difficulties of travelling caused by the railway strike the dinner was exceedingly well attended Dr W Essex Wynter, who occupied the chair, in proposing the toast of the evening, referred most happily to the affectionate regard in which Sir John was held by all those who, as fellow-students, colleagues, or coadjutors in hospital work, had been privileged to know one whose ability as a teacher and

surgeon was based upon thorough knowledge and that touch of genius which was the hall mark of greatness He alluded to incidents in the guest's career, which many present remembered, and which others were glad to have recalled to them, illustrating as they did the many-sidedness of a character which held an irresistible appeal, and in congratulating him on the attainment of a position so coveted and so distinguished he emphasized the fact that it must be looked upon entirely as a recognition of individual merit In his reply Sir John Bland Sutton expressed the pleasure and delight the occasion gave him, and his deep appreciation of the good wishes of all his friends Tracing his career from the time he entered the Middlesex Hospital as a student in 1878, he referred to difficulties which had to be overcome, to opportunities which offered themselves and were promptly taken advantage of, to his early ambition to become an astronomer—soon abandoned because of a professed lack of mathematical ability—and to his one regret—namely, that he had never held a resident appointment As a teacher he claimed that he had learnt the lesson of his life—the extent to which a teacher is taught by his pupils His remarks, delivered with that directness and restrained sense of humour which render his utterances so attractive, gave the greatest possible pleasure to the company Amongst those present were Sir Squire Bancroft, Sir P W Bassett-Smith, Sir Robert Hill, Sir Arthur Keith, Sir George Makins, and Mr John Murray

INFLUENZA

LAST week (that ending January 19th) the Registrar-General's returns showed a considerable increase of deaths from influenza in London and the great towns In the former the total rose from 28 to 49, and in the latter from 93 to 153 The increase is considerable, but the figure for London was exceeded once (fourteenth week) in 1923, and that for the great towns no less than eight times The notifications of pneumonia in London have also increased sharply—from 173 to 197—and are more numerous than in any week of 1923 In the great towns, on the other hand, notifications of pneumonia have declined from 1,264 to 1,220 Evidence derived from mortality returns or even from notifications would not suggest that influenza is widely epidemic, but general experience makes it certain that such is the case There have been considerable outbreaks in some schools and military formations, but for the most part the clinical type has been mild, which explains the paucity of statistical evidence We have heard very little of grave pneumonias, although instances of cardiac dilatation have been reported Usually the three days' fever type with characteristic depression has been prevalent In ancient times respiratory diseases were deemed to be likely to become epidemic around the vernal equinox, certainly experience of influenza before 1918 somewhat favoured the notion The succession of a very deadly epidemic to a relatively mild one within a few months, which was the terrible feature of 1918, puts us on our guard against premature confidence, but so far as present appearances show, the recrudescence of influenza we are now suffering is much less severe than that of two years ago

LEGAL LIABILITY OF THE OPERATING SURGEON

THE report, printed at page 217, of the judgement delivered at Grahamstown, South Africa, by Mr Justice Van der Riet in the action brought by Miss Van Wyk against Dr H Lewis for damages for negligence, on the ground that he had left a swab in her abdomen during an operation, throws into relief certain important principles bearing on the liability of the surgeon Very elaborate precautions to ensure that swabs or instruments shall not be overlooked when completing surgical operations are in force in all operating theatres, and in 99,999 cases out of 100,000 they work without a hitch One of the humiliating facts which have to be recognized is that no regulations the wit of man can devise will entirely obviate the fallibility of the human machine The engine driver who runs the express safely for twenty years, the signalman who has passed it for as many, and the pilot who has taken more ships than he can remember safely into port, may all one day blunder, with disastrous consequences An article in a South African newspaper, indeed, goes so far as to insinuate that such incidents as the overlooking of a swab are always the result of negligence, and that when they occur there is a professional conspiracy to protect the surgeon, while posing as a champion of equity, the writer omits any reference to the anxious and scrupulous care taken by surgeons to avoid such mishaps in the course of operations Usually the responsibility for counting swabs before and after the operation rests on the theatre sister, but whenever an oversight occurs there is always an outcry against the surgeon Fortunately the law is not such an ass as Mr Bumble believed, and the judge in this case showed himself thoroughly well informed and impartial It is important to note his declarations to the effect, first, that the generally adopted system by which the theatre sister is charged with the responsibility of checking swabs is a reasonable one, and secondly, that as the defendant had every reason to suppose the nurse competent to carry out this duty, he could not be held responsible for failure on her part to perform it In actions for negligence of this kind the main question is almost always one of fact rather than of law In the case now under consideration it was disputed whether a swab had in fact been overlooked The court was not directly concerned with the responsibility, if any, of the theatre sister, but she deposed that the swab produced by the prosecution was not of the kind used at the particular operation or at other operations at which she had been concerned Against this is to be set the judge's estimation of the correctness of the evidence of the prosecutrix, which guided his decision in her favour on this point It was admitted that the patient's condition on the operation table had led to the shortening of the operation, but this line of defence was at no time found necessary by Dr Lewis, who secured a favourable verdict apart from it He is certainly to be congratulated on the successful issue of a harassing trial, in the course of which no legal subtleties or uncertain points of evidence have left any cloud on his professional reputation

INDIANS IN KENYA

WHITE settlers in the pleasant Colony of Kenya have for many years been disturbed by the unsettled question of the status of the Indians living there During 1922 and 1923 there was a deal of political agitation, and the Indians came to claim political equality with the whites, while the white inhabitants of the colony gave free expression to their fears of what would be likely to happen if Europeans and Asiatics were reduced or elevated to the same political level The history of the whole question and the main arguments upon which its solution has been based are set out together with the solution itself, in a White Paper[1] published in July, 1923 This was based on discussions at the Colonial Office, which were attended by members of the home Government, a European and an Indian delegation from Kenya, and three political leaders from India Without going at all deeply into the matters dealt with in the White Paper, it may be said that the census of 1921 showed that the African population of Kenya was over two and a half millions while there were about ten thousand Europeans, ten thousand Arabs and

[1] *Indians in Kenya* Memorandum presented to Parliament by Command of His Majesty July 1923. Cmd. 1922 H M Stationery Office 1923 Price 6d

twenty three thousand Indians living within its boundaries The six chief claims that were being made by the Indians domiciled in Kenya are set out, and are discussed from all points of view in the pages of the White Paper The decisions reached by the home Government are clearly stated, and are, with one exception, all of such a nature as to satisfy the legitimate aspirations of the European population of the colony, while being in no way unjust to the legitimate aspirations of the Indians The one exception is the question of the segregation of Europeans and Indians in townships In the year 1913 Professor (now Sir) W J Simpson was sent out by the Colonial Office to Kenya Colony, then known as the East Africa Protectorate, to report and advise on the sanitary condition of that dependency His report[1] was published early in 1915, and led to the adoption of the policy of segregation in principle, this policy was again approved in 1919 by Viscount Milner We do not, of course, propose to enter into the political controversies by which Kenya is now agitated, but we note that the local Government, in the immigration bill it has recently introduced, seems to wish to follow the example of the United States of America by limiting the number of immigrants from any country—the so-called "quota system" We observe also that the Cape Government has drafted a bill (Class Areas Act, 1924) which would in effect lead to segregation, for it would empower urban local authorities to report to the Minister of the Interior that an area for residential or trading purposes, or both, has been set aside for a particular class of persons, whereupon the Minister would appoint a commission to report upon the desirability of applying the Act We believe that a policy similar to that desired by the Nairobi Division has on many occasions been applied in the past in places where similar questions have arisen The home Government is now reversing this policy, and committing Kenya to the principle of non-segregation in township areas" To quote the White Paper on the question of segregation, "It was proposed by Lord Milner to retain this policy both on sanitary and social grounds So far as commercial segregation is concerned, it has already been generally agreed that this should be discontinued But in regard to residential segregation matters have been in suspense It is now the view of the competent medical authorities that, as a sanitation measure, segregation of Europeans and Asiatics is not absolutely essential for the preservation of the health of the community, the rigid enforcement of sanitary, police, and building regulations, without any racial discrimination, by the Colonial and municipal authorities will suffice" It is perhaps to be regretted that the White Paper, having quoted by name Sir W J Simpson as the authority in favour of segregation, should be content to reverse its policy on the advice of unnamed "competent medical authorities", this at any rate would seem to be the opinion of the members of the Nairobi Division of the Kenya Branch of the British Medical Association, as will be seen in the report of a recent meeting of the members of that Division printed in the SUPPLEMENT this week (p 93) The arguments in favour of non-segregation are not set out in the White Paper, "it may well prove," the text runs on, "that in practice the different races will, by a natural affinity keep together in separate quarters" Assuming that this amphibological statement means that the different races will keep apart in separate quarters, it is asked whether it is good policy to leave the attainment of that desired end to the action of "a natural affinity," combined with 'the rigid enforcement of sanitary, police, and building regulations" involving the activity of no fewer than three separate governmental and municipal authorities

[1] *Report on Sanitary Matters in the East Africa Protectorate Uganda and Zanzibar* By Professor W J Simpson C M G M D, F R C P Colonial Office February, 1915 African No 1025

CARIES AND DENTAL IRREGULARITIES IN MONKEYS

SIR FRANK COLYER lectured to the Odontological Section of the Royal Society of Medicine on January 28th on the results of his examination of about 1,200 skulls of old world monkeys The investigation was carried out with a view to determining the incidence of caries and dental irregularities in these animals in the wild and captive states The skulls examined were chiefly those in the Natural History Museum, the odontological museum at the Royal College of Surgeons, and the lecturer's private collection He had been careful not to describe as wild any animal as to whose condition there was any doubt The old-world monkeys comprise two large subfamilies, the Cercopithecinae and the Semnopithecinae, the former feeding on a mixed diet and the latter on a vegetarian Of 419 specimens of wild members of the Cercopithecinae examined, 16 showed caries, the number of carious teeth found being 60 Of 348 wild members of the Semnopithecinae only two showed caries Among the animals which had been kept in captivity, of 373 members of the first of these subfamilies, 42 showed caries, with 118 carious teeth, but among 30 captive members of the second subfamily no caries was found Thus about 2 2 per cent of the wild specimens and about 10 per cent of the captive specimens showed some type of caries When caries occurred in wild animals it affected chiefly the incisors, probably owing to injury to the teeth while eating, on the other hand, there was hardly a case in which the incisors were affected in the captive animals, where the caries was chiefly in the crown cavities Caries in the wild animals appeared always to start at the neck of the tooth, following injury to the cement or destructive attrition, and he doubted whether in the wild animal the condition was true caries at all, it arose from a dead layer of cement In the captive animal the caries, when it occurred, was of the ordinary type Turning next to irregularities in the teeth of these old-world monkeys, Sir Frank Colyer noted the occurrence of irregularities of a definite type in certain species, the macaques seemed specially liable to irregularities in the premolar region, with frequent rotation of the premolar These irregularities were more noticeable in the captive than in the wild state, but the irregularity in the captive animal was only an exaggerated expression of what was found in his free brother Among these monkeys there was a particular liability to displacement of the second premolar The premolars in monkeys developed at the level of the deciduous molars, so that the smallest deviation of the tooth germ would cause a considerable displacement on eruption Tilting of the third molar was common in monkeys just as in men Irregularities in the deciduous teeth were very rare alike in human beings and in monkeys Of 118 wild macaques, 25 showed variations of the premolars, and of 136 captive specimens 41 showed such variations Certain species of monkeys or monkeys coming from a certain region showed a much greater incidence of dental variations than other species or other local distributions of the same genus In 15 specimens belonging to two species he found variations in as many as 9, whereas a like number of specimens of other species were free from variations Certain species, again, seemed to specialize in spacings between the teeth Irregularity of the canines was very rare throughout the animal kingdom, but occasionally he had found this condition in monkeys, where the canines had erupted too far back Sir Frank Colyer had devoted particular attention to baboons, because, since these animals if they were to live in a menagerie at all had to be brought in young, the direct results of environment on the skull at different stages of growth could be seen in them In baboons there appeared the same tendency to irregularities of the premolars, and

he showed photographs of baboon skulls in which the premolars had been embedded in the substance of the bone Baboons also had a tendency to rotation of the molars, of 11 specimens examined, 3 showed a rotation of the first molar Altogether his investigation extended to 65 specimens of the wild baboon and 45 specimens of the captive (meaning by the captive a baboon which had been in the menagerie from a very early age) Of the wild baboons 12 skulls showed variations of the maxillary premolars, 1 of the mandibular, and 2 of the maxillary and mandibular In the captive animals the corresponding figures for the three classes of variations were 11, 6, and 4 Another interesting point was that among vegetarian monkeys there was a great tendency to inferior protrusion, this, indeed, was almost characteristic of some of the species included in the Semnopithecinae The lecture was illustrated by sixty or seventy lantern slides, the result of a very long period of painstaking observation

BIRTH RATES AND DEATH RATES

THE Registrar-General's brief preliminary note of the vital statistics of England and Wales for 1923 was published in our last issue (p 176), and in this issue (p 203) we publish a table giving the statistics of England and Wales for the five years before and the five years since the war They suggest some interesting calculations A single illustration may be given of the material which is open to the medical statistician We will compare 1913 with 1923, partly because the dates cover a decade, and partly because in the first year (1913) the war had not begun and in the last year (1923) its effects may be assumed in the main to have passed away In 1913 the birth rate was 23 9 per 1,000 of population, and in 1923 it was 19 7 The deaths under 1 year per 1,000 births were 109 in 1913 and 69 in 1923 In every million of the population there were 23,900 births in 1913, and only 19,700 in 1923, a loss of 4,200 On the other hand, the deaths under 1 year of age per million of population were 2,605 in 1913 and only 1,359 in 1923, a gain of 1,246 It is obvious, of course, that the infants who die under 1 year of age in any given twelve months do not all belong to those who were born within the same twelve months—a child may belong to the births of, say, 1923, and to the infant deaths of 1924, but that does not vitiate the comparison for practical purposes over a period of several years Deducting, then, the infants who died in 1913 from the births of that year per million of population we get 23,900 less 2,605, or 21,295 survivors For 1923 the corresponding figures are 19,700 births less 1,359 infant deaths, or 18,341 survivors By the end of the year the adverse balance as between 1913 and 1923 has been reduced from 4,200 to 2,954 But the conditions making for improved health of infants will not be confined to the first year of life, so that estimates might be made as to how far the deficit is diminished at the end of subsequent years, and whether, or when, it is ultimately wiped out or more than wiped out, and a credit balance established on the other side of the ledger of life As between 1913 and 1923 the crude death rate per 1,000 fell from 13 7 to 11 6, being a saving of 2,100 lives in every million of population, but the modern movement for improvement of health conditions in the early years of life could have little significance for the great majority of those who contributed to the crude death rate Dr William Farr's enthralling account of the march of an English generation through life and the dividend of sanitation, contained in one of the earlier volumes issued by the Registrar General—and also, no doubt, in the Farr memorial volume of vital statistics, now not easily obtainable—should be read by anyone who cares to see how much of human interest and romance can be instilled into the supposedly dismal science of the statistics of mortality

MONUMENTA MEDICA

A SERIES of facsimile reproductions of medical works of historical interest is appearing under the auspices of the Oxford University Press with the title "Monumenta Medica" The books are under the general editorship of Dr Henry Sigerist, lecturer in the history of medicine at Zürich University, and the actual production is the work of Messrs Lier and Co of Milan The series is by far the most elaborate and complete of the sort that has yet been projected It will contain not only early printed medical works of special interest and later treatises of scientific value, but also some of the more important of the manuscripts The first volume has now appeared[1] it is an elephant folio, and contains an exact photographic facsimile of the first and excessively rare edition of the so-called *Fasciculus Medicinae* of Johannes de Ketham printed at Venice in 1491 This may be regarded as the first printed medical work with modern outlook The 1491 edition is quite different from the later versions and there is no copy of it in the British Museum, nor, we believe in this country The woodcut illustrations are of quite exceptional interest, among the most remarkable of them being the figure of the anatomy of a pregnant woman, and amongst the most beautiful the figure of the zodiacal man The facsimile is followed by an illustrated introduction by Professor Sudhoff, which has been translated and augmented by Dr Charles Singer Professor Sudhoff has discovered the identity of the author of the work, and displays his sources fully The volume closes with fourteen finely executed plates, eight of them are coloured by hand, and one is the largest of its kind we remember to have seen in any printed book The work is undoubtedly a masterpiece of the printer's and plate-maker's art, and must be one of the finest pieces of facsimile reproduction ever issued The second volume of the "Monumenta" is in the press, and should appear in the early part of the year It is to contain a facsimile of the second and Italian edition of the *Fasciculus* printed at Venice in 1493, with its unique figure of a dissection scene and a series of woodcuts said to be among the very best specimens of the art It is being edited by Dr Singer, who will follow "Ketham" forward in history in the same way as Professor Sudhoff has traced him backward Dr Singer will include in his work an English translation of the *Anatomy* of Mundinus, the "reviver of dissecting" The third volume of the "Monumenta" will present in facsimile the first ten printed papers on syphilis of the years 1495 to 1498 It will show how the disease was regarded in literature within the few years which followed the date of its general recognition, and will discuss the origin of the disease The contents of this volume, which is also in the press, will obviously have a practical bearing It will be edited by Professor Sudhoff, whose introduction here also will be translated and adapted for English readers by Dr Singer Among the other volumes in preparation is the magnificent *Epitome* of Vesalius, the pioneer anatomical work of Berengar of Carpi, the beautiful thirteenth century illuminated French manuscript of Roger's *Surgery* in the British Museum, the noble *Codex Neapolitanus* of Dioscorides, and the ninth century Brussels manuscript of Soranos-Moschion with its quaint midwifery figures If Dr Sigerist and his coadjutors can follow out their programme, they will place the study of medical history on quite a new footing by making some of the rarest but most important material easily accessible to every reader We would call attention to the very low price at which it is proposed to sell these fine books

[1] *Johannes de Ketham Fasciculus Medicinae* Venice 1491 Facsimile with an Historical Introduction by Professor K. Sudhoff translated and adapted by Dr Charles Singer Edition de luxe bound in half leather with eight plates coloured by hand £3 10s. There is also a cheaper edition at £2 6s. which is identical with the first save that all but one plate is coloured and the binding is half linen. The actual printing and publication is the work of Messrs Lier of Milan for whom the Oxford University Press is acting in this country

CENTRAL MIDWIVES BOARD

A REPORT on the work of the Central Midwives Board for England and Wales, for the year ended March 31st, 1923, has just been issued [1] A hint of the great services rendered by Sir Francis Champneys to the Board throughout the period of its existence is given in the statement that at the annual meeting for 1922 he was re-elected chairman for the twentieth successive year On March 31st, 1923, the *Midwives Roll* contained the names of 54,403 women, showing a net increase during the year of 2,838, but the new names added to the roll after examination were 115 fewer than in the previous year Of the total number on the roll 84 5 per cent were trained midwives, and 15 5 per cent untrained The percentage of trained midwives who practise as such is, however, relatively small—some 23 per cent of the trained women on the roll Of the untrained, approximately 31 per cent are in practice, many of them to a small extent only An analysis is given of the results of examinations held during the year in various centres Of 3,910 candidates who entered, 3,820 completed their examination and 2,939 passed Of the successful candidates 2,139 declared their intention of practising as midwives, and of these 1,190 proposed to practise in rural districts The summary of penal cases shows that during the year 40 midwives were brought before the Board to answer charges of malpractice, negligence, or misconduct, as against 45 in the preceding year As a result the names of 20 women were removed forthwith from the roll, and 6 of these were prohibited from attending women in childbirth in any other capacity, 4 others were censured and 7 cautioned In 2 cases no action was taken by the Board, and 1 was adjourned *sine die* In 6 instances a decision was postponed pending reports by the local supervising authority Of the 40 cases tried, 14 were those of women who had neglected to advise medical assistance in cases of ophthalmia neonatorum Brief paragraphs give a summary of deaths and resignations, the apportionment of contributions from local supervising authorities, inspection of lying-in institutions, and the steps taken to obtain exemption of practising midwives from jury service Lastly, attention is drawn to the fact that the report, on the ground of economy, is much shortened, and deals with but a few of the manifold activities of the Board during the course of the year

THE HALF YEARLY INDEXES

THE usual half yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME have been prepared and published, they will, however, *not be issued with all* copies of the JOURNAL, but only to those readers who ask for them Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free by sending a post-card notifying his desire to the Financial Secretary and Business Manager, British Medical Association, 429, Strand, W C 2 Those wishing to receive the indexes regularly as published should intimate this desire

DR ARNOLD CHAPLIN will give his deferred discourse on famous medical men of the eighteenth century at the next social evening of the Royal Society of Medicine, on Friday, February 29th The reception will be held at 8 30, and the discourse, which will be illustrated by lantern slides and portraits will be delivered at 9 o'clock

A VISITING Association of Throat and Ear Surgeons of Great Britain has recently been formed, it held its first meeting in the throat and ear department of the Royal Infirmary, Edinburgh, last week

[1] To be purchased through any bookseller or directly from H M Stationery Office 3d net [By 4

Paris.

[FROM OUR SPECIAL CORRESPONDENT]

SECRET REMEDIES

A STRONG and very widespread movement is developing against secret remedies, the use of which has been generalized owing to the carelessness of doctors While without doubt we must attribute the spread of the use of such preparations to our own carelessness, another cause is, in my opinion, that the teaching of pharmacology is given in the School of Medicine, whereas the student learns his practical medicine in the hospital Perhaps, also, the chiefs of the hospital services are themselves a little sceptical about therapeutics The fact is that the young generation allows itself to be influenced by the publicity given to new remedies, and does not attach sufficient importance to the fact that every package of such medicament is accompanied by a leaflet which is religiously read by the patient and puts poisonous ideas into his head True, we have a law against secret medicaments, but, with the inconsequence by which legislators in all countries seem to be afflicted, the sale of such remedies is in a sort of way legalized by the fact that they have to pay a heavy tax After all, when all is said and done, the number of new remedies is not great, and only one or two in any year find a place in our therapeutic arsenal The mass of new remedies consist of simple mixtures which are given a name with a scientific flavour The remedy for this state of things is perhaps that if similar work to that done by the medical associations of the English-speaking countries were carried on in France with like courage it would be attended by the like success As we have no great medical association it would perhaps be possible for the *syndicats médicaux* to undertake this cleaning up, for the benefit of the sick—and of the doctors Meanwhile the professor of pharmacology in Paris, Professor Richaud, has appealed to members of the medical profession to abstain from prescribing any medicament the exact nature of which they do not know This, he says, should be done on moral grounds Without doubt his wise words will not fail of their effect

STATE SICK ASSURANCE

The rapid fall of the franc during the last few weeks is producing results which affect every occupation and walk in life Using physiological phraseology we may say that this turn of fortune's wheel has caused a formidable discharge of adrenaline into all French organizations This salutary reaction affects the members of the medical profession, because it will long delay the adoption of the law as to sick assurance This law has been ripening in secret, and the silence by which it has been surrounded does not presage anything good for the doctors, in one way we are not sorry to see it take a second place in the thoughts of Parliament It would mean an imposition of a tax of 10 per cent on wages (in addition to the imposts which already exist) The amount thus raised to defray the cost of an experiment the results of which are very problematic would be counted in milliards It would, indeed, have the effect of turning the doctor into a kind of gendarme, a part which it would not exactly suit the kind of free-lance produced by the very nature of medical education to play What the doctors will gain by the rejection of these proposals will, naturally, be taken from them in the form of new taxes, but at least they will be in the same boat as everybody else, and this is a sort of consolation I intend to return to this question of assurance because, being the latest born of these diverse European organizations, it threatens to be the most complete, and to present compulsory characters worthy of the purest *Jacobinism* *Caveant medici*

SYPHILIMETRY

I have already on several occasions mentioned here the work done by Dr Vernes in his endeavour to fight syphilis under the control of his method of syphilimetry The results are so striking that it is attracting world-wide attention It seems a pity that the method should be started in Great Britain through lay interests, and I believe that the

profession is losing its opportunity A Franco-British Scientific Committee has just been appointed, so that you in London may pretty soon be enabled to form your own judgement as regards syphilimetry on the sound basis of facts, both clinical and social

SCIENTIFIC COOKERY

Many years ago the late Professor Dastre of the Sorbonne was examining a candidate in chemistry, and after several questions concerning various preparations to which the young man answered brilliantly—"And tell me, please, Sir, how you would prepare une perdrix aux choux a la Bearnaise' The candidate remained silent "My young friend, you shall find out in life that you will need practice more often than theory, and after all the art of cooking is nothing more than applied physics and chemistry" The lesson was not forgotten by the future Dr Pozerski, now of the Pasteur Institute Once a week you may find him wearing the white apron of a typical French chef, and presiding over the stoves and ovens of the Institut d'Hygiene Alimentaire, one of the latest creations of the University of Paris Some thirty young girls, all holding university degrees, are to be seen mixing sauces with scientific accuracy and enthusiastically stirring puddings or studying architecture, a fine art which they, like many others, consider to be a sub-branch of pastry These young ladies are going to be doctors and most of them professors at technical schools, and we rely upon them, now that the old type of family cook is practically extinct, to save our tradition of wholesome, economical, and dainty food Some of the best known members of the Faculte and the Académie de Médecine have joined in the teaching A visit to the Institute will repay the inquirer, who may find that old proverbs do not always turn out to be true and that the broth is far from being spoilt

England and Wales.

THE MINISTER OF HEALTH ON HOUSING

MR WHEATLEY, the new Minister of Health for England and Wales, addressed his constituents at Shettleston, Glasgow, on January 26th, he devoted the greater part of his speech to the housing problem He said that every Government during the last fifty years had failed to solve the housing problem, and that he had been called into the Government to assist in the task As clean a people as lived in the West End of London were being compelled to stew to-day in single apartments in Glasgow and Lanarkshire, and thousands of infants were born into what were really death traps, and grew up crippled morally, mentally, and physically The Government had not yet framed its policy with regard to housing, and difficulties in the way had to be faced—difficulties of finance, of finding labour, and of finding material, they were not insurmountable given the goodwill and determination of the British people The country was paying men for standing idle, and the ratepayers were burdened with the maintenance of able-bodied people through parish relief It ought not to be beyond the wit of politicians to find a method by which the credit of the country could be used to bring these idle men into touch with building materials, and to lay down within a few years a standard of housing essential to a healthier and purer state of life It was necessary to think of building houses in millions, and he recognized that it would be physically impossible to produce the houses needed within a brief period He resented the accusation that workers in the building industry, though not sufficient for the purpose, would stand in the way, and prevent houses being erected While Dr Addison was attempting against fearful odds to erect houses, an appeal was made to the bricklayers and plasterers to allow unskilled labour to do work ordinarily done by skilled labour This was resisted Dr Addison's scheme was thrown over, and thousands of skilled building operatives were rendered idle He was confident that if the British people were prepared to support him in a reasonable scheme he would put it in the way of solution, given a reasonable period of office We remember that only a few months ago Mr Wheatley's predecessor spoke in a somewhat similar strain about the need for continuity of policy, and indicated that it could hardly be obtained unless the Minister of Health remained in office for a reasonable period Sir William Joynson Hicks's scheme was to construct new arterial roads to afford ready means of transport which would encourage the establishment of factories in districts where the workers might live in healthy surroundings

NEWCASTLE DOCTORS' HOLIDAY SCHEME

The annual meeting of the Newcastle upon-Tyne Doctors' Holiday Scheme was held on January 15th, when the annual report for 1923 was presented The Scheme has a membership of 42, and was made use of by 14 doctors in 1923, the financial statement showed a small balance in hand It has not been necessary to hold any committee meetings during 1923 Dr G R Fortune was re-elected chairman, and the following were appointed to serve on the committee Drs A Campbell, W S Fraser, J Hudson, F R H Laverick, D W Ritchie, and G E Watson It was reported that a postal vote had resulted in the following resolution being carried by a large majority, and the annual meeting confirmed this new rule of the Scheme "That in the Holiday Scheme the arrangements for the payment of midwifery fees be left to the doctors concerned, and be mutually agreed upon"

SILICOSIS COMPENSATION SCHEME

The first report of the Departmental Committee on compensation for silicosis, dealing with the Refractories Industries (Silicosis) Scheme, 1919, was issued as a White Paper on January 22nd The provisions and limits of the scheme are dealt with in detail, and the following medical recommendations are included A medical board, consisting of two whole time medical officers, should be established as soon as possible, with its centre at Sheffield, this board to be responsible for all the examinations under the scheme, with the exception of certain initial examinations Facilities for radiographic examinations by skilled radiologists ought to be available in every area, and greater use should be made of this method of diagnosis The responsibility of suspending a workman on account of silicosis ought not to be laid entirely on one medical officer All newly engaged workmen should be medically examined within a month of entering the industry, and should reach a definite standard of respiratory physique Power should be given to medical officers to suspend from employment any workman suffering from pulmonary tuberculosis, whether or not associated with silicosis, no compensation to be payable if silicosis is absent The committee considers that in addition to the various recommendations already made by it the scheme might be further improved by alterations in the financial provisions of the compensation fund, and also in the medical arrangements, so as to ensure the suspension of workmen from employment in the earliest possible stage of disease, and to prevent any men suffering from pulmonary tuberculosis entering or remaining in the industries

NEW MATERNITY HOSPITAL IN LIVERPOOL

In connexion with the new maternity hospital in Liverpool, of which the foundation stone is to be laid on March 12th by H R H Princess Mary, a meeting was held on January 22nd at the Liverpool Town Hall, presided over by the Lady Mayoress, to discuss the arrangements for the presentation of purses A total of £100,000 is required for the whole undertaking, and at present there is at the disposal of the building committee a sum of about £53 000, of which the nucleus is a donation by the late Sir William Hartley of £25,000 The building, which has been planned in three parts, will be extended when the total amount required has been received

LONDON NEUROLOGICAL CLINIC

The sixth annual dinner of the medical staff of the London Neurological Clinic (Ministry of Pensions) was held at Princes Restaurant on January 26th Between forty and fifty past and present members took part The guests included Lord Dawson of Penn Lieut General Sir William Furse, Sir William Willcox, and Sir Cr p Engl h In

proposing the health of the clinic, Dr Laing Gordon spoke of the confidence of the staff in the future of psychotherapy, their enthusiasm for the cause of mental hygiene, and of the justification for these feelings found in the results of treating 15,000 cases grouped as "neurasthenia" and incipient mental disorder He paid tribute to the enlightened policy of the Ministry in the care of the "shell-shocked" and to those who had guided it in the establishment and maintenance of the clinic, in particular to Sir John Collie, Dr W A Brend, and Dr H E Davison Sir Charlton Briscoe, who occupied the chair in the absence through illness of Dr H E Davison, stated that the attendance of pensioners for treatment up to date amounted to over 200,000, and 51,000 had attended for diagnosis and the recommendation of suitable treatment Sir Charlton Briscoe traced the growth of the clinic from its birth in 1917 at Lancaster Gate The health of the guests was proposed by Dr Travers Smith, who pointed out that if the need for psychotherapy amongst pensioners were decreasing the success of the clinic made all the more evident the urgent necessity for similar clinics for civilians There was a general tendency in the profession to look for a leader, and to regard Lord Dawson as the profession's spokesman and referee, knowing his interest in the subject of team work the profession would be well content to leave that of psychotherapeutic clinics in his hands

In his reply Lord Dawson said that this clinic was of value because it set the pace, embodied an idea, and carried it out well It bore testimony to that widening reasoning which was ever spreading out over the medical profession and developing the power of working together Lord Dawson then entered a plea for more co-operation and team work within the profession and pointed out that the danger to be guarded against might be the risk to the individual spirit Organization must preserve adequate freedom for the individuality of the practitioner Apart from its intrinsic value, the clinic might be well worth preservation as a concrete object lesson in what team work should be Lord Dawson concluded an inspiring speech on a note of high hope for the future of the profession Sir William Furse followed, and expressed, both as regional director and as a layman, his gratitude to the clinic for its very valuable services to the ex-service man.

Scotland.

THE SCOTTISH MOTOR SHOW

By H Massac Buist

THE twenty-second International Motor Show promoted by the Scottish Motor Trade Association has been open during this week in Kelvin Hall, Glasgow, where it will be closed this (Saturday) evening The exhibition policy in Scotland is akin to that which obtains in New York, where the show was held last week By contrast, in Paris and in London the tendency is to hold the motor show early in the autumn For instance, this year the Paris show will be held from October 1st to 12th inclusive, and the London car show will be advanced in date from November to October 16th—a wise move which will, incidentally, enhance the interest attaching to the Scottish show next year This year the exhibition differs from the passenger car show in London in that it embraces examples of the leading utility vehicles, besides a very representative display of 1924 motor-cycle types Of course, Scottish-built cars are much to the fore, including the new "Empire" model Arrol-Johnston, which is a result of Mr T C Pullinger's recent world tour, the latest versions of the 12-h p single sleeve valve engined Argyll, and the range of Beardmore, Galloway, and Rob Roy types Of the English-built chassis exhibited that were not seen in London most were excluded from the recent Olympia show by reason of lack of space These types include the new four cylinder 12/30-h p overhead valve engined Sunbeam model, which is the smallest of that firm's range for the present season and is without front-wheel brakes, and the 20-h p overhead valve six-cylinder engined Rolls-Royce car, which has never been shown either in London or Paris, and which has been considerably developed, notably in regard to ensuring engine balance Scarcely of interest to the medical profession is the display for the first time at a motor exhibition of the "Austin 7" speed model Ariel introduces a four cylinder car Compared with prices ruling at Olympia there are few changes, though Clement-Talbot reduces the cost of the 10/23 and of the 8/18-h p models, and Swift announces some lower prices, as does Voisin

The Spice of Novelty

Front-wheel brakes constitute a prominent feature of the show But none of the Scottish makers has so far offered these at option, far less as standard An interesting new body design is shown on one of the 14/40-h p Vauxhall chassis, it is a four-door saloon constructed of panelling material that prevents drumming, and so arranged as to interior details that the front seat can be folded in a manner which provides sleeping accommodation for two The new 12-h p West car is shown with a better-looking radiator than was furnished at the time of its introduction at Olympia, and with better-planned coachwork also Among Citroen novelties is an 11 4-h p type with an attractive Vickers-built English body carried out in grey and very completely equipped as to accessories, including a petrol gauge with a cork float furnished in the tank filler cap, and a rear windscreen The 12/30-h p Sunbeam car is of interest to the medical profession in that this premier make is now brought within the range of many who hitherto have not been able to afford machines produced by the winners of last year's Grand Prix, the blue ribbon international motor event of the world, and by the builders of the power plant for the only airship that has ever crossed the Atlantic The push-rod operated overhead valve type of engine employed is of 1,598 c cm cylinder volume (11 46 h p Treasury rating) and developing the higher power figure of its nominal rating, it is sold as a completely equipped four-seater, with a gearbox giving three speeds forward, for £570, including a comprehensive equipment The design is characteristic of this firm's practice in respect of its higher powered and more expensive products, notable features including the easy manner in which the valve covers and cylinder head can be detached, the employment of a positive drive in connexion with the ancillary gear of the engine, and the regulation of the temperature of the cooling water by means of baffle plates fitted inside the radiator The rear suspension is by cantilever springs On various stands in the building there are to be shown examples of the Weymann type of light, flexible, noiseless, durable, covered body

HEALTH OF SCOTLAND IN 1923

Despite the record of bad trade and unemployment the year 1923 stands out as the healthiest year, as shown by the vital statistics so far available In the sixteen larger burghs the total number of deaths from all causes was 32,280, which is equal to a death rate of 13 49 per 1,000 persons living The corresponding figure for the 105 county boroughs and great towns of England and Wales was 11 6 It may be assumed from this that the general death rate for Scotland, which is always several points less than that for the burghs, will be not greater than 13 per 1,000, as compared with 11 6 for England and Wales If this expectation is fulfilled the rate in Scotland will compare favourably with 15 5 per 1,000 for some years before the war, 17 1 per 1,000 in 1915, 16 3 in 1918, 15 6 in 1919, 14 in 1920, 13 6 in 1921, and 14 9 in 1922 There are fluctuations, but the steady gain becomes still more noticeable when comparison is made with much earlier mortality rates—for example, 23 58 per 1,000 in 1864 The death rate fell below 18 for the first time in 1894, below 17 in 1896, and below 16 in 1909 The mortality of most of the infectious diseases decreased in 1923 Thus for the sixteen larger burghs the deaths due to measles fell from 2,168 in 1922 to 815 in 1923, pneumonia from 4,366 to 2,869, phthisis from 2,312 to 2,234, and influenza from 1,983 to 210 On the other hand, scarlatina showed a rise from 145 in 1922 to 225 in 1923, diphtheria from 288 to 291, and non-pulmonary tuberculosis from 932 to 994 As regards measles, 1922 was an epidemic year and produced the highest mortality from that disease that had occurred since 1893

About 13 out of every 14 deaths occur in children below the age of 5 years, and of these a very large proportion occur during the first year of life This great mortality from measles among young children suggests once more that an administrative effort to postpone the incidence of this disease till after the age of 5 years might be of great value As matters stand, most local authorities have abandoned the problem of preventing measles and few require it to be notified The mortality among children under 5 in 1923 showed a striking decrease to 83 85 as compared with 114 2 for 1922 In the large towns of England and Wales the rate was 73 There are, however, encouraging signs in the large towns of Scotland, the rate in Glasgow dropped from 120 to 88, in Edinburgh from 91 to 82, in Aberdeen from 133 to 105, and in Dundee from 109 to 93 These decreases are of great importance, for it is now widely believed that a year showing heavy mortality among children leaves a high proportion of weakly children whose defects emerge at a later period While the diminution of infantile mortality in England has been attributed by some to the lessening of measles and summer diarrhoea, this does not hold good for Scotland, where the low rate is explicable in great part by the absence in 1923 of any serious influenza epidemic

Research in Animal Breeding

Dr F A E Crew, Director of the Animal Breeding Research Department in the University of Edinburgh, delivered last week an address to the North of Scotland College of Agriculture at Aberdeen, in which he gave an account of the work that was being done in the Breeding Research Department at Edinburgh, where for the past two years an extensive study of the fowl and duck had been carried out In the sheep two different subjects were being studied—one the question of congenital malformations in lambs, to which he hoped the solution would be given after the present lambing season, the other the problem of improving fleeces The Bull-Terrier Club of India had invited the department to study the question of deafness in bull terriers, and he thought it would be possible to demonstrate how this taint could be removed by breeding It might be possible also to attack the subject of foot-and mouth disease by genetical methods This would depend upon the correctness of the statement that certain breeds of cattle—for example, the zebu and the first crosses between the zebu and European cattle—were immune to it A study of the factors involved in the length of gestation and the cause of birth had been begun, and it had already been shown that this was mainly a question of endocrinology, in which the pituitary, the ovary, and the corpus luteum were concerned

A Foot Dispensary in Edinburgh

At a public meeting in Edinburgh last week, when Mr C W Cathcart, C B E, F R C S E, was in the chair, a scheme was adopted to establish at 1A, Hill Place, Edinburgh, a dispensary where men and women of the working classes, as well as children, might obtain advice and treatment for malformations and other minor but disabling maladies of the feet Mr Cathcart, at the outset, observed that there were ailments of the feet that were small, but crippling and hampering, and the idea of extending this treatment to the poorer classes was an excellent one Mrs Swanson, in a brief review of the subject, stated that in 1913 a "pedi-clinic" had been started in London, and recently in Manchester a similar institution had been inaugurated The idea was to provide treatment for clerks, shopkeepers, and others working during the day whose efficiency was hampered by the condition of their feet In the London institution there was an average of seventy cases each evening A representative committee was appointed for the initiation of the Edinburgh scheme

New Superintendent of Edinburgh Royal Infirmary

The managers of Edinburgh Royal Infirmary last week appointed Colonel G St Clair Thom, C B, C M G, C B E, out of thirty-one candidates to the post of superintendent of the institution, in succession to Lieut.-Colonel Sir Joseph Fayrer, Bt, who will retire from the post on June 1st Colonel Thom who is in his 54th year, graduated at Edinburgh University in 1893, after being president of the University Union He entered the Army Medical Service in 1894, he went to South Africa in 1900, and for his services in this campaign was mentioned in dispatches At the beginning of the great war he was attached to the staff of the 52nd Lowland Division, with which he served in Gallipoli, and later in France In January, 1919 he proceeded to Archangel as deputy director of medical services in the North Russian Expeditionary Force, and the exceptional freedom of that force from epidemic disease and its strikingly low mortality may, in great part, be attributed to his efforts He is at present assistant director of medical services to the Home Counties Area (West)

Ireland.

Increase of Lunacy in Ireland

With regard to the marked increase in the number of admissions to the Grangegorman Mental Hospital, in which are housed the insane cases from the borough and county of Dublin, the *Freeman's Journal* in an editorial states

'A distressing story is told in figures but the cause of the increase in insanity is left open to surmise The number of patients for which provision was made in the estimates of 1923 and 1924 has long since been exceeded, and the total for the coming year has been calculated at a much higher figure The Chairman said that he had asked if any explanation could be furnished as to the cause of this increase, seeing that the rate of admission remained almost stationary during the years of the world war Certainly it is remarkable that in the report of the inspectors of lunatics for the year 1915 it was stated that whereas an increase in the number of admissions to asylums in Ireland due to mental stress might have been expected owing to war conditions no such increase as a matter of fact was shown by the figures at their disposal At the end of 1916 the proportion of cases admitted to asylums which were considered to be due to mental stress had fallen off as compared with the previous year In 1917 there was an increase of 0 31 per cent and in the last year of the struggle there was a further increase of 0 59 per cent One fact specially noted was that the proportion of female cases in which the effect of the war played any direct part nearly doubled, while that of the male cases only showed a slight increase

Whilst Ireland escaped the strain which was experienced by the civilian populations of the countries at war the toll of insanity in the afflicted nations was heavy beyond the telling It is a fairly obvious conclusion that the stress of the period of strife in our own midst has been the main factor in the increase of lunacy in Ireland The terrors and alarms of that awful period racked the nerves and upset the mental balance of folks who in happier circumstances would have lived out their allotted span without ever manifesting any symptoms of insanity In counting the cost of civil strife this item must be included in a reckoning of which we cannot yet calculate the total Dr Donelan said that good work would be done if all Ireland would contribute to the establishment of one great, well-equipped pathological establishment with competent and expert men in charge Research work in regard to mental diseases undoubtedly merits greater encouragement than it has received, but the care of the afflicted entailing as it does so heavy a drain upon the public revenues, for the present monopolizes attention

Typhoid Epidemic in Connemara

The appalling conditions under which large numbers of the people of Connemara live were revealed at the meeting of the County Galway Board of Health, when the secretary reported that he had been notified that an outbreak of typhoid fever had taken place at Renvyle, and that a number of the sufferers had refused to leave their homes to go into the Galway Hospital for treatment Numbers, he had been informed, were starving The Local Government Department had advised the Home Assistance Officer to secure the services of a nurse The secretary of the Galway Central Hospital mentioned the case of a family that had come under his notice A man and his wife and three children were stricken with typhoid The family were subsisting entirely on black tea and dry bread The wife refused to go to the hospital, but the husband and children consented after much persuasion The wife died in her home, her life would probably have been saved had she been treated in hospital The chairman, Dr Walsh suggested that the Government should be immediately appealed to for monetary assistance to relieve the distress in Connemara The following order was made

That the Home Assistance Committee County Home Lough rea are instructed to pay to [illegible] allowance to Cliff [illegible] Assistance Committee for the balance of the £1 in the £ for under scheme available The Board recommend Galway Co ety

Council to deal with overexpended balance under Section 13 of the Local Government Act, 1898, and that the immediate attention of the Government be called to the distress which prevails in Connemara"

ROYAL VICTORIA HOSPITAL, BELFAST

The Duchess of Abercorn visited the Royal Victoria Hospital, Belfast, on January 23rd to unveil the tablet over the cot named after H R H Princess Mary Her Grace was met by the chairman of the Board of Management (Professor Lindsay), the honorary secretary, the superintendent (Colonel Forrest), and the matron (Miss Mussen), the chairman presented the members of the board and of the medical staff In the King Edward VII Memorial Hall the honorary secretary read an address and Professor Lindsay a letter from Viscountess Pirrie, president of the hospital, expressing her great regret at being unable to be present, he then gave some facts showing the great and rapid increase of the institution, and in the duties undertaken, beside the relief of sickness it was a training school for doctors and nurses, the new buildings now in hand give about 80 additional beds and a new block for nurses Dr Calwell, the senior member of the medical staff, joined in the hearty welcome to one always ready to help the suffering, and pointed out the increase of specialties, and of the number of the general staff, which had risen from 10 to 24, and was supplemented by an auxiliary staff, he referred to the extension of the laboratories, the x-ray department, and the latest addition—a metabolic department Every improvement and suggestion of the staff had always been most sympathetically received by the board The Vice-Chancellor of the University also spoke The Duchess explained that a considerable sum of money remained over after the wedding gift from the ladies of Ulster to Princess Mary and it was agreed, with the cordial approval of Her Royal Highness, to endow that cot She bore testimony to the excellent work of the hospital The Rt Hon J M Andrews, Minister of Labour, proposed a vote of thanks to the Duchess of Abercorn

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THE list of ministerial appointments completed since our last issue includes four that on account of the duties involved have special interest for our readers

James Stewart M P for St Rollox Division of Glasgow, Secretary of Health for Scotland is the son of a hairdresser and has two establishments in Glasgow He served for twenty-one years as a Glasgow parish and town councillor He is a member of the Scottish Divisional Council of the Independent Labour party

Mr Arthur Greenwood M P for Nelson and Colne, Parliamentary Secretary for the Ministry of Health, was educated at Leeds University He was university prizeman for economic research and graduated in science After teaching in Yorkshire he went to London to be general secretary of the Council for the Study of International Relations, of which Mr Bryce was chairman Next he was assistant secretary of the Reconstruction Committee of which Mr Lloyd George was chairman and afterwards assistant secretary of the Ministry of Reconstruction He left Government service to be secretary of the research department of the Trades Union Congress, and of the Labour party

Mr F O Roberts M P for West Bromwich the new Minister of Pensions began active work at the age of 13 as an apprentice to the printing trade in which he continued for twenty-five years He became secretary of the Midlands department of the Typographical Association and a member of the National Executive of that body For ten years he was secretary of the Northampton Trades Council and is now one of its vice-presidents In the last Parliament he was chairman of the Pensions Committee of the Labour party

Mr J W Muir M P for the Maryhill Division of Glasgow, Parliamentary Secretary to the Ministry of Pensions has for twenty years been a voluntary organizer and propagandist in the Independent Labour Party and other branches of the Labour political services An engineer by trade he was prominent in the shop stewards' movement In 1916 he edited the *Worker* the organ of Clydeside workers and published certain articles which the authorities deemed likely to create disaffection Refusing to reveal the name of the author he was sent to prison for six months under the Defence of the Realm Act

Parliament will reassemble on Tuesday, February 12th.

Correspondence.

CARDIOLOGY

SIR,—From the comments in your leader it is evident that you have failed to grasp the purpose of my articles on "A new outlook in cardiology" As no doubt others have likewise failed, may I be permitted briefly to indicate why I described these articles as a "new" outlook?

In our work at St Andrews we are searching for the laws that govern the production of symptoms Some laws have emerged, others are gradually emerging, so that a new light is being thrown upon every field of symptomatology One of the most important of these laws is that of fluctuation, without a knowledge of which it is not possible to interpret, not only the symptoms of disease, but many normal manifestations There is not to be found to-day anywhere in physiological literature an adequate description of "stimulation" and "inhibition" When in experiment the sympathetic and vagus nerves are stimulated, and the heart gives a response, the result is described as an "augmentation" of the heart beat, or a "depression" of the heart beat These are end results An end result is the outcome of a chain of events, and physiology completely fails to explain how such end results come about The application of the principle of the reflex arc requires that this chain of events should be recognized, and for that purpose diagrams were given showing how the various end results (pulse irregularities) were brought about In these diagrams were shown the effects on the heart of the law of fluctuation, of stimulation and inhibition, of the action of the sympathetic and vagus nerves, of the influence of bodily effort and rest, and of the action of digitalis, with a precision and accuracy to be found nowhere else in medical literature

Another principle which we dimly perceive is that of control The normal activity of every organ is controlled in such a way that its function is performed in a purposive and effective manner When this control is lost the organ may show activity, but it is purposeless and ineffective This was illustrated (1) by the Medusa when a portion of its bell was freed from the control of the marginal sensory bodies, (2) by the heart when the S A node ceased to control the auricle, (3) by a voluntary muscle when its nerve was cut In each case, with the resumption of control, the movements became purposive and effective

It is likely that this loss of control may affect all organs, and its effect on the capillaries was referred to as producing their extreme dilatation in malignant fevers which may result in death

Hitherto the accepted teaching of the heart has completely failed to explain such matters as the peculiar irregularity of the pulse in auricular fibrillation, the nature of heart failure in this condition, and the action of digitalis It may be pointed out that for over a hundred years the action of digitalis on the human heart has been studied by physicians, pharmacologists, and physiologists, and they failed to discover the nature of its action The presentation of this new outlook has thrown quite unexpected light upon this subject, and has opened up a new field for the study of the action of remedies The need for this will be seen when it is realized that the present knowledge is inadequate to explain the action of a single remedy on the human body

The search for the laws that govern the production of symptoms has started a movement which is presenting every field of medicine in a new light My intention was to indicate how this new outlook affected cardiology This movement is just beginning and naturally it is up against long-cherished beliefs, and consequently provokes a great deal of antagonism While I am far from claiming that the presentation of this new cardiology is correct in every particular, there is, nevertheless, this to be said for it, that it does give a reasonable explanation of many matters which the present teaching completely fails to give Moreover it has got rid of that experimental fallacy—the law of "all or

nothing" applied to organs—which for long has been a bar to the understanding of the nature of the heart beat—I am, etc,

St Andrews Jan 22nd J MACKENZIE

*** We did not fail to grasp that the articles presented "a new outlook," but rather suggested that investigation would be required to determine whether well authenticated facts could be explained on the new view, and that the new outlook did not exclude what was good in the old

THE SIGNIFICANCE OF HYPERGLYCAEMIA

SIR,—Dr J Stavely Dick's letter (January 26th, p 170), which I have read with much interest, raises the question as to the criteria which are to be taken as warranting a diagnosis of diabetes Glycosuria with hyperglycaemia after glucose, except in cases with a "lag" curve, is usually taken to indicate diabetes, and the word *usually* in the sentence referred to by Dr Dick was used to cover the "lag" type

Two distinct points emerge from his letter One is the interesting fact that he has found that the sugar tolerance is definitely less after the injection of autogenous vaccine One might speculate that in these cases the pancreas has been temporarily inhibited as part of the reaction to the injection It is a point worthy of further investigation The other is that the presence of hyperglycaemia and glycosuria after glucose indicates diabetes in only one-eighth of his cases of chronic skin affection and syphilis This opens up a much wider issue It is to be noted that in the four records given the fasting blood sugar was unusually high for a normal person, and that after glucose, apart from vaccine, there was defective sugar tolerance If the islets of the pancreas control sugar tolerance, then these patients have defective islet function, and if so are diabetics or potential diabetics according to present views If they have not constant glycosuria, then one must assume that either the renal threshold is raised or the case is very mild The results would suggest to me that the chronic infection, resistant but not virulent, which has produced the skin lesion, may have affected the pancreatic function to the extent of producing a very mild type of diabetes In any case, if the sugar tolerance is defective then the results of Allen's work show that any increase of sugar load may make these potential or mild diabetics become serious cases

For the general practitioner to whom the lecture was addressed it will be much safer to assume that "if a single blood sugar test after a carbohydrate meal gives a reading above 0 18 and sugar is present in the urine it is *usually* indicative of true diabetes"

It would be instructive if Dr Dick would publish a preliminary report of his results to date—I am, etc,

Glasgow W Jan. 27th GEO A ALLAN

STOMATITIS AND FOOT-AND MOUTH DISEASE

SIR,—Observations of the onset and lesions occurring in foot-and mouth disease in cattle in this county suggest to my mind a close analogy with impetigo contagiosa, which used to be such a common and highly contagious disease amongst school children

The superficial inflammation of the mucous membranes and of the delicate membranes of the foot, passing on to a papulo-vesicular eruption followed by superficial ulceration, is striking Both are highly contagious, and given the necessary media for transmission spread like wildfire There is every reason to believe that infection is only conveyed by contact, by inoculation, by direct intermediaries such as mechanical transmission or by rats, birds, and insects In my opinion there is no evidence pointing to conveyance by the air (hot or otherwise), water, or smoke

The lesions of foot-and mouth disease readily respond to local treatment, and in my experience have yielded rapidly to applications of potassium chlorate in treacle

In your issue for January 19th (p 128) your correspondent from Scotland states that in no case could any definite association be traced between the cases of stomatitis which have recently occurred amongst children in Glasgow and foot-and-mouth disease infection It is interesting to note in Osler's *Principles and Practice of Medicine* the following suggestive paragraph referring to ulcerative stomatitis

> The affection spreads like a specific disease but the microbe has not yet been isolated It has been held that the disease is the same as the foot and mouth disease in cattle and that it is conveyed by the milk, but there is no positive evidence on these points Payne suggests that the virus is identical with that of contagious impetigo

Osler, in describing the morbid process in ulcerative stomatitis in children, gives a graphic description of the lesions in foot and-mouth disease in cattle

Surely there must be a close analogy between these three diseases! The valuable suggestion put forward by your correspondent that the disease in animals may in fact have its origin in man and that the infection when transmitted to animals may run a much more rapid and serious course requires thorough investigation

The manifold effects produced by streptococci under different conditions are well recognized but little understood Is it possible that foot-and mouth disease is in the main only another manifestation of the vagaries of some strain of the streptococcus?

My experiences here in Cheshire during the recent outbreak convince me that foot-and mouth disease uncomplicated by pre-existing or concurrent disease is a simple malady, easily preventable and easily cured So far as prevention is concerned the whole point is to secure isolation of infection rather than to attempt to isolate infected farms or areas The latter has been the method in vogue on the Continent and in the U S A, and obviously has resulted in complete failure

The whole medical profession will endorse the views expressed by Professors Muir and Beatty in their recent communications to the *Times* regarding the need for unhampered research to clear up mysteries surrounding the cause and means for preventing this scourge—I am, etc,

THOMAS HENRY PEYTON, MD DPH.

Public Health Department Chester, Jan 22nd

TREATMENT OF ACNE VULGARIS

SIR,—The treatment of a case of acne vulgaris given by Mr Avit Scott (January 26th, p 150) reminds me of one, the mode of cure of which may be worth recording

When seeing out-patients at Guy's, many years ago, a woman, aged about 35 presented herself, with the chest and upper part of the abdomen covered with acne for the most part in a suppurative condition She had suffered from it before, and her skin was disfigured with a perfect lacework of keloid scars as a consequence

At that time Ringer's suggestion of calcium sulphide in a cure in certain suppurative conditions was before the profession, so I ordered her the drug, no external application was given

In three weeks she returned perfectly well, save only the permanent keloid lacework Some time later she had a slight return of the same malady the same treatment was ordered, and as I saw her no more I assume that she remained free of her acne—I am etc

C H GOLDING BIRD, Senior Consulting Surgeon to Guy's Hospital

January 27th

NATIONAL COUNCIL FOR MENTAL HYGIENE

SIR,—In July, 1922, there came into being an association calling itself the National Council for Mental Hygiene I attended the public meeting held in London, when the Council was initiated, and heard many speeches With the exception of one speaker, no one who spoke seemed impressed with the necessity for lunacy reform

To the astonishment of many present a committee was proposed for election, consisting of a number of persons few of whom had any real knowledge of lunacy matters It was so clear that this body was self-elected that the feeling of the meeting was distinctly antagonistic Ultimately a compromise was arrived at and the committee, as proposed, was elected *en bloc* for a period of six months only

I and many others *in spite of* the urgency of lunacy reform having been shunted still hoped some good would eventuate Since that date I have seen no mention of any new committee having been elected nor any mention of

any work done by this National Council for Mental Hygiene Not long since I did meet a member of the Council, and asked him how it was getting on, what it had so far achieved The reply I got was somewhat disconcerting "All I know," he said, "about the association is that I have had letters asking me for my subscriptions"

Can anyone enlighten those interested in mental hygiene as to what has happened to this association, whose birth was heralded by great trumpet blasts from the leading papers?

To the uninitiated this National Council for Mental Hygiene can only be likened to

"The young man who jumped off the top of St Paul's,
And has never done anything since"

—I am, etc,

LIONEL A WEATHERLY, M D

Bournemouth, Jan. 26th.

POST-OPERATIVE MENTAL DISORDERS

SIR,—The discussion at the joint meeting of the Sections of Medicine, Neurology, Obstetrics and Gynaecology, Psychiatry, and Surgery of the Royal Society of Medicine on January 8th last (BRITISH MEDICAL JOURNAL, January 19th, p 110) was interesting, and I desire to add a few remarks in connexion with post-operative mania Some two years ago I had occasion to look up the points in connexion with a post-operative case of mania that I had been consulted about English medical and surgical textbooks contain practically no references to this condition, but American medical men, especially Kelly, have written a good deal upon the subject

The causes assigned are many and various, and most unsatisfactory Neither the severity of the operation nor sepsis apparently plays any part in producing the mania The anaesthetic, the giving of drugs, some form of intoxication, or physical or mental exhaustion, have been mentioned as causative agents But nearly all authorities agree that a predisposition, hereditary or acquired, is present in every case Nervous instability, nervous derangement, and nervous degeneration are the underlying physical facts The most common form of post-operative mania is confusional insanity and after this melancholia, the latter generally occurs at a later date in the course of the trouble, and the prognosis is not so good as in the former variety The disease comes on between the second and tenth days after the operation and its duration is from two weeks onwards The longer the mania lasts, the less is the chance of recovery

It is necessary to consider the personal history in all cases, although, of course, when operation is necessary or advisable the past history must not stand in the way A large proportion of these cases recover comparatively quickly It seems to me that if possible the patient should not be sent to a mental hospital, many, if not most, might be sent uncertified into mental homes —I am, etc,

Folkestone, Jan 22nd. W J TYSON, M D, F R C P.

CHRONIC INTESTINAL STASIS

SIR,—Sir Arbuthnot Lane seems to attribute the origin of chronic intestinal stasis entirely to diet—to bottle feeding of infants and want of "roughage" and vitamins in the diet of children and young adults, in this matter he asks for a return to the primitive life of aborigines While supporting him on physiological grounds and insisting on the error of removing seeds and peel of fruit and other "roughage" from the diet of children, I would urge the equal or even greater importance of open-air exercise and exposure of the naked body to sun and air The modern baby is too often kept in over-warm air and over-clad and not given those baths of sun and air which are proved to put up the muscular tone and basal metabolism of children who are given heliotherapy by O Bernhard, Rollier, Sir Henry Gauvain, and others Splinted in bed, such children get hard muscles, a firm belly wall, good appetite, etc The natural action of the bowels depends on exercise which massages them, both by movement of the belly muscles and by deep breathing The belly organs are thus kneaded and receive not only mechanical assistance thereby, but a better flow of well oxygenated blood Food is utilized by exercise and the bowels kept in healthy condition School children are too often confined in heated classrooms for long hours of work, followed by homework Mothers and teachers fear to send them out if it rains, fearful both of their catching cold and spoiling their clothes They are thus weakened in bodily and nervous health and in the power of their muscles to resist the influence of gravity and maintain the proper posture of their organs, as Mr A J Walton has rightly set forth in his address on the chronic dyspepsias of women (*Lancet*, December 22nd, 1923), influenced as he has been by the teaching at the London Hospital by Sir Arthur Keith and myself

By securing the application of the discipline of the open air school to all schools and the adequate supply of fruit and vegetables in the diet, these cases of chronic constipation and dyspepsias, as well as those of neurasthenia, decayed teeth, rickets, and tuberculosis, may be very greatly lessened, if not wholly prevented —I am, etc,

London, N W 3, Jan 28th LEONARD HILL

THE TONGUE IN ADDISON'S ANAEMIA

SIR,—In his address on Addison's anaemia (BRITISH MEDICAL JOURNAL, January 19th, p 93) Dr Hurst quotes Dr W Hunter as stating that the glossitis of Addison's anaemia is quite specific, and occurs in connexion with no other disease

There are two other diseases in which a condition of the tongue closely resembling the glossitis of Addison's anaemia is constantly found—namely, pellagra and sprue—and it is remarkable that both these diseases present certain other resemblances to Addison's anaemia The blood picture in sprue may resemble that of pernicious anaemia very closely, anisocytosis, normoblasts, and increased colour index being found Pellagrins, besides anaemia, usually develop changes in the spinal cord amounting to subacute combined degeneration Dietetic deficiencies and resulting abnormal metabolism may certainly be said to play a part in the causation of pellagra, and H H Scott, in an article on sprue in the BRITISH MEDICAL JOURNAL (December 15th, 1923, p 1135), has adduced evidence to show that faults in diet lead to abnormality in the calcium metabolism and parathyroid deficiency in sprue

In view of these facts it seems possible that the "toxaemia" which causes pernicious anaemia may also be due to abnormal metabolism, and the achlorhydria constantly found in pernicious anaemia might be either a cause or an effect of this abnormal metabolism

Bothriocephalus anaemia, which may closely resemble Addison's anaemia, is said to be caused by a haemolytic lipoid, an ester of oleic acid This suggests the possibility of an abnormality of fat metabolism in pernicious anaemia It would therefore be interesting to know what is the calcium and phosphorus content of the blood in Addison's anaemia

Having been unable to find references to any recent analyses bearing on the point I write this letter in the hope that someone who is more fortunate than myself in having access to cases of Addison's anaemia may be able to investigate the matter —I am, etc,

R N College, Greenwich, S E 10, Jan 23rd. J L PRISTON

DICHOTOMY

SIR,—Your correspondent "Fairplay" (January 26th, p 169) raises questions of the utmost import to the reputation of our profession, and I regret to say that his examples sound very much as though they were actual experiences and not merely hypothetical cases The fourth example clearly constitutes dichotomy, while numbers 1 and 2 would certainly appear to be attempts at this practice All, however, are most undesirable and unworthy of a great profession

I have always looked on the general practitioner as the great safeguard for his patient against the (sometimes) overzealous enthusiasm of the operating surgeon, and this safeguard may be endangered if the practitioner, unknown to the patient, shares in an "inclusive" operation fee The patient knows perfectly well that the surgeon will receive a fee if an operation is performed, and, if he be

a disciple of Mr Bernard Shaw, he can duly discount this fact, he does believe, however, and in most cases rightly, that in discussing the matter with his own doctor he is getting an opinion which cannot possibly be influenced by any pecuniary considerations The only right principle is that the patient should always know when any portion of an operation fee is paid to the general practitioner, and how much it is

I believe these practices have crept in owing to the difficulty some practitioners have in obtaining adequate remuneration for their surgical cases, for I do not like to think that any consultant would adopt them in order to take an unfair advantage over his colleagues The advantage is so real, however, that, if any consultant in a district were to do so, it would be very difficult for the others, especially his junior colleagues, to avoid doing the same

The prospect of consulting work going to the highest bidder is not one that can be looked on with equanimity —I am, etc ,

January 26th "MIDLANDER"

THE MILITARY PREFIX

SIR,—May I venture to break a lance with my "military colleagues"? It is with pained surprise that one reads the correspondence on the above subject The medical profession has always been considered a most honourable one Apparently now, to some of us, the perpetual title of "doctor" sounds insulting Were I ashamed of being called "doctor" I should seek some other vocation During the war members of the medical profession were given military titles for military reasons The war over, most of the medical men engaged in it returned to their civilian duties Why, then, should they feel insulted when addressed by their pre war title of 'doctor"?

No doubt most of those who served in the war wish it to be known The *Medical Directory* should give their war service If it is necessary to have a military prefix in order to command respect from our neighbours, be it even in the House of Commons, then we have arrived at a poor state of affairs Some of our greatest men had no prefix beyond plain "Mr" Moreover, to twit pre-war regulars because they had not seen as much war service as those who served in this great war is asking for ridicule Leave military titles to combatants and let us get on with our work —I am, etc ,

London S W Jan 20th A MACBETH ELLIOT

SIR,—As a temporary captain in the R A M C , 1915-1919 —not on home service—I take exception to "Territorial's" last paragraph in your issue of January 12th I know a good number of doctors who tried their level best to join up, but were not allowed Personally, I consider the greater proportion of those who "went" had the better of the deal —I am, etc ,

January 15th "EX-BATTALION M O"

THE "E R A" CULT

SIR,—The similarity of the letters about Dr Albert Abrams and the E R A in the current numbers of the *Lancet* and the *British Medical Journal*, is curious and interesting, though they appear to differ a bit in their secondhand statements re the virtues or otherwise of the Oscilloclast But to my way of thinking, neither seems to touch the essential point, which seems to me to be whether it works in practice or not

May I suggest to you the test which The Empire Research Committee turned down some months ago, it was as follows,—

Send me say three cases of Carcinoma, preferably not absolutely moribund but certified hopeless by a committee of experts, allow me to treat them without interference, and see by results whether the oscilloclast will do anything for them or not

In case there is any slight verbal difference between the above and what I wrote to The Empire Research Committee, let me apologise here in advance, the spirit is the same and I kept no copy of the letter —I am, Sir, yours faithfully,

Westcliff-on Sea Jan 26th JAMES B TOMBLESON

SIR,—The article in your issue of January 26th on the late Dr Albert Abrams's "vibratory" theory of medicine is not only interesting in itself, but at once recalls to those who have studied medical history several other similar mechanical "systems" which have from time to time caught the public attention—and then faded away The first of these was, of course, that of Asclepiades, the fashionable West End physician of Republican Rome His theory, which appeared shortly after the popularization of the atomic theory by Lucretius, taught that all diseases were due either to dilatation or constriction of the "pores," these movements being themselves caused by irregular vibrations of the atoms constituting their walls Having diagnosed what particular group his disease belonged to Asclepiades then, just like Abrams, proceeded to neutralize it by his special brand of oscilloclast (one which, by the way, would hardly have appealed to the dry America of our day!) Again, in consequence of the remarkable physical discoveries following Renascence times, many mechanical theories of life were propounded, these reached their culmination in the Iatromechanical schools of the eighteenth century (Borelli, Pitcairne, etc), and in the various medical "systems" of the eighteenth century—as notably the "Brunonian" doctrine of the Scot, John Brown

Thus, now that the electron has replaced the atom in the physicist's vocabulary, we would naturally look for a theory of life based upon the electron and its movements—and this we accordingly have presented to us in the "E R A" doctrine Regarding this we may say that although, from one point of view, there is not much in it, yet, on the other, there is much money in it, and this consideration is surely not to be lightly turned aside in these days when economists of all schools are increasingly coming to view the "get-rich-quick" instinct as something fundamental in human nature

Dismissing, however, this consideration for the moment, let us, finally, not forget that iatrochemical theories have almost always accompanied iatrophysical —I am, etc ,

Edinburgh Jan 28th A J BROCK

Medico-Legal.

A SURGEON S LIABILITY

A CASE of interest to the medical profession throughout the world has lately been decided in the Supreme Court, South Africa The judgement was printed in full in the issues of *Grocott s Daily Mail* for November 27th, 28th, and 29th 1923

The plaintiff, Miss van Wyk, unsuccessfully sued Dr H Lewis, of Queenstown, for £2 000, as damages for negligence, on the ground that he had left a swab in her body when performing an operation on the gall bladder The operation was performed on February 23rd, 1922, and the plaintiff alleged that the swab remained in her body until February 15th, 1923 There was a further allegation that Dr Lewis had been negligent, and had shown want of skill in not detecting that the swab had been left in the body in the course of his examinations of the plaintiff subsequent to the operation, but this part of the case was abandoned

Dr Lewis pleaded a denial that the swab was left inside the plaintiff s body , and, alternatively, that if the court should hold that the swab was so left he was in no way liable, as it was by custom the duty of the theatre sister in the employ of the hospital in which the operation was performed and not of the operating surgeon, to count and check swabs used in an operation at the hospital, that the operating surgeon only removed such swabs as he discovered by the use of all due skill and care and that it was the duty of the theatre sister, if she found that the number so removed did not tally with the number originally used, to inform the operating surgeon who thereupon made further search

Dr Lewis alleged that at the operation on the plaintiff the hospital board of the Frontier Hospital Queenstown had provided a theatre sister, over whose appointment and dismissal he had no control that he himself removed all such swabs a he discovered by the use of all due care and skill that the theatre sister never intimated that any swab was missing and that if

there was any negligence in connexion with the said swab it was the negligence of the theatre sister, and the defendant was in no way responsible therefor Further Dr Lewis pleaded that if he were held responsible for the acts of the theatre sister the leaving of the swab in the plaintiff's body was due to mis adventure, and that he was not legally liable

Except for the fact of the leaving of the swab in the plaintiff's body it was clear from the evidence that the operation was skilfully and carefully performed and was successful

Mr Justice van der Riet, who tried the case without a jury, found that the swab was left in the plaintiff's body at the operation conducted by Dr Lewis, and next dealt with the argument that the *res ipsa loquitur* rule applied unless the custom pleaded by Dr Lewis was established *Beran on Negligence* stated

"Prima facie, to sew up a sponge or an instrument in a patient after an operation is negligence Very great care and method is to be observed in accounting for all appliances used and this in proportion to the easiness with which they may escape observation"

But this statement was modified by the following:

"But even here the fact that some needle or portion of an instrument has been left in a wound is not conclusive, but the conclusion from the fact must be determined by a jury on a view of the whole circumstances"

Evidence had been given of the methods adopted to avoid what was stated to be one of the "bugbears of the profession," but notwithstanding all these methods the medical experts called in the case had stated

"Swabs continue to be left behind by surgeons well known to be careful and skilful, the explanation being given that this was due to the fact that no system had yet been devised which had been able to eliminate the element of human fallibility"

The learned judge continued

"While the leaving of a swab may be prima facie evidence of negligence on the part of those taking part in the operation, I do not think it can be said that this justifies the contention that it is a matter of *res ipsa loquitur*, that the finding that a swab has been left behind indicates negligence on the part of the operating surgeon I am not prepared to state to what extent [illegible] rule negligence is to be presumed, [illegible] have been [illegible] a general question depends upon the special circumstances of the operation for the degree of precaution [illegible] it seems to me that this [illegible] every case The care which the surgeon can devote to this detail of detecting the swabs must largely depend upon the nature of the operation and the expedition which had to be used For example, to take an extreme case, where it is a matter of life and death to finish the operation at once it is obvious that it may be necessary to close up the patient without much regard to the risk of leaving a swab behind, and this may be of minor importance as compared with the risk of any delay There could be in such a case no question of negligence if it were subsequently found that one had been overlooked'

Coming to the question of custom the learned judge did not consider it necessary to decide whether the existence of a universal custom or professional practice had been established, for it seemed to him that defendant's counsel, in pleading the existence of a universal custom undertook to prove more than was required for a successful defence

"A surgeon charged with negligence is not required to prove that he adopted for the operation any universal system or even the most perfect system as long as he establishes that he adopted one which has been approved of and followed by skilful and careful surgeons, and which he, with his knowledge and experience, considered, and could reasonably consider to be satisfactory The law as authoritatively laid down in Mitchell v Dixon [1914] A D, p 159, does not require him to be perfect or to have the highest degree of skill and knowledge, but to have reasonable skill and to exercise reasonable care Similarly, in his choice of a system he is not expected to know the perfect system, and if I find that the system adopted by the defendant in this particular instance was a reasonable one this would for all practical purposes afford as great a protection to the defendant as the proof of the existence of the universal custom or practice pleaded"

The learned judge held that the defendant, by his conduct in arranging for the operation to take place at the hospital, did not incur any greater responsibility to the plaintiff, and he found on the evidence that the practice of relegating the duty of preparing the operating theatre and of providing and sterilizing all instruments and swabs to be used at the operation to the theatre sister was a reasonable one and that no negligence could be attributed to the defendant if on his arrival at the hospital he assumed that the swabs and instruments had been properly sterilized It was clear that the practice at the Frontier Hospital was for the theatre sister to count the swabs laid out for use and any additional ones produced by her from the drums ready for the purpose The smaller swabs were used externally and the larger swabs internally, and to these latter were attached a tape which was gripped by forceps when handed to the surgeon Swabs used for packing were intended to be placed in the body with the tape and the forceps suspended to it hanging out of the body, and such swabs would subsequently be removed by the surgeon himself When the operation was completed the theatre sister was to count all swabs used and unused, and to compare this with the number provided by her, and to notify the surgeon if any were missing The learned judge considered the whole of this system a reasonable one, approved of by many eminent members of the profession He accepted the anaesthetist's statement that during the course of the operation the condition of the plaintiff became critical, and that it became necessary for him to urge upon the defendant the necessity for completing the operation without delay if the patient's life was to be preserved He was satisfied that so far as the exigencies of the case would allow the defendant made a careful search, and was undoubtedly under the impression that he had removed all the swabs which he had placed in the plaintiff before he closed up the incision in her body He was satisfied that the doctor was not informed by the theatre sister that there was any swab missing The doctor had admitted that he had left the duty of counting the swabs, both before and after the operation, entirely to the theatre sister Having regard to the nature of the operation, and to the opinion expressed that any distraction of the attention of the surgeon from the patient may be very detrimental, there was, in the opinion of the learned judge, nothing to establish that the defendant was negligent or incompetent in not discovering from his own search that a swab had been left behind, or that he had acted improperly in relying upon the check which under the system—largely adopted by highly skilled and careful surgeons—was to be made by the theatre sister, or in sewing up the plaintiff in the absence of any intimation from the theatre sister that there was a missing swab

As to whether the theatre sister, for the purpose of the operation, was a servant of the defendant, or whether they were joint tort-feasers, the learned judge referred to Hillyer v Governors of St Bartholomew's Hospital (1909), 2 K B, and Hartl v Pretoria Hospital Committee (1915) T.S, where it was [illegible] laid down that when the theatre door closed the nurses engaged in assisting the surgeon ceased for the time being to be the servants of the hospital authorities Consequently it had been contended that the nurses became the servants of the surgeon, but the learned judge proceeded

"It is clear that in any matter where the sister acted upon the express orders of the surgeon any wrongful act of hers done in accordance with his instructions would be the act of the surgeon and he would be liable But it does not by any means follow that the surgeon who operates at a hospital and who is supplied by the hospital with a qualified nurse represented by that hospital to be competent can be liable to his patient for any lack of skill on the part of the nurse or any omission by her to do some act of routine which falls within the peculiar scope of her professional duties as a nurse"

In deciding this point his Lordship relied on the summing up of Cockburn C J, in Perionowsky v Freeman, 4 F and F 997, where a patient was alleged to have been scalded by too hot a bath, that although the hot bath was ordered by the surgeons they 'would not be liable for the negligence of the nurses unless near enough to be aware of it and permit it" In that case, observed the learned judge, the defendants were not present, but he saw no reason why the decision should not have been the same even had they been present if it were held that it was no part of the surgeon's duties to prepare the bath or test the temperature of the water, and that they did not know before the patient had been put into the bath either that the nurses were incompetent or that as a fact the temperature of the bath was too high. In the present case the particular duty of counting swabs was relegated entirely to the theatre sister, following a system adopted by a large number of competent surgeons, and, as the defendant had every reason to suppose that she was competent and able to perform it, his Lordship held that the sister should not be held to have acted as the agent or servant of the doctor, and that the doctor should not be held responsible for any failure on her part Further, the surgeon and sister were not joint tort feasers and here he relied on the statement of the law in *Beran on Negligence*

"Much more is a practitioner free from liability when the injurious act is an act collateral to medical or surgical treatment done by some third person"

It will be observed that the question whether the theatre sister was negligent, or whether her failure to count the swabs correctly was due to misadventure as pleaded was not dealt with by the learned judge, as it was not necessary to the decision in this case

Obituary

CHARLES KIRK CLARKE, M D, LL D,

Dean of the Medical Faculty of the University of Toronto and Professor of Psychiatry

WE regret to learn by cablegram of the death of Professor Clarke of Toronto University His pioneer work in psychiatry and mental hygiene in Canada was well known to some of us, and as Maudsley lecturer in London last May his personality and his extensive knowledge and experience in psychiatry and social psychology were made more generally known to the profession Consequently the news of his death will cause a deep and widespread regret in medical circles in the British Isles



Photograph by] [Charles Aylett, Toronto

DR CHARLES KIRK CLARKE

Charles Kirk Clarke was born in February, 1857 He was the son of the Hon Chas Clarke and Emma Kent, he married Emma de Veber Andrews, who died in 1902, his second wife was Theresa Gallagher, he had four sons and two daughters He was educated at the Grammar School, Elora, and the University of Toronto In his Maudsley Lecture Dr Clarke, after expressing his appreciation of the honour done to the Dominion of Canada in choosing him to give the lecture, said that he had laboured in the psychiatrical vineyard since 1874, beginning as clinical assistant in the Toronto Hospital for the Insane under Dr Joseph Workman Subsequently he became assistant superintendent of Hamilton and Rockwood Asylums for Insane, then superintendent of Rockwood Hospital for Insane, and eventually superintendent of Toronto Hospital for Insane until 1911

He thus had had a large experience of institutional life, and this makes all the more valuable his statement in the Maudsley Lecture (May, 1923) on "Mental hygiene in Canada," that progress in psychiatry requires constructive imagination and ability to do something more than merely provide custodial care After leaving the Hospital for Insane he made this the object of his life work It was largely due to his inspiration and influence that a psychiatric and outdoor clinic was established at the Toronto General Hospital, and linked up with every social agency in the city—for example, juvenile court, public health department, police department, social service agencies of all kinds, school physicians and nurses, immigration department, and industrial homes and schools He saw the great importance of social psychology and its practical bearing upon a great nation in the making, for it was his duty to control immigration and reject not only the physically unfit but the mentally defective In the Maudsley Lecture Dr Clarke said "Experience proves that we have neglected the first principles of preventive medicine," and upon taking up the work of national mental hygiene he investigated thousands of school children and worked in a large clinic He made an analysis of 3,442 cases under 16 years met with in his clinics and ascertained that mental disease or so-called psychopathic inferiority was present in no less than 8 per cent Dr Clarke was very emphatic about the exclusion of such children from entering the Dominion of Canada An important statement based upon a large experience is to the effect that the victims of dementia praecox may nearly always be detected at an early age Dr Clarke came to the conclusion that we are not yet in a position to determine how much medicine may accomplish in the way of anticipating and preventing the occurrence of some of the most intractable of mental diseases

As dean of the faculty of Toronto University he gave much time and thought to the establishment of "options" in the University, and already a group has advanced to the fourth year of the six years' course to enable a graduate to become an expert psychiatrist Professor Clarke was a born Canadian, proud of his country and his people He had the courage of his convictions, and like all such men was able by his industry and enthusiasm to attain many of his ideals In medico legal work in Canada his opinion was held in high esteem by the authorities He published many articles upon psychiatry and medico-legal subjects and upon ornithology, was editor of the University of Toronto *Medical Bulletin*, one of the editors of the *Journal of Insanity* (Johns Hopkins Press Baltimore), also of the Canadian *Journal of Mental Hygiene* It was his activity and keen interest in this latter subject that brought him to Europe last year as Maudsley Lecturer and as delegate to the International Congress of Mental Hygiene at Paris He was accompanied by Mrs Clarke, and both greatly enjoyed their visit to Europe Those who had the pleasure of entertaining him found a genial, interesting personality, with a quiet sense of humour and a wide knowledge of human character and affairs He was an enthusiastic and successful worker in that new and important branch of preventive medicine—mental hygiene—with which his name will long be associated

F W MOTT

JAMES TURTON, V D, J P, F R C S,

Colonel A M S (T F) Reserve, Brighton

WE regret to announce the death on January 11th at the age of 68, of Mr James Turton, V D, J P, F R C S, of Brighton, he had been in failing health for several years By his death the medical profession of Brighton has lost a good friend and a distinguished colleague Mr Turton received his medical education at Charing Cross Hospital where he had a distinguished student career obtaining the Gilroy and Llewellyn scholarships and the Treasurer's Gold Medal He held the posts of house-surgeon resident obstetric assistant and junior demonstrator of anatomy He was also a prosector at the Royal College of Surgeons In 1884 he succeeded his brother in law Mr Ruggles-Brise in Brighton He took an active part in the medical work of Brighton, being President of the Brighton and Sussex Medico Chirurgical Society and also holding various offices in the local Division of the British Medical Association He played a prominent part in the public work of Brighton being elected a member of the Brighton Corporation and retained for ten years with great distinction a position he retained for ten years with great distinction was in addition a member of the Steyning Guardians Among his other activities must be mentioned those in the Masonic and political worlds

Mr Turton became associated with the Volunteer movement in Brighton forty years ago He threw himself into

the work with his characteristic enthusiasm, and proved himself an exceptional organizer One great piece of work which he did for the force was the raising and maintaining of the first Bearer Company in the Volunteer Force, and he kept it in the highest state of efficiency during a command which lasted ten years In 1904 he was appointed commanding officer of the Sussex and Kent Volunteer Infantry Brigade In 1908 he was given the important appointment of administrative medical officer for the Home Counties Division and promoted to the substantive rank of colonel During the great war he held various posts in Brighton, including that of chief administrative officer of the Pavilion Hospital for Limbless Soldiers Colonel Turton married the daughter of the late Mr Richard Rugg, and leaves one daughter and one son, who is assistant surgeon at the Royal Sussex County Hospital A younger son was accidentally killed during the war whilst serving with the Sixth Battalion of the Sussex Regiment

The funeral took place in Brighton and was conducted by the Rev Prebendary Bell, Vicar of Christ Church A large number of representatives of the various public bodies were present, including magistrates members of the town council, of the medical profession, of the old Bearer Company of the Sussex and Kent Regiment, of the Church, and of the County Cricket Club

S T D WESTON, M R C S, L R C P,

Handsworth

We regret to record the death of Samuel Thomas Darby Weston which occurred on January 9th The last residence in Handsworth, Birmingham, and the neighbourhood where his activities had centred for nearly forty

"While we mourn the loss of a good and able man, whose negligence on [illegible] not think it can professional integrity, and skill won for him a matter of respect of all There was a general manbeen left behind me when the news of his death spread surgeon I am not prepared to what extent became rule negligence is to be assumed question depends upon the for the defendant"

ed at Queen's College, Birmingham, and obtained the M R C S Eng in 1879 and was admitted a licentiate of L R C P Edin and L M in 1885 He commenced professional life as surgeon to Tangye's works, and on retiring from this post began practice at Handsworth During the war he served on the Pensions Board, of which he was sometime chairman He was a member of the British Medical Association and of the Birmingham Panel Committee and kindred associations, one of the first lecturers at Handsworth for the St John Ambulance Association, and he was mainly instrumental in establishing the Handsworth motor ambulance He was medical officer to the guardians for many years During his busy life he yet found time to give to public life and church work, and was a member of the School Board 1898-1901, churchwarden of St James's for two long periods, foundation manager of St James's School, and for some years a governor of Handsworth Grammar School The first portion of the funeral service was taken at St James's Church, which was crowded by his friends and patients, members of the medical profession from all parts of the district were present The burial took place at Handsworth Cemetery, where many hundreds of sympathizers assembled, and the grave was lined throughout with evergreens and flowers Dr Weston is survived by his widow, one daughter, and one son, Major T A Weston, now in practice at Oswestry

A former President of the Shropshire and Mid-Wales Branch of the British Medical Association, Dr J Woodward Riley, writes of his friend, Dr Weston: "It is a beautiful life that has ended, a life of noble self-sacrifice and devotion, a life for all to copy Surely no man was ever better loved by rich and poor alike, and none more worthily! I was privileged to call him friend—a life-long friendship—and he was a friend indeed, true as steel ever ready with advice and help in professional or private affairs, and with clear insight, firm principle, and fixed purpose one feels that 'Take him for all in all we shall not look upon his like again' He was indeed 'a very gentil knight' and combined in himself all that was best in chivalry his charming manner and unassuming ways his uniform courtesy and loyalty to all who knew him won for him an esteem among men that few attain, and the lasting memory of those who loved him"

Dr THOMAS CRANSTON WILSON of Swindon died on January 12th, after a few days' illness, at the age of 45 A native of the North of Ireland, he graduated in the University of Dublin as M B, B Ch, B A O in 1904, and proceeded M D in 1907 His medical appointments included those of consulting physician to the Winsley Sanatorium for Consumption and surgeon to the Victoria Hospital, Swindon He went to Swindon seventeen years ago, and, owing to his genial disposition and all-round capability, his practice soon became one of the largest in Wiltshire He was chairman of the Swindon Division of the British Medical Association in 1922, and was at all times active in working for the good of the profession Throughout his life he was interested in horses, and as a boy had frequently ridden at the Dublin Horse Show In 1917 he bought a farm of 700 acres on the Wiltshire Downs and bred shire horses, several of which have been notable winners at horse shows He leaves a widow and two children, for whom much sympathy is felt

Universities and Colleges.

UNIVERSITY OF OXFORD

AT a congregation held on January 24th the degree of Bachelor of Medicine (B M) was conferred on H A Robertson, L B Strauss, and Jean Orr Ewing

Degree Days—Congregations will be held for the purpose of granting Graces and conferring degrees in the present term on the following days at 2.30 p m Saturday, February 16th, Thursday, March 6th, and Saturday, March 29th

UNIVERSITY OF CAMBRIDGE

AT a congregation held on January 25th the degree of B Ch was conferred on E G Holmes

The Charles Abercrombie Smith research studentship at Peterhouse, of the annual value of £150, open to graduates of any British or foreign university, has been awarded to R A Webb, M D (Johns Hopkins University), research student of Gonville and Caius College

UNIVERSITY OF LIVERPOOL

DR R W MACKENNA, honorary dermatologist to the Liverpool Royal Infirmary, has been appointed Lecturer in Dermatology in succession to Dr H Leslie Roberts, resigned

Medical News.

A COURSE of free public lectures on the current work of the Biometric and Eugenics Laboratories will be given at University College, University of London, on February 13th, 20th, and 27th, and March 5th, 12th, 19th, and 26th The order of the lectures is as follows "The contributions of Sir Francis Galton to photography," by Professor Karl Pearson, "The biometric study of cancer," by Dr M Greenwood, "On inheritance in fingerprints and the possibility of their use in cases of disputed paternity," by Miss E M Elderton, "Colour vision and colour blindness from the historical aspect," by Dr Julia Bell, "Birth intervals as a factor in the size of the family," by Mr E S Pearson, "Influence of social status and physical development on the characters of the blood," by Dr Percy Stocks, "The contributions of Sir Francis Galton to psychology," by Professor Pearson The lectures will be delivered in the theatre of the laboratory at 6 p m

ARRANGEMENTS are being made to celebrate the centenary of the birth on June 26th, 1824, of Lord Kelvin, who, as Sir William Thomson, was well known to many generations of Glasgow students The Royal Society, of which Lord Kelvin was president from 1890 to 1895, has appointed a committee to make suitable arrangements Sir Richard Glazebrook is chairman, and among the members are representatives of the University of Glasgow (Sir Donald MacAlister, Bt, Vice Chancellor and Principal), the University of Cambridge (Dr E C Pearce, Vice Chancellor), of the Physical Society, the Institutions of Mechanical Engineers, of Electrical Engineers, of Civil Engineers, and of Naval Architects, as well as of the Royal Society of Edinburgh and the Royal Society itself The celebration will take place on July 10th and 11th during the visit of Dominion, American, and foreign men of science and engineers to attend conferences at the British Empire Exhibition The President

and Council of the Royal Society will hold a reception Sir J J Thomson will deliver a memorial oration and there will be a dinner over which the Earl of Balfour has promised to preside

THE Marquess of Salisbury has accepted the office of president of the thirty fifth Congress of the Royal Sanitary Institute, to be held at Liverpool from July 14th to 19th

AT a general meeting of the Röntgen Society on Tuesday next, February 5th, at 8 15 p m , at the Institution of Electrical Engineers, Savoy Place, W C 2, Professor H S Gasser of University College will read a paper on the recording of action currents in nerve, with special reference to the use of the cathode ray oscillograph The seventh Silvanus Thompson lecture will be delivered by Professor C G Barkla, F R S , of Edinburgh, commencing on April 1st

AMONG other measures taken [illegible] Nations to put an end to the illegal traffic [illegible] activity [illegible] a Secretary General has sent a letter to [illegible] this latt [illegible] nts suggest ing that certain countr[illegible]ought him to penalties on persons engaged in th[illegible]ar as Maundsley [illegible]sent system of import and e[illegible]d as delegate to edure which reduces smuggl[illegible]national Congress of ague of any seizure of drugs Hygiene at Paris Fe[illegible] tification the Secretariat informs [illegible]nied by Mrs [illegible]f the League, drugs first came, but abs[illegible]ctly en- es to prevent so that they, too, may ad[illegible] reputation Thus, imports from foreign firms w[illegible] within the last few weeks, the Foreign Office has informed the Secretariat of an attempt by an Italian sailor to smuggle cocaine into Bombay, and of seizures of cocaine of German and Japanese origin at Calcutta The Australian Government has notified the discovery at Sydney of fifty tins of opium which arrived from Hong Kong, and the Union of South Africa has notified the seizure of twenty five tins of morphine hydrochloride, imported through a company in Berlin As already announced, the League proposes to summon an international conference in November next to discuss the limitation of the production of harmful drugs to the world s medical and scientific requirements

AT a meeting of the Central Midwives Board for England and Wales on January 24th, with Sir Francis Champneys in the chair, a letter was received from the Ministry of Health approving the rules, as now amended, for a period of one year from December 31st, 1923 In response to an invitation from the Royal Institute of Public Health to appoint a delegate to attend its congress in the city of Bordeaux, Miss Olive Haydon was selected to represent the Board

THE Lady Priestley Memorial Lecture of the National Health Society will be given at the house of the Royal Society of Medicine (1, Wimpole Street) on Monday, February 18th, by Dr W E Dixon, F R S His subject is alcohol, its use and abuse, the chair will be taken by Sir James Crichton Browne, M D , F R S , at 5 p m

AT the meeting of the Royal Anthropological Institute on Tuesday, February 19th, Dr Ernest Jones will read a paper on psycho-analysis and anthropology The meeting will be held at the rooms of the Royal Society, Burlington House, Piccadilly

DR FRANCIS TEMPLE GREY of Lincoln's Inn was called to the Bar on January 28th

MR V WARREN LOW, C B , has been elected a member of the Distribution Committee of the Metropolitan Hospital Sunday Fund in the vacancy caused by the resignation of Sir William Church, Bt , M.D , on his election to the council

GRANTS amounting to £71,532 were made by the Hospital Saturday Fund on January 23rd to 225 London hospitals, as against £75,775 in the previous year

WILLIAM BRENDON AND SON, Ltd , of Plymouth, announce for early publication *A Memoir of William and John Hunter*, by Dr George C Peachey

W HEFFER AND SONS, Ltd , of Cambridge, announce for early publication two books by Dr T S P Strangeways, lecturer in special pathology in the University of Cambridge *Tissue Culture in Relation to Growth and Differentiation* and a practical manual on *The Technique of Tissue Culture "in vitro"*

PROFESSOR GREEF of Berlin has presented his fine collection of old spectacles and telescopes to the Karl Zeiss Optical Museum at Jena

THE chair of medical pathology in the University of Paris, to which Professor Sicard has recently been elected, was founded in 1795, its most distinguished occupants being Pinel (1795–1822), Axenfeld (1867–1876), Jaccoud (1877–1882), Debove (1890–1900), Brissaud (1901–1910), Widal (1910–1918), and Vaquez (1918–1920) On the other hand, the chair of diseases of the nervous system, to which Professor Guillain was recently appointed, was not founded until 1882, having being held successively by Charcot (1882–1893), Raymond (1894–1910), Dejerine (1910–1917), and Pierre Marie (1917–1923)

Letters, Notes, and Answers.

As, owing to printing difficulties the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday and lengthy documents on Monday*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429 Strand, W C 2, on receipt of proof

IN order to avoid delay, it is particularly requested that *ALL* letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand London, W C.2. The telegraphic addresses are

1 EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand London* telephone 2630 Gerrard

2 FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc), *Articulate Westrand London* telephone 2630 Gerrard

3 MEDICAL SECRETARY *Medisecra Westrand London* telephone 2630 Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street Dublin (telegrams *Bacillus, Dublin* telephone 4737 Dublin) and of the Scottish Office, 6 Rutland Square Edinburgh (telegrams *Associate Edinburgh* telephone, 4361, Central)

QUERIES AND ANSWERS

PREVENTION OF PHOSPHATIC CALCULI

"M K" writes Three years ago I performed prostatectomy on a man aged 61 In the course of the operation I removed two phosphatic stones the size of almonds from the bladder Recovery was uneventful Eight months ago I removed a large phosphatic stone from the same patient s bladder and he was in good health till a week ago when I had to operate again this time removing two phosphatic stones Between the second and third operations he has been constantly on a mixture of urotropine with acid sodium phosphate, and has taken on his own account urodonal and lithium citrate I should be glad to hear of any further means to prevent recurrence of formation of the stones

*** Urodonal is an effervescent preparation stated to contain hexamine (urotropine) sidonal (said to be the anhydride of quinic acid), and lysidine (ethylene-ethenyl diamine), which is believed to resemble piperazidine in its action

GASTRIC INFLUENZA

"R B" asks what collection of symptoms justifies the clinical diagnosis of *gastric* influenza ' a diagnosis having a great vogue at the present moment. He continues *If it is considered* that the symptoms vary what are the groups of symptoms most usually met with that warrant such a diagnosis and do the sets of symptoms at the pre ent time most commonly associated with this diagnosis differ from those noted in previous years (say the 1891 epidemic) in connexion with what was known as the abdominal form of influenza' I presume that in practically none of the cases diagnosed as gastric influenza has the diagnosis been based on bacteriological investigation Is it that the practitioner had to put a name to the disease (or collection of symptoms) and so, if there is catarrhal influenza prevalent in a district any case of pyrexia with abdominal symptoms which does not seem to fall into the category of other diseases is for want of a better name called gastric influenza ? I am personally interested as I have just suffered from a somewhat prolonged attack which might for want of a better appellation be clinically diagnosed as gastric influenza seeing that cases of the usual catarrhal form of influenza are not uncommon here at the present time

*** We had occasion a few weeks ago (December 22nd p 1231 to quote the opinion of Peacock that there was a special form of the disease characterized by prominence of gastric symptoms His description of influenza was chiefly founded on the disease as it prevailed in 1847 In 1837 the Council of the Provincial Medical and Surgical Association the predecessor of the British Medical Association issued a circular to its members asking for information with regard to ' the influenza or epidemic catarrh of the winter of 1836–37 ' The replies were analysed by Dr Dr R J M Streeten and were published in the *Transactions of the Provincial Medical and Surgical Association* (vol vi p 501) It is there stated that the symptoms observed in the usual course of the complaint were referable to a general febrile condition, accompanied by others which were purely catarrhal and resulting from an affection of the mucous lining of the pulmonary organs and air passages or connected with one or more of the other organs or systems of the body ' Among the other

organs mentioned reference is made to a deranged state of the digestive and urinary systems With regard to this the report contains the following passages

"The symptoms which may be referred to a deranged state of the digestive and urinary systems are pain and tension, with tenderness at the epigastrium and upper part of the abdomen loss of appetite thirst nausea and vomiting a furred state of the tongue and a morbid state of the alvine and urinary secretions The oppression and tenderness of the upper part of the abdomen is noticed in several of the returns and seems to have been often accompanied with nausea and vomiting Dr Barlow remarks that when the chest affections were of trifling importance the special irritation of the epidemic appeared to be seated in the stomach and bowels and mentions a case in which a fit of spontaneous vomiting carried off the attack all the constitutional disturbance being well marked but mild without any cough or bronchial disorder Thirst does not appear to have been a very urgent symptom The tongue is described either as furred white and moist or as loaded with a thick coating of moist yellowish fur Occasionally it became in the progress of the disease brown and dry or as stated by Mr Dent of Kenninghall morbidly red and shining, in which case there was a good deal of tenderness about the right iliac region The bowels are very generally reported to have been constipated though occasionally a relaxed state was observed

Again in the section of the report dealing with unusual symptoms the following passage occurs Unusual symptoms connected with the abdominal organs are more frequently alluded to Dr Brown mentions excessive pain in the abdomen generally situated midway between the umbilicus and symphysis pubis as of frequent occurrence in relapsed cases It was sometimes associated with obstinate constipation at others with mucous and sanguinolent stools resembling in their appearance and the manner of their expulsion those of dysentery

A theory was advanced some years ago—we forget by whom—to the effect that the individual immunized himself against three forms of influenza—catarrhal, gastric, and nervous—in succession But if there is anything in this theory it is clear that the immunity does not last long

LETTERS NOTES, ETC

INCOME TAX ASSESSMENTS

SOME time ago a correspondent informed us that though he had returned his income quite accurately as £X, he received a notice of assessment at a sum equal to £X + £210 He wrote to the inspector of taxes stating that he would appeal, and at the same time gave the figures for the past three years, upon which the original return had been based After a few days the inspector sent an amended notice with assessment at £X No explanation of the imposition of an extra £210 was given Our correspondent relates his experience for the sake of other medical men who may have been treated in the same way The total amount of the *tax* charged on the first paper (at 4s 6d in the pound) worked out at about the same sum that he was charged last year at the 5s rate, so that if he had not looked carefully at the notice and remembered the reduction in the rate he might have accepted the assessment as correct, being content with the knowledge that it did not exceed the amount paid the previous year

*** There is some reason to think that such an experience as our correspondent's is not very uncommon, and his story may serve to warn others to look carefully at their assessments and demand notes We have advised inquirers not to accede to the demand occasionally made by the local official for a statement by an actuary, but sometimes, especially when accounts are at all complicated and the official is unhelpful, it may be worth while Many banks will undertake to prepare a statement and check the assessment for a moderate fee We have for many years given advice on general principles, and even in a good many particular cases when such principles were involved, but it is beyond our province to examine into details This the individual must do for himself, and he will be well advised to take the trouble or to get the work done for him Inland Revenue officials, though commonly courteous and even helpful, are by no means infallible A striking instance of fallibility, to use no harsher term, even in the central administration, is afforded by the discovery that it was within the last few weeks using a form based on a section (29) of the Finance Act, 1920, which section was repealed in July, 1922 Not only was the form still in use but a big batch was reprinted in November last The principle that ignorance of the law is no excuse for breaking it applies to its administrators as well as to the ordinary citizen Documents issued by the Inland Revenue, especially those relating to income tax are usually more complicated than is necessary or proper This grievance has been so far recognized that a committee is or was, sitting to devise improvements and simplifications, but nothing seems yet to have been done

HERPES ZOSTER AND VARICELLA

DR D G RICE OXLEY (Kensington, W) writes The following case, which recently came under my care of a grown up daughter developing chicken pox whilst looking after her mother who was suffering from shingles, is, I venture to think, of sufficient interest to record and is difficult to regard as a coincidence On December 24th last I was asked to see Mrs B aged 58, who was suffering from acute pain in the left side of the neck and left shoulder, a few days later she developed a severe attack of herpes zoster affecting the third and fourth cervical areas On January 8th her daughter, aged 33, who had been attending to the wants of her mother almost entirely and had been occupying the same bedroom, developed a moderately severe attack of chicken pox I would emphasize (1) the close contact between mother and daughter, (2) the development of Miss B 's varicella twelve to fourteen days after the appearance of Mrs B 's shingles

A LENS PERMEABLE TO ULTRA VIOLET RAYS

AT the meeting of the Odontological Section of the Royal Society of Medicine on January 28th Mr Percival S Campkin showed a lens permeable by ultra violet rays which, he suggested, might be of use for local application, in particular to the oral tissues He explained that the lens was devised by his patient, Mr R B C Sheridan, a barrister, not connected with medicine or dentistry, originally for his own use, and he succeeded in considerably augmenting the speed and comfort of tissue recovery in his own mouth, the device being used, of course, in addition to usual routine treatment The apparatus, which was quite small and portable, comprised a convex quartz lens, with one or more screens or additional lenses of like material, and a hand mirror, all pivoted on one holder The purpose of the screens or supplementary lenses was to graduate the light let through This instrument was held up to the sun, and the sun's rays, passing through it, could be concentrated upon any part of the throat or mouth cavity by the patient himself, who, on consulting the mirror, would be able to see that the focal point of the sun's rays was directed to the affected spot Mr Campkin suggested that a short exposure of the gums and teeth to sunshine for a daily period, even of only five minutes, would tend to keep them healthy, and would also assist in clearing up any trouble not caused by a continuing source of infection or irritation The application to septic sockets after extraction appeared to stimulate them and the surrounding tissues in such a way as to conduce to much more rapid and less painful recovery In some cases of large dental cysts, after the usual surgical treatment had been followed, the use of the lens had appeared to be of value He thought also that a regular localized treatment in this manner might be useful as a prophylactic in very early pyorrhoea—in pyorrhoea which had scarcely got beyond the stage of suspicion

The lens was passed round among the members of the Section, and a few questions were asked, chiefly bearing upon the possibility of setting up burning Mr Campkin considered that this was not likely to follow because the lens, held in the patient's hand, was not steadily directed upon a particular spot for any length of time The maximum concentration of the lens could be adjusted according to need, and it would be desirable, for the throat, to have a weaker lens, with a more distant focal range He was also asked what could be done on sunless days, and replied that a quartz tube or arc lamp or other source of artificial light unimpeded by glass might be used He admitted that the instrument would demand patience from the user and a certain amount of skill particularly in the application to posterior surfaces, but none of the difficulties should be insuperable

FIRST AID IN FEVERS

DR R W BURKITT, F R C S I, of Nairobi, has written a small pamphlet dealing with the general treatment of any fever, and in particular with the treatment of malaria, blackwater fever, pneumonia dysentery, and sunstroke It is intended for the use of officials, missionaries, settlers, soldiers, and hunters in out-of the way parts of Africa remote from the doctor, it is eminently practical in form and simply and clearly written The pamphlet is printed by the East African Standard, Ltd, Nairobi, Kenya

A DISCLAIMER

DR F W EDRIDGE GREEN (Willesden Green) writes I noticed on January 27th with considerable annoyance that my name is appearing in connexion with an advertisement of vitrex glass I made my report on the express condition that my name would not be used in any advertisement, and possess a letter stating that it would not be so used

AN EXPLANATION

MR SAMSON CLARK of East Molesey, chairman of Samson Clark and Co Ltd, advertising service agents, of Mortimer Street, W, and former parliamentary candidate for the Chertsey Division, asks us to state that he is not in any way connected with the Mr Samson Clark against whom a receiving order in bankruptcy was gazetted last Saturday

CORRECTION

DR GEORGE A ALLAN calls attention to an error in his lecture on Diabetes Mellitus and its Treatment by Insulin, published in the JOURNAL of January 12th On page 52, in the paragraph under the heading "Symptoms of Hypoglycaemia," the figures 0 9 and 0 5 should be 0 09 and 0 05 respectively

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 32, 33, 36 and 37 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 90

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

93 Danger of Interrupting Insulin Treatment.

L BLUM, CARLIER, and H. SCHWAB (*Bull et Mem Soc Méd des Hôp de Paris*, December 27th, 1923, p 1789) think that patients who have received insulin treatment become more prone to acidosis, and are therefore in greater danger Marcel Labbé has confirmed this They describe the following cases (1) Fatal coma in a man of 35, commencing forty eight hours after stopping insulin injections Insulin was first given in May, 1923, and in ten days he gained 8 kilograms He discontinued the daily injections on October 4th, and died on October 10th, in spite of the injection of 20 units, followed in five hours by another of 160 units (2) Diabetic coma supervening after reduction of dosage, cured by large doses A man, aged 30, commenced treatment on June 2nd, 1923, phlebitis of the left femoral vein occurred, followed by the same complication in the right femoral. There was a high temperature, the patient felt very ill, and attributed this to the insulin treatment, so the dose was reduced to a quarter Sugar and acetone increased rapidly, and in forty eight hours he was in the first stage of diabetic coma, 380 units of insulin were given in twenty four hours, and the next day he was much better, glycosuria having entirely disappeared No other treatment had been given (3) A man of 31 had had diabetes for eleven years, he improved greatly under insulin treatment, which was commenced in February, 1923 He required 100 units daily in order to maintain the improvement, whenever the dosage was lessened or treatment was interrupted, symptoms of intoxication occurred The authors describe a fatal case of diabetic coma in a man of 42, who developed bronchopneumonia They comment on the surprising suddenness and severity of the coma in these cases and attribute this to the inability of the pancreas to recover functional activity If therefore insulin be withdrawn carbohydrate metabolism ceases and a modification of protein and hydrocarbon metabolism occurs, resulting in acidosis. It would appear that the sudden deprivation of insulin determines the alarming suddenness of the onset of symptoms of intoxication, these again prevent the system adapting itself to the changed conditions The authors find that there is no evidence that in adults, under insulin treatment, any regeneration of pancreatic tissue takes place, on the other hand they consider that, in children, the regenerative power is much greater, and that the glandular function may be restored In conclusion they state that in severe diabetes in the adult insulin treatment must be continuous, no matter how inconvenient this may be The antidiabetic dietary is always necessary

94 Pulmonary Sequels of Gas Warfare

E SALME (*Le Scalpel*, December 22nd, 1923 p 1453) describes Arnold's method of treatment of "gassed" patients by inhalation of balsamic steam under pressure Salme enumerates the various gaseous and volatile substances employed in the war and describes their immediate and remote effects He agrees with Engel's statement that chronic laryngitis following gassing may end in laryngeal tuberculosis In 1919 Achard described two types of pulmonary sequelae (1) The emphysematous type, unrelieved by ordinary treatment, and (2) the bronchitic or pseudo tuberculous type, accompanied by cough profuse expectoration frequent haemoptysis, emaciation fever, etc Mustard gas produces in addition burns and sloughing of the respiratory mucosa, with severe secondary infections and suppuration De Médeviellle finds that 10 per cent of these patients have pulmonary fibrosis, with frequent haemoptysis Salme and Arnold find that a very large number of gassed patients develop tuberculosis as a direct result of the pulmonary lesions, and that ordinary inhalations are practically useless Arnold's method is designed to convey 'balsamic' superheated (dry) steam under a pressure of five atmospheres to the damaged respiratory tract where it penetrates the ultimate ramifications of the bronchioles The steam is produced in large boilers and is conveyed by a system of tubes to each cubicle, a movable mouthpiece, which can be sterilized, is placed in the patient's mouth A nurse regulates the supply of steam by means of valves as the physician may direct The first inhalation is a solution of sodium benzoate with a small quantity of tincture of iodine in oxygen water the dry steam is passed through this and volatilizes the solution. Salme claims that this clears the bronchial and pulmonary mucosa by exciting a free secretion and expectoration, leaving the freshly secreted mucus charged with antiseptics The second inhalation is composed of a mixture of balsamic drugs, now on the market under the name "antisepsine" This solution is used at the third or fourth and the subsequent treatments, which are given for one hour daily Salme claims that remarkable results (for example, 29 out of a total of 35 emphysematous patients restored to health) have been achieved at the "inhalatoria" Even in tuberculosis cases the results are impressive

95. Intravenous Iodine Treatment

W W JEUDWINE (*Indian Med Gazette*, December, 1923, p 561) reports very favourably on treatment by intravenous injections of iodine in a variety of inflammatory cases, including corneal ulcers carbuncles, cellulitis, septic conditions of the lungs, and tuberculosis He finds that a general and lasting leucocytosis is produced, and suggests, therefore, that this method may be of value in other diseases than those mentioned The dose of iodine employed is about 1 grain made up to 10 c cm of solution, or diluted tincture of iodine may be employed the injection being made into a large vein by means of a Record syringe A slight local thrombosis occurred in some cases, especially if the veins were small, but with improved technique this diminished considerably, and out of nearly 1,000 injections only two developed a serious degree of thrombosis A pyrexial reaction usually occurred within an hour or two, but did not require special treatment Subsequent injections can be given seven, ten, or fourteen days after the first injection, if the leucocytosis is not sufficiently pronounced Jeudwine suggests that this method may have a prophylactic value in the case of people with diminished resistance to infections, and whose tissues heal slowly when injured.

96. The Intravenous Injection of Salvarsan in Infancy

G GELBJERG-HANSEN (*Ugeskrift for Laeger*, October 11th, 1923 p 720) has found that infants tolerate neo-salvarsan well, and under the age of 3 months he gives 0 075 gram Between the third and sixth months he increases this dose to 0 09 gram, raising it to 0 12 gram between the ages of 6 and 12 months The superficial temporal or frontal veins are the most suitable for injection during the first months of life, and when it is impossible to find a vein large enough the neo salvarsan should be injected into the superior sagittal sinus At the author's hospital this procedure gave rise to two deaths before its technique was mastered The deaths were due to necrosis of the frontal lobe in one case and purulent meningitis in the other Since the technique was perfected there have been no complications, although it has been frequently practised Of the 132 children suffering from congenital syphilis and treated at the author's hospital in the five-year period 1918 to 1922, nearly all were given salvarsan, and the mortality was 17 per cent (23 deaths) These figures are encouraging, for Ehlers has shown that among 1,471 children suffering from congenital syphilis and treated in hospital in the period 1863 to 1915 the mortality was 40 per cent

97 The Causes of Brachialgia

I HEDENIUS (*Acta Med Scand*, October 4th, 1923 p 115) notes that while every practitioner is familiar with brachialgia little is really known about it The patient complains of attacks of pain radiating from the neck down the arm, and of a sense of paraesthesia or numbness in certain fingers The arm feels heavy and numb between the attacks, which are apt to recur frequently over a long period The author records in detail four cases, which had a high uric acid content in the blood He states that this content does not exceed 2 5 mg per 100 c cm of blood, as determined by Folin's method, in health and on a purin free diet In the author's four cases the uric acid figures ranged from 2 98 to 3 7 mg In all these cases rest and dietetic treatment, atophan, light baths, and gymnastic exercises effected some improvement, and in one case the uric acid content of the blood was reduced. A gouty diathesis is not always traceable in brachialgia and the author records four other cases in which there was no gout and the uric acid content was normal A history of strain and overwork is often obtained in these cases of brachialgia, but a history of infectious disease is comparatively rare in none of the author's cases was there reason to think that syphilis or some other infectious disease was responsible Strain being an important etiological factor, the value of rest in these cases is obvious

Surgery.

98. The Approaches to the Pituitary Body

M J ROUGET (*Arch Internat de Laryngol, d'Otol et de Rhinol* January, 1924, p 16) divides the approaches to this gland into (1) endocranial temporal, frontal, and frontal orbital, which he states are bad and not now practised, and (2) exocranial, which are numerous and vary considerably The author dismisses the palatine, pharyngeal, and bucco nasal routes as being of no practical value He divides the others into two classes—nasal and endonasal The nasal methods consist of the three types of rhinotomy—the vertical or bilateral of Ollier, the lateral of Moure, and the sublabial of Rouge The sphenoidal sinus is reached by (*a*) resecting the septum, (*b*) by temporarily displacing one upper maxilla, and (*c*) by removing the turbinal bones and the posterior ethmoidal cells and finally the posterior part of the septum The endonasal methods are those of Cushing, Hirsch, and Segura Cushing incises the fraenum of the lip and displaces the soft parts of the face upwards He then performs a submucous resection of the entire septum and by means of dilators forces the turbinals outwards to give more room The sphenoidal sinus is then opened and the pituitary fossa reached Hirsch originally favoured a nasal operation, but he now performs a submucous resection of the septum after the method of Killian, and continues back till he reaches the sphenoidal sinus, which he opens with a gouge The opening is enlarged with nibbling forceps, the septum removed, and the floor of the sella turcica reached and opened with burr or gouge Hirsch when necessary drains by a wisp of gauze between the flaps of muco periosteum from the sella turcica to the anterior nares Segura has improved this technique, performs a complete submucous resection of the septum, opens the sphenoidal sinus very widely, and removes the floor of the pituitary fossa with gouge and bone forceps If it is necessary to drain or inspect the site of operation he allows the flaps of muco periosteum to fall together and incises the mucosa over the anterior opening of the sphenoidal sinus, which can then be inspected or packed from the nasal cavity, of which it has become a direct backward prolongation The author considers that the sublabial method of Cushing should be used by those who are not accustomed to endoscopic manœuvres and that the Hirsch Segura technique should be employed by rhinologists

99. Perforation in Typhoid Fever

A WELCKER (*Nederl Tijdschr v Geneesk*, December 1st, 1923, p 2348) states that among 1,767 cases of typhoid fever admitted to the Wilhelmina Hospital at Amsterdam between 1913 and 1922 there were 36, or 2 per cent, in which intestinal perforation took place During the period 1910–13 operation had been performed on a certain number of cases of perforation with well marked peritonitis, and all had died For this reason no operation for perforation was performed during the next six years, and the 11 cases of perforation during this period all ended fatally During the subsequent period (1918–22) of 24 cases in which perforation occurred 11 were not operated on and all died, and of the remaining 13 in whom operation was performed 4 recovered The close association between perforation and intestinal haemorrhage was shown by the fact that in 14 of the 36 cases haemorrhage preceded or accompanied perforation *As regards the clinical* picture of perforation, in about three quarters of the cases the onset is sudden with localized abdominal pain, limitation of respiratory movements, hyperaesthesia of the abdominal wall, vomiting, restlessness, and a sudden change in the pulse and temperature It should be noted, however, that in about a third of all cases of typhoid fever these symptoms may occur without peritonitis being present In about a quarter of the cases the onset is insidious owing to the toxaemia Operation is indicated in all cases, and has a good chance of success provided it is performed as soon as the first symptoms have been detected, the general condition is good, and a local anaesthetic is used Exploratory laparotomy is not only justifiable but also advisable in all doubtful cases Constant collaboration between the physician, surgeon, and nursing staff is imperative

100. Congenital Occlusion of Small Intestine.

R. C BRYAN (*Amer Journ of Surgery*, December, 1923, p 297) dealing with congenital atresia of the newborn, finds that the most common site of obstruction in the small intestine is in the duodenum, and here occlusion is more frequent than stenosis Howell states that there are three special places where occlusion can occur (1) The duodenum above Vater's ampulla (2) the duodeno jejunal junction and (3) the spot in the ileum where the omphalo mesenteric duct is attached The exact site can only be definitely established at the *post mortem* examination The causative factors of intestinal occlusion may be maternal, including syphilis and adhesions resulting from enteritis in the embryo, or foetal, and due to arrested development, or, as Tandler suggested, the lumen of the intestine is completely filled up by proliferating epithelium at a certain period of development and in atresia this becomes permanent In the human embryo of thirty to sixty days the duodenal lumen is normally more or less completely blocked In a series of 328 cases Sprigg states that 28 per cent were at the duodenum, 38 per cent jejuno ileum, 6 per cent colon, 8 per cent unclassified, and 20 per cent were multiple The types met with are simple narrowing, perforated or completed diaphragm, short band connecting the ends of the bowel, and a band along the free edge of the mesentery, the bowel ends being some distance apart The symptoms are vomiting soon after birth and distension of the upper abdomen Anuria is constant and severe, and convulsions have been noted Constipation is present if the occlusion is absolute Without operation death occurs early An ano rectal block must be excluded In cases of suspected intestinal atresia the child must be warmly protected, local anaesthesia is advised, and a median incision made excising the umbilicus If one single point of atresia is found anastomosis is preferred If the distal segment is too shrunken for this an enterostomy is necessary If multiple points exist a short circuit should be effected or an enterostomy tried

101. Secondary Jejunal Ulcer

D G MARMOL (*Rev de med y cir de la Habana*, November 10th, 1923, p 727), who records two illustrative cases, quotes Moynihan's dictum that one of the gravest disasters following gastro enterostomy is the development of a peptic ulcer The first case of the kind was published by Braun in 1899, seventeen years after the first gastro enterostomy Its frequency varies with different observers from 1 or 2 per cent (Paterson) to 10 per cent (Hohlbaum) In 1921 Loewy calculated that 400 cases had been recorded The statistics of the Mayo Clinic from January, 1912, to January, 1922, show that out of a total of 4,324 gastro-enterostomies 55, or 1 27 per cent, developed secondary ulcers The complication may occur at any age The youngest case was that of Tiegel in an infant of 2 months following gastro enterostomy for congenital stenosis of the pylorus The operation in these cases has almost always been for perforated peptic ulcer, as is shown by the fact that of Rootgen's 66 cases of secondary ulcer all but three, in which the operation had been for gastric cancer, perigastritis, or congenital pyloric stenosis, had followed gastro enterostomy for gastric or duodenal ulcer Jejunal ulcer may be single or multiple, as many as four have been observed According to Easterman, gastro-enterologist to the Mayo Clinic, 30 per cent occur within the first six months after the operation, 56 per cent within the first year, and 88 per cent within the first two years, but the ulcer may develop as early as one or two days after gastro enterostomy or not occur until seven, nine, or ten years later The initial symptoms consist of a feeling of heaviness in the stomach after food, pyrosis, pain in the epigastrium, and vomiting Three principal forms of jejunal ulcer have been described by Gosset—namely, (1) the form in which perforation is the first symptom, as in one of the cases recorded by Marmol, (2) a form with localized peritonitis, (3) a form in which the ulcer opens into the transverse colon, forming a jejuno colic fistula, of which Marmol also describes a case Loewy, who collected 76 cases of jejuno colic fistula in 1921, estimates that one case of fistula occurs in every five cases of secondary ulcer The diagnosis is made by the occurrence of diarrhoea, faecaloid eructations and vomiting, pain in the epigastrium, general debility, anaemia, and inanition Treatment is exclusively surgical

102. Transpubic Removal of the Prostate

C WALKER (*Annals of Surgery*, December, 1923, p 795) suggests a preliminary symphysiotomy in the removal of cancer of the prostate Within the past year he has employed it twice on human beings The operation is started with a preliminary inspection of the bladder to confirm the diagnosis The cartilage joining the pubes is then cut and the bones separated, a special retractor being used at this stage The urethra is divided at its juncture with the prostate and the bladder cut as near the vesical neck as is warranted by the growth After removal of the prostate the cut end of the urethra is sutured to the posterior angle of the wound in the bladder and a catheter passed into the bladder The symphysis is united with heavy silver wire The patient is immobilized in a Bradford frame and a binder kept tightly fixed After three weeks the patient may be lifted out of bed into a wheeled chair

Laryngology and Otology.

103 Laryngeal Hemiplegia following Gunshot Wound

F J COLLET (*Journ de Méd de Lyon*, December 20th, 1923, p 737) has recorded twenty five cases of gunshot wound in the region of the neck which has been followed by paralysis of one vocal cord with or without affection of neighbouring structures The cases included injury to the vagus and to the recurrent laryngeal nerve and also injuries to the tongue, palate, thyroid cartilage, upper maxilla, and in one case an arterio-venous aneurysm of the carotid and jugular vessels In about half the cases the paralysed cord was in the cadaveric position and in the other half in the median line Half the patients had complete aphonia when first seen and about a third have remained voiceless The other half had altered voices—weak, hollow, or brassy—and were easily fatigued The epiglottis was deviated to the paralysed side in two cases but was not affected in the others In two thirds of the cases there was some improvement in the voice, but it was found that the recovery was due, not to increased movement of the cord, but to overaction of the sound cord, and this was specially noticeable in cases in the cadaveric position The compensation was due to intense contraction of the arytenoideus and lateral crico arytenoideus muscles and the arytenoid cartilage of the sound side passed across in front of or behind that of the paralysed side In those cases in which compensation occurred it was well established in from six to twelve months after the wound The paralysed cords appear to remain in their particular position, and with the exception of some curving due to paralysis of the internal tensors there was change in very few after several years observation In a few cases there was persistent redness due to interference with the vasomotor fibres which run in the superior laryngeal nerve In more than half the cases the frequency of the heart beat was increased, and in many it was unstable and easily accelerated on slight exertion Apart from the probable course of the missile it was only by the presence of this cardiac change that lesion of the vagus could be differentiated from that of the recurrent laryngeal nerve The author considers that the mid line position is due to paralysis of the dilators and not to contracture of the constrictors of the larynx He considers that the main nerve supply to the laryngeal muscles is the recurrent nerve, but that some fibres pass from the superior laryngeal nerve to the muscles of either side He wonders if the final position of the cords will be the cadaveric, but after five and seven years he has found little disposition in the paralysed cords to move to that state

104. The Larynx and Menstrual Disturbances

J RATEAU (*Rev de Laryngol., d Otol et de Rhinol*, November 15th, 1923, p 891) discusses the conditions associated with anaemia and hyperaemia of the larynx and pharynx Anaemia is found in cases of Bright s disease, chlorosis, tuberculosis, diabetes, scurvy, and such conditions Hyperaemia is found in ankylostomiasis and in intoxications due to tobacco, alcohol, and various chemical bodies It is also met with in emphysema and in congenital and acquired disease of the heart In women anaemia is not infrequent at the age of puberty and may be associated with paralysis of the internal tensors of the vocal cords Hyperaemia occurs during the menstrual periods and is especially noticeable also at the menopause The author records the case of a girl of 19 who when very hot, bathed in very cold water on the first day of the menstrual flow, which ceased abruptly The same evening the patient noticed pain in the throat which increased until she ceased to make any attempt to speak, swallowing aggravated the distress The pain was sharp and radiated towards the ears Laryngoscopy showed that all the lining mucosa of the larynx, with the exception of that covering the vocal cords, was very much congested and hyperaemic The trachea and pharynx were congested, but there was no visible pathological exudate Twenty four hours after the bathing blood commenced to drip from a small puncture on the under surface of the soft palate The bleeding appeared to come from a ruptured varicose vein and continued for two days There was at no time any rise of temperature Treatment included rest, a light vegetarian diet, and application of heat by an electric collar to the throat The haemorrhages from the palate evidently took the place of the menstrual flow and ceased spontaneously in due course

105. Referred Pain of Nasal Sinus Disease.

J A GIBB (*Journ of Laryngol and Otol* January, 1924, p 15) recalls that visceral pain is referred to cutaneous surfaces with a corresponding innervation, mentioning gall bladder disease as an instance He has noticed a similar reference of pain in disease of the accessory nasal sinuses, and has observed some forty cases in the past twelve months In cases of maxillary antrum suppuration the pain is referred to the parietal and occipital regions to the external ear and to the mastoid region, though usually not to all these places in any one case Frontal sinus disease is referred to the frontal and occipital regions and its intensity depends as in the case of the other sinuses, upon whether the secretion is retained or there is free drainage Anterior ethmoidal disease causes referred pain in the eyeball and across the bridge of the nose, whilst posterior ethmoidal lesions are referred to the back of the orbit and to the top of the head Sphenoidal sinus disease gives rise to a boring pain at the top of the head Pain in these regions may be relieved by removal of carious teeth, but if pain persists the probability is that the corresponding sinus is affected and should be accordingly investigated

106 Vaccine Therapy in Recurrent Throat Infections

L ROBERT (*Rev de Laryngol , d Otol et de Rhinol*, December 31st, 1923, p 990) has recently treated a number of children who have had continually recurring sore throats and colds for many years In spite of removal of tonsils and adenoids and other local treatment these children had not improved and their general condition was bad, with marked cervical adenitis and obstructed nasal respiration Cultures were made of the nasal or pharyngeal discharges, which were collected during the acute stage of one of the attacks The usual organisms found were staphylococci, streptococci, Friedländer s bacillus, Hoffmann's bacillus, and *Micrococcus catarrhalis*, with the first named in much greater proportion than the others A vaccine was prepared containing all these organisms and was administered by injection during a quiescent period No attempt was made to administer vaccine while there was any trace of sore throat or cold, as this has been proved to be useless A first dose of 500 million may be given, followed by injections of increasing doses up to 4,000 or 8 000 million, and a minimum total of 70 000 million must be reached It is essential that all the different types of flora should be administered in the vaccine, because if there was a heavy infection of staphylococci and a slight one of streptococci, treatment by injection of antistaphylococcus vaccine would negative the staphylococcus infection and the streptococcus would take on increased virulence Such courses of treatment have had very good results and have completely abolished colds and sore throats The author has turned his attention to a similar type of treatment for diphtheria carriers and has attempted to make suitable experiments on animals So far he has not been able to carry out any experiment on the mixed diphtheria, staphylococci, streptococci infection in an animal without causing its death before the vaccine has taken effect He hopes to be more successful in due course, and considers that this is the right line of attack upon the diphtheria carrier

Obstetrics and Gynaecology.

107 Extrauterine Pregnancy

FROM a series of 400 cases of extrauterine pregnancy admitted to the Boston City Hospital N R MASON and R W STORRS (*Boston Med and Surg Journ*, December 6th, 1923 p 914) derive the following statistics Most of the cases were admitted for irregularity of menstruation, this bleeding being in some cases large and of long duration and in others small The other 10 5 per cent came to hospital primarily on account of pain, which was, however, present in 88 5 per cent of all the cases The pain was usually sudden in origin and stabbing or dull in character, and probably due to peritoneal irritation caused by the escaping blood Only 15 per cent had symptoms of collapse from acute rupture, but vomiting was a fairly common symptom, occurring in 40 8 per cent of cases 27 8 per cent were pregnant for the first time, 24 8 per cent for the second, and 21 4 per cent for the third time, miscarriages had occurred previously in 28 8 per cent The temperature was rarely raised except in old standing cases, the pulse was under 100 in 56 3 per cent the blood pressure, however, was below normal in 81 4 per cent of cases The chief signs besides bleeding at examination, which was present in 66 6 per cent of cases were abdominal tenderness in 80.5 per cent and distension in 37 2 per cent The cervix was softened in 36 2 per cent but uterine enlargement was only discovered in 21 per cent As regards treatment immediate abdominal section with removal of the tube is recommended as giving the patient the best chance The other tube if healthy should be left since only 3 5 per cent. of the cases had suffered from previous tubal pregnancy If the temperature is high and a leucocytosis present the mass, if bulging into the vaginal

vault, should be punctured by a large calibre needle so as to determine the presence or absence of pus, which, if present, would contraindicate laparotomy It is also recommended that if the patient's condition is grave blood clot should not be cleared out of the abdomen since speed is the chief essential, and the retained blood clot will probably only give rise to a slightly pyrexial convalescence, in all other cases clot should be removed as it forms a good nidus for germs Drainage is not recommended except in old standing infected cases and as packing to stop an oozing which cannot be otherwise controlled The mortality for 400 cases was 7 7 per cent , of which 45 per cent. died from peritonitis and 33 3 per cent from shock and haemorrhage On account of the number of times when adhesions were found the authors think that low grade abdominal inflammation is a great causal factor

108 Urology in Women

W E STEVENS (*Journ Amer Med Assoc*, December 8th, 1923, p 1917) pleads for the treatment of pathological conditions of the urinary tract in women by specialists in urology rather than by gynaecologists He considers that strictures of the urethral meatus are not uncommon, but are often overlooked, though they may give rise to such symptoms as frequency of micturition or dysuria, and lead to disease of the bladder Ureteral strictures, however, he does not think are so common as is generally supposed The pyelitis of pregnancy may, he thinks, be due to pressure on the ureters by the pregnant uterus, or to urethral obstruction followed by an ascending infection In this pyelitis he advocates drainage and lavage of the renal pelvis through ureteral catheters, as also in cases of pyelitis in infants and young children

109 Sacral Anaesthesia in Gynaecological Operations.

ACCORDING to G DOSSENA (*Ann di Ostet e Ginecol*, November 30th, 1923, p 594), sacral anaesthesia by injection of the extradural space is considerably safer than lumbar anaesthesia by intradural injections, the few fatalities that have been reported after sacral anaesthesia have been due to faulty technique, novocain in strong solution having been injected intradurally Sacral anaesthesia is more suitable for operations on the anus, perineum, rectum, vulva, vagina, or cervix than for laparotomy The solution recommended for injection is pure sodium bicarbonate 0 15 gram, pure sodium chloride 0 09 gram, novocain 0 6 gram, distilled water 30 grams, together with 0 25 c cm of 1 in 1,000 adrenaline solution added just before use Preliminary administration of veronal, morphine, or hyoscine is necessary if the abdomen is to be opened, but is not usually required for vulvo vaginal, perineal, or rectal operations Before the injection the patient should be placed in the genu pectoral position to diminish the congestion in the pelvic venous plexuses, after it she should sit for ten minutes, in order to favour downward diffusion of the anaesthetic In 5 only of 82 cases was the injection, thus made, ineffective, they included plastic vaginal operations, cervical dilatation, and induction of labour for cardiopathy or pulmonary tuberculosis The author regards the method as unsuitable for inducing anaesthesia during labour, the effect of one injection rarely lasts longer than an hour, and total suspension of sensitiveness prolongs labour by annulling the expulsive efforts of the abdominal muscles

Pathology.

110 The Pathological Anatomy of the Corpus Luteum.

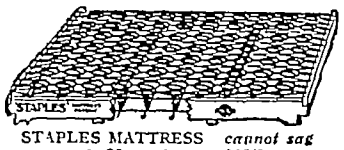
E NOVAK and R W TELINDE (*Bull Johns Hopkins Hosp*, September, 1923, p 289) review the pathology of the corpus luteum They commence with the normal life cycle of the structure, and draw attention to the condition known as corpus luteum albicans, which is the result of hyaline changes occurring during retrogression The histological character of the cyst wall makes possible the diagnosis between a merely cystic and *still actively functioning* corpus luteum and one which is pathological and inert Abscesses are of frequent occurrence, and when small may have arisen from a normal corpus luteum, but it seems probable that they may develop from cysts or haematomas They are yellow walled with the inner layer of the wall much wrinkled, and the lutein layer is seen on microscopical examination to be obscured by inflammatory infiltration In regard to corpus luteum cysts the difficulty of distinguishing the normal from the pathological is noted There are two types of cyst (1) recent with a well marked lutein layer, and little or no fibrous tissue between it and the contents, and (2) old in which the lutein layer is much retrogressed or absent and there is a thick fibrous layer Menstrual [illegible] would seem to indicate that in recent cases, despite the cystic nature, there is still functional activity, whereas in the older type of cyst this is lost Doubt is therefore thrown on the theory that cysts tend to delay menstruation, but the authors admit the difficulty that is frequently experienced in diagnosing cystic conditions from early tubal or uterine abortion Haematomas of the corpus luteum are stated to be commonly due to excessive haemorrhage into the lumen during the stage of normal vascularization, they can be subdivided into recent and old, as in the case of cysts, attention being paid to the size and histological appearance of the limiting wall in distinguishing from variations of the normal Cysts and haematomas are at times found with hyaline degeneration of the corpus albicans type in their walls, but unless large they are probably merely the result of the normal hyalinization of fibrous tissue which occurs during the stage of retrogression in the life cycle of corpora lutea In the case of neoplasms the authors, whilst admitting little doubt of the lutein origin of certain tumours, state that though they have observed in *malignant conditions of the* ovary some cells suggestive of lutein cells, study of other parts of the specimens has revealed their true nature—usually carcinomatous Finally, they consider the evidence almost conclusive that the lutein cells lining the multiple cysts of the ovary found in association with cases of hydatid mole and chorion epithelioma are of the type of theca lutein rather than granuloma lutein cells, as in the corpus luteum Moreover, these multiple lutein cysts are evidently secondary to the intrauterine condition with which they are associated, for they have a marked tendency to spontaneous disappearance on removal of the uterus

111 A Dangerous Fallacy in Indirect Blood Matching

P LEVINE and J MABEE (*Journ of Immunology*, November, 1923, p 425) have brought to light a very dangerous fallacy in the usual technique employed for the choice of suitable donors in cases where blood transfusion is desired By the use of the indirect method, in which the blood cells of the donor and the recipient are tested with stock Group 2 and 3 serums, it is possible to choose a donor having the same group as the patient to be transfused, or, if no such donor can be found, resort may be made to a Group 1 or universal donor In the direct method the blood of the proposed donor is mixed in a 1 in 10 dilution with the recipient s cells , if no agglutination occurs, then the donor may be considered suitable, in this case the group to which either belongs is not ascertained Using this direct method it was found that the serum of a known Group 1 individual caused marked agglutination of the cells of a known Group 2 individual, in spite of the fact that it is generally held that a Group 1 serum does not agglutinate the cells of any group With further work this reaction was proved to be of general application to the cells of other groups Thus the serum of this Group 1 individual was tested against the cells of seventeen other individuals, none of *them belonging to Group 1* In every case agglutination occurred, whereas with other Group 1 serums used as controls this was not the case It is clear, therefore, that there are certain Group 1 persons whose serums have such an unusually high amount of agglutinin as to make them quite unsuitable to act as donors If they were so used, complete agglutination of the recipient's cells would occur, with probably instantaneous death These unusual Group 1 donors would not be detected if only the indirect method were employed, and the authors therefore lay great stress on the advisability of performing the direct test before every transfusion

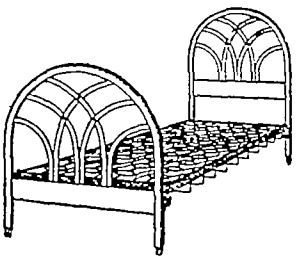
112. Functions of the Pituitary and Thyroid Glands

N M DOTT (*Quart Journ Exper Physiol*, November, 1923, p 241) gives technical details of experimental work and the conclusions to be drawn from the findings He records his impression that the anterior lobe of the pituitary body exerts a marked influence on the cell activities of the body tissues whereby a rise or fall of the metabolic rate is produced, as shown by temperature, degree of adiposity, mental condition, and rate of development He is also of opinion that this lobe has a specific influence on tissues of embryonic type (epiphyseal cartilages and germinal epithelium) and produces degeneration or undue activity according to whether it is deficient or in excess He suggests that hypophyseal polyuria is brought about by increased secretion of the pars intermedia, but from the experiments can form no opinion of the normal physiological function of the latter As regards the pars nervosa, it does not appear to have great physiological significance, for extirpation causes no disturbance Coming to the thyroid gland the author finds that its influence on cell activity and on the metabolic rate is very similar to that of the anterior lobe of the pituitary, but, while the former affects the rate of tissue processes only, the latter possesses in addition the power of influencing the vitality of embryonic types of tissue The two glands can therefore act independently or in conjunction

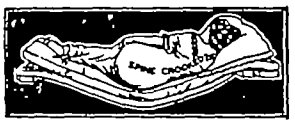


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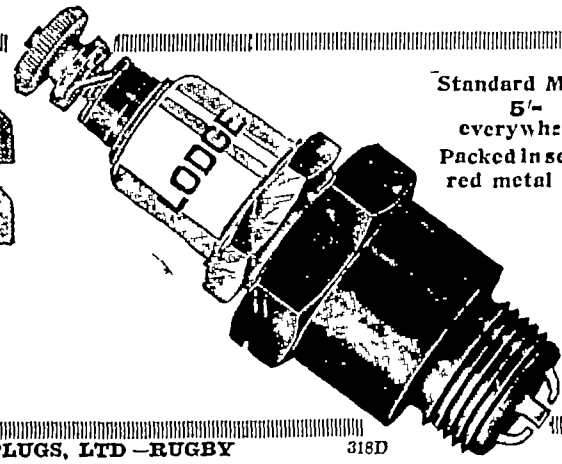
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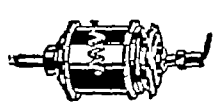
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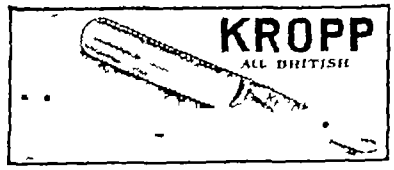
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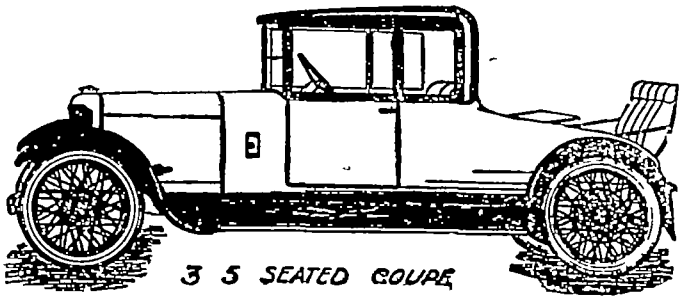
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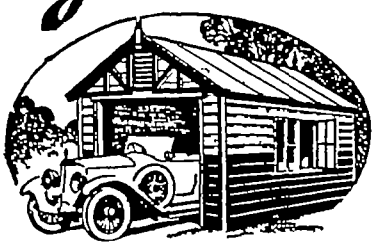
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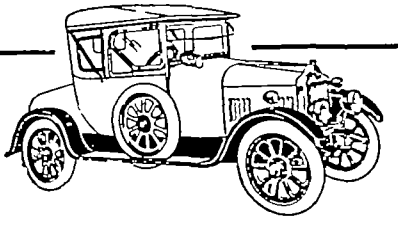
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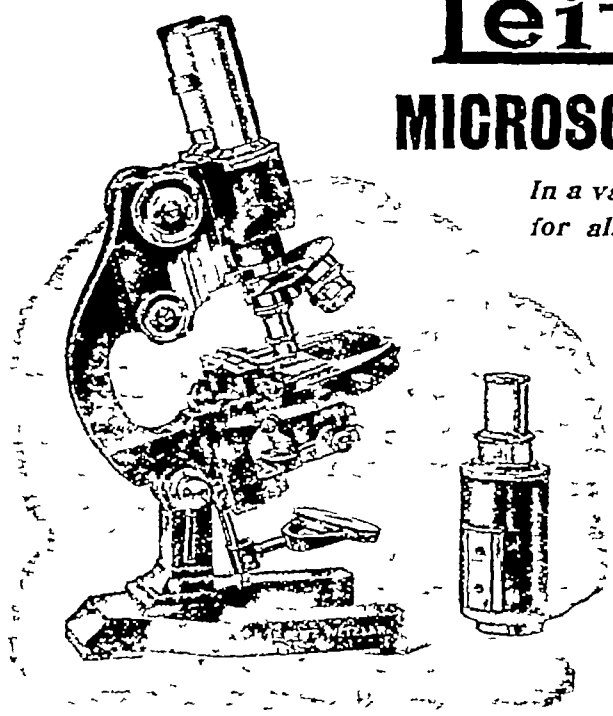
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Bland's (Sugar-Coated), gr 5	4/9
Nitroglycerin P B gr 1-50th	8/-
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One Tablet in 1 pint of Water is equivalent to 1 1000	
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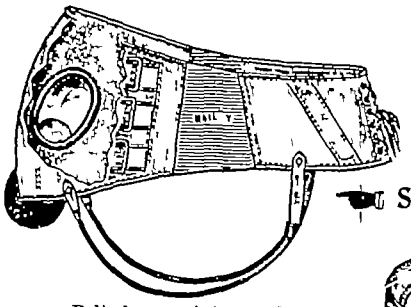
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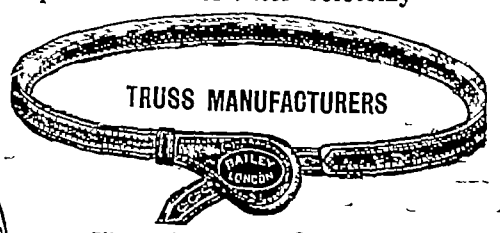
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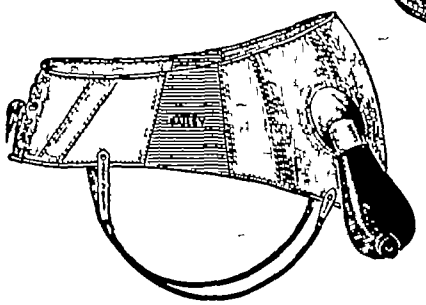
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Belt showing interior of cup

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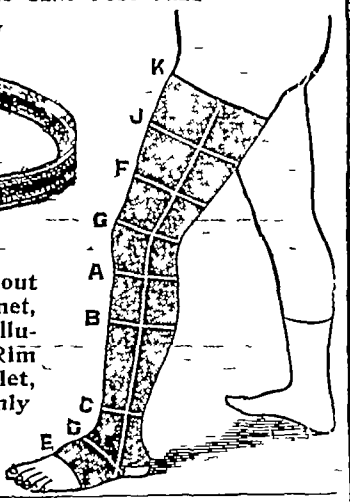




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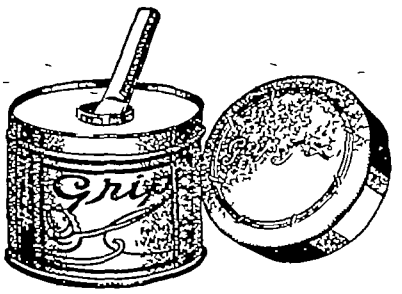


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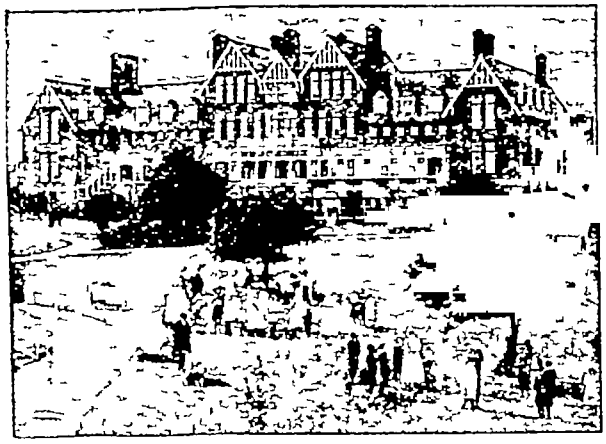
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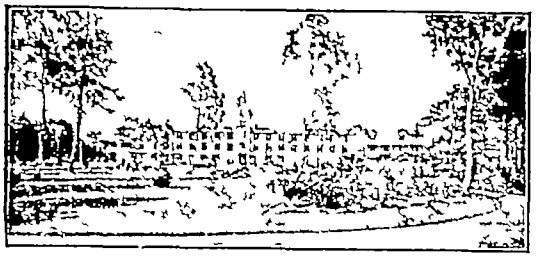
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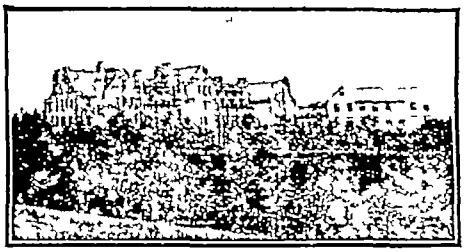


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At BANCHORY, near BALMORAL.

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Within easy reach of the Moor Radiographic Installation, Central Heating, Electric Light Efficient Treatment combined with Individual Comfort and Minimum Restrictions Res Phys C H BERRY, M R C S, L R C P, Miss M V SAUL, M R C S, L R C P —Illustrated Prospectus on request, C H BERRY, M R C S, Dartmoor Sanatorium, Chagford Devonshire Tele 11 Chagford.

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Specially built facing South 300 acres of Sanatorium grounds—meadow and woodland, sheltered pine avenues Altitude 850 feet, magnificent view for miles south, hot water radiators and electric light in each room and châlet
Graduated exercises, inhalation and electric treatment, &c. Individual attention
For particulars apply SECRETARY, Hillgrove, Wells, Somerset Resident Physician Dr C MUTHU

GRAMPIAN SANATORIUM
KINGUSSIE, INVERNESS SHIRE.

Specially built for the Open Air Treatment of Tuberculosis and opened in 1901 Bracing mountain air Elevation 860 feet above sea level Sheltered situation in pine wood. Graduated walks
Electric light throughout building and in shelters Fully equipped X Ray Plant. Inoculation Treatment available for patients—24 beds Trained Nurse on duty all night **A few rooms are now reserved for Surgical Cases not requiring immediate operation.** Terms 4 to 6 guineas per week. Medical Superintendent FELIX SAVY M.B, Ch.B
For particulars apply to the Secretary

WESTMORLAND SANATORIUM.
Meathop, Grange-over Sands.

Established 1900 Phone Grange-over Sands 51.
For the Curative Treatment of moderately early cases of Pulmonary Tuberculosis.
Non pulmonary cases not requiring operative treatment also received, including children)
Bracing situation on N Shore of Morecambe Bay, beautiful surroundings. Heating in wards, dining halls and recreation rooms, electric light throughout Terms £2 8s per patient per week or £120 per bed per year Vacancies for patients of both sexes Medical Superintdt: C FERGUSON WALKER, B A. M D B S.Lond D P H. Manch.

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PRIVATE WARDS, 5 Gns per week, exclusive of Surgeon's fees but inclusive of X Rays, splints, plasters massage and gymnasium.
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Ideal for Neurasthenia, Convalescence and Rheumatic Affections The most modern Electrical Treatment and Massage.
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SPECIAL FACILITIES TO MEDICAL MEN.

EPSOM COLLEGE.

APPLICATIONS for the ADMISSION of CANDIDATES for PENSIONERSHIPS FOUNDATION SCHOLARSHIPS and for a 'MORGAN" ANNUITY at the next Election must reach the Office by the morning of February 20th
An EXAMINATION is about to take place for the admission of boys as COUNCIL EXHIBITIONERS These pay £60 a year for education and board instead of £120 the usual fee Candidates must be the sons of such duly qualified medical men as shall in the opinion of the Council be among the less fortunate members of their profession Applications must reach the Office by the morning of February 20th
J BERNARD LAMB, Secretary
Office: 49, Bedford Square, W C 1
28th January 1924.

Seamen's Hospital Society.

LONDON SCHOOL of TROPICAL MEDICINE
Endsleigh Gardens, N W 1.

Sessions will commence September 24th, 1923, 7th January and 21st April, 1924 approximately
For Prospectus and further particulars apply to The Secretary, London School of Tropical Medicine, Endsleigh Gardens, N W, or to the Head Office, Seamen's Hospital Greenwich, London S E

George Henry Lewes
STUDENTSHIP

ANNUAL VALUE £230 (about)

The Student is required to give his whole time to research work except such as in the opinion of the Trustees does not interfere with his original enquiries Candidates should send (*a*) a statement of their qualifications (*b*) the subject of their proposed research (*c*) the name of one referee to Professor LANGLEY, Physiology School, Cambridge by March 1st 1924
January 24th 1924

London School of Clinical MEDICINE
SEAMEN'S HOSPITAL Greenwich

A COURSE of OPERATIVE SURGERY suitable for Candidates for Final Fellowship and others will commence on Monday the 11th of February Fee Ten Guineas Those wishing to join the class should communicate with the Acting Dean

Pathological Laboratory,
UNIVERSITY OF CAMBRIDGE

THE JOHN LUCAS WALKER STUDENTSHIP

Applications for this Studentship, the holder of which shall devote himself (or herself) to original research in Pathology are invited and should be sent accompanied by copies of papers containing published work testimonials and references before 1st May, 1924 to Professor H R DEAN Pathologic l Laboratory Medical School Cambridge to whom also applications for further information regarding the Studentship may be addressed The Studentship is of the annual value of £300 and is tenable under certain conditions for three years from 31st May 1924.
15th January 1924.

London Hospital

LIDDLE TRIENNIAL PRIZE, 1923
(Open to Public Competition)

The Liddle Triennial Prize in the gift of the London Hospital (for the best Essay submitted on the Cause and Prevention of Rheumatic Fever) has been awarded to Dr ALDRED MANTLE, M D, M R C P M R C S, of Harrogate
Prof WILLIAM WRIGHT M B D Sc, F R C S
London Hospital Medical College, Dean
Mile End E

Preliminary Examinations

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March June September and December For Regulations, apply to the Secretary College of Preceptors Bloomsbury Square London W C 1

Small Private Residential

SCHOOL established 21 yrs, for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS Special Department Pupils over school age Under Medical supervision —Prospectus PRINCIPAL, St Paul's House Upper Maze Hill St Leonards-on Sea.

Liverpool School of Tropical MEDICINE.

COURSES OF INSTRUCTION (lasting three months) for the Diploma and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th —Prospectus from the Hon DEAN, School of Tropical Medicine University of Liverpool

Home School for Backward

and DELICATE CHILDREN (estab 1911) Specialists Patients received Modern educational methods and handicraft training Horticulture garden games and occupations Entire charge if desired Elder girls admitted Terms moderate —Apply Principal Hatherley Brake Cheltenham

Rossall School —Some Twelve

Open Scholarships for Boys between the ages of 12 and 14 on March 1st next value from £90 a year downwards will be awarded by Examination beginning March 4th 1924 Boys examined at Rossall and in London —Apply THE BURSAR Rossall Fleetwood

Syllabus of a Course of Post-Graduate Lectures to be delivered at the Cancer Hospital, Kensington, S.W. 3, February and March, 1924.

4.30 p.m	Wednesday 6th Feb	P. P. COLE, Esq., F.R.C.S.	Inoperable Cancer of the Uterus
,,	13th ,,	T. B. VEALE, Esq., M.D.	Surgical Anæsthesia by Nitrous Oxide and Oxygen
,,	20th ,,	ROBERT KNOX, Esq., M.D.	Recent Developments in Radio Therapy
,,	27th ,,	C. A. JOLL, Esq., M.S.	Malignant Disease of the Thyroid Gland
,,	5th Mar.	STANLEY WYARD, Esq., M.D.	Cancer of the Stomach
,,	12th ,,	C. B. SHATTOCK, Esq., M.S.	Carcinoma of the Colon
,,	19th ,,	SIR JAMES DUNDAS GRANT, F.R.C.S.	Cases illustrating the Diagnosis and Treatment of Cancer of the Throat
,,	26th ,,	SIR THOMAS HORDER, F.R.C.P.	*The Nutritional Factor in Malignant Disease* with Special Reference to Treatment

Tea will be served at 4.0 p.m.
Every lecture is free on presentation of his card to any registered medical practitioner or student all of whom are cordially invited to attend

STANLEY WYARD *Hon. Sec. Med. Committee*

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17, RED LION SQUARE, LONDON, W.C.1

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D.P.H. (Various) 1906-23 (Completed Exam.) **216**

F.R.C.S. (Edin.), 1918-23 - - **21**

M.R.C.S., L.R.C.P. *Final* 1910-23 (Completed Exam.) **203**

M.D. (Dur.) (Practitioners) 1906-23 **32**

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ORAL CLASSES for M.D., M.R.C.P. & F.R.C.S., also for M.B., B.S., and for Conjoint (Second and Final).

Museum and Microscope work. Also Medical and Surgical Clinics at well-equipped Hospitals.

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A TUTORIAL CLASS for the next Examination commences shortly.

Particulars from CHAS. R. WHITTAKER, F.R.C.S. Anatomical Department, Surgeons Hall, Edinburgh

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Telephone: LANGHAM 1166.

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And all other Surgical Degrees and Diplomas.

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¶ The Postal Courses are thoroughly clear concise, and up-to-date and the test questions are carefully selected from those set at previous Examinations so as to embrace all parts of the subject. By working systematically through the Course the Student is brought up to the examination standard in the minimum time and *much unnecessary reading is saved.*

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Short Intensive Postal Revision Courses in Preparation for these *Diplomas*—Apply to the SECRETARY, Medical Correspondence College, 19 Welbeck Street, London, W.1

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Continuous Clinical Work in all Departments—

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For further particulars apply to Mr. H. J. Stiles, Dean, West London Hospital, Hammersmith, W.6.

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(UNIVERSITY OF LONDON)

MORTIMER STREET, LONDON, W.1

Primary F.R.C.S.

Classes for the above Examination will commence on January 15th, 1924

ANATOMY including EMBRYOLOGY
PHYSIOLOGY
Including a full course of theoretical and practical BIOCHEMISTRY

Intending candidates are urged to join these classes at the commencement of the Course.

DIPLOMA IN PUBLIC HEALTH.

A comprehensive Course of Instruction under the direction of Dr. CHARLES PORTER, M.C.H. for St. Marylebone will begin in January.

For further particulars apply to THE DEAN, A. E. WEBB-JOHNSON, C.B.E., D.S.O., F.R.C.S. or to THE SCHOOL SECRETARY, R. A. FOLEY.

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Jersey, Channel Islands.

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The Rev. G. O. MORGAN-SMITH.

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The Rev. G. O. MORGAN-SMITH, M.A., Ph.D., F.C.S. (St. Catharine's College, Cambridge; Lille University, France.)

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The School stands in its own magnificent grounds of 18 acres. Own farm. Beautiful climate, healthy situation. Every modern convenience. Electric light.

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LONDON HOSPITAL MEDICAL COLLEGE.

F.R.C.S.

A COURSE of INSTRUCTION for the FINAL FELLOWSHIP EXAMINATION will begin on Monday March 3rd, as follows:—

Examination of Clinical Cases: Messrs. E. Howard and E. C. Lindsay.
Systematic Tutorial Classes: Messrs. R. Milne, A. J. Walton, H. S. Souttar and W. S. Perrin.
Commentaries: Messrs. R. Milne and H. S. Souttar.
Surgical Pathology and Museum Work: Mr. R. Howard.
Bacteriology: Dr. P. Fildes.
Surgical Anatomy: Professor William Wright.
Operative Surgery: Mr. R. Howard.
Ophthalmic Surgery: Messrs. C. B. Goulden and H. R. Jeremy.
Anral Surgery: Messrs. N. Patterson and F. F. Muecke.

Fees: (exclusive of Operative Surgery) 20 gns.
Operative Surgery 5 guineas.

A separate entry can be made for all Classes other than those of a strictly Clinical character (Men Students only are eligible for admission).

Further particulars may be obtained from Prof. WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean, London Hospital Medical College, Mile End, E.1.

LONDON HOSPITAL MEDICAL COLLEGE.

PRIMARY FELLOWSHIP EXAMINATION.

A COURSE OF INSTRUCTION for the above Examination will begin on Monday March 3rd.

The Fee for the Course is 15 guineas.

Further particulars may be obtained from:—

Professor WILLIAM WRIGHT
M.B., D.Sc., F.R.C.S., Dean.

Mile End, E.1.

NORTH EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

An INTENSIVE COURSE extending over a fortnight, and comprising Lectures, Demonstrations and Clinical Work, will commence on February 4th. Those proposing to take the Course should send in their names to the Dean not later than January 31st.—J. BRIGHT BANISTER, M.D., Dean, 39 Harley Street, W.1.

Shropshire Orthopædic HOSPITAL Gobowen near Oswestry

COUNTRY OPEN AIR WARDS 300 BEDS

GIRL STUDENTS WANTED to learn Orthopædic Work and prepare for the Conjoint Examination of the C S M M G Three years training. Salary, first year, £16 second year £20 all found, uniform —Apply Miss Hunt R.R C

Medical Department of CEYLON

SANITARY BRANCH

Applications are invited from Ceylonese, who possess British qualifications in Medicine and Public Health for appointments as MEDICAL OFFICERS OF HEALTH, in Ceylon.

There are two grades in the Service, and the emoluments and qualifications necessary are as follows:—

GRADE I

Qualifications —D P H or B Sc. (Public Health), of any British University or other Examining Body in the United Kingdom

Emoluments —£500-£775 per annum by eight annual increments of £30, and one of £25 Motor Transport Allowance of Rs 75 per mensem, and House Allowance, according to station

Efficiency Bar —Before £650

GRADE II

Qualifications —D T M and H of London, Cambridge, Liverpool, or Edinburgh, or Certificate in Tropical Medicine and Hygiene of the London School of Tropical Medicine

Emoluments —£275-£450 per annum by annual increments of £25

Same allowances as in Grade I.

Efficiency Bar —Before £500

Conditions of Service —First year in Grade II, Probationary

For admission to Grade I, three years' satisfactory service in Grade II is required

Applicants possessing, on admission to the Service the qualifications required for both Grades will receive an initial salary of £400 per annum, and the allowances mentioned above

Medical Officers of Health are eligible for promotion to an Assistant Sanitary Commissionership There are at present two such appointments Salary £800-£960 per annum and House Allowance

For further particulars apply to the Principal Civil Medical Officer and Inspector General of Hospitals Colombo Ceylon

Indian Medical Service

The Secretary of State for India announces that Vacancies in the Indian Medical Service continue to be filled by direct appointment

For EUROPEAN OFFICERS of British Nationality to be appointed in the immediate future special terms are offered including gratuities of £1 000 after 5 years service, together with free return passages for those who no longer desire to remain in the service

Candidates must be under 32 years of age at the time of application and must possess qualifications registrable in Great Britain and Ireland under the Medical Acts now in force

Further particulars can be obtained on application to the Secretary Military Department India Office Whitehall, London S W 1 Letters should be marked "Recruitment for I M S

Medical Appointments in the MALAY STATES

Vacancies exist for MEDICAL OFFICERS and HEALTH OFFICERS in the Federated Malay States Salary equivalent to £616 rising to £1 120 with prospect of further promotion Temporary additional allowance of 10% (20% to married officer) to meet high cost of living Pensionable appointment confirmed after three years probation Free passages provided Prospective candidates should be fully qualified and preferably under 30

Inquiries for further particulars and necessary forms of application should be addressed in writing to The Assistant Private Secretary (Appointments), Colonial Office Downing Street London S W 1

Chesterfield and North DERBYSHIRE ROYAL HOSPITAL (100 Surgical and Medical Beds)

JUNIOR HOUSE SURGEON

Application are invited from fully qualified men for the above post

There are four Residents

The appointment is for six months at a salary at the rate of £150 per annum with board apartments and laundry

Applications stating age with copies of three recent testimonials should be sent to the undersigned

G DUNNUCK
28th January, 1924 Supt & Secretary

Royal Devon and Exeter HOSPITAL, Exeter (200 Beds)

SENIOR HOUSE SURGEON

Applications are invited for the post of Senior House Surgeon (Male) which will become vacant at this Hospital on March 1st The appointment is for twelve months but candidates are eligible for re-election

Salary at the rate of £250 per annum with board apartments and washing

Applications, giving full particulars as to age qualifications together with certificate of registration and copies of three recent testimonials should be sent to the undersigned on or before Monday, 4th February 1924

By order of the Committee
S S COLE Secretary

Dated 18th January 1924

Corporation of Plymouth DEVON & CORNWALL SANATORIUM FOR CONSUMPTIVE DIDWORTHY, SOUTH BRENT

Applications are invited for the appointment of a RESIDENT MEDICAL SUPERINTENDENT at this Sanatorium. Candidates must have had special experience in the institutional treatment of tuberculosis Salary £550 per annum. Residence, board, laundry and light provided

Applications stating age, qualifications and experience, accompanied by copies of three recent testimonials to be sent to me not later than Tuesday 5th February, 1924

5 Princess Square S CARLILE DAVIS,
Plymouth Sec to the Tuberculosis Committee

Hampstead General & North-WEST LONDON HOSPITAL, Haverstock Hill N W

The Council invite applications from registered medical Practitioners for the appointment of ANÆSTHETIST

The appointment carries with it an honorarium of £25 per annum

Applications together with copies of not more than three testimonials should be sent to the Hospital by 9th February addressed to the Secretary, from whom all particulars may be obtained

The United Services Fund.

HOLIDAY HOME FOR TUBERCULOUS EX SERVICE MEN, BOURNEMOUTH

Applications are invited for the post of RESIDENT MEDICAL SUPERINTENDENT of the above Institution of 80 to 100 Beds to be opened shortly for the reception of Convalescent cases of Tuberculosis Candidates must be unmarried

Salary £500 per annum, with board, lodging, attendance and laundry

Application stating age date of registration, qualifications, experience etc with copies of three recent testimonials, to be sent to The Organizing Secretary United Services Fund, 29, Cromwell Road London S W 7, on or before the 9th day of February 1924

Royal Edinburgh Hospital FOR SICK CHILDREN

Wanted for this Hospital FOUR HONORARY RESIDENT MEDICAL OFFICERS, to enter on 15th April next.

Information as to duties &c., can be obtained from the ordinary Physicians and Surgeon at the Hospital Thirty copies of applications and relative testimonials to be lodged on or before 1st March with Messrs Henry & Scott, W S 2 St. Andrew Square Edinburgh. No applications will be received after that date

Queen Mary's Hospital for THE EAST END Stratford E 15

Telephone: Maryland 2616 and 2317
Beds 158 Out patient Attendances: 119 666.

HONORARY ASSISTANT PHYSICIAN

There is a vacancy on the Staff of this Hospital for an Honorary Assistant Physician

Applications with copies of testimonials from candidates who must be duly registered practitioners either graduates of a University or Fellows or Members of a Royal College of Physicians should be lodged with the undersigned not later than February 9th, 1924

RAPHAEL JACKSON Major,
Secretary

Northampton General HOSPITAL (231 Beds)

Wanted HOUSE SURGEON male unmarried Salary £150 per annum Board residence, washing and attendance provided

Applications stating age qualifications etc with copies of testimonials to be sent to the undersigned not later than 12th February

C S RISBEE
26th January 1924 Secretary Supt

The Hospital for Sick CHILDREN Great Ormond Street, London, W C 1

A CASUALTY OFFICER is required on the 14th February 1924.

Gentlemen must be Registered Medical Practitioners and are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday, 11th February, 1924, accompanied by copies of not more than three testimonials given specially for the purpose

The appointment is made for one year, but may be held, subject to re-election, for a period of three years

The appointment is non resident and whole-time Salary £400 per annum with luncheon, and allowance for substitute for annual holiday, Twenty four guineas

All candidates must appear before the Joint Committee at their meeting on Wednesday 13th February, 1924 at 5 p m precisely

Forms of application and copies of the rules may be obtained from the Secretary, at the Hospital.

By order of the Board of Management
JAMES McKAY, Secretary

January, 1924

The Hospital for Sick CHILDREN, Great Ormond Street London, W C 1

An ASSISTANT PATHOLOGIST is required on the 1st March, 1924

Gentlemen are invited to send in their applications addressed to the Secretary, accompanied by copies of not more than three testimonials given specially for the purpose, before 12 o'clock, on Monday, 4th February, 1924.

The appointment is made for one year, and is non resident

Salary £400 per annum and allowance for substitute for annual holiday Twenty four Guineas

Candidates must be registered medical men, and be prepared to take up the duties on the 1st March 1924

All candidates must appear before the Joint Committee at their meeting on Wednesday, 6th February 1924, at 5 p m

Forms of application copy of the rules for, and details of the appointment will be supplied on application to the Secretary

By order of the Board of Management
JAMES McKAY, Secretary

January, 1924

West London Hospital, Hammersmith Road, W 6

Applications are invited for the posts of HONORARY MEDICAL REGISTRAR HONORARY SURGICAL REGISTRAR, and HONORARY OBSTETRIC REGISTRAR for a period of one year eligible for re-election annually

The holders of the posts of Honorary Medical Registrar and Honorary Surgical Registrar must hold no appointment at a general teaching hospital during their terms of office The duties include the preparation of the several Registrar's Reports for the year and the supervision of the records of cases The candidates appointed must be available as substitutes for the Physicians and Assistant Physicians Surgeons and Assistant Surgeons as the case may be and for emergency operations when required and be prepared to undertake such teaching for the Post-Graduate College as may be desired

Candidates are required to be registered under the Medical Act to send applications so as to reach me not later than Tuesday 19th February next, to attend the Medical Council Meeting on Friday 22nd February at 4 30 p m and prior to that date to call upon and send copies of application and testimonials to each member thereof; to abstain from canvassing but nevertheless to send copies of applications and testimonials to each member of the Board of Management, at whose meeting on Tuesday 26th February, at 5 p m, candidates must be in attendance

H A. MADGE Secretary

City of London Hospital for DISEASES OF THE HEART AND LUNGS, Victoria Park, E 2 (bus rail or tram Cambridge Heath N.L.B.R)

The Committee of Management are desirous of appointing a RADIOLOGIST The appointment entails a minimum of two attendances per week and there is an honorarium attached Applications accompanied by copies of testimonials are invited to be sent to the Secretary not later than the first post Monday, 25th February 1924 Further particulars may be obtained from the undersigned

GEORGE WATTS Secretary

St Thomas's Hospital

Vacancy The appointment of a PHYSICIAN in charge of Out-patients Candidates must be registered Medical Practitioners and Fellows or Members of the Royal College of Physicians of London

Applications and testimonials should be sent in on or before February 2 th 1924 addressed to the undersigned G Q HOBLYN Secretary

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

CONTRACT PRACTICE.

Town or District.	Town or District.	Town or District.
ENGLAND.	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH. *(Medical Aid Associations or Workmen's Clubs.)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*	LINCOLN CITY AND COUNTY BOROUGH *(Medical Officer of Health.)*
SOUTH BANK, & ESTON *(Medical Aid Associations or Workmen's Clubs.)*	TONDU and ABERKENFIG, GLAMORGAN *(Workmen's Medical Scheme.)*	LIVERPOOL EDUCATION AUTHORITY *(Assistant School Medical Officer)*
WALES.	**PUBLIC HEALTH.**	NOTTINGHAMSHIRE. *(County Medical Officer of Health)*
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(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE. (Grenada with Carriacou, St. Vincent and St. Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

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NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *Senior Resident Physician.) (Senior Resident Surgeon.)*	Mr A. RADFORD M.C. F.R.C.S., 5 & 6, 4th Floor National Bank Buildings Durban.	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R. MARSHALL ALLAN (Hon. Sec., Queensland Branch), Adelaide Street Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon. Sec., Victorian Branch), Medical Society Hall, H. Melbourne, Victoria.
NEW SOUTH WALES *(All Friendly Society Appointments.)*	Dr R. H. TODD (Hon. Sec., New South Wales Branch), B M A. Building, 30-34, Elizabeth Street, Sydney N.S W			WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, No. 6, Bank of New South Wales Chambers, St. Georges Terrace, Perth.

Address 429 Strand. W C 2.
January 30th, 1924.

By order of the Council of the British Medical Association.
ALFRED COX, Medical Secretary

Mildmay Mission Hospital,
Austin Street, Bethnal Green, E.2

Applications are invited for the post of ASSISTANT CASUALTY OFFICER. The present Temporary Assistant Casualty Officer is a Candidate The appointment is part time non resident and for six months. Salary £100.

Candidates must be duly registered under the Medical Acts and the Mildmay Council are anxious that they should be fully in sympathy with the religious work of the Hospital

Applications with copies of recent testimonials should be sent to the Medical Superintendent at once January 28th 1924

Birkenhead & Wirral
CHILDREN'S HOSPITAL,
Woodchurch Road Birkenhead.

There is a vacancy for a HOUSE SURGEON (female) duly qualified and registered, at the above Hospital. Honorarium £100 with board, residence and laundry

Applications stating age with testimonials (copies) to be sent to the Assistant Secretary at the Hospital.

Preston Hall, Aylesford,
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Applicants should forward full particulars and copies of not more than three testimonials to the Secretary Industrial Settlements (Incorporated) 72 Victoria Street S W 1. not later than the 9th February

The Hospice Maternity
HOSPITAL High Street Edinburgh

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Appointment is for six months from April 1st

Applications with copies of testimonials to be sent to the Convener of the Medical Committee, at the Hospice on or before Friday February 15th.

Manchester Hospital for
CONSUMPTION AND DISEASES OF THE THROAT AND CHEST

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Manchester Secretary

Bedford County Hospital

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8 WITHIN FIVE MILES OF THE BANK.—PARTNERSHIP.—A half-share in an old-established middle and working-class Practice Average income of well over £5 000 including small panel of under 1 000 Fees 3/6 and 5/ Midwifery from £3 3s about 80 cases Small house in quiet road Price £400 Premium £3 750 payable by arrangement.

9 LONDON NORTH.—Outlying Suburb Old-established PRACTICE Income about £650 but this year reduced owing to the continued ill health of the Vendor Fees 3/6 and 5/ No Midwifery Cottage Hospital, and good scope for surgery Nice house available Excellent opportunity for a young energetic man with small capital Premium £750

10 WITHIN TEN MILES OF VICTORIA.—Well-established middle-class PRACTICE Income this year at the rate of £1,200 Fees from 3 6 visits from 5 There is no panel but large scope for this work if desired Very attractive house with garden Price £2 000 Premium £1 500

11 WEST END OF LONDON.—High-class general PRACTICE Steady income of well over £2 500 a year Fees from 1 guinea Excellent and very convenient house will be sold or Consulting Rooms would be let. Premium £5,000

12 NORTH LONDON.—Old-established middle and working-class PRACTICE, held by Vendor 4 years Average income for last two years £1 400 including appointments worth about £320 believed to be transferable Small panel of 500 which can be much increased if desired Advice and medicine 2/6 and 3/6 visits and medicine 3/6 to 7/6 About 80 midwiferies a year at 2 to 5 guineas Easily worked with no conveyance Large scope for increase Fourteen roomed house on 67 years' lease ground rent £29 Fair garden and garage for 2 cars sublet at £44 a year Premium for Practice and House £3 250

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Midland Town—Practice about £1,400 a year Panel 1 420 Excellent house to rent. Appointments about £250 No midwifery—Apply, No 7473

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Inland Spa—Good-class PRACTICE of £2 900 No midwifery or surgery Good house can be bought.

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South Devon—Nucleus and RESIDENT PATIENT connexion in beautiful seaside place Large house and garden.

East Coast—Practice of £1,140 in beautiful seaside place. Panel 860 Appointment £40 Rent £60

South Coast—Practice of £1 300 in favourite resort. Panel 2 0 Appointment £40 Rent £60 Seven years lease Premium 1½ years purchase

Lancs—Practice of £2,000 in manufacturing town Panel 1 100 Appointments £120 Rent £60 Premium £2,000 including £400 good book debts.

South Wales—Unopposed Colliery PRACTICE of £3 000 Panel 1 8 0 Appointments £2,000 House with garage No Midwifery

London, S W—Partnership Half-share of £2 400 Middle-class Practice with 800 panel Good house with long lease. Premium £2 000

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NORFOLK.—(4) Old-established Country PRACTICE in beautiful part Receipts £540 Panel 328 Premium £750

INLAND WATERING PLACE —(5) Old-established high class PRACTICE £2 900 per annum Fees 10/6 to £1/1 Excellent house for sale £2,000 Premium for practice £2 900

MIDLANDS —(6) PARTNERSHIP in old-established Practice £3 000 per annum in excellent Country Town Panel about 1 400 One-third or one-fourth share at one and three quarters years purchase

UP-THE-THAMES —(7) PARTNER required in old-estab PRACTICE in good Residential District within 20 miles of London Share worth £1 000 for premium of £1,200 The incoming partner should be under 32 and able to undertake Surgery

SOUTH COAST —(8) Good class general and ophthalmic PRACTICE of £2 000 per annum. Excellent house to rent Premium one years purchase only

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MIDLANDS — (10) PARTNERSHIP in very old-established Practice over £3 000 in Market Town Panel 1 200 Detached corner house (4 bedrooms) Rent £65 Cottage Hospital and scope for surgery Premium one-third or five twelfths share two years purchase

NORTH LONDON —(11) PARTNERSHIP in very old-established good middle-class Practice in Residential Suburban District Receipts average about £5 430 per annum No panel clubs or appointments Suitable house obtainable One-third share at first at one and three quarters years purchase

SOUTH-WEST OF ENGLAND —(12) Very old-established middle and better class PRACTICE over £4 200 in important Seaport Town. No Panel or Appointments Commodious house in excellent position Rent £100 Premium one and a half years purchase.

UP-THE-THAMES —(13) Middle-class PRACTICE worth about £500 in Residential District. Small Panel House with 4 bed rooms for sale Premium for Practice £600

MIDLANDS —(14) Well-established PRACTICE of £1,400 per annum in Manufacturing Town in the Potteries No panel or midwifery Detached house (5 bedrooms) to rent. Premium £1,800

MIDLANDS —(15) Steadily increasing PRACTICE, about £630 per annum in Mining Village Panel 752 Modern and pleasantly situated house (4 bedrooms) Rent £50 Premium £900

LONDON (WEST) —(16) PARTNERSHIP in old-established Practice of £2 750 per annum Panel 2,600 One third share at two years purchase Incoming partner should be Englishman or Scotchman aged about 30.

SOUTH COAST —(17) Residential Town and Health Resort PARTNER required in good-class Practice No panel No dispensing Exceptionally good house (5 bed and 2 dressing rooms) Share worth £1,000 at two years purchase Partner should be University Graduate with leaning towards medicine

SURREY —(18) Small non-dispensing PRACTICE about £2,5 per annum in first class Residential Town Small panel Excellent detached house (6 bedrooms) in one acre of ground to rent on lease Premium (to include lease) £500

MIDLAND TOWN —(19) Old-established PRACTICE about £1,100 per annum in Residential Suburb Panel 700 House contains 9 bedrooms Large garden Price £1 900 Premium for Practice £1 500

NORTH-WEST COAST —(20) Well-established middle-class PRACTICE about £2 400 No appointments. Conveniently situated house to rent Premium £3 000 part by instalments

NORTH OF IRELAND —(21) Old-established middle-class PRACTICE about £2,500 per annum in Seaside Town (Appointments worth about £650 per annum) Good house (6 bedrooms) to rent Premium £2 000

CAPE COLONY —(22) Unopposed PRACTICE of £700 to £800 in attractive district Excellent house (4 bedrooms) Large garden and paddock Work very light Premium £400

EASTERN COUNTIES —(23) Very old-established unopposed country PRACTICE nearly £1 950 per annum near Coast Panel about 800 Exceptionally beautiful old house (5 bedrooms) in acre ground on lease at £20 acres farm land if desired Splendid shooting Premium one and a half years purchase

NORTH WALES —(24) Old-established PRACTICE in small Seaport Town Receipts 1923 £550 Panel 150 No midwifery or night work. Rent of house (7 bedrooms garden half an acre) £50 Prem. £750

MIDLANDS —(25) Old-established unopposed PRACTICE £1,150 in Agricultural and Residential District. (Appointments worth £330 Panel 490) House contains 12 rooms Rent £35 Premium one and a half years purchase

NORTH OF ENGLAND —(26) Old established PRACTICE of £1 400 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds two acres. Premium practice house and grounds, £4 000 Mortgage could be had on house

FAVOURITE HOME COUNTY —(27) PARTNERSHIP in good-class Country Practice about £3 00 per annum in delightful residential district Visits up to £2 2s Excellent modern detached house (7 bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

SOUTH OF ENGLAND —(28) Old established PRACTICE of £1 700 per annum in Residential Town Panel worth £900 per annum. Detached house (4 bedrooms, &c) Rent £50 Prem one and a half yrs. purchase.

BORDERS OF SURREY AND HANTS — (29) JUNIOR PARTNER required in Practice in charming residential country District. Panel 737 Share worth about £600 at two years purchase

EASTERN COUNTIES —(30) PARTNERSHIP in old-established practice £2 213 per annum in first-rate Town Panel about 2 050 House (9 bed and dressing room) standing in own grounds to be sold. Premium one-half share one and three quarters years purchase

SEASIDE TOWN AND HEALTH RESORT —(31) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old established practice Share worth £1 000 p a at two years purchase.

LONDON, N W —(32) Well-established increasing upper middle-class PRACTICE in very desirable Residential District Receipts 1922 £556 (1923 to Oct 31st. £602) No panel Appointments or Midwifery Excel and attractive residence (7 bedrooms) for sale. Great scope. Prem £300.

NEWCASTLE-ON-TYNE. — (33) PARTNERSHIP in practice about £3 000 per annum Panel 3 570 Premium for a one half share one and a half years purchase Ample scope for increase

EAST COAST —(34) Popular Resort Old-established middle and working-class PRACTICE of £1 184 Panel 847, Rent of house (5 bedrooms) £60. Premium £1 00

LANCASHIRE — (35) PARTNERSHIP in very old-established mixed practice £3 020 per annum in Manufacturing Town. Panel about 2 500 Commodious house (6 bedrooms) Rent £62 10s inclusive. Premium for one half share one and a half years purchase or near offer Hospital and chance of getting on staff.

NURSING HOME —(36) Fashionable Health Resort Gross receipts over £2 400 Fees £5 5s to £15 15s Excellently appointed resid with ample accom Prem. for Goodwill furniture and fixtures £2 500

SURREY — (37) PARTNERSHIP in good middle class compact practice over £2 650 in Residential District easy distance of London Panel 1 200 Premium two-fifths share two years purchase Practice investigated by Association's Accountant.

CHESHIRE —(38) PARTNERSHIP in good middle and working-class practice over £3 200 per annum in Manufacturing Town. Panel returns about £1 000 per annum Modern detached house (6 bedrooms) for Sale Premium one half share one and a half years purchase Hospital and plenty of scope for special work

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SOUTH COAST —(41) Popular Health Resort PRACTICE Receipts 1923 £1 310 Small panel Hou e on sea front (3 beds) rent £60 Premium £1 000 (or near offer) Scope for Surgery

SOUTH-EAST COAST —(42) Favourite Health Resort PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1 750 including appointments £170 (about) No panel Premium two-fifths share two years purchase and up to one-half in two years Partner should be 23 to 30 single Preliminary Assistantship

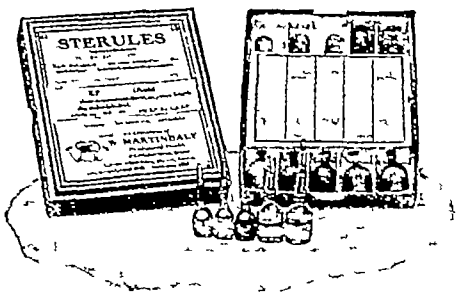
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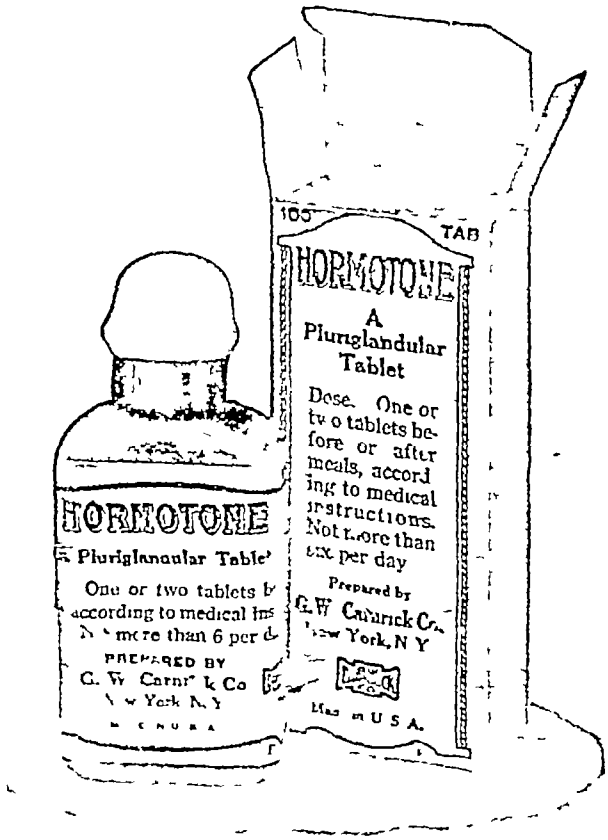
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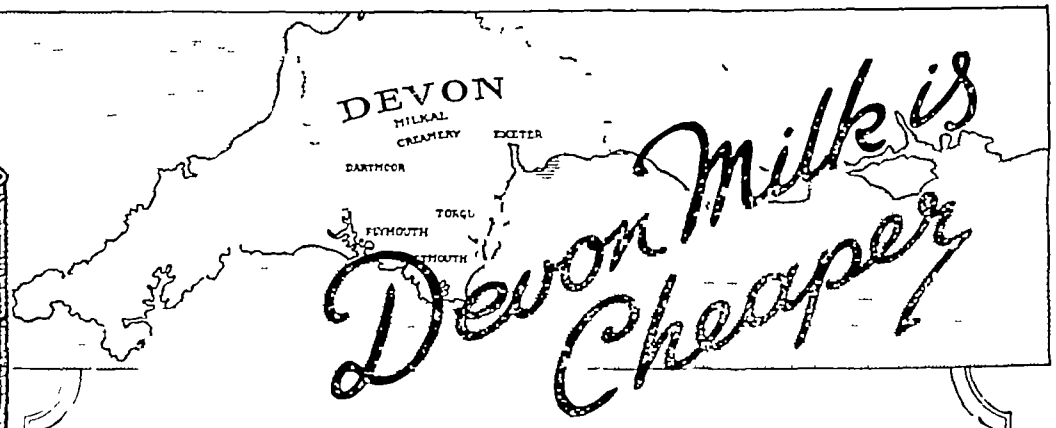
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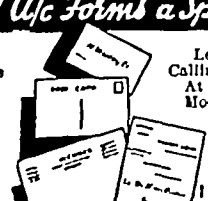
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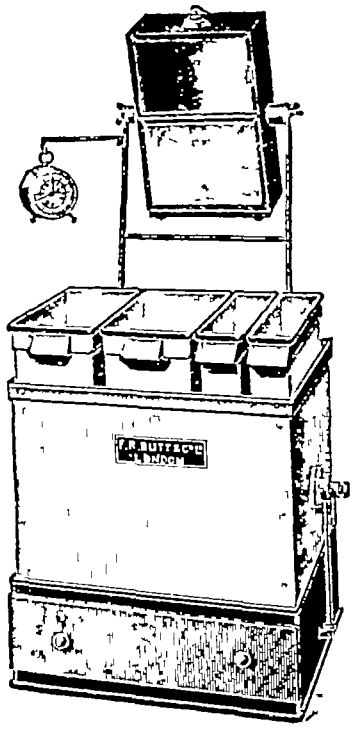
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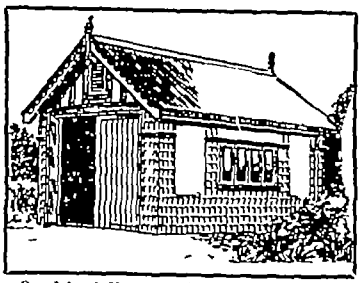
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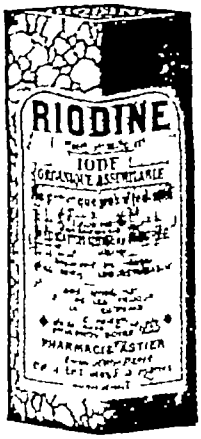
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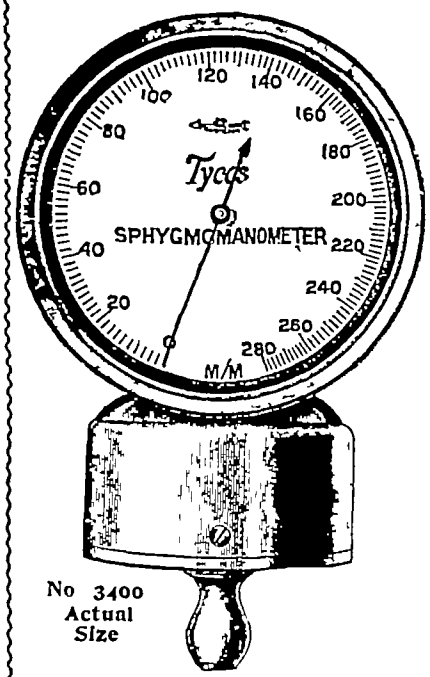


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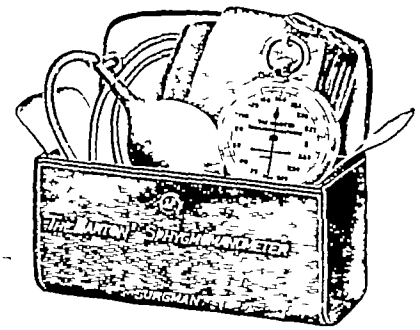
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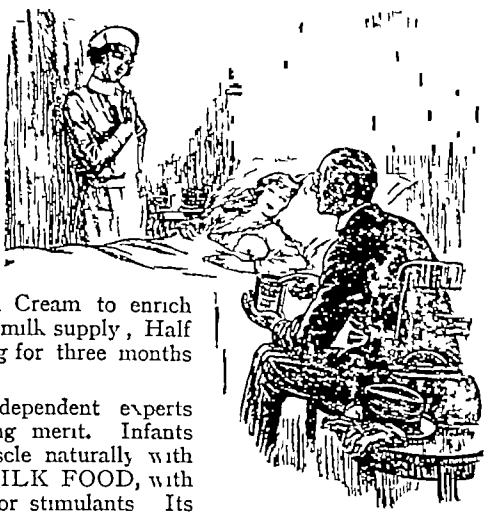
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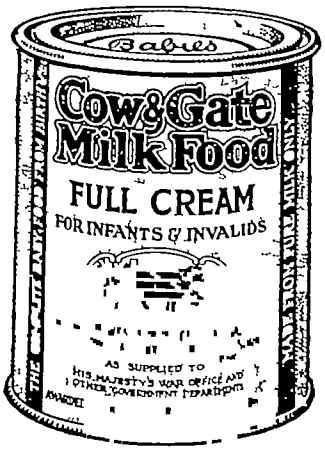
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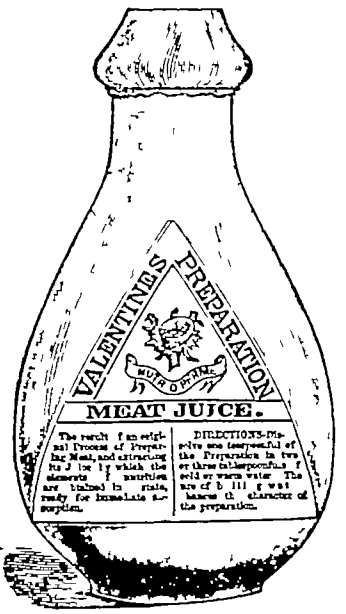
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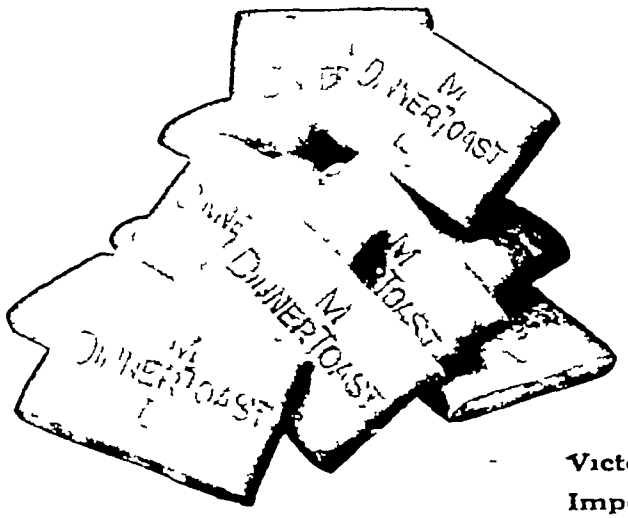
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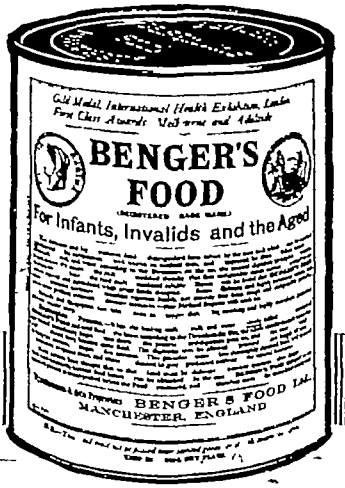
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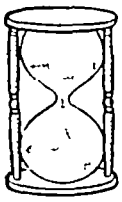
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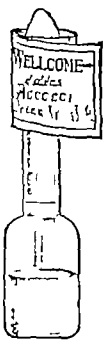
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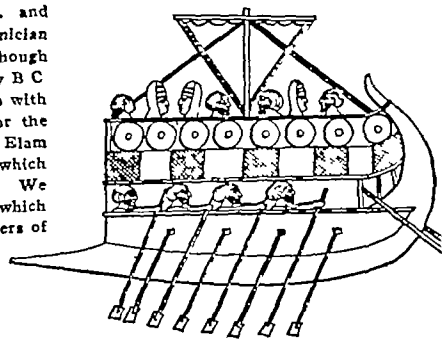
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A PHŒNICIAN GALLEY AS DEPICTED UPON AN ASSYRIAN MONUMENT—We have abundant archæological and literary evidence that the Ægean and Mediterranean seas and ports were alive with the ships of the Phœnicians, carrying their traders, their fishers their miners, their slave-dealers The ships themselves are pictured for us by the Egyptians in one invaluable scene of the fifteenth century B C. and again by the Assyrians in the seventh During this interval Phœnician prosperity had reached its height and Carthage had been founded though the great times in its history did not begin until the sixth century B C The vessel here reproduced from an Assyrian monument—a warship with its formidable ram—was used by the Assyrian king Sennacherib, for the purpose of crossing the Persian Gulf on his way to bring back from Elam the rebels of Lower Chaldea. We are told in the inscription which accompanies the bas-relief that it was manned by Sidonian sailors We have, unfortunately no pictures of the famous 'ships of Tarshish" which made Phœnicia 'glorious in the midst of the seas ' braving the dangers of the voyage to remote Spain. Tyre and Sidon continued to produce worthy descendants of their early pioneer mariners and ship builders—in 539 B C. the finest ships in the navy of the great Persian king Xerxes were those of Sidon, and the next best those of Tyre



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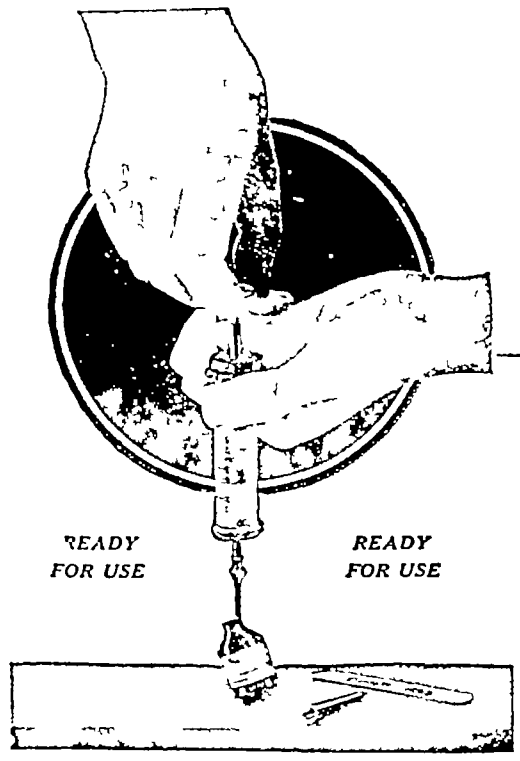
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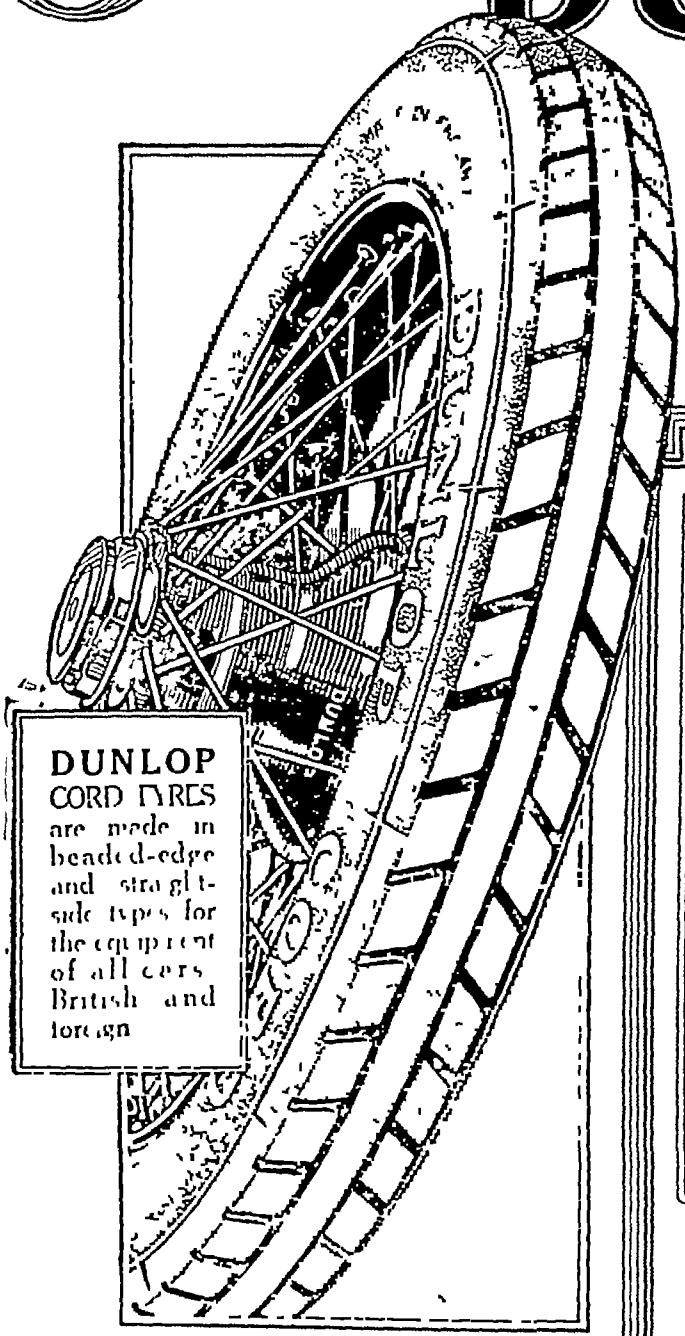
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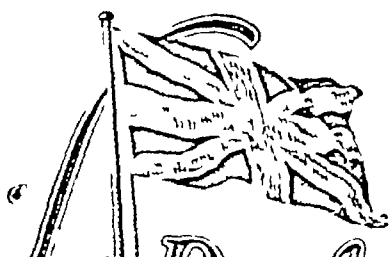
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OCULAR PALSIES.*

BY

ANTHONY FEILING, M D, F R C P,

ASSISTANT PHYSICIAN TO ST GEORGE'S HOSPITAL, PHYSICIAN TO THE HOSPITAL FOR EPILEPSY AND PARALYSIS MAIDA VALE TO THE WESTERN OPHTHALMIC HOSPITAL AND TO THE ROYAL NATIONAL ORTHOPAEDIC HOSPITAL

Ocular palsies constitute a symptom of the greatest interest and importance—of interest because they offer a very wide field for diagnostic skill as well as an opportunity for a study of many different diseases, and of importance because they are not infrequently one of those early signs of disease of the nervous system which call for exact diagnosis and appropriate treatment The eye is indeed an outpost, not only of the nervous system, but often of the cardio-vascular and other systems of the body also

Under the term "ocular palsies" I include any form of paralysis or weakness of any of the ocular muscles, both external and internal It is not my intention to discuss separately the question of diplopia, for this is, of course, a *regular symptom* of a palsy of any of the external ocular muscles, unless such be of very long standing

A real appreciation of this subject must include a brief anatomical and physiological introduction The internal muscles of the eye are three (1) the sphincter pupillae, whose action is to contract the pupil, (2) the dilator pupillae, and (3) the ciliary muscle, whose chief action is to relax the suspensory ligament of the lens and assist in the process of accommodation The sphincter pupillae and the ciliary muscles are supplied by the third cranial or oculomotor nerve, *via the ciliary ganglion and the short* ciliary nerves The dilator pupillae is innervated by the cervical sympathetic, which reaches it by a roundabout route, but eventually also by the ciliary ganglion

The external ocular muscles, seven in number, are the levator palpebrae superioris, the four recti muscles, and the inferior oblique muscles All but two are supplied by the third nerve, the exceptions being the external rectus, supplied by the sixth nerve, and the superior oblique, by the fourth nerve

The third or oculomotor nerves have their cells of origin or nucleus in a longitudinally arranged column of cells lying on each side of the middle line in the grey matter just below the aqueduct of Sylvius in the dorsal or tegmental part of the midbrain This nucleus is placed just below the anterior corpora quadrigemina, and from it the fibres pass directly ventralwards through the substance of the midbrain to emerge on the inner side of the cerebral peduncles, close to the upper border of the pons Two main sets of fibres arise from this centre (1) those innervating the external muscles of the eye, and (2) fibres to the intrinsic muscles of the eye, the sphincter of the pupil and the ciliary muscle This latter is an indirect connexion via the ciliary ganglion, and the whole system of fibres belongs to the so-called autonomic system

Much dispute has raged over the exact arrangement of the cells of origin for the different muscular movements in the oculomotor nucleus, but we can distinguish three principal groups of cells (1) a small celled lateral nucleus, that of Edinger and Westphal, connected with the innervation of the sphincter pupillae, (2) a small-celled mesial nucleus connected with the process of accommodation, and (3) a large-celled lateral nucleus, whose fibres are destined for the supply of the external ocular muscles (Bing[1]) Made up in this way the third nerve passes forwards pierces the dura mater at the side of the posterior clinoid process, runs along the outer wall of the cavernous sinus, and enters the orbit through the sphenoidal fissure

The fourth cranial nerve is of little clinical importance, so that I will not detail its anatomy

Much farther down in the brain stem, in the lower part of the pons, is the nucleus of the sixth or abducens nerve It is placed just below the grey matter in the floor of the fourth ventricle, and is in close relations to the emerging fibres of the seventh nerve Leaving the lower border of the pons it passes forwards along the base of the skull, occupies the inner wall of the cavernous sinus, and enters the orbit through the sphenoidal fissure Its long intracranial course renders it of special clinical importance

For the proper and co-ordinated movements of the eyes it is necessary that all these nuclei be in intimate relations with one another. This is brought about largely by the posterior or dorsal longitudinal bundle, and so important is this tract for the purpose that a lesion of it may produce diplopia or even actual ocular palsy, for which the special name of "internuclear" paralysis has been suggested On this bundle depends the well known associated action of the sixth nerve of one side and the third nerve of the other, bringing about the conjugate lateral movements of the eyes It is usually held that the sixth nerve nucleus or some centre in its close proximity is the lower or subcortical centre for this movement

The other movements of the eyeballs are seldom the result of the simple action of one muscle alone, with the exception of the levator palpebrae superioris, which elevates the upper lid Thus the superior rectus and the inferior oblique are associated in the elevation of the eyeball, and the inferior rectus and the superior oblique with the movement of depression

Nearly all the movements of the eyes, therefore, are associated movements, and there are other important association centres besides that in the sixth nerve nucleus There is a very important supranuclear centre in the cerebral hemispheres which is not infrequently of clinical importance Experimental evidence has shown that in all animals with binocular vision there is a cortical centre in the second frontal convolution, stimulation of which causes conjugate movement of the eyes to the opposite side There is, further, clinical evidence that such a centre exists in man, governing the conjugate lateral movements of the eyes We have no evidence at present that conjugate vertical movements of the eyes have any representation in the cerebral cortex, though we may surmise that such exist "Undoubtedly, from clinical and post mortem studies, we are justified in saying that in the upper end of the midbrain in the neighbourhood of the anterior corpora quadrigemina are association centres which control the conjugate vertical movements of the eyes" (Holmes)

It is well also to bear in mind, especially when the symptom of diplopia is in question, how close and how intricate are the connexions between the innervation of the eye muscles on the one hand, and the auditory and vestibular and cerebellar mechanism on the other Finally as Sherrington[2] has pointed out, the existence of afferent fibres in the oculomotor nerves must be remembered, the integrity of which is probably essential for the proper functioning of the ocular movements, and the correlated postures and movements of the head and trunk

One other point of both physiological and pathological interest may be mentioned—that is the pathway of the pupillary light reflex This reflex arc is composed of four sets of fibres, from the retina to the superior corpus quadrigeminum, thence through the Edinger Westphal nucleus to the ciliary ganglion, and from that to the sphincter pupillae The connexion between the superior corpus quadrigeminum and the Edinger Westphal nucleus is both homolateral and crossed hence the possibility of the consensual light reflex It is fair to add that authorities differ as to the exact details of this reflex path I have here followed Bing[1]

We are now in a position to consider the various sites where a lesion may interrupt the neuromuscular chain and bring about an ocular palsy Following Paton[4] we may classify these as follows

1 Paralysis of central or cerebral origin
   (*a*) Supranuclear lesions—for example paralysis of conjugate movements from a lesion of the second frontal convolution
   (*b*) Internuclear lesions—for example, of the posterior longitudinal bundle
   (*c*) Nuclear lesions—for example degenerative lesions of the nuclei in tabes dorsalis
2 Paralysis of extracerebral origin—that is of nerve trunks
   (*a*) Intracranial—for example, from a basilar meningitis
   (*b*) Intraorbital—for example new growths
3 Paralysis of muscular origin—for example myasthenia gravis

* Abridged from a paper read before the Southampton Medical Society on November 7th 1923.

To turn now to the pathological aspect of the question What are the diseases which may cause an ocular palsy in the various parts of the neuromuscular chain? Here again I borrow Paton's[1] classification, which is a very useful one on clinical grounds

1 Acute and subacute ophthalmoplegias
   (*a*) Poisons alcohol, lead, botulism
   (*b*) Infective agents diphtheria, influenza, encephalitis lethargica, syphilis, tubercle To this I would add infections of the accessory nasal sinuses
   (*c*) Trauma
   (*d*) No known etiological factor
2 Chronic ophthalmoplegias
   (*a*) As an isolated lesion
   (*b*) In tabes and general paralysis of the insane
   (*c*) Disseminated sclerosis, syringomyelia, and paralysis agitans
   (*d*) Bulbar palsies, progressive muscular atrophy, myasthenia gravis
   (*e*) Graves's disease
   (*f*) Diabetes
3 Congenital ophthalmoplegias of nuclear origin
4 Unilateral ophthalmoplegia
5 Recurrent and alternating ophthalmoplegia of nuclear origin

I have collected the notes of the last 45 cases of ocular palsies which I have had under my own observation, and propose to discuss these briefly, and chiefly from the etiological point of view This series of cases does not include examples of affections of the internal eye muscles only All the cases included showed some external ocular palsy, though naturally many were also associated with some disturbance of the internal musculature as well Classifying these cases from the etiological point of view I find that they fall into the following groups

1 Syphilis (including tabes, no case of general paralysis of the insane has occurred), 15 cases, or 33 3 per cent
2 Cerebral tumours, 5 cases
3 Encephalitis lethargica, 6 cases
4 Sinus infections, 5 cases
5 Ear disease, 2 cases
6 Trauma, 1 case
7 Vascular lesions, 3 cases
8 Disseminated sclerosis, 2 cases
9 Migraine, 1 case
10 Post diphtheritic neuritis, 1 case
11 Congenital ophthalmoplegia, 1 case
12 Of doubtful etiology, 3 cases

Syphilis in some shape or form is generally held to be responsible for about 40 per cent of all cases, and it is certainly a very important etiological factor when we remember the variety of ways in which it may produce an ocular palsy Thus gummata may occur in the orbit, or at the base of the brain, or even in the cerebral substance itself Meningitis, whether of the convexity or of the base, is common enough, syphilitic disease of the blood vessels with subsequent thrombosis may cause cerebral softening and finally, degenerative lesions of the nerves and nuclei are frequently found in tabes and general paralysis of the insane

Of my own cases, 9 could probably be classified as meningo-vascular syphilis, while the remaining 6 were probably due to tabetic degeneration and were associated with definite evidence of tabes—such as pains, loss of the knee jerks and alterations in sensation One of these was an example of juvenile tabes in a girl of 14, who, besides dilated and fixed pupils, showed a ptosis on one side Out of the 15 cases only 3 showed normal pupils with normal pupillary reflexes a point emphasizing the diagnostic value of changes in the pupils in syphilis of the nervous system Typical Argyll Robertson pupils were only found in 4 cases But inequality of the pupils irregularity of the pupils and complete loss of pupillary reactions to light and accommodation were frequently encountered I shall refer later to the diagnostic value of the Argyll Robertson pupil and its interpretation The so-called tabetic myosis, or very small contracted pupil did not occur in this series of 15 cases of ocular palsies 6 cases showed a paralysis of the sixth nerve, whether alone or in combination with some affection of the third nerve, 11 cases showed paralysis of one or more muscles supplied by the third nerve, excluding the sphincter of the pupil As far as prognosis is concerned, it may be said that the tabetic cases showed little or no tendency to improve with treatment, whilst the meningo-vascular cases did

Of the cases of cerebral tumour, 5 in all, 3 are of special interest, for in all of these eye symptoms were the first to draw attention to what eventually proved a fatal disease A girl of 8 came under observation for diplopia of a week's duration A failure of the power of convergence with weakness of both external recti muscles and nystagmus were the first signs in the eyes Weakness of the conjugate movements of elevation and depression of both eyes appeared later, with sluggish pupil reactions Still later double optic neuritis, a right hemiplegia with gross ataxia, and complete paralysis of the upward and downward movements of both eyes followed A diagnosis of tumour of the midbrain was indicated, but the patient took her discharge from hospital and no autopsy was obtained

A youth, aged 19, had suffered from diplopia for six months before coming under observation He then showed nystagmus, a paralysis of the left sixth nerve, and a paralysis of the right third nerve Later there appeared signs pointing, like the first case, to a tumour of the midbrain, with nearly complete ophthalmoplegia He died within six months

A third and not dissimilar case was of special interest as at an early stage the phenomenon of double Argyll Robertson pupils was found This was a boy, aged 8, who was seen in consultation because "he had headache and his eyes had looked funny for fourteen days" He showed slightly unequal and somewhat dilated pupils, which gave the Argyll Robertson reaction, a paralysis of the upward movements of both eyeballs, a slight weakness of the left external rectus, and commencing optic neuritis The further course of the case gave little room for doubt that he had a tumour of the midbrain, as he developed quite distinct hydrocephalus, with nearly complete double ophthalmoplegia, gross optic neuritis, followed by atrophy and a hemiplegia with a double extensor plantar response

The other two cases were as follows One was a girl, aged 10, who had a glioma of the left lateral lobe of the cerebellum, verified by operation She showed a paralysis of the left external rectus The other was an elderly woman suffering from a large carcinoma of the breast, in whom double optic neuritis with a paralysis of the right external rectus appeared This last sign was probably an example of the so-called "false localizing signs of intracranial tumour," for later a complete right hemiplegia appeared, and it seemed certain that the lesion lay in the left cerebral hemisphere A left subtemporal decompression was performed, with temporary relief Later a paralysis of the conjugate movement of both eyes to the right appeared This was considered to be due to the lesion involving the left second frontal gyrus *Post-mortem* examination showed that this was the case, but that the damage to the cortex had followed the operation No lesion was found in the pons The early paresis of the right sixth nerve remained unexplained, unless it was due to the general increase in intracranial tension In any event, the case is of value as showing the little localizing value to be attached to a weakness of one sixth nerve

The cases of ocular palsies due to infection of the accessory nasal sinuses form a particularly interesting group They are of importance, too, because their occurrence seems not generally recognized

Case 1.—A man of 56 had suffered from diplopia for two months On examination paresis of the left external rectus was found Two months later there was slight proptosis of the left eye with some oedema of the upper lid and a clear nasal discharge Transillumination showed the left antrum to be slightly opaque Operation was refused

Case 2.—A man of 65 had diplopia of ten days' duration, pain behind the left eye, and a paresis of the left external rectus There had been occasional discharge of clots of blood and matter from the nose Resection of part of the nasal septum and operation on the ethmoidal sinus completely cured the ocular palsy

Case 3.—A man of 42 had pains in the eyes and headaches for three months with occasional nasal discharge There was ptosis in the right eye Extensive ethmoidal and sphenoidal sinus disease was found, treatment of which resulted in cure of the ocular palsy

Case 4.—A girl of 14, with left ptosis of eight weeks' duration Occasional discharge of "thick stuff" from the nose After operation on the nasal septum and adequate nasal treatment, the ptosis gradually disappeared

Case 5—A man aged 40 The left eye had been inflamed at times for the last three years, for one year there had been discharge of blood-stained material from the left nostril for six weeks pain in the left side of the neck There was an incomplete palsy of the left third nerve, with ptosis and intense photophobia Proptosis of the eye followed After operation on the sphenoidal cells great improvement followed

In the investigation and treatment of this group of cases I had the great advantage of the collaboration of my late and much lamented colleague, George Nixon Biggs, who operated on all of them He also cured for me the two cases of ocular palsy associated with disease of the middle ear In each of these the external rectus only was affected Both were completely cured by a radical mastoid operation

The cases of ocular palsies following encephalitis lethargica are an interesting group Of all focal symptoms referable to the central nervous system in this disease, I suppose that affections of the ocular muscles are perhaps the most common, certainly during the acute stage of the disease They are, however, much less common as a final result or sequela The common sequela in this respect is some lesion of the internal muscles of the eye, inequality of the pupils often, and especially common is a loss or a defect in the power of accommodation or convergence of the eyes, or both All the cases here quoted, however, were with one exception seen within at least one month of the supposed onset of the disease

Case 6—Examined fourteen days after the onset of symptoms showed a paralysis of the left external rectus with inequality of the pupils Re-examination at the end of eight months revealed no abnormality

Case 7—Seen twelve days after the onset showed double ptosis

Case 8—Seen fourteen days after the onset, showed unequal pupils with slight left ptosis and nystagmus In this case the slight ptosis and the pupil inequality persisted for nine months after which time the patient was lost sight of

Case 9—Was not seen until five months after the original illness the diagnosis of which therefore had to be made in retrospect There was present paralysis of the left external rectus slight paresis and slight atrophy of the left side of the tongue and a paresis of the left side of the palate One year later the paralysis of the left external rectus had completely disappeared but the weakness and wasting of the left side of the tongue persisted

Case 10—Was seen eighteen days after the onset there was partial double ptosis with involuntary movements Later a divergent squint in the left eye appeared

The next case was remarkable in every way, and but for the very clear history of the original illness would almost certainly have been diagnosed as myasthenia gravis, for varying ocular palsies appeared and disappeared in a striking manner over a period of at least two years

Case 11—A woman aged 29 was seen on October 7th 1920 She gave a history of the acute onset of diplopia with fever and severe headache one month before Careful examination excluded any general nervous disease and syphilis On the first examination there was found a divergent squint in both eyes with a paresis of both internal recti In November this persisted but a right ptosis had appeared In December of the same year (1920) this ptosis was extreme but fourteen days later the ptosis had disappeared and defective downward movements of the right eye had appeared In January 1921, ptosis of the left eye was found there was still a paresis of both internal recti and in addition a defect in the up and down movements of the left eye In March 1921 there was no ptosis in either eye but a marked weakness of the left internal rectus In May 1921 right ptosis again appeared In June the right ptosis was replaced by a left ptosis In July the left ptosis was still present combined with a paresis of both internal recti By August 1921 the left ptosis had gone In September of the same year no ptosis was found but an alternating divergent squint in each eye, with marked weakness of the left internal rectus and defects in the vertical movements of each eye A failure of convergence was also present In January 1922 no defect was found except a divergent squint but in November 1922 the ptosis had appeared again on the right side A slight divergent squint in the right eye and a failure of convergence was also found

This case is also especially interesting as illustrating the fact that the virus of this disease probably persists in some cases for a very long time, and is still capable of producing new effects after the acute phase of the disease is long past

The only case in the present series due to trauma was that of a man who was knocked down by a motor car, and who was unconscious for three days Persistent diplopia with paralysis of the left external rectus ensued, presumably caused by a fracture of the base of the skull

The three cases diagnosed as due to vascular lesions all occurred in patients the subjects of high arterial tension, in whom syphilis was excluded Curiously enough, they were all women

One was a woman of 68 in whom a sudden onset of diplopia with intense giddiness occurred She showed a paralysis of the right internal rectus muscle and probably of the right inferior oblique also A further point of great interest was the presence of an Argyll Robertson pupil in each eye She was the subject of advanced arterio-sclerosis with a blood pressure of 210 mm mercury systolic and 110 diastolic The Wassermann reaction was negative in the blood and the cerebro-spinal fluid was quite normal No further symptoms developed and the ocular palsies gradually improved including the Argyll Robertson reactions which gradually disappeared leaving however, pupils with a distinctly sluggish reaction to light

The second case was a woman of 53 with a paralysis of the right external rectus of quite sudden onset associated with headache The blood pressure was 185 systolic and 120 diastolic Slow but almost complete recovery took place

The third case was a woman of 54 with a partial paralysis of the left third nerve, again of sudden onset The blood pressure was 170 systolic and 110 diastolic

Only two cases of undoubted disseminated sclerosis occurred in this series One was a woman of 25, who suffered at intervals from diplopia and giddiness She showed nystagmus and a weakness of the left external rectus The other was a woman of 34, who in 1914 had a paralysis of the left external rectus which recovered spontaneously In 1922 this reappeared and was associated with a weakness of the upward movements of both eyes, as well as other definite signs of the disease

The single case of migraine here included was a youth of 19, who for many years had suffered from typical attacks of severe headache, nearly always on the left side of the head For three weeks before coming under observation he had had diplopia On examination a paresis of the left internal rectus was found

One example of persistent post-diphtherial ocular palsy has occurred, although the evidence as to the etiology is incomplete bacteriological proof being lacking A man was examined on account of a right ptosis and unequal pupils The only cause found was a very definite sore throat some weeks before, when the throat had been bad for two weeks and had been "covered with a whitish film" Tests for syphilis were all negative

The three cases labelled as of doubtful etiology were all of considerable interest

One was a man of 52 with persistent diplopia and probably a paresis of the left inferior oblique muscle Repeated examination has failed to disclose a cause

The second case was that of a man with slight ptosis and double Argyll Robertson pupils He stated that the eyes had become affected during an attack of typhoid fever a year before No evidence of any active disease has been found and I certainly think that his own account of the etiology of the condition must be accepted

The third case was that of a woman with a recurrent palsy of the left external rectus in whom all the available means of exact diagnosis have been exhausted

The case of congenital ophthalmoplegia was that of a child aged 1 year and 8 months at date of examination in whom a defect in the movements of the eyes had been noticed at the age of 3 months There was a complete loss of the movements of the eyeballs outwards, with presumably complete loss of action of external rectus

I except in so far as other paralytic symptoms have been noted as occurring in certain of the cases of cerebral tumour quoted, I have not specifically described any of those forms of ocular palsies associated with different varieties of hemiplegia These conditions form a very definite and interesting albeit a rare group of syndromes, which generally go by the name of the writer who first described them They are commonly due to vascular lesions, haemorrhage or softening, affecting the crura, midbrain, or pons Four in particular may be mentioned, as they are usually recognized as constituting definite syndromes They are

1 *Weber's syndrome* A paralysis of one third nerve with hemiplegia of the opposite side The lesion is in the posterior or caudal end of the crus cerebri

2 *Benedikt's syndrome* Paralysis of one third nerve with tremor of the opposite limbs The lesion lies in the more dorsal part of the midbrain, involving the red nucleus or its connexions

3 *Foville's syndrome* The sixth nerve nucleus is affected with paralysis of the external rectus, loss of the conjugate

deviation of the eyes to the side of the lesion, paralysis of the seventh nerve on the same side, and a hemiplegia of the opposite limbs The lesion is in the pons

4 The *Millard Gubler syndrome* is the same, but without the paralysis of the conjugate deviation of the eyes The lesion is lower down in the pons, the nucleus of the sixth nerve escaping damage

Frequent reference has been made in the course of my remarks to the Argyll Robertson pupil Although I have been dealing more especially with affections of the external ocular muscles I feel obliged to make more than a passing reference to this symptom, whose importance certainly deserves a paper to itself The Argyll Robertson pupil consists in an absence or a gross diminution of the reaction of the pupil to light, with the preservation of the reaction on convergence-accommodation It was originally described in association with cases of tabes, and it is in this disease that it is still best recognized and most widely known The characteristic pupillary reactions were described by Arygll Robertson in cases of spinal disease with myosis or contracted pupils It is, however, now a matter of common agreement *not* to restrict the term to cases with contracted pupils There has been a tendency at times to regard this reaction as specific evidence of syphilis of the nervous system This view cannot now be upheld, although it may be granted at once that syphilis is by far the most common cause Those who are interested in the subject will do well to consult Wilson's[5] paper in the *Journal of Neurology and Psychopathology*, where an admirable review of the whole question is set out This author mentions the following different conditions where the Argyll Robertson pupil has been recorded

1 Epidemic encephalitis
2 Disseminated sclerosis
3 Cerebral tumours in the vicinity of the third ventricle, aqueduct, or anterior corpora quadrigemina
4 Syringomyelia or syringobulbia
5 Chronic alcoholism
6 Traumatic cases

In cases from my own personal experience, which I have already quoted, there have been three examples of the Argyll Robertson pupil, in all of whom syphilis was excluded These were as follows (1) a tumour of the midbrain, (2) a vascular lesion, and (3) a case in which the condition appeared to have originated during an attack of typhoid fever Wilson and de Rudolf[6] have lately published a case of a mesencephalic tumour with Argyll Robertson pupils, and Nattrass[7] one of bullet wound of the midbrain De Monchy[8] also records a highly interesting case of tumour of the pineal gland with ocular disturbances, including Argyll Robertson pupils

Some general remarks on the diagnosis of the site of the lesion may be attempted Ocular palsies due to lesions in the orbit do not come under the notice of the physician or neurologist so much as those due to lesions in the skull But some characteristics of orbital lesions may be mentioned (1) They are apt to be unilateral (2) A single muscle may be affected (3) The internal muscles are not as a rule affected so much as the external (4) Proptosis is common (5) A complete paralysis of all three ocular nerves is perhaps in favour of an orbital lesion

Palsies due to lesions at the base of the brain tend to show the following characters

1 Other cranial nerves are often affected
2 A paralysis affecting all branches of the third nerve, and especially if bilateral, is usually due to a basal lesion
3 In cases of trauma other signs, such as bleeding at the nose or escape of cerebro spinal fluid, will of course speak for a basal lesion
4 Signs of meningitis such as severe headache with head retraction and fever, naturally will suggest a lesion at the base of the brain

Pontine lesions are suggested by a paralysis of the conjugate lateral movements of the eye, especially if associated with a paralysis of the fifth and seventh nerves as well and with a crossed hemiplegia

Palsies due to lesions in the midbrain—that is, affecting the oculomotor nuclei in the region of the anterior corpora quadrigemina—may be distinguished by some of the following characters (1) Other signs and symptoms of intracranial tumour, especially optic neuritis (2) Various affections of the movements of the eyes governed by the third nerves In the earlier stages these affections tend not to be complete, but to pick out some of the movements, while others are spared Thus, ptosis may be present alone, or a defect in the upward movements only Holmes,[2] speaking of the existence of supranuclear centres for the vertical movements of the eyes, mentions "the frequency of disturbance of conjugate vertical movements of the eyes by tumours growing from the pineal body or from the splenium of the corpus callosum, which readily compress the anterior colliculi, and by the observation during the war of three cases of injury of the tectum alone by small penetrating missiles in which the vertical movements of the eyes were affected"

In conclusion I must record my best thanks to my colleagues on the staff of the Western Ophthalmic Hospital for their kindness in giving me the opportunity of seeing many of them cases, a number of which are included in the personal series which I have quoted

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Three Lectures ON CONTRACTED PELVIS.

DELIVERED IN THE UNIVERSITY OF LONDON, FOR ADVANCED STUDENTS,

BY

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II

DIAGNOSIS AND CLINICAL EXAMINATION IN CONTRACTED PELVIS

Diagnosis

THE diagnosis of contracted pelvis is easy and can be made at any time before or during pregnancy or in labour In the nulliparous woman it is made from physical characters and facts, in the parous it is often suggested by the history of previous labours

Ante-natal clinics establish the fact of contraction, and by so doing serve a useful purpose by preventing a number of cases from entering or continuing in useless labour before the condition is recognized, but owing to the absence of any method of accurately classifying such cases it is impossible to define the treatment in more than a very few

Contracted pelvis should always be suspected in women of small stature, quite irrespective of any maldevelopment The majority are under 5 ft in height, this or the previous history, in women free from maldevelopment, is all that is likely to suggest contraction before the thirty-sixth week, the actual contraction will be established by measurements

External Measurements—There are three principal measurements to be taken The external conjugate, which is normally 20 cm , and I think it may be accepted that reduction below 19 cm is chiefly at the expense of the cavity, while when the external conjugate is reduced to 18 cm the true conjugate is below the average biparietal diameter There are two transverse measurements—the interspinous and the intercristal, of these the intercristal is the truer indicator of the transverse diameter of the brim, it is normally 29 cm , and reduction to 27 cm means diminution of the cavity The interspinous is normally 3 cm less than the intercristal, but as it is subject to outward splaying in cases of rachitic origin, it is often misleading as to the internal dimensions From these measurements some idea of the type and degree of contraction is obtained, but little else

Internal Pelvimetry—The internal measurements of the pelvis can be taken with special pelvimeters—the best

is Skutsch's the flexible arm is best made of copper, which is easy to bend and remains in place When the promontory is difficult to reach there is some difficulty in taking this measurement, but with a conjugate under 9 cm it can be obtained with fair accuracy There is never any difficulty with the transverse, and this, in my opinion, is the most important, as the relation of the head to this diameter is always somewhat indefinite

Radiography —The estimation of the diameters of the pelvis by radiography has been suggested, and excellent results have been obtained in the non-pregnant state, but for the management of cases it seems to me impracticable The foetal head and state of pregnancy will obscure the pelvis, and, besides, the cases actually in labour when first seen cannot be carried round for radiography the facts require to be ascertained without delay, and it is essential that an expert should elicit the facts from the photograph I doubt if many radiographers will approve of being called upon at night, or even in the day, and asked for a complete report within a few hours

Influence of Contracted Pelvis during Pregnancy

In the majority of cases contracted pelvis has no influence upon the characters of pregnancy until the thirty-sixth week Up to that time the uterine ovoid has sufficient space in the upper abdomen, but when the fundus has reached its maximum height in the abdomen the pressure from above drives the foetus down and the lower pole looks for space in the lower uterine segment inside the brim of the pelvis The reduced bony space is unable to accommodate the foetal head with the uterine tissues around it and consequently the foetus is kept at a higher level than normal This gives rise to the most salient feature of contraction—a head high and free above the pelvic brim at a time when in most primiparae and many multiparae the head is already engaged in the brim Subsequent to this, with the increase of the long axis, the uterus attempts to rise higher than normal, the lower pole cannot descend, and so the fundus gets thrown forward more than normal It is only in very marked degrees of contraction that actual pendulous belly develops in primiparae, but in multiparae who have previously gone to term the anterior abdominal wall may be overstretched The incidence of breech presentations is somewhat increased by contracted pelvis, but this is due to its occurrence in multiparae with relaxed abdominal walls, which deprives the uterus of support and allows the cavity to distort before the foetus has taken up its final polar position In the same way the deflexion of the uterine axis promotes abnormal head presentations and oblique presentations in multiparae In primiparae, when the degree of contraction is very marked, and particularly when associated with much shortening of the abdominal cavity, the uterine axis is deflected and oblique presentations are likely to develop after the thirty sixth week, but are very rare before that time

The average foetus at the thirty-sixth week weighs about 5 lb and the biparietal diameter is 3 to 3¼ in , this is quite compatible with a pelvic brim of 8 to 9 cm , but when about 2 cm of the available space are taken up by soft tissues the head cannot enter

The best time to examine a case is at the end of the thirty-sixth week, the above effects are beginning to show in the marked degrees of contraction or when the foetus is definitely above the average size The external measurements of the pelvis require to be known so as to consider the type of contraction with other facts The shape of the abdomen should be noted, in the majority of cases it is quite normal The head will be found high and mobile above the brim of the pelvis, it should be pushed downwards and backwards into the brim, it will nearly always pass behind the top edge of the pubis When the head appears to bulge the lower part of the abdomen forwards above the pubis, or when pushed down impinges against the top edge of the pubis, the beginning of disproportion between the head and the true conjugate is suggested The dimensions of the transverse diameter of the pelvis must then be taken into consideration If the intercristal diameter is large, as in simple flat pelvis, a considerable amount of forward overriding is permissible but transverse contraction reduces the margin of safety Those cases in which disproportion is evident require a more complete examination under an anaesthetic, this will only be indicated in 10 to 15 per cent of cases The other cases may safely carry on for another two weeks and should then be palpated again At this time another 10 to 15 per cent of cases will indicate the need of examination under anaesthesia, while the remaining 70 per cent of all cases will still show good proportions and may safely continue to term These cases should be told to come into hospital on a certain date calculated as term, if labour has not occurred, as a few may tend to prolongation of pregnancy, and this should be avoided unless the proportions are still perfectly satisfactory

Now this has only entailed the external measurement during pregnancy of cases suspected of having contracted pelvis, and one or two palpations of the abdomen, but from this it is possible to select the cases likely to develop difficulty, and these require fuller examination

Examination under Anaesthesia

Under anaesthesia it is possible to make a more accurate estimate of how the head enters the brim If there is a breech presentation it can be changed to a cephalic by external version, and this will always be advisable where there is doubt about proportions It is also possible to take the internal measurements of the pelvis and to palpate the brim and promontory This is called for at any time from the thirty-sixth week to term, or even in labour if the proportions, as estimated by palpation through the abdomen, indicate that the head is becoming too large for the conjugata vera

The patient is placed in the dorsal cross bed position or in a gynaecological chair Complete relaxation is required Two fingers are passed into the vagina, and the promontory located, if this can be done at all easily the conjugate is certainly down to 9 cm The second piece of the sacrum is easily reached, but in a primipara the actual promontory is difficult or impossible, the promontory is only positively reached when the vertebral column is definitely recognized to be receding from the finger tip In parous women it is often better to use the half-hand The diagonal conjugate is estimated by measuring from the promontory to the lower edge of the pubis as estimated on the fingers My own experience of this measurement is that it is extremely difficult to obtain, and requires considerable skill to be certainly obtained The majority of junior interns fail to reach the promontory at all When the measurement is obtained the necessary corrections to find the true conjugate are so speculative as to render the result useless Therefore the main observation to be made is whether the promontory can be reached or not

Next the lateral edges of the brim should be palpated and ease or difficulty noted If the brim is felt with any ease behind the level of the ischial spines there is a considerable reduction in the transverse diameter of the pelvis

The foetal head is next felt, it is high away from the brim, but can be made out, usually lying symmetrically over the brim The left hand then defines the head through the abdominal wall and pushes it down in the axis of the brim When this has been done it is often well to get someone else to steady the head and apply a little pressure but the direction must be controlled by the examiner The fingers in the vagina are then slipped up to the top of the pubis or as high as they can go till they reach the head If the head fits behind the pubis the fact will be recognized by the want of space, while when the head impinges on the top edge of the pubis the fingers can pass up high and the angle between the head and the pubic bone is fairly wide The fingers are then swept round the head where it comes in contact with the pelvic brim, and the amount of space at the sides is estimated Unless the lateral contraction is marked there will appear to be considerable room towards the lateral walls

The external measurements of the pelvis will have supplied data as to the transverse diameter and as this diameter is practically never the obstructing one it is chiefly the antero-posterior relations that require to be tested

When the head impinges against the top of the pubis the

two vaginal fingers are pushed up into the angle between the pubis and the head and the thumb is placed over the front of the pubis to feel the top edge, if the head does not impinge against the thumb it will easily pass the brim without alteration of its diameters If the head impinges against the thumb, the biparietal diameter has reached the limit that will pass in the conjugate, and the dimensions of the transverse diameter must be taken into count, as a normal transverse will allow the head to move laterally and bring the smaller bitemporal diameter into the conjugate This estimation gives a very excellent basis for treatment, there is always the space occupied by the soft tissues around the head which cannot be displaced, on the side of safety

Conclusions to be Drawn

When the head enters the brim the case may safely continue for another ten or fourteen days irrespective of the type of pelvis

When the head impinges against the pubis but not against the thumb it will pass easily although big enough for the conjugate, but may be allowed to continue for ten to fourteen days if the transverse is large

When the head impinges against the thumb it will only come through easily if the transverse is large so that the bitemporal can take the place of the biparietal With this condition induction of labour, if adopted as treatment, must be done at once in any type of pelvis, and in all except the simple flat type there is the possibility of difficulty arising, if this is not to be faced it will be best to let the case carry on to term for section, or if already at or near term to fall into labour and be given a trial

The essence of examination is to establish the relative size of a particular foetal head with the individual pelvis through which it has to pass

The investigation I have described applies particularly to cases in the last few weeks of pregnancy But even when labour has started and the size of the head and pelvis have to be taken as they are, a full examination under anaesthesia should be made in practically all cases before deciding that pelvic delivery is not possible

Influence of Contracted Pelvis in Labour

The entire question in treatment of contracted pelvis is to decide which cases are capable of safe delivery through the pelvis, this can only be decided, in the majority of doubtful cases, by an actual trial of labour, and for that purpose it is essential to understand the effects produced by contracted pelvis in the process of labour at all its stages, and upon the foetal and maternal parts

First Stage of Labour

I have pointed out that malpresentation is not greatly increased by contraction, so that when labour starts the head nearly always presents as a vertex, it is high above the brim, but the lower uterine segment applies itself to the head in quite the normal manner The dilatation of the cervix proceeds in proportion to the pains and the bag of membranes acts upon the internal os The membranes are protected from abnormal tension by the lower segment of the uterus applying itself to the head The internal os dilates and then the cervical canal begins to be taken up but the head comes down very slightly as it is still unable to enter the brim on account of the surrounding tissues and recedes in the intervals between the pains It is only when the disproportion between the head and the brim is great, so that the head overrides markedly or lies obliquely, or is deflected by pendulous belly from previous pregnancies, that the lower segment does not apply normally to the head so when the cervix reaches two to three fingers' dilatation the membranes are subjected to uncontrolled pressure and rupture prematurely as the result of labour There are the same accidental causes of premature rupture of the membranes not due to labour as in normal cases, and these must be distinguished from premature rupture in the first stage the result of a faulty process On the whole the first stage is not affected by contraction except with marked disproportion, or by secondary conditions It proceeds normally in proportion to the uterine action and is completed within the normal time

When the membranes rupture prematurely in the first stage as the result of some associated condition, such as pendulous belly, the escape of the liquor amnii frequently will allow the head to come down better, and if the associated condition is removed the head will enter the internal os and complete the dilatation quite as well as the bag of waters On the other hand, when the disproportion is the actual cause of the early rupture the head cannot enter the internal os, dilatation comes to a standstill or even recedes, while stretching of the lower segment progresses

Second Stage of Labour

It is after the rupture of the membranes that the influence of contraction is noticed best In the majority of cases the cervix reaches full dilatation before the membranes rupture, the head remains high and free till then, but when full dilatation is reached the cervix, by slipping up, is removed from in front of the head and is retracted, while the head advances and the membranes are ruptured by the increased pressure The drawing up of the cervix removes the uterine tissues and a considerable amount of parametric tissue from between the head and the brim, thus increasing the available space The head enters the brim, and with the next few pains the greatest diameter passes and the head slips easily into the cavity of the pelvis to reach the constriction of the outlet

Moulding

During the first stage of labour the head is only gripped by the uterine tissues, even when the membranes are ruptured, if the cervix is undergoing dilatation, the head is only subjected to pressure by the soft tissues during contraction of the fundal pole, but as the lower segment and cervix are giving way and progressively dilating, this takes up the pressure from the fundus and the head is little or not at all affected

When the second stage is reached, if the removal of the soft tissues leaves sufficient room for the head in the brim it advances as the result of contraction of the fundus On the other hand, if the brim is too small for the head it comes down against the firmly resisting bony brim and the action of the fundus is all applied to the head and results in moulding When the cervix is not fully dilated and the membranes rupture, if the brim is too small for the head it supports the soft tissues and slight moulding occurs during the pains, but never amounts to much if the cervix continues to dilate, as this takes up most of the effect of the uterine action When the cervix does not continue to dilate, the lower segment progressively stretches and maintains a constant pressure on the head, while the fundal contractions drive the head into the narrow brim, compressing the interposed soft tissues and producing even considerable moulding

Moulding must be looked upon as evidence of disproportion between the head and the brim, it only really begins when the head is maintained in contact with the resistant bony walls It progresses in proportion to the uterine action and distorts the head according to the presentation until it has produced sufficient reduction in the obstructing diameter to enable the head to pass the obstruction, and if this point is not reached moulding only terminates when the uterine action ceases to be strong enough to overcome the resistance of the tissues of the head Moulding beyond the degree of taking up the slack in the tissues of the head must always be considered evidence of obstruction The alteration in the contour of the head takes some time and does not disappear with the removal of the compression When the moulded head passes the brim it enters the relatively more roomy cavity and comes against the pelvic outlet The outlet has to be dilated, but in my opinion it is only in very rare types of contracted pelvis that more moulding is required for the passage of the outlet The perineal tissues then have to be dilated, and delay in the advance of the head through the outlet or over the perineum is invariably due to falling off of the expulsive forces, which have been used up in the difficulty at the brim, rather than from disproportion calling for further reduction of the head by moulding

Changes in Vertex Presentation

Before the onset of labour the head, unless deflected by some associated condition, lies over the brim of the pelvis in what is best called the quiescent state or flexion—that is,

with the middle of the sagittal suture in the axis of the brim

The first effect of uterine action is to press down the fundal pole of the foetus and increase flexion of the head on the shoulders, thus producing the normal flexion of a vertex presentation The fundal action is then transmitted through the head to the lower segment and cervix, which dilate and no more flexion occurs, and when the cervix reaches full dilatation the tissues slip up and the head enters and passes the brim as a vertex When the brim is too small the head is delayed and abnormal flexion or movement of the head on the shoulders occurs as it is forced into or against the brim

Posterior Fontanelle Presentation —In the generally contracted, transversely contracted, and generally contracted flat pelves with slight flattening, the head remains in the middle line of the pelvis and the force transmitted through the cervical vertebrae produces hyperflexion The degree to which this occurs depends upon the amount of resistance after the head has entered the brim Thus, when the disproportion is slight the head comes through as a vertex with very little moulding when the disproportion is great the head becomes a posterior fontanelle presentation, the chin is pressed firmly into the sternum, and the tissues at the back of the neck are under severe tension The head may not be capable of reduction sufficient to pass the brim or may come through greatly moulded In this case the moulding has the effect of considerably reducing the angle between the occipital and parietal bones and greatly elongating the supra-occipito frontal diameter of the head

Anterior Fontanelle Presentation —In the simple flat and generally contracted flat pelves with a relatively marked degree of flattening, the head, when it is arrested at the brim, is held up by the conjugate but unsupported at the sides Owing to the sinciput being narrower than the occiput the head moves towards the side of the pelvis occupied by the occiput this may allow the head to pass with the bitemporal diameter in the conjugate, while the head remains in the vertex position, or as a result of slight relative delay of the occiput against the lateral brim of the pelvis, the head may move into unflexion—that is, with the anterior third of the sagittal suture in the axis of the brim If the occiput moves too far it is arrested against the side of the brim and the force of the uterus drives the sinciput down, so that the head moves out of flexion into extension and becomes first an anterior fontanelle presentation and later may become a brow In my opinion anterior fontanelle presentation never occurs as the result of the occiput moving to the side of the pelvis if the head can pass, it is always the result of actual arrest of the head after excessive lateral movement

Asynclitism Parietal Presentations —With or without hyperflexion or extension the uterine action in driving the foetal body down against the arrested head may make the head bend laterally on the shoulders, so that the sagittal suture leaves the axis of the brim and one or other parietal bone comes to lie lowest *This movement of the head* has been claimed as an aid in the passage of the head through a contracted brim I hold most emphatically that this is not so, there is no diameter of the head from a point above the parietal eminence to a point below the opposite eminence which is shorter than the biparietal diameter When asynclitism develops it is the result of obstruction, the head may be forced through the brim in an asynclitic position, but this will only result from moulding and the head would have moulded through more easily if it had remained synclitic I have never known a head to come through as a parietal presentation, I have known a head brought through by upper strait forceps as an anterior parietal presentation, but I have not known a foetus survive Anterior parietal presentation is considered more favourable than posterior The belief that asynclitism helps the passage of the head arises from mistaken observations When the head moulds one parietal bone overrides the other—most commonly the anterior over the posterior In marked moulding the edge of the lower bone at the sagittal suture comes nearer the promontory or the pubis and gives the impression that the sagittal suture has moved out of the axis of the pelvis, but in reality the head is synclitic, and the middle line of the head is in the axis of the pelvis Asynclitism occurs when the head is markedly arrested and is unable to enter the brim sufficiently to become fixed it is also promoted by deflexion of the axis of the uterus as occurs in marked degrees of contraction or when pendulous belly is associated

Mechanism

Two forms of mechanism are described in contracted pelvis, both are the result of obstruction at the brim and not properly due to the contraction Mechanism is normally nothing more than the simple mechanical adaptation of the long axis of an irregular solid body to the available diameters of an irregular passage It is quite spontaneous and when force is applied is likely to result in jamming

In contracted pelvis, when there is loss of space in the transverse diameter of the brim, the head lies in the middle line and resistance to its passage results in hyperflexion then if the head is able to be forced through by moulding it passes the brim with the posterior fontanelle lying lowest The fontanelle may come very low in the cavity before the greatest diameter is past the brim, but as soon as the obstruction is passed, if the head becomes free in the cavity internal rotation takes place and delivery is by extension The only variation from the mechanism of normal vertex is a movement towards hyperflexion in proportion to the obstruction If the moulding required is great even when the head passes the brim there is a relative impaction, and this is likely to prevent spontaneous movement, the advance of the head depends upon crushing past the narrow parts instead of mechanism

In the simple flat pelvis there is available space in the transverse of the brim, and, following the simple law of mechanics, the head moves laterally towards this space this may result in the head being able to pass the narrow conjugate, the occiput may be slightly delayed by close apposition to the side of the pelvic brim, and so the head undergoes a slight unflexion and passes the brim with the anterior third of the sagittal suture lowest, but, having entered the cavity, it finds free space and again flexes normally, to be born as a vertex by the normal mechanism This is all simple mechanics, and only varies from the normal mechanism of a vertex by the lateral movement and slight unflexion as the head enters the brim, and the passage through with the sagittal suture in the transverse of the pelvis If after the lateral movement has occurred and the head enters the brim it has to be reduced in size by moulding, it is flattened transversely, and this flattening may have to be maintained all through the pelvic canal so that normal mechanism is interfered with and the advance depends upon crushing of the head through but the occiput is no longer delayed and so the head may move secondarily into hyperflexion, which will improve the chances of internal rotation taking place

Impaction —When the proportions of the head to the pelvic brim are such that by hyperflexion or lateral movement it is enabled to engage but is not capable of sufficient reduction by moulding to pass the brim impaction occurs and the head remains with a varying amount through the brim but the greatest diameter still above the constriction When, as the result of marked moulding the greatest diameter is forced past the brim the head may be greatly distorted and requires the maintenance of the reduction in the pelvic cavity mechanism fails and impaction occurs in the pelvic cavity or at the outlet

Effects upon Uterine Action and Condition of the Uterus

In all the above conditions the uterus is called upon to exert more force than normal in obtaining the passage of the head through the brim If the demand is moderate the progress of labour is not much affected but where the difficulty is great the uterus may develop inertia, or the prolonged and excessive action without advance of the presenting part and reduction of the uterine contents may produce excessive stretching of the tissues—threatened or even actual rupture of the uterus or fornices If the cervix has reached full dilatation it is the vaginal fornices and cervix that are overstretched, but when the cervix ceases to dilate the lower segment is the part affected

When impaction has developed a large amount of the head will have been forced past the brim and the cervix will have

reached a considerable degree of dilatation, if not fully dilated The impacted head produces severe pressure effects upon the soft tissues of the cervix, or vaginal fornices, and the parametric tissue between the head and the bony pelvis If this pressure is allowed to persist for long the vitality of the tissues is reduced, and they may subsequently undergo necrosis while the risk of infection is increased

All these influences of contracted pelvis on labour are the result of actual disproportion of the head to the pelvis, they arise indirectly from the contraction but directly from the obstruction

Variations of the vertex presentation result from delay in the head entering the brim after it has come against the bony wall Moulding begins when the head has engaged in the brim but is too large to pass

Mechanism depends upon the ability of the head to move so as to adapt its diameters to the available space, it follows the ordinary laws of mechanics, and when these fail to enable the head to pass jamming occurs Further advance depends upon crushing of the head through the narrow parts, if this fails impaction results, and the effects of impaction progressively advance even though secondary uterine inertia sets in and persists

Alterations of the vertex and moulding and arrest of the head do no harm of themselves, but it is essential to understand their import, as they indicate obstruction, and when that persists serious effects are produced on the mother and infant

THE DIET DURING INSULIN TREATMENT OF DIABETES MELLITUS

THE NEED FOR CAREFUL CONTROL

BY

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SINCE the introduction of insulin into clinical practice several comprehensive lectures and papers have been published in the BRITISH MEDICAL JOURNAL on the principles which should guide the use of this remedy These papers reflected the scientific thought of the writers, and they naturally analysed in close detail the changes in the blood sugar of patients under treatment, while the building up of the dietaries was also considered in reference to the somewhat intricate formulae that are required for accurate metabolic work Frequent blood sugar estimations are obviously impracticable for many of the diabetic patients who may be under medical treatment in Great Britain, and it is not unlikely that some of those medical practitioners who have hitherto been unfamiliar with the calculation of foodstuffs according to their energy equivalents may be inclined to put aside the accurate measurement of these foods as being a matter of troublesome scientific complexity, like that of determining the blood sugar, and to decide that practical purposes can be sufficiently served by ordering insulin and merely giving some general instructions with it about the need still to be careful with food

Insulin is not an all-powerful remedy, nor is it cheap Provided that its use is accompanied by a firm and intelligent control of the diet, it has the most astonishing power to arrest the downhill progress of a case of diabetes, but if the diet is carelessly managed the diabetic will in all probability get worse despite the insulin, and the costly remedy is simply wasted The diet must always continue to be limited in such a way, especially in respect of carbohydrates, that glycosuria shall not persist Insulin makes this possible on a slightly more generous supply of food than could otherwise be allowed, and it can thus be used to abolish excess of blood sugar and give the islets in the pancreas a chance to recover their proper function when they are spared the continual exhaustion which the stimulus of excessive blood sugar seems to induce in them

When insulin was first introduced stress was laid on the need to measure blood sugar changes, because there was some apprehension that fatalities might occur from overdosage Practical experience has shown that this danger is relatively slight, because the patient's own symptoms generally give early warning of overdosage in time for sugar to be given and serious collapse averted Blood sugar measurements are, therefore, not essential for the ordinary management of a case, though they cannot be neglected if the best results in treatment are desired But the accurate knowledge and control of the diet allowed to a patient under insulin treatment is of bed-rock importance, and now that the supplies of insulin have become abundant enough for the preparation to be used widely in various types of medical practice, panel or otherwise, there is some occasion to fear that it may be used wastefully through neglect of dietetic control In 1922 there were rather more than 4,500 deaths from diabetes in England and Wales, which, on an average expectation of life of rather less than four years from the onset of the malady, would suggest a total of something approaching 16,000 diabetics in England and Wales alone The weekly sales of insulin in Great Britain average nearly 500,000 units, which would amount, at the recently lowered price, to an annual cost of over £150,000, and that would suffice for the treatment of perhaps 4,000 out of the total number of diabetics It is obvious from these general figures that all possible economy must be exercised in the use of insulin if the medical profession is to realize its desire that this remedy shall be employed for the help of all sufferers from the disease

The case of which details are given in this paper, by the kind permission of the medical practitioner concerned, is an outstanding example of the waste that may occur when an entirely new remedy is made generally available without adequate instruction in its use

CASE

A bricklayer, aged 43 years, first came to University College Hospital early in March, 1923 He was complaining of ravenous appetite, thirst, and polyuria of six to seven months' duration, together with loss of weight The urine contained a large amount of glucose There were no complications Owing to the scarcity of insulin at the time his doctor was advised to try to abolish the glycosuria by dieting This was done for about a month and the symptoms and the glycosuria disappeared

Nothing further was heard of this patient until November 27th, when he again came to the out patient department with a letter from his panel doctor Early in June the patient had been put on insulin, three injections daily, each of 10 units There was no attempt to restrict the diet, the patient being permitted simply to choose his own food The results at first seemed satisfactory, for in two months he gained over a stone in weight The urine continued to contain large amounts of glucose despite the insulin The man returned to work, for which, however, he soon became quite unfit, and then steadily lost weight He was admitted to hospital on November 28th He was a spare man, weighing 7 st 11½ lb , instead of his normal 10 st There were no abnormalities of health apart from the simple diabetes mellitus The urine (specific gravity 1038) contained 6 per cent of glucose and abundant acetone bodies

The next day his glucose tolerance was ascertained He had fasted after supper on the previous evening, and at noon 40 grams of glucose in 150 c cm of water were given by the mouth The blood sugar was estimated every half hour for three hours and the urine collected every hour The fasting blood sugar at noon was 0 20 per cent , the percentage rose to 0 37 half an hour later, and then fell progressively to 0 25 at the end of three hours The blood sugar curve revealed a clear defect in the storage and utilization of carbohydrate In three hours the blood sugar was still above its initial level and it was falling very slowly The maximum excretion of glucose in the urine was 12 6 grams in one hour, the leak point of the kidney being below 0 20 per cent All the specimens of urine gave heavy reactions for acetone and aceto acetic acid

He was then given a diet of 820 calories, composed of 22 grams of carbohydrates, 42 grams of protein, and 63 grams of fat He had only partaken of two meals when he complained of a 'load on his chest causing difficulty in breathing," and had abdominal discomfort with vomiting He was not constipated He then felt dizzy and was drowsy and unable to think clearly His breath smelt very strongly of acetone, but there was only slight air hunger He had received no insulin since admission to hospital three days previously and was undoubtedly drifting rapidly into diabetic coma 20 units of insulin were injected immediately, and he was able to take some carbohydrate food The insulin was repeated every four hours and the house physician was instructed that if a fresh specimen of urine became sugar free while still showing ketosis the patient was to be given 15 to 20 grams of glucose by the mouth immediately before giving the insulin After five injections of insulin each of 20 units, and one administration of 20 grams of glucose the urine was free from sugar and contained no acetone or aceto acetic acid The patient felt much better, he was bright and hungry, and there were no symptoms or signs of excess of ketone bodies

After this critical attack his diet was steadily increased to one

of 2 210 calories, comprising 65 grams of carbohydrate 108 grams protein and 169 grams of fat This diet contained much more protein (40 to 50 per cent) than is customary, but in this instance it was done with the object of quickly restoring the man to efficiency for work The chart shows the spacing of the meals the times of injections of insulin (totalling 55 units daily) and the percentages of the blood sugar for the middle hours of the day Breakfast, taken at 6 a m was composed of 27 grams of carbohydrates, 49 grams of protein, and 44 grams of fat totalling 700 calories, this was preceded half an hour earlier by an injection of 30 units of insulin At 10 a m the blood sugar was 0 085 per cent at 11 a.m 0 085 per cent and at noon 0 085 per cent At noon he took his lunch which consisted of 718 calories composed of 15 grams of carbohydrates 16 grams of protein, and 66 grams of fat After this the blood sugar showed a steady rise from 0 085 per cent at noon to 0 115 per cent at 1 p m 0 135 per cent at 2 p m , and 0.140 per cent at 3 30 p m At 3.30 p m he had his tea, consisting of 271 calories comprising 7 grams of carbohydrates 9 grams of protein and 23 grams of fat At 5 p m the blood sugar had risen to 0.165 per cent At 5.30 p.m he received 25 units of insulin and at 6 p.m he partook of his supper of 524 calories—carbohydrate 16 grams protein 34 grams and fat 36 grams Next morning he had no breakfast and no insulin and at 11 a m his fasting blood sugar was 0 135 per cent so that throughout the twenty four hours his blood sugar was kept below the leak point and for several hours it was well within the normal range of a healthy person The urine showed no ketosis and remained sugar free

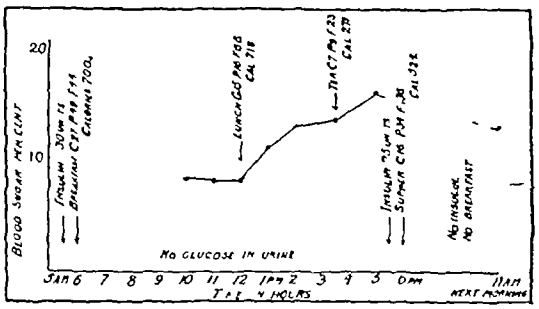


Diagram to show spacing of meals and times of injection of insulin with the curve of the percentages of blood sugar

He was in hospital twenty six days during which he had only one mild hypoglycaemic reaction, and he has now been back at work for three weeks, and so far is managing on a diet of 2 210 calories without hunger and is steadily putting on weight each week There is neither ketosis nor glycosuria The arrangement of the meals and the times of insulin injections were specially adapted in this case for his work as a bricklayer While in hospital he was asked to indicate the amount of food he had been taking before coming into hospital This food was weighed out for each meal and the total calorie value estimated This diet consisted approximately of 3 740 calories, containing 440 grams of carbohydrates, 103 grams of protein, and 174 grams of fat Carbohydrate is a cheap source of energy and manual labourers naturally tend to use it as their main food

In this case, as will be seen, the diabetes yielded fairly soon to dietetic control, and, since insulin was then scarce, he did not receive that special treatment In June his doctor commenced insulin, 30 units daily, and soon allowed a loosely controlled diet, which appears to have risen to nearly 3,700 calories—almost twice as much as the patient could efficiently use, while it included a considerable amount of carbohydrates In November the man came again to hospital, his weight and strength much wasted, and his diabetes so far advanced that he nearly passed into coma soon after admission After three weeks' treatment in hospital the diabetes was sufficiently controlled and he was able to return to actual work on 2,200 calories together with insulin In the meantime he had lost nearly six months' work at £3 10s a week, he had spent £25 on a holiday, which did him no good, and much money on extra food which was harming him, while the insulin supplied, almost uselessly because of this prodigal consumption of food, had cost the National Health Insurance funds over £50 The sole fault was in the neglect to control his diet

Before admission to hospital the injection of insulin caused severe local skin reactions, which at first were thought to be due to some constituent of the British insulin His thighs showed many discrete scars, and the injections had caused so much pain as nearly to make him abandon treatment To sterilize the syringe and needles he had been using ordinary commercial methylated spirit, but when he used other the skin reactions did not occur Ordinary industrial methylated spirit contains some products which, injected into the tissues, cause severe irritation and inflammation, and this form of spirit should not be used to sterilize the syringe and needles There have been no local skin reactions, either with British or American insulin, since other has been used for the sterilization of the needles Ordinary boiling in tap water is a satisfactory method of sterilizing the syringe, and this patient has been using this method since his discharge from hospital with good results

The criticism may be levelled that this patient is now receiving nearly twice as much insulin as he did previous to admission to hospital On 30 units of insulin a day he was going downhill, losing weight, with glycosuria and ketosis, and was unfit for work But now, on a diet much lower in calories, with 55 units of insulin a day, he is working full time, feels a new man, and has put on over 3 lb in weight in the last fortnight There is neither glycosuria nor ketosis

Insulin has not removed the need for an accurate control of food in diabetes, it has rather emphasized that need, because clinical experience has now made it certain that insulin, if used with scientific intelligence, does prolong the life and increase the efficiency of diabetics, while there are grounds for the hope that it may even enable some recovery from the disease itself When insulin is used for chronic diabetics, doctors and patients alike must learn to measure the food With printed tables of foodstuffs the calculation of a dietary in terms of calories can be learned almost as quickly as one learns when abroad on a holiday to estimate the price of a dinner in French francs at a given rate of exchange The rules are relatively simple and they cannot be neglected

General Rules for Guidance

1 The total dietary of an adult diabetic for each day should rarely exceed 2,000 calories The weights from the food tables are converted into calories by multiplying the gram weight of the carbohydrates and of the proteins respectively by 4, and of the fats by 9 The food is best weighed out in ounces, and the tables give the number of grams of dried protein, fat, and carbohydrate equivalent to each ounce of the particular foodstuff in its moist state Thus 1 oz (roughly 30 grams) of ordinary Cheddar cheese contains 1 gram of carbohydrate, 7 grams of protein, and 9 grams of fat, with a calorific equivalent of $(1\times4)+(7\times4)+(9\times9)=113$ calories

2 The protein allowed each day may be at the rate of 1/2 gram or slightly more per lb of the patient's body weight It must not be forgotten that protein contains over half its weight of substance which can yield sugar The carbohydrates may reach a total of from 30 grams to 60 grams, and the fats should not exceed the sum of twice the carbohydrates together with half the protein $(F<2C+\frac{P}{2})$, lest acetones appear in the urine, and diabetic coma develop as the result of faulty metabolism of the excess of fats

3 Glycosuria must always be fully controlled or the patient cannot improve, and therefore carbohydrates must be strictly limited by the glycosuria It would take 2s worth of insulin to metabolize the carbohydrate of a penny bun (2 oz) in a completely diabetic patient

4 If the supply of insulin fails temporarily the diet must be cut down, especially in respect of the fats, and the patient should rest

5 Intercurrent infections or surgical operations compel a temporary increase of the insulin needed to abolish glycosuria on any particular diet

6 Diabetic coma must be treated promptly and freely with insulin, for recovery is improbable if the patient has been in coma for more than twelve hours

7 Every patient on insulin must be instructed in the symptoms of hypoglycaemic collapse, and know how to check them by taking sugar Any patient of ordinary intelligence can be taught to give his own injections of insulin.

THE BLOOD SUGAR IN CASES OF EPILEPSY

BY

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AND

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DR MACKAY'S letter[1] leads us to believe that certain experiments which we have performed, and which bear on the question of a possible correlation of hypoglycaemia and epilepsy, will be of interest. Four cases of epilepsy on hospital diet and with no past history of syphilis were selected for investigation. These were under luminal treatment, but this was discontinued before the investigation commenced. Blood was obtained during periods of quiescence except where otherwise stated. The method of investigation involved the withdrawal of 30 to 100 c.cm. of blood from a vein, this large volume being necessary for the combined polarimetric and copper reduction methods which were used for determining the blood sugar.

METHOD

1. *Estimation of the Blood Sugar by Copper Reduction Method.*—Shaffer and Hartmann's method[2] was used, since this procedure in our experience is readily applied to a series of parallel determinations and gives reliable and uniform results.

2. *Estimation of the Blood Sugar by the Polarimetric Method.*—The blood filtrates on which this was carried out were obtained essentially by the procedure described by Winter and Smith.[3] In certain cases this procedure was followed exactly as described by these authors, in other cases three extractions with 85 per cent. alcohol were carried out instead of two, and the final polarimetric solution was made up to a volume less than that of the corresponding amount of the original blood used. By this means a solution was obtained which contained the sugar in a higher concentration than that of the original blood, thus rendering more accurate polarimetry possible. With the view of controlling this second method, the copper reducing value of the polarimetric solution was also determined by the Shaffer-Hartmann method as used for the estimation of the sugar in the original whole blood. This was carried out after the polarimetric observations, which extended over a few days, were complete.

The solutions used in the Shaffer-Hartmann determinations were standardized from time to time during the course of the investigations. This we found to be necessary. Two blood sugar determinations on non-epileptic patients (one a case of mania, the other of melancholia) were carried out as controls. These gave respectively 0·107 and 0·105 per cent. blood sugar as dextrose.

CASE I.—H. H. L. Blood taken on June 12th and 15th, 1923. Patient had one fit on June 13th. Luminal discontinued on the morning of June 12th. Not confined to bed.

Date	A Percentage of Sugar (as dextrose) in Blood Shaffer-Hartmann	B Percentage of Sugar (as dextrose) by Polarimetric Method	C Copper Reduction Value of B (as dextrose) Shaffer-Hartmann
12·6·23	0·085	0·036	—
13·6·23	—	0·077	—
14·6·23	—	—	0·05
15·6·23	0·080	Undetermined since polarimetric solution was initially laevo-rotatory. A Shaffer-Hartmann determination gave 0·014 per cent. reducing substance as dextrose	

CASE II.—E. L. Blood taken on June 12th, 15th, and 26th, 1923 (ten minutes after a severe fit). Two fits on June 13th. Succession of six fits on June 25th. Carbuncle on neck, confined to bed.

12·6·23	0·065	—	—
13·6·23	—	0·029	—
14·6·23	—	0·025	0·036
15·6·23	0·080	Undetermined since polarimetric solution was initially laevo-rotatory	—
16·6·23	—		—
19·6·23	—	0·029	—
19·6·23	—	0·036	—
21·6·23	—	0·103	0·076
26·6·23	0·100	0·031	—
27·6·23	—	0·044	—
28·6·23	—	0·010	—
30·6·23	—	0·019	—
3·7·23	—	0·02	0·066

CASE III.—A. R. Blood taken on June 25th, 1923 (twenty minutes after a fit).

Date	A Percentage of Sugar (as dextrose) in Blood Shaffer-Hartmann	B Percentage of Sugar (as dextrose) by Polarimetric Method	C Copper Reduction Value of B (as dextrose) Shaffer-Hartmann
25·6·23	0·085	Undetermined since polarimetric solution was initially laevo-rotatory	—
27·6·23	—	Ditto	—
28·6·23	—	Ditto	—
29·6·23	—	Ditto	—
3·7·23	—	—	0·077

CASE IV.—W. J. W. Blood taken on June 26th, 1923 (fifteen minutes after a fit).

26·6·23	0·120	—	0·084

Even in this short series of experiments it will be seen that the blood sugar values, as determined directly on the blood by the Shaffer-Hartmann method, while in general within the normal range, nevertheless tend towards the lower limits. In Case II (June 12th, 1923) the blood sugar percentage was definitely subnormal, but without further investigation we do not care to stress this point.

Turning to the results given by the polarimetric method of determining the blood sugar, there are several points which we consider worthy of note. It will be seen that in three experiments the 'blood sugar' filtrate showed a laevo-rotation, which slowly changed to a dextro-rotation in one, and remained more or less laevo-rotatory in the other two cases. The copper reducing values of the polarimetric solution (C) are in general lower than that of the whole blood (A), and in addition the polarimetric method of determining the dextrose present in the solution gave results not in accord with those given by the copper reduction method (B and C). (Compare also Eadie.[4])

These results, taken into consideration with similar observations by ourselves (unpublished) and other workers[4] on animals, do not lead us to believe that the changes recorded above are peculiar to cases of epilepsy. Rather, in our opinion, does the explanation of these phenomena depend on the unsuitability of the method itself for dealing with the question of the quantitative and qualitative nature of the blood sugar, as a result of our experiences we believe that the conclusions drawn by Winter and Smith[3] from their observations are unjustifiable. We would emphasize the fact that all calculations based on the assumption that dextrose is the only copper reducing and optically active substance present in the final polarimetric solution are fraught with danger. Further, no conclusive evidence has yet been brought forward to show that dextrose is the only carbohydrate present in whole normal blood, apart from the question of the presence of α, β, or γ forms or mixtures of these. Certain of our results may in part be ascribed to loss of reducing substance by imperfect extraction, and the liability of such an occurrence appears to be a fault of the method. In conclusion, attention may be drawn to the fact that it has recently been shown by Stasiak[5] that the sugar content, as determined by copper reduction methods, of blood serum, free from enzymes and kept *in vitro*, shows irregular variations, and that similar variations occur in pure solutions of dextrose containing globulin and cholesterol. There is no evidence to show that in the method of Winter and Smith

the elimination of these and other possible interfering substances is complete, and it is suggested that inconsistent and variable results obtained in determining the sugar present in blood filtrates are due to such phenomena as those recorded by Stasiak In confirmation of these observations we have found (unpublished research) that the copper reducing value of the polarimetric solution obtained from dog's blood by the method of Winter and Smith exhibits *irregular variations* from day to day

We have pleasure in expressing our thanks to Dr Edwin Goodall for his kindness in allowing us access to clinical material at the Cardiff City Mental Hospital One of us (J P) is indebted to the Medical Research Council for a grant

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A COMPARISON OF VARIOUS FORMS OF COLLOIDAL FERRIC HYDROXIDE

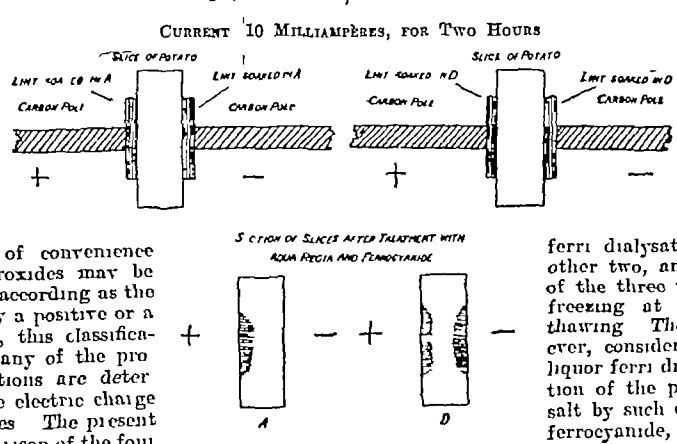
BY

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FERRIC hydroxide, $Fe(HO)_3$, is readily obtained in colloidal solution by a variety of methods, the products of which differ in a number of important respects It has long been recognized that several distinct modifications of colloidal ferric hydroxide exist and it may be of interest to record a number of points in connexion with their physical and chemical behaviour and their reactions towards physiological fluids

The several so-called soluble forms of ferric hydroxide contain the latter substance as a suspensoid colloid—namely, in the form of submicroscopic particles suspended in a liquid medium For purposes of convenience the colloidal ferric hydroxides may be ranged in two categories according as the suspensoid particles carry a positive or a negative electric charge, this classification is useful because many of the properties of colloidal solutions are determined by the sign of the electric charge of the suspensoid particles The present note deals with the comparison of the four typical colloidal ferric hydroxide solutions next described



A The best known of the positively charged ferric hydroxide suspensoids was prepared by Graham in 1861 by dissolving ferric hydroxide in aqueous ferric chloride solution and subjecting the resulting solution to dialysis, ordinary parchment paper being used as the diaphragm the solution thus prepared constitutes the liquor ferri dialysati of the old *Pharmacopoeia* Under these conditions hydrochloric acid passes through the membrane into the surrounding water and the dialyser retains a deep brown coloured colloidal solution of ferric hydroxide, the colloid always contains a small proportion of the acid radicle originally present in the ferric salt, but this, by prolonged dialysis, can be reduced to a minimum In this way Duclaux reduced the percentage of chlorine until it corresponded with the presence in the colloidal solution of aggregates of the composition $450Fe(OH)_3,FeCl_3$ The preparation used in the present investigation was the ordinary pharmaceutical material of commerce

B Another, and quite distinct, colloidal ferric hydroxide solution is prepared by blowing steam through a boiling aqueous solution of ferric formate until the escaping vapour gives no acid reaction This solution is much deeper in colour than one of the same iron content of the dialysed iron A, and is notably less stable towards the action of precipitating agents

C If a solution of ferric formate is heated to 100° for some hours and then submitted to prolonged dialysis a very pale-coloured colloidal ferric hydroxide solution is obtained which is still more readily coagulated This colloid is remarkable in that the ferric hydroxide precipitated from it is of a light yellow colour and is apparently in a higher state of hydration than the red-coloured ferric hydroxide which separates from solutions A and B

In the three above preparations the suspended particles of ferric hydroxide carry a positive electric charge, as may be shown by passing an electric current through the solution, when the ferric hydroxide particles travel towards the negative electrode or cathode

D Colloidal ferric hydroxide solutions in which the particles carry a negative electric charge were also prepared by Graham in 1861 by the dialysis of ferric chloride solutions containing sugar, such solutions have been since found to be more conveniently prepared by the dialysis of solutions of ferric chloride with glycerol or sugars, to which caustic soda has been added In these negatively charged forms of colloidal ferric hydroxide solution the sugar or glycerol acts as a protective and prevents the immediate coagulation of the ferric hydroxide, the protectives named do not, however, render the colloidal solutions permanently stable and other protectives such as gelatin must be added to ensure stability The preparation now issued as collosol ferrum is a colloidal ferric hydroxide solution protected in the manner just indicated and is used in the comparative experiments described below

The four solutions used throughout the experiments now described were of the same concentration in iron, containing 0·5 gram of iron per litre, the concentration in iron may thus be stated as 0·05 per cent

The results recorded in Table I show that the three forms of positive colloidal ferric hydroxide differ considerably in stability towards electrolytes and ordinary reagents, it is evident that the liquor ferri dialysati is more stable than the other two, and is, in fact, the only one of the three which is not coagulated by freezing at −40° C and subsequent thawing The collosol ferrum is, however, considerably more stable than the liquor ferri dialysati and gives no indication of the presence of a soluble ferric salt by such delicate tests as those with ferrocyanide, thiocyanate resorcinol, or salicylic acid, it is the only one which is not coagulated by addition of colloidal arsenic sulphide

The ultramicroscopic examination of these colloidal solutions at various degrees of dilution shows them to be very different in colloidal character The steamed ferric formate solution, B, and the collosol ferrum D show numerous particles (submicrons) upon a dark background many more submicrons are present in solution D than in B and the background is slightly the lighter in the case of D, indicating the presence of a higher concentration of amicroscopic particles The liquor ferri dialysati, A, shows but few submicrons upon a light background, this latter indicating the presence of numerous amicrons The dialysed ferric formate solution, C, contains very few particles or submicrons, but shows intense general illumination of the background, due to the presence of large numbers of amicrons

A rough count shows that the collosol ferrum solution contains about 2×10^{10} submicrons per cubic centimetre The relative numbers of particles or submicrons, the indicated relative concentrations of the amicrons and the depth of colour of the four solutions are also given in Table I A comparison of these particulars shows that these colloidal ferric hydroxide solutions follow Ostwald's rule that the colour deepens as the size of the particles increases

TABLE I

Test	L Ferri Dialysati (A.)	Steamed Ferric Formate (B	Dialysed Ferric Formate (C)	Collosol Ferrum (D)
Reaction	Faintly acid, 0 0028 normal	Faintly acid 0 0225 normal	Faintly acid 0 018 normal	Very faintly alkaline to litmus neutral to phenolphthalein
Colloidal As_2S_3 solution added	Immediate opalescence complete flocculation in 1 minute	Immediate coagulation	Immediate gelatinizat on	No change
Added 40 per cent by volume of saturated K_4FeCy_6 solution	Immediate development of dirty green colour solution remaining clear	Immediate coagulation, no blue colour	Immediate gelatinization followed quickly by coagulation no blue colour	No change
Diluted 7 c cm of the last mixture to twice the volume and added 2 c cm N/10 HCl	Immediate change through blue-green to Prussian blue complete in 12 minutes	No immediate change precipitate still brown after 48 hours	No immediate change precipitate green after 18 hours	Immediate opalescence colour became greenish yellow in 5 minutes and flocculation occurred in 2 hours leaving pale green solution
Added 0 2 gram KCNS in 10 c cm water to 5 c cm	No change no further colour developed	Coagulation slow but nearly complete in 90 minutes	Slight opalescence coagulation followed in 3 minutes giving very gelatinous precipitate	Immediate opalescence no change in colour
Added 2 c cm N/10 HCl to last mixture	Orange tint developed in 1 minute solution deep red in 20 hours remaining clear	No apparent change in half an hour after 17 hours a precipitate in clear red solution	Coagulate distinctly red after half an hour becoming deep red in a clear solution after 17 hours	Orange tint developed in 5 minutes and partial flocculation in 1 hour solution very deep red in 20 hours remaining clear
Added 40 per cent by volume of saturated NaCl	Immediate opalescence, flocculation complete in 1 minute	Immediate opalescence and coagulat on within half an hour precipitate red brown	Immediate gelatinization followed by coagulation within 1 minute precipitate light yellow	No change after 1 week.
Added 40 per cent by volume of saturated Na_2SO_4	Immediate flocculation complete in 30 seconds	As above but coagulation slightly less rapid	As above but coagulation perhaps rather more rapid	No change after 1 week
Added 40 per cent by volume of N/10 NaOH solution	Flocculation complete in 15 seconds	Coagulation instantaneous and complete red brown precipitate	Coagulation instantaneous and complete precipitate light yellow and very gelatinous	No change after 1 week
Added 40 per cent by volume of N/10 HCl solution	Distinct lightening of tint in 1 hour	No immediate change but colour lighter after 17 hours no coagulation	No immediate change but colour lighter after 17 hours no coagulat on	No change in tint observed in 1 hour
Added equal volume of absolute alcohol	No change	Slow coagulation complete in 2 hours	No immediate change but partial coagulation after 2 hours	Immediate opalescence flocculation complete in 15 seconds
Added 40 per cent by volume of saturated salicylic acid solution	Immediate development of a brown colour opalescence in 10 minutes, and complete flocculation in 20 *leaving violet solution*	Coagulation complete in 5 minutes no colour developed	Coagulation complete in 5 minutes no colour developed	Slight brown colour developed in 10 minutes then no further change
Added 20 per cent strong resorcinol solution	Slow development of greenish tint	No change	No change	No change
Frozen solid and then thawed	No coagulation	Completely coagulated	Completely coagulated	No coagulation
Relative numbers of particles submicrons	40	100	4	1 000
Amicrons ..	++	None	++++++	+
Intensity of colour by tintometer	5 4	11	3 3	10

The therapeutic disadvantages of liquor ferri dialysati and ferric salts—causation of indigestion, constipation, etc—are attributed by Beckhold[1] to the deposition of the ferric hydroxide gel in the smaller intestine by reaction with the alkali present The production of an embolism on intravenous injection of liquor ferri dialysati has been traced by W H Fischer[2] to mutual flocculation of the positive ferric hydroxide colloid and the negative colloids of the blood It therefore became of interest to ascertain the reactions of the four colloidal iron preparations used in the foregoing experiments with various body fluids and solutions of physiological importance Dr W E Dixon, F R S, Reader in Pharmacology at Cambridge, has made a number of observations with the preparations in question sent him under distinguishing letters, and has kindly furnished the results recorded in Table II

TABLE II

Reagent Used		10 Minutes	Action in 2 Hours	20 Hours
Various concentrations of egg albumen filtered till practically clear To 10 c cm was added 1 c cm colloidal iron solution	A	Thick precipitate	No further change	No further change
	B	Thickened precipitate	Ditto	Ditto
	C	Thick yellow precipitate	Ditto	Ditto
	D	Very slight precipitate	Ditto	Ditto
Casein in 2 per cent solution dissolved with trace of alkali 10 c cm was added to 1 c cm of colloidal iron	A	Precipitate	Precipitate	Precipitate
	B	Brick red precipitate	No apparent change	Precipitate thicker
	C	Yellow precipitate	Ditto	Ditto
	D	No precipitate	No precipitate	Slight precipitate
Gastric digestive mixture (pepsin + HCl) was incubated with egg albumen for 2 hours and filtered 10 c cm of the filtrate was added to 1 c cm of colloidal iron	A	Brown precipitate	Heavy brown precipitate	No further change
	B	Heavy red precipitate	No further change	Ditto
	C	Slight yellow precipitate	Heavy yellow precipitate	Ditto
	D	No precipitate	No precipitate	Pronounced precipitate
Pancreatic digestive mixture with sodium bicarbonate and egg albumen incubated for 2 hours and filtered 10 c cm of the filtrate was added to 1 c cm of colloidal iron and solution kept in incubator at 37°	A	Heavy red precipitate	No apparent change	Degree of precipitation +++
	B	Slight yellow precipitate	Ditto	Ditto +
	C	Heavy yellow precipitate	Ditto	Ditto ++++
	D	Slight yellow precipitate	Ditto	Ditto +

These results show that the collosol ferrum solution is not only more stable than the liquor ferri dialysati towards

"None of the colloidal iron solutions caused precipitation when added to filtered horse serum and incubated for four hours The solutions A, B, and C produced an immediate precipitate when added to sheep's defibrinated blood, but the solution D produced no effect up to two hours The solutions A, B, and C produce haemolysis of rabbits' hirudinized blood and sheep's defibrinated blood, but D gives no such effect, the haemoglobin apparently remaining intact in the corpuscles Intravenous injection of solutions A and D into rabbits and dogs in 2 c cm doses was without toxic action

"The effect of a direct constant electric current in carrying iron from solutions A and D into the substance of freshly cut portions of potato was also determined, the experiments being arranged as shown diagrammatically at page 233, and the slice of potato being separated from the carbon poles by lint soaked in the colloidal iron solution After passing a current of 10 milliampères for two hours sections of the potato slices were made parallel with the direction of the current, the sections were then treated with aqua regia followed by potassium ferrocyanide It will be noted that the iron passes into the section of potato only on the positive side from the colloidal iron solution A and into both positive and negative sides from solution D, as shown in the figure"

inorganic reagents, but that it also yields a coagulate much less readily when mixed with a number of physiological liquids The investigation of this subject and its consequences is being continued

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MEMORY SIGHT

BY

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THERE is a widespread impression, not only amongst the laity but also in the ranks of the medical profession, that the blind—by which I mean the totally blind—live in perpetual, black darkness This I believe to be an error in observation, for inquiries have elicited from my blind patients the information that, on the contrary, they habitually see "a bright background" They describe this variously, but the terms "like a bright cloud," or "like a luminous haze," seem to convey the prevailing impression, whilst remarks as to "a play of colours" before the eyes are also met with from intelligent people A patient of Dr de Schweinitz, though totally blind, declared that "all things seemed to be a sea of red fire" I cannot but think that this "outlook" powerfully modifies the mental qualities of the blind, and helps materially to give them that cheerfulness which is so strikingly their class characteristic It would be difficult to believe that anyone who was surrounded by thick darkness could by any possibility be mentally cheerful

There is another feature of "the sight of the blind" which is little known, and of which they seldom care to speak unless directly questioned, probably owing to the fear that it may excite scepticism or ridicule On this point I venture to quote from my book on glaucoma (*A Treatise on Glaucoma*, second edition, p 105)

'Even more striking is the fact that patients are to be found who will protest that there are occasions on which they can sit by a window look out, and see all the features of a scene with which they were familiar in days gone by and yet on examination the eyes are absolutely blind To this condition the term 'memory sight may be applied for the pictures are but the aftermath of visual impressions stored in the cerebral cortex in a happier past Such is the power of reflection and of recollection that the patient's mind is enabled to summon these shadows of earlier impressions and to invest them with all the semblance of a reality It is indeed a pitiable delusion, born of memory and imagination of hope and despair

I have quite recently seen an elderly patient, long blind in one eye from glaucoma, who had lost all vision in the second eye from the same disease, and who had to have this eye removed on account of constant pain, her one great fear was lest the removal of the eye might rob her of the subjective sensations of light, from which she derived so much comfort The enucleation of the eye made no difference whatever to these She could still see the bright field of light, just as before, and she described in glowing terms how she could summon up to her consolation the "actual vision" of many objects around her Her own words are of interest "I can make myself see the things and people around me, I can even see every stitch of the knitting which I hold in my hand, just as I did in the days when I had my sight" More recently I have seen a man over 70 years of age who had lost one eye as the result of an accident in his youth, he developed a malignant growth of the second eye, and this too was removed after a consultation in which all concerned were unanimous as to the right course to pursue He describes his visual sensations thus "I see a sort of white mist tinged by light from above, this appears to come from behind me" He also sees pieces of furniture—such as a grand piano of dark wood, or a writing table, or other articles of furniture—which are apparently so real and vivid that he tries to avoid walking against them Be it remembered that he has no eyes whatever

We are all of us aware that, with our eyes closed, in the dark, during sleep, we can see people and things most vividly in our dreams, but it might be argued that this is not very strange, since we still possess actively sentient ocular globes It is of interest to learn from these cases, not only that blind eyes may see during waking hours the images of objects perceived in bygone days, but that the complete removal of the globes is no bar to the memory sight, which brings so much comfort to the blind Clearly we have here to do with memories stored in the brain, presumably in its cortex, as the result of earlier experience In this connexion it is interesting to remember that a man does not see with his eyes, but with his brain, the eyes are but a complex mechanism, optical and neuro-electric, whereby external stimuli are conveyed to the cerebral cortex, there to give rise to visual sensations This explains many things which are otherwise difficult to understand—as, for instance, the way in which a trained observer, with relatively less visual acuity, as tested by types, etc, will pick up and recognize distant objects with an accuracy and a speed which the ordinary man, untrained in the same direction, cannot emulate

BUTYN AS A LOCAL ANAESTHETIC

A WARNING

BY

SIR STCLAIR THOMSON, M D,
LONDON

THERE have been several communications in the JOURNAL recently on this subject, and the question of cocaine substitutes has been well summarized in the article by E Watson-Williams, in the issue of December 1st, 1923 Having special opportunities for testing any cocaine substitute in intralaryngeal surgery, I accepted the invitation of the Ministry of Health to give butyn a trial The following were the results in four cases

CASE I—A man aged 34 with tubercle of lungs and larynx, was sprayed and painted with a 5 per cent solution of butyn The patient was only able to tolerate touching the epiglottis Repeated swabbing of the interarytenoid region failed to benumb this important area even at the end of twenty minutes yet it was quickly anaesthetized with a 10 per cent solution of cocaine and the galvano-cautery was easily used on the vocal cords. There was profuse secretion of mucus

CASE II—A woman aged 38 with tubercle of lungs and larynx Half an hour was spent attempting to anaesthetize the larynx with a 5 per cent solution of butyn in this object it entirely failed but it produced much secretion of mucus I was therefore obliged to have recourse to cocaine in a 10 per cent solution which had been used on the patient on several previous occasions and quite successfully

CASE III—A man aged 36 with tubercle of lungs and larynx was a very tolerant patient who had had many cautery treatments to the larynx under cocaine The butyn was effective as an anaesthetic but it took longer to act and was less complete than cocaine The patient remarked that his throat was less numb than usual The profuse secretion of mucus was very inconvenient

CASE IV—A man aged 31 with tubercle of lungs and larynx was extremely tolerant Complete anaesthesia was obtained although the free secretion of mucus was troublesome All pharyngeal and laryngeal reflexes were abolished and it was easy to make a satisfactory application of the galvano-cautery to each vocal cord This application had just been completed and I was congratulating the patient on his behaviour when without any warning he half rose from his chair in a condition of tonic convulsion and would then have fallen forward on the top of me if I had not seized his body and laid him flat on the floor Here he passed through the typical phases of an epileptic convulsion—unconsciousness congested face foaming at the mouth clonic spasms dilated pupils and large bounding pulse At the end of two to four minutes he gradually recovered consciousness but remained in a dazed condition for some time He had no recollection of what had happened Inquiry showed that he had never been subject to fainting or fits and there was no history of epilepsy in his family A month later his larynx was anaesthetized with a 10 per cent solution of cocaine and then treated with the galvano-cautery without any suspicion of faintness convulsion or other untoward incident

During the last twenty years, though making free local use of cocaine I have had no anxiety in a single case

This alarming incident with butyn will certainly prevent me from employing it again Compared with cocaine in laryngeal work it is slower in action, very much less effective, produces an irritating amount of secretion, and can evidently be extremely toxic

Whatever its use may be in the eye, ear nose or pharynx, I can see nothing but disadvantages and dangers in using it in laryngeal work

I should add that a few drops of adrenaline were employed with the solution of butyn and that a sterile solution was freshly prepared, according to directions

A CASE OF RAT-BITE FEVER IN ENGLAND

RECOVERY OF THE SPIROCHAETE FROM THE BLOOD

BY

GEORGE C LOW, M A, M D, M R C P,

SENIOR PHYSICIAN, HOSPITAL FOR TROPICAL DISEASES, ENDSLEIGH GARDENS, LECTURER, LONDON SCHOOL OF TROPICAL MEDICINE

CASES of rat-bite fever have been reported from time to time in England The following case is of interest because of its typical clinical signs and because of the fact that the specific germ was isolated from it

History

On December 22nd, 1922, the patient was cutting up logs in a field when his dog began to scrape at what appeared to be a rabbit hole Putting down his hand to catch the supposed rabbit, a rat bit him through the base of the left forefinger The wound felt numb and bled freely It healed up without any treatment in four days, without any pain or throbbing, and no immediate ill effects were felt The rat was old and mangy, its coat being very patchy

Symptoms

Four weeks after the bite the patient noticed a painful swelling in the left axilla, this became larger and in two or three days fever began, with cold shivers restlessness, queer feelings in the head, and sweating The swelling disappeared in a couple of days, but the fever lasted about a week No rash was noticed A second pyrexial attack occurred a week later, this being more severe, with headache and pains in the muscles of the leg, profuse sweating, and two small areas of redness on the left forearm

Attacks similar to this occurred at weekly intervals down to March 28th, 1923, when he was sent to Salisbury Infirmary as a case of rat bite fever While there some injections were given of the nature of which the patient was unaware Further attacks then occurred and finally he was sent up to the Hospital for Tropical Diseases to me by Dr Knight of Tisbury, and admitted there on June 6th, 1923

Condition on Admission

The patient had fever As regards the lymphatic glands the only definite enlargement noticed was in those of the inguinal group The glands in the posterior triangle were just palpable, the axillary and epitrochlear glands were not enlarged the heart and lungs were normal, the spleen at the costal margin was slightly tender, liver not enlarged A well marked rash was present, blotchy, reddish purple in colour mainly present over the right side of the chest, slightly in the left supraclavicular fossa and left shoulder, none on back or legs The rash was raised and somewhat tender The blood count was as follows

Red cells	5,000,000
White cells	16,000
Haemoglobin	90 per cent
Differential count—	
Polymorphonuclears	77 per cent
Large mononuclears	5 ,,
Lymphocytes	18 ,,
Eosinophiles	0 ,,

Bilharzia cysts were present in the faeces, and there was a trace of albumin in the urine, with scanty granular casts The Wassermann reaction was negative

The causative spirochaete (? *Spironema morsus muris*) was seen in fresh blood by dark-ground illumination, and Dr Robertson assistant protozoologist London School of Tropical Medicine, also succeeded in inoculating mice from the blood The parasite was typical in every way, and I have left the description of it to Dr Robertson, who is now engaged in working out the strain The generic name of the parasite seems to be in doubt Dr Wenyon says it is not a *Leptospira* and that probably it will have to be included in the *Spironema* group

The treatment was the usual one of novarsenobillon injections, three in all being given—0 3 gram on June 19th 0 3 gram again on June 26th and a final dose of 0 45 gram on July 7th The effect of these was instantaneous the temperature fell quickly, the rash disappeared, and the patient felt well and fit He left hospital on July 24th, and since that date has kept perfectly well.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CONGENITAL DIAPHRAGMATIC HERNIA

I was recently called in by a midwife to see a newly born infant, the mother of which was a multipara who had worked at her usual occupation—that of chain-making—to within three days of her confinement The presentation was apparently a normal vertex and the labour was rapid, *so much so that the child* was born twenty minutes before the arrival of the midwife

When I arrived, about one hour after the birth, the child was dead To all appearances it was healthy and well nourished, and the cord satisfactorily ligatured The midwife assured me that the child had a healthy colour and was feebly crying when she arrived, and that it became "blue" shortly afterwards

At the request of the coroner I performed a *post mortem* examination, and found that the greater part of the right thorax contained small intestine, which was considerably congested and distended (two days after death) A small portion of the transverse colon was also protruding through a definite oval aperture, readily admitting three fingers, in the right diaphragm through which also passed the small intestine Owing to adhesions and dilatation I found it impossible to reduce the hernia What little there was of the right lung was compressed against the posterior thoracic wall and was no larger than a five shilling piece No part of this lung floated in water The left lung was many times larger than its companion and definitely floated in water The stomach and duodenum were in the abdomen, and all the other organs were apparently normal

It is interesting to note that the child was apparently living until it was picked up to be washed, the position, metaphorically, changing there and then from vertex to breech, thereby causing possibly immediate strangulation at the diaphragmatic aperture

I think, taking all the facts into consideration, the primary cause of death was shock following the strangulation, and that the chief secondary cause was embarrassment of the heart and lungs due to a large diaphragmatic hernia

ARTHUR W TIBBETTS,
M R C S, L R C P

Cradley Heath, Staffs

ABSORPTION OF KELOID

THE condition described in the case recorded below I believe to be unusual, and it seems of sufficient interest to warrant publication

W B a boy aged 14 years, was admitted to Booth Hall Infirmary on October 23rd, 1923, suffering from impetigo of the scalp During the routine examination a large scar was discovered, covering the whole of the anterior *surface of the right* leg from the lower margin of the patella to within two inches of the ankle joint This was the result of a scald eleven months earlier The upper and greater part of this scar was shiny, and very vascular, but below it terminated in a keloid formation which consisted of a main body with five claw like offshoots, all raised above the surrounding surface, very hard, and of a pale pink colour The keloid was firmly adherent to the underlying structures Treatment was not adopted as excision of the scar at a later date was contemplated After an uneventful stay of three weeks in the hospital the boy developed a mild tonsilitis, with a rise of temperature to 100° On the following day he complained of headache, and towards night of irritation and burning under the keloid No change in it was detected and no treatment ordered On the next day he was found to be suffering from scarlet fever, and as he still complained bitterly of the pain in his leg it was again examined It was then found that two claws had disappeared, being replaced by shimmering pink streaks Within four hours of this, three claws had completely disappeared and two remaining ones and the main body of the scar were becoming level with the surrounding tissue, and the adhesions between the scar and subcutaneous tissues had gone

On his recovering from the attack of scarlet fever only two small portions of the remaining two claws were present they were raised above the surface of the surrounding skin, and were hard No part of the scar was adherent to the underlying tissues, and the rest of the keloid formation had been replaced by a supple, shiny scar Both the reddened appearance and the irritation of the leg have disappeared

I wish to thank Dr J D'Ewart for his kind permission to publish these notes

ANNE E SOMERFORD, M B, Ch B Vict,
Booth Hall Infirmary, Blackley, Manchester

British Medical Association

CLINICAL AND SCIENTIFIC PROCEEDINGS

ULSTER BRANCH

THE Winter Meeting of the Ulster Branch was held in the Medical Institute, Belfast, on January 17th

Professor MACILWAINE read short notes on some cases of angina pectoris He said that in hospital the disease often appeared under other names, he had picked out fifty consecutive cases amongst his private ones, and one of the most unexpected features was low blood pressure Professor MacIlwaine gave a short account of Allbutt's and Mackenzie's views, and of the generally accepted explanations In Mackenzie's neurasthenic division was found increased sensitivity and a lowered threshold of nerve exhaustion, he thought the low blood pressure tended to disprove the spasm theory in arterio-sclerosis The two great exciters of the pain were exertion and emotion, especially after a meal Anyone over 50 with such paroxysmal pain should be looked on as a suspicious case, cold was also found to be an exciting cause of the pain The pain in the attack varied in character, but the severity was not a reliable guide to the gravity of the case Pulsus alternans was of great value and always betokened a failing organ, so was a progressive limitation of response to effort Changed cardiographs were found in twenty-five cases out of the fifty Prognosis was so often difficult and even impossible, as they were up against the factor of accident In treatment morphine was of the greatest value Professor MacIlwaine threw a number of cardiograms on the screen and gave explanations and descriptions of the cases

Professor LINDSAY, Dr CALWELL, and Dr MCKISACK raised a number of questions, such as that of including the neurasthenic type, and that of the action of vaso-dilators, whether through the coronary arteries or through the general peripheral circulation

Dr JOHN CAMPBELL showed an unusually large tumour of the breast weighing over 10 lb , which he had successfully removed from a woman, nodules of fibro-adenomatous tissue were found on microscopic section

Dr J CAMPBELL HALL (Monaghan) showed the specimen and read notes of a case of ruptured kidney, which he had successfully removed from a woman of 28, who had fallen on her right loin, there was not much pain at the time, but it subsequently increased, the urine became bloody, the right side became dull from chest to pubis and she looked as if about to die He opened the abdomen and found the whole right side filled with blood, one part of the kidney was near the ribs and the other low in the pelvis He clamped the parts and removed them, and the patient made an uninterrupted recovery and had had a baby since

Dr DARLING (Lurgan) gave some notes of a case of uterus unicornis, and also of a case of a large urinary calculus, which he showed, and which he had successfully removed from a saccule of the bladder, the calculus weighed 7½ oz , and the patient was aged 71

Mr S T IRWIN read notes of four cases of renal colic from abnormal renal artery He said that *x* rays did not help, and it was not always the artery that obstructed He emphasized the importance of a difference of specific gravity of the urine from the two sides He threw on the screen pictures of the kidney, after Mr Crymble and he had injected the normal and aberrant arteries with different colours, showing that there was a clear line of demarcation between the two circulations, so that doing away with an aberrant artery would cause a necrosis of the part it supplied

Professor FULLERTON said that unless the haematuria was very severe it was better to let blows on the kidney alone Diverticula or saccules of the bladder did best with removal if possible Difference in specific gravity of the urine of the two kidneys occurred in several diseases and was a most valuable sign

Dr BOYD CAMPBELL said that when he was in Edinburgh he cut sections of such kidneys for Professor Lorrain Smith, and, in several, definite areas of necrosis were present with clean-cut edges

Reports of Societies.

GALL STONES

A MEETING of the Aberdeen Medico Chirurgical Society was held on January 17th, with the President, Dr G M DUNCAN, in the chair

A paper entitled "Gall Stones a review of 120 surgical cases," was read by Mr F K SMITH, surgeon to the Royal Infirmary Assisted by Mr GORDON BRUCE, he had worked backwards from 1920 through the records of all cases of gall stones in the wards with which he had been associated till a total of 120 cases had been reached From the information obtained, he had drawn certain conclusions with regard to methods of surgical treatment, the dangers associated with operation, the main causes of mortality, and the recurrence of biliary trouble Of the 120 patients operated upon 19 were males and 101 females, and 87 of these were traced In many cases, symptoms had been present for ten or fifteen years, with the result that the impaired biliary and hepatic system had resulted in chronic systemic disease, so that the operative risk was very high

Mr F K Smith divided the cases into two classes—acute (that is, the acutely infected, not necessarily those with acute biliary colic) and chronic The majority of the patients of the acute class, after having had premonitory signs of biliary disease for years, became ill with the suddenness typical of the acute abdomen Mr Smith traced the usual course of events in such cases, and referred to cases of special interest in his series, such as acute haematogenous cholecystitis and progressive cholangitis In most of the acute cases the treatment was cholecystectomy and out of a total of 32 patients so operated upon the mortality was 11, being much greater among men than among women Of those who survived, 18 replied to the letter of inquiry, and 15 were in very good health more than two years after operation From his review of the acute cases, Mr Smith concluded that improved results could best be obtained by improvement in technique, and by reducing the number of acute cases (that is, by earlier diagnosis or earlier operation) He then described the symptoms and signs which might be produced by an acute infection of the gall bladder, and briefly discussed the comparative merits of cholecystectomy and cholecystostomy in these cases, some points in the operative technique, the prevention of haemorrhage in jaundiced cases, and post-operative care in general In the whole series there were five cases of malignant disease In the group of chronic cases there were ten of chronic cholecystitis without calculi, and in these multiple abdominal lesions were the rule most were treated by cholecystectomy, but the results were poor Cases of calculi in the common duct numbered 23 jaundice was present in about half the number Of chronic cholelithiasis there were 55 27 were treated by cholecystectomy with 2 deaths, the end results in the survivors being good, and 28 by cholecystostomy also with 2 deaths From a general survey of the group Mr Smith concluded that in these cases cholecystectomy gave better results than cholecystostomy as regards both general condition and recurrence of gall-stone symptoms

In the course of an interesting discussion which followed the paper, Dr CRUICKSHANK mentioned various theories of the causation of gall stones and described some animal experiments that were now being undertaken, Professor MARNOCH gave his opinion that gall stone cases were now very much more common than previously, Dr J D WHITE discussed the *x*-ray investigation required, and Dr Ross MACKENZIE recommended gas and oxygen as the best anaesthetic for the operation Dr A G ANDERSON, Mr G H COLT, Dr SKINNER, and Mr G S DAVIDSON also spoke

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AT the annual meeting of the Harveian Society of London the following officers were elected for the year 1924 *President* Dr Reginald Dudfield *Vice Presidents*, Mr D C I Fitzwilliams Drs Montague Smith, W E Falconar and C M Wilson *Treasurer* Dr G de B Turtle *Honorary Secretaries* Drs A Hope Cosse and W G Bendle

Reviews.

THE WESTERN FRONT, 1914-1915

[FIRST NOTICE]

THE publication of the official *Medical History of the War*, compiled under the direction of a committee with SIR WILLIAM MACPHERSON as its chairman, seems to be now within measurable degree of completion Its eventual nine or ten volumes will fall practically into two quite distinct divisions One of these deals with strictly medical subjects, such as surgery, pathology, sanitation, and what our two first allies call "internal medicine," and much of its contents will sooner or later become a part of ordinary civilian medical knowledge, indeed, to a large extent this is already the case The other division deals exclusively with the purely military aspect of the work of the medical profession during the late war, and young R A M C officers of the future will not improbably be expected to show a good knowledge of its contents Future administrators at the War Office will also have to study this division, and the volumes forming it are likely to be at least skimmed by those self-appointed critics of the medical services of the army who, though possessed neither of military nor of medical knowledge, have been numerous in the past and may be not less so in the days to come

Publication of the specifically medical division of the history is understood to be complete—unless the volume of statistics under preparation by the Ministry of Pensions is to be regarded as belonging to this division—but of the five volumes that are to form the second division mentioned only two have yet appeared (vol I in December, 1921, and vol II in December, 1923) The remaining volumes are understood to have been already written, but they will not be published for some little time The second volume[1] is, like the first, exclusively the work of Sir William Macpherson himself It deals in more or less detail with the series of operations on the western front—that is to say, with occurrences in France and Flanders—but carries the account of matters only down to the end of the battle of Loos early in the month of October, 1915 The rest of the history of matters on the western front is to form part of a volume to appear later Since the war lasted for full three years after the battle of Loos, and the medical work in France was for considerably longer in full swing and of a very complicated character, the reader may well be disposed to wonder how the remaining history can be compressed even into the greater part of a future volume if he notes that only some fifteen months of the war on this front occupy a book which, though succinctly written, contains well over 200,000 words The explanation may lie in the fact that part of the present volume deals with subjects whose interest is not confined exclusively to events during the first months of the war on this front In fact, the first seven chapters supply an account of the kind of work that the medical services had to perform in France, and indeed more or less on all other fronts, from the beginning of the war in 1914 to the end

These chapters deal seriatim with general administration, the medical services in army areas, at bases, and on the lines of communication, with allied contingents, special corps, and with the Indian contingent, with women workers and with the labour companies, which latter were somewhat widely distributed over France Naturally also the work of the nursing service and its adjuncts receives attention

The eighth chapter deals with the period of concentration—that is to say, the time between disembarkation and the moment when contact with the enemy was established—and the remainder supply very detailed accounts of all operations between the first advance into Belgium and the end of the battle of Loos The nomenclature adopted in respect of these seems to be that approved by the War Office Committee which dealt with the subject of regimental battle honours

Judging from the manner in which all the chapters are compiled, it would appear that the intention of the historian was not only to be succinct, but to refrain from all comment, at times, however, the facts are so worded or so collated as to seem to amount in effect to a comment, if not a criticism, on the occurrences recorded

For the reasons already stated, the military division of the history is likely to have a more enduring circle of readers than the other division, and for other reasons this particular volume is likely to attract more general attention than any other Those who take it up—and their number will probably be very large—should read it steadily right through, for from time to time impressions that may be gathered from the early chapters are modified by what appears later on It is inevitable that the mood of many of those who read it will be of a critical character, but how far the book exposes itself to criticism other than of a favourable kind is quite another question

To collate innumerable war diaries, official dispatches, and private records, to digest their contents, and so to condense the whole as to compress it into a reasonable number of volumes, is a task of enormous difficulty, and it is such a compilation only that Sir William Macpherson has undertaken, though in the first seven chapters he has supplied something in the nature of an independent summary of matters Few have as good a command of English as Sir William Macpherson, and no one is more capable than he of supplying students with a clear comprehension of any military matter with which he deals On this account it may without hesitation be said that most readers would have preferred less of Sir William Macpherson as a condenser of diaries and a great deal more of him as a recorder of events entirely in his own language, and as a commentator thereon Furthermore, the practical utility of the whole undertaking of producing a medical history of the war would have been increased thereby

It is not a State secret that the posting up of war diaries was frequently assigned to the most junior officer on the staff of the unit concerned, frequently the time for this had to be snatched at moments of extreme urgency in other directions, and in any case it is inevitable that a war diary should be a somewhat lifeless record of bald facts No doubt they habitually contained a record of orders given and of orders received, but one wonders if any of them ever contained a review of the outcome of those orders, and a record of such matters as the extent to which the results were affected by the state of the weather and the operations of the enemy, or by the inadequacy of the information on which the orders were based, or by the failure on the part of executive officers to give full effect to the instructions received, or, vice versa, by such officers compensating the absence of adequate instructions by their own intelligence and initiative

We are disposed to regret that the History Committee did not boldly recognize that an account in satisfactory detail of operations lasting over four years, and including many different forms of warfare, was impossible, and therefore authorize Sir William Macpherson to present an account of the varying situations with which the medical services had to deal, and of the administrative and executive problems arising in connexion with them, illustrating his points by reference to the history of various units at different moments of their work

As things are it is certain that a good many of those who took part in the war will be disappointed to find their units only cursorily mentioned if at all, in an ostensibly detailed history, while there are others that repeatedly come into the foreground It is doubtful, too, whether those who have to read the work, say, ten years hence will derive from it an adequate notion of the mental and moral atmosphere prevailing at the time, and of the physical conditions in which lived those whose work is described There may also be those who will regret the absence of any direct reference to certain problems which at the time of their origin seemed to them of a most intense interest, and which were in fact of importance, not only at that time, but also in their bearing on army medical administration in the future

The opening chapter deals with administration, and should be carefully read despite the fact that its perusal is rendered somewhat tedious by the inevitable frequency with

[1] *History of the Great War based on Official Documents* Medical Services General History Vol II *The Medical Services on the Western Front, and during the Operations in France and Belgium in 1914 and 1915* By Major General Sir W G Macpherson, K C M G C B LL D London His Majesty's Stationery Office. 1923 (Demy 8vo, pp 510, illustrated 21s. net)

which initials are used, and despite the fact that to many men the distinction the Army Medical Department draws between administrative and executive positions has never been very clear

In common with the rest of the Expeditionary Force, the medical service was reorganized within about three months *of the date of mobilization*, and meantime shared to the full the immense difficulties in which the whole force was involved within a fortnight of landing in France Some of these difficulties were of an avoidable nature, and on the whole it is remarkable that matters medical went as well as they did

The original D M S of the force, Surgeon-General Woodhouse, was ordered to take up a position which placed him geographically entirely out of touch both with the Commander-in Chief and the Adjutant-General, and one, moreover, in which he could neither control the forward units under his command nor know either what they were doing or their needs It is clear also that either because the Army Council had thought out its *mobilization plans* imperfectly, or because it changed them at the last moment, the medical units were sent out topsy-turvy, and hence created difficulties for the D M S from the very beginning Thus a date table in the volume reveals that, apart from the fact that no sanitary sections arrived until several days after the landing of troops, as many as eight completely equipped hospital units, including nurses, arrived in France before a single field ambulance landed The text shows that some cavalry divisions moved out to meet the enemy without any ambulances at all, and all other divisions moved forward from the concentration area each accompanied by a single field ambulance instead of three Among unavoidable difficulties, no sooner had he found sites for his hospitals and arranged for his line of evacuation to England than the *débâcle at the front* necessitated his instant finding of new positions much further south in an area already full of French medical and other units After the successful advance to the Aisne a few weeks later he had to change everything back again Finally, valuable time was taken up by dealing with offers of Red Cross and other voluntary assistance, most of which for the time being could not possibly be utilized

All these factors are fairly stressed in various chapters, but since the provision of histories of great events is of more than academic interest only so far as they provide clear lessons for the future, we should have been glad to have seen the first factor punctuated in such a way that its significance and importance could not have been overlooked even by the most careless reader As was well brought out by Major M B H Ritchie, in a paper entitled "Mars Hygeaque" in the *Journal of the R A M C* last July, the position of the A M S is at the best an advisory one, and the power of a Commander-in-Chief practically to abolish his chief medical adviser, but yet leave him as a scapegoat if matters medical go wrong, still exists, and will probably always exist until the medical department is directly represented on the Army Council

For some time in France, as has already been indicated, the Commander-in Chief had near him no representative of the medical department, and thanks only to a fortuitous circumstance was the D M S able to get himself represented at General Headquarters before fighting actually commenced The War Office had intended that each of the three corps forming the original Expeditionary Force should have a D D M S, and had sent out the officers concerned, but the commander of one of the corps held that there was no authority for such an appointment There was thus at a loose end a senior officer of experience, and one who was known to have gained much popularity when serving in the column of Sir John French in the South African war A suggestion that this officer should join General Headquarters was accepted, and the chief danger of the position was thus arrested, though some of its other drawbacks remained unaltered A somewhat similar situation arose much later in the war when General Headquarters moved from St Omer to Montreuil, on which occasion the D G M S was ordered to establish his office at a town some fifteen miles from General Headquarters, and thus had to appoint a deputy to represent him at the latter

In the Italian expedition the D M S was given his proper position near General Headquarters, though he obtained it only after a fight, but from a future volume it will probably be learnt that in the Gallipoli expedition the isolation of the D M S was largely responsible for the hostile criticism incurred by the medical arrangements on that front, and that the possibility of bringing it about was an evil factor on all fronts alike Obviously, if a Commander in Chief has not got his principal medical adviser at his side when a decision on a medical subject has to be reached immediately, he must either take the opinion, not of the officer specifically picked out for him by the War Office as his adviser, but of a junior of this officer, or else dispense with any medical advice altogether In addition, when a deputy is appointed more or less delay and duplication of work is bound to occur, and the deputy, however intelligent and conscientious, may at times block the plans of his chief

The historian draws attention to the fact that all the field ambulances belonging to divisions in the concentration area had disembarked by the time the first advance took place, but he does not specifically point out that, although disembarked, some of them were still some 200 kilometres from the spot on the Belgian frontier from which they ought to have been moving into action with their divisions It is true that at the last moment, just before embarkation commenced, the D G A M S, at a hurried conference, seems to have agreed to content himself at first with only one field ambulance instead of three for each division But would he have done so if his position had been one of greater independence? As things are the real head of the medical department is not the Director General but the Adjutant-General In ordinary times only through the Adjutant-General can the Director-General get his views laid before the Army Council, and they are unlikely to be accepted unless the Adjutant-General both shares them and happens to prove an able advocate

In addition there is evidence in this history that the authority of the Adjutant-General over the medical department was regarded by some of his deputies in different areas and commands as delegated to themselves The historian does not directly allude to this fact, but there can be no doubt that had he thought it well he could have adduced many cases in point It was common knowledge that for a considerable period in France after operations had commenced the success of responsible administrative officers of the A.M S in getting their views considered by the commander to whom they were attached, or even in laying them before him at all, depended not on their official position, but on their own personality This dangerous state of affairs never entirely ceased throughout the whole four years in France, though after the reorganization of the force at the end of 1914, and the appointment of a D G M S, it was little by little neutralized But this advantage was not obtained without a struggle, and success was mainly due to the fact that the officer appointed D G M S happened to be a man of strong personality, and that after Sir Douglas Haig took over the command in-chief it became known that the wishes of the Medical Service were to be met whenever possible

As an instance of the unhappy effect of the subordination of the medical services to the Adjutant General may be mentioned the circumstance that for a long time he refused his consent to a plan for improving the system for safeguarding the sanitation of army areas which was eventually adopted with very great benefit

A TEXTBOOK OF GYNAECOLOGY

THE third edition of Professor GRAVES'S *Gynecology*[2] maintains the uniformly high level of this fine textbook The whole volume has been thoroughly revised and brought up to date—in many places by the addition of a short paragraph rather than by any recasting of the original text This method has undoubtedly a good deal to recommend it, as it enables the reader to see at once what are in fact the more recent advances along different lines In this way all the more recent work in connexion with

[2] *Gynecology* By William P Graves, A B M D F A C S Professor of Gynecology at Harvard Medical School etc Third edition thoroughly revised Philadelphia and London W B Saund r Co 1923 (Double sup roy 16mo pp n 6 535 figures 45 net)

ovarian tumours has been incorporated Sampson's work on perforating haemorrhagic cysts of the ovary has been included in some detail, and it is interesting to observe that Professor Graves accepts his views *in toto*, and apparently without any criticism This is somewhat surprising in a volume belonging to the class of academic textbooks, which as a rule err on the side of cautious conservatism Professor Graves is obviously enthusiastic about Sampson's unquestionably admirable work, for he applies to it the somewhat exaggerated term of "epochal" Dr Sampson may be right as to the origin of extrauterine adenomyomata and the nature of haemorrhagic cysts of the ovary, but his theory seems not devoid of difficulties, particularly the idea of regurgitation of menstrual blood and endometrial epithelium through the tubes, and even although it has been supported by some recent experimental work it would appear more appropriate to regard it as still *sub judice* Some "new" methods of plastic work are described in the section devoted to operations, but here again a more prolonged period of digestion before including some of these in an academic textbook would have been all to the good

Such criticisms, however, in no way detract from the general merits of the book, which in our opinion still deserves the high encomiums which we gave it on its original appearance

AN ENCYCLOPAEDIA OF PEDIATRICS

THE third edition of PFAUNDLER and SCHLOSSMANN'S work on children's diseases[3] has new contributors, and the text has been rewritten, so that it is almost a new book, although the plan of the earlier editions published in 1906 and 1910 is followed The first instalment, which is before us, consists of two large volumes and is to be followed by two others of similar size The word "Handbook" applied to a work of this size seems foolish, or may be a joke, for nothing less than "system" or "encyclopaedia" would be fitting The editors have secured the assistance of a distinguished group of contributors, representing the schools of Berlin, Vienna, Munich, Dusseldorf, Stuttgart, Basle, Helsingfors, Leipzig, Hamburg, and Tubingen

Pains have been taken to bring the book abreast of recent advances in knowledge, and to give a full account of all diseased conditions, uncommon and common, that affect the age of childhood, while including also the important and complicated subject of nutrition and metabolism in infancy and childhood

The first volume deals with general questions and basal data The first section is given up to embryology, both normal and pathological, the statistics of disease in childhood, the general principles of preventive and curative medicine, and a discussion of the hygiene of young life which includes the clothing and whole environment of the child, and then deals with posture and exercise After these preliminaries comes an account of the food and feeding of the infant The special department of pathology concerned with the first days of life is the subject of a long and well illustrated article, the associated condition of prematurity also fully dealt with, and there is an interesting and useful chapter on the physiology and pathology of puberty The actual field of disease in children is entered in the section dealing with the various diatheses of childhood, and with diseases of general metabolism and of the blood The interest shown in the controversial and obscure subject of diathesis is peculiar to German pediatricians and is not found to the same extent in France, Great Britain, and America There is a long chapter on Czerny's exudative diathesis and its relation to lymphatism (of the older French writers) scrofula, status lymphaticus (Paltauf), status hypoplasticus (Bartel), and arthritismus (Comby) This is followed by articles on diabetes mellitus, rickets, scurvy, and the blood diseases of early life The concluding section deals with pathological conditions of the thyroid and thymus, but omits the other glands of internal secretion An appendix is devoted to mongolism and other multiple congenital defects

The second volume, of 700 pages, deals with infectious diseases Diphtheria, scarlet fever, and measles are very completely described, and the coloured plates of the skin and throat lesions are both numerous and good The allotment of space to the other subjects included in this volume is somewhat unequal Erysipelas and tetanus are dealt with in four and dysentery in six pages But there is a sufficiently full account of epidemic encephalitis, though here the illustrations are not up to the general standard Rheumatic infection in childhood is given the title of polyarthritis acute, a phrase not suited to the chronic and insidious character of the majority of the cases Syphilis and tuberculosis are very fully dealt with Special praise must be given to the illustrations in the former article, but in the very complete description of tuberculosis and scrofula by F Hamburger the reader will miss illustrations of the morbid anatomy of the disease

The work is intended to be encyclopaedic, and consists of a series of monographs by various writers Each article is furnished with a sufficient bibliography which is not exclusively German, and attempts a complete and up-to-date account of the subject, both clinical and scientific Indeed the general editors have secured from all their contributors a sufficient emphasis of the clinical side, both with regard to symptoms and treatment, and have not allowed the interest of the practitioner to be extinguished by the prodigious output of the laboratories of the world Where the subject permits of illustrations, these are generously supplied in photographs, microphotographs, and radiographs, a number of coloured plates are given

ORTHOPAEDIC SURGERY

THE seventh edition of Dr ROYAL WHITMAN'S well known *Treatise on Orthopaedic Surgery*[4] has followed quickly on the sixth, which was noticed here on August 9th, 1919 (p 172) Although the bulk of the work remains the same the new edition is not a mere reprint, for parts of it have been rearranged and more than a hundred new illustrations added Such a standard book calls for no recommendation from us, and we will therefore confine our remarks to comments on the new matter In the chapter upon diseases of the nervous system some new operations for the improvement of cases of anterior poliomyelitis are described and illustrated by drawings The author recommends the use of crutches for cases of extensive palsy of the lower extremity, and states that in such cases where instrumental support is unavoidable and contractions exist, the Soutter operation for contracted hip and his own for flail-foot are the most valuable His opinion of Stoffel's operation for cerebral spastic palsy in the lower extremity does not seem to have improved, although he has added two diagrams to illustrate the arrangement of the motor bundles in the median and internal popliteal nerves Dystonia lenticularis, dystonia musculorum deformans, and amyotonia congenita receive brief notice The last chapter, which in the sixth edition was on military orthopaedic surgery, is now headed "Collateral orthopaedic surgery", some of the military matter has been omitted, and the subjects dealt with are now the sacro-iliac and lumbosacral joints, the treatment of fracture of the neck of the femur in adults, operations for arthritis of the hip, such as arthrodesis, fractures in general, and also some of the more military subjects which were dealt with in the same chapter of the sixth edition Almost every chapter has some new illustrations with appropriate references, but with the above exceptions the changes are small No doubt this edition will maintain the reputation of the work as one of the best general statements of current orthopaedic practice in the English language

In his *Surgery of the Spine and Extremities*[5] Dr R TUNSTALL TAYLOR, who is well known in the United States,

[3] *Handbuch der Kinderheilkunde* Herausgegeben von Prof Dr M von Pfaundler und Prof Dr A Schlossmann Third edition Vols I and II Leipzig F C W Vogel 1923 (Imp 8vo Vol I pp 962 13 plates, 198 figures Vol II pp 717 29 plates 260 figures)

[4] *A Treatise on Orthopaedic Surgery* By Royal Whitman M D, M R C S, F A C S Surgeon to the Hospital for Ruptured and Crippled, New York, etc Seventh edition thoroughly revised London Henry Kimpton 1924 (Med 8vo pp xii + 933, 877 figures 42s net)

[5] *Surgery of the Spine and Extremities A Textbook for Students and Practitioners* By R Tunstall Taylor, B A, M D, F A C S, Professor of Orthopaedic Surgery in the University of Maryland and College of Physicians and Surgeons Philadelphia P Blakiston's Son and Co London Stanley Phillips 1923 (Roy 8vo, pp x+550, 604 figures 7 50 dollars.)

sets forth the results of his experience as an orthopaedic surgeon and teacher of orthopaedic surgery He modestly remarks in his preface that "no attempt has been made to make this work encyclopaedic," but for all that he has produced a fairly extensive survey of the subject He rightly lays considerable stress on the importance of orthopaedic technique, and to this Part I is devoted It is clearly useless to expect good results unless the various kinds of apparatus are properly applied One of the objects of orthopaedic surgeons of the present day is to avoid as much as possible having recourse to the instrument maker The surgeon must not only know how to make and apply various splints and plaster supports, but he must have acquired the necessary skill by practice This part of the book, however, is not confined to mechanical help in treatment, but includes directions for operations in general, bloodless technique, and anaesthesia, as well as details of such procedures as tenoplasty, lengthening and shortening of tendons, osteoclasis, osteotomy, bone grafting, and bone transplantation, and all the directions given would be useful to any surgeon inexperienced in this class of work Dr Taylor declares that he has been careful to give credit to other authors, but it is doubtful whether his own countrymen do not in some cases receive credit at the cost of a lack of appreciation of what has been achieved by Europeans Surgical mensuration has a chapter to itself We question, however, whether it is worth while to devise and use such elaborate instruments when it is often impossible *in vivo* accurately to define the points from which the measurements are to be taken, and when sufficient information can be obtained with quite simple and rough and-ready apparatus Spinal affections are dealt with in Part II Tuberculous lesions of the spine and sacro-iliac joints are adequately discussed, as also are non tuberculous affections Finney's operation on the cervical plexus and spinal accessory nerves of both sides at one sitting for spasmodic wry-neck is described, but the author expresses no opinion as to its value It involves a very extensive dissection of both sides of the occipito-cervical region, and is obviously an operation of considerable gravity, only to be undertaken when the patient's sufferings from spasm have become intolerable, for, as is well known, the prognosis in such procedures is very uncertain Scoliosis, which the author prefers to call by its old name of lateral curvature, and its treatment take up the rest of Part II, which offers no novelty in pathology or treatment Part III is devoted to affections of the extremities, and includes an adequate discussion of such subjects as tuberculous joint disease and congenital and acquired deformities of the limbs The last chapter, on reconstruction of the hand, contains information of practical value, including a new method of applying sutures Dr Taylor has evidently devoted considerable attention to this subject, especially as regards operations on tendons, and his methods will repay study by any surgeon who is about to operate on a crippled hand

The third edition of Dr R W LOVETT'S well known monograph on *Lateral Curvature of the Spine and Round Shoulders* was noticed in our issue of December 16th, 1916 (p 841) The fourth edition[6] is now before us The work has an established reputation, and the fact that this new edition has appeared so soon after the third may be taken as showing that there is a lively demand for it In the preface the author states that, although no radical advances in treatment have been made in the last few years, the great importance of mobilizing distorted spines constitutes in his opinion the most important change in the point of view Except for the omission of a number of old illustrations and the substitution of a smaller number of new ones, there is very little difference between the third and the fourth editions, and the book remains, as before, a standard textbook on the subject We regret to note that Dr Lovett is unrepentant in his misspelling of the name of Andry, the father of orthopaedics

[6] *Lateral Curvature of the Spine and Round Shoulders* By Robert W Lovett M D Sc D Boston John B and Buckminster Brown Professor of Orthopedic Surgery Harvard University Fourth edition revised London H K Lewis and Co Ltd 1924. (Demy 8vo, pp xii+218 172 figures 12s 6d net.)

PSYCHO ANALYSIS

DR J H VAN DER HOOP has set forth clearly in a volume, the English translation of which is entitled *Character and the Unconscious*,[7] the essential differences between the psychological theories of Freud and Jung Having outlined the fundamental tenets of Freud's doctrines the author proceeds to consider the reasons for the hostility which they have aroused He does not feel that this has necessarily been conditioned by unconscious complexes as Freud's followers maintain, and suggests that it is due in large measure to the rigid determinism which characterizes the psycho-analytical theory He proceeds to show that the denial by Freud and his pupils of the existence of a creative principle of life, which, within limits prescribed by circumstances, is free to choose and create new forms, has caused a reaction which has found its most notable expression in the teaching of Jung With this teaching the author is in sympathy, though he recognizes the importance of the causal and deductive method of investigation especially in abnormal mental conditions He expresses the view that synthetic psychology, with its emphasis on growth and development rather than on mechanisms and origins, will be of great help to humanity in the future It will lead so he feels, to a greater respect for individual growth, and it will also remove many sources of misunderstanding The book is a useful and balanced contribution to a difficult and obscure subject, and it contains a number of original observations

ST BARTHOLOMEW'S HOSPITAL REPORTS

THE first instalment of the fifty-seventh volume of *St Bartholomew's Hospital Reports*[8] opens with an obituary notice of the late William Harrison Cripps, who was a connexion of the famous Sir William Lawrence, surgeon to the hospital from 1813 to 1865, and reproduced some of his characteristics Sir D'Arcy Power writes of Cripps "His teaching was Socratic and was enlivened by sharp showers of caustic wit descending with equal impartiality on students and patients and delivered in a soft voice with a little click of the tongue, which was either copied from Sir William Lawrence or was an inherited Lawrence trait" In his article on the actions of digitalis in man and their applications to its therapeutic uses, Professor Francis R Fraser summarizes four lectures delivered in 1921 While some clinicians confine its use to cases of heart failure due to auricular fibrillation, he considers that practically every class of myocardial insufficiency should be benefited by its administration, though those with severe myocardial degeneration respond badly Thus, though in mitral disease with cardiac failure and a normal rhythm the *effect of digitalis is not so* rapid or dramatic as in auricular fibrillation, and the slowing of the ventricular rate by inhibition of conduction is absent, it is more permanent and its constant administration to control the ventricular rate is not required On the moot point of the efficiency of digitalis in febrile conditions it is observed that the vasomotor disturbance will not be influenced nor the pulse rate diminished, but the indications for digitalis in fevers such as pneumonia are the same as in non febrile cases—namely heart failure Eggleston's rapid method of giving the total amount of digitalis required by a patient in three doses so as to obtain the full effect in twelve to twenty four hours and a definite effect in five to six hours is described Mr T P Dunhill's beautifully illustrated article dealing with the parathyroid glands and their importance in surgery appeared practically simultaneously, in our issue of January 5th last, and is therefore familiar to our readers Dr F G Chandler reviews the methods of treating acute empyema, he has analysed 1,500 cases treated in two large London hospitals and has gone over the literature from Hippocrates to the Empyema Commission in the United States during the war

[7] *Character and the Unconscious A Critical Exposition of the Psychology of Freud and Jung* By J H van der Hoop Authorized translation by Elizabeth Trevelyan. London Kegan Paul Trench Trubner and Co. Ltd 1923 (Demy 8vo pp viii + 223. 10s 6d net.)

[8] *St Bartholomew's Hospital Reports* Vol lvii Part 1 London John Murray 1924 (Double cr 8vo pp 161 6 plates (2 in col ur). 10s. 6d.)

Mr Geoffrey Keynes's report on twenty-one cases of actinomycosis admitted to the hospital during the last twelve years deals especially with treatment, and throws much doubt on the value of that standard remedy—potassium iodide, for though nearly all his cases were thus treated for a longer or shorter period, no improvement could be ascribed to its use His experience goes to show that vaccines probably have some value, but that, as other methods were also employed, their precise beneficial effect is difficult to determine He is firmly of the opinion that surgical measures should always precede other methods of treatment

DIABETES MELLITUS

DR MARCEL LABBÉ'S researches and publications on diabetes mellitus are too well known and appreciated to require further commendation, and an English translation[9] of a collection of his clinical essays is sure of a cordial welcome from British readers Dr C G CUMSTON is responsible, not only for the translation of M Labbe's essays, but for three which do not appear in the French edition The new chapters deal with "Maillard's coefficient of urogenic imperfection," "the signification of colloidal nitrogen in urine," and "the residual N of the blood serum in diabetes" respectively With the advent of insulin there may be a tendency to disregard all books on diabetes of the pre-insulin era, but Marcel Labbe's writings will always be worth turning to if for nothing else than for his insistence that there is a group of diabetics whose nitrogenous equilibrium has broken down As our experience of the beneficial results of insulin expands we are the more struck by those cases which not even insulin, not even sugar-free urine, not even a normal blood sugar will improve These are Marcel Labbe's type of diabetes with failure of protein metabolism Dr Cumston's English edition is accurate and readable, though we do not agree with his adoption of the word "suralimentation" into our language

In reviewing the second edition of Dr ELLIOTT P JOSLIN'S book on *The Treatment of Diabetes Mellitus* we had pleasure in stating that it contained a full and authoritative account of the modern treatment of diabetes laid down by Dr F M Allen What was then said applies to the third edition,[10] but the author has inserted at the beginning of the volume a new section on insulin It goes over the familiar ground describing early researches into the relation of the pancreas to diabetes and the steps by which Banting and Best were brought to their discovery of insulin This is followed by a discussion of the use of insulin in the treatment of diabetes and the precautions which should be observed Of twenty deaths which occurred among 293 patients treated with insulin in the year ending August, 1923, coma was responsible for nearly a third In a short section discussing the behaviour of insulin in infections during the course of diabetes, it is stated that patients with local infections recovered more quickly with insulin than under the customary unaided dietetic and surgical treatment whereas in more serious general infections insulin seemed to have little effect

LETHARGIC ENCEPHALITIS

IN their book on lethargic encephalitis, Drs L VAN BOECKEL and A BESSEMANS, of the Belgian Ministry of Health with the collaboration of Professor C NELIS of Louvain, who is responsible for the section on human histopathology have presented a very full account of the disease as observed in Belgium[11] The first part of the volume is devoted to the clinical aspect of the disease After an introduction dealing with the history and geographical distribution of the disease and with its occurrence in Belgium, a detailed description is given of its clinical symptoms, its various forms, and the differential diagnosis The etiology and epidemiology are next considered, especially as regards the influence of such factors as age, sex, profession, race, season, and the puerperium, as well as predisposing causes such as a neuropathic constitution, respiratory affections, especially influenza, pregnancy, and nervous disorders Special attention is given to the question of the contagiousness of the disease, of which no examples were observed in Belgium analogous to those reported in this country by McNalty The sections on morbid anatomy and physio-pathology are illustrated by numerous microphotographs and diagrams, and the first part ends with a few pages on prophylaxis and treatment

The second part deals with the organisms to which various observers have attached etiological significance, the symptoms and morbid anatomy of the experimental disease, including personal investigations by the writers, the general characters of the virus and the viruses analogous to those of epidemic encephalitis, such as the salivary viruses of Levaditi, Harvier, and Nicolau, the herpetic viruses of numerous other observers, the encephalitic ultramicroscopic virus of animals, and the viruses of rabies, poliomyelitis, and vaccinia Four bibliographies are appended, the first of which appears to be identical with that published in the recent report of the Ministry of Health, edited by Dr Alan Parsons

The work is not only a valuable contribution to the literature of lethargic encephalitis, but is an achievement of which Belgian medicine may well be proud

NOTES ON BOOKS

THE subtitle of *Systematic Organic Chemistry*,[12] by W M CUMMING, I V HOPPER, and T S WHEELER, is 'Modern methods of preparation and estimation," and the book is advertised as a complete laboratory guide to the estimations and preparations of organic chemistry These quotations indicate the scope of the work, which is intended for the use of undergraduate and post-graduate students It gives a fairly detailed account of the mode of preparation of some 500 organic substances, and the authors, who have all had experience of industrial chemistry, have paid particular attention to the needs of students whose ultimate interests are likely to be in that direction Thus several manufacturing methods are described on a laboratory scale, and in many cases notes on the costing of processes are given The first part of the book is devoted to the description of apparatus and methods, and this part is very well illustrated The substances are classified according to the nature of the reaction performed—that is, the linking of carbon to carbon, the linking of hydrogen to carbon, the linking of oxygen to carbon, and so on In the case of each preparation described full practical details are given and references are appended to the most important literature on the subject In addition to the usual organic preparations, the production of a few biochemical substances such as tyrosine and cystine is described, and short chapters are devoted to the preparation of dyes and drugs The last part contains accounts of typical quantitative estimations, and a certain number of qualitative tests also are described

We have received the first part (Aal Butter) of a lexicon of nutrition[13] edited by Professors E MAYERHOFER of Agram and CLEMENS PIRQUET of Vienna It promises to be a monumental work, dealing with all aspects of the subject, and is intended not only for medical practitioners but also for veterinarians, chemists, botanists, and zoologists, to mention only those who take a scientific interest in the food problem The variety of subjects discussed in this first instalment is shown by the following list of some of the principal entries food refuse (Abfälle), appetite, food supply of oxen and horses (Arbeitstierefütterung), agriculture (Bienenzocht), Banting's cure, beer, bread and butter Brief notices of gastronomists such as Accum, Apicuis, Athenaeus, Brillat Savarin, and Baron Brosse are included An ingenious numerical system has been devised by which every food substance can be identified.

[9] *Clinical Treatise on Diabetes Mellitus* By Marcel Labbé, M D Translated revised and edited by C G Cumston M D London W Heinemann (Medical Books) 1922 (Demy 8vo pp viii + 782, 18s net)

[10] *The Treatment of Diabetes Mellitus* With Observations Based upon Three Thousand Cases By Elliott P Joslin M D M A Third edition Enlarged and revised and rewritten London H Kimpton 1924 (Med 8vo pp xiii + 1,184 34 figures 36s net)

[11] *L'Encéphalite Léthargique ses particularités en Belgique Sa Clinique Son expérimentation* By L van Boeckel A Bessemans and C Nelis Brussels Ch Nolent et Cie 1923 (Roy 8vo, pp xvii + 698, 142 figures)

[12] *Systematic Organic Chemistry* By William M Cumming B Sc, F I C and I Vance Hopper B Sc A R C Sc I F I C Lecturers in Organic Chemistry in the Royal Technical College Glasgow and T Sherlock Wheeler B Sc A R C Sc A I C London Constable and Co Ltd 1923 (Demy 8vo pp xxii + 535 79 figures 25s net)

[13] *Lexikon der Ernährungskunde* Herausgegeben von Dr E Mayerhofer und Dr C Pirquet 1 Lieferung Wien, Leipzig, München Rikola, 1923. (Double roy 16mo, pp viii + 144)

We have received for notice a copy of the second edition of a useful work[1] intended to familiarize English speaking practitioners with the German medical vocabulary The translator and editor is Miss B LEWIS, teacher of medical German in Vienna, and a short preface was contributed by the late Professor POLITZER The first part of the book consists of a number of lectures on clinical and pathological subjects by younger members of the Vienna medical faculty, the German text is printed on the left of each opening and the English version on the right The lectures are intended to serve the double purpose of putting a large vocabulary of modern German medical terms side by side with their English equivalents, and of illustrating the method of clinical instruction pursued in Vienna The second part comprises short case histories, notes on tests and operations, with instructions to patients, the third part gives descriptions of examinations by chemical and microscopical methods This volume is a companion to three previous bilingual "medical vademecums" arranged by Miss Lewis for ophthalmologists, rhino-laryngologists, and otologists respectively, and noticed in our issue of April 21st, 1923 (p 685)

[1] *Medizinisches Vademekum in deutscher und englischer Sprache* (Medical Vade-mecum in German and English) By B Lewis with Preface by Professor Dr A Politzer Second edition Vienna B Lewis London J and A Churchill 1924 (Pp 559)

PREPARATIONS AND APPLIANCES

Salicin

SALICIN, the glucoside of *Salix alba*, is one of the natural therapeutic substances which continues to maintain its right to recognition among materia medica as an alternative to other members of the salicylic group For the dispensing of salicin there is no more suitable or convenient form than that of the compressed tablet We have examined a specimen of such tablets prepared by the St Amand Manufacturing Company, Ltd (Carnwath Road, Fulham, S W 6), and have submitted them to our analyst, who reports favourably on the purity of the material The tablets are of even weight, containing 5 grains each of the pure substance, and they are readily disintegrated when placed in water They are packed in a glass tube having a bore which holds them in a single column, they are thus kept from fracture through shaking, and are very handy to get at singly

Portable Lamps for Ophthalmic Work

Dr ARTHUR T PATERSON, honorary ophthalmic surgeon to the Durham County Hospital, having encountered difficulty in getting a suitable light for refraction work in some schools has devised an electric light to be worn on the forehead of the child It is supplied by an accumulator, and has been made for him by Messrs F Davidson and Co, 29, Portland Street, London, W 1 Dr Paterson's description is as follows

A polished metal spring head-band with an 8 candle-power frosted lamp at its centre is placed across the child's head from occiput to forehead This lamp is connected by 8 feet of flex with a 4 volt accumulator which stands on the floor near the child. A threaded screw placed near the lamp makes or breaks the contact The accumulator is of the non spill type and it is contained in a wooden box with a lid. The box has a leather strap for carrying purposes The accumulator will give sufficient output for one hundred average refractions The 8 candle-power lamp gives ample light. If it be desired to use the light for direct examination of the fundus or for inspection of the cornea the metal band is lifted off the head and the light can be held in any position. Apart from its portability, the light when on the head has the advantage of moving as the patient moves—a considerable advantage where a restless child is concerned. At the Durham County Hospital I use this same lamp for all purposes and I obtain current by attaching the terminals to a pantostat

We have asked Mr T Harrison Butler for his opinion on this device, and he has been good enough to reply to the following effect

The electric lamp described by Dr Paterson has the disadvantage that it illuminates the child's face For accurate and comfortable retinoscopy the source of light must be small and the face of the patient in darkness Again accumulators are heavy to carry about and are apt to fail without warning if not very carefully looked after and constantly used Far better is the paraffin lamp mentioned below An electric ophthalmoscope is necessary to examine the fundi or rather desirable

In reply to an inquiry by another correspondent Mr Harrison Butler has favoured us with the following opinion

I have for years used a small paraffin lamp as a portable source of light for retinoscopy I find it quite ideal and in every way as good as an electric arrangement without the uncertainty and complication It was made for me by Messrs Bailey Bennett's Hill Birmingham The wick is circular and about 3/4 inch in diameter The metal container is made on the principle of an ink bottle so that if upset the paraffin cannot escape The whole is carried in a small box measuring 11 in by 4 in by 3 5 in

VISIT OF FOREIGN PUBLIC HEALTH OFFICERS

THE medical officers from nineteen countries—fifteen European, three South American, and the United States—who are now visiting Great Britain under the auspices of the League of Nations (Health Section) were entertained at a reception by the Council of the Royal Sanitary Institute on February 5th In the absence of the Duke of Northumberland, president, they were received by the Hon Sir John Cockburn, Sir Henry Tanner, and Dr Louis C Parkes, vice-presidents Among those who accepted an invitation to meet them were secretaries or counsellors of the French and Italian Embassies and of six of the Legations, several medical members of Parliament, and representatives of the secretariat of the League of Nations, of the medical staff of the Ministry of Health, and of the medical departments of the three Services In welcoming the guests, Sir John Cockburn said that the Institute, which was an example of what could be achieved by voluntary effort, functioned in every part of the British Empire and assisted every form of sanitary science and administration After paying a tribute to the late Dr Woodrow Wilson, whose hand was foremost in shaping the League of Nations, he said that none of the activities of the League had borne more fruit than those of its Health Section The interdependence of nations was illustrated in the matter of health as in other departments of life, and no nation could say that in sanitary matters it was a law unto itself In a brief acknowledgement of the welcome, Dr Lewis S Thompson, surgeon in the United States public health service, said that although it had always been understood abroad that an Englishman's home was his castle and that his institutions were inviolate, they found on actual contact that there was no land in which the stranger and pilgrim received a warmer welcome The visitors were then shown illustrations of the various branches of organized public health work carried on by the Institute Professor R T Leiper, F R S, exhibited a film showing the life-history of the hookworm, and Dr J W Scharff, health officer of the Straits Settlements, gave a display of lantern slides illustrating a sanitary campaign in Singapore

The purpose of the visit of these medical officers, most of whom are directors of public health services in their various countries, is to study public health administration in Great Britain After spending a week in London, visiting places of interest from this point of view, they will divide into small groups and visit several large towns, returning to London in April The towns to be visited are Liverpool Manchester, Bradford, Cardiff, Edinburgh, Brighton and Southampton, with their adjoining county areas The London programme consists of a reception at the Ministry of Health and visits to the Government lymph establishment, the National Institute for Medical Research, and the headquarters of the Navy, Army, and Air Force medical establishments At the Ministry of Health during the past week addresses have been delivered to the visitors on various aspects of English public health administration by Sir George Newman, Sir George Buchanan, Dr Janet Campbell Dr F J H Coutts, Dr Smith Whitaker, Dr R J Reece, Colonel S P James, and Dr A W J MacFadden After reassembling in London on April 2nd the party will visit the Wellcome Historical Medical Museum the Francis Galton Eugenics Laboratory, the National Institute of Industrial Psychology, the Army School of Sanitation (Aldershot), and various institutions connected with the health side of London local government The party expects to leave England on April 12th

We have received copies of four pamphlets which have been prepared for the Society of Medical Officers of Health in connexion with the visits of these foreign public health officers Three of them are written by senior medical officers of the Ministry of Health on antituberculosis measures in England, by Dr F J H Coutts, on administrative control of the purity of food, by Dr A W J MacFadden, and on port sanitary administration, by Dr R J Reece The fourth pamphlet consists of notes on public health organization in England, by Dr Charles Porter, M O H for Marylebone We hope to comment on these pamphlets in a later issue

British Medical Journal.

SATURDAY, FEBRUARY 9TH, 1924

PHYSIOLOGY AND PHYSIC

Two very interesting and very diverse essays have recently appeared by physiologists of European reputation—one the final testament of the doyen of French physiologists and the other the foreseeing of one of the most recent and most distinguished recruits to the ranks of British physiology [1] Both writers are at one in their claims for the primacy of physiology in the hierarchy of the natural sciences Professor Richet views his beloved science as the Institutes of Medicine, a science the study of which will lead the student to the threshold of medicine and will give him the one sure foundation on which to build his appreciation of disease Professor A V Hill, on the other hand, steps out boldly and champions the claim of physiology to be no mere serf in bondage to a particular scheme of training, but a self-contained body of knowledge that can stand apart and claim its rightful place as an independent subject It may and will, out of its bounty, contribute towards the alleviation of human misery, for "in their hearts there are few physiologists who do not hope and pray that their work may prove in some sense and at some good time of service to mankind in the maintenance of health, in the prevention of disease, and in the art and science of healing One's heart, however, is not always one's best guide, more admirable and more useful in the end is the intellectual faith" which leads to the study of any strange or seemingly miraculous phenomenon Certain it is that physiology "is *not* the handmaiden of medicine'—a mere cog in the mill that grinds out practitioners

In another respect the temperaments of the two protagonists shine forth from their written words Richet repeatedly emphasizes the value of exposition by the spoken word, the oral transmission of the great truths, which is the only effective way of handing on to succeeding generations not merely the accumulated lore but the burning desire for light He ruefully admits that it is a mere handful of his hearers who respond, the others, dead souls, are obsessed by the fear of examinations "Ils ont un souci unique, c'est celui de l'examen, passé avec un minimum de travail et un maximum de succès' He condemns in no uncertain terms the mere recitation of carefully prepared lectures His preacher of the gospel must be a golden mouthed orator who will thrill and inspire his auditors, who must have wisdom and knowledge far beyond the realms of physiology pure and simple He must be a consummate master of mechanical technique he must be a chemist and a physicist and no stranger to medicine, to psychology, to the social sciences, to philosophy, or even to metaphysics, for all that is of man is part of his subject But the duties of the true teacher are not limited to his lecture room, as he must be able to initiate into the mysteries of his craft his chosen pupils, who live by his side, who participate in his experiments, his thoughts, and his gropings into the unknown And above all he must constantly bring home to his pupils, the future practitioners of medicine, that physiology is not a science independent of the medical art

Hill, on the other hand, frankly holds that the happy days are gone when any one man can hope to be regarded as an expert in all fields of physiology, and he completely ignores the aspect of the oral transmission of the faith so stressed by Richet He puts to one side the utilitarian aspects of physiology, although admitting that the utility "lies largely, or rather it will lie in the future, in medicine," and confines his discussion to the possible roads which will lead to future advances in the subject Like Richet he emphasizes the importance of chemistry, of physics, and of instrumental technique He shows how the older chemistry, for instance, is quite inadequate, a finer analysis than that of classical organic chemistry is required, and it is the chemical road which will give the main entrance to the study of the analysis of the behaviour of the living mechanism He endorses the view that there are problems which can only be elucidated by experiments on animals, but, owing to certain fundamental difficulties in connexion with the interpretation of such experiments, he predicts that in the future experimentation on the human subject will be largely developed He admits the many difficulties which confront the workers in this special field of physiology, but holds that "a great future awaits the conscious and deliberate attempt to build up a sound body of human physiology round the knowledge gained in other branches" Zoology or experimental biology or general physiology also affords a fruitful field for research, as such knowledge helps to correct the tendency, only too common, 'to forget the existence of the animal as a complete organized whole" Hill particularly emphasizes the usefulness of the biological outlook so rightly stressed by J S Haldane He asserts that not the least important high road for the future advance will be "the working out of a real and wholesome co-operation, on terms of equality, between anatomy and physiology' Finally, like Richet, he adds a word on the need of real philosophy in physiology Life is not simply an arrangement of molecules, atoms, or electrons governed by the laws of chance No mere monist theology with energy as its godhead "gives us any new clue to the mysteries that pervade the universe"

Where, then, does physiology stand to-day? Are we at a parting of the ways? No one would seriously contest the claim of modern physiology to be a science, and a science of fundamental importance, the science of life itself, but it is very questionable if it is due to the tacit acknowledgement of this fact, as Hill claims, that British physiology stands so high to-day Physiology owes its position and the magnificent equipment at its command to-day to the fact that it has arisen out of the needs of medicine Physiology, be she handmaiden or daughter, is an integral part of medicine, and the day she severs her allegiance will see the commencement of an atrophy which will render her sterile There is plenty of room in the physiological field for non-medical workers, but it would be an actual disservice to medicine to carry on the work as a purely intellectual faith Grant physiology the rank and status of a science so long as this does not lead to the attempt to teach ordinary medical students too much detail We do not want to-day in the limited time at the disposal of the student of medicine, to lengthen courses, even of such basal subjects as physiology and anatomy, we want them strengthened and improved A frankly utilitarian training can

[1] Charles Richet *Revue des Deux Mondes* November 15th 1923 A V Hill *The Present Tendencies and the Future Compass of Physiological Science* Inaugural lecture at University College, London October 16th, 1923 London University of London Press 1s

readily be associated with a broad scientific training It seems to be forgotten that the average student has but a limited capacity for the absorption of new ideas, unless they appear to *him* to have a practical bearing It must be admitted that our students, like Richets, are haunted by the fear of examinations The majority do judge their work, especially in the earlier years, simply in terms of examination possibilities Until the vital truth is hammered home that physiology is not a useless preliminary scientific subject, but is an integral part of their medical training, no real interest will be created in the mind of the average student

It is not for a single instant to be assumed that to say this implies an attempt to decry physiology and academic physiological research On the contrary, applied physiology would soon be as sterile as academic physiology divorced from animal experiments if there was not a constant vitalizing stream from the research laboratories from investigations carried out with no utilitarian purpose It is research and research alone, carried out by teams and by the wild adventurer alike, that causes real physiology to flourish Our medicine in the past has been chilled by the dead house, it must become dynamic instead of static *Hill* rightly stresses the importance of synthesis Modern medicine is alive to her own needs To-day she looks to physiology for aid as she has never looked before Perhaps she expects too much, but expectant she is Surely medicine has a right to hope that the daughter whom she nourished and sheltered in the days of immaturity should now, when she has reached her age of independence, help in her good work There is no question of bond and free between mother and daughter, and no useful purpose is served by raising this issue All that matters is freedom to search for truth wherever it may be found By all means let the boundaries of physiology be extended through research into all and every field of human interest and endeavour, but at the same time it is well to remember that the measure of human suffering is full and running over and that something more than mere good will is required in the fight against disease Sir George Newman placed the future outlook plainly, from the medical point of view, when he wrote, the doctor who sees human medicine as the embodiment of comparative anatomy, physiology, and pathology sees the great vision

THE PATHOGENESIS OF DISSEMINATED SCLEROSIS

In this country, as in America disseminated sclerosis ranks as one of the most common organic diseases of the nervous system Attacking as a rule healthy adults, it is a direct cause of much incapacity and misery Till comparatively recently it was regarded as one of those diseases whose chief interest for the majority of the medical profession ended with the diagnosis During the last ten years, however, much work has been done on the subject both in regard to its morbid histology and its etiology, and the knowledge thus gained seems to allow us a more hopeful outlook for the future The latest contribution to the study of the pathogenesis of the disease is a report to the Medical Research Council by Drs Adams, Blacklock, Dunlop, and Scott of Glasgow [1] On the experimental side these observers have carefully repeated the experiments of others and on the clinical side have suggested a method of treatment from which they claim good results

[1] Adams Blacklock Dunlop, and Scott *Quart Journ Med* vol 17 No 66 p 129.

It is now generally recognized, largely as the result of the laborious work of Dawson and of Siemerling and Raecke,[2] to mention only two of the more recent workers that disseminated sclerosis must be regarded as a chronic inflammatory disease of the central nervous system of infective or toxic origin The exact nature of the infection or toxin, whether endogenous or exogenous, has remained a matter of doubt and dispute On this debatable point the Glasgow observers have attempted to shed fresh light The report recalls the earlier experimental work and points out that Bulloch[4] was the first to produce nervous lesions in experimental animals by the injection of cerebro spinal fluid from cases of the disease Greater interest was stimulated by the work of Kuhn and Steiner,[5] who claimed to have transmitted the disease to guinea pigs and rabbits and to have discovered spirochaetes in the heart's blood and liver of their experimental animals Siemerling[6] found spirochaetes in the brain of a patient suffering from disseminated sclerosis who died from facial erysipelas Marinesco's[7] results seemed to confirm those of Kuhn and Steiner both in the production of an experimental paralysis and in the discovery of spirochaetes Birley and Dudgeon,[8] however, in 1921 published a report, valuable alike on the clinical and on the experimental side, and concluded that the transmission of the disease to animals was unproven and that the evidence that a spirochaete played any pathogenic role was incomplete Gye (formerly Bulloch)[9] in 1921 concluded that disseminated sclerosis is an infective disease, and that the virus may sometimes be found in the cerebro spinal fluid He did not draw any conclusions as to the suggested spirochaetal origin of the disease

Adams and his fellow workers injected rabbits with the cerebro spinal fluid and citrated blood from cases of disseminated sclerosis In an appendix to their report clinical and serological details are given of the cases from which the material for their experiments was derived, and we think that no one will be likely to cavil at the diagnosis of the disease The animals were inoculated by a variety of routes—intraperitoneal, subdural, subdural and intraperitoneal, and intraperitoneal and intratesticular The greater number of inoculations were intraperitoneal

For the exact details of the experiments the reader should consult the report itself, but it appears that out of 27 inoculated animals 10 developed nervous symptoms after incubation periods varying from 8 to 197 days Control experiments were uniformly negative Further, when emulsions of the central nervous system of rabbits showing experimental paralysis were used for inoculation nervous symptoms ensued in 2 out of 11 cases A disease was thus transmitted from one animal to another and in one instance from one animal via culture of the infected nervous system on Noguchi's medium to a second It would seem therefore that an infective agent is present in the blood and the cerebro spinal fluid of patients suffering from the disease and that this agent has produced nervous symptoms in inoculated rabbits

The histological changes found in the nervous systems of the infected animals consisted of round celled infiltration under the ependyma of the ventricles

[2] Dawson *Trans Roy Soc Edinb* 1916 l 517.
[3] Siemerling u Raecke *Arch f Psychiat u Nervenheilk* Berlin 1914 liii 385.
[4] Bulloch *Lancet* 1913 ii 1185.
[5] Kuhn u Steiner *Med Klin* Berlin 1917 xiii 1007 *Zeit f Hyg u Infectionskr* Berlin and Leipzig 1920 xc 417.
[6] Siemerling *Berl Klin Woch* 1918, 55 273.
[7] Marinesco *Rev Neurol* Paris 1919 xxxv 481.
[8] Birley and Dudgeon *Brain*, 1921 xliv 150.
[9] Gye Ibid p. 213.

and in the cortex, and in two cases small haemorrhages Changes in the myelin sheaths of the axis cylinders—an integral part of the disease in man—were only found in one case

A review of the experimental work of the last few years discloses the fact that the typical histological picture found in the central nervous system of man in disseminated sclerosis has not yet been reproduced in animals, though it is only fair to say that most of the observations on human material have been made on cases of either long or at least considerable standing

The authors of this report state that in 7 out of 42 inoculated rabbits spirochaete-like structures were seen, though in scanty numbers All attempts to grow these organisms in culture failed It would appear, therefore, that while there is evidence that some infective agent is present in the blood and cerebro spinal fluid, the pathogenicity of a spirochaete is far from being proved It is here that the recently published results of Noguchi[10] have an especial value He employed blood and cerebro spinal fluid from eight cases of disseminated sclerosis clinically diagnosed by Collins Rabbits and guinea-pigs were employed, and two or more modes of inoculation were used in combination Cultures were made with the ascitic fluid tissue medium commonly used for the cultivation of the *Treponema pallidum* Examination of the fresh blood and cerebro-spinal fluid for the presence of spirochaetes was absolutely negative No spirochaetes were found in the cultures Examination of the blood and organs of the inoculated animals for spirochaetes was equally unsuccessful It appears that Noguchi is of the opinion that the spirochaetes observed by other experimenters have probably been artefacts It is further noteworthy that Noguchi failed to reproduce in his inoculated animals anything in the shape of a disease of the nervous system presenting any resemblance to disseminated sclerosis

A study of the experimental observations of which a bare outline has been given suggests the conclusion that while disseminated sclerosis must be classed as due to some infective agent which produces patches of chronic inflammation in the central nervous system, the exact nature of this virus has so far eluded discovery The balance of evidence available does not seem to warrant the maintenance of the spirochaetal theory of the disease

Turning to the clinical side of the picture, we find that the authors of the report to the Medical Research Council have been very favourably impressed by the results of treatment of certain of their cases (fourteen are quoted in the appendix) by drugs of the salvarsan class combined with the administration of mercury and iodides It is, of course, an old clinical observation that arsenic has seemed to benefit cases of disseminated sclerosis But in this disease, almost above all others, great caution is necessary in ascribing a satisfactory issue to the effects of any particular form of treatment The remissions—which, as well as the relapses, are so well recognized as to constitute a characteristic feature of the disease—often occur without any treatment at all Treatment along the lines advocated in this report is no new departure, for many neurologists have been using the salvarsan compounds for some time past

From the information in our possession we think it can be said that hopeful results have been attained, but we cannot go so far as the authors when they say that "the treatment of cases of disseminated sclerosis by drugs of the salvarsan group has given very promising results, exceeding those obtained by similar treatment in cases of neurosyphilis symptomatically similar" With their remarks on the early symptoms and the importance of an early diagnosis all will cordially agree Most neurologists will confirm their statements as to the frequency with which a colloidal gold curve is obtained in the cerebro spinal fluid in disseminated sclerosis, and will further agree that this reaction is of no value in differentiating this disease from syphilis of the nervous system Though the work of recent years has done much to widen our clinical conception of the disease and to add to our knowledge of its effects on the nervous system, it cannot yet be said that all its problems have been solved

[10] Collins and Noguchi *Journ Amer Med Assoc*, 81 No 25, 2109.

AN IMPERIAL ANTILEPROSY CAMPAIGN

A MEETING was held at the Mansion House, London, on January 31st, in support of the British Empire Leprosy Relief Association, the object of which is to stamp out leprosy in the British Empire The Lord Mayor, in presiding, explained that the association, which required £250,000 to ensure the full effectiveness of its campaign, intended to proceed on the lines of making available the improved methods of curative treatment associated pre-eminently with the work of Sir Leonard Rogers, and of promoting sound schemes of segregation in sanatoriums or agricultural settlements, or, where segregation might not at present be fully practicable, of establishing such leprosy out-patient clinics as had proved successful at the Calcutta School of Tropical Medicine The association would also promote further research into etiology and treatment, would supply medical information to those in charge of lepers, and would train them in the practical use of the new treatment A letter was read from the Prince of Wales enclosing £100—a like amount had been subscribed by the King—and expressing his confidence that the ideal of the elimination of leprosy from the British Empire could be realized if the association was accorded the support it deserved Another message read was from Lord Reading, Viceroy of India, who said that he had been greatly impressed during a recent visit to Calcutta by the wonderful work that was being done there for lepers in India, and by the great hopes of alleviation and cure which the new treatment held out Viscount Chelmsford, the chairman of the general committee, said that his own interest in the subject arose out of his experience as Viceroy of India In India, including Burma, the latest census returns showed that there were more than 112,000 lepers, and the true figure was probably much greater, for a large number of cases were concealed Yet not many more than one-third of the avowed cases of leprosy in the empire were in India The Duke of Devonshire said that, although no longer entitled to speak officially, he knew that the Colonial Office viewed this movement with the greatest possible satisfaction Sir Humphry Rolleston mentioned that although this country was now practically free from the disease, with only one very small leper colony near Chelmsford, yet in the fifteenth century there were 200 leper hospitals in England, and 19,000 in all Europe Isolation had, no doubt, helped to diminish the spread of the disease, but the natural attempt at concealment on the part of the leper himself in the early stages of disease had to be reckoned with, and segregation alone, even though pleasant conditions were provided, was not enough to stamp out the disease There was good reason to believe that Sir Leonard Rogers had found in the fatty acids of certain oils a remedy that bade fair to be a real cure Further work remained to be done, but Sir Leonard was the

right man in the right place, and it was for the British public to give him full support Sir Leonard Rogers then gave an account of his six years' research, which had demonstrated that by the injection of soluble sodium salts of the unsaturated fatty acids of chaulmoogra oil, the bacillus-bearing lesions of the disease could be destroyed, and that similar preparations derived from cod-liver, soya-bean, and other oils were also effective There was every reason to suppose that the cure obtained was permanent, some of his own early patients had remained well for six to eight years, and there were many similar testimonies from other observers An important outcome of the recent advance was that for the first time in the history of leprosy large numbers of lepers were coming forward in the early and more curable stages of the disease In Calcutta the treatment of these patients was conducted in an out-patient clinic, thus preventing them from infecting another generation in their households He drew attention to the American effort to supply the new treatment to lepers, not only in the United States, but also in Hawaii and the Philippines, and stressed the moral obligation laid upon Britain for the 300,000 or more lepers in the empire, not 5 per cent of whom were being cared for Sir Sydney Olivier, Secretary of State for India, in proposing a vote of thanks to the Lord Mayor, spoke of the hope which the new treatment inspired He believed it foreshadowed as great a conquest as any which medicine had made in the past

R.A.M.C MEMORIAL ROLL

THE pages of the Golden Book, or Memorial Roll, of the Royal Army Medical Corps, are now on view in Room 72 of the Department of Engraving, Illustration, and Design at the Victoria and Albert Museum, South Kensington They contain the names of all the officers and men of the R.A.M.C who fell in the war The book will form a folio of some 270 pages of lambskin, each page richly illuminated It has been designed by the distinguished scribe Mr Graily Hewitt, B.A., LL.B., of Lincoln's Inn, and carried out by him and his six assistants At the beginning of the Roll a short preface records briefly the ceremony which took place in Westminster Abbey on July 13th, 1922, when a memorial tablet in the nave, close to the tomb of the Unknown Warrior, was unveiled by the Colonel-in-chief of the Corps, H.R.H. the Duke of Connaught, and dedicated by Bishop Ryle, Dean of Westminster [1] The preface also gives particulars of the numbers of the fallen and a summary of the honours won The Roll is alphabetical, the names are in black lettering the rank and the date of death in red, initial letters in gold indicate distinctions won An illustrated account of the work, by Mr Graily Hewitt, is obtainable in the galleries, and Sir Cecil Harcourt Smith, director of the museum, in a prefatory note describes the Roll as an outstanding example of modern illumination and calligraphy The writing is in the beautifully legible style of the Italian fifteenth century, from which modern printing types are derived In designing the decoration Mr Hewitt has borrowed from the thirteenth to fifteenth centuries the double upright bar of gold and colour He has endeavoured to balance regularity of structure and colouring with variety of treatment Thus the tree forms and shrubs which dominate the decoration are replaced here and there by wild flowers and creepers, birds, and butterflies The whole design is linked together by sentences from the parable of the Good Samaritan at the beginning of each alphabetical division of the Roll The initial letters of these sentences hold little coloured pictures illustrating the story, step by step, and opposite the title-page appears a larger miniature of one of the scenes, and a conventional portrait of St Luke, patron saint of the medical profession Opposite the preface is a portrait, set amid a vine, of Asklepios, copied from the bust in the British Museum, the vine appears also in the Cross which forms the tail piece at the end of the book The beauty of drawing and colour and the exquisite lettering are a triumph of craftsmanship, and the book thus lovingly prepared will form a worthy memorial to those who gave their lives for their country and whose names are commemorated therein The character of the binding has not yet been finally settled When thus completed, the Roll of Honour will lie in the Chapter House of the Abbey It remains on exhibition at South Kensington until February 29th

[1] BRITISH MEDICAL JOURNAL, July 22nd, 1922 p 106

THE BACTERIA IN THE ATMOSPHERE OF UNDERGROUND RAILWAYS

IT must often have occurred to those whose misfortune it is to have to travel in the underground railways of London during the most crowded period of the day that the bacterial population of the atmosphere of these subterranean passages might be a contributory factor in the spread of respiratory disease, for the conditions prevailing, more particularly the complete absence of sunlight, are such as might be thought likely to favour multiplication of microbes Twenty-two years ago Dr (now Sir) F W Andrewes made an investigation of the atmosphere of the Central London Railway, but since 1902 conditions have changed considerably above ground, owing chiefly to the replacement of horse traffic by motor traffic, and below ground by improved methods of ventilation Many other investigations have been carried out on the bacteriology of the atmosphere in occupied premises and subways, one of the best known being Dr M H Gordon's bacteriological report on the ventilation of the debating chamber of the House of Commons, published in 1906 The general opinion which these researches justify is that the majority of the bacteria to be found in the air are harmless, that their number is largely dependent on the quantity of dust, and that the pathogenic bacteria likely to cause respiratory diseases are rarely to be found in samples of air There is little danger for persons in perfect health, the ciliated epithelium of the respiratory passages would sweep the microbes out as they became entangled with the mucus with which these passages are bathed When, however, an inflamed and irritated condition of the air passages exists conditions are different, and the bacteria in the air may then be a source of considerable danger The bacterial content of the atmosphere of the underground electric railways of London was studied by *Dr J Graham Forbes* in 1920, and his investigations have recently been published [1] He collected samples of air from the carriages and platforms of six electric railways at different periods of the day, including the rush hours, and compared the results with those obtained by analysis of the outside atmosphere The total number of bacteria in a given volume of air was not much greater underground than outside but a difference was noted when a comparison was made of organisms growing at room and body temperatures Thus the ratio for organisms growing at room temperature was about 14 for railway air to 10 for outside air, but twice as many organisms capable of growing at body temperature were found in underground air as in the outside atmosphere The mean number per litre for room temperature organisms was 9 in railway air and 6 3 in outside air for body temperature organisms 4 6 for railway air and 2 2 for outside air There were more bacteria in the platform air than in the carriage air, owing probably to the greater amount of draught and dust disturbance Increase in the number of passengers per carriage was generally associated

[1] *Journ of Hygiene*, vol 22 No. 2, December 1923.

with a rise in the bacterial content of railway air, affecting both the room temperature group and body temperature group of organisms Many factors may influence the bacterial content of the atmosphere of railway carriages, such as fluctuating air currents and movements of passengers in leaving and entering a compartment, but it is suggested by Dr Forbes that the ratio of bacterial content to passenger density might provide an "index of pollution" for carriage air and afford a truer estimate of atmospheric bacterial pollution than bacterial content alone Measures to bring about the deposition and removal of dust from carriages and platforms would certainly prove beneficial by reducing the amount of floating bacterial impurity The identification of all the micro-organisms isolated in this research was beyond the scope of the inquiry, but a large number were studied with a view to placing them in groups In no instance were pathogenic organisms proved to be present other than certain moulds of the aspergillus group, but a large number of the micro-organisms examined were such as emanate from the mouth and nasal passages of human beings, and this suggests the possibility that the crowding of passengers may be prejudicial in epidemic times by increasing the risk of transference of pathogenic organisms from passenger to passenger

INTERNAL SECRETION OF THE TESTIS

MR KENNETH WALKER, in a Hunterian Lecture delivered at the Royal College of Surgeons on February 4th, gave reasons for his belief that the interstitial cells of the testis were not the source of the internal secretion, but had a trophic function These cells, he said, were mesodermic in origin, unlike the cells of the internal secreting glands generally, which were ectodermic Examination of the testis of the mole during the non-breeding months showed that the interstitial cells were very conspicuous, and hence were more probably concerned with nutrition of the tubules than with the primary or secondary sexual functions There were three ways of treating cases in which the internal secretion of the testis was deficient The first method, originally practised by Brown-Sequard, was the injection of testicular extracts Mr Walker had come to the conclusion that such extracts were absolutely inert The results of the second method—ligature of the vas deferens, introduced by Steinach—had been very capricious there was, however, a great increase in the interstitial cells after the operation The third method—that of testicular grafts—was dealt with in considerable detail Voronoff had thought that when grafts from the anthropoid apes were used they were not absorbed, but Mr Walker, using ectopic human testes, had found that each graft lasted for not more than two years, so that the method, regarded from a curative standpoint, had definite limitations However, until some good orchitic extract comparable to thyroid extract had been prepared, this method of grafting remained the most efficient treatment of the three Mr Walker described the process of fixing these grafts in the scrotum, so that they might remain alive, bathed by the exudation in the scrotal sac, until vascularization was established His experiments indicated that grafting was followed by definite metabolic results, thus in four cases sugar intolerance definitely decreased and the respiratory interchange was affected The course of treatment by grafting and its results were described in detail in two cases In the first, health and sexual vigour were restored, and Dr Miles, of the National Institute of Industrial Psychology, had found a general psychological improvement of 552 per cent, and an improvement as regards fatigue of 800 per cent There was obvious general improvement in the second case, in spite of the coexistence of pituitary disease

THE PRESENT STATE OF GERMANY

THERE is in this country a desire to know the truth about the present state of Germany, and the medical profession in particular would like to have definite information with regard to the position of practitioners and of teachers in the medical schools Mr J H Morgan, professor of constitutional law at University College, London, who for four years, and, as we understand, until the autumn of 1923, was Deputy Adjutant-General on the Inter-Allied Military Commission of Control in Germany, delivered a lecture on the present position of Germany before the University of London on November 20th, 1923 The lecture has now been published,[1] with an introduction, in a convenient volume The two parts should be read in chronological order, the lecture first and the introduction second One of Professor Morgan's duties in connexion with the disarmament of Germany was to visit all parts of the country, and he therefore had exceptionally good opportunities for making observations and drawing conclusions He is emphatic that he wishes to be impartial, and seems to have succeeded He considers that the Allies made a serious mistake in insisting on certain clauses of the treaty of Versailles, and that the occupation of the Ruhr, at any rate as it has been carried out, has been another mistake, for while there are Germans ready to admit the faults of the policy which brought about the war of 1914, Germany as a whole "sees herself as one purged of her sins by her sorrows" But he also maintains that since the war the Germans have made mistakes against their own interests and against the tranquillity of Europe, especially, if we understand him aright, in allowing inflation He does not believe in the possibility of international disarmament or universal peace by regulation "Nothing but what the old Puritans called 'a change of heart' in the sons of men can ensure it Material disarmament will never be certain or complete until 'moral disarmament' has made it unnecessary" Nor does he believe that Germany will disintegrate, but that, on the contrary, the occupation and the republic, which he does not expect to last, have made for unity The chief interest of the book for us is in what the author has to say about the middle classes The inflation of the mark, he tells us, "has destroyed the equipoise of society it has ruined the middle classes and impoverished the workers," and by so doing "has undermined the political basis of the republic and concentrated all real power in the hands of a few—namely, the great industrialists The economic form of society fails to correspond to the political theory a republic in name, it is a capitalist despotism in fact" He does not say anything specifically about the professional classes or the universities and their staffs, but he states that with the Germans "reconstruction" is a name for the vastest, most far-seeing, and most fruitful schemes of State enterprise "The subsidizing of 'key industries,' the development of interior lines of communication, the reduction of railway rates, the promotion of State factories for the manufacture of synthetic ammonia and aluminium, the contributions to vast electric power stations—all these are but a few of the undertakings upon which public moneys have been lavishly expended, and all of them, be it remarked, have a military usefulness, although I do not say that that is their primary object" In this connexion he remarks that no country is disarmed if, after all the destruction of *material* that can be effected and the demobilization of its armed forces, "it has still got lethal secrets up its sleeve" The instrument by means of which this policy of recon

[1] *The Present State of Germany. A Lecture delivered in the University of London on November 20th, 1923. With an Introduction.* By J H Morgan Brigadier General late Deputy Adjutant General on the Inter-Allied Military Commission of Control in Germany London University of London Press Ltd 1924 (Cr 8vo pp 107 2s 6d net)

struction is being carried out is inflation The German rulers, when they embarked upon the policy which caused inflation, knew that it meant "unutterable ruin to whole classes, and those the most deserving of the population" As has been said, Professor Morgan does not tell us precisely what most of us want to know, but it would seem that the policy of "reconstruction" he describes can only be carried out by enlisting the services of persons trained in scientific methods, and that in this way the hardships which such persons have been called upon to endure must be to some extent mitigated

THE VISITING ASSOCIATION OF THROAT AND EAR SURGEONS OF GREAT BRITAIN

THE Visiting Association of Throat and Ear Surgeons of Great Britain, of which Sir William Milligan is president, has been formed in order to enable members of the specialty from different parts of the country to visit home and foreign clinics The intention is to pay a short visit to a home clinic once a year, and another somewhat longer one to a foreign clinic As the chief purpose is to study operative technique, the membership must necessarily be limited to a number who can watch an operation at one time in reasonable comfort The first meeting of the association was held with great success in Edinburgh on Friday and Saturday, January 25th and 26th The morning of the first day was spent in watching the work in the throat clinic Dr J S Fraser performed two radical mastoid operations with skin grafting Mr J D Lithgow demonstrated the induction of fibrosis in the inferior turbinals by injection of carbolic acid in glycerin Dr W T Gardiner performed Sluder's ethmoidal operation, and Dr G Ewart Martin performed endoscopy, including aspiration and lavage of a bronchiectatic cavity The afternoon was occupied in attending the pathological demonstrations by Drs A Logan Turner and F E Reynolds (with lantern) on the intracranial complications of accessory sinus suppuration, and by Dr J S Fraser on some points in the pathology of the inner ear On the morning of the second day the members were able to watch Sir Harold Stiles, professor of clinical surgery, perform an operation of interest alike to the general and to the throat surgeon He first operated upon a pharyngeal pouch, which by its smallness rendered the operation more difficult, and then removed from the neck a very large mass of tuberculous cervical glands in which abscess formation had occurred After this a clinical demonstration was given by Dr Douglas Guthrie at the Royal Hospital for Sick Children

HATFIELD FOREST

THE name of Edward North Buxton is honoured by those who remember his share, and that of other members of his public spirited family, in the great struggle which secured Epping Forest as a perpetual source of health and pleasure for Londoners The noble gift of Hatfield Forest to the people increases our debt This tract of woodland is not indeed suburban, but it is within four miles of a main line railway station (Bishop's Stortford), and the humble "push-cyclist" may reach it from Epping within an hour, and along roads not yet rendered hateful to him by the motor Hatfield Forest, indeed, lies in one of the least altered tracts of Essex The small decayed town of Hatfield Broad Oak, with its fine church—possessing a tiny ancient library which includes an Aldine Aristotle of 1498—is within easy walk of the forest and full of archaeological interest Mr Buxton not only did much to secure Epping Forest for the people, in his book he taught them how to use the gift We should honour his memory best by carrying on the educational work Epping Forest gives immense pleasure as it is, it would give more if more people had the courage to explore it and did not content themselves with clinging to the main roads *A fortiori* it will need much publicity to tempt people into the remoter tract now free to them It is remarkable, in these days of penury, how many cheap but exquisite pleasures are neglected There are now two large tracts of woodland not fifteen miles apart, and the more remote hardly an hour from London, secured to the public Here one may study the ways of birds and beasts under different environmental conditions, and observe Professor Leonard Hill's physiological precepts very conveniently and economically One *may* do this, whether one *will* do this, instead of spending the train fare in the cinema, where other people's pictures of the birds and beasts are shown, depends on education

INFLUENZA

IN the week ending January 26th, the last for which the figures are available, the number of deaths attributed to influenza again increased substantially, and amounted to 236 in the great towns of England and Wales There was also a substantial increase of notifications of pneumonia The rate of increase is, however, slackening It is a rule subject to very few exceptions that from the commencement of an epidemic rise the *rate* of increase diminishes—it is at a maximum at the commencement—a phenomenon explained by Dr Brownlee by the loss of infectivity of the organism following the mono-molecular law of mass action For instance, in the murderous epidemic of autumn, 1918, the deaths in London in successive weeks from the forty-first—when an unmistakable rise had occurred—were 80, 330, 1,256, 2,458, the maximum It will be seen that if we divide each by its predecessor we have 4 13, 3 81, 1 96—a series of diminishing numbers As the rate of decrease may differ greatly in different epidemics, the fact is not of much use in forecasting either the precise extent of the mortality or the duration of the epidemic, but it suffices to permit of an intelligent guess as to the maximum mortality of any future week Thus it is highly improbable that the maximum of this epidemic will exceed 650, and reasonable to expect it will fall far short of it If this prove to be the case, the present recrudescence is on a much smaller scale than that of 1922, a conclusion already supported by clinical experience To judge from the mortality records, South Shields has suffered more severely than any other city outside London There have been many widespread school epidemics, but a low proportion of grave complications

THE Right Hon John Wheatley, M P, Minister of Health, has appointed Dr L Haden Guest, M P, to be his parliamentary private secretary (unpaid)

MANY readers will learn with surprise that the condition of the x ray department at Moorfields Eye Hospital is bad They will have been inclined to assume that the radiology department of the premier eye hospital of Great Britain possessed every apparatus necessary, each one in its most perfect form It is stated, however, that the only apparatus in the department which is in good condition is that designed by the late Sir James Mackenzie Davidson for the localization of foreign bodies in the eye An appeal is being made for a sum of £700 for equipment and improvements, so that the department may worthily commemorate the great services rendered by Mackenzie Davidson Contributions may be sent to the Secretary-Superintendent at the Moorfields Eye Hospital, City Road, E C 1

THE ECONOMIC DISPOSAL OF EXCRETA
GARDEN SANITATION

BY

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IT IS to be hoped that the annotation on Dr Hindhede's views and Dr Macfadyen's letter (to be found respectively on pages 996 and 1070 of the BRITISH MEDICAL JOURNAL, vol ii, 1923) will give rise to a real consideration of the problem of "garden city" sanitation It seems that Dr Hindhede, coming from Denmark to visit English "garden cities," and hoping to find them veritable examples of *urbs in rure*, was woefully disappointed Like Triptolemus Yellowley, when he bought *Piers Ploughman's Vision* from a packman, he was charmed with the title, but now, finding no agriculture in it, he flings from him the impudent and misnamed libel Dr Macfadyen stands for *rus in urbe* For him there is no problem The methods of the town, he holds, are equally applicable in the "garden city"

The issue lies between the daily use of night-soil as manure in a highly developed system of horticulture, and the approved water-carriage sewage system ending in the destruction of what, in the other method, would have been manure, by the septic tank or some other means of biological purification I would plead for the consideration and decision of that issue in connexion with the lay-out of entirely new building schemes amongst rural surroundings

Dr Macfadyen refers to the "Poore" system—tried by one or two at Letchworth, but soon given up Since the death of Dr George Vivian Poore no one in this country appears to have continued to investigate the practical applications of his thesis

> "That in country or semirural districts, where it is possible to give a house a decent curtilage or small garden, it is easy for a householder to make the sanitation of his dwelling quite independent of the local authority In fact, the householder is able, if he be so minded, to make his sanitation complete, and to finish, on his own premises and to his own profit, that 'circulation of organic matter' which is a law of nature, and the only true basis upon which the science of sanitation can possibly stand firm The householder can do piecemeal what no public authority has ever succeeded in doing wholesale, albeit that millions of money have been wasted in silly attempts" (*Poore Rural Hygiene*, pp 73 74)

Dr Poore's chief experiment was with a garden at Andover, 1¼ acres of cultivated ground, low-lying, beside a river, *not a favourable patch of land for such an experiment* However, he had it manured for some years (twenty-two) with the refuse (closet earth) from a population of about *a hundred persons*, the inhabitants of a large house used as a school and of twenty-three cottages adjacent to the garden

> "A man was engaged to act as scavenger and under gardener, whose duty it has been to remove the pails every morning and bury their contents superficially in the garden just hidden by a layer of earth The eye sees nothing and there is absolutely no odour The fertility and beauty of the garden have been enormously increased Proceeding methodically it took four years to go completely over the whole ground in cultivation The observer was usually astonished at the small amount of excremental material which has to be dealt with The first crop taken off the land is always a succulent green crop of the cabbage tribe, and the plants are dibbled in on the third day after the deposit No other crops except cabbages seem to flourish in the fresh material, but the cabbages may be followed by potatoes, these by celery (planted between the rows), the celery by peas or beans, and these again by parsnips or carrots without any fresh manuring, and with a most abundant yield" (Pp 324-8)

After twenty years' experience of the practical working of Dr Poore's methods, I remain a convinced disciple! But to make the system workable requires an organized routine which the average householder could not provide for—daily *removal without nuisance or offence, immediate surface* burial, and cultivation thoroughly pursued Many men may perhaps be gardeners at heart, but their avocations permit them but rarely to exercise their instinct On Good Friday the cottager plants his potatoes on an August evening he digs a row and that wellnigh comprises the year's gardening A system of sanitation dependent on agriculture cannot be conducted on such terms

What could not be done by each householder could be carried out by the landlord, or co-operatively, for a group of houses, with one garden, or, at any rate, one gardener, common to the lot Dr Poore proved his thesis on his Andover property but a systematic test in connexion with one of the housing schemes of to-day is much to be desired For the method is clearly economical, and may even prove profitable All that has hitherto inhibited its adoption has been—

(1) Custom and inertia, the tendency of architects to regard the "sanitary" devices which have made possible or tolerable the highly artificial conditions of "the Wen" (as Cobbett called London) as the products of a heaven sent hygienic gospel for general application to town and country alike,

(2) *And a genuine doubt amongst the few who have really* contemplated the experiment whether Dr Poore's system is as safe as he thought, whether it is really possible to conduct it with convenience, cleanliness, and comfort, and last, but not least, whether, even when solids have been dealt with by earth burial, the disposal of putrescible slop-water does not still require the full paraphernalia of a water-carriage system?

As regards (1) the time is overdue for our profession to resume the habit of original thought on housing, and to advise the public thereon *There was not a single doctor* on the Tudor Walters Committee! The late Mr Teale set an example which calls for followers We give lip service to the gospels of air, sunlight, and fresh food, but we leave it to building experts to orientate our dwellings, we acquiesce in their exaggerated value of road "frontage" and care nothing for frontage to the sun, which alone *should* be our concern—"where the sun does not enter the doctor does", we accept their dictum that the window area should be *a tenth of the floor space, and we send our sanitary* inspectors to smile approval at their careful arrangements for the drainage of cowhouses and stables, not to speak of human habitations, so that the urine of the livestock, "the most valuable constituent of manure," containing the nitrogen and potash which the farmer has bought and paid for in the animals' food, is actually conveyed to sewer and septic tank, to be "scientifically" got rid of at the expense of the "sanitary" rate Thus we turn assets into habilities, and allow custom and convenience to paralyse our common sense

As regards (2) the genuine doubts as to the safety of earth burial and the disposal of slop-water should be settled by competent bacteriological investigation and practical tests But it should not be forgotten that thirty years ago, when Dr Poore wrote his book, he was able to point to a vast array of observed facts which appeared to prove his contention that earth burial, properly conducted, is not only as safe as water carriage, but far safer The textbook of to-day begs the question by stating that 12 tons of slop-water are about as foul as 10 tons of mixed sewage—that is to say, that keeping faecal matter out of the slop-water makes only a comparatively slight difference to its foulness, and that therefore, on the principle "in for a penny, in for a pound," water carriage is the only sane policy But the unqualified suggestion that slop-water is necessarily as foul, or almost as foul, as sewage is untrue After a daily experience of the removal of the slop-water of a good-sized house (three sinks, three washing basins, a much used bath, and a laundry) during eighteen years, by means of an open channel running fifty yards through the grounds, I can testify to the entire absence of offence The textbooks should distinguish between slop-water running in the open and slop-water consigned to an underground drain The purification of the latter needs all the apparatus of a modern "sewage scheme"—admitted!—but of the former merely downward filtration, or agricultural employment, which is a form of the same thing Cultivated soil will remove from water any organic substances it may carry, and, if they have not putrefied, will in some circumstances, when tillage, weather, and crop are in favourable conjunction, even profit by them Similarly when solid putrescible matter, fresh and not yet putrefied, is buried in the surface layers of garden soil, "it undergoes decomposition without the occurrence of putrefaction—the process which is at once offensive to the senses and dangerous to health This is effected by means of fungi which produce oxidation" and the formation of nitrates "The vegetable living mould on the surface of the earth is a sort of filter of the most perfect kind It is very rich in saprophytic bacteria, whereas the subsoil at a depth varying from

3 to 6 feet is barren of bacteria" It is this fact of the bacterial sterility of the subsoil, beneath richly manured but well cultivated land, that seems to me to prove the safety of proper conservancy or earth-burial methods of night-soil disposal

Is it not desirable, in the public interest, at this time when so many housing schemes are being undertaken in open and semi-rural neighbourhoods, that the sanitary principles appropriate for these should be re-examined, and the essential antagonism between the two systems, water carriage and conservancy or dry methods, freshly considered? They both depend on biological purification, but in the one case *putrefaction* is the basis of the process, and in the other *nitrification* Putrefaction is encouraged by (1) water, (2) darkness, (3) the absence of air—all the circumstances of drains and septic tanks, and the end-product is "a satisfactory effluent"—that is, the dissolved relics of squandered manurial wealth (1 part per 100,000), always useless, often laden with bacteria " Such processes can in no sense be regarded as effectual in preventing danger " (Parkes and Kenwood's *Hygiene and Public Health*, sixth edition, p 142) "Such processes" have resulted in the sewer like state of our rivers Trentham abandoned because of the stench! The

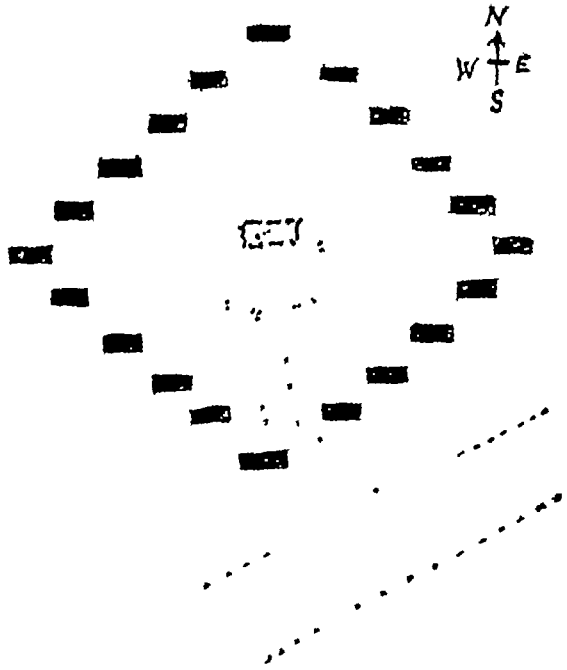
silver-sliding Thames '

of Spenser contrast it with the Thames to-day! Nitrification is encouraged by (1) a moderate amount of moisture in the soil (33 per cent is the optimum), (2) exposure to air —hence the need for surface burial, and for the cultivation of the soil so that the air shall gain access, (3) as for sunlight, the third factor favourable to nitrification, its warmth in "fine growing weather" awakens the nitrifying bacteria of the soil to activity The end-product of *this* system of sanitation is garden produce In cold weather manure consigned to the soil lies dormant and harmless

The water-carriage system is modern and Western Indeed, at its best it is Victorian and English It has been officially blessed since the Public Health Act of 1848 Since then our rivers have been fouled, our wells poisoned, and we have had to look farther and farther afield for water The conservancy system is ancient, natural, instinctive—witness the dog I understand it plays an important part in the civilization of the Far East, that in China and Japan, where population is both dense and self supporting in the matter of food, the constant return of the night-soil to the land is the secret of this enviable agricultural wealth

Can the repulsive details of "conservancy" (or the dry method) which are so familiar, we understand, to the otherwise fastidious Japanese that he seems to ignore them (see Professor Morse's account of the "chōdzu-ba," *Japanese Homes*, p 232), be so obviated as to make the system workable in an English "garden city"? We ought not to march further on our sanitary road till we have put the question to the test

A plot of 4 acres should be taken on the outskirts of a town, and twenty-four houses built upon it Suppose the plot roughly square, and the road to skirt one corner of it Then this corner alone will possess that valuable commodity, "frontage' Sacrifice this scrap of frontage by making a short gravelled drive through it, to end blindly in a "turn-round" in the middle of the plot The houses should all face south—that is to say, all their living-rooms should face south They must therefore be oblong, with their long axes east and west. The larder, the lobby, lavatory, stair case, and landing will occupy the north side of each house The earth-closet is best detached but approached under cover—a cross-ventilated passage or short verandah, or, if upstairs, a covered bridge, giving access to it The houses should be set upon the plot in a diamond shaped pattern, or, in other words, a square with its corners to north, south, east, and west Thus one house will occupy the northernmost point of the plot, and from it, to the south-east and south-west, will run a row of some five or six houses a side, arranged in echelon Just as platoons in echelon do not block each other's line of fire, so houses thus arranged will not block each other's sunlight A dozen more houses echeloned in a V with its apex to the south will complete the diamond-shaped lay-out The whole plot would be treated as one garden, and one whole-time head gardener, with the help he needed, would be responsible for its cultivation The daily removal of the closet earth and its use as manure—its immediate committal to the surface soil and its light covering therewith—would naturally be amongst his duties A gardener using manure of great value, not a scavenger



removing refuse, a "garden rate" paid by each householder, an investment productive of fresh vegetables to be had at his door, and in one way or another repaying him his outlay, not to speak of the amenity added to his surroundings, instead of a "sanitary rate" paid to be rid of rubbish —such are the bases of this scheme

Correct detail is vital to acceptance The townsman, accustomed to urbanities, will not tolerate the slighest unsightliness, the most transient offence He is right, and his requirements must be accepted The essence of conservancy or the "dry" methods is that they *should be dry* Either Poore's "dry catch"—though that may be thought hardly so happy as most of his suggestions—or some other device for separating the solid *from the liquid manure and* for instant deodorization must be used A strainer and light bucket answers well * The strainer is shaped like a milking can, with wide mouth, and narrow bottom perforated with holes the size of a shilling The back of it is vertical, the front sloping A handful of straw is put in the bottom, to facilitate emptying and to aerate the manure when that is buried later on in the soil The dejecta fall upon the straw The user of the closet throws upon them a little black garden soil The base of the *bucket-like strainer* being narrow, a small amount of soil a coal box shovelful, suffices to cover all the contents The soil is stored in a bin, the lid of which is in one piece *with the closet seat* The latter is therefore fitted for the purpose of throwing in the deodorizing soil, and so escapes any chance contamination The woodwork is of *polished mahogany* The trowel or shovel fits in a slot devised in the front edge of the earth box, the handle, which is of porcelain or polished wood, projecting The earth is black garden soil from the top layer, and, so replete with nitrifying organisms It should be got on a dry day, and a reserve stored under cover till needed Dry earth is a better deodorizer than sodden earth and lighter to handle Moule's earth-closet needs ash or "poudrette" or earth dried over a stove to work in its automatic hopper Both those materials being barren of nitrifying organisms, are less suitable Nor are they such efficient deodorizers as sun-dried earth Peat is better than

* M.O.H.'s Health Report for Wimford 1919.

they, but its resin is too antiseptic and militates against nitrification, simple earth is both first and cheapest Of course, no antiseptic must be used

The urine runs through the strainer and is received in a large wide-based bucket into the narrowed top of which the strainer fits The strainer, charged with deodorant soil, plugs the orifice of the urine-containing bucket, and no smell escapes This part of the system needs revision It would be better for the urine to be conducted at once to a filter in the open air On the filtration of urine Dr Poore has recorded many experiments If filtered through sawdust, he found that the bulk of the liquid was evaporated, and the effluent absolutely inoffensive even when heated to dryness Earth as a filtering medium, though it will kill any seeds planted in it, becomes as rich a manure as Peruvian guano or as hen manure—but it requires as careful use

The closet should have top light as well as a side window A cupola of wood and glass gives not only that, but height and air space as well

Whatever the receptacle used, the gardener would daily substitute an empty for a full one, and convey the latter on a low truck to the garden bed he was in process of manuring The stuff, covered with earth, and neither odoriferous nor unsightly, would leave the vicinity of the dwelling before it was disturbed The hand-grips on the strainer are arranged to be out of reach of fouling With a stroke of a hoe a trench is made, with another the stuff is covered and all offence is at an end In "good growing weather" the stuff will itself have been all converted into soil, humus, in some three or four weeks—"earth to earth," the normal fate of dead organic matter, accomplished without loss and without offence, and not only that but with great profit to the garden Rothamsted and all farmers' experience have shown that artificial manure can never replace dung as a fertilizer to stand the test of a series of years, and the rarity of horse manure in these motoring days makes an additional source of the natural class of manures a consideration Straw or chaff stacked in narrow columns and, so retained, treated by repeated soakage with urine should make a manure of great value

Turning from the question of the closet earth to the disposal of slop-water, one is not so happy, yet much happier there is no one way to deal with it, so much depends on the lie of the land, but it should run away in open channels and requires no human porterage Poore used to urge that to give the water fall enough it should leave the dwelling at the highest possible point (not the lowest as in a cellar scullery) Should the slop-water be concentrated to one point or dealt with separately for each house? Should the garden beds be irrigated? Should the lawns be watered by an automatic sprinkler, gravity-fed? These are questions for detailed consideration in each case One thing I feel sure of, that it will seldom if ever be wise to let the urine run with the slops Poore himself did not invariably reject that plan, but grave objections lie For one thing, his principle that, if you wish to preserve water-courses pure and sparkling, you should foul as little water as possible seems to me sound For another, except for rice culture (not a crop we are concerned with in England), ammonia, into which urea is converted when it is long in water, is a manure of less value than the nitrates into which soil will convert it Even old Bakewell, in the eighteenth century, found that when he "floated" his meadows with water mixed with urine his results were no better than when he used water alone The skilful application by hand of urine diluted, 1 in 20, with water to the soil around certain kinds of plants at certain stages of their growth is a very different matter and may be invaluable In the case of carrots, urine in that dilution has a special use as a prophylactic against one of their chief pests

Though the disposal of slop-water presents difficulties in detail, still, happy the gardener and flourishing the garden with ample supplies at command!

The 4-acre plot, with its twenty-four houses, is a tempting dream One can imagine its development near a town where female labour is in demand, a textile town, or near a chocolate factory One house, larger than the rest, might occupy the centre of the diamond That house would have a "common room" Also a common washhouse (for a "bag-wash" for the other twenty-three) Those rooms would be on the ground floor Upstairs there would be a common kitchen a dinner for a hundred is cheaper per head than the same food bought and prepared for one family In many a Neapolitan palazzo I have seen hot dinners distributed by the porters from a neighbouring restaurant The courses of the dinner are placed in the three stories of a large double-jacketed tin box, marvellously carried upon the porter's head up, perhaps, a flight of more than a hundred steps! It is permissible to imagine the distribution of similarly laden and insulated tins by wire-funicular from the kitchen balcony of our central house to each of the surrounding houses in the diamond

Though the general merits of the scheme exist quite apart from these unusual developments, yet one kind of food at least will be derived by the inhabitants from a common source—to wit, fresh vegetables from the garden To have these fresh and unimpaired, with their full vitaminic influence, without market staleness, with all their juices in them and not crushed out by market bruising, is a very real asset to health So is the proximity of growing plants and well tilled land to a dwelling on account of the oxygenation of the air The recent report (interim) of the Standing Committee on Rivers Pollution to the Ministry of Agriculture and Fisheries shows that whilst tench and carp may live in polluted waters deprived of a high percentage of the dissolved oxygen, yet trout and salmon require for their existence the full saturation of the water There is no doubt that the human race, and children especially, present a parallel, the best types flourish in the best conditions Allotments should be *around* cottages, not twenty minutes' walk away! (In our 4-acre plot, though the gardener undertakes the responsibility for the whole, any householder with leisure and ability to cultivate a few perches should have them *allotted* to him alongside his house, that was assumed, but should be stated) The sun and the soil are the natural and the best antiseptics of human environment It is easy and economical to give them full play Knowledge has reached a stage which reveals some of their methods of working, but practice lags behind, in the stage of that little knowledge which is a dangerous thing

In short, I venture to think that Dr Hindhede's views—and still more, seeing their fullness and originality, those of the late Dr Vivian Poore, old though they be—deserve the serious and urgent attention of doctors, bacteriologists, and housing experts

England and Wales.

After-History of Tuberculous Patients

THE result of an inquiry into the after-history of patients who received residential treatment for tuberculosis under the London County Council's scheme was reported to the Council by its Public Health Committee on February 5th The cases investigated were those of adult patients who received residential treatment during 1918, and of children who received such treatment during 1916-17 The number of pulmonary cases among adults treated in 1918 was 2,830, of these, 253 could not be traced Of the remainder, 1,236 were found to have died The cases were set out in four categories as follows (*a*) sputum negative, (*b*) sputum positive, but only slight constitutional disturbance, if any, and obvious signs of very limited extent, (*c*) moderately advanced, (*d*) cases with profound systemic disturbance, or constitutional deterioration, or with grave complications The cases now traceable in each of these categories were as follows

	Cases treated in 1918	Died before latter part of 1923.	Percentage of Deaths
(*a*) Sputum negative	762	92	12 1
(*b*) Sputum positive	397	62	15 6
(*c*) Moderately advanced	770	463	60 1
(*d*) Profound systemic disturbance	648	619	95.5

The results were better than in the case of some similar records relating to 1914-15 cases reported on in 1920 The children who had received residential treatment and had been discharged in 1916-17 included 734 pulmonary cases, of which the after-history was discovered in 527, and 250 non pulmonary cases, of which 170 were traced Of the 527 pulmonary cases, 141 were found to have died The cases were classified as follows

Condition on Admission	Number of Cases treated 1916-17	Died before latter part of 1923	Percentage of Deaths
Early	220	29	13 2
Moderately advanced	242	79	32 6
Far advanced	65	33	50 8

Of the 170 traced cases of non-pulmonary tuberculosis which were discharged in 1916-17, the number reported dead in 1923 was 28 More favourable results have been noted in the after history of ex service patients than in the case of civilian This is attributed to the fact that the ex service men have been given preferential treatment as regards accommodation available, and also that they have been in receipt of pensions and allowances Taking the moderately advanced cases, of 435 ex service patients, 214 were reported to have died within five years, or 49 per cent, while of 191 civilian males, 145 were reported to have died, or 76 per cent The Public Health Committee considers that the figures as a whole reveal the value of the service rendered by the after-care committees

PRESENTATION TO DR PETER MACDONALD

The medical practitioners of York and district entertained Dr. Peter Macdonald at dinner on January 26th, and presented him with an oak cabinet gramophone and records, together with a silver salver, suitably engraved, as a token of their esteem for the great services he had rendered to the profession in local and other circles Dr W A Evelyn, chairman of the York Local Medical and Panel Committee, presided, and in making the presentation referred to Dr Macdonald's fine work for the profession, especially in connexion with the insurance medical service since 1912 He reminded his hearers that Dr Macdonald had been vice-chairman of the York Insurance Committee almost from its inception, and subsequently chairman, chairman of the General Purposes Subcommittee, vice-chairman of the York Local Medical and Panel Committee, and had served on numerous subcommittees Dr Macdonald was for a long period the representative of the York practitioners at the Conference of Local Medical and Panel Committees, and last year was elected a member of the Insurance Acts Committee—the executive of the conference Dr Macdonald, after acknowledging the gifts, spoke of the value of thorough organization of the medical profession, and instanced the Insurance Acts as showing how the position of the profession had improved through the organization becoming more perfected

MAUDSLEY HOSPITAL

The London County Council is proposing to spend an additional sum of £400 on the equipment of the pathological laboratory at the Maudsley Hospital The annual provision for this laboratory is £200, which is considered sufficient for the strictly routine work but makes no provision for special research, which is one of the laboratory's functions The researches which are being prosecuted in the laboratory have reached a point at which chemical and physical apparatus not required in the early stages is essential, and further expenditure is necessary for chemicals, material for diet experiments, and for the collection of matter which is the subject of investigation The late Dr Maudsley, in addition to his original donation of £30,000 towards the cost of providing the hospital, left £10,000 to be spent by the Council in connexion with the work to be done, and it is proposed that the expenditure of £400 now desired should be charged against Dr Maudsley's legacy Presumably—though this is not specifically stated—it will be an annual charge Of this sum, £150 is to be set aside for grants-in aid to selected research workers The number of in patients at Maudsley Hospital is 138, during the last quarter 93 were admitted and 79 discharged The number who received treatment in the out-patients' department was 176

BRISTOL "MILK WEEK"

At a public meeting held in Bristol on January 30th in connexion with the 'milk week" campaign, the value of clean milk as a food, and the problems of its supply, were considered by several medical authorities Dr D S Davies, medical officer of health for Bristol, pointed out that milk was often twelve to twenty four hours old before it reached the population of the larger cities The dairying industry, if adequately developed, might solve many of the problems arising from agricultural depression and do away with the present importation of 20,000 cwt of condensed milk weekly and the total dairy import which was costing £32,000,000 per annum Dr C W Saleeby said that American children were receiving considerably more milk than English children and both America and Denmark were in advance of Great Britain in their appreciation of cow's milk Dr R A Askins, school medical officer, Bristol, dealt with milk as a preventive of diseases, especially rickets, and urged that margarine and condensed milk were quite inadequate as food Dr J Middleton Martin, county medical officer of health for Gloucester, stressed the importance of milk to the growing child, and gave examples of the gain in weight by children at the home that had been established for them at Painswick as compared with the average gain in weight when milk was not the main constituent of the diet Dr J C Heaven dealt with the food value of milk to nursing mothers and babies The Bristol scheme of milk distribution had resulted in the supply of 29,379 gallons of milk at a cost of £2,990 The extra milk ration so provided had been followed by improvement in health, and he thought it was also responsible in some degree for the drop that had occurred in infantile mortality

Scotland.

ATHLETICS IN SCOTTISH UNIVERSITIES

ONE of the principal subjects discussed at the Scottish Inter Universities Conference, held last week at Edinburgh University, was athletic training among Scottish students A motion to render participation by every student in athletics compulsory was amended and accepted in the form "That the Conference urges upon the Courts and Senatus of all Scottish universities the desirability of imposing upon each student on matriculation a levy, the sum so raised to be devoted to the maintenance of students' activities in the Scottish universities" A further resolution was adopted that the most important Scottish secondary schools should be visited annually with the object of interesting those who were preparing to join the universities in the widest aspect of university student life With the object of fostering representative university sport as a factor in university training it was agreed that steps should be taken to discourage the present practice of university students playing for non university teams without first offering their services to their university With the object of finding time for athletic exercise without interfering with classes it was agreed that the Senatus of the universities should be approached to institute a mid-week half holiday in all four universities during the winter and spring terms in order to provide adequate opportunity for athletic training and practice It appeared from the statements of some of the delegates that this arrangement already existed at Aberdeen University, and to a certain extent also at Edinburgh

BEQUEST TO EDINBURGH UNIVERSITY LIBRARY

The late Miss Jemima Louisa Small of Edinburgh has left £5,000 to the Curators of Edinburgh University Library the annual income to an extent not exceeding one-half to be applied in the purchase of books for the library, particularly original or early editions of ancient Scottish works and works on subjects relating to the ancient literature, poetry, and history of Scotland the

remainder to be used for the general purposes of the library This bequest is to be called the "John Small Fund" in memory of her father and brother

LEGISLATION AFFECTING MILK

At a public meeting organized by the Edinburgh Women Citizens' Association, Dr Gerald Leighton, Medical Officer (Foods) to the Scottish Board of Health, delivered an address, in the course of which he gave a sketch of recent legislation regarding milk Speaking of the Milk and Dairies Amendment Act (1922), he pointed out that although it was not in operation it was on the Statute Book and would again come up for consideration in September, 1925, when he hoped it would be enforced He discussed its provisions, with special reference to the grading of milk and pasteurization The present orders with regard to the grades were rather of an experimental nature and susceptible to alteration as found desirable Their great value was that for the first time the law had recognized that all milk was not equally good, and that producers had an opportunity to secure a legal status for special milk of high hygienic and food value

Ireland.

THE LATE PROFESSOR W ASHLEY CUMMINS, CORK

THE many friends and former students of the late Professor Ashley Cummins will learn with satisfaction that a proposal to provide a permanent memorial to him has been made It is thought that no more fitting method could be chosen than the endowment of a bed in the Victoria Hospital, to which Dr Cummins devoted so much of his professional life Those who knew Dr Cummins will realize instinctively that he himself would have wished no other tribute to his memory than that his name should be associated for all time with the beneficent work of the hospital in which he took a keen and lifelong interest, and of which his father was one of the founders Graduates of University College, Cork, who were pupils of the late Professor Cummins or associated with him, and other members of the profession who feel so disposed, are invited to cooperate and to send donations to Dr Charles B Pearson, 1, Sidney Place, Cork, or to Dr Michael Cagney, 13, St Patrick's Place, Cork

INSANITARY HOUSES IN DUBLIN

Dr M J Russell, medical officer of health for Dublin, in a recent interview in connexion with the inadequate supply and insanitary condition of the houses of the poorer classes in Dublin, said it would be impossible to exaggerate the gravity of the position in regard to the shortage Not only is the shortage serious in itself, but owing to it the authorities are compelled to permit houses to be occupied by families which, under normal conditions, would not be fit to house animals The Housing Committee of the corporation is keenly alive to the unfortunate plight of thousands who are applying to them for houses, and whom it will be impossible to accommodate for a number of years, even at the quickest rate of building Dr Russell emphasized the evil effects of overcrowding, more especially in relation to infant mortality and the spread of tuberculosis He continued

"At the present time they are clearing an insanitary area in Bradford and I see that the public health statistics there show that out of 1 000 births in one area 276 infants died during the first year, as compared with about 100 for the whole city, and the death rate from pulmonary tuberculosis was just thrice what it was for the whole city I mention Bradford because it has the most up to-date infant welfare scheme I saw this area when in Bradford last year, and I have no hesitation in stating that the insanitary conditions prevailing in many areas of Dublin are worse Then somewhat similar conditions are applicable to the insanitary areas in Liverpool There is no city that I know of where so many houses that were originally intended for one family and are now tenements and occupied by from five to twelve families as in Dublin In a large percentage of these tenements the sanitary accommodation is entirely objectionable, there being no attempt at separation of the sexes, closets always dirty, a large percentage of them cannot be used by females or children, and when you consider that nearly one-third of the population of Dublin occupy one-room dwellings, you can see what an appalling state of affairs prevails in our city We do not, perhaps, suffer to the same extent from 'slumdom' in the sense of narrow laneways, back to-back houses, and so forth, but the sanitary conditions of the Dublin tenement houses is indescribably bad, and worse than I have seen even in any English city It would be impossible to describe fully the evil effects of this one room dwelling system upon the very young In these rooms are reared not one family, but scores of families in succession, as they are constantly migrating"

Correspondence.

FORGOTTEN SWABS

SIR,—Notes in the BRITISH MEDICAL JOURNAL of February 2nd (pp 207, 217) stimulate me to send a letter on swab left in the abdomen and in wounds, and some other avoidable surgical calamities

Swabs in the Abdomen

It is not possible to estimate how often swabs are left in the abdomen, but my experience enables me to state that this occurs more frequently than is generally known

In the early stages of abdominal surgery death was so often a consequence of this oversight that "spongitis" became a recognized *post-mortem* diagnosis I entertain no doubt that some deaths following abdominal operations are still due to overlooked swabs, because during the last ten years I have removed six which had been the cause of weeks or months of ill health The usual history of these cases was that after operation they did well, healing had occurred, but later the wound broke down, allowing the escape of bloody serum, often in large quantities, and later of pus If the sinus ceased to discharge an abscess formed from time to time and burst, and this went on until the swab was removed

All of these patients recovered, but none of them learned the real cause of their trouble, and so far as I know none of the surgeons who operated were informed of the mistake that they had made This is my chief excuse for drawing attention again to such a serious surgical problem

In a paper published in the *Lancet* of December 16th, 1911, and my *Surgical Contributions*, vol II, page 837, I state that

"Mops are made of three types—large square small square, and long strips Every mop has attached to it one foot of tape, and a white pot ball the size of a walnut (*Footnote* McQueen, surgical instrument maker, Northumberland Street, Newcastle upon Tyne, can supply these) Two nurses count the mops before operation, and the number is written up on a window, to be seen by every one On no account must a mop be cut during operation, and the same two nurses make a second count when closure of the wound commences To some this may appear more than care These critics have not seen so many sponges, instruments, and mops left in the abdomen as I have, and consequently do not know so well how easy it is even for the most capable to make such mistakes

This has been my teaching up to the present day, and experience of thousands of abdominal operations and recent hospital visits have made my conviction of the need for it stronger

One of these refers to two abdominal operations performed by skilful surgeons in hospital When these operations had been completed and the wounds closed the sister in charge of the mops reported one missing No time was lost in reopening the abdomen, and in each instance the mop was recovered In one, a simple appendix case, no harm seemed to result, but in the second, a woman who had already suffered severely as the result of a difficult operation, prolonged search for the missing mop seemed to turn the tide against her and she died from shock

The hanging balls outside have never allowed such accidents as these to happen to me, and I find no inconvenience from their use In addition to this I have experienced the advantage of not evading my surgical responsibility for such an important detail in the operation as mops are

It is possible that this note may be of some use to those willing to learn from the experience of others

Mops in Ordinary Wounds

During the war I treated several cases for mops left in wounds sutured over them, which similar precautions, if it had been possible to take them, would have prevented

Lost Drainage Tubes

I have so often been called upon to discover the cause of prolonged suppuration from unhealed wounds due to buried

drainage tubes that years ago I laid down the law that no tube should be left in any wound unless secured by a safety pin Operations for empyema of the pleura and for appendix abscess have been the usual sources of this calamity, but on one occasion I operated upon a young man who had been more or less crippled for five years by a discharging sinus in the popliteal space, said to be the result of necrosis of the femur Operation discovered a tube lying against the back of his femur, but no bone disease, and in two weeks, after removal of the tube his wound was soundly healed

Operation on the Wrong Side

It seems almost incredible to any but surgeons in a busy hospital that such a horrible mistake was possible I have seen the wrong side operated upon for inguinal hernia the wrong kidney explored, the wrong knee-joint opened A house surgeon of my own amputated the left ring finger of a woman instead of her right He would have saved himself and the patient much pain and regret and the hospital compensation money if he had remembered my rule *Always* mark with a cross, before the patient is anaesthetized, the side of the body to be operated upon —I am, etc ,

Newcastle-upon Tyne Feb 4th RUTHERFORD MORISON

THE APPENDIX AND URINARY COLI INFECTIONS

SIR,—An epitome must of necessity be crude in expression, and the better the epitome the cruder is its style Mr Burgess and I need not therefore fall out over the words he prints in italics from your excellent epitome of my lecture at the Hunterian Society But the sense is mine

In the lecture I ventured to refer to the appendix as having an important function as a lymph barrier to the passage of bacteria and to suggest that the removal of the normal appendix at every abdominal operation might be a factor in the passage of the *Bacillus coli* from the intestine and its ultimate lodgement in the urinary tract And secondly I drew attention to the frequency with which the normal appendix is removed when other recognizable disease is present but overlooked

The arguments for the removal of the normal appendix at an abdominal operation have done duty for many years and are well worn They are that the appendix is a vestigial structure and is therefore useless, and secondly it may become diseased

The former argument Mr Burgess has apparently discarded and he teaches and practises the removal of the normal appendix as "the lesser of two evils," that is, the loss of the lymphoid appendix on the one *hand and* the danger of a future attack of appendicitis on the other It is something that he views the removal of the normal appendix as an evil, *albeit a lesser evil* Few surgeons seem to have a good word to say for the appendix

Mr Burgess calls for "convincing evidence" that the removal of the appendix predisposes to the subsequent development of *Bacillus coli* infection of the urinary tract or elsewhere This evidence is I admit, difficult to supply, just as difficult, perhaps, as it would be to supply convincing evidence of the number of individuals who do not have their appendix removed and do not have appendicitis Such evidence as I have *before me*, Mr Burgess is welcome to In 100 consecutive cases of spontaneous infection of the urinary tract with the *Bacillus coli*, the appendix had been removed in 10 I did not see the appendices so I cannot tell if they were completely normal but in none of these cases was there said to have been an "abscess" or other condition translatable into pathological nomenclature

My object in referring to the subject was not to interfere with a carefully balanced judgement such as Mr Burgess tells us he has exercised, but to question whether in the great majority of cases any judgement is exercised in the matter at all I have more than a suspicion that in a large proportion of cases the normal appendix is removed after a negative abdominal exploration just because 'one must do something"

The second class of cases where the normal appendix is removed when *recognizable* disease is present but overlooked, is so common that one begins to wonder whether the teaching of Mr Burgess and those in agreement with him does not bear other fruit than he intends or they would wish Space forbids any discussion of this class of case at present

The remedy for these errors in diagnosis lies I believe in more thorough teaching in regard to abdominal diagnosis, and this would go far to prevent what is undoubtedly the greater of two evils—namely, too late operation for appendicitis There might then be opportunity for an unbiased consideration of the appendix as a lymph barrier against the escape of bacteria from the intestine —I am, etc ,

London W 1 Jan 30th JOHN THOMSON-WALKER

OUR DEBT TO DR BRACKENBURY

SIR,—I feel sure that the majority of the practitioners in Great Britain engaged in insurance practice will wish to make some collective formal acknowledgement of the great service which Dr Brackenbury has rendered to us

Even on the financial side we are all substantial gainers through his labours and skill In the still more important matter of status it was very largely due to his advocacy and to his skill in marshalling the true facts in their proper proportion that our feet have at last been extricated from the morass of contempt and contumely which threatened to engulf us

If one of the officers of the Association would consent to receive subscriptions, I think that a very large number would like to subscribe to a suitable testimonial that might serve as a token of our esteem and appreciation In the past we have suffered much from ineffective advocacy let us show that we recognize competence and public spirit when we meet them May I suggest that subscriptions should be uniform and comparatively small in amount—say, of half a guinea?

There is one other step which it behoves every self-respecting insurance practitioner to take forthwith If he is not already a member, it is his bounden duty as well as the merest act of prudence to join the British Medical Association Without it we should be—*even so far as the* recent negotiations are concerned—at least three-quarters of a million a year out of pocket

Incidentally, now that the *financial question* is *likely* to be out of the way for a time, it is up to all of us to do everything we can to make the insurance service such as *will justify* the complimentary *comments recently made*, and give the lie to the hostile criticism which has been levelled at it —I am, etc ,

London E. Feb 2nd. HARRY ROBERTS

THE EXPLOITATION OF NURSES

SIR,—A protest should be made against an apparent exploitation by the General Nursing Council of the mute but not inglorious, army of women who are entering the nursing profession At present a trained nurse has to pay a registration fee of one guinea and an annual half crown to *keep her name on the register* Now it is proposed to charge impecunious girls a fee of five guineas for the examination which, if they pass will enable them to be registered

I suppose this fee is to pay the expenses of the examination and the fees of the examiners If it is an extravagant charge and, in my opinion, will leave a considerable balance in the hands of the examining body If so, the Council ought to state its object in *extracting* this surplus money *from* a hard worked and underpaid body of women Is there some project to raise a fund to erect a college of nursing for the accommodation and aggrandizement of this important Council? If this be the case, the women who are paying the fees should have some voice in the matter

Much to the amusement of the medical profession, the Council has issued an astounding syllabus of the medical knowledge to be acquired by nurses It is so extensive that only the most highly intelligent women will be able to acquire more than a smattering of each subject with the result that the confusion between *medical and nursing* knowledge will be at a maximum And in order to acquire this hotch potch of knowledge these girls will have

to attend numerous lectures and study during their hours of leisure, although physically fatigued by the nature of their work Or else the time spent on lectures, etc , will have to be included as part of their day's work, at the expense of this much more valuable practical training

The standard of most of the girls entering the nursing profession is neither socially nor intellectually as high as in former days In my experience the slight improvement during the last two years is falling off Consequently, these girls are even less likely to absorb the excessive book knowledge which is aimed at Moreover, it is not knowledge of this sort which produces the most capable nurses The best ward sisters and nurses are by no means always those who have shone in the examination room

If this pseudo-scientific examination is conducted so as to maintain a fairly high standard, it means the rejection of a certain number of reasonably capable nurses, possibly 20 to 30 per cent Surely this will prevent girls taking up this profession three years' training, hard physical and mental work, a minimum salary, and possible rejection at the end On the other hand, if the standard adopted is that in vogue at the various hospitals, where few fail to reach the standard deemed necessary for practising as a nurse, I see no necessity for a five-guinea examination, unless it is a measure for obtaining money from these impecunious girls for some such purpose as above suggested

Let me propose to the General Nursing Council that this scheme be dropped It is ridiculous If they wish to create a more highly qualified type of nurse, let them introduce a voluntary examination and give a special certificate or a diploma of nursing, and allow the rest of the nurses to be examined as at present This might result in the development of two grades of nurses, one of which would be able to demand and would deserve higher fees, while the other will supply the public with the kind of nurse it more often wants Does the Council suppose that raising the standard to an unduly high level is going to provide the type of nurse who will be content to nurse trivial and chronic cases, although these form the bulk of the cases in general practice?—I am, etc ,

London, W , Feb 1st. EDMUND CAUTLEY

THOMAS ADDISON

SIR,—Dr Arthur F Hurst, in his very able address delivered to the Northamptonshire Division of the British Medical Association, and published in your issue of January 19th, points out that it was Thomas Addison who first, in 1849, gave an admirable description of the disease which we have been in the habit of calling "pernicious anaemia" Dr Hurst shows that the name "Biermer's anaemia" is unjustified, that of "idiopathic anaemia" unsuitable and confusing, while that of "pernicious anaemia" is most undesirable Since Addison first described the "remarkable form of anaemia," the honour must go to him, and the disease should bear his name—"Addison's anaemia"

While this further honour has been paid to the great physician of Guy's Hospital, who was also we must not forget, an Edinburgh graduate and president of the Edinburgh Royal Medical Society in 1814, there is, I feel, another tribute which we could pay to his memory

Some years ago, when a student, I happened to be on holiday in the parish of Lanercost, near Carlisle Having heard that Thomas Addison was buried in the churchyard of the old Lanercost Priory, I went to visit his grave. It was not easy to find, for in that portion of the churchyard tall, rank nettles held supreme sway After a prolonged search, beating down the nettles with my stick, I at length found the stone It bore, as far as I can remember, the following inscription "In memory of Thomas Addison, who for thirty-six years was physician to Guy's Hospital."

At the time I was greatly touched on finding the grave of so eminent a man overgrown with nettles, and apparently forgotten Now, as I look back, I feel that the unkempt and forgotten grave is somewhat of a reproach to the profession which he so richly adorned—I am, etc ,

Edinburgh, Jan 28th. CHARLES G STRACHAN

INTESTINAL STASIS

SIR,—Sir Arbuthnot Lane, in the JOURNAL of January 26th, has again drawn attention to the importance of the changes which follow the formation of the "last kink," as he has designated the supporting bands which develop on the outer side of the mesentery of the pelvic colon In the usual exploration of the abdomen much attention has been given to the right iliac fossa and relatively little to the left The importance of recognizing and freeing the "last kink," when present, cannot be over-emphasized, as the benefit from this simple operation is most striking In some cases local pain and the general symptoms of intestinal stasis are the prominent features, while in others loss of weight, blood in the faeces, and x-ray evidence of a filling defect suggest carcinoma In both relief follows division of the bands

In other cases, especially children, in whom the reactive forces forming the kink have been inactive, the pelvic colon, instead of being bound down, elongates considerably In some patients this elongated loop, when loaded with faeces, may by its position prevent evacuation I have had two striking examples of this condition In both these children there occurred attacks of abdominal pain, constipation, and pyrexia which resisted enemata and purgatives until suddenly relieved by an action occurring either naturally or following an enema In both cases these attacks were accompanied by urticaria and in one by asthma, x rays, in both, showed a greatly elongated pelvic colon, the remaining colon being normal In both these patients relief followed the operation of resection of the pelvic colon with end-to end anastomosis The operation had done what Nature attempts in laying down the "last kink", though in the latter case trouble follows the narrowing produced by over-development of the bands just as surely as it would follow should a stricture develop at the suture line in my two cases—I am, etc.,

London, W , Feb 1st E G SLESINGER

THE SIGNIFICANCE OF HYPERGLYCAEMIA

SIR,—The terminology of conditions where abnormalities of carbohydrate metabolism occur is so unsettled that difficulties such as those seen in the correspondence under the above heading are bound to arise While some authors still regard diabetes and glycosuria, or at least hyperglycaemia, as synonymous, others consider, with F M Allen, that diabetes "arises regularly on a basis of pancreatitis," and allow that there are also "simple glycosurias" of a non-diabetic character If the latter classification is accepted we are faced with the difficulty of differentiating "diabetic" from "non-diabetic" cases clinically, and this is by no means an easy task in the present state of our knowledge, although I believe it is possible to do so with the help of the methods I have described elsewhere [1] I agree with Dr J Stavely Dick that a single blood sugar test giving a reading over 0 18 per cent after a carbohydrate meal is not diagnostic of true diabetes in the above sense, for it is not at all uncommon to meet with higher percentages of sugar in the blood when the most careful and exhaustive investigations carried out by modern methods show no evidence of pancreatic deficiency and the after-history of the case negatives such a possibility It is to be noted that F M Allen has stressed the point that the glucose tolerance must be interpreted in connexion with other clinical facts and that various infections and toxic states may result in abnormal values being obtained

With regard to the hyperglycaemia occurring in association with chronic skin infections and after the injection of a vaccine, there is no evidence that this is dependent upon disturbance in the functions of the pancreas Hirsch [2] has shown that the intravenous injection of pathogenic bacteria into rabbits gives rise to transient hyperglycaemia, and as this is accompanied by a diminution of the alkali reserve of the blood which is proportional to the extent of the rise in the sugar, it seems probable that the increase in the latter is a consequence of the alkalipenia A similar disturbance in the fixed acid to base equilibrium of the blood is probably responsible for the sapraemic glycosuria, first described by Prevost, to which attention was again

[1] *New Views on Diabetes Mellitus*, 1923
[2] *Journ Infect Dis*, 1921, xxix, p. 49

drawn by Higginson in 1921,[1] the hyperglycæmia of malignant disease and various infectious conditions, some forms of glycosuria in pregnancy, and most likely for the reduced sugar tolerance associated with chronic skin infections The rapid disappearance of sugar from the urine and return to a normal condition following the radical treatment of foci of infection is well known and can be readily accounted for by removal of the stimulus to abnormal glycogenolysis which numerous experiments have shown an excess of fixed acids relative to bases in the blood to furnish My experience of skin disease is not extensive, but I have met with several cases where a hyperglycæmia has disappeared when the skin lesion has been successfully treated One of these patients has been under my observation for over eleven years and has shown no signs of diabetes nor ever been found to have an excess of sugar in her blood since the toxic condition was satisfactorily dealt with —I am, etc ,

P J CAMMIDGE

London W 1 Feb 2nd

SIR,—I quite agree that for the present it will be safer for practical men to adopt Dr Allan's standard (February 2nd, p 215) It is true, however, (1) that there are a large number of people in the community suffering from infective conditions who show intermittent glycosuria and who go on for years without developing clinical signs of diabetes, (2) that recent improvements in technique have enabled us to recognize that some of these at any rate have hyperglycæmia It is obviously a question for careful investigation whether these cases of glycosuria and hyperglycæmia are or are not essentially different in origin and outlook from undoubted cases of diabetes

The facts which I have been able to observe personally would, I think, be easier to explain upon the hypothesis that the hyperglycæmia is present in order to supply the tissues with the nutriment and resultant energy required to resist infection Dr Allan prefers the hypothesis that the infection depresses pancreatic function It must rest at that Well ascertained new facts can alone decide between these competing hypotheses —I am, etc ,

J STAVELI DICK

Manchester Feb. 3rd

PREVENTION OF MIGRAINE

SIR —The reference to preventive treatment of migraine in Dr Bigland's article (December 15th, 1923, p 1133) leads me to record a personal experience

Between the ages of about 15 and 27 I suffered from typical migraine, severe and frequent At the latter age I was compelled by pulmonary tuberculosis to abandon city life, and have lived for thirty years under mainly rural conditions, often doing hard work, and have been free from migraine except for slight and infrequent attacks in the last three years There seems to be no doubt that the change of environment brought about this sudden and almost complete cure, and there must be cases in which it would be worth while trying the effect of a drastic change in curing or mitigating so depressing a disease as recurrent migraine —I am, etc ,

C

January 14th

ETHYL CHLORIDE—CHLOROFORM SEQUENCE

SIR,—As Dr A W Burton has been good enough to quote me in his letter on the above subject (January 26th p 171), he may care to know my views on this particular anæsthetic sequence Some years ago I used it as a routine method, and must have anæsthetized thousands of patients in this way It was rapid, convenient, and on the whole satisfactory, but still the more I used it the less did I feel that the method was a sound one My reason for finally discontinuing it was the danger of administering full doses of chloroform sufficiently rapidly to maintain anæsthesia when the effects of the ethyl chloride had passed off

The special sensitiveness of the respiratory centre to chloroform in the presence of cyanosis is generally admitted but does not appear to apply particularly to this sequence It is my experience that ethyl chloride can be given from a closed bag (without extra air) for two or three minutes without cyanosis, and with even a brightening of the colour if only a patent airway is maintained Why this is so, and where the oxygen comes from has always been a mystery to me perhaps others may be able to explain

I am convinced that the sequence, although often satisfactory, is physiologically unsound, and therefore unsafe If it is desired to give ethyl chloride before chloroform one should give it in a closed ether inhaler and sandwich a few minutes' ether anæsthesia in between Ethyl chloride-ether induction with a Clover's inhaler is one of the safest and most satisfactory methods we have, and following it up with open chloroform is only surpassed by continuing with open ether —I am, etc ,

CHARLES F HADFIELD

London W 1 Jan. 28th.

THE 'ERA" CULT

SIR,—I suppose I should thank you for the gratuitous advertisement in your issue of to-day, and perhaps I should feel more grateful were it not that I am cutting down my work, and I am under no necessity to overtax my physical capacity

Your solicitude on my behalf when you find me in what you are pleased to describe as "curious company" is probably well meant, but I can assure you I have often been in worse company, as you well know, and I am never ashamed of any company which I keep Of the so-called Abrams cult the only one in America whom I personally knew was Abrams himself, and as I look upon him as the greatest medical genius of this age I don't think I need feel ashamed of his friendship

On the day of his death Mr Marky, editor of *Pearson's Magazine*, cabled to me for an obituary notice, which I sent, and which no doubt will appear in this month's number of that magazine, you will there be able to see my opinion of Abrams With this exception I have never written a line for the lay press of America, and all the opinions of mine which have been there published have been copied from the *British Medical Journal*, the *Lancet*, and the *Medical Press and Circular* I think the one which had the greatest circulation was the copy from the *British Medical Journal*, at least it was the one which brought me most correspondence from America As your *Journal* is apparently not unknown in America, I would not be surprised if this letter found its way into the lay press of that country, which is always on the look-out for copy I may tell you that I am keeping a copy myself to see how much you will print

I am not going to bother myself, unless I am forced to do so about the ignorant rodomontade in your two issues and in that of the *Lancet*, all of which have been answered again and again in America I do not know why many careless and often stupid mistakes by some of Abrams's followers should be laid at his door You might as reasonably saddle the President of the Royal College of Physicians with the mistakes of some of his pupils I have on more than one occasion told Abrams that he stood in greater danger from his friends than his foes, that ignorant opposition could be broken down but that the public would estimate him by the value of his disciples How was he was anxious to press on, and was ever bent on the simplification of medicine—not an easy task with the material at hand I have often said that even if Abrams were Satanic Majesty I would be quite ready to learn anything worth knowing which he had got to teach me I have so ungrateful is not to acknowledge it I have that he has taught me a great deal and I have somewhat original myself and I like to see the work ments in others I have been ever anxious that I should be taken up by leading men in the profession men who would take the trouble—and it is a trouble—to study and cultivate Abrams with me begin, as I did nearly twenty years ago with Abrams cardiac and pulmonary reflexes in a few months sufficient good result in a few months to enthusiasts I shall be surprised

Probably you will now think the Era cult Though I could easily point out to all a number of

[1] BRITISH MEDICAL JOURNAL, vol i p 256.

Journal I shall content myself with this at present Possibly in the dim and distant future you may have acquired sufficient knowledge—and I hold that the only knowledge worth having is that which one acquires for himself—of Abrams's work to ask me to write a series of articles on the subject, two London publishers have already done so, they are willing to take the risk, but I am not very keen on sowing seed on barren soil —I am, etc ,

Liverpool, Feb 2nd. JAMES BARR

THE WORD "PRACTITIONER"

SIR,—The discussion on the military prefix has naturally resolved itself into a personal expression of preference for one or other title Perhaps some light may be thrown on it by asking how one's brother officers, "other ranks," and civilian friends deal with it My experience, in the Boer war at any rate, was that to the rest of the mess I was always "the doctor," and I preferred it, the only person to address me by my title was the mess sergeant In the late war I was, I believe, "Daddy" to the men, being usually the oldest officer in the unit Since the war I notice that it is always a lady friend who addresses me as "colonel" (With "the sex," of course, the fighting men of the tribe have always the preference, hence the implied compliment from them)

You may, perhaps, permit me, Sir, to take this chance of bringing up my pet grievance, which is somewhat germane to this controversy Why do we allow ourselves to be described by the uncouth word "practitioner"? It is a vile word It is a bastard word in respect of having no regular parentage Put it up against any with which it will rhyme—namely, petitioner He is one who presents a petition Then a practitioner should be one who conducts a practition, a bastard word you will allow Do we call a seditious person a seditioner, or one who makes rendition a renditioner, or one who imposes conditions a conditioner? Then why this dreadful word "practitioner"? Why not let us be men in general practice? Or if one word be necessary, why not be as the lawyers and recall the old term of "medicmer" It was current in the sixteenth century, a century quite as literary as ours

I am aware that the plea will fall on deaf ears, that nothing will change it now We live at a time when literature and art are suffering a negative phase But there may be some who feel with me that to apply to us this vile and bastard term is, though not so intended, a mild form of reproach

> There once was a wicked seditioner,
> Who repented, a humble rendit oner,
> But the dreadful condition,
> Overwhelmed his petition,
> He was told to consult a practitioner

—I am, etc ,

C E DOUGLAS,
Cupar, Fife, Jan 27th. Lieut -Colonel R A M.C T (ret)

*** Whatever weight attaches to our correspondent's contentions, it has to be remembered that the terms "practitioner" and "medical practitioner" are used in the Medical Acts 1858 and 1886

DICHOTOMY

SIR,—I have read with interest the letter of "Fairplay" in your JOURNAL of January 26th (p 169), and I consider the matter one of grave importance to the profession I have during the last year seen several instances of a practitioner receiving a fee for the anaesthetic altogether out of proportion to the true value of his services, and one of greater amount than would be given to a trained anaesthetist performing the same work This appears to me, according to ordinary standards of business, unfair to the patient, inasmuch as he is entitled to know for whom the fees are charged and to whom they are paid, and the correct amount From the professional point of view it is a practice which I think can only in the strongest terms be condemned, it is one which is likely to degrade the profession in the opinion of the public —I am, etc ,

January 29th. ETIQUETTE

INCOME TAX A MEDICAL SUPERINTENDENT'S HOUSE

SIR,—The Medical Defence Union has recently obtained from the Special Commissioners of Income Tax a decision which the Council of the Union feels is of such importance as to merit publication in the medical press

A member of the Medical Defence Union, who was the medical superintendent of one of the Metropolitan Asylums Board's hospitals, occupied, by virtue of his office, a separate house in the grounds of the hospital rent free The local inspector of taxes sought to assess our member upon the rateable value of this house, treating it as an emolument of his office The Medical Defence Union was accordingly consulted in the matter, and an appeal was lodged against this assessment with the Special Commissioners

The decision of the Special Commissioners has now been obtained, to the effect that the beneficiary occupation of a house in circumstances such as these is not an emolument within the meaning of the Finance Acts, and the assessment has therefore been discharged

As there must be many medical men similarly placed, it is felt that the decision thus obtained ought to be made known in their interests —I am, etc ,

JAMES NEAL,
General Secretary Medical
London, W C 1 Feb 5th Defence Union

*** The decision in this case bears out the view constantly expressed in the BRITISH MEDICAL JOURNAL

Universities and Colleges.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

AN ordinary comitia was held on January 31st, when the President, Sir Humphry D Rolleston, was in the chair

Members

The following candidates were admitted as Members:

C W C Bain J Bamforth V J Bonavia A J Cronin B Day, R Hale-White C G Imrie J H Kelly D Pottinger B H Spilsbury, A Stokes H M Turnbull, C H Whittle and B B Yodh

Licentiates

Licences to practise physic were granted to the following 198 candidates (including 32 women) who have passed the final examination in medicine, surgery and midwifery of the Conjoint Board, and have complied with the by laws of the College

R D Alexander C F Ashby J Atkin N F Azer, R C Baxter H P Baylis J Bee E R Bennion *Muriel E Binns C E W Bower M A. B Brito-Mutunayagam W Brockbank, R W Brookfield W G S Brown R E D Cargill, H D. Chalke J H H Chataway, *Nora Cheney R Chester, W Clark G D Clarke R G Cochrane T S Cochrane P S Connan A M Cooke *Rosemary Cooke S S Cruden D E Cuffey E R Cullinan, *Vera Cullwick C H C, Dalton A F D Darlington, A. B Davies, J H. T Davies P O Davies T Davies, *Dorothy L C Day, A M Deane J S Dees, A de Souza *Miriam P de Villiers G P Driver, W H Dunn, *Winifred P Edmunds *Barbara J Edwards J Elgood G Elliot V H Ellis A C M Elman E S Etheridge D M B Evans T J Evans, D K A Firth, H. H Fisher T F Fox E S Frischmann M W M Gadrat P Garson, W H George H. M Golding H P Goldsmith W Gough, F E Gould A W Grace, H Graf, F H K. Green C W Greenway R J Gregory W E Grice A B Griffiths, G J Griffiths R D Gross S A Gunter, J A E M Hadley L W Hale C S Hallpike J G Hamilton I E Harries, K E Harris, A W Hart-Perry R C Hatcher *Leila M Hawksley L I Henzell J C W Hewetson E W Hicks H A Hirst, J A. Hislop S A Holford J Holmes A Hooper *Gwynedd Hugh-Jones *Kathleen M Hyslop *Ethel J Isaacs H Jaffe T G I. James, J W W Jepps A T Jones W Jones, P C Joscelyne, A A. Khair E F King S W M. King *Charlotte A Kingdon F Langford, A L Lankester N E Lawrence D E Lawrence H B L Levy, *Geraldine N Longford G Lucas, *Kathleen M. Lyons R R Macintosh N W MacKeith J R A Madgwick, *Doris I Mart, *Lucy M T Masterman M Meyers H S Morley, S. W H Moul R T Mummery C A Nadicarlanda B S Nat, E E Neser, J W. Newbold, I. Newton, C P O'Brien, F W Oldershaw R D Owen, R Owen-Jones *Lucy Parker G W V Parry T G W Parry, W F Payne, P R Peacock, *Betsey Porter, *Louisa M Poynder, T M Preece E A B Pritchard *Evelyn R Pyke A J Reed, *Laura M Rhodes R L Rhodes O F W Robinson M Rockfelt, E J H Roth S C Rowbotham M Rubenstein, E Rudge R W Savage *Margaret B Savory R W Scarff F L Scott E C Seward C J L Sharp H Sheard, J Silver F A H Simmonds A S Simpson, A E Slinger, G F Smith, N Smith J A Smorfitt, *Beatrice M. Smyth S Snelson W R Spurrell, R H Stanbridge R S Starkey E G Steeler W Stephenson, J D M Stewart, *Viva E K. Stuart *Edith C Summerskill H C Suri H H D Sutherland, T R Sutherland, *Annie D Symons A K Thomas W E C Thomas K. W Thorn R W H Tincker H S Townsend, B. D Underwood H C Van Dort D C Vaughan H. F Walker, S A. Walker *Dorothy A. Waterfield, E R Weaver Adams *Elizabeth N Wells H J W J Westlake H A M Whitby H B White *Fanny M. Whittaker G W Wigg *Cicely F Wilson A W Wood, *Constance A P Wood S C H Worseldine.

* Under the Medical Act. 1876.

Special Diplomas

Diplomas in special subjects were granted jointly with the Royal College of Surgeons, to the following candidates

PUBLIC HEALTH.—E Benjamin Florence Bontham M L Bery F J Derbyshire May C Ferguson J M Ghosh M R Goverdhan Eleanor Harse E C Holton I Lewis R C Lightwood W S McGillivray R H Parry H C G Pedler M A G Lillial Ruth W Plimsoll J Reid P M Rivaz C Ross Ellie F A Samter N S Sethi R W G Stewart M L Sutcliffe I S Thomson J R Tibbles J Whitby S A Withers

TROPICAL MEDICINE AND HYGIENE.—A A Parrada P N Basu M G Bhandari H Das W K. Dunscombe A A Hearne H B Lee G R McRobert P S Mills W L Pater on P S Sewyn-Clarke T S Tirumurti Hyla S Walters C L Wilmoth A D Wright

PSYCHOLOGICAL MEDICINE.—D R Alexander F G I Barnes J D Dyson A F Grimsby H D Hares W J Lascelles D B Mc. Lothlan E E Pittman J Roy

OPHTHALMIC MEDICINE AND SURGERY.—W E Jennings A F MacDonald R V Martin W C Mathur J A Raymond A A B Scott T D Shahani P L Stillard L H Stanton-Cook E K R Thomas V G Walker Gladys M R Webster

LARYNGOLOGY AND OTOLOGY.—J B Horgan W Wilson

Council

Sir Charles Sherrington was elected Councillor for one year, vice Dr Buzzard now Censor Drs Drysdale Poynton Abram and T Wardrop Griffith were also elected Councillors in place of Drs Peddard A J Hall, J W Russell, and Gowland Hopkins, who retire by rotation

Appointment of Representatives

Sir Dyce Duckworth was reappointed representative of the Court of Governors of the University of Liverpool Dr Voelcker was reappointed on the Court of Governors of the University of Birmingham Sir William Hale-White was reappointed representative on the Central Council for District Nursing in London Sir Francis Champneys was reappointed representative on the Central Midwives Board

Lecturers

The President announced that the Council had appointed Dr A S MacNalty to be Milroy Lecturer in 1925 A proposal that Professor Wenckebach of Vienna should give a lecture on angina pectoris to the College was approved

Eligibility of Women for Fellowship

The Senior Censor gave notice that at a future meeting of the College he will move That By-law 194 be amended so as to make women eligible for the Fellowship" Reports were received from the Committee of Management making recommendations

Recognized Hospitals and Schools

A report was received from the Committee of Management recommending that the East Suffolk and Ipswich Hospital should be added to the list of hospitals recognized by the Examining Board in England The Detroit College of Medicine and Surgery, Michigan U S A, and the College of Medical Evangelists Loma Linda California U S A. were added to the list of institutions whose graduates in medicine are admissible to the Final Examination of the Examining Board in England

Graduates of Russian Universities

In a further report the committee stated that it had recently received applications for admission to the Final Examination from graduates of medicine of Russian universities In cases where the course of study and the examinations were completed before the year 1916 these applications have been granted As however the committee was not satisfied that under the conditions existing in Russia at the present time the standard of medical education and examination on which the Russian universities were formerly recognized is maintained it recommended the Royal Colleges to remove the Russian universities from the list of institutions recognized by the Examining Board in England All the recommendations were approved

After reports of some committees had been received and other formal College business transacted the President dissolved the comitia

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

SURGEON VICE ADMIRAL JOSEPH CHAMBERS C B C M G Director General of the Medical Department of the Royal Navy has been elected an Honorary Fellow of the College

At the monthly meeting of the President and Fellows held on February 1st Cecil Charles Coghlan M B Univ Sydney (1915) having passed the necessary examination for membership was admitted a Member of the College

NATIONAL UNIVERSITY OF IRELAND

AT the meeting of the Senate on February 1st in addition to other business the following appointments were made Professor of Medicine University College Cork Patrick J O Sullivan M D, Registrar of the University, Fred H. Wiber

CONJOINT BOARD IN SCOTLAND

THE following candidates have been approved at the examination indicated

FINAL EXAMINATION.—*Medicine* W D Howat Annie H Sutherland J O Covin H Myers M Clouts M Kelman A S Ballantine S Noll S N Bandyapadhay I Rosiowsk J Courtney J R MacAlpine R D Scorgie *Surgery* O H D Oliver F W Robinson P Murray J H Mc Alpine J Paterson *Midwifery* J F Sweeney W D Howat J C Covin *D D O* McLoughlin H Myers M Clouts M Kelman S Noll R D Scorgie *Medical Jurisprudence* R H McKinnon J J McKenna T Hughes P J Jadenhorst D D H Craig Eleanor I Topping I Jools D T Gemmell J I Mackenzie M L Hendrie L Mackenzie D S Middleton A S Gordon

The following, having passed the Final Examination, have been admitted L R C P E L R C S E, L R F P and S G

M Burn C A Murray L A Watson R F Kerr A J M Findlater J Dey O L Shearer D Jack C A Parry Wilhelmina C Stoddie P S H Masters A Adefola H Sen D K Fisher A Haff A W H Noble Elizabeth Clark, R L A Kitchen I L Yeier J S Lip J Goldberg J McAules W Melrose C A Barrow

Obituary

SAMUEL AGNEW, M A, M D,

Lurgan co Armagh

IT was with deep regret that the profession in the North of Ireland received the intimation of the death, on January 31st, after a short illness, of Dr Samuel Agnew of Lurgan, a highly respected medical brother

Dr Agnew was one of the old Queen's University students, and received his medical education at the Queen's College, Belfast He graduated M D in 1871 and M Ch in 1872, subsequently he took the degree of M A While at college he distinguished himself in chemistry and was senior scholar in this subject For many years he was *medical officer to No 1 Dispensary District, and was also* superintendent medical officer of health for Lurgan, in which office he brought about many sanitary reforms He was also connected with many public bodies, and was instrumental in establishing a baby club, and in advancing education, both general and technical

Dr Agnew gained the confidence and affection both of his patients and of his professional brethren by whom he will be greatly missed He leaves a widow and large family, with whom much sympathy is felt

DR HAROLD FAIRCLOUGH of Sunderland died, after a short illness, on January 28th, at the early age of 40 He was educated at the Newcastle-on-Tyne College of Medicine, taking the Tulloch and Gibson Scholarships, and graduated M B, B S Durh in 1913 He was formerly house-surgeon to the Devonshire Hospital Buxton For the past four years he had been medical officer in charge of the *x*-ray and electrical department of the Sunderland Royal Infirmary, and was radiologist to the Durham County and Sunderland Eye Infirmary Dr Fairclough contributed a paper to our columns in 1918 on the intravenous injection of eusol in chronic arthritis He was a member of the Sunderland Division of the British Medical Association

Medical News.

A COMMITTEE was formed last year to erect a memorial to Sir Francis Farmer for many years dental surgeon to the London Hospital It is proposed that the memorial shall consist partly of a mural tablet in the Dental School of the London Hospital and partly of the endowment of a scholarship or prize to be associated with his name The committee asks us to state that the fund is still open and that subscriptions may be sent to either of the honorary treasurers Mrs M L Hodges The Woodlands Isleworth or Sir Herbert Williams, 24, Ulster Place Regent's Park N W 1

THE January number of the *Light Against Disease* the organ of the Research Defence Society contains an interesting statement of the advantage gained by animals result of experiments on animals A description is given the classical demonstration by Pasteur in May 1881 fifty sheep were infected with anthrax twenty-five previously protected by an attenuated virus remain health, whilst all the others were dead or dying days later Since then the protective anthrax vaccine has been sent over the world and areas once so hopelessly infected to be useless for grazing are now harmless inoculated sheep and cattle Similarly with tetanus in horses the specific antitoxin has made it possible to protect any horse The use of mallein protects horses from glanders a similar way dogs can be protected from Active research is at present in progress distemper in dogs with a view to the protective treatment Foot and mouth disease for preventive measures and may soon dispel fears as swine erysipelas contagious pleuro-pneumonia Texas fever in cattle All these good results have

origin from experiments on animals The annual subscription paid by members of the society is 10s , and its address is 11, Chandos Street, Cavendish Square, London, W 1 There are also associate members, who pay 5s , and graduates and students of medicine are eligible for membership and pay 2s 6d The price of a single copy of the *Fight Against Disease* is 6d , and it can be purchased from the Secretary at the address given or from Messrs Macmillan through a bookseller or newsagent The society is prepared to arrange for addresses and lantern lectures, and to supply literature to clubs and institutes

A CONFERENCE of Maritime Quarantine Authorities of the West Coast of South America is to be held in Panama on February 25th to 29th to consider the standardization of quarantine and the spread of communicable disease Each morning there will be set discussions on such matters as maritime quarantine regulations, ship fumigation, and the possibility of securing uniformity in quarantine declarations and bills of health In the afternoons there will be practical demonstrations of public health and hospital methods, and clinical demonstrations in the neighbouring hospitals The conference will deal also with municipal hygiene, refuse destruction, public markets, and refrigerating plants, the members will inspect the antimalarial work carried on by the health department of the Panama Canal, and also the water purification plant The education authorities will give an account of their methods of instructing children in public health, and of the improvements in sanitation that resulted from the installation of the national road system of the Panama Government There will be many social functions, and a warm invitation is extended to medical practitioners and public health workers who may be visiting the Isthmus of Panama at the time of the conference The general secretary of the conference is Surgeon W C Rucker, chief quarantine officer of the Panama Canal

A QUARTERLY meeting of the Medico Psychological Association of Great Britain and Ireland will be held on Thursday, February 21st, at 11, Chandos Street, Cavendish Square, W , under the presidency of Dr Edwin Goodall, at 2 45 p m In addition to the general business a paper, entitled "Twenty eight years' lunacy experience in Egypt," will be read by Dr John Warnock

SIR GILBERT CLAYTON, K B E , Civil Secretary to the Government of Palestine, formally opened the new hospital at Hebron on December 17th, 1923 A report of the ceremony, together with an illustration of the hospital, appears in the February issue of the *Mission Hospital* (published by the Church Missionary Society) Medical mission work has been carried on in Hebron for more than thirty years

IN 1759, when Benjamin Franklin was in England representing the then American colony of Pennsylvania, he placed in the hands of members of the Society of Friends the sum of £100, to be invested with accumulations for not less than 150 years The accumulated fund was then to be applied by the trustees as awards from time to time for the most valuable contributions to science, either published or in manuscript, on the subject of cures, but particularly in relation to surgery, the nervous system, and the part "mind treating" has in the recovery and preservation of health The first awards are now being made A major award (a scholarship of £2,500) has been allotted to P W Banning for his published work, *Mental and Spiritual Healing, All Schools and Methods, A Textbook for Physicians and Metaphysicians* an award of £1,000 to C P Steinmetz and the cost of republishing his treatise on *The Nervous System as a Conductor of Electrical Energy*, and a minor award of £500 to Iusakichi Omori and the publication of his treatise, *The Rotary Knife in Surgery*

DR WEISS, dean of the Strasbourg medical faculty, has been made a Commander of the Legion of Honour

The War Cry, the official organ of the Salvation Army, for February 2nd, contains references to the medical work carried on by this organization throughout the world In India, where there are three large hospitals, 51,254 patients were treated during 1922, and 451 major and 1,989 minor surgical operations were performed During a recent year 43 650 patients attended the William Booth Eye Hospital at Semarang (Dutch East Indies) Leper settlements, maternity homes, and children's clinics are scattered throughout the Dutch Indies, and a new hospital for eighty patients is approaching completion at Soerabaja In China also the building of a large hospital is planned, and in the Salvation Army hospitals in Tokio 21,995 patients were treated in 1922 Other large hospitals exist in Capetown, Canada, Australia, New Zealand, and in the United States On the first page is an illustration of the William Booth Memorial Hospital in Covington, Kentucky, and another of the Mothers' Hospital in Clapton, in which, during the last year, 1,129 births took place

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W C 2, on receipt of proof

IN order to avoid delay, it is particularly requested that *ALL* letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand London, W C 2 The telegraphic addresses are

1 EDITOR of the BRITISH MEDICAL JOURNAL, *Attiology Westrand, London*, telephone, 2630, Gerrard

2 FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westrand, London*, telephone 2630 Gerrard

3 MEDICAL SECRETARY, *Mediocera Westrand, London* telephone 2630, Gerrard The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin* telephone, 4737 Dublin), and of the Scottish Office 6, Rutland Square, Edinburgh (telegrams *Associate Edinburgh*, telephone, 4361, Central)

QUERIES AND ANSWERS

JUTE TOW

J C F —Carbolized tow is a regular article of trade It is made from either hemp or jute and is extensively used in hospitals Clean jute fibre is absorbent of water—that is to say, water wets it It is not so repellent to water as cotton wool is in its natural state Weight for weight tow absorbs less moisture than cotton It is coarser in texture, less soft to the touch, and, it seems likely, would be less agreeable to the patient Tow can be employed in place of cotton wool, but only subject to recognition of the fact that cotton wool for surgical purposes is prepared for use by cleansing it from dust and foreign matters removing the natural fatty and waxy matters by a solvent such as ether, and then rendering it either sterile or antiseptic Having regard to the history of its manufacture, it would seem desirable to render tow antiseptic, this can be done by thoroughly spraying it with a carbolic solution before using it for surgical purposes

LETTERS NOTES, ETC

INTER HOSPITAL RUGBY CUP TIES

THE first match of the first round of the London United Hospitals Cup Competition was played at Richmond on *January 31st*, when St Bartholomew's (who were beaten by Guy's in the final last year) defeated St Thomas's In the second match, on February 5th, St George's beat Charing Cross These are the only two matches of Round I, King's College, St Mary's, London, Middlesex, Guy's, and University College Hospitals drawing byes In Round II Guy's is playing University College on February 7th, King's College plays St Mary's on February 12th Bart's plays Middlesex on February 14th and St George's plays the London Hospital on February 19th The two semi finals will be played on February 26th and 28th, and the final on March 12th

WHAT IS STOVAINE?

A CORRESPONDENT brings to our notice a gem of medical information which appeared in a recent issue of the *Sunday Pictorial* In reproducing it here we have ventured to italicize our lay contemporary's *definition of stovaine*

> During a recent operation at a London hospital for appendicitis the patient was reading a popular magazine! This was due to the use of stovaine an anaesthetic which formerly has been used only for minor operations It has now been used in an operation for rupture as well as one for appendicitis Both operations were successful Stovaine meets the objections of those who dread to be sent to sleep This advance opens out wide possibilities said an official of the hospital I believe the time will come when this anaesthetic will be used for difficult internal operations *Stovaine is a mixture of oxygen and nitrous-oxide combined with a modified form of cocaine* It is injected into the spinal column and produces a total insensibility to pain

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 36 37, 38 and 39 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages *34* and 35

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *103*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

Control of Thyroid Diseases

113 D MARINE (*Arch Intern Med*, December, 1923, p 811) discusses the importance of our knowledge of thyroid physiology in the control of thyroid diseases Remarking that the immediate cause of simple goitre is a relative or absolute deficiency in the iodine store of the thyroid, he declares that goitre is easily preventable, both in man and in animals, by small doses of iodine A total of 15 to 30 c.cm of syrup of hydriodic acid (0 5 to 1 c cm doses daily), repeated each spring and autumn is sufficient In the endemic goitre districts of America 90 per cent of simple goitre cases could, he says be prevented by protecting the mother and foetus during pregnancy, and the child between the ages of 10 and 17 years For school children Marine and Kimball administered 2 grams of sodium iodide (in daily doses of 0 3 gram) each spring and autumn for three years Of 2,190 pupils thus treated only 5 developed goitre of 2,305 not treated 495 developed goitre If the entire population is to be protected iodized table salt is best The mother and foetus may be protected by 30 c cm of syrup of hydriodic acid (or iodine in other form) administered during one month of the first half of pregnancy The curative treatment of goitre in chronic cases is unsatisfactory, but in the early stages iodine is often successful It is best to give 2 to 4 grams of desiccated thyroid (0 2 gram daily), and after an interval of two weeks 30 c cm of syrup of hydriodic acid (in daily doses of 1 to 2 c cm) This treatment may be repeated every three or six months Desiccated thyroid and iodine should not be given if Graves s disease is suspected In cretinism (congenital myxoedema) the essential change is thyroid insufficiency and a deficiency of the iodine containing hormone Congenital myxoedema may be controlled in animals by iodine given to the mother during pregnancy The author thinks endemic cretinism may be eliminated by giving to the mother 2 to 5 mg of iodine weekly during pregnancy, and periodically to the child in early life, or the use of salt containing 1 to 2 mg of iodine per gram may be advised In the myxoedema of adults, in the rare instances when the thyroid is fully efficient, iodine is efficac ous, in all other cases desiccated thyroid should be given

The Dosage of Diphtheria Antitoxin

114 H WENNERBERG (*Acta Med Scand*, October 4th, 1923, p 467) is sceptical about the value of the enormous doses of diphtheria antitoxin recommended by certain authors during the last few years Since antitoxin treatment started in his hospital, in 1895, there have been 19,773 cases of bacteriologically proven diphtheria nearly all of which were treated with antitoxin The mortality of 13 per cent in 1894 came down with a run to 5 per cent in the first years of antitoxin treatment and since then (with the exception of 1903, when the mortality jumped to 15 per cent) it has ranged between 3 and 8 per cent During the same period the dosage of antitoxin has been greatly increased, and the old subcutaneous method has given place to the intravenous and intramuscular A study of the mortality curves has made the author suspect that they have been influenced not so much by the increasing quantities of antitoxin given as by the "genius epidemicus," or the fluctuating virulence of different epidemics The statistics adduced in evidence that decreased mortality is due to increased antitoxin dosage are of little value, since the numbers concerned are small

Insulin and the Hypoglycaemic Reaction

115 I FISCHLER (*Muench med Woch* November 23rd 1923, p 1407) points out that the action of insulin in diminishing the blood sugar may lead to the hypoglycaemic reaction In this condition, as the dextrose of the blood diminishes nervous symptoms develop (delirium aphasia, convulsions, collapse, loss of consciousness), and death follows So far no fatal termination of the hypoglycaemic reaction has been recorded in man and the condition can be checked by the administration of dextrose by the mouth or intravenously but the cause thereof deserves careful investigation Apparently the hypoglycaemic reaction is regarded by those who have described it as a new symptom complex but the author draws attention to a number of articles published by himself and his colleagues in 1913–14 on toxic symptoms which resulted from the diminution or deficiency of blood sugar To these symptoms he gave the name of glykoprive intoxication, and he regards the condition as identical with the hypoglycaemic reaction He discusses the cause of the coma produced in fasting dogs by the administration of phloridzin and points out that this drug does not produce toxic symptoms when the dog is not fasting The symptoms are analogous to those of the hypoglycaemic reaction produced by insulin in animals In his experiments the author found that the urea of the urine and also the ammonia of the urine were greatly diminished The intoxication is caused by the marked diminution or failure of the carbohydrate stores in the body, especially in the liver and the blood with a resulting hindrance of the normal terminal nitrogenous metabolism The retention of the incomplete end products of metabolism causes the intoxication which may lead to the death of the animal As a result of these experiments the author thinks that insulin should not be employed unless there is a sufficient carbohydrate reserve in the body and therefore would hesitate to recommend a fast day before the insulin treatment

Influence of Syphilis on Tuberculosis.

116. J W SAMSON (*Zeit f Tuberk*, Bd 39, Heft 3 1923, p 161) prefaces his account of his most recent investigations with a reference to a publication in 1921, when he reviewed the findings of a systematic examination for tuberculosis which he carried out among 1,300 prostitutes in Berlin Of the Wassermann positive prostitutes 12 5 per cent showed signs of active tuberculosis, whereas only 10 7 per cent of the Wassermann negative prostitutes did so These figures suggested that there was some but not much difference, as far as active tuberculosis was concerned, in favour of the non syphilitic The author s present article deals with an examination of 27 cases of combined syphilis and tuberculosis In 18 of these cases active tuberculosis broke out after syphilis had been contracted, and in 9 cases the syphilis was contracted after the tuberculosis had become manifest The course of the tuberculosis and many other factors in each case are analysed by the author, who comes to the conclusion that it is impossible to generalize as to the influence of syphilis on tuberculosis, whether occurring before or after the syphilis was contracted But it was probable that in many cases this combination of diseases had a bad effect on the prognosis as regards the tuberculosis In no case did he find that syphilis had had a beneficial action on the tuberculosis

Latent Tuberculosis in Infants

117 CORICA (*La Pediatria* October 1st 1923, p 1032) has examined this possibility in thirty children (all under 12 months old) who died of non tuberculous diseases He removed the peribronchial glands and injected a pulp of them into guinea pigs which were killed three months later By this test 6 65 per cent of the children were found to be the subjects of latent tuberculosis This percentage is rather higher than that given by other writers which is explained by the great prevalence of tuberculosis in the families of the children In older children the percentage would probably be higher Tuberculosis of the peribronchial glands does not n arily imply a previous pulmonary lesion

Addison s Disease

118. DE LAGOANÈRE and L MASSON (*Presse m* 7 October 13th 1923 p 273) record three cases illustrating the polymorphous character of Addison s disease In the first case which occurred in a soldier aged 20 the disease was latent for some months and then possibly as the result of antityphoid inoculation became evident asthenia and pigmentation were followed by sudden death in twelve days time The second case which occurred in another soldier proved fatal at the end of fifteen months after a remission of the sym ptoms for several weeks due to admiss n f in a suprarenal of the calf In the third ver woman aged 30 the disease which s ted in attack of tonsilitis lasted for twelve w ach f the apparent recovery The pigmentation d a bad ne three cases In the first case the m f suprarenal maximum a few weeks before the d insufficiency whereas the second pati of the skin and mucous membr death and in the third case the pa eleven years before the developm insufficiency As regards treatment which occ was the marked improvement which case from the injection of adrenaline as well as improvement following injection of fresh suprarenal calf in the first case

s/o A

Surgery.

119 Treatment of Acute Empyema

S HANSEN (*Ugeskrift for Laeger*, December 20th, 1923, p. 932) finds that though there is general agreement as to the advisability of draining an acute empyema, there are two main opinions as to the manner in which drainage should be effected (*a*) by a large tube freely communicating with the exterior, or (*b*) by suction through a Pezzer catheter or larger tube, the pus being aspirated into an air tight receiver The author has used the methods alternately in the cases of acute empyema treated at his hospital during the past eight years In 137 cases open drainage was established, and in 136 cases suction The latter procedure had many advantages it was not necessary to disturb the patient so much, fewer dressings were required, and the cases were kept comparatively clean But only in two cases could drainage by suction be continued till the patient was cured, in all the other cases treatment by suction had sooner or later to be abandoned in favour of open drainage, either because the Pezzer catheter became blocked, or the collar of a larger drainage tube caused retention of pus On the average the Pezzer catheter could be retained only ten days, and a larger drainage tube between thirteen and fourteen days With regard to the mortality in the two classes, it was 15 per cent among the cases treated by suction and 19 per cent among the cases treated by open drainage But as in the latter class there were comparatively many cases of infants and elderly persons in whom the mortality from acute empyema is notoriously high, the author concludes that the results, so far as the mortality was concerned, were practically the same in the two classes The average duration of treatment was 57 days for the cases treated by suction and 51 days for the cases treated by open drainage One of the cases treated by open drainage and three of the cases treated by suction were complicated by the development of a chronic empyema. It will thus be seen that, as far as the results were concerned, there was little to choose between the two methods, but treatment by suction naturally appeals to many surgeons because it is cleaner and less expensive than open drainage. In most of the author's cases a bacteriological examination was made, and he found that there was little difference in the mortality whether streptococci, pneumococci, or staphylococci were found, the mortalities for these three groups being respectively 17, 19, and 16 per cent Among his 10 cases of bilateral empyema there were as many as 5 terminating in recovery, and among the 122 cases of influenzal empyema there were only 18 deaths—that is, a mortality of 14 per cent.

120 Rectal Carcinoma

L FISCHEL (*Journ Amer Med Assoc*, January 5th, 1924, p 10), reporting on a series of thirty six cases of carcinoma of the rectum, emphasizes two significant points that the importance of the earliest and most frequent symptoms, bleeding and diarrhoea, is not sufficiently recognized by either patient or doctor, and that rectal carcinoma often remains localized in the rectum and contiguous tissues for a very long time Routine digital examination would have been followed by earlier operation in many of these cases, with a consequent saving of life The question of regaining control of defaecation after colostomy receives attention, and optimism is expressed both in this respect and also as regards radium treatment

121 Solitary Adenoma of the Liver

CATHALA (*Paris med*, December 22nd, 1923, p 508) protests against the view that the clinical diagnosis of primary tumour of the liver is equivalent to a sentence of death at an early date, since in the case of some hepatic tumours extensive resection results in considerable prolongation of life and even complete recovery Cathala adopts Lecène's classification of solitary adenomata of the liver into benign and malignant forms The benign form, which is often associated with angioma of the liver, deserves the name of "simple hepatic dysembryoma," while the malignant form is of the type described by Renon, Géraudel, and Monier Vinard as "hepatoma" During the early stage the malignant adenoma is encysted by a dense barrier of connective tissue which for a long time renders it a purely local lesion for which surgical intervention is indicated, the adenoma forming a rounded painless tumour of firm consistence in the epigastrium or hypochondriac region The tumour may be sessile, projecting from the surface of the liver or its lower border, or be pedunculated, simulating cholecystitis and various abdominal tumours. The liver as a whole is not enlarged The general condition as a rule is not affected, though in some cases loss of flesh and strength has been noted. Clinical signs and clinical tests give no evidence of hepatic insufficiency since the growth is purely local and is not accompanied by chronic hepatitis The possibility of syphilis must be excluded by a general examination of the patient, the performance of the Wassermann test, and if necessary a therapeutic test before making the exploratory laparotomy, which is otherwise essential and may be the first step towards the patient's recovery

122 Cardiorrhaphy in Acute Injuries

W R SMITH (*Annals of Surgery*, December, 1923, p 696) points out that cardiorrhaphy is a comparatively recent advance in surgery The human heart is very tolerant of manipulation, and this fact has been repeatedly demonstrated, especially in connexion with foreign body extractions during and since the war Despite the view that the coronaries are end arteries, ligature of these vessels has been often performed during operation without apparent damage to the heart Chest work during the war has shown that surgical pneumothorax is remarkably well tolerated, and the introduction of intratracheal insufflation anaesthesia has marked a great advance The diagnosis of a heart wound is not always easy, and there are numerous cases on record where cardiac wounds were overlooked External bleeding is often absent, the immediate effect of a cardiac wound in about half the cases is unconsciousness from which the patient may or may not rally shortly In cases of doubt exploratory operations are always justifiable Transpleural thoracotomy under general anaesthesia is probably the procedure best suited to the average type of case A serious complication is infection, and it is wiser to delay operation to provide proper aseptic conditions The pericardium should be freely opened in its long axis to give ample exposure and to facilitate location of the site of bleeding Catgut or silk may be used to suture the wound in the heart Continuous sutures are preferable, being quicker and leaving fewer knots on the heart Drainage can be accomplished through a simple valve tube drain through the chest wall Fifty eight cases have been collected, with a mortality of 33 per cent A full bibliography is given with the paper

Ophthalmology.

123 Early Ocular Signs of Disseminated Sclerosis

BROWNLOW RIDDELL (*Glasgow Med Journ*, December, 1923, p 392) discusses the early ocular signs of this disease, which has a very insidious onset, and its earliest symptoms are sometimes connected with vision So far as present experience goes treatment in this condition is of little avail, but early recognition is obviously desirable both from a prognostic point of view and to obtain the best possible results from treatment Transient diplopia is one of the very early symptoms of the disease, and it is very necessary to keep this in mind Of 29 cases who complained of double vision Riddell found 4 cases of apparently early disseminated sclerosis Acute retrobulbar neuritis—in other words, rapid failure of sight with no corresponding signs to account for the visual failure, followed by fairly speedy recovery of vision—is another state of affairs which should warn the practitioner that he may be dealing with an early case of disseminated sclerosis

124 Siderosis with Dilated Inactive Pupil

NELSON M BLACK (*Amer Journ Ophthalmol*, December, 1923, p 990) describes a case of this rather uncommon condition, which is usually the result of the retention of iron or steel particles in the eye for a considerable period It does not necessarily follow that an eye which contains a foreign body of iron or steel will develop siderosis The factors which determine the development of siderosis are not yet fully known, but it would appear that when the foreign body is retained in the neighbourhood of the lens, iris, or ciliary body siderosis is most likely to develop The actual chemistry of the resulting brown deposits in the tissues is also a matter of uncertainty, they are almost certainly produced by oxidation, though they are not simple oxides It is even likely that the deposit is not of the same nature in all cases The characteristic appearances of siderosis consist of a rusty brown discoloration of the iris and of the presence of brown opacities in the lens situated in the subcortical zone Later the lens assumes a yellowish brown tinge, and finally becomes opaque In the case reported the pupil became dilated and inactive, this is a recognized but rare occurrence It is held by different authorities to be due to (1) chemical irritation of the fibres of the sympathetic by the iron in the iris, (2) injury of the endings of the third nerve by the iron salts in the iris, (3) impairment of the muscles of the iris by the contained iron

125 **A Case of Chloroma**

W H ROBERTS (*Amer Journ Ophthalmol*, October, 1923, p 805) describes a case of this rare condition Chloroma is a malignant disease of the sarcoma type, and takes its name from the typical green tumours found throughout the body The disease chiefly attacks children and young adults The blood picture is characteristic, but there are two types—the myeloid, which shows a steadily increasing number of myeloblasts, myelocytes, and nucleated erythrocytes, and the lymphatic, which shows first a destruction of leucocytes, followed by a rapid increase up to hundreds of thousands, but falling again to below normal prior to death The clinical symptoms as seen by the ophthalmic surgeon are exophthalmos, orbital and lid tumours, retinal and subconjunctival haemorrhages, papillitis, and subperiosteal proliferations affecting chiefly the cranial bones Before death many parts of the body become invaded by the tumours Treatment appears to be of no avail, all reported cases have ended in death In the present case symptoms were first reported in July, 1922, and death occurred in October, 1922 The first symptom noted was prominence of the right eye At death tumours were found in both orbits surrounding the optic nerves though not infiltrating them there was extension into all the accessory sinuses and in both temporal regions, the brain itself was not invaded, but there was extension of growth along the falx cerebri The tumour extended along the full length of the anterior surface of the spinal column, surrounding the aorta and reaching to the pelvis On opening the abdomen greenish tumour masses were found in the subcutaneous tissues of the abdominal wall, in the mesenteric glands, in the kidneys, and in the liver An examination of the blood taken from the heart at the necropsy revealed the following white cells in proportion to red cells as 1 to 6, polynuclear neutrophiles 10 per cent, lymphocytes 89 per cent, eosinophilic myelocytes 1 per cent The red cells were characteristic of those seen in secondary anaemia

126 **A New Local Anaesthetic for Eye Operations**

S HAGEN (*Norsk Mag for Laegevidenskaben*, October, 1923, p 54) has been carrying out clinical tests with allyl cocaine, which was recently introduced by Dr Poulsson, professor of pharmacology in Christiania The tests were carried out partly on hospital patients, partly on medical students In one eye a 5 per cent solution of allyl cocaine was used, and in the other eye a 5 per cent solution of cocaine, or a 2 per cent solution of holocaine, and the effects were compared by examining at short intervals the anaesthesia induced, and noting the duration of this anaesthesia with each drug It was found that testing for anaesthesia of the cornea simply by touching it with a glass rod did not give sufficiently accurate results Accordingly the deep conjunctival anaesthesia was investigated by lifting up a fold of the conjunctiva near the margin of the cornea with fine forceps, with which the eyeball was slightly moved from side to side When there was no reaction to this test it was assumed that conjunctival anaesthesia was complete It soon became evident that allyl cocaine was a more effective anaesthetic than either cocaine or holocaine Within a minute of the instillation of two drops of a 5 per cent solution of allyl cocaine complete conjunctival anaesthesia was induced This was not the case with cocaine or holocaine, the instillation of which had sometimes to be repeated in order to achieve complete conjunctival anaesthesia The duration of the anaesthesia was also considerably longer after the instillation of allyl cocaine, but the addition of adrenaline to the three anaesthetics did not appreciably prolong their action It is characteristic of cocaine that it dilates the pupils and of holocaine that it is a local irritant In these two matters allyl cocaine behaves somewhat differently, in a 5 per cent solution it does, indeed, cause dilatation of the pupils, but more slowly and to a less degree than is the case with cocaine Allyl cocaine is slightly more irritating than cocaine, but much less so than holocaine The irritation set up by a 5 per cent solution of allyl cocaine is so slight that it is unnecessary to use a weaker solution, and the intraocular pressure of the normal eye is not affected The stability of the drug is considerable, a solution is not appreciably affected by boiling thrice for four minutes at a time, and after a solution has been kept for four months its anaesthetic action is still quite as good as that of a freshly made cocaine solution The author adds that he has performed several major operations on the eye under allyl cocaine anaesthesia alone and has on every occasion obtained satisfactory anaesthesia In the case of such an operation as that of iridectomy for acute glaucoma in which anaesthesia with cocaine or holocaine is inadequate he has found it possible with allyl cocaine to be independent of a general anaesthetic.

127 **Small Electric Ophthalmoscopes.**

BASIL GRAVES (*Brit Journ of Ophthalmol*, December, 1923 p 562) discusses the electric ophthalmoscope, and points out certain obvious advantages to be derived from non-dependence on an accessory light source It is easier to examine the patient in bed, the observer can sit in front of the patient and examine either eye without moving as the patient leans forward Observation of the influence of extreme outward movement of the globe on the venous pulsation at the disc is only possible if a self luminous ophthalmoscope is used The point which Graves especially stresses is that fundus details are better studied when the illumination is concentrated over a small area of the fundus It is a mistake, therefore, for the lamp bulb to be frosted, and to obtain the maximum concentration of light it should be possible to focus the image of the lamp filament The macula is more easily seen when the linear image of the filament is vertical than when it is oblique or horizontal, and so electric ophthalmoscopes should be provided with means to rotate the lamp easily

128 **Tuberculin in Tuberculosis of the Eye.**

W E GAMBLE (*Amer Journ Ophthalmol*, November, 1923, p 892) reviews this subject Ocular tuberculosis is a chronic disease and it occurs commonly without evidence of the disease elsewhere in the body Moreover, tuberculosis when well established in other parts of the body is rarely found in the eye as well Gamble states that he has only known one case of ocular tuberculosis die from tuberculosis Not so very long ago miliary tuberculosis of the choroid was held to be the characteristic picture of ocular tuberculosis, whereas now it is well known that every tissue of the globe can be attacked by the disease though often the clinical picture is not directly recognizable as being tuberculous It is in these later cases that the diagnosis can be made by tuberculin Changes in the affected area resulting from diagnostic doses of tuberculin consist of injection of the vessels, appearance of exudate, reduction of sight, retinal haemorrhage, and tenderness on pressure The ideal dose is one that will produce a focal reaction without causing a general reaction The dosage advised varies from 1 to 5 mg old tuberculin subcutaneously With regard to the therapeutic use of tuberculin Gamble states that it has stood the test of time It is in the small chronic foci that the best results are obtained Gamble advises 1/1000 mg (B E) as the initial dose, increasing up to 1/10 mg gradually, the injections to be given every other day at first, later on twice, and then once a week Gamble thinks that such symptoms as malaise, headache, loss of appetite, and increased pulse rate are the best guidance against overdosage

Obstetrics and Gynaecology.

129 **Radium Treatment in Gynaecology**

I ODESCALCHI (*Ann di Ostet e Ginecol*, November 30th, 1923, p 605) remarks that radium therapy in gynaecology has made considerable progress towards stability favoured by the anatomical relations of the pelvic organs, treatment of cancer of the cervix uteri is on a fair way to becoming technically satisfactory with regard to dosage, character and homogeneity of radiation Insufficient and incorrect filtration accounts for a large proportion of the early necroses formerly attributed to radium therapy, and for many of the late appearing recto vaginal and vesico-vaginal fistulae, as also for the majority of cases of secondary pyometra or vaginal atresia In some cases radium necroses of the vagina have been regarded as metastatic foci and treated—with disastrous results—by further applications of radium The duration of the applications is always a matter for careful consideration Repeated small doses are more likely than smaller single applications to strike a large number of neoplastic cells in the karyokinetic phase (during which they are particularly radio sensitive), they are also more prone to induce a favourable reaction in the neighbouring healthy tissues On the other hand, repetition of small doses tends to induce progressive diminution in the radio sensitivity of the tumour cells (radio immunization), together with an increasing sensitivity of the tissue cells If repeated applications are judged advisable, they should follow one another as rapidly as possible The cytologically less highly differentiated forms of carcinoma—which offer the best prognosis—demand smaller doses and comparatively brief applications Odescalchi writes favourably of palliative radium treatment in inoperable cases, but remarks that pain if due to remote lesions beyond the reach of local applications, is likely to be made worse rather than relieved Radium treatment of local

recurrences after hysterectomy is not to be recommended, and frequently leads to entero vaginal fistulae, x ray applications are safer Radium treatment of cancer of the uterine body should be reserved for patients whose general condition contraindicates operation With regard to myomata and metropathia haemorrhagica, Odescalchi remarks that the presence of adnexal inflammation—however long standing it may be and however slight the objective signs—constitutes a contraindication of radium treatment, a recrudescence of activity almost invariably follows

130 The Trend of Modern Obstetrics

B M ANSPACH (*Amer Journ Obstet and Gynecol*, November, 1923, p 566) points out the danger underlying the modern practice of obstetrical interference as a routine, the artificial induction of labour, version, and prophylactic forceps application being risky to both mother and child They should not be employed unless there is some definite indication in the case that they may be advantageous for the mother or the child Conservative obstetrics give the best results, and the patient ought to be under skilled observation from start to finish, but since such an ideal would unduly tax the patience of any one practitioner, the formation of obstetrical partnerships is suggested Objections to such an arrangement are stated to be more imaginary than real, and an improvement in foetal and maternal mortality and morbidity would follow the abandonment of objectionable routine methods Intelligent conservatism having undoubted advantages, it is considered that the burden of proof of superior merit rests with the advocates of routine operative interference There is an unavoidable foetal mortality at term of from 1 5 to 2 per cent, irrespective of the methods employed, but the avoidable mortality in conservative obstetrics may be estimated at 1 per cent

131 Puerperal Sepsis and Chronic Tonsillitis

O BLASS (*Deut med Woch*, November 16th, 1923, p 1440) records two cases indicating that chronic tonsillitis may be the source of metastatic infection of various organs, the site of such metastases being sometimes determined by localized loss of resistance, as in the case of the puerperal uterus In the author's first case premature labour was followed by typical puerperal sepsis The disease ran a severe course, associated with bedsores, hyperpyrexia, bilateral pleurisy, and oedema of the legs Blood culture yielded staphylococci, and there was severe trismus This and earache suggested tonsillar disease, and, as both tonsils looked unhealthy, tonsillectomy was performed on the right side and a few days later on the left side, the right tonsil showed a small peritonsillar abscess Rapid recovery followed this step In the second case also staphylococci were found in the blood, and when double tonsillectomy was performed marked improvement at once occurred, a blood culture four days later yielding no growth Unfortunately bronchopneumonia supervened a few days later, and ended fatally

Pathology.

132 Uric Acid Content of the Blood in Gout

THAT an acute attack of gout is a phenomenon of absorption, not of formation, of gouty deposits is the contention of C LINCK (*New York Med Journ and Med Record*, December 19th, 1923, p 728), supported by a series of recorded cases He finds that the uricaemia of gouty subjects is on a consistently higher level than that of normal persons, and refutes the possibility of this being consequent, as has been suggested, on impermeability of the kidneys on the ground that various observers have found hyperuricaemia with normal renal permeability His researches show that the level of uricaemia does not commence to vary until the second or third day of an acute attack of gout, and he maintains that the divergence of opinion in this connexion is due to the difference in the times at which observations were made He is satisfied that, contrary to the general opinion, acute gout is accompanied after the lapse of an interval of one or two days by an increase in the uric acid blood content, which persists for a certain period before dropping to the level noted before the onset of the attack His own findings are that gouty serum is hypo alkaline during the intervals between attacks, and he is in agreement with Luff that the alkalinity of the blood increases during the development of an acute attack In every case he was able to demonstrate such an increase, which persisted for varying lengths of time It was also found that gouty serum during the acute stage can still dissolve uric acid—an observation in direct opposition to the view that there is a uric acid saturation of the blood on the commencement of an attack While claiming no relationship between the two the author also found that the uricaemia increased and decreased with the alkalinity of the serum In a previous paper he has shown that uricaemia is increased by continued administration of alkalis, and he is therefore of opinion that the latter favour the onset of acute attacks, acids producing the opposite effect, as seen in the diminished frequency of attacks where patients have been treated by the frequent administration of phosphoric acid (Joulie's treatment) Colchicum was found to arrest the hyperuricaemia instantly, while only slightly modifying the alkalinity, and it also reduces the urinary secretion of uric acid The author has been able to arrest attacks by subcutaneous injection of about 5 c cm of the fluid obtained from an artificially produced blister, at the same time reducing the level of the blood uric acid If acute attacks represented a precipitation of uric acid in the tissues the uricaemia should diminish, not increase, with an attack, and the serum could not, as it does, dissolve further amounts of uric acid An exacerbation represents, in his opinion, not a precipitation, but a reabsorption of uric acid, it is noted that tophi almost always decrease at the onset of an attack and frequently disappear afterwards. The increase in size of articular tophi after successive attacks is attributed to inflammatory reaction, which produces at the same time reabsorption of deposits, and it is pointed out that tophi contain much larger amounts of calcium carbonate and phosphate than of uric acid Although it can be demonstrated that alkalis favourably influence an attack, it is not claimed that the latter is determined by the reaction of the tissue fluids In conclusion, the possibility of circulatory and nervous causes is considered, and it is suggested that the sympathetic nervous system may yet be assigned a rôle in the etiology of gout

133. The Destruction of Vitamin B by Age

G M FINDLAY (*Biochem Journ*, 1923, No 6, p 887) has carried out some preliminary experiments to determine to what extent the vitamin B content of natural foodstuffs is affected by the passage of time Four species of lentils were examined All the seeds were at least thirty eight years old, and had been stored in the Department of Agriculture in Edinburgh during the whole period, they had all lost their power of germination Rats were fed on various quantities added to a vitamin B deficient dietary, and the amounts necessary to promote growth were estimated Unfortunately no control experiments were performed with fresh seeds In the absence of these controls the author has taken the figures of Ghose, who has recently investigated the vitamin B content of fresh lentils This worker found that 1 gram of the same species of lentils as that used in this experiment was sufficient to promote adequate growth in rats In the present series of experiments performed in circumstances as closely comparable as possible, this quantity was found insufficient, but 3 grams proved to be adequate A similar result was obtained with old peas, also stored for thirty eight years, It is concluded, therefore, that the vitamin B content of seeds may diminish somewhat with lapse of time, but that this diminution is not great Further, seeds which have lost the power of germination have not necessarily lost all their vitamin B content

134 Spirochaeta icterohaemorrhagiae in Amsterdam Rats

W SCHÜFFNER and W A KUENEN (*Nederl Tydschr v. Geneesk*, November 17th, 1923, p. 2018), of the Amsterdam Institute of Tropical Hygiene, examined 209 specimens of *Mus decumanus* and 29 of *Mus rattus*, and found 27 per cent of the former and 3 5 per cent of the latter infected with *Spirochaeta icterohaemorrhagiae* The frequency of spirochaetal infection in Amsterdam rats is therefore high compared with other cities, and is about the same as in London, in which the spirochaetal index in rats, according to Stevenson, is 30 per cent The authors found that the frequency of infection was considerably higher in adult rats of greater length than 200 mm than in young rats less than 200 mm, the percentage incidence being 45 in the former and 2 5 in the latter There was no difference in the incidence of infection among male and female rats Although the spirochaetosis is doubtless a danger to public health, this danger at present is only slight A well marked case of spirochaetal jaundice in Amsterdam is a rare occurrence, though it is possible that mild forms of jaundice with fever are really of a spirochaetal nature A small epidemic of jaundice, which occurred at Utrecht in the beginning of 1923, was at first attributed to the removal of material used in the construction of internment camps during the war, but it is more probable that the real cause was to be found in the rats in the Utrecht area It is also possible that cases of unclassified fever are due to an attenuated spirochaetal infection.

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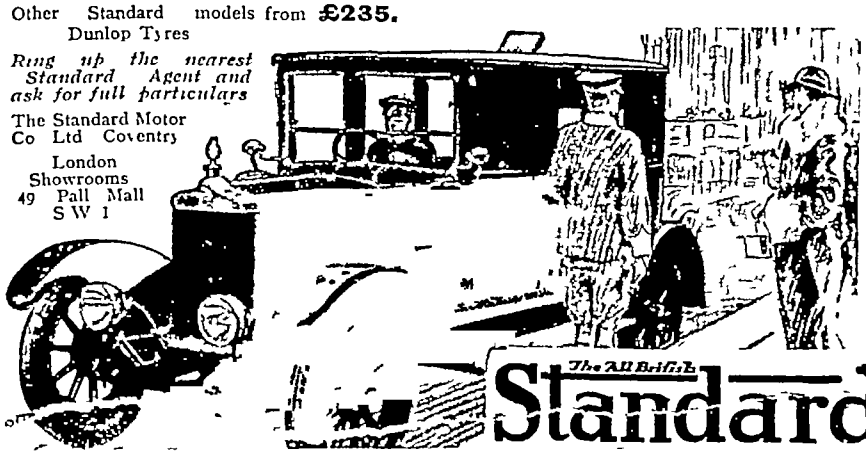
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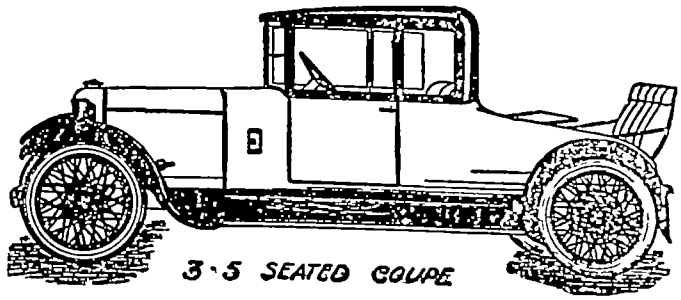
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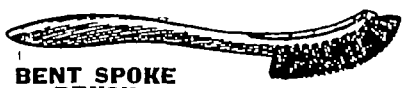
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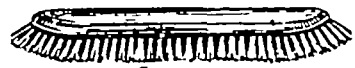
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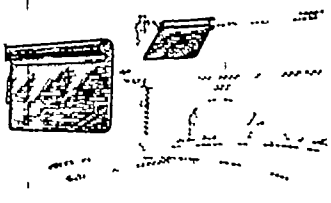
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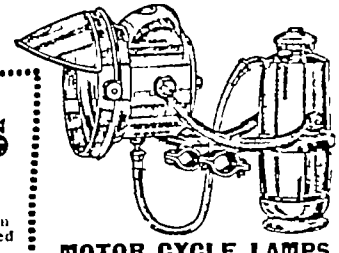
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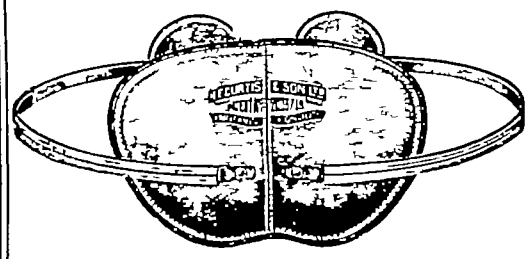


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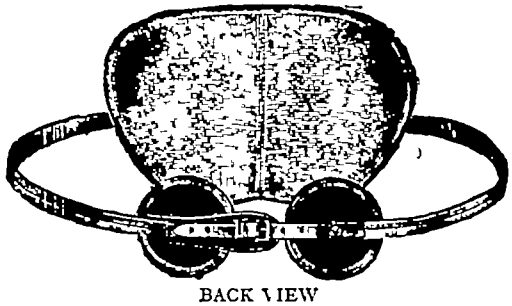
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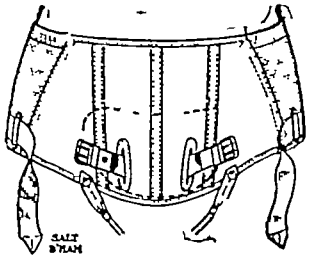


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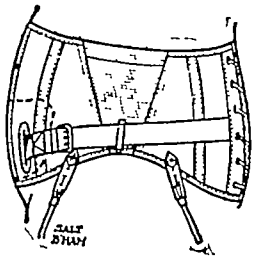
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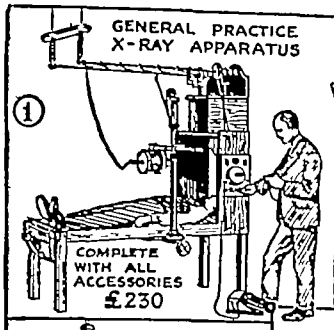
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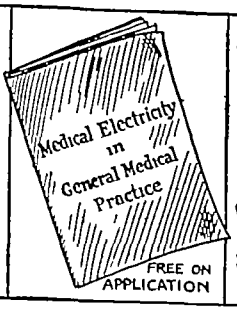
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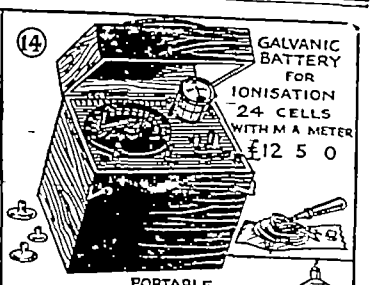
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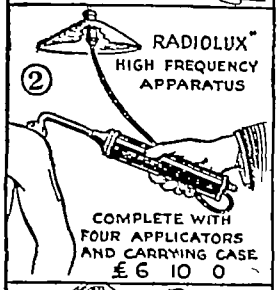
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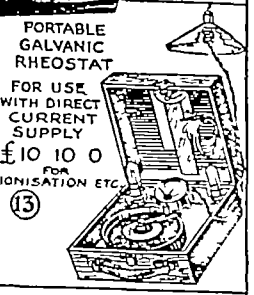


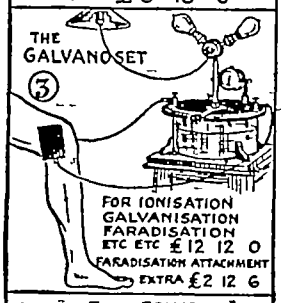


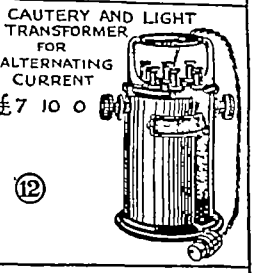












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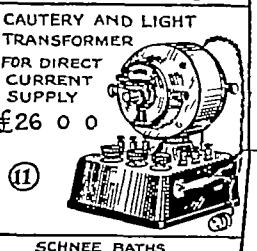
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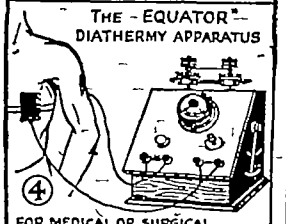
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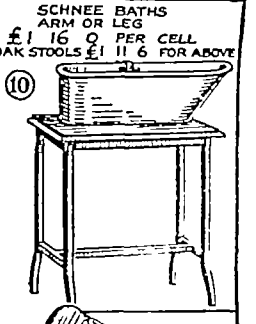
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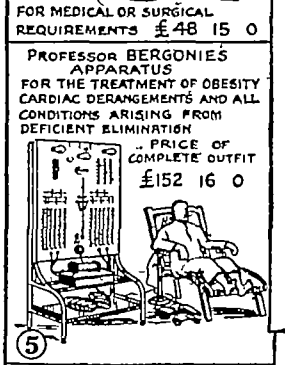
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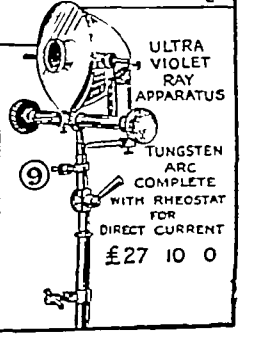
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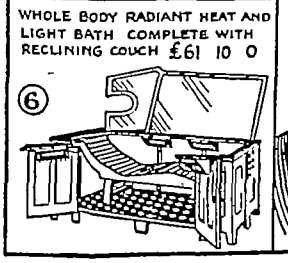


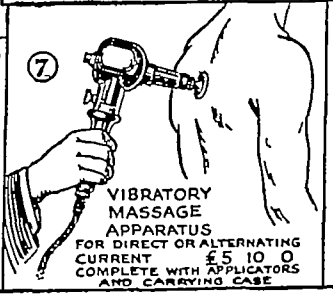


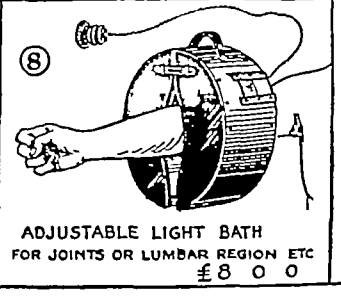












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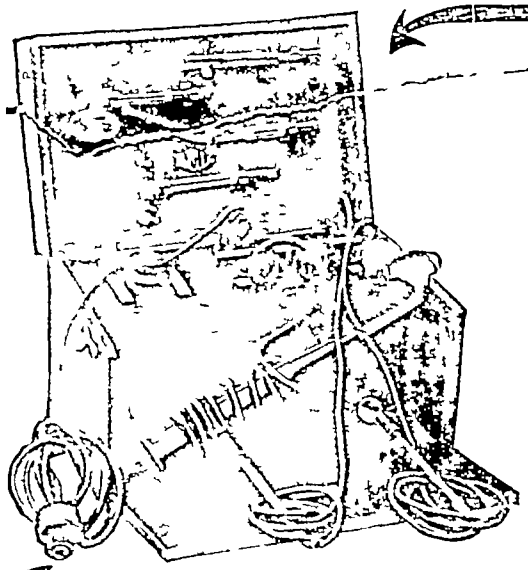
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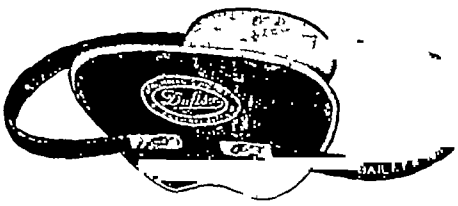
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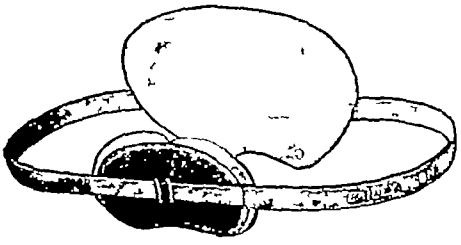
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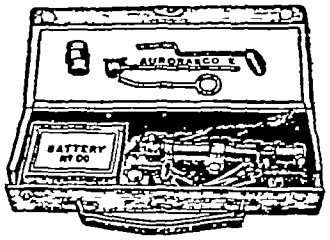
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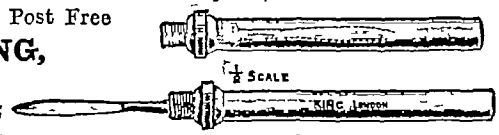


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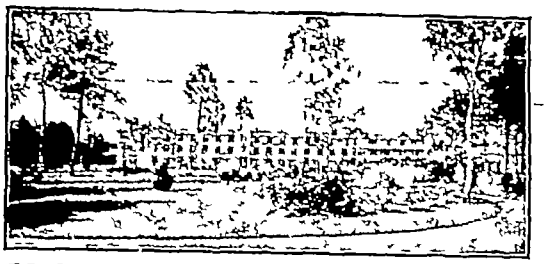
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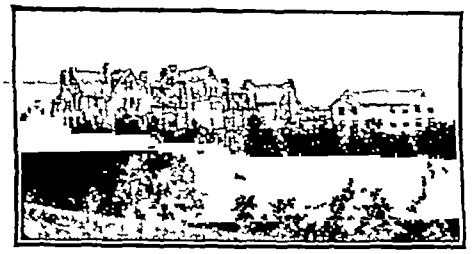


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PRE MEDICAL EXAMINATION
This Examination will commence on Tuesday 18th March 1924
FIRST EXAMINATION
This Examination will commence on Tuesday 18th March 1924
SECOND EXAMINATION
This Examination will commence on Thursday 20th March 1924
THIRD OR FINAL EXAMINATION
This Examination will commence on Tuesday 1st April 1924
Students who have completed the required professional study and have fulfilled the other necessary conditions and desire to present themselves for Examination must forward the necessary schedules through the post to the Examination Hall Queen Square Bloomsbury London W C 1 fourteen days before the Examination commences
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1st February 1923. Secretary

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This Examination will commence on Monday, 7th April 1924.
Candidates who have completed the prescribed courses and who desire to present themselves for Examination must forward the necessary schedule or schedules through the post to the Examination Hall Queen Square Bloomsbury London W C fourteen days before the Examination commences.
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PATENTS

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British Medical Journal— 1857 to 1867 HENRY KIMPTON is desirous PURCHASING COPIES of above volumes, and will be pleased to receive offers of any volumes — HENRY KIMPTON 263 High Holborn, London W C 1.

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Consulting Room to Let in Upper Wimpole Street Panelled room with every convenience Newly decorated house Excellent service. — Strongly recommended by Agents BEDFORD & Co, 10 Wigmore Street W 1 Telephone: Paddington 2112

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Pathological Laboratory, adjoining Harley Street, also use of CONSULTING ROOM, whole or part time and bed sitting room if required —Address, No 715 BRITISH MEDICAL JOURNAL Office 429 Strand W C

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Parish of Chelsea

THIRD ASSISTANT MEDICAL OFFICER (Male) required for St Luke's Hospital Chelsea S W for a period of one year certain from the 1st April, 1924 Age not over 30 years Salary £325 a year (no war bonus) with rations apartments and laundry subject to deductions for superannuation The Officer appointed will be required to take duty with the other Assistant Medical Officers in attending the outdoor Sick Poor both at the Dispensary and at their own houses as well as the ordinary duties in the Hospital and act generally under the directions of the Medical Superintendent Forms of applications will be supplied by the Clerk to the Guardians 250 King's Road Chelsea S W 3 on receipt of a stamped foolscap envelope 6th February 1924

Cumberland Infirmary,

Carlisle

Wanted, 1st April 1924, qualified RESIDENT MEDICAL OFFICER (Male) 12 months appointment — six months as House Physician and the remaining six months as House Surgeon Salary as House Physician at rate of £175 per annum and as House Surgeon at rate of £200 per annum with board residence etc in each case Applications stating age with copies of not more than four testimonials should be received by first post on Wednesday February 26th by the undersigned who will supply further particulars if required

J. G HOWITT, Secretary

St. Marylebone Hospital,

Ladbroke Grove, W 10

A THIRD ASSISTANT MEDICAL OFFICER (Male) required

The Hospital (Poor Law Infirmary) has 730 beds contains a wide range of Clinical material, both acute and chronic at all ages and has a consulting staff of eleven members

A previous hospital appointment considered highly desirable Good off duty time Quiet quarters Garden with grass and hard tennis courts. Salary £300 per annum, with board, lodging and washing

Apply in writing with full particulars to Medical Superintendent Interview by appointment only Telephone Park 4534

Salford Royal Hospital,

(260 Beds).

The Board of Management invite applications from qualified persons for the appointment of RADIOGRAPHER The possession of the Society of Radiographers Diploma will be deemed a qualification Salary £200 per annum.

The successful candidate will also be elected part time Radiographer at the Royal Manchester Children's Hospital (180 beds) at a salary of £100 per annum

Applications in own handwriting, stating age and experience, accompanied by copies of not more than three recent testimonials, to be addressed to the undersigned without delay

(By order of the Board),

GEO RUDDLE, General Supt and Sec.

4th February 1924

There are Vacancies for three HONORARY ANÆSTHETISTS at the ROYAL NATIONAL ORTHOPÆDIC HOSPITAL and applications with copies of three recent testimonials, are invited They should be addressed, to the Secretary 234 Great Portland Street W 1, and should reach him not later than Monday February 11th An honorarium of one guinea is paid in respect of each attendance.

Candidates will be invited to attend before the Medical Board and the Hospital Committee on the afternoon of Tuesday February 12th

Further particulars can be obtained on application to the Secretary's office

Royal Edinburgh Mental HOSPITAL.

ASSISTANT PHYSICIAN required. Salary £350 per annum with board lodging laundry etc. Preference given to applicants with previous experience in mental work especially if holding the Diploma in Psychological Medicine

Applications stating age previous experience etc, should be addressed to *Prof* GEORGE M ROBERTSON, Tipperlinn House Morningside, Edinburgh

Queen's Hospital,

Birmingham.

MEDICAL REGISTRAR (non resident) wanted at once Candidates to be fully qualified and registered The appointment is tenable for one year and the holder is eligible for re-election.

Honorarium £100 per annum

Applications stating age together with diplomas certificate of registration, and copies of not more than three testimonials to reach the undersigned (from whom further information is obtainable) by February 11th

HEDLEY LUCAS House Governor

St Bartholomew's Hospital

A qualified REFRACTION ASSISTANT required to attend on two afternoons in the week in the Ophthalmic Out-patient Department. Salary 1 guinea per Session

Applications and testimonials should be sent to the undersigned on or before the 25th Feb 1924

THOMAS HAYES

February 1924 Clerk to the Governors

Royal Edinburgh Hospital FOR SICK CHILDREN

Wanted for this Hospital FOUR HONORARY RESIDENT MEDICAL OFFICERS to enter on 15th April next.

Information as to duties, &c., can be obtained from the ordinary Physicians and Surgeon at the Hospital Thirty copies of applications and relative testimonials to be lodged on or before 1st March with Messrs HENRY & SCOTT, W S, 2 St Andrew Square Edinburgh No applications will be received after that date

Manchester Victoria MEMORIAL JEWISH HOSPITAL

TWO ADDITIONAL ANÆSTHETISTS required Honorarium 50 guineas yearly with an extra fee at rate of 10/6 per attendance for service between the hours of 6 p m and 9 a m

Applications with copies of testimonials should be sent to the Secretary at the hospital not later than February 16th 1924

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

Town or District	Town or District	Town or District
CONTRACT PRACTICE.		
ENGLAND	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*	FINSBURY METROPOLITAN BOROUGH *(Assistant Medical Officer of Health)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs.)*	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	LINCOLN CITY AND COUNTY BOROUGH *(Medical Officer of Health)*
WALES	**PUBLIC HEALTH**	LIVERPOOL EDUCATION AUTHORITY *(Assistant School Medical Officer)*
ABERTRIDWR, GLAMORGAN *Windsor Colliery (Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE *(Woman Assistant School Medical Officer)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
EBBW VALE MON *(Workmen's Medical Society)*	DARLINGTON EDUCATION COMMITTEE *(Assistant School Medical Officer)*	PLYMOUTH: EDUCATION AUTHORITY *(Woman Assistant School Medical Officer)*
LLWYNYPIA, CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	GATESHEAD COUNTY BOROUGH *(Assistant School Medical Officers)*	PORTSMOUTH: BOROUGH *(Medical Officer to the Portsmouth Child Welfare Centres and Municipal Maternity Hospital)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	GELLYGAER URBAN DISTRICT COUNCIL *(Medical Officer of Health)*	ROTHERHAM UNION *(Medical Officer)*
OAKDALE MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*		WINSLEY SANATORIUM near BATH *(Senior Resident Medical Officer)*

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE
(Grenada with Carriacou St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand London, W.C. 2

Town or District	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division of Branch
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *(Senior Resident Physician) (Senior Resident Surgeon.)*	Mr. A. RADFORD, M.C., F.R.C.S., 5 & 6 4th Floor National Bank Buildings, Durban	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr. R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street, Brisbane	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr. FRANK DAVIES (Hon. Sec. Victorian Branch) Medical Society Hall, E. Melbourne, Victoria
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec. New South Wales Branch) B.M.A. Building, 30-34, Elizabeth Street, Sydney, N.S.W.			WESTERN AUSTRALIA *(Contract and Lodge Practices.)*	Hon. Sec. Western Australian Branch, N.S. Bank of New South Wales Chambers, St. George's Terrace, Perth

Address 429 Strand, W.C. 2.
February 6th, 1924

By order of the Council of the British Medical Association.
ALFRED COX, Medical Secretary.

General Hospital,
Nottingham.

Wanted RESIDENT CASUALTY OFFICER (male). Appointment for six months commencing March 1st. Salary at the rate of £250 a year with board, residence and laundry. Applications, stating age, qualifications and experience, with copies of testimonials to be delivered to me not later than Wednesday, February 13th. The candidate appointed will be expected to assist in the Ear, Nose and Throat Department.

P. M. MacCOLL,
House Governor and Secretary.

The Hospice Maternity
HOSPITAL, High Street, Edinburgh.

Applications are invited from qualified Medical Women for the post of RESIDENT MEDICAL OFFICER at the above Hospital.

Remuneration at the rate of £50 per annum with board, residence and laundry.

Appointment is for six months from April 1st.

Applicants with copies of testimonials, to be sent to the Convener of the Medical Committee at the Hospice on or before Friday, February 15th.

Kent County Ophthalmic
HOSPITAL.
For Diseases of the Eye, Ear, Nose and Throat, Maidstone.

Applications are invited for the post of MALE HOUSE SURGEON to commence duties on 1st April, 1924. Candidates must be single, fully qualified medical practitioners of British nationality with knowledge of Ophthalmology, Refraction, Aural and Anæsthetic work. Salary £300 per annum with board, comfortable suite of rooms and laundry.

Applications, stating age, with copies of three recent testimonials to be sent to the Chairman by noon 15th February, 1924.

PERCY L. CAMP, Secretary.

Darlington General Hospital

Wanted, JUNIOR HOUSE SURGEON (Male), to commence duties early in March. Salary £150 per annum.

Application, stating experience, accompanied by copies of two recent testimonials to be addressed forthwith.

H. G. STEAVENSON, Hon. Secretary.

Edinburgh Hospital for
WOMEN & CHILDREN
Whitehouse Loan. (50 Beds)

Applications are invited from qualified Medical Women for the posts at the above Hospital of:—

1. SENIOR HOUSE SURGEON, remuneration at the rate of £60 per annum, with board, residence and laundry.
2. JUNIOR HOUSE SURGEON, non-resident, remuneration at the rate of £40 per annum. Lunch provided.

Appointments are for six months from April 1st.

Applications, with copies of testimonials, to be sent to the Convener of the Medical Committee at the Hospital, on or before Friday, February 15th.

The Hartlepools Hospital,
Friar Street, Hartlepool

HOUSE SURGEON (Male) fully qualified, required March 19th, 1924. Salary £200 per annum with board, residence and laundry.

Application, stating age and qualifications, with copies of not less than three recent testimonials, to be sent to the Secretary, 20 Lauriston Place, Edinburgh.

Sudan Government.

MEDICAL DEPARTMENT

A MEDICAL INSPECTOR is required for the Sudan Government Medical Department Candidates must be single and under 30 years of age. They must have held a resident appointment in a large General Hospital and should have the D P H

Pay commences at £E 720 a year rising by increments varying by £E 60 to £E.84 every two years up to £E.1,080 A further increase up to £E 1,200 after three years, is possible in certain special cases On confirmation in his appointment the selected candidate will be eligible for pensionable service.

Applications in writing, with copies of *recent* testimonials should be made to Dr ACLAND 19, Bryanston Square London W 1

Medical Appointments in the MALAY STATES

Vacancies exist for MEDICAL OFFICERS and HEALTH OFFICERS in the Federated Malay States Salary equivalent to £616 rising to £1,120 with prospect of further promotion Temporary additional allowance of 10% (20% to married officers) to meet high cost of living Pensionable if appointment confirmed, after three years probation Free passages provided Prospective candidates should be fully qualified and preferably under 30

Requests for further particulars and necessary forms of application should be addressed in writing to The Assistant Private Secretary (Appointments), Colonial Office Downing Street, London S W 1

Countess of Dufferin's Fund

WOMENS MEDICAL SERVICE FOR INDIA

MEDICAL WOMAN required for general service Emoluments Rs 550 p m, rising furnished quarters provident fund Passage and outfit allowance Resident experience essential

Application on prescribed form (sent on written request), with copies of three recent testimonials should reach the Honorary Secretary, U K Branch Dufferin Fund care of Major General J B SMITH, India Office Whitehall, S W 1, not later than 29th February

29th January 1924

St. Mary's Hospitals, Manchester

RESIDENT OBSTETRIC SURGEON for the Whitworth St West Hospital (Maternity) also RESIDENT SURGICAL OFFICER for the Whitworth Park Hospital (Gynecological and Children) both appointments for a period of twelve months from 1st April next. Salaries £200 per annum with board and residence

TWO HOUSE SURGEONS for the Whitworth St West Hospital and ONE for the Whitworth Park Hospital each for a period of six months from the 1st April next. Salaries at the rate of £50 per annum with board and residence

Application with copies of three testimonials to be sent to the undersigned on or before the 20th inst.

R RATCLIFFE Secretary

Royal Chest Hospital, City Road E C

(Royal Northern Group of Hospitals)

A Vacancy occurs for a PHYSICIAN with charge of Outpatients. Candidates must possess the degree of M D or M B obtained by examination at a British University and be Fellows or Members of the Royal College of Physicians of London

Applications should be sent not later than by the 23rd inst to the undersigned from whom particulars of the office and details with regard to the submission of testimonials, &c, may be obtained.

GILBERT G PANTER, Secretary

Royal Northern Hospital Holloway N

Worcester General Infirmary

The office of RESIDENT MEDICAL OFFICER is vacant Gentlemen wishing to offer themselves as candidates are requested to send copies of recent testimonials (not more than four), addressed to the Secretary as soon as possible

Candidates must possess a Medical and Surgical qualification and be registered under the Medical Act. Salary £200 per annum, with board residence and washing

A personal canvass of the Committee is prohibited

E J HOLLAND Secretary

Hospital for Epilepsy and PARALYSIS Maida Vale W 9

Applications are invited for the post of RESIDENT MEDICAL OFFICER The salary is at the rate of £150 per annum and the appointment is for 6 months The selected candidate will be required to take up duty on the 1st March.

Applications accompanied by copies of three recent testimonials should reach me by the 23rd February H W BURLEIGH

Secretary and General Superintendent

West London Hospital, Hammersmith Road, W 6

Applications are invited for the posts of HONORARY MEDICAL REGISTRAR HONORARY SURGICAL REGISTRAR and HONORARY OBSTETRIC REGISTRAR for a period of one year eligible for re-election annually

The holders of the posts of Honorary Medical Registrar and Honorary Surgical Registrar must hold no appointments at a general teaching hospital during their terms of office. The duties include the preparation of the several Registrar's Reports for the year and the supervision of the records of cases The candidates appointed must be available as substitutes for the Physicians and Assistant Physicians Surgeons and Assistant Surgeons as the case may be and for emergency operations when required and be prepared to undertake such teaching for the Post-Graduate College as may be desired

Candidates are required to be registered under the Medical Act, to send applications so as to reach me not later than Tuesday 19th February next to attend the Medical Council Meeting on Friday, 22nd February, at 4 30 p m and prior to that date to call upon and send copies of application and testimonials to each member thereof to abstain from canvassing but nevertheless to send copies of applications and testimonials to each member of the Board of Management at whose meeting on Tuesday 26th February, at 5 p m, candidates must be in attendance

H A. MADGE Secretary

Camberwell Infirmary (623 Beds)

An ASSISTANT MEDICAL SUPERINTENDENT (Male) required at once Remuneration at the rate of £500 per annum rising by yearly increments of £50 to a total of £650 with board, lodging and washing The appointment will be for six months in the first instance. All fees received by the Assistant Medical Superintendent to be returned to the Guardians Candidates should be between thirty and forty years of age unmarried, and must be prepared to carry out the rules and regulations pertaining to the Infirmary the Gordon Road Institution and the Children's Scattered Homes It is essential that they should be registered Medical Practitioners and have had a thorough experience as Resident Medical, or Surgical Officer in a Hospital or Infirmary A practical knowledge of X Ray work would be an advantage Information as to the duties may be obtained on application to the Medical Superintendent at the Infirmary Brunswick Square, Camberwell S E 5 and forms of application can be obtained here

Guardians Offices, H ERNEST MOTT
29 Peckham Road, Clerk to the Guardians
Camberwell S E 5

Bristol Royal Infirmary

Applications are invited for the following resident appointments:—

2 HOUSE PHYSICIANS,
3 HOUSE SURGEONS
1 HOUSE SURGEON to the Ear, Nose and Throat Department,
1 OBSTETRIC HOUSE SURGEON,
1 CASUALTY and OPHTHALMIC HOUSE SURGEON

Salary in each case at the rate of £80 per annum with board apartments and laundry

1 DENTAL HOUSE SURGEON (non resident) Salary at the rate of £116 per annum with board

Candidates who must be duly qualified to send in their applications stating age together with copies of not more than three testimonials to the undersigned on or before February 23rd 1924

ELLIS C SMITH, F C I S, Secretary

Evelina Hospital for Children, Southwark S E

The Committee of Management invites applications for the post of PHYSICIAN to Out patients (Honorary) (Attendance Mondays and Thurdays at 2 p m) Candidates must be Graduates in Medicine in a recognised University and M R C P Lond (or shall obtain that Diploma) and must not be engaged in general practice Application, with copies of four testimonials to be addressed to the Secretary at Hospital before 25th February Candidates (Male) must call on the members of the Honorary Medical Staff whose names also the Standing Orders relating to the post, will be furnished by the undersigned

By Order
H C S SMITH
2nd February, 1924 Secretary

Durham County Hospital

The post of HOUSE SURGEON (male) will be vacant at 31st March The appointment is for six months certain subject to renewal Candidates must be duly qualified and registered Salary £200 per annum with board and lodging

Applications with copies only of testimonials, to be sent to the undersigned

9 Saddler Street WM R WILSON
Durham Secretary

Birmingham Union. DUDLEY ROAD HOSPITAL.

RESIDENT PHYSICIAN NEW APPOINTMENT

Applications are invited from fully qualified medical practitioners for the above appointment

Candidates must have had previous hospital experience in Senior Medical posts and should possess Senior Medical qualifications

The gentleman appointed to the post will be the Senior Officer of the Medical Section He will be required to assist in the training and lecturing of Nurses.

The present hospital accommodation is approximately 750 beds divided into Medical Surgical Gynecological and Obstetrical sections and there are completely equipped Pathological and Biochemical Laboratories X ray Electrical and Massage Departments

Commencing salary £650 per annum rising by annual increments of £50 to a maximum of £750 per annum together with full residential emoluments (furnished apartments, rations laundry and attendance)

Further particulars of the appointment may be obtained from the Chief Medical Officer, F W ELLIS M D F R C S at the hospital

Applications stating age experience and qualifications accompanied by copies of recent testimonials should be forwarded to me at the earliest possible date

Union Offices JAMES CURTIS,
Edmund Street, Clerk to the Guardians
Birmingham.
4th February 1924.

Glamorgan County Council

DENTAL SURGEON

The Glamorgan Education Committee invite applications from Registered Dental Surgeons for the post of Dental Surgeon (man or woman) for the purposes of the Council's duties under the Education Acts

The scale of salary is £500 per annum with increments of £25 per annum to a maximum of £700 (but at the present time this scale is subject to a 5 per cent deduction) with travelling expenses

The person appointed will be required to give his or her whole time to the duties under the control and supervision of the School Medical Officer and to reside where directed by the Committee

The appointment will be terminable by two months notice on either side

A knowledge of Welsh is desirable

Applications stating age and qualifications and accompanied by copies of not more than three recent testimonials should be addressed to the School Medical Officer Dr E COLSTON WILLIAMS County Hall Cardiff and should be received by him not later than the first post on the 15th February

Canvassing personal or otherwise will be a disqualification

HENRY D ROWLAND,
Assistant Secretary of Education Committee
Glamorgan County Hall, Cardiff
4th February 1924

The General Hospital, Birmingham

Applications are invited for the post of DIRECTOR OF THE VENEREAL DISEASE DEPARTMENT

Candidates must be qualified medical practitioners and have had experience in the treatment of venereal disease

The appointment will be made for three years in the first instance but terminable by three months notice on either side at the end of the first year It will be subject to the agreement between the Birmingham City Council and the Board of the Hospital and also subject to the approval of the Ministry of Health

The Director will be responsible for the clinical work in the outpatient department and for the beds in the inpatient department His assistants will be appointed from the staff of the hospital

The successful candidate must undertake to engage in private practice in venereal disease only

The salary will be £600 per annum The pathological work will be done by the Pathologist appointed to carry out that work for the Department

Applications, stating experience and qualifications, should reach the undersigned by Feb 24th

A H LEANEY, House Governor

January 29th 1924

King Edward VII Hospital, Windsor

A vacancy having occurred on the Medical Staff of the above Hospital for an HONORARY PHYSICIAN applications are invited for the post before February 14th to be addressed to the Secretary at the above address

King Edward VII Hospital, Windsor

A vacancy existing on the Medical Staff of the above Hospital for an HONORARY ASSISTANT PHYSICIAN applications are invited for the post before February 20th to be addressed to the Secretary at the above address

The Royal Earlswood INSTITUTION Redhill, Surrey

(Under Mental Deficiency Act, 1913)

JUNIOR ASSISTANT MEDICAL OFFICER Required.

Applicants must be registered practitioners males, unmarried, and willing to assist in the games and amusements.

The appointment is tenable for three years if desired. Inclusive salary commences £250 per annum, with board, residence and washing and increment £15 per annum up to £280. Good facilities for Post Graduate Studies, Classes and Examinations.

Applications stating age religion and qualifications with copies of three testimonials of recent date, and two references, to be sent on or before the 18th February to the Secretary at the Office 14 Ludgate Hill, E.C. 4. The envelope to be endorsed "Assistant Medical Officer."

H. HOWARD
22nd January 1924. Secretary

Mr. W. S. ATKINS

Medical Transfer Agency,

43, Bedford Street, Strand, W.C. 2

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See Advertisement of Bovril Medical Agency Ltd. Page 40

IN EMERGENCIES The Western Triple Agency Principal (Dr. BAZETT) resident, can best help 'Phone Torquay 906, till 10 p.m. when urgent Office (Hermosa Lodge) open all Saturday (closed hours after) Telegrams 'Triple, Torquay' All Medical Agency work well done quickly

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See Advertisement of Bovril Medical Agency Ltd., Page 40

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1 NORTH LONDON — Old-established middle and working class PRACTICE, held by Vendor 4 years Average income for last 2 years £1 400 including appointments worth about £320 believed to be transferable Panel of 350, but this can be much increased if desired Advice and medicine 2/6 and 3/6 visits and medicine 3/6 to 7/6 About 80 midwiferies a year, at from 2 to 5 guineas Easily worked with no conveyance Very large scope Fourteen roomed house on 67 years lease ground rent £29 Fair garden Garage for 2 cars sub-let for £44 a year Premium for practice and house £3 250

2 LONDON EAST —PARTNERSHIP —A half share in a very sound old-established middle and working-class Practice The average income is well over £5 000 including small panel of under 1 000 This however can be much increased if desired Fees 3/6 and 5/ Midwifery from £3 3s About 80 cases Small very convenient house in quiet road Price £400 Premium £3,750, payable part by instalments

3 KENT —LARGE TOWN (within 50 miles of London) PARTNERSHIP —A half share in an old established Practice producing an average of over £3 800 No panel and no appointments Surgery fees 2/ and 2/6 visits 3/ and 3/6 Very little midwifery 2½ gns Night work extremely light House on lease with 2 reception rooms 6 bedrooms bathroom etc Small garden Rent £60 Premium 1½ years' purchase payable by arrangement

4 LEEDS —PARTNERSHIP —A one-third share in an old-established middle and better artisan Practice including panel of over 3 000 and appointments Average income for the last three years £5 470 Surgery fees from 2/6 cash Visits from 4/6 to 12/6 Little midwifery from 2 guineas Suitable house in central position available A short preliminary Assistantship is essential Premium to include share of drugs motors etc £2,500

LANCASHIRE —LARGE TOWN —Small PRACTICE of about £200 plus a panel of about 300 patients Very old established but neglected for the last ten years owing to war service Fees mainly 2/6 and 3/6 Very good detached house standing well back from the road on very long lease ground rent £10 Situated in residential area of the town Excellent opportunity for young energetic man to make a good practice Premium for house and practice £1,200 a large portion of which could be obtained on mortgage

6 BRISTOL —Very old-established middle and working-class PRACTICE held nearly 25 years by present Incumbent who is compelled to relinquish on account of ill health Average cash receipts over £1 200 a year including several small appointments and a panel of over 1 300 Visits 3/6 to 10/6 Midwifery £3 3s 30 cases yearly Very good house specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance bedrooms dressing room etc Garden Price £2 200 Premium £1 800

7 NORFOLK.—UNOPPOSED COUNTRY PRACTICE —Very old established Average income last three years £1 443 including appointments and panel nearly 1 000 Visits 3/6 to 7/6 Midwifery from £2 2s. Very compact house with 3 reception rooms professional rooms and 7 bedrooms etc. Garage Small garden Rent £54 Premium £2 000

8 SOUTH WEST OF ENGLAND —Country Town —Very old-established mixed class PRACTICE held by present Incumbent 38 years Average income £1 283 including appointments and panel of over 1 000 Very nice house with 2 reception rooms professional rooms 7 bedrooms etc Garage Garden. Rent £43 per annum. Sport of all kinds Premium £2 250

9 NORTHERN COUNTY —£900 per annum of which £850 is derived from panel The PRACTICE which is old-established and situated in a large town is capable of increase No midwifery Very comfortable house containing waiting and consulting rooms (separate entrance) 2 reception rooms 5 bedrooms bathroom etc Price £1 200 (£800 can remain on mortgage) Premium for practice £1 100 Ill health reason for sale

10 PARTNERSHIP —Lancashire Large town Owing to the retirement of the Senior Partner through advancing age the half-share of a very old-established Practice worth over £3 300 a year including panel about 1 900 is for disposal Consultations and medicine 3/6 visits and medicine 4/ upwards Midwifery 2 guineas Premium for share £2 370 Good house available which can either be rented at £80 a year or purchased

11 IRELAND (NORTH) —Seaside Resort In a pretty watering-place (population about 6 000) very old-established PRACTICE held 25 years by Vendor averaging about £2 500 a year including appointments £650 Visits 3/6 to 5/ Midwifery 2 guineas upwards 70 cases yearly Good house on sea front (2 reception rooms billiard room 6 bedrooms bathroom etc) Rent £100 a year on lease or can be purchased Premium 1½ years purchase

12 WITHIN TEN MILES OF VICTORIA.—Well-established middle-class PRACTICE Income this year at the rate of £1 200 Fees from 3/6 visits from 5/ There is no panel but large scope for this work if desired Very attractive house with garden Price £2 000 Premium £1,500

13 SMALL CITY PRACTICE producing about £120 a year but offering considerable scope Three well arranged consulting rooms Rent £80 Premium to include fittings etc reasonable offer

14 WEST END OF LONDON —High-class general PRACTICE Steady income of well over £2 500 a year Fees from 1 guinea. Excellent and very convenient house will be sold or Consulting Rooms would be let Premium £5 000

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Midlands—£800 a year, Industrial Town. Panel 8-0 easily worked *no Car House with large garden lawn and* trel and Sell or Let Premium for practice £1 000—Apply No. 7483

Home County—About £1,100 a year Old established Good hou e Rent or sell Scope Small panel Apply No 7478.

Seaside Resort—North-West PARTNERSHIP Half share of £2 200 a year Old-established, Good hou e garage etc Let or Sell Fees good Personally known—Apply No 7479

Death Vacancy—South County £3 000 a year Very old established Good business town Panel about 2,0-0 Good house Personally known and recom mended.—Apply No 7476

Northern Town—About £1,200 a year Vendor retiring Appoint menta £'80 Panel 800 Good house—Apply No 7449

Riverside Suburb—Increasing PRACTICE of £500 a year Good house, long lease Small panel Not much mid wifery—Apply No 7474

Midland Town—Practice about £1 400 a year Panel 1 420 Ex cel ent house to rent Appointments about £250 No midwifery—Apply No 7473

Spa Practice—Nearly £3,000 a year Good old-established Practice suit able for an experienced graduate with means—Apply No 7438

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North-West County—Over £3 500 a year Old-estab Large town. Panel nearly 3 000 Good house on lease Mod erate terms. Apply No 7423

Lancashire—£3,500 a year, PARTNER wanted Good Suburb of large Town with Hospital Good fees Panel £1 000 a year Good house available Half share for sale.—Apply No 7444

Wales Coast—Over £900 a year Good general PRACTICE, small panel Good house and large garden Residential Seaside Resort. Prem. £1000—Apply No 7419

Eastern County—Urgent £800 a year Unopposed On rail Panel over 500 Detached house on lease Schools near Personally known Premium 1½ years purchase—Apply No 7455

Welsh Coast—Over £1,500 a year Unopposed Old established. Fees 3 6 to 10 6 Not much midwifery Panel over 1 400. Other appointments about £190 Good house 4 bed bath &c. Room for extension Garage Price about 1½ years purchase.—Apply No. 7403

Eastern County—Over £1 000 a year Old established Town on rail Panel 600 Large house and garden on lease Partnership Introduction. Apply No 7385.

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2. C ag ns- to on ice £2 000

3 DEATH VACANCY (London)—Income £1 000 a year more than half of wh'ch is derived from panel. Very nice corner residence with garden etc rent £80 Efficient L T in charge Very good scope

4 SHETLANDS—For sale PRACTICE details of which will be forwarded to anyone interested in this locality

5 [illegible] good wo Xing class PRAC-

6 f r y

7 a

as Vendor who has been in 1 year s last o means is retiring through ill health Indu trial and agricultural district Very nice house and grounds on lease at £75 Premium £1,000

8 Good class PRACTICE situate in plea ant sea side resort in North of Ireland Income £1,800 a year including about £800 from appts Convenient residence, garage, etc rent £100 Premium £2 000 half of which can be paid by easy instalments

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2 KENT—Large Town Mid lle and working class PRACTICE Receipts about £1 850 p a Panel 1 6-0 Good ten roomed resi lence Rent very moderate Long lease Premium £3 000 or near offer

3 LANCS—Large Town General PRACTICE Receipts nearly £1 600 p.a Panel ab ut 1 600 Nurse required compact practice Small house

4 Ju in large Yorkshire town from £1,300 to £1 400 p a. Large panel several appointments. House available on lease Premium £2 000

5 DERBYSHIRE—Small industrial town Middle and working class PRACTICE Receipts about £750 p a. 800 panel patients Good house freehold for sale Premium £1,000

6 LANCASHIRE TOWN—DEATH VACANCY Receipts last year about £2,200 Panel 1 600 No conveyance required House rent £.5 Offers invited

7 N E. ENGLAND—PARTNER wanted for go d private family non panel Practice in large industrial town Receipts £4 500 p a Fees from 5/ to 21/ Good residence with large gar len available, or another can be taken Half share for sale

8 EAST LONDON—PARTNER wanted for good private Practice Share for di posal worth from £2 750 to £3 000 a year Premium £4,000 on easy terms.

9 LONDON W—Nice class Private PRACTICE and 1,300 panel patients Total receipts about £1 000 per annum Good house at pre war rent Five years lease Premium for practice and lease £2,000

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Yorkshire—Partnership Third share of £5 470 in fine town Pa el 1 300 and several appointments Good house. Little midwifery

Essex—Partnership with succession Good middle c ass Practice with no panel Half share of over £1 600 Premium £1,200 Go d house available Rent £50

Inland Spa—Good-class PRACTICE of £2 900 No midwifery or surgery Good house can be bought.

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South Coast—Old-established good class PRACTICE of £4,000 in large town Very good fees 10 mid wifery 5 gas up Scope for surgery House in good posi tion with garden and garage. Rent £100

X Rays Practice of £800 in select seaside place. Good house can be rented

Ireland—Protestant Practice of £1,375 in nice seaside place. Appoints £400 and extras Good house. Rent £100

South Midlands—Partner SHIP Two-fifths or one-th rd share of £3 000 in nice country town with cottage hospital in good hunting district Scope f r a Surgeon Modern detached house with garage and garden on lease.

Peak District—Very old- establi hed PRACTICE in country t wn Receipt average £1 360 Panel 6 0 Very desirable premi e House if rea onable rent

South Devon—Nucleus and RESIDENT PATIENT connexion in beautiful seaside place Large house and garden

East Coast—Practice of £1,140 in beautiful sea ide place Panel 8-0 Appointment £40 Rent £60

South Coast—Practice of £1,300 in favourite resort. Panel 9-0 Appointment £40 Rent £60 Seven years lease Premium 1½ years purcha e

Lancs—Practice of £2,000 in manufacturing town Panel 1 100 Appoint ments £120 Rent £60 Premium £2,000 including £400 good book debt

South Wales—Unopposed Colliery PRACTICE of £3 000 Panel 1 8-0 Appointments £2 000 House with garage No Midwifery

London, S W—Partnership Half-share of £2 400 Mid lle-cla s Practi e with 800 panel. Good house with long lea Premium £2 000

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NEW ZEALEND —(3) General, Surgical and Medical PRACTICE over £1 260 in first rate Town Prem half a year s purchase

DERBYSHIRE — (4) Well-established PRACTICE of between £700 and £800 per annum in Manufacturing Town Panel 850 No Midwifery Nice detached house (4 bedrooms) in acre of ground to let Great scope for increase Premium one and a half year s purchase

SURREY —(5) PARTNER required in good-class non-dispensing PRACTICE over £4 000 per annum in first rate residential district Incoming Partner should hold University degree not over 35 and keen on medicine Premium one fourth share two years' purchase

DEATH VACANCY —(6) SOUTH OF ENGLAND — Old established PRACTICE about £3 000 per annum, in Town with population about 55 000

EAST COAST —(7) Old-established PRACTICE £1,700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double fronted house (6 bedrooms) Rent £55 Premium one and a half years purchase

YORKSHIRE (WEST RIDING) —(8) Old-established unopposed Country PRACTICE £2 500 near large Town Panel about 1 000 Rent of house (5 bedrooms) £50 Premium £3 500

NORFOLK —(9) Old-established Country PRACTICE in beautiful part Receipts £540 Panel 328 Premium £750

INLAND WATERING PLACE —(10) Old-established high class PRACTICE, £2 800 per annum Fees 10/6 to £1/1 Excellent house for sale £2,000 Premium for practice £2 900

MIDLANDS —(11) PARTNERSHIP in old-established Practice £3 000 per annum in excellent Country Town Panel about 1 400 One-third or one-fourth share at one and three quarters years purchase

UP-THE-THAMES —(12) PARTNER required in old-estab PRACTICE in good Residential District within 20 miles of London Share worth £1 000 for premium of £1,200 The incoming partner should be under 32, and able to undertake Surgery

SOUTH COAST —(13) Good class general and ophthalmic PRACTICE of £2 000 per annum Excellent house to rent. Premium one years purchase only

MIDLANDS — (14) PARTNERSHIP in very old-established Practice over £3 000 in Market Town Panel 1 250 Detached corner house (4 bedrooms) Rent £65 Cottage Hospital and scope for surgery Premium one third or five-twelfths share two years purchase

NORTH LONDON —(15) PARTNERSHIP in very old-established good middle-class Practice in Residential Suburban District. Receipts average about £5 430 per annum No panel clubs or appointments. Suitable house obtainable One-third share at first at one and three quarters years purchase

SOUTH-WEST OF ENGLAND —(16) Very old-established middle and better-class PRACTICE over £4 200 in important Seaport Town No Panel or Appointments Commodious house in excellent position Rent £100 Premium one and a half years purchase

UP-THE-THAMES —(17) Middle class PRACTICE worth about £500 in Residential District Small Panel House with 4 bedrooms for sale Premium for Practice £500

MIDLANDS —(18) Well-established PRACTICE of £1,400 per annum in Manufacturing Town in the Potteries No panel or midwifery Detached house (5 bedrooms) to rent. Premium £1,800

SOUTH COAST —(19) Residential Town and Health Resort PARTNER required in good class Practice No panel No dispensing Exceptionally good house (5 bed and 2 dressing rooms) Share worth £1 000 at two years purchase Partner should be University Graduate with leaning towards medicine

SURREY —(20) Small non-dispensing PRACTICE about £275 per annum in first rate Residential Town Small panel Excellent detached house (6 bedrooms) in one acre of ground to rent on lease. Premium (to include lease) £500

MIDLAND TOWN —(21) Old-established PRACTICE about £1,100 per annum in Residential Suburb. Panel 700 House contains 9 bedrooms Large garden. Price £1 900 Premium for Practice £1 500

NORTH-WEST COAST —(22) Well-established middle-class PRACTICE about £2 400 No appointments. Conveniently situated house to rent. Premium £3 000 part by instalments.

NORTH OF IRELAND —(23) Old-established middle class PRACTICE about £2 500 per annum, in Seaside Town (Appointments worth about £650 per annum) Good house (6 bedrooms) to rent. Premium £2 000

CAPE COLONY —(24) Unopposed PRACTICE of £700 to £800 in attractive district. Excellent house (4 bedrooms) Large garden and paddock Work very light Premium £400

NORTH WALES —(25) Old-established PRACTICE in small Seaport Town Receipts 1923 £550 Panel 150 No midwifery or night work. Rent of house (7 bedrooms garden half an acre) £50 Prem £750

NORTH OF ENGLAND —(26) Old-established PRACTICE of £1 400 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds two acres Premium practice house and grounds £4 000 Mortgage could be had on house.

FAVOURITE HOME COUNTY —(27) PARTNERSHIP in good-class Country Practice about £3 000 per annum in delightful residential district Visits up to £2 2s Excellent modern detached house (7 bed and dressing rooms) in grounds of three and a quarter acres, to be sold. Cottage Hospital Premium one half share two years purchase

SOUTH OF ENGLAND —(28) Old-established PRACTICE of £1 700 per annum in Residential Town Panel worth £800 per annum Detached house (4 bedrooms &c) Rent £50 Prem one and a half yrs purchase,

BORDERS OF SURREY AND HANTS — (29) JUNIOR PARTNER required in Practice in charming residential country District. Panel 737 Share worth about £600 at two years purchase.

EASTERN COUNTIES — (30) PARTNERSHIP in old-established practice £2 213 per annum in first-rate Town Panel about 2 050 House (9 bed and dressing room) standing in own grounds, to be sold. Premium one-half share, one and three quarters years purchase

SEASIDE TOWN AND HEALTH RESORT —(31) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old-established practice Share worth £1 000 p a at two years purchase

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NEWCASTLE-ON-TYNE — (33) PARTNERSHIP in practice about £3 000 per annum Panel 3 570 Premium for a one half share one and a half years purchase Ample scope for increase

EAST COAST —(34) Popular Resort Old-established middle and working class PRACTICE of £1,184. Panel 847 Rent of house (5 bedrooms) £60 Premium £1 000

LANCASHIRE — (35) PARTNERSHIP in very old-established mixed practice £3 020 per annum in Manufacturing Town. Panel about 2 500 Commodious house (6 bedrooms) Rent £92 10s inclusive Premium for one half share one and a half years purchase or near offer. Hospital and chance of getting on staff

NURSING HOME.—(36) Fashionable Health Resort, Gross receipts over £2 400 Fees £5 5s to £15 15s. Excellently appointed resid. with ample accom Prem for Goodwill furniture and fixtures £2 500

SURREY — (37) PARTNERSHIP in good middle class compact practice over £2 650 in Residential District easy distance of London Panel 1,200 Premium two fifths share two years purchase Practice investigated by Association s Accountant

CHESHIRE —(38) PARTNERSHIP in good middle and working-class practice over £3 200 per annum in Manufacturing Town Panel returns about £1 000 per annum Modern detached house (6 bedrooms) for Sale Premium one half share one and a half years' purchase. Hospital and plenty of scope for special work

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SOUTH COAST —(41) Popular Health Resort PRACTICE Receipts 1923 £1,310 Small panel House on sea front (3 beds) rent £60 Premium £1 950 (or near offer) Scope for Surgery

SOUTH-EAST COAST —(42) Favourite Health Resort. PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1 750, including appointments £170 (about) No panel Premium two-fifths share two years purchase and up to one-half in two years. Partner hould be 28 to 30 single Preliminary Assistantship

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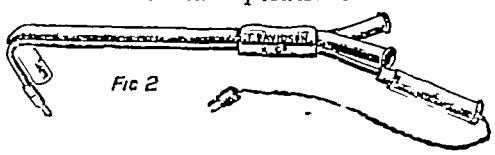


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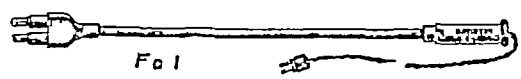


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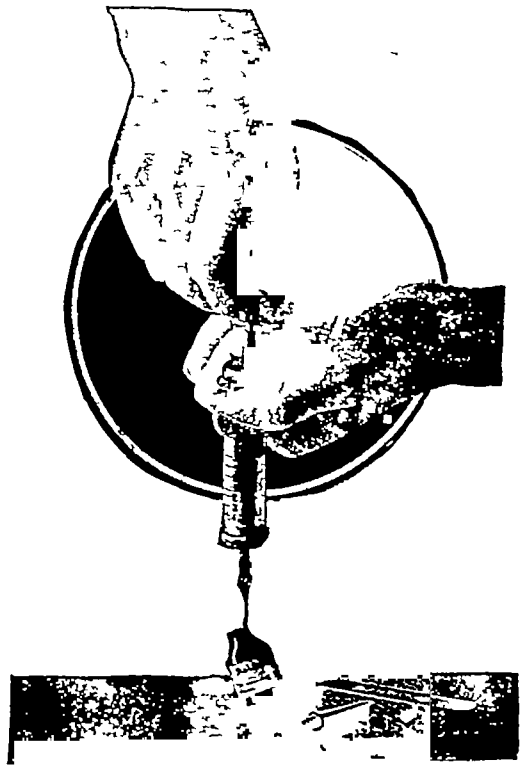
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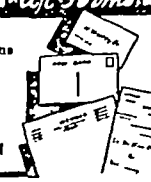
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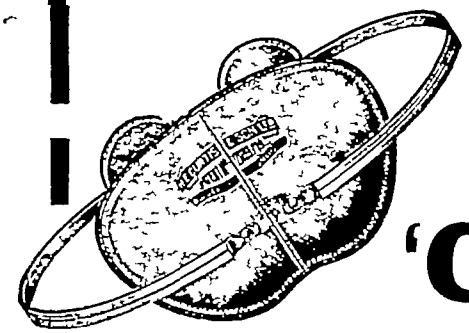


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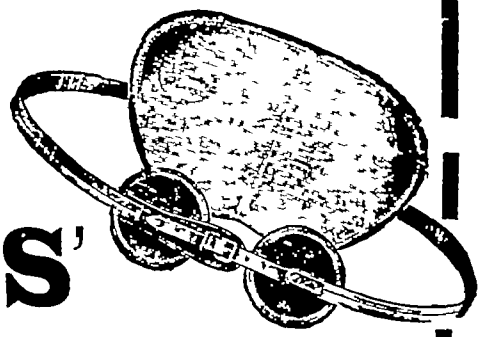
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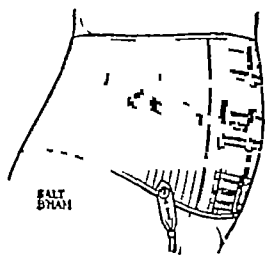
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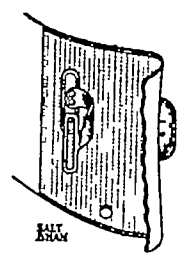
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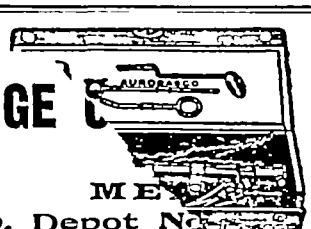
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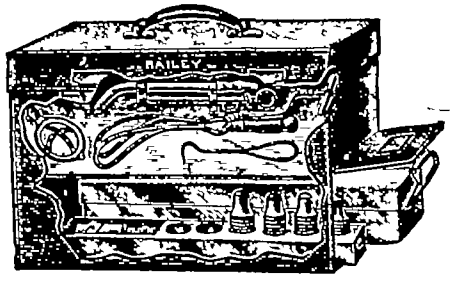
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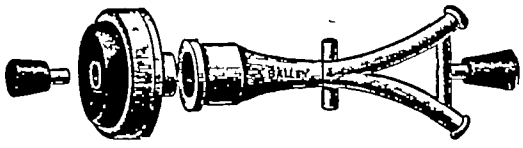
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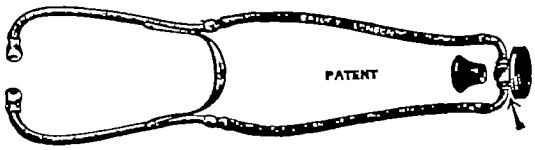
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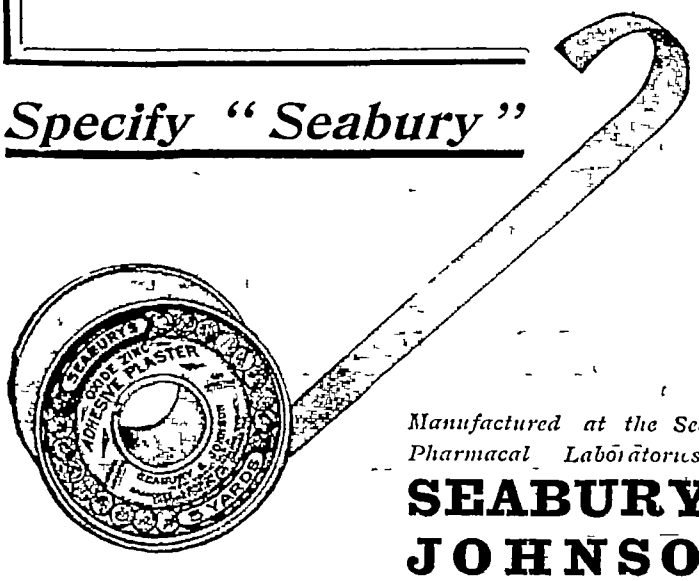
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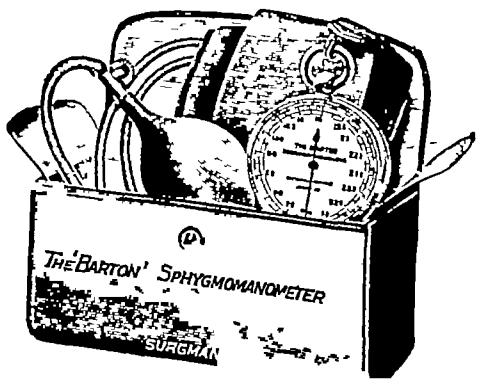
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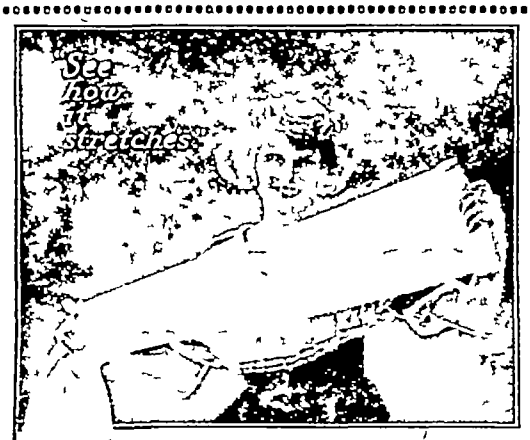
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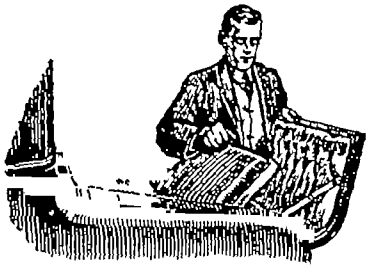
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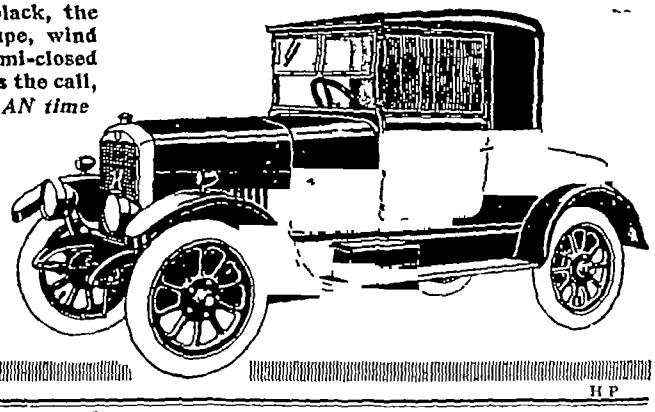
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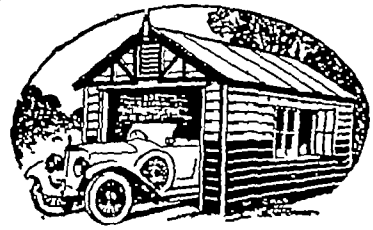
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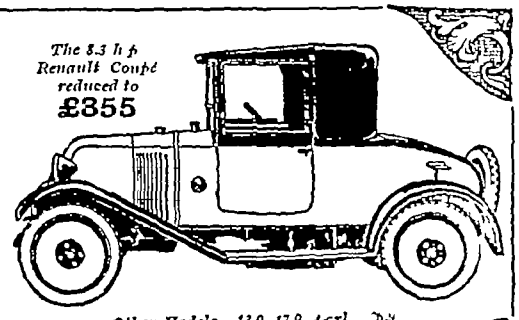
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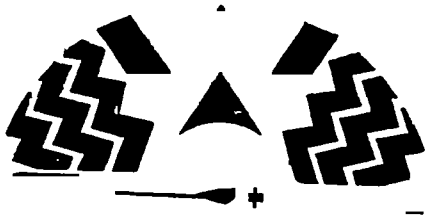
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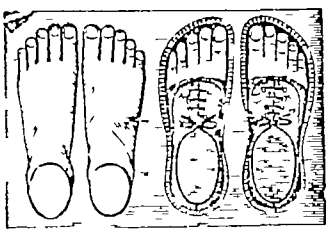
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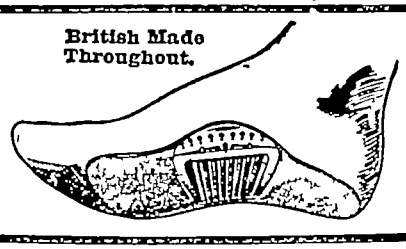
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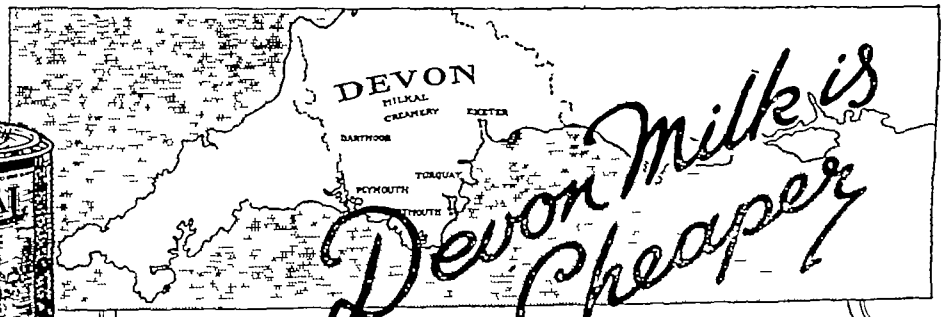
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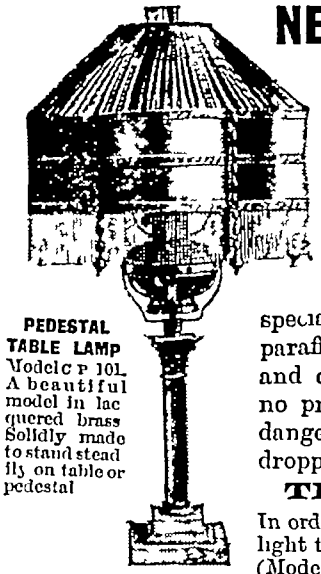
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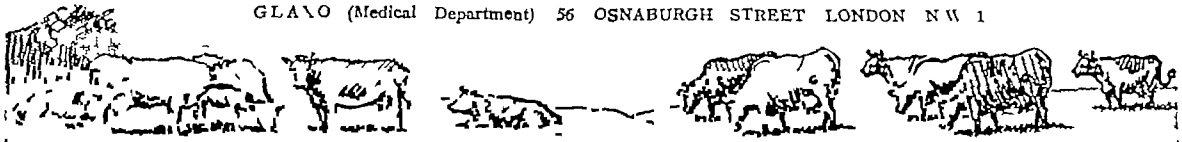
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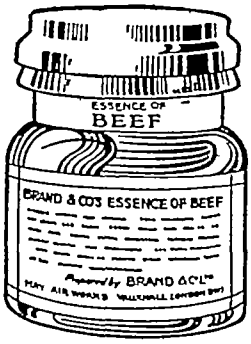
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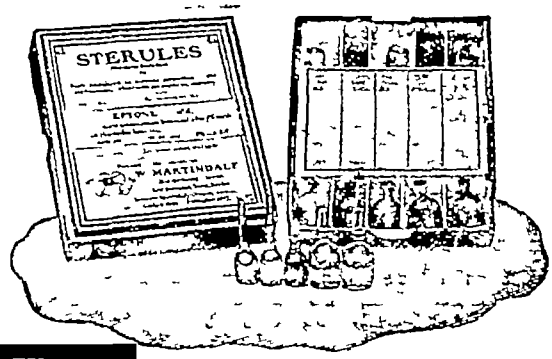
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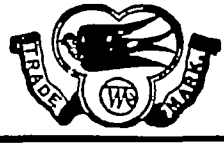
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Angier's Emulsion combats intestinal toxæmia, aids digestion, promotes nutrition, increases the patients power of resistance, hastens convalescence

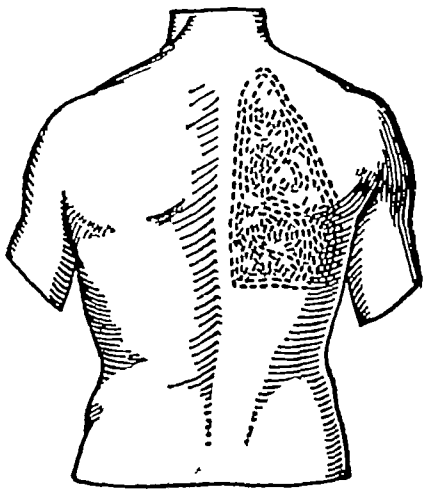
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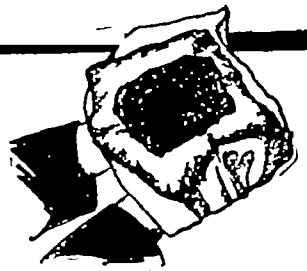


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Diagram represents inflamed area. In zone "C" blood is flowing freely through underlying vessels This forms a current away from the Antiphlogistine, whose liquid contents, therefore, follow the line of least resistance and enter the circulation through the physical process of endosmosis. In zone "A" there is stasis, no current tending to overcome Antiphlogistine's hygroscopic property The line of least resistance for the liquid exudate is therefore, in the direction of the Antiphlogistine. In obedience to the same law exosmosis is going on in this zone, and the excess of moisture is thus accounted for



Antiphlogistine poultice after application. Centre moist. Periphery virtually dry

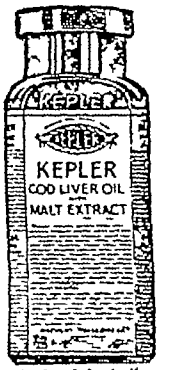
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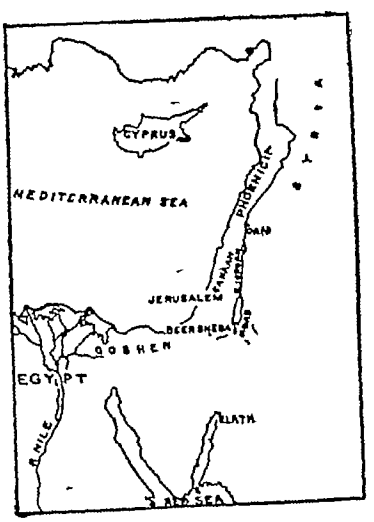
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MAP ILLUSTRATING THE HISTORY OF THE HEBREWS DOWN TO THE FOUNDING OF THE KINGDOM OF ISRAEL.—Israelitish tribes, dwellers in the wilderness bordering on Mesopotamia and Egypt, seem to have passed into Palestine at different times We know from the Tell el-Amarna Letters certain of which were written (c. 1360 B C.) by a king of Jerusalem to Amenhetep III and IV that these pharaohs were besought to send mercenaries to Palestine "for, behold the Habiri take the cities of the King. There is ground for believing that the Habiri were the Hebrews We know from Egyptian monuments that the Edomites, blood relations of the Israelites sought admission to Egypt in the XIXth dynasty (c 1320 B C) and from Biblical records that they obtained permission at some uncertain date to feed their flocks in the Land of Goshen, the eastern portion of the Nile delta. If as seems established Ramses II (1292—1225 B C) was the Pharaoh of the Oppression and his successor Merneptah (1225—1215 B C) the Pharaoh of the Exodus the dates of these two events are known At this epoch the idea of religious unity arose among the Israelites for Moses now welded the different clans for the first time. Starting out from the Sinaitic Peninsula (c. 1200 B C.) they ended by crossing the Jordan and invading Palestine Under pressure from the Canaanites and the Philistines (Ægeans, perhaps Cretans, settled in the South) they became a definitely united people and a settled nation About 1040 B C. David as king of Israel at last succeeded in liberating his people and in establishing them in possession of the land of Canaan. The kingdom then built up, endured until 733 B C It extended westward as far as Phœnician territory northwards to the head of the Jordan, at Dan southwards to the latitude of Beersheba on the East the boundary was vague and variable, Moab was a tributary state Elath provided an outlet to the Red Sea.

DATE: c. 1400 B C.—c 1000 B C.

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THE USE OF INSULIN IN PRIVATE AND PANEL PRACTICE

ABSTRACT OF THREE LECTURES DELIVERED AT GUY'S HOSPITAL TO PANEL PRACTITIONERS,

BY

E. P. POULTON, M.A., M.D. OXON., F.R.C.P. LOND.,

PHYSICIAN TO GUY'S HOSPITAL

INSULIN is not a cure for diabetes in the usual sense of the word, but it is a specific treatment, and the results are wonderful. The correct dose of insulin for each individual patient must be established and an appropriate diet prescribed, and the patient must continue the treatment himself under the general supervision of his doctor. It is, of course, possible to send the patient to a specialist, to have the correct dose of insulin, etc., determined, a procedure which requires three or four weeks' special study with estimations of the blood sugar, etc. But it is my purpose to show the possibility of this being done, at any rate in the majority of cases, by the patient's own doctor in his own home, provided the doctor can give the necessary time and take the necessary trouble, and, further, to state the rules that should guide the doctor in his treatment. When once the dose and correct diet have been determined, general supervision by the medical man is not difficult, since the patient should have been taught what diet to take and what symptoms to look out for in case he becomes unduly sensitive to insulin. Further, he should be able to test his urine periodically for sugar to make certain that the dose is not much too small. The urine must always be free from sugar.

At the beginning of treatment examination must be made for possible foci of infection—such as septic teeth with apical infection, septic tonsils, gall bladder, or appendix, and suitable measures taken to eradicate them.

TECHNIQUE OF INJECTIONS

The doctor must teach the patient how the injections are given. If the patient injects himself, his legs and the front and sides of his body are available. Even if he be usually has the services of a friend or relative, he should learn how to give the injections himself.

METHODS OF GIVING INSULIN-INJECTIONS AT HOME.

Most hypodermic needles and syringes lead to some waste of insulin at each injection owing to the dead space in the nozzle. A special needle (see Fig. 1) which fits into the head of the syringe*

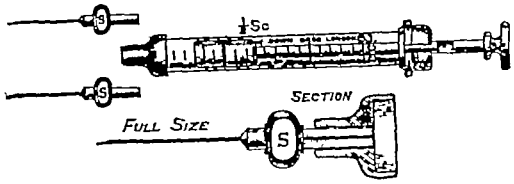


FIG. 1.

has the advantage of minimizing the waste. Money can be saved by teaching the patient how to sharpen his own needles on a stone using liquid paraffin as a lubricant. Undoubtedly the best plan is to see whether the point is sharp by looking at it under the microscope. In default of this a sufficiently powerful lens can be bought for a few shillings.

Method A

Absolute alcohol, rectified spirit, ether, and clean lint cut into small squares are required.

The syringe (1 or 2 c.cm.) with needles is kept on a stand in a bottle with ground-glass stopper containing absolute alcohol. [If the patient has much travelling to do a metal case in the form of a tube, with screw-on cap, is an advantage. This requires much less of the expensive absolute alcohol.] After washing and drying the hands the stand with needle case and syringe is removed from the bottle by means of forceps and the needle is attached to the syringe. By running the plunger up and down several times the alcohol is removed as far as possible from inside the syringe. The outside of the syringe may be wiped with a clean cloth, but the needle must not be touched.

Suppose that 1/2 c.cm. of insulin is to be injected. The plunger is placed at the 1/2 c.cm. mark so that the syringe contains 1/2 c.cm. air. After cleaning the rubber cap of the insulin tube with ether the needle is passed through it into the insulin tube which is held upside down. The plunger is pushed home so that 1/2 c.cm. air enters the tube. With the point of the needle lying beneath the level of the insulin the plunger is moved up and down several times to expel the last traces of air into the tube and on withdrawing the plunger to the 1/2 c.cm. mark the syringe will be filled with 1/2 c.cm. of insulin. The insulin tube is then removed. The injection is made after cleaning the skin with ether.

The syringe and needle are then rinsed out several times with tap water to remove all trace of insulin. After rinsing out two or three times with rectified spirit they are disconnected and returned to the bottle of absolute alcohol. The latter requires to be changed periodically—that is every week or fortnight.

Method B

This is less simple but cheaper. For it are required lysol in methylated spirit (1 in 20), methylated spirit, ether, enamelled bowl, clean flannel to cover the bowl, clean lint cut into small squares.

At tea time the bowl is rinsed several times with boiling water from the kettle and then filled with boiling water, the bowl is covered with the flannel and allowed to cool.

Just before the injection the syringe and needle are removed with forceps from the lysol and methylated spirit in which they are kept. The needle is attached to the syringe and rinsed out five or six times with the cold boiled water in the bowl so as to get rid of the spirit completely. It is important not to let the rinsings run back into the bowl. The water is removed as far as possible from the syringe by moving the plunger up and down. The syringe is filled and the injection is made exactly as described under Method A. After the injection the syringe and needle are washed out with water and rinsed out with methylated spirit and returned to the methylated spirit mixture. The latter should be changed every week or fortnight.

THE THEORY OF TREATMENT WITH INSULIN

Two views have been held as regards the objects to be aimed at in treatment with insulin. According to one view it is sufficient to make the urine sugar-free or to allow at most a small trace of sugar to be passed continuously. In the majority of cases treated in this way there will still be considerable hyperglycaemia, as sugar is often only passed when the blood sugar rises considerably higher than normal. According to the other view, which is now generally accepted in this country, the aim should be to keep the blood sugar within the normal limits, and in some cases even below normal, the theory being that a high blood sugar is deleterious because it means a greater strain on a weakened pancreas, while with a low blood sugar the pancreas is rested, and so tolerance may be regained to some extent. It is at present too early to be certain whether the second method really gives better results than the first, though some of our results at Guy's Hospital have been suggestive. However, until we have more definite knowledge on this subject the second view is the safer one to adopt for physiological reasons, and particularly in the case of young patients.

The blood sugar curves of two patients with diabetes in the private ward for insulin treatment at Guy's Hospital, as determined throughout the twenty-four hours by Mr. W. W. Payne, Parsons Research Fellow, are reproduced in Fig. 2†. Doses of insulin were given at 6.30 a.m. and 6 p.m., half an hour before breakfast and supper. The diet consisted of 5 per cent. vegetables, protein and fat. It will be seen that the curve falls as the result of giving insulin and then rises again, but the important thing is that the rise is just as high during the night and early morning hours as it is in the early afternoon in spite of the fact that no food was given later than 7 p.m. The explanation is that the maximum metabolism of protein occurs in the later part of the day. Graham and I[1] showed this, since we found in our own case, when we were on a very similar diet, that about 50 per cent. more nitrogen was excreted in the urine from 3 p.m. to 11 p.m. than from 11 p.m. to 7 a.m. or from 7 a.m. to 3 p.m. The output was fairly constant during the two latter periods. Further, Williams, Riche, and Lusk have shown that the metabolism of protein in the body takes place mostly during the period of high nitrogen excretion in the urine. These considerations are important as they indicate that when insulin is given twice a day it should be given in approximately equal doses at twelve-hour intervals—

* The syringe and other apparatus mentioned are supplied by Messrs. Down Brothers, St. Thomas's Street, S.E.1.

† A full account of our observations will appear in a forthcoming number of the *Guy's Hospital Reports*.

before breakfast and before supper For the sake of comparison I have shown in Fig 2 the blood sugar curves of Mr W W Payne and myself on a similar diet They lie between 0 08 and 0 12 per cent, and on the present theory they serve to show the kind of values that we should strive to reach when treating our diabetics with insulin

In Fig 3, A is the diurnal blood sugar curve of a diabetic on a diet of vegetables, protein, and fat of sufficient calorie value, seven days after a single starvation day, B is the curve during treatment with insulin three times a day At each injection there is a fall in blood sugar, so that there are three waves in the twenty-four hours Here again the blood sugar rises as high during the night as during the day This shows that the three doses should be spaced out as evenly as possible during the twenty-four hours The actual times of the doses were 6 a m, 12 noon, and 9 p m, so that the maximum period between the doses is nine hours, and the last dose is given *after* the evening meal, the other two being given before breakfast and lunch

Physiologically speaking, it is best to give insulin in small doses frequently But practically the third dose at mid-day

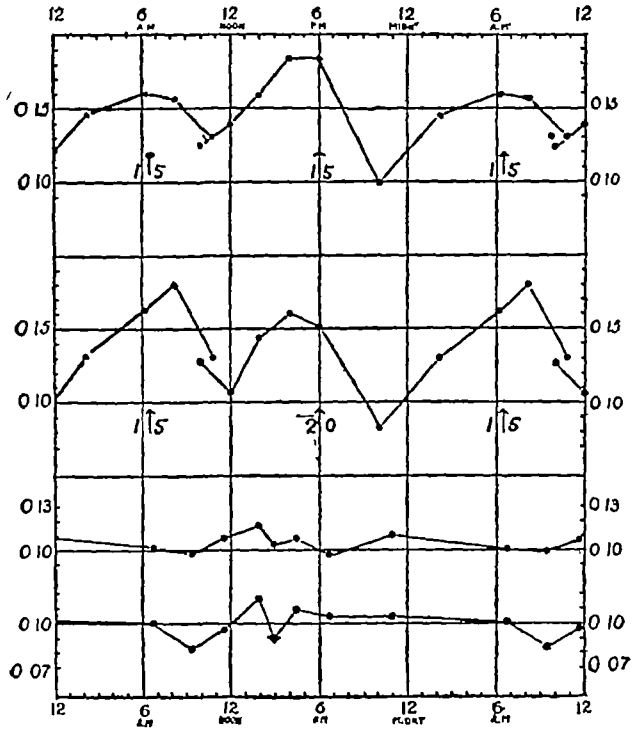


FIG 2.—Percentage of sugar in blood during twenty four hours. Two upper curves obtained from two patients in the insulin ward Two lower curves obtained from E. P P and W W P

is usually inconvenient for a man at work, but I have prescribed it in the case of a young man living at home who, I thought, had the chance of regaining a fair measure of tolerance

TREATMENT WITHOUT BLOOD SUGAR DETERMINATIONS

According to the theory, the blood sugar is to be kept within normal limits by means of insulin How can this be brought about without blood sugar determinations? The answer is that advantage is to be taken of our knowledge of the early symptoms of hypoglycaemia The dose is to be gradually increased until mild symptoms appear, and it is then to be kept just short of this amount At first sight this sounds a rather alarming method of treatment But Sir Thomas Lewis[3] has advised a similar method in the rational use of digitalis in refractory cases of heart disease, the drug is increased up to the point when symptoms of poisoning are first noticed However, the last thing I want to do is to discourage any of you from undertaking blood sugar estimations, if such is your intention Some cases of diabetes cannot very well be treated without them, and in any case they make the treatment easier They are sometimes necessary to help in the choice of cases suitable for treatment

Analysis of 31 cases in the insulin ward at Guy's Hospital shows the variety of early symptoms of hypoglycaemia The numbers in brackets indicate the number of patients who noticed the particular symptoms shakiness (21), sweating (19), hunger or emptiness or nausea (10), giddiness or dizziness (9), mental disturbances (7)—that is, anxiety (3), excitement (1), depression (1), confusion (1), simulating drunkenness (1)—headache (6), palpitations and irregularity of heart (4), exhaustion and weakness (4), faintness (3), eye symptoms (3)—heaviness, blurring, and "seeing stars"—numbness (2), feeling of cold (2), diarrhoea (1), "pins-and-needles" (1)

This list was obtained by asking the patients what they noticed Leading questions about particular symptoms were not asked, though they knew, broadly speaking, what to look out for Sweating was accompanied by a feeling of heat One patient recently examined had feelings of hot and cold alternately about four times in two hours, and noticed sweating on the face during the last hot period

Symptoms may come on when the blood sugar is not abnormally low This is probably due to the body in diabetes becoming adapted to hyperglycaemia, with the result that symptoms are produced when the blood sugar falls below its accustomed level Lieutenant Commander M, aged 33, was a good example of this He had a bad headache felt at the vertex after 10 units, when the blood sugar was 0 11 per cent Sometimes the blood sugar may be much higher still

Mr Payne and I have been able to demonstrate the possibility of treating patients efficiently with insulin without doing blood sugar determinations, in the following way,

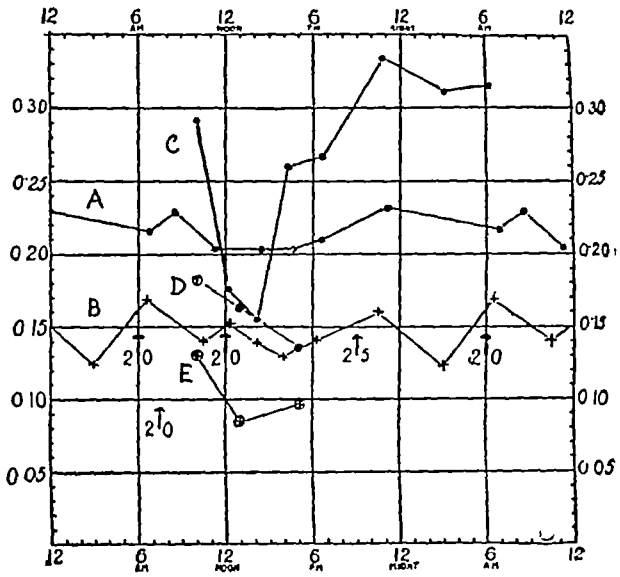


FIG 3.—Diurnal blood sugar curve from a single patient.

In Figs. 2 and 3 the determinations were begun about 10 a.m and carried through to the next morning To make the character of the curves clearer the morning values have in most cases been placed both at the beginning and end of the chart The arrows mark the administration and the numbers refer to the units of insulin

We have chosen certain typical cases of diabetes and determined the blood sugar on two occasions only—one at the beginning of treatment, to prove that there was true hyperglycaemia, and again at the end of treatment, when the dose of insulin and the diet had been finally prescribed, to show that the blood sugar had been brought down to a satisfactorily low level

D B, a woman aged 23, in domestic service, admitted to Mary Ward, had had diabetes with typical symptoms for nearly one and a half years On a diet of vegetable, protein, and fat the blood sugar was 0 26 per cent at 10 a m Insulin was given in doses of 5 units, then 10, then 15, then 20, then 25, and then 30 units twice a day at 6 a m and 6 p m, the dose being increased every three or four days The urine had by this time become free from sugar, but as there was no reaction, a mid-day dose was added and the evening dose was shifted to 9 p m The doses were 30, 15, and 20, after three days 30, 15, and 25, after four days 30, 20, and 25 Two days later there was a reaction—namely, slight shakiness, giddiness, faintness, and palpitations A reaction was noticed again three days later The blood sugar at 11 a m was found to be 0 104 per cent, which proves that treatment had been successful This patient was an unusually refractory case This may have been due to some infection with slight rise of temperature during part of the time (a well known cause), as it has been since found possible to omit the mid-day dose altogether and reduce the morning and evening dose to 20 units, and yet some very mild symptoms have been experienced occasionally

If the dose of insulin is gradually increased in this way there is, in my opinion, no danger of serious hypoglycaemic symptoms In domiciliary treatment it would be undoubtedly safer to proceed more slowly still—increasing by 2 units at a time, and beginning with 4 units twice a day The morning and evening dose of insulin need not necessarily be the same With equal doses some patients may experience symptoms in the evening, and others in the morning The dose that causes symptoms must be diminished They act as a valuable guide to the dose, but there is another reason for arranging that the patient should experience them early in the treatment they will be his guide during the rest of his life, as to whether the dose is becoming too large

It sometimes happens that hypoglycaemic symptoms are noticed quite early in the treatment, vanish, and only appear again when the dose has been increased considerably This increased sensitiveness to insulin at the beginning of treatment has been commented on elsewhere [4]

B M, a man aged 24, was a case of mild diabetes with a history of nine months He had hypoglycaemic symptoms one day after the beginning of treatment, when he was having 10 units of insulin a day The symptoms disappeared, and this coincided with a gain in weight of 4 lb Slight symptoms were noticed again when he was having 40 units a day, about three weeks later, and there was a marked reaction with 60 units another week later He had put on another 2 lb in weight The diet consisted of vegetables, protein and fat When the patient gets a mild reaction there is no reason to give him sugar or bread or biscuits—treatment which may unduly raise the blood sugar A cup of tea with some kind of diabetic biscuit and perhaps a little butter will be quite effective in getting rid of the symptoms

DIET

I must insist again on the utmost importance of prescribing for patients a diet suitable as regards protein and carbohydrate content and of the correct calorie value A list of various foodstuffs, with their analyses, etc, is quite essential It need not be long In fact, for the patients in the medical wards at Guy's a list is printed on the back of the bed-letter, and they are given this on leaving A very short list is given below

	1 oz. contains approximately			
	Carbohydrate	Protein	Fat	Calories
	gm	gm	gm	
Vegetables (see list below)	1	—	—	6
Grape fruit or small orange	10	—	—	40
Brazil nuts	2	5	20	210
Potatoes (boiled)	16	1	0	30
Oatmeal	20	5	2	120
Bread	15	3	—	75
Meat (cooked lean)	0	6	5	75
Poultry game (cooked)	0	8	3	65
Fish (cooked)	0	6	0	25
Bacon (medium fat)	0	5	15	150
One egg	0	6	6	75
Butter	0	0	25	225
Cheese	0	8	10	130
Milk	1.5	1	1	20
Cream (40 per cent)	1	1	12	120
Midolla biscuits three	4	5	9	120

Vegetables arranged approximately according to percentage of carbohydrates: lettuce cucumber spinach rhubarb marrow celery tomatoes greens sprouts watercress cauliflower cabbage radishes leeks runner beans turnips swedes
(The small amount of protein contained in the vegetables need not be counted in the daily protein ration)

It is first of all necessary to find out the basal requirement of the individual—that is the number of calories he uses in the twenty-four hours if he is at rest These are given in the following table calculated from Dreyer's formula The values depend on the age and weight of the person But a warning is necessary here It is necessary to find out

Basal Metabolism (Dreyer)

Weight	Calories—Males.									
	Age—5	10	15	20	30	40	50	60	70	80
lb										
10	535									
20	758	390	657							
30	923	846	801	773	733	704	685	657	653	642
45	1133	1037	986	946	898	86	833	818	801	788
60	1315	1168	1140	1 91	1038	998	969	945	976	910
80	1517	1383	1315	1262	1197	1151	1117	1090	1068	1050
100	1693	1543	1457	1408	1336	1285	1247	1217	1192	1172
120		1689	1600	1542	1463	1407	1367	1332	1305	1283
140		1827	1738	1667	1582	1521	1476	1440	1411	1383
160			18 8	1786	1692	1625	1578	1540	1509	1483
180				1883	1792	1723	1672	1632	1599	1571
200				2020	1917	1843	1 83	1746	1710	1681

Basal metabolism is expressed as calories per twenty four hours In the case of females the values are 10 per cent lower

Relation between Body Length and Body Weight (Ainley Walker and Dreyer)

Body Length (inches)	Body Weight	
	Males	Females
20	24	24
22	32	32
24	42	43
26	54	55
28	68	70
30	84	88
32	103	108
34	125	131
36	150	157
38	177	186
40	208	219

the weight he should be, according to his dimensions—that is, his "predicted weight"—and for this purpose the most valuable measurement is the length of the body The subject sits down on the floor with his back pressed firmly against the wall and his knees bent The body length is measured from the floor to the top of the head in inches, and the body weight corresponding to this length is obtained from Dr E W Ainley Walker's measurements, as recalculated by Professor Dreyer [5] They are also included in a small pamphlet[6] that I have arranged for my patients The predicted weight should be noted in calculating the basal requirement, because otherwise a patient who is too fat would get too much food and one who is too thin too little The relationship between body length and body weight varies to some extent The predicted weight need not be used in the calculation unless there is a big discrepancy—that is, unless the body length corresponding to the actual weight is more than 5 per cent greater or less than the actual body length A discrepancy of 7 per cent is the outside limit of the normal variation

Example—The weight of a fat female patient was 224 lb The mean body length corresponding to this is just over 40 inches The actual body length was 34 inches The difference is 6 inches which is much more than 5 per cent of the actual body length consequently the predicted weight—namely 131 lb—should be used in calculating the calorie value of the diet.

This method of calculating the normal requirement is specially valuable in the case of children It will be noticed that it is not simply proportioned to the body weight Dreyer[3] has suggested that the circumference of the chest at the end of expiration should also be used to obtain the predicted weight, and has published corresponding tables This is, in my opinion, a much less valuable measurement than Ainley Walker's "length of body," because owing to the loss of subcutaneous fat from the chest wall in wasted patients and its excessive amount in obese patients the measurements give unreliable results—that is the predicted weight is much too low in a wasted individual and much too high in an obese one

The protein content of the daily diet should be 1 2 grams per lb of the predicted body weight—that is 75 grams in a

patient weighing 150 lb The protein part of the diet should be arranged first The patient might have

	Protein	Calories
Breakfast		
2 oz bacon	10 gm	310
2 eggs	12 ,,	150
Lunch		
2 oz meat	16 gm	150
1 egg for cream custard	6 ,,	75
Tea		
3 midolia biscuits (1 oz)	5 gm	120
Supper		
3 oz fish	18 gm	75
1 oz cheese	8 ,,	130
	75 gm	1,010

We will imagine that the patient is a man aged 30 The basal requirement is about 1,475 We have then 465 additional calories to provide It is best not to allow him any carbohydrate other than that contained in 5 per cent vegetables during the period of testing the insulin dosage, but I allow an unlimited quantity of these, as it is a great advantage for the patient to feel that there is some kind of food he can take without stinting himself If he takes 24 oz in the day he will get 144 calories The vegetables might be taken as follows 4 oz tomatoes fried with the bacon at breakfast, 12 oz greens and cooked celery at lunch, 8 oz in the form of (1) salad—that is, lettuce, cucumber, etc —(2) rhubarb, for supper

The remaining 321 calories are given in the form of fat at the various meals—namely, 1 oz butter (225 calories) and 1 oz cream (120 calories)—making in all a little more than the theoretical amount

Since the protein ration is strictly limited many so-called diabetic foods are highly unsatisfactory equivalents for bread owing to the high proportion of protein contained in them Bran and agar cakes according to F M Allen's receipt[5] can be taken in any quantity, but they may cause indigestion Patients often get to like them quite well if taken with plenty of butter They should be made thin and crisp Almond bread (Callard's) or midolia biscuits (Van Abbot's) contain less protein than many other diabetic foods I now never make the patient fast, but it might be useful to reduce the weight rapidly if the patient was very fat

The diet just described is adequate for the patient as long as he is having an easy time at home, but when he begins to take exercise the calorie value may be increased by 10 or 20 per cent The protein should not be altered, but fat in the form of butter and cream may be given Most people become in time accustomed to a diet of this kind and are happy on it But all rules are apt to need modifications Some people seem definitely to require more food Each case must be decided on its merits

The problem remains as to whether carbohydrate should be added after the maximum dose of insulin has been determined while the patient has been taking the above diet When the discovery of insulin was first reported it was naturally thought by many that a patient while under treatment with the drug might be allowed an unlimited amount of carbohydrate The obvious objection to this "luxury" use of insulin is its cost and the increasing demand for its use but there are two other grave objections In the normal body insulin is being delivered into the blood stream in the amount required at any period of the day, so that the blood sugar is kept within normal limits Artificially, it can only be given two or three times a day If large doses of insulin are used to counteract much extra carbohydrate, the timing may not be quite right on some occasions—possibly absorption of carbohydrate is delayed owing to indigestion—and the patient will suddenly get severe hypoglycaemic symptoms Again, it is desirable to keep the blood sugar within normal limits or even on the low side of normal Precision in this respect will be possible if insulin is required to counteract relatively small amounts of carbohydrate, but much more difficult if both are increased Still the restricted use of carbohydrate may be allowed in certain circumstances In elderly patients there is no object in trying to obtain any increase in carbohydrate tolerance Such people may be given 1 oz of bread* containing 15 grams of carbohydrate for breakfast, and 1 oz for supper—that is, shortly after their injection Perhaps 2 or 3 oz of potatoes may be added at supper The dose of insulin must be increased to some extent (perhaps at the rate of 1 unit for 4 grams of the extra carbohydrate) Instead of the bread the patient may take an orange, or apple, or half a grape fruit, or 3/4 oz of oatmeal, etc , as the fancy takes him, but he must remember to take a strictly measured amount of carbohydrate in this way In mild cases requiring less insulin proportionately more carbohydrate may be allowed.

In younger subjects up to the age of 30 or 40 the case is rather different A large part of their life is in front of them, and it would be a pity to throw away any chance they may have of ameliorating their condition for the sake of a little extra freedom in their diet during the next two or three years I *do not* advise these patients to take extra carbohydrate unless the urine consistently shows ketosis by the presence of a well marked "positive" Rothera reaction—that is, a dark purple colour, gradually developing when excess of ammonium sulphate crystals and ammonia and a tiny crystal of sodium nitroprusside are added to the urine In this case I prescribe a small orange or half a grape fruit at breakfast or supper, and perhaps slightly increase the insulin This seems to me a better plan than giving a definite amount of carbohydrate based on a rather problematical antiketogenous ratio between carbohydrate and fat as Woodyatt,[7] Wilder,[8] and Campbell[9] have suggested

Allen[10] has recently pointed out the fallacy of a very high fat diet in treatment with insulin, since excess of fat is also a cause of hyperglycaemia One of my patients in the insulin ward, an ex-officer aged 28, illustrates this point very well He was one of my early cases and his diurnal blood sugar curves with and without insulin have been given (Fig 3, curves A and B) When I began using insulin, I must confess that I inclined to the view that patients might be allowed as much food as they liked, apart from carbohydrates During the greater part of a month's treatment this patient was having a diet (vegetables, protein, fat) of 3,310 calories, containing 110 grams of protein, and at the end 65 units of insulin a day His age was 28, his actual weight was 162 lb , and his predicted weight 169 lb The basal requirement was 1,570 calories At the end of the month he had put on 10 lb in weight After omitting insulin for thirty-six hours the diurnal blood sugar (Fig 3, curve C) was found to be very much higher than before treatment was begun In view of this unsatisfactory result the diet was immediately cut down to 2,050 calories and 59 grams of protein, and he took 20 units of insulin a day About six weeks later some determinations of the blood sugar during treatment, and thirty-six hours after stopping insulin, were again carried out The results (Fig 3, D and E) show a great improvement. This case is a good illustration of the fact that moderation in diet is absolutely essential during treatment with insulin

After-Treatment

In the first place the patient must keep to the diet that has been prescribed for him So long as the protein and carbohydrate content and the calorie value are not increased, variations in the kind of food taken may, of course, be made The insulin must be continued in doses that just fail to produce hypoglycaemic symptoms In the case of young subjects it is a good plan to increase the dose slightly on occasions—that is, by two units at a time, until mild symptoms appear—to be sure that the dose is still proving enough to keep the blood sugar low The urine should, of course, never contain any sugar when it is tested

Several of my patients have noticed reactions a few weeks after leaving the ward, while taking the dose of insulin prescribed It is difficult to say whether this really means a gain in tolerance or whether it is due to the gradual increase in the strength of insulin supplied If reactions occur, the dose must be gradually diminished until they cease

Fallacies connected with the after-treatment are well illustrated by two of my cases One patient thought that the pancreas wanted mildly exercising like a fractured

*A standard bread containing 20 per cent starch made by adding bran and middlings to whole-meal, would be a great boon to diabetics

limb, and gradually increased the intake of carbohydrate till sugar appeared in the urine The blood sugar at 3 30 p m rose from 0 126 to 0 187 Another who had experienced reactions with the dose of insulin prescribed gradually diminished it from 45 units a day to 15 before sugar appeared in the urine The blood sugar was then found to be 0 23 per cent , which is undesirably high

Choice of Case

In my opinion insulin may be used with benefit in every case of true diabetes, young and old I have not yet come across a case where it has failed to bring some relief This is, I admit, surprising, especially as we often hear it suggested that diabetes is a syndrome due to many different causes There is a striking unanimity among patients as to the effect of insulin They say that they feel stronger and less tired Insulin is of particular use in the various complications of diabetes I have had special experience of its value in gangrene

At present it is a common practice to try a régime of dieting for some weeks in order to get the urine sugar-free, and to use insulin only in cases where these measures fail Mr W W Payne and I realized the fallacy of this method when we found in three cases, who had become sugar-free or nearly so, that the diurnal blood sugar was considerably above normal (see Fig 3, curve A) In spite of the consistently high blood sugar indicated by curve A, this patient only passed a trace of sugar on this day and the urine was sugar-free the day before For a patient who can afford the continuous use of insulin, the latter should be used from the beginning of treatment Insulin is supplied free to panel patients

In early cases the prompt use of insulin is essential It is dangerous to waste time with dietetic measures alone, because the disease may progress and more insulin will eventually be required In two of my cases, aged 33 and 25, treatment with insulin was begun within two months of the diagnosis, 15 and 20 units of insulin a day were sufficient to produce mild hypoglycaemic symptoms In five other cases, aged 42, 40, 28, 24, and 12, treatment was begun from three months to one year from the diagnosis The following daily amounts of insulin produced symptoms 20, 35, 30, >40, 20 These cases, though few in number, point to the importance of early treatment

The conclusion is that all cases who have, or have had, the ordinary symptoms of diabetes (not merely glycosuria) may be treated with insulin Where the diagnosis can be made from the symptoms, there is no necessity to estimate the blood sugar first of all

Insulin is unsuitable for cases of renal glycosuria In these patients sugar is found in the urine, often during examination for life insurance, but they have never themselves suffered from the symptoms of diabetes mellitus It is usually very difficult to distinguish clinically between renal glycosuria and very mild diabetes The only safe way is to determine the blood sugar tolerance curve—that is, the blood sugar before and at stated intervals after taking 50 (or 100) grams of dextrose This is an elaborate test, but considering that the question of treatment for the rest of the patient's life depends upon it, it should always be carried out

Diabetic and Hypoglycaemic Coma

Severe hypoglycaemic symptoms—for example, convulsions and coma—will not occur in the ordinary treatment of diabetes with insulin if the dose of insulin is slowly increased and a careful watch is kept for the earlier symptoms I do not think that if a patient is treated in this way there will be any danger of his developing hypoglycaemic coma while asleep at night Those of my patients who have experienced symptoms at night have been awakened by the symptoms at the beginning of the reaction

But in certain circumstances there is not only a great likelihood of hypoglycaemic coma supervening, but its diagnosis may be extremely difficult These circumstances arise during the treatment of diabetic coma, because vigorous treatment with insulin is essential, and the patient may pass into hypoglycaemic coma without coming round properly from diabetic coma

At the beginning of treatment of diabetic coma a large dose of insulin should be given both intravenously and subcutaneously, and the subcutaneous injection should be repeated at four hourly intervals, until the urine becomes sugar free, insulin is then stopped until sugar appears again in the urine, and it is then continued in smaller doses at longer intervals I cannot impress upon you sufficiently the importance of testing every specimen of urine for sugar as it is passed, and of catheterizing the patient in order to get a specimen, if there has been no urine to test for three or four hours

In my opinion another very important method of treatment is to give large amounts of fluid, containing dextrose (or cane sugar) and sodium bicarbonate with a little sodium chloride This will have the effect of keeping up the flow of urine, and so will help to get rid of the poisonous aceto-acetic acid, which is probably the cause of diabetic coma A stomach tube, Einhorn's tube (or Ryle's modification), or, preferably, a long nasal tube and funnel, are absolutely essential for administering the fluid The patient is made to lie on the right side so that the fluid will gravitate at once into the duodenum A pint of warm sterile isotonic solution is given every hour On no account should this treatment be stopped if the patient vomits, but the actual time of administration should be prolonged so as to prevent distension of the stomach Care must be taken by frequent examination to see that oedema of the lungs does not develop It is to be noted, as originally pointed out by Einhorn, that this is by far the most efficient way of introducing large quantities of fluid into the body, owing to the rapid absorption by the intestinal villi If this method is used there is no necessity to inject fluid intravenously or subcutaneously * Food other than dextrose should not be given while the patient is unconscious

The following may be regarded as the characteristic symptoms of diabetic coma The respiration is greatly increased in depth (air hunger), the rate may be either increased or diminished The pulse is feeble, the tension of the eyeballs low, the veins collapsed, and the skin dry The urine contains sugar, and gives a positive ferric chloride and Rothera's reaction The symptoms of hypoglycaemic coma are to some extent the converse the pulse is full and bounding, the veins stand out prominently, there is profuse sweating I have seen some oedema of the lungs with consequent cyanosis, and fluid expectoration The patient is convulsed as well as comatose The urine is sugar-free, and ketones are absent The respiration (as noted in one case) consisted of short shallow gasps, the rate not being much altered.

The treatment of diabetic coma is well illustrated by a case seen in consultation with Dr Clough and I am greatly indebted to him for many of the details A woman about 50 years old became sick and drowsy and developed typical diabetic coma two days later Diabetes had not been suspected before the attack At 9 a m on October 11th she was difficult to arouse, and at 3 p m when treatment was begun, unconsciousness was complete Forty units of insulin were at once given subcutaneously and 20 units intravenously A Ryle's tube was passed by pushing it down with the finger placed at the back of the throat When once the end of the tube had entered the oesophagus further progress took place by peristaltic action With the tube well inside the stomach, and the patient lying on her right side two pints of the following mixture at *body temperature* were passed down the tube *Cane sugar* 1 tablespoonful sodium bicarbonate 1/2 teaspoonful, sodium chloride 1/4 teaspoonful boiled tap water to 1 pint The tube was kept in position and one pint of the mixture was ordered to be given every hour until consciousness had been completely regained 36 pints were given in this way over a period of *forty two* hours The urine was copious all the time and there were watery evacuations The lungs remained clear from oedema

Forty units of insulin were given subcutaneously at 7 p m, 11 p m, and 7 a m. the next day and at noon At 5 p m the urine was sugar free and there were no ketones There was profuse sweating and a bounding pulse (almost certainly indicating some hypoglycaemia) At 9 p m she seemed to recognize her husband She had been in deep coma for thirty six hours The urine was still sugar-free On October 13th the urine at 4 a m and 9 a.m contained sugar, but no ketones She said 'Good morning doctor The tube was then removed from the stomach

* In a case of coma recently treated in this way considerable anasarca developed after the patient had regained consciousness. This may have been due to the excess of sodium in the mixture as Blum has suggested. A more suitable isotonic solution would contain the following dextrose 3 per cent , sodium bicarbonate 0.5 per cent potassium chloride 0.05 per cent calcium chloride 0.03 per cent.

Treatment with insulin was continued in doses of 20 units every four hours during the day, and at 9 a m on October 14th the patient was fully conscious and food was begun On October 17th she was able to chat, and said that she had been seeing animals, and in particular rats, up to this time She was finally given 15, 10, and 20 units three times a day

I have met with at least two cases of diabetic coma who have not become fully conscious, in spite of vigorous treatment with insulin, and have eventually died The blood sugar was high, the values being 0 45 and 0 46 per cent , so that there was no question of hypoglycaemia Ketones had disappeared from the urine, but the volume of the latter was suddenly greatly reduced, and there was a corresponding retention of urea in the body In one case the blood urea was 0 2 per cent , and in the other the urea in the cerebrospinal fluid was 0 15 per cent Death was probably due to uraemia It is possible that the administration of fluid in bulk, as already described, may prevent the onset of this unexpected complication

Treatment of Hypoglycaemic Coma

A subcutaneous injection of 15 or 20 minims of adrenaline (1 in 1,000), or, failing this, the same dose of pituitrin, is given This treatment will be of value if the liver contains a good store of glycogen Plenty of sugar—that is, 4 to 8 oz of cane sugar or dextrose—is given by mouth or by stomach tube If the patient does not recover consciousness rapidly, an intravenous injection of 5 to 6 per cent solution of dextrose is given Up to one pint may be given, but 100 c cm will usually be ample Dr Hinds Howell[11] has recently reported the occurrence of hypoglycaemic coma as the result of exercise at golf in a patient who was being treated with 30 units of insulin twice a day It has been suggested that such patients should carry sugar with them and wear a label round their necks with instructions what to do in case they are found by anyone in an unconscious condition

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THE EARLY MECHANICAL TREATMENT OF ACUTE ANTERIOR POLIOMYELITIS *

BY

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It has long been recognized that the serious disablement resulting from acute anterior poliomyelitis is, *in many cases*, dependent more on the existence of deformities than on the paralysis *per se* In the treatment of such residual disabilities it is customary to obtain correction of all deformity by appropriate non-operative or operative measures, before carrying out any definitive reconstructive operation designed either to restore muscle balance or to stabilize a flail joint In children who present multiple contractures of the lower limbs and who have never walked since the onset of the paralysis the preliminary treatment of the deformities may occupy many months A whole series of manipulative or operative procedures may be required the deformities being gradually unfolded in successive stages We have no reason to feel dissatisfied with the functional results obtained under such conditions, because it is rare to meet with a child to-day who cannot be made to walk once deformities have been eliminated, no matter how severe the degree of residual paralysis, provided only that the patient is competent to hold crutches But every patient so treated brings vividly before the mind a picture of the earliest phases of acute poliomyelitis, a stage when deformities are non-existent The prevention of deformity is, of course, by no means a new doctrine It was expounded many years ago by Hugh Owen Thomas, of Liverpool, and has always formed an integral part of the teaching of his distinguished successor, Sir Robert Jones In this connexion we are also unlikely to forget the work of the late Frederick Batten of London, a physician endowed with surgical instincts Yet, if we are to judge from the mass of neglected cases, we might be led to the conclusion that such teaching has failed to exert a widespread and lasting influence On the whole, however, in recent years we are to chronicle a definite advance in the treatment and general handling of poliomyelitis in its earliest stages To a large extent this has been brought about by the unique experience of a number of American observers, and more particularly perhaps of Lovett of Boston, who has made comprehensive observations on 5,100 cases which have come under his personal supervision since 1916 In the United States acute poliomyelitis is a veritable scourge, and many of the individual States have been compelled to develop special organizations in readiness to handle large epidemics from the outset, and to provide for the subsequent efficient treatment of patients during the recovery period

In the British Isles the greater proportion of cases continue to arise sporadically, or in small groups, but a number of relatively formidable epidemics have been recorded Thus, in the late summer of 1911 in the county of Westmorland, some 50 cases were encountered in epidemic form In 1922 in the same area there was a small epidemic of 15 cases Many of the children with the late sequelae of the 1911 epidemic have passed through my hands at the Ethel Hedley Hospital for Crippled Children, Windermere, and 9 cases of the 1922 group were admitted to this hospital in the acute stage Future epidemics in the Lake Country will, I believe, be adequately provided for, the hospital acting in liaison with the health authorities, and thus fulfilling an educational mission to the medical profession and public in the area it serves In this work we are following the lead given by the Shropshire Orthopaedic Hospital, Oswestry, and the Wingfield Hospital, Oxford It is a relatively simple matter to cope with an epidemic of poliomyelitis when a well equipped special hospital with a team of expert workers is available, but the mass of sporadic cases seen both in the larger cities and country districts cannot at present be handled under such ideal conditions

SYMPTOMATOLOGY

Opportunities for early treatment depend on prompt diagnosis, and the principles on which treatment must be based will be determined by a clear understanding of the character of the primary pathological changes and their mechanical sequelae It is thus desirable to consider briefly some of the more important clinical features of anterior poliomyelitis, and the nature and extent of the lesions in the central nervous system It may be suggested that, as a surgeon, I am traversing ground outside my immediate province, but there is an ever-increasing body of surgeons who are best described in the striking phrase of Sir Berkeley Moynihan as "physicians doomed to practise surgery," or who fulfil the spirit of Harvey Cushing's conception that "the physician has become his own surgeon"

Three clinical stages with somewhat arbitrary limits are generally described

(1) The *acute stage*, which lasts usually not longer than four to six weeks

(2) The *recovery stage*, which extends approximately to the end of the second year

(3) The *chronic stage*, from the third year onwards, a period when all the resources of reconstructive surgery are demanded

It would appear that the initial syndrome is comparatively unfamiliar to practitioners of medicine in general The variability of the symptoms which usher in an attack of acute poliomyelitis is of course well known, and it is appreciated also that the clinical picture may bear a close resemblance to some of the more commonplace acute illnesses of childhood Of the signs which may be considered as especially significant three have been found to

* A paper introducing a discussion on this subject before the Manchester Medical Society on January 9th, 1924.

be remarkably constant, both in isolated cases and in epidemics These are (*a*) stiffness in the neck, (*b*) spontaneous pain in the back and limbs, and—most important of all—(*c*) marked tenderness of the limbs

The development a few days later of widespread or localized paralysis completes the syndrome, and ordinarily should point the way to diagnosis, although for some little time the paralysis may be overshadowed by the more dramatic symptoms of pain and tenderness In young children mistakes in diagnosis are frequent, the condition being regarded as rheumatism, influenza, meningitis, or even acute osteomyelitis Confronted with such a clinical picture it is important not to forget the seasonal incidence of the disease, and particularly the liability of a child to acquire the infection whilst away on a holiday In poliomyelitis affecting older children and adults the clinical picture may be still more puzzling, and may tax the diagnostic resources of an experienced neurologist

The symptoms enumerated above are the expression of the essential pathological changes, which consist briefly in an acute inflammatory reaction of a haemorrhagic type involving the spinal cord, meninges, and—in grave cases—the brain itself The lesions are at first widely diffused, but their destructive effects are usually confined to restricted areas, the anterior cornual cells in the lumbar or cervical enlargements sustaining the bulk of the damage The amount of true cell destruction cannot be estimated at this stage, so that it is impossible to give any accurate prognosis regarding the amount of recovery to be anticipated Mild fleeting cases are familiar in the experience of all clinicians, and it is interesting to note that in the large epidemics of the United States approximately 25 per cent of the victims recovered completely (Lovett)

The recovery stage proper does not ordinarily extend beyond the end of the second year, but steady and continuous improvement in function may be witnessed for some considerable time in a patient who is under efficient supervision and treatment In the third year considerable disappointment may be experienced, for definite retrogression in muscular power is not infrequently seen, more particularly in the case of the function of the lower limbs Muscles which have recovered incompletely may now return to a state of total paralysis This important fact has been particularly emphasized by Lovett, who has pointed out that the falling off in muscular power is almost invariably associated with the late development of deformities

TREATMENT

We may now consider the treatment which is appropriate at this stage, and in the course of which mechanical methods play a leading part Certain principles, fundamental in surgical therapeutics, must be followed

1 *Complete rest* is first and foremost It means in the case of acute poliomyelitis an attempt to protect the inflamed nerve cells from every form of central or peripheral stimulus This can be achieved in one way only—namely, by immobilizing the patient in the recumbent position in some form of apparatus which maintains complete fixation of the spine and limbs Two efficient methods are available and are now in common use (*a*) the employment of a moulded plaster-of-Paris bed, or (*b*) a well padded spinal frame of the double Thomas or Bradford type, with the addition of suitable splints for the limbs Experience has shown that the plaster bed offers many advantages, for, being constructed on the patient himself, it is an accurate fit

2 *The prevention of deformity* by the adoption, from the moment immobilization is effected, of certain standardized positions of the limbs—positions which are known to be antagonistic to the occurrence of the common contractures It does not appear to be widely realized that severe fixed deformities may develop within the first few weeks after the onset of the paralysis The correct position for the lower limb is extension of the hips and knees with the feet maintained at right angles This posture will effectively prevent the classical triple deformity of flexed hip, flexed knee, and foot-drop For the upper limbs the positions are right-angle abduction at the shoulder, flexion at the elbow with supination of the forearm, and, where necessary, dorsiflexion of the wrist

3 *Relaxation of the paralysed muscles* In the very early stages when the paralysis is widely diffused the positions described above represent a compromise, as certain muscle groups do not receive the benefit of the position of full relaxation At this stage, however, this objection is of theoretical importance only In any case in the standardized positions, the muscle groups which receive priority of attention are just those in which recovery is most desirable in the interests of the future functional capacity of the patient Later, when the recovery stage sets in and the paralysis becomes much more localized the principle of physiological relaxation may be applied with a greater degree of accuracy

Once the patient is comfortably installed in his shell or frame, he should be subjected to the minimum amount of disturbance during the following weeks Frequent examinations made with a view to formulating a prognosis as to the likelihood of recovery are both unnecessary and harmful It will be realized that a child who is acutely ill, with marked sensitiveness of the skin and muscles in the affected limbs cannot be moved repeatedly without causing a great deal of distress

As the pain and tenderness begin to subside the patient will attempt to twitch such muscles as are unaffected or in which rapid recovery has taken place Such efforts should not be discouraged as long as the standardized positions of the limbs are retained continuously But they do not point the way to the immediate prescription of any of the manœuvres of physiotherapy This stage is to be regarded essentially as one of masterly inactivity Lovett has well said that "the most striking advances in the treatment of poliomyelitis have been the elimination of meddlesome therapeutics from the early stage" With the complete disappearance of pain and tenderness and the onset of more obvious muscle recovery, there is no longer any necessity to maintain complete immobilization of the patient as a whole unless a widespread paralysis affecting the trunk and all four limbs is still present In these unusually severe cases the child must be maintained in the shell or on the frame for a much longer period But in the average case the child will be brought into the sitting posture by degrees some time after the fourth to the sixth week In cases where the abdominal muscles are paralysed but the spinal muscles intact the sitting position is naturally favourable to the occurrence of recovery in the former group The affected limbs are, of course, still retained in the splints or the remains of the plaster shell, in the standardized positions

The stage of recovery is now reached it is a fascinating chapter in itself, but one which does not belong properly to the limits of our discussion We may thus leave the patient for the moment, with a paralysis which may still be extensive, but—a most important augury for the future—without any deformity But unremitting care and supervision will be required for a long period for deformities may yet develop in the later stage after walking has begun

I am conscious that I may be advocating a doctrine to which many have long ago been converted But there is still need for a greater diffusion of knowledge concerning the results to be obtained in acute poliomyelitis by the employment of prompt mechanical treatment in the earliest stage

I should like to emphasize once more the part which the surgeon with special training and experience should be called upon to play in this disease at all stages One is not infrequently asked, 'When does the surgical treatment of poliomyelitis begin?" The answer is always, "As soon as the diagnosis is completed" Do not let there be any misunderstanding Under the heading of surgical treatment is included the mechanical measures just considered There is thus great need for a more intimate collaboration between the physician and the surgeon in the treatment of individual cases of acute poliomyelitis in the early stage From the basis of such "team" work, with the co-operation of the health officers, efficient schemes for the handling of patients en masse might easily be evolved, and a great deal of the present-day crippling be abolished

THE COLLOIDAL BENZOIN REACTION IN THE CEREBRO-SPINAL FLUID

COMPARED WITH OTHER TESTS

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THE object of this work was to test the colloidal benzoin reaction (C.B.R.) under routine hospital conditions, comparing it with the other well known tests carried out simultaneously on the same specimens. The cases (over 200 in number) were chiefly derived from the wards and out-patient departments of the Westminster Hospital and the West End Hospital for Nervous Diseases, and we wish to acknowledge our indebtedness to the staff of both hospitals.

In classifying our results we have used the diagnoses received with the specimen of cerebro-spinal fluid. It must be clearly understood, however, that in many cases the diagnosis was admittedly tentative, and, indeed, depended on the result of the examination. Thus such comments as we may make on the diagnoses are entirely *without prejudice*.

The routine examinations made on every specimen of fluid were cytology, globulin reaction (G.R.), albumin percentage, Wassermann reaction (W.R., using Method 4 of the Medical Research Council). In many cases also the Wassermann reaction was done on the blood, but not in all cases. The full technique of the colloidal benzoin reaction may be obtained from that most excellent pamphlet, *La Reaction du Benjoin Colloidal*, by G. Guillain, G. Laroche, and P. Lechelle (1922).

Technique (in brief)

(1) The gum benzoin must be the *Sumatra* gum, obtained as the natural product in brown masses containing white or yellowish white lumps. One gram of the freshly powdered Sumatra resin is dissolved in 10 c.cm. of absolute alcohol. This is well shaken and left to stand for forty eight hours. It is then decanted and 0·3 c.cm. of the clear fluid slowly added to 20 c.cm. of *twice* distilled water *at 35° C.* A homogeneous suspension is thus obtained. This suspension must always be freshly prepared for each batch of tests.

(2) A 0·01 per cent. solution of chemically pure sodium chloride, in water twice distilled through a glass condenser.

(3) For each fluid to be examined a series of 6 or 12 test tubes is put up. Into the first tube 0·25 c.cm. of the saline solution (0·01 per cent.) is placed, into the remaining tubes 1 c.cm. of saline. Then 0·75 c.cm. of the cerebro-spinal fluid under examination is measured into the *first* tube and 1 c.cm. of the cerebro-spinal fluid into the *second* tube, 1 c.cm. from the *second* tube is put into the third tube, mixing thoroughly, 1 c.cm. from tube 3 is put into tube 4, and so on till the *penultimate* tube is reached when, after mixing, 1 c.cm. is discarded. Thus the *last* tube contains only saline, which acts as the control tube. To each tube, including the control, add 1 c.cm. of the gum benzoin suspension and mix thoroughly. Allow to stand on the laboratory bench some twelve hours before reading.

The reading of the tubes is simple, three degrees of precipitation being recognized, and these can be graphically represented by the numerals 0, 1, and 2. In the first of these (0) no change occurs, the fluid remaining as in the control tube without any precipitate. The next degree shows some precipitation but the fluid still remains opaque, this is designated 1. In the third there is complete precipitation, the supernatant fluid being quite clear: this is called 2.

There are two types of readings which may be regarded as "negative" or "normal." One type shows no change whatever, reading as 0 in all five or eleven tubes (Chart 1), the other types give a precipitate in tubes 7 to 9 inclusive (Chart 2). In these tubes the reading may be either 1 or 2.

The readings which we have considered as being "positive" (that is, in tabes, general paralysis of the insane, etc.), and are classified as such in the following tables, consist of three types: (*a*) complete precipitation in all tubes (Chart 3), (*b*) certain undoubted "positives" have shown a slight deviation from this rule, but usually only in tube 11, 10, or 9, while (*c*) some have remained opaque in the first tube or three quarters dilution. Thus the "positive" sign in the following results is used

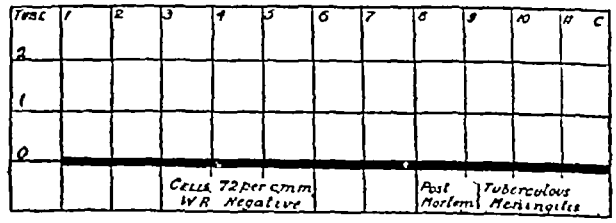


CHART 1.—An example of a "normal" curve in a case of tuberculous meningitis (confirmed *post mortem*).

to represent a series of complete precipitation in the first five tubes at least, and in most of our cases the entire eleven tubes. In certain fluids, in which a trace of blood was present, the

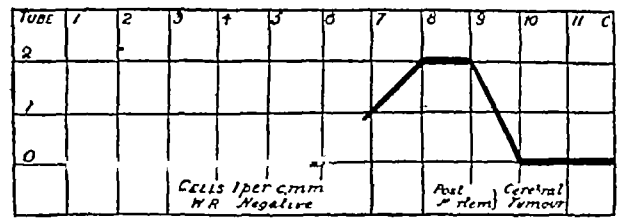


CHART 2.—An example of a "normal" curve in a case of cerebral tumour (confirmed *post mortem*).

zone between tubes 7 and 9 is increased as far as 6 and 10. These have been regarded as negatives, but it must be remembered that the presence of much blood renders the fluid quite

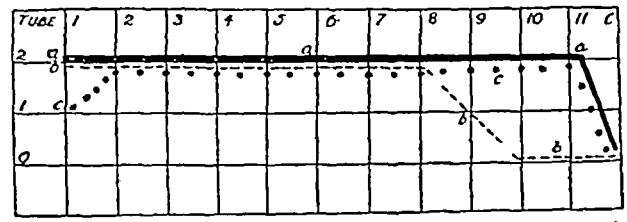


CHART 3.—Composite chart of positive curves seen in cases of syphilis of the nervous system.

unsuitable for this test. Any other deviation—namely, precipitation, complete or incomplete—in tubes 1 to 6, which does not follow the rules above stated, has been *separately* recorded in the tables that follow.

Cases Diagnosed as Tabes (59)

Group	No. of Cases	Cerebro-spinal Fluid			Blood		
		G.R.	W.R.	C.B.R.	W.R. +	W.R. −	Not done
A	21	−	−	−	4	13	4
B	30	+	+	+	16	13	1
C	1	+	+	−	1		
D	4	+	−	−		4	
E	3	−	+	−	1		2

In Group A of the cerebro-spinal fluid tests which were negative, only two showed a cell count of over 6 per c.mm.—namely, 8 and 17·3. One knows that in this particular group of cases the diagnoses were of a purely tentative nature. Thirteen of these "suspects" were negative in the blood also, and at the most four failed to respond to any of the tests for syphilis. As far as our efforts went to track the final diagnosis in this group (A) we only found two in which the clinical evidence was such that tabes could not be excluded.

In Group B there is no need for much comment, save that the cell counts ranged from less than 1 per c.mm. to 160 per c.mm. The percentage results of the blood Wassermann reaction are about the usual figure for tabetics. In Group C the cell count (examined twice on two separate samples) was 9 and 9·4 per c.mm. respectively. In Group D the cell counts were 5·4, 1·4, and 2·7 per c.mm., and having regard to the blood Wassermann reaction these may be regarded as non-syphilitic, though we offer no explanation for the globulin reaction being positive. In Group E the cell counts were 8, 13·3, and 24 per c.mm., and in contrast to Group D these results are very interesting.

Cases Diagnosed as General Paralysis of the Insane (16)

Group.	No of Cases.	Cerebro-spinal Fluid			Blood		
		G.R.	W R	C.B R	W.R.+	W.R –	Not done.
A	12	+	+	+	5		7
B	1	–	+	–	1		
C	3	–	–	–		3	

In Group A the cytology varied from 4 to 101 cells per c mm In Group B the cells numbered 4 per c.mm , in Group C the cell counts were respectively 1 4, 2, and less than 1 per c mm this last group calls for no further comment since general paralysis of the insane is excluded definitely from the diagnosis

Cases Diagnosed as Cerebral or Spinal Syphilis (16)

Group.	No of Cases.	Cerebro-spinal Fluid.			Blood		
		G.R	W.R	C B R	W R +	W.R.–	Not done
A	6	+	+	+	4	1	1
B	10	–	–	–	1	4	5

In Group A the cells varied from 4 to 6 per c mm —a very low figure considering the striking positive results In Group B with the exception of one case the cells ranged from 1 to 6 per c mm In the single exception the cells were 72 per c mm and this case subsequently *post mortem* was found to have tuberculous meningitis

Cases with a Diagnosis of Doubtful Syphilis of the Nervous System (27)

Group	No of Cases	Cerebro-spinal Fluid.			Blood		
		G R.	W R	C B.R	W R +	W R –	Not done.
A	4	+	+	+	2		2
B	1	+	–	–	1		
C	22	–	–	–	2	18	2

In Group A the cytology varied from 3 to 95 cells per c mm. In Group B the cells were 93 per c mm and *post mortem* the case was found to be tuberculous meningitis The man gave also a history of syphilis which is most interesting in view of the blood result In Group C the cell counts were less than 6 with the exception of one case which showed 26 7 per c mm , and subsequently proved to be an acute mastoid

The diagnoses of Groups A, B and C were made up as follows cavernous sinus thrombosis cerebral diplegia (2) frontal lesions (2) optic neuritis (2) functional monoplegia hemiplegia (3), bulbar palsy, sciatic neuritis (2), spastic paraplegia post herpetic neuralgia, lower brachial root palsy, paraplegia internal ophthalmoplegia aortitis, congenital syphilis (2), trigeminal neuralgia, cerebral tumour, no diagnosis (3)

It seems to us that the results of the colloidal benzoin reaction in this group of cases are of great value from a diagnostic point of view, and further Group B brings out a good point—that a positive blood Wassermann reaction should not be allowed to bias one s opinion in considering the results of cerebro-spinal fluid findings Each case must be considered on its merits

Cases Diagnosed as Disseminated Sclerosis (10)

Group	No of Cases	Cerebro-spinal Fluid.			Blood		
		G R	W R	C.B R	W R +	W R –	Not done.
A	6	–	–	–		3	3
B	1	+	–	–		1	
C	1	+	–	Slight		1	
D	2	–	–	Slight		2	

The cells in Group A varied from 1 4 to 8 per c mm the cells in Group B were 1 per c mm the cells in Group C 13 3 per c mm , and in Group D 12 and 14 per c mm respectively The graphic records of the colloidal benzoin reaction curves are as follows Group C case 012210 and in Group D 021200 and 011000 These slight changes correspond to those found in some cases by G Guillain and his co-workers

Cases Diagnosed as Meningitis (10)

Group.	No of Cases	Cerebro-spinal Fluid.			Blood.		
		G.R.	W.R.	C B R.	W.R.+	W.R –	Not done.
A	4	–	–	–		4	
B	6	+	–	Slight		5	1

In Group A the cells varied from less than 1 per c mm to 10 7 per c mm in Group B from 45 4 to 2,071 per c mm , and all these 6 cases were confirmed *post mortem* The graphic records of the colloidal benzoin reaction in Group B are as follows 211010 111120 111010 011000 011011 010110, these, again are similar to those found by other workers

Cases Diagnosed as Cerebral Tumour (9)

Group.	No of Cases.	Cerebro-spinal Fluid.			Blood.		
		G.R.	W.R.	C B R.	W R +	W R.–	Not done.
A	3	–	–	–	1	2	
B	5	+	–	–		4	1
C	1	+	–	Slight		1	

The cells were not in excess in any group In Group B the diagnosis was in all cases confirmed *post mortem* The graphic record of the colloidal benzoin reaction in Group C is 0112222222

Cases Diagnosed as Encephalitis Lethargica (10)

Group	No of Cases	Cerebro-spinal Fluid.			Blood.		
		G R	W R	C B R	W R +	W.R.–	Not done
A	1	+	–	–			1
B	9	–	–	–			9

The cells in Groups A and B varied from 4 to 253 and this last case three weeks later had completely recovered and had a cell count of 4 per c mm

Miscellaneous Diagnoses Chiefly of Nervous System (50)

Group.	No of Cases	Cerebro-spinal Fluid			Blood		
		G.R.	W R	C B R.	W R +	W.R.–	Not done
A	44	–	–	–	3	15	26
B	5	+	–	–		1	4
C	1	+	–	Slight		1	

The diagnoses of Group A were as follows neurasthenia and hysteria 6 imbeciles 2 Parkinson s disease 3 epilepsy 3 cerebral thrombosis 2 spastic paraplegia 2 anterior poliomyelitis lateral sclerosis progressive *muscular atrophy* p eudo-hypertrophic mu cular dystrophy syphilitic aortitis hemiplegia 2 traumatic neuriti syringomyelia malignant endocarditis incontinence syncope myopathy gastric ulcer no diagnosis 12 In Group B the diagnoses were imbecile myopathy no diagnosis (3) In Group C the case was one of hemiplegia and the graphic record of the colloidal benzoin reaction was 011000 The cells were not in excess in any of these groups

CONCLUSIONS

1 In the colloidal benzoin reaction we seem to have a simple test very nearly as sensitive to syphilis of the central nervous system as the Wassermann reaction

2 It is not quite as sensitive as the Wassermann reaction, as the results of this investigation show This is particularly well seen in the table relating to tabes

3 We cannot agree, as is maintained by some that there is a characteristic "luetic" curve as contrasted with a "paretic" curve It is true that some cases of tabes show less tendency to precipitate in tubes 9 10 and 11, but so did one or two cases of undoubted general paralysis of the insane

4 A positive result (that is precipitates in tubes 1 t 6 at least) is not obtained with any disease other than

syphilis of the central nervous system so far as we have been able to ascertain

5 Definite changes (other than a complete positive, and in the absence of blood) indicate apparently some definite pathological change in the cerebro-spinal fluid, but all pathological fluids do not necessarily show any colloidal benzoin reaction

AN EFFICIENT INTESTINAL ANTISEPTIC

THE PERCHLORIDES OF MERCURY AND IRON IN COMBINATION

BY

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SOME recent correspondence in the BRITISH MEDICAL JOURNAL has prompted me to bring forward the following evidence that a combination of the perchlorides of mercury and iron constitutes an efficient intestinal antiseptic

My attention was first drawn to the value of this remedy by a short notice in this JOURNAL for May, 1894, by Dr W B Wedgwood of King's Lynn, who wrote recommending its use in enteric fever, and suggesting a dose of 30 minims of liquor hydrargyri perchloridi and 20 minims of tinctura ferri perchloridi Ever since that time I have used these two drugs as an intestinal antiseptic, combined with a little glycerin and chloroform water, but have found that 15 minims of each is quite sufficient to give a good result in those cases in which it is indicated, and I have every reason to be extremely thankful to Dr Wedgwood for having drawn my attention to this remedy

In Enteric Fever

I first tried this prescription in a comparative test in enteric fever, for I took a hundred consecutive cases, of whom one-third had been treated with mercury and iron, one third with sulphurous acid, and the remainder in various other ways They were divided into groups according to the number of days that the pyrexia lasted after their admission to the hospital The average height of the temperature was then ascertained for each group by dividing the week into two portions and taking the average morning and evening temperature for each case during each half-weekly period The general run of the temperatures as thus averaged proved to be wonderfully uniform in all the groups, and so far as the morning temperature was concerned the average rate of fall of the temperature was not appreciably influenced by the treatment adopted In the case of the evening temperature, however, where mercury and iron had been given, the average was more than a degree lower than where other treatment had been adopted

The reliability of the test in this series of cases was enhanced by the fact that they were all in charge of the same two ward sisters, and the excellence of the nursing was shown by the fact that there were only three deaths out of the hundred consecutive cases

Owing to the fact that few of the patients came into the hospital during the first week it was not possible to decide as to the effect of the mercury and iron treatment upon the total duration of the pyrexia, but where this treatment was adopted the case appeared to run a shorter and more favourable course One of the fatal cases gave evidence as to the potency of the antiseptic action of this combination It was complicated by acute nephritis, and during the first ten days of his illness the patient had given himself a liberal allowance of roast beef and mutton He died somewhat suddenly a few hours after an injection of morphine given by a resident on his own initiative, and at the *post-mortem* examination over two hundred ulcers were found in the intestine many of them quite deep, but all free from sloughs and all looking remarkably healthy and showing signs of healing The unusually satisfactory condition of the ulcers considering their size and depth seemed to be distinctly traceable to the mixture which he had been taking every four hours for nearly two weeks

In Colitis and Dysentery

Evidence of the antiseptic value of the mercury and iron mixture is given also by its efficiency in acute and subacute colitis, especially when of the ulcerative type, and it often causes very rapid improvement in cases which have resisted other methods of treatment The mixture proves of great service also in the treatment of dysentery While I was acting as visiting physician to the First Birmingham War Hospital at Rubery, a convoy of over a hundred cases of dysentery was received and put under the charge of myself and the late Major Orr (of Ludlow) In consequence of my experience with ulcerative colitis I decided to give all my cases with three exceptions the mercury and iron mixture, and ordinary house diet consisting of beef and mutton and potatoes, etc, although not a few of them were having twelve to eighteen stools a day, and some still had a little pyrexia Major Orr decided to put his cases on the same treatment

The result of these somewhat heroic measures was, however, perfectly satisfactory, for there was not a man who did not make rapid progress to recovery The three exceptions mentioned above were cases with high fever and extremely frequent evacuations, they also were given the mercury and iron mixture, but fed on finely divided raw meat and carbohydrate in the form of fresh juice expressed from pounded carrots after steeping for two hours in water at a temperature of 120° F Carrot juice thus prepared contains albuminous material and vitamins free from vegetable fibre, and also inosite—a non-fermentable sugar which is of much value in such cases The patients on house diet got on so well that no bacteriological investigations were made owing to the restricted laboratory service available, but the three severe cases were found to be due to Shiga's and to Flexner's bacilli The *Amœba coli* was not found

Although I have had no experience of the treatment of acute dysentery I have little doubt that this remedy will prove of service, and this conviction is strengthened by the knowledge that a nurse whom I had treated with mercury and iron for colon trouble and who went out to a mission hospital in North Borneo introduced this mode of treatment of acute dysenteric conditions there with most satisfactory results It is a remedy which proves of great value in cases where muscular disturbance of the colon is giving rise to tenderness and hardness of the bowel together with pain or other nervous symptoms It is of special value where this type of colon trouble is causing mental depression, phobias, or obsessions, in place of pain, and in such cases its curative action is sometimes extraordinarily rapid

In Addison's Anæmia

The latest theories respecting the causation of "Addison's anæmia," as published by Dr Arthur Hurst in this JOURNAL for January 19th, make it highly probable that this combination of mercury and iron may prove of value in this hitherto fatal disease Naturally there has not yet been time to put this suggestion to a clinical test, I can, however, refer to a patient who recovered from a very severe second relapse of "Addison's anæmia," during which he was taking the mercury and iron for colon disturbance I thought the cure of the relapse was due to the vaccine and dietetic treatment he was given, and it was a great disappointment to find that a year or two later this same treatment proved quite ineffective in averting the fatal termination of a third relapse of this complaint On this occasion colon disturbance was not a prominent symptom, and if I remember right the mercury and iron mixture was not persevered with throughout the attack Considering the powerful antiseptic action of mercury given in this way, it is possible that it may sometimes prove curative in this hitherto incurable disease, if it be really due to the action of streptococci in the duodenum or small intestine

Precautions

When using mercuric perchloride as an antiseptic certain things must be borne in mind

1 Combination with albumin or alkalis will destroy its antiseptic value It must therefore be given when the

stomach is empty, and must also be combined with some drug which has more powerful affinities for alkalis (such as ferric perchloride) in order to prevent its neutralization by the alkalis of the duodenum Where there is retention of the gastric contents owing to atonic dyspepsia or pyloric spasm its use is contraindicated owing to the certainty of the mercurial salt being converted into an albuminate

2 It must be remembered that the two perchlorides in some cases tend to irritate the gastric mucous membrane, and therefore the remedy is best given in circumstances which ensure as rapid a passage into the duodenum as possible This object is best attained by giving the drugs fifteen or twenty minutes before meal times when the stomach is already becoming active in preparation for the reception of a meal

In acute cases, when definite meals are not given, the remedy can be given every four hours, and is usually quite well tolerated This combination of perchlorides is as a rule wonderfully well borne, even by patients who are quite unable to take iron as usually administered after meals I have not infrequently known patients take this mercury and iron mixture continuously for six months or more, except that sometimes, but not always, it is in women found advisable to omit it for a day or two at the commencement of the menstrual period

Another fact to be borne in mind is that sometimes the continued use of this drug causes a loss of weight, suggesting the possibility that the antiseptic interferes with some of the bacteriological processes upon which digestion depends, it is therefore well to watch the weight in patients who are taking it regularly

PERNICIOUS ANAEMIA

SOME MORPHOLOGICAL AND ETIOLOGICAL CONSIDERATIONS

BY

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THE paper by Dr A F Hurst in this JOURNAL (January 19th, p 93) has once more called attention to the haemolytic conception of pernicious anaemia He states that—

"The most characteristic features of the blood in Addison's anaemia are now recognized as being the great inequality in the size of the red corpuscles—the anisocytosis—due to the presence of microcytes and megalocytes and the increase in their average size in spite of the presence of some cells far smaller than the smallest cells found in normal blood"

These features are not specific unless they are associated with a large amount of haemoglobin Anisocytosis without such excess of haemoglobin can be observed in all the secondary anaemias Dr Hurst has made use of the graphic method of determination of the size of the red corpuscles, and, valuable as this is, it is less accurate than the viscosimetric method of estimation of the average volume of the red corpuscles This defect of the graphic method is well seen in acholuric family jaundice, where the average size of red corpuscles is high although the cells look small, this is due to their globular form The viscosimetric method demonstrates that the high average volume persists throughout the remissions of pernicious anaemia

Dr Hurst states that megaloblasts may be found in the blood in conditions other than pernicious anaemia—for example, lead poisoning The difficulty which arises here depends upon faulty nomenclature The various types of nucleated red cell seen on occasions in the course of examining stained films are, first, normoblasts, which are fully haemoglobinized red cells of normal size (incompletely haemoglobiniferous cells are also seen), secondly, macroblasts, which are large pale specimens of the former, and, thirdly, megaloblasts, which are supplied with a full complement of haemoglobin, and, when young, have a finely reticular nucleus The megaloblast does not in any way resemble a very immature form of nucleated red cell, as does the pale macroblast In the course of its development the megaloblast loses its nucleus, and the resulting cell is a megalocyte, which is supplied with a full complement of haemoglobin Normally a macroblast is converted into a normoblast, which loses its nucleus and gives rise to the ordinary red corpuscle, but under some circumstances the macroblast loses its nucleus and gives rise to a pale (polychromatophilic) red cell of large size (macrocyte)

The megalocyte is thus seen to be a mature corpuscle, while the macrocyte is incompletely developed The difference between these cells lies in the fact that, while both are giants, the macrocyte is only morphologically gigantic, whereas the megalocyte is also a functional giant Osler called attention to a peculiar feature of pernicious anaemia

"A surprising fact is that there are many patients with extreme anaemia who are remarkably vigorous One may see patients with a count of about two million red cells who insist that they are able to do everything as usual except for a little shortness of breath"

No other anaemia presents this astounding feature, and in no other anaemia of adult life are megaloblasts and megalocytes, which are the functional giants accounting for this peculiarity, formed Hurst agrees with those writers who regard the presence of megaloblasts and megalocytes as being due to "an unusual degree of regenerative activity," although a little later he attributes the leucopenia of the disease to defective function of a poisoned bone marrow The reconciliation of the two statements appears to be impossible

Hunter's conception of pernicious anaemia as a haemolytic anaemia receives Hurst's support, but there is no resemblance between it and the known haemolytic anaemias—namely, acholuric icterus There is definite morphological evidence of defective function of the marrow in that the hyaline leucocytes are always reduced in number and that there are always a varying number of polymorphonuclear leucocytes of large size with hypersegmented nuclei All the known toxic conditions cause fine changes in the polymorphonuclear leucocytes—for example, diminution in number of the granules and irregular size and distribution, these changes are absent in pernicious anaemia, and confirm the opinion that the toxin of the disease acts on the bone marrow, not on the circulating corpuscles

Achlorhydria is regarded by Hurst as an invariable concomitant and precursor of the disease, but one of the cases recorded by Levine and Ladd[1] showed some free acid in the gastric juice when first observed, and the diagnosis was confirmed at autopsy I have observed a case of subacute combined degeneration of the cord, in which free acid was present, there was no anaemia, but viscosimetry showed that the average volume of the red corpuscles was already high The diagnosis was confirmed by the later history of the case and by autopsy Achlorhydria, when once developed, is persistent, but not more so than the increased average volume of the red cells, the reduction of hyaline cells, and the hypersegmentation of polymorph nuclei

Cases of pernicious anaemia occurring after gastrectomy for carcinoma are attributed by Hurst to the resultant achlorhydria These cases may be of great value but no detailed blood counts are published, and there must therefore be some doubt whether these cases were pernicious anaemia or the "pseudo-pernicious" anaemia associated with secondary deposits in bones, which may closely simulate the disease

There is obviously excessive haemolysis in the course of the disease, but this, apparently, depends upon the peculiar type of cell which is presented to the haemolytic organs the haemolysis is the cause of the anaemia but not necessarily of the disease

Zadek, who trephined the tibia during a remission of the disease, found that there had been reversion to fatty marrow and very few cells were present Myeloblasts are an invariable constituent of the bone marrow in pernicious anaemia, but are not present in the marrow of the normal adult or in other anaemias—that is to say they are embryonic cells The megaloblast as defined above is also an embryonic cell, and thus the two types of cell together confirm to the old statement of Hirtch that there is a reversion to an embryonic type of blood formation Zadek has only

shown that the amount of megaloblastic marrow varies from time to time during the disease, but has certainly not shown that there is no such specific change

There is one other point of difference between pernicious anaemia and all other anaemias which should be mentioned The occurrence of another severe disease during the course of pernicious anaemia partly or completely obliterates the typical blood picture, this is well illustrated by Weinberg's[3] case The secondary anaemias are intensified by the advent of intercurrent disease

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Three Lectures ON CONTRACTED PELVIS.

DELIVERED IN THE UNIVERSITY OF LONDON, FOR ADVANCED STUDENTS,
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III

THE MANAGEMENT AND TREATMENT OF CONTRACTED PELVIS

THE one and only object in the consideration of contracted pelvis is to obtain that any woman with this complication in pregnancy will be delivered in the safest manner for herself and her infant

The first fact that must be learned about contracted pelvis is that it does not of itself require treatment Treatment is only indicated if the contraction is such as to cause arrest in delivery Unquestionably the safest mode of delivery is by the natural passages as the result of spontaneous labour If the dimensions of the pelvis preclude the passage of a reasonably moulded head, it becomes necessary to adopt some form of treatment designed to avoid the difficulties bound to arise at the time of delivery, but there is no form of treatment that compares favourably at the time or in after-results with normal spontaneous labour

In my opinion there are only three methods of delivery in contracted pelvis justified by their results

1 Spontaneous delivery, which includes forceps after the obstruction is passed, provided excessive moulding is not demanded
2 Induction of labour, provided the infant is sufficiently developed
3 Caesarean section

All other forms of treatment are merely methods of overcoming abnormal difficulty which should not be encountered Section is not called for before term, and is, therefore the alternative to spontaneous labour and delivery Induction is required before term and is the only treatment to be considered during pregnancy Neither is entitled to enter into competition with spontaneous delivery at term

Induction of Premature Labour

Induction of labour should be considered if difficulty in labour is anticipated from contraction of the pelvis or excessive size of the foetus, in both the result is the same

Induction may be adopted with benefit at any time from the expected date of confinement to four weeks before term In contracted pelvis the foetus is seldom much above the average size, and induction more than four weeks before term is likely to be inimical to the infant's survival The average infant is 7 lb at term, but many are only 6 lb, and the average at the thirty-sixth week is only about 5 lb The head of such an infant has a biparietal diameter of 3 to 3¼ in, and it will take a very marked degree of contraction to interfere with the passage of this

Except in some rare contractions the transverse diameter of the pelvis will never be reduced sufficiently to prevent lateral movement of so small a head and replacement of the biparietal diameter by a smaller one approaching the bitemporal The cases that call for induction as early as the end of the thirty-sixth week are extremely rare and chiefly arise from the combination of contraction with large size of the foetus As pregnancy advances in the last four weeks the foetal head is progressively increasing in size and more particularly in rigidity At the end of the thirty-eighth week the average weight is about 6 lb and the biparietal diameter 3½ to 3¾ in, the infant when born is just as good a life as at term

If all cases could be seen in time during pregnancy, induction could take the place of section in all except extreme degrees of contraction, but it can never be considered justified in a case capable of delivery spontaneously at term, and, therefore, cannot be adopted as the treatment for contracted pelvis *per se*, it will only be called for in less than 25 per cent of all cases, and 75 per cent will end spontaneously at term

The method of induction which I adopt is the introduction of a soft rubber tube, there is never any difficulty, it is merely a modification of the method with bougies, and I think has the advantage of more certain asepsis Whatever method is adopted, asepsis is the one essential The operation can be carried out in private homes, but it is preferable to obtain surroundings more conducive to aseptic technique The operation should be done with all the care of a vaginal operation, and with this there should be no appreciable difference in morbidity from uncomplicated labour

If cases are properly selected for induction, delivery will be easy and spontaneous, delay may occur on the perineum and need forceps to complete, but this is nothing more than occurs in other normal cases The infant is well developed, and requires no more care than one born at term, it is able to suckle perfectly, and has as good a prospect of survival as any There will be a few cases of extreme contraction where induction will be required at or before the thirty-sixth week, and the infant will be so small as to reduce its survival prospect, such cases should be let go to term *for section*

The time for induction cannot be fixed from the pelvic dimensions, it must be settled by a careful examination under anaesthesia to estimate when the head has or will reach the limit of size that will pass the brim of the pelvis easily This can be done practically always with one examination, but if at the time selected the head is found smaller than necessary the operation should be deferred

I have now to consider the management of cases that have reached term or, as in the majority of cases met with in the present day, are actually in labour The choice lies between pelvic delivery and section The condition of contracted pelvis will be suggested in a primipara by the one constant sign—a head free above the brim of the pelvis In a multipara the history of previous labours will suggest the condition In either case a careful abdominal examination is required, and all the other external estimates of the size of the pelvis The majority of cases will show definite evidence that the head will go through, and then only require to be watched The indications that the proportions are good are exactly the same as I have described in the examination of a case during pregnancy A small number of cases will show evidence of marked disproportion, such as obliquity of the foetus or uterus in a primipara, this is of less importance in a multipara Even in a primipara with a marked degree of simple flat pelvis obliquity of the foetus may not be against pelvic delivery Other causes of signs suggesting marked disproportion must be excluded, such as excess of liquor amnii causing a free head, twins producing marked prominence of the abdomen, and relaxation of the abdominal walls from previous overdistension causing obliquity in a multipara

In a multipara the mere history of a difficult labour is not sufficient to justify a section The nature of the difficulty and the result of the labour and the skill or knowledge possessed by the attendant require to be carefully inquired into A previous section will usually be an

indication, but when the operation was done before or early in labour in a primipara it is far from proof that *pelvic delivery will not be safe*

I have related my experience of doing a section without proper investigation During the past year two patients have delivered themselves spontaneously and rapidly of large infants (7¼ and 8¾ lb), although sections were done in their first pregnancies on account of the degree of contraction and before labour Unless the indications for section are unquestionable the operation should not be decided upon without first seeing what labour will do, or at least a full examination under anaesthesia This particularly applies to primiparae, but also to a large number of multiparae

Caesarean section for contracted pelvis will give better *maternal and foetal results* than delivery through the pelvis if obstruction exists, but the results from the operation cannot be compared with normal labour The maternal death rate even in selected cases—that is, when the operation is performed before labour has started—*was shown in the last collective analysis to be 1 6 per cent*, or more than three times as great as the all out mortality of childbirth, although the cases investigated were collected from well equipped hospitals during ten years when surgical technique had reached its present high standard *The analysis showed another important fact—that the* results from section performed early in labour and when infection could be excluded were little worse than before labour, the death rate being practically the same, 1 8 per cent

With what must be looked upon at present as the inevitable maternal mortality of Caesarean section I consider it essential to avoid performing the operation upon any case capable of safe delivery by the natural passages If labour is conducted as it should be, if unnecessary interference and examination are avoided, and if the progress is properly watched so as to terminate the attempt at pelvic delivery when it is seen that the difficulty is greater *than can be overcome by the natural efforts*, Caesarean section can be adopted with complete safety to the mother and infant, while the more important result will be obtained of letting those cases end naturally in which the obstruction is not too great, and these cases constitute over 70 per cent of the women with an unquestionable degree of contraction

For these reasons I adopt the practice of giving almost every case a trial of labour, the tables I have shown give the results obtained during an experimental year when I tried various methods of treatment I fully recognize that several cases were allowed to continue in labour and were terminated by pubiotomy or upper strait forceps which *would have given better foetal results from section*, but the only alternative with the knowledge at my disposal would have been to adopt section much more frequently and often in cases that terminated naturally and easily

I will now describe a trial of labour *and* the observations made during it for guiding treatment

Trial of Labour

Labour is allowed to continue until the pains are well established and it is thought that the cervix will have partially dilated A vaginal examination is then made, but when the conditions are considered relatively good by abdominal palpation a rectal examination will usually be sufficient at this time The principal points to be noted are *how the cervix is dilating and how the membranes* bulge The head will be too high above the brim to make out more than its application with the sagittal suture in the axis

In the great majority of cases the cervix will be taken up with the external os dilated to admit two or three fingers The membranes will be applied to the ring of the os and will not bulge more than normally These cases may be allowed to continue with a high *probability of spontaneous* delivery and rupture of the membranes is unlikely to occur before the cervix has almost or actually reached full dilatation In a small number of cases the cervix, although dilated to two or three fingers, will not be well taken up and the membranes may bulge somewhat more than normally the prognosis is not bad, but the membranes are likely to rupture during the first stage In a few cases the membranes will be found bulging in a large bag into the vagina with the cervix still projecting as a *definite vaginal portion* The prognosis for pelvic delivery in these cases is definitely bad and early rupture of the membranes is certain to occur *These cases might* be submitted to section after a fuller examination under anaesthesia, or the membranes might be punctured to see how the head enters the cervix and to avoid the risk of prolapse of the cord or other complication from the rupture of the membranes during a pain With the exception *of the few cases selected* for section at this examination the cases are allowed to continue until the membranes rupture

Examination at Time of Rupture of Membranes

The majority of cases continue in quiet labour for a reasonable length of time, the cervix reaches full dilatation and the membranes rupture On palpation the head is found not only to have entered the brim but to have sunk well down, and the next few pains drive it on to the pelvic floor The difficulty is past, delivery will be easy, and a rectal examination will confirm the facts made out by palpation If the head has not passed the brim a vaginal examination is made, within half an hour after the membranes rupture, and the following conditions will be found

1 The cervix may have reached full dilatation or very nearly so, the head will have engaged in the brim as a vertex with the *sagittal suture closed or slightly* overlapping in the axis of the brim The head is slightly too large for the brim, but only requires moderate reduction by moulding, this can be safely waited for, and the head will come down to the outlet in a reasonable time The delay during moulding may produce some secondary inertia before the second stage is completed, or the moulded head may not follow normal mechanism, but delivery can be safely effected with low forceps Posterior fontanelle presentation may develop, but this facilitates moulding or the head may come down in the transverse in simple flat pelvis

2 The membranes may have ruptured when the cervix *was only two fingers to half dilated* These are the important cases and include practically all in which there will be difficulty If the head has entered the brim as a vertex and the cervix is crowning the head—that is, applied in an even ring with the edges of the external os thinned—the prognosis is still good, the early rupture may have been due to obliquity of the uterus from relaxed abdominal walls in a multipara, or a slight excess of liquor amnii in a primipara Labour is allowed to proceed

3 When the cervix instead of crowning the head has re-formed a vaginal portion, the head is so much too large for the brim that it cannot come down to take the place of the bag of membranes and continue the dilatation The head may have become asynclitic or extended into an anterior fontanelle or even brow presentation The prospect of pelvic delivery is absolutely bad and section is indicated, but there is plenty of *time and result will be* perfect even if the operation is not performed in less than six hours

Examination Four Hours After Rupture of Membranes

A second vaginal examination is required in all cases not delivered within four hours after rupture of the membranes The conditions at this time may be

1 When the membranes only ruptured with the cervix almost or *actually fully* dilated, the head will be past the brim and delivery will be best and safely completed with low forceps the delay is probably due to failing off of uterine action or failure of mechanism in a moulded head

2 When the membranes ruptured with the cervix only half or less dilated the dilatation may have continued well, the cervix will be nearly or actually fully dilated and crowning the head The head will be asynclitic and only moderately moulded *it may have* gone into a posterior fontanelle presentation, but delivery is to be expected and

the head will at least pass the brim, when delivery can be completed safely with forceps

3 If the cervix has ceased to dilate or has only dilated slightly and has moved back on the presenting part so that the posterior lip is thinned while the anterior lip is elongated and probably thickened, the head may be markedly moulded and may have become a posterior fontanelle presentation or become asynclitic The passage of the brim, if effected at all, will only be by excessive moulding, and the dilatation of the cervix may never be completed Spontaneous delivery is not to be expected and forceps will invariably be difficult, resulting in death of the foetus in half the cases Pubiotomy will produce sufficient room and save the infant, and this is the time for the operation, but unless pubiotomy will be resorted to, in the event of forceps proving difficult, all these cases will be best treated by section, and there is still plenty of time for this to be performed with perfect results These are essentially the cases in which forceps are applied at present, but fail, and, doing untold damage, render the cases unfit for any subsequent beneficial treatment

4 The cervix may have re-formed a vaginal portion with the inner os partially closed down and the external os relatively more dilated The head will be still free above the brim, often asynclitic or extended The treatment is section, and the only alternative, perforation or pubiotomy, but the disproportion is likely to be too great for good results by the latter

Cases are no less suitable for section four hours after rupture of the membranes than at the start of labour, the mother and infant are both in good condition and the soft parts undamaged, labour has lasted for only a portion of the normal time for the first stage, and if the fact that pelvic delivery is doubtful has been accepted at the first examination these cases will have been already moved to some place where section can be adopted with safety, and there is plenty of time for all preparations or even to move the case if that has not been done already

I have now to consider some other methods of treatment So far I have indicated induction, section, or spontaneous delivery as the best methods of dealing with cases of contracted pelvis, the last to be aimed at always, and replaced by section when not attainable at term or by means of induction Nevertheless, forceps, version, pubiotomy, and craniotomy are treatments and have occasional places in the management of cases

Forceps

Forceps have a very real and essential place in obstetrics, but are capable of doing untold damage They must be divided into two groups upper strait and lower strait The former is more likely to be harmful than beneficial

When the uterine action fails to make the head engage because it is too big for the brim, or having forced the head into the brim has produced excessive moulding with a large part of the head still above the brim, it is obvious that the uterine action cannot effect delivery, and therefore forceps are not a justifiable means of completing the work

On the whole, forceps should not be resorted to until the greatest diameter of the head has passed the brim, or at least entered it, and this is never before the cervix is fully dilated and taken up If this was always accepted, cases of failure with forceps would not occur, and the cases could be treated successfully by other methods Nobody is justified in applying forceps to a head with the greatest diameter still above the brim unless he is prepared to desist in his efforts at extraction after reasonable traction and resort to pubiotomy

In those cases where the head has to undergo moulding somewhat in excess of normal it will frequently be forced past the brim successfully by the uterine action, but when this is complete large size, ling may interfere with normal mechanism term is likely ay true with the extra demand made upon The average infant indicated, they should not be appli 6 lb , and the average ing reasonable advance, but only about 5 lb The head of for both mother and biparietal diameter of 3 to 3¼ in , would never be allowed marked degree of contraction to interfant of maternal dis- of this t have reached a stage in which forceps can be used with benefit, and then some other procedure is called for, but if forceps are not contraindicated they should be used When a case has continued to a stage of severe maternal distress with local indications of obstructed labour, it is probably too late to be benefited by forceps and the obstruction is frequently greater than can be justifiably overcome by forceps

Foetal distress in itself should not be considered an indication for forceps, it must be absolutely subservient to maternal indications or contraindications It is most unlikely to develop as a result of labour before forceps may be safely used in a case capable of pelvic delivery If forceps are applied on account of foetal distress and the maternal condition is not suitable, the infant will practically never be benefited and the maternal tissues may suffer untold damage

The place of forceps may be summed up as—to complete delivery when the natural forces fail to do so but have overcome the obstruction, and before the vitality of the patient is reduced by useless prolongation of effort

Version

My tables only show two cases treated by version I consider the operation has no place in the treatment of contracted pelvis The only merit of the operation is that the foetus can be extracted when no other means will effect delivery of a whole infant After version the head can be brought into the brim and forced to mould when it will not even enter as a vertex, but the reduction in size and damage to the head are as great as if the foetus came head first, to which is added the risk of a difficult breech If podalic version is ever done it should be the conversion of a breech presentation into a cephalic

There are a few cases of multiparae where the foetus presents in an oblique or transverse lie, where owing to associated conditions such as pendulous belly the head does not enter the brim or a brow results, also where a face presents and if it was not for the abnormal presentation the head would be able to enter and pass the brim These cases may be treated by version and bringing down the legs, but the treatment is not directed to the contracted pelvis but to the abnormal presentation

Pubiotomy

I am one of the very few who perform the operation of pubiotomy, my experience of the operation is that it is easy to perform, safe for the mother, with easy convalescence, and saves the infant I think it has a distinct place in obstetrics in the present day as a means of reducing disproportion which cannot be otherwise reduced, but I do not consider that any case of contracted pelvis should be allowed to enter and continue in labour with the preconceived intention of being terminated by pubiotomy In such cases there will have been the indications of excessive obstruction early in labour, and these should be accepted as contraindications to pelvic delivery

The place of pubiotomy is between upper strait forceps and craniotomy, so long as the former is looked upon as a justifiable means of bringing the head through the pelvic brim, pubiotomy must be accepted as the means of dealing with those cases requiring excessive traction with forceps If forceps were justified the foetus must be alive and craniotomy is not justified, but neither is vigorous traction

The cases in which I find pubiotomy a suitable operation are those in which the membranes rupture early but the cervix continues to dilate and actually or almost reaches full dilatation, while the head enters the brim as a vertex with moderate moulding, but then remains without advancing in proportion to the activity of the labour Secondary uterine inertia may have begun to develop, but there should not be maternal distress, and at this time the foetal condition will be good The bone should be divided, and then if the cervix is not up the case should be left to continue labour, which will frequently end spontaneously within a couple of hours, or the head will come down to the outlet and be easily delivered by low forceps If the cervix is fully dilated, or the patient a multipara, delivery

may be completed immediately after dividing the bone, or if the case is only seen after distress has developed delivery may be completed provided the head is brought through slowly to give the soft parts time to stretch

I have performed the operation eighteen times in four years and effected the delivery of thirteen living infants where the only alternative was craniotomy Two of the mothers died, being previously infected, and the result would not have been altered by craniotomy, but the child of one of these patients lived

In my tables I show eight cases, several of these showed bad indications for pelvic delivery with protracted first stages of labour and excessive moulding, so that from my experience in that year I would now perform a section early, rather than carry on with the intention of resorting to pubiotomy Still, in a subsequent year I have resorted to pubiotomy in four cases where I had no alternative but excessive traction with upper strait forceps or craniotomy, and obtained four living infants

Craniotomy

In the majority of instances craniotomy must be looked upon as proof of failure of treatment There are a certain number of complications which cause the death of the foetus independent of the labour, and when this occurs perforation of the head is indicated if there is disproportion to the pelvis Unfortunately most of the cases at present requiring the operation could have been treated by some other method if the facts had been recognized earlier and deleterious efforts at delivery avoided The enormous increase in the number of Caesarean sections performed in recent years, and induction of labour in the last few years, has produced extraordinarily little reduction in the number of craniotomies In fact, I think the operation is more frequent than twenty-five years ago, when section was only done in about 5 per cent of its present frequency I do not think this is due to degeneration of the human race or development of brain Craniotomy will not be reduced in frequency until all obstetric cases are conducted with careful observation and those found incapable of pelvic delivery submitted to section when the fact is first definitely demonstrated by a trial of labour and without being submitted to futile and harmful efforts to complete delivery through the pelvis

While preparing these lectures I have completed another year's work in the hospital, and the following table shows the results and frequency of the various operative treatments found necessary

Method of Delivery	No of Cases	Foetal Deaths	Cause of Death.
Normal delivery—			
Spontaneous	110	3	Inanition second and third days.
Low forceps ..	12	2	1 cerebral haemorrhage 1 albuminuria
Low forceps with marked moulding	5	0	
Upper strait forceps	2	0	
Pubiotomy	4	0	
Caesarean section	15	2	1 haemorrhage from cord 1 no cause
Induction 37th to 39th week—			
Spontaneous	8	1	No evident cause.
Low forceps	5	0	
Craniotomy	2	2	Foetus dead early in labour
Prolapse of cord (delivery terminated with low forceps)	2	2	Foetus dead
Breech easy	3	0	
Face converted vertex, spontaneous (6-para and 8-para)	2	0	
Twins ...	4	0	
Premature not induced ...	8	5	
Macerated	2	2	
Total	184	19	

Pelvic Measurements—External conjugate average 7 12 in. minimum 6.6 in. maximum, 7 6 in Intercristal average 10.2 in. minimum, 8.2 in maximum, 11.6 in.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

"VESICALIZATION" OF THE STUMP OF THE CERVIX UTERI

"VESICALIZATION" seems about the best word to describe the procedure adopted in this case to cure a vesico-vaginal fistula which occurred after subtotal hysterectomy

The patient, a very stout flabby woman of 61, who had been practically bedridden for a long time came under treatment for an abdominal swelling which was diagnosed as a uterine fibroid

Abdominal section on March 30th 1922 proved the mass to be a fibrocystic tumour of the left ovary firmly fixed to a normal sized uterus with many dense adhesions to the transverse and descending colon the bladder, and other neighbouring parts The tumour left tube, and body of the uterus were removed leaving the right ovary and tube and the cervix. The number and density of the adhesions and the patient's stoutness made the operation very difficult and silk ligatures were freely used At first there was little to note in the healing of the wound and the general condition of the patient, but on April 3rd she began to complain of frequent and painful micturition By April 8th this had become severe and on April 12th there was a leakage from the vagina of urine which was alkaline and very irritating This leakage rapidly increased with much excoriation of the vulva and surrounding skin

All kinds of treatment were tried to stop the leak and to acidify the urine and cure the irritation including continuous drainage of the bladder with Cathcart's apparatus, but nothing really helped Examination under an anaesthetic showed that the urine was escaping through the cervical canal, so a further operation was done on May 26th There was so much inflammation and thickening of the vaginal fornices that it was impossible to pull the cervix down peel off the bladder and proceed on conventional lines The cervix was therefore most thoroughly scraped out and rawed with sharp spoons during this process a thick knotted silk ligature (evidently the cause of all the trouble) was removed from the cervical canal. The cervix was then firmly stitched up and entirely occluded by six deep stout twenty-day catgut sutures, passed antero-posteriorly Part of the cervix was therefore vesicalized or taken up into the bladder wall

A self retaining catheter was passed by the urethra and left in for fourteen days the bladder being drained continuously The urine was kept acid with urotropin and acid sodium phosphate and later with cystazol The vagina was douched with very weak mercury perchloride solution twice a day after the first three days The stitches were not interfered with, but were allowed to come away of themselves

I was a little anxious when the catheter was removed but there was no leak at all though micturition was rather frequent for a few days. The convalescence was rather prolonged as the patient's legs and back were very weak from the long period of inaction before the first operation this was remedied by massage and she was able to get up a little on June 30th She left hospital on July 16th 1922.

On June 2nd 1923 she reported I am pleased to tell you that I have had no bladder trouble at all since my return home I have full control of the urine and no leakage whatever

E OLIVER ASHE M D Lond F R C S Eng,
Senior Surgeon to Kimberley Hospital

MANOMETRIC METHOD FOR THE ESTIMATION OF UREA

I DEMONSTRATED to a recent meeting of the Ulster Medical Society a method of estimating urea in urines based upon the principle that if a gas is liberated within an apparatus of constant volume the resulting increase of pressure is proportional to the amount of gas liberated

The ordinary hypobromite reaction is utilized to liberate nitrogen from a fixed volume of urine, and is carried out in the usual manner by placing the urine in a small test tube within a bottle containing the reagent, so that by tilting the bottle the urine and reagent can be mixed at will The bottle is provided with a perforated rubber stopper into which is pressed the stem of a manometer, such as forms part of a sphygmomanometer outfit of the aneroid pattern The air space within the apparatus has a complex value, being the capacity of the empty bottle *minus* the amounts of caustic soda bromine, and urine added *minus* the volume of the glass composing the bromine tube and the urine tube, *minus* the volume of air displaced by the stopper of the bottle *plus* the air space inside the manometer, *plus* the potential air space in the reagent due to its power of dissolving nitrogen It is thus not easy to standardize the apparatus so that it shall have a constant air space, but I find that the air space is brought to a sufficiently constant value by

adjusting the amount of caustic soda in accordance with the size of the bottle used The reagent thus serves a double purpose—to liberate nitrogen from the urine, and to bring the air space within different pieces of apparatus to the same amount

To facilitate the use of the apparatus the urine tube is marked at a level corresponding to 5 c cm , and the bottle is marked at a level corresponding to 177 c cm less than its total capacity By choosing this particular value for the amount of caustic soda (in conjunction with a 2 c cm tube of bromine) and using 5 c cm of urine, the reading of the manometer in decimetres expresses the percentage of urea in the urine—the reading being taken as soon as the reaction is complete, without waiting for the apparatus to cool

A series of 73 estimations controlled by the urease method of urea determination showed the average error of the manometric method to be 3 per cent

Belfast. F C S BRADBURY, M B , B Ch

CAESAREAN SECTION SUPPURATION RECOVERY

THE chances of success of Caesarean section are frequently spoilt by the too prolonged and too vigorous efforts of the accoucheur Bearing this in mind in the case recorded below, I decided to seek surgical assistance before the patient was exhausted

On Saturday, October 13th, 1923, I was called to Mrs H , a primipara, in labour The os uteri was dilated almost to its full extent, and lying posteriorly, as there was an anteflexion of the uterus, the contractions were powerful and rhythmic, and no interference was deemed necessary An hour later the membranes ruptured, and I applied axis traction forceps with some difficulty The conjugata vera was 3¼ in , and it was evident that delivery would only be effected at the sacrifice of the life of the child, and with considerable risk to the mother Consent having been given to the proposed operation, the patient was removed to the Knight Memorial Hospital, Blyth

The operation was performed by Mr J Gilmour, F R C S , of Newcastle-on-Tyne The patient had been previously catheterized by me, and, having been otherwise prepared, an incision was made from one inch above and a quarter of an inch to the left of the umbilicus, to half an inch above the symphysis pubis, the peritoneum was opened at the upper part of the abdominal wound, the opening continued downwards with scissors, the position of the urinary bladder being noted Large swabs were inserted laterally, and the uterus was incised longitudinally between the swabs, the organ having previously been protruded through the wound The opening in the membranes was enlarged, and a well developed female child weighing 8½ lb , was extracted At this stage 1 c cm of pituitary extract was given hypodermically After the removal of placenta and membranes it was interesting to watch the contraction of the uterus, it began to shrink visibly three minutes after the injection Deep sutures of catgut involving the uterus as deep as the submucous coat were inserted, and between these finer and more superficial sutures, the peritoneum was closed with a continuous suture

The patient showed no signs of shock, and its sudden appearance was guarded against by giving rectal salines every four hours, and by a plentiful supply of hot water bottles, with the bed in the Fowler position

The temperature on admission was normal, and its subsequent intermittent excursions varied between normal and 103° F

One ounce of castor oil was given on the third day, and the bowels moved in the evening the patient was catheterized on this day, and said she felt very comfortable next day an enema was given, followed by 1 c cm pituitary extract hypodermically The lochia were unduly offensive from this time until the twelfth day, and 2 drachms of liquid extract of ergot were given daily, followed by the insertion of an iodoform pessary into the uterus for three successive days On the thirteenth day the abdominal sutures were removed, and the vagina and os uteri examined under a general anaesthetic as the former contained much pus, it was swabbed out with hydrogen peroxide, the cervix showed a slight laceration Some improvement in temperature followed but it began to rise again on the eighteenth day 30 c cm of antistreptococcic serum were given hypodermically twice daily for three days On the nineteenth day I anaesthetized the patient and cauterized the os uteri and vagina with tincture of iodine, finally inserting an iodoform pessary into the uterus

From this time onwards improvement was marked and rapid, on the morning of the twenty-second day about 20 ounces of pus were passed per rectum, and about 10 ounces in the evening The temperature became normal on the twenty third day, and the patient was sent home on the twenty fourth day, at her own urgent request Hitherto she had had no pain and was able to feed her baby to a great extent during the whole of her illness, supplementary feeding (50 per cent) being adopted The wisdom of this procedure was evident from the steady gain in weight and general improvement of the baby When seen one month later mother and baby were in a marked degree of health.

L L STEELE, L R C P , L R C S , L R F P S

Reports of Societies.

MANIFESTATIONS OF COMMON AFFECTIONS OF THE NOSE AND THROAT

A MEETING of the Medical Society of London was held on February 11th, with the President, Dr HERBERT SPENCER, in the chair, when Mr HERBERT TILLEY opened a discussion on the general symptoms and remote manifestations of common affections of the naso-pharynx, nasal accessory sinuses, and throat

Mr Tilley, who showed a large number of lantern slides, said that he felt bound to admit that from a clinical point of view the naso-pharyngeal and faucial tonsillar deposits played some definite part, at least in the earlier years of life These lymphoid deposits were well developed in children, and their reaction to infection suggested that they acted as protective structures He had observed that at varying periods of time after the complete removal of the faucial tonsils occasionally their recesses were partially occupied by lymphoid tissue which had grown up from the adjacent lingual tonsils, or the lateral or posterior walls of the pharynx might be occupied by similar deposits He assumed from these facts that Nature had some very definite reason for placing subepithelial lymphatic tissue in these situations, and the obvious corollary was that such structures should not be sacrificed without more thought and consideration than was often given to their removal It was a common experience to find adenoids without a corresponding hypertrophy of the faucial tonsils, whereas it was less frequent to find the latter condition without some overgrowth of the naso-pharyngeal lymphoid tissue The remoter manifestations of the chronic obstruction caused by adenoids were most evident in the defective development of the bones of the face and of the chest walls As a result of mouth breathing the component parts of the upper jaw were subjected in the early years of life to a constant slight compression by the tissues of the cheek, and this was not opposed by the powerful expansile effect of the tongue, which in these circumstances lay in the floor of the open mouth As a result there were produced the narrow face and nasal cavities, slit-like nostrils, high arched palate, and crowded teeth, the typical "adenoid facies" If the nasal airway was obstructed the suction or negative pressure on the cartilaginous elements of the ribs eventually led to lower costal recession and pigeon-breast The earlier the nasal obstruction was removed and constitutional defects treated, the less were the skeletal deformities there was no age limit to the operation for removal of adenoids The presence of a chain of slightly enlarged glands behind the posterior border of the sterno-mastoid muscles was an almost constant sign of mild infection of the pharyngeal tonsil (adenoids) Not infrequently the glandular enlargement was associated with a slight rise in the evening temperature, this was one explanation of the so-called "glandular fever of childhood" That tubercle bacilli might enter the system after primarily infecting the lymphoid tissue had long been established, and Mr Tilley showed a microscopic section of an adenoid growth in which typical tubercle nodules were present Slight haemorrhage from the nose or into the throat might be due to congestion of the naso-pharyngeal lymphoid tissue, and if a slight evening pyrexia, cough, and general malnutrition were also present, the clinical picture of tuberculosis was suggestive Mr Tilley had known such symptoms to be permanently cured in a young adult by the removal of adenoids

The most serious of the remoter manifestations of acute tonsillar inflammation were myositis, endocardial and pericardial complications, and certain forms of infective arthritis These manifestations might resemble those which had long been recognized as characteristic of acute rheumatic fever, but they might result from tonsillar infection without any etiological relationship to the poison of rheumatism, just as similar complications were known to follow scarlet and typhoid fevers, influenza, and gonorrhoea Tuberculosis of the tonsils was not infrequent, but was usually latent and exhibited no clinical signs of its presence In addition to ill defined symptoms of impaired

general health, many definite and localized lesions, such as fibrositis, myositis, and chronic arthritis, had been proved to be due to a focus of infection in the tonsils The tonsils had also been shown to be foci of diphtheria infection, in three patients who, after recovery from diphtheria, were still "carriers" several months later, in spite of the local application of strong antiseptics, Mr Tilley had recommended enucleation of the tonsils, and a fortnight later diphtheria organisms were found to be completely absent

The most common affections of the maxillary, ethmoid, frontal and sphenoidal sinuses resulted from invasion by infective organisms, and the consequent inflammation might assume an acute, subacute, or chronic form These conditions had long been recognized in adults, but their occurrence in children had been overlooked until comparatively recent times, because the symptoms were very like those of adenoids Diphtheria, scarlet fever, and measles were mainly responsible for cases in childhood, and influenza was the most prolific infective agent in adults A considerable minority was caused by local infection, chiefly by diseased conditions of the teeth The chief symptoms of sinus infection were a purulent nasal discharge, headache, and pain varying in situation and degree, and nasal obstruction If the nasal accessory sinuses were methodically investigated in the *post-mortem* examinations of all cases of acute meningitis, Mr Tilley affirmed that a large number of these cases would be found to be the result of unsuspected infection from the sphenoidal and ethmoidal air cells Concerning the remoter manifestations of accessory sinus disease in adults, gastric, pulmonary, and ocular symptoms were more frequent than cardiac, muscular, or arthritic complications One of the most striking results of the removal of a septic focus in the nose was improvement in the appetite and general health which followed relief from symptoms of stomach disorder The great majority of chronic nasal catarrhs were really muco-purulent discharges from the nasal sinuses, and if the source of infection was removed its complications in the lower air passages often disappeared without any special treatment Special attention was drawn to retrobulbar neuritis, with its possible culmination in loss of sight, because its most frequent cause was disease in the neighbouring accessory sinuses of the nose, and because the relationship of the conditions had been often overlooked or misunderstood, the latter was easily explained if the anatomical relationships between the optic nerve and the posterior ethmoidal and sphenoidal sinuses were borne in mind Not only were the bony partitions separating these structures very thin, but congenital dehiscences might exist in them Furthermore the optic nerve was particularly sensitive to the action of toxins The most important early symptom of posterior ethmoidal or sphenoidal sinus inflammation was an enlargement of the "blind spot" There were, however, many cases in which the most skilful and expert examination of the posterior nasal sinuses by the rhinologist might fail to detect anything which could throw suspicion on them In such cases a careful examination of the patient's family and personal history should be made with respect to syphilis whether syphilis was absent or present, the patient should be examined by a neurologist from the point of view of a possible lesion in the central nervous system, if syphilis was proved to be absent, and the neurologist's report satisfactory, the middle turbinal on the affected side should be removed, in the event of no improvement in the optic neuritis after three or four days the anterior and posterior groups of ethmoid cells and the sphenoidal sinus should be freely opened and drained A possible explanation of the improvement in sight within a few hours of the intranasal operation was that the optic neuritis might have been caused by circulatory disturbance in the vascular constituents of the optic nerve, brought about by pressure of the congested mucosa and exudate in the neighbouring sinuses

Sir HUMPHRY ROLLESTON emphasized the importance of the general and remote symptoms of sinus infections, which formed part of the larger subject of focal infections He drew a distinction between local and haemic infections, when there was free discharge of pus from the nasal sinuses there was disorder of the gastro-intestinal tract, in other cases, by the absorption of pus into the blood circulation, there were remote effects A nasal infection might go on for a considerable time without showing more remote effects, and when secondary manifestations did appear they continued unless the infection was entirely removed Certain bacteria had a special attraction for certain definite parts of the body—as, for example, the nasal accessory sinuses and the gall bladder

Dr JOHN POYNTON referred to the association of tonsillitis with acute rheumatism In 1900 he had isolated a diplococcus from the tonsil which was apparently identical with a diplococcus which produced experimental heart disease On clinical grounds he believed that acute tonsillitis could produce acute rheumatism He looked upon the tonsils as a first line of defence, and considered their routine removal an error But when they were diseased their removal was a step of great value He believed that tonsillitis was a factor not only in fibrositis but in appendicitis and in leukaemia

Sir STCLAIR THOMSON spoke on the subject of suppuration in the nasal accessory sinuses, and dealt especially with the more remote symptoms which came to the general physician and not to the rhinologist He had published eighteen years ago, forty-two cases of death from cerebral complications due to sphenoidal sinus suppuration, and he pointed out the exceedingly varying symptoms of which the patients had complained

Mr W M MOLLISON dealt with the subject of nephritis as associated with tonsillitis He had usually seen such cases of nephritis at a comparatively late stage in the disease, and he had found that on removal of the tonsils the renal symptoms were usually worse for a few days, but then cleared up He believed that in cases where tonsillitis preceded nephritis the removal of the tonsils was indicated

Dr E M CALLENDER took up the subject from the point of view of the general practitioner He recommended the removal of tonsils and adenoids when they were causing any symptoms, and he thought that children who had had tonsils and adenoids removed were less liable to infections than others In spasmodic croup the removal of adenoids caused permanent disappearance of the croup Chronic infections of the tonsils were a common cause of ill health but they were difficult to recognize Common symptoms were headache and signs of general toxaemia, such patients could not endure vitiated atmospheres, were easily upset by such poisons as alcohol and belladonna, and were much better in the country than in town The presence of chronic infections of the nasal accessory sinuses was more common than was generally realized He had found so called "slight influenza" and "early phthisis" to be due to chronic suppuration of the accessory sinuses

Mr E D D DAVIS detailed the numerous and varied conditions for which he had been asked to remove tonsils but 90 per cent of his cases of enucleation of tonsils were done for local reasons He was not convinced that "colds" were less frequent after the removal of tonsils but tuberculous lymphatic glands nearly always improved

Mr WILLIAM HILL had found albuminuria to be present in many cases of acute tonsillitis and suggested that the cases of nephritis reported by Mr Mollison were of tonsillar origin

TOXAEMIAS OF PREGNANCY

A MEETING of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine was held on February 7th The President, Dr CUTHBERT LOCKYER, took the chair

Messrs COMYNS BERKELEY, E C DODDS, and A L WALKER presented a paper recording chemical observations on the toxaemias of pregnancy, with special reference to hepatic function Their objective had been the obtaining of information which would help the clinician in making a prognosis and the demonstration of *ante mortem* disturbances in the liver, rather than the elucidation of the actual cause of eclampsia Most observers had concentrated on the renal factors, comparatively few had investigated the hepatic element The blood urea content did not appear to afford an infallible guide in prognosis and indeed the degree of nitrogen retention seems to bear

little or no relation to the severity of renal lesions The tests of hepatic function particularly employed by the authors were mainly based on changes in the pigmentary functions of the liver Fouchet's reaction was used to detect bile pigments in the blood, and Ehrlich's aldehyde reaction to demonstrate the presence of a pathological amount of urobilinogen in the urine, Schlesinger's test for urobilin was also employed The lipase content of the blood was estimated by the method of Lowenhart, and the results were contrasted with corresponding observations on the lines more commonly adopted by other investigators, such as determinations of blood urea and non-protein nitrogen It was found that all the pathological cases examined might be classed in three fairly definite groups Group I was composed of patients with no symptoms, in whom the albuminuria was discovered in the course of routine examination, Group II consisted of cases of albuminuria with symptoms and signs such as headache, vomiting, or oedema, Group III comprised cases of eclampsia or threatened eclampsia The main problem was to decide when, if ever, pregnancy should be terminated in a woman whose urine gave the reactions for albumin As a result of their researches it appeared that the test of hepatic function afforded a satisfactory indication, it had the additional advantage of simplicity, and could be employed by any practitioner The estimation of blood urea and non-protein nitrogen demanded special skill and expensive apparatus, and the results were of doubtful reliability

In addition to this general conclusion the observations had brought to light some matters of interest from the pathological point of view In a normal pregnancy the blood urea and non-protein nitrogen were at a very low level during the early months, and increased to a maximum of approximately 40 mg per cent and 37 mg per cent respectively during the later stages In these normal cases the liver tests were invariably negative Rothera's reaction for acetone bodies in the urine had been positive in 68 out of 100 pregnant women examined In the cases of Group I there was little or no evidence of nitrogen retention, and the liver tests were negative as in normal pregnancy, but it was difficult to believe that the albuminuria was physiological, at any rate in those cases in which it failed to disappear after delivery In Group II there was evidence of nitrogen retention in varying degree, certain cases which had terminated naturally and satisfactorily had exhibited a degree of nitrogen retention sufficiently high to indicate the induction of labour according to the standards laid down by some authors The cases in Group III were the only ones to show a positive liver test Of seven investigated in this class eclampsia developed in four before premature labour could be induced, in the remaining three labour was induced on the basis of the test In three definite eclamptics the blood urea was lower than 40 mg per cent , each had, however, a non protein nitrogen content of over 40 mg per cent

The PRESIDENT summarized these observations for the benefit of those who had not had an opportunity of reading the paper previously, and an interesting discussion followed Dr O L V DE WESSELOW referred to the scarcity of available clinical material, and agreed with the authors that determinations of the diastatic index were of very little value With regard to the investigation of hepatic function, he suggested that tests depending on the detection of pigments might be misleading, accepting their evidence at face value implied the assumption of a patency of the ducts The laevulose tolerance test had been applied with conflicting results in cases of eclampsia, and was therefore of little practical value Five per cent of the ordinary population showed albuminuria on examination, and cases of symptomless albuminuria in pregnancy might represent the presence of a similar condition The estimation of blood urea, although not infallible as a guide, might be of some value in the cases of Group II, where the hepatic tests were admittedly negative He was inclined to recognize two main groups a nephritic group, in which there was a high blood urea content and a defective urea concentration, and a pre-eclamptic group, in which the evidence of nitrogen retention was not marked, in these latter the blood pressure afforded an important guide

Mr F WINSON RAMSAY presented notes on a case of normal pregnancy following operations for ectopic pregnancy on both Fallopian tubes The left tube had been resected on the first occasion, and at a later date he had found it necessary to operate for a right-sided tubal mole He had performed a conservative operation—salpingotomy, removal of the tubal contents, and restoration of the tube by suture A year or two later the patient acquired a uterine pregnancy which was allowed to proceed, and a normal confinement eventually ensued

The PRESIDENT referred to the work of Mr Beckwith Whitehouse, who had recorded a number of operations in which he had treated cases of tubal pregnancy by salpingotomy and restoration of the tube instead of by resection, he was not aware, however, of any previous report in which there had been definite evidence of subsequent uterine pregnancy through the restored tube

Mr ALECK BOURNE pointed out the possible danger of the conservative operation, and gave details of a case in support of his view

Dr J P HEDLEY described an unusual case of chorion-epithelioma, and exhibited a specimen of the tumour

Dr J D BARRIS reported a case of dysmenorrhoea due to haematometra in the rudimentary horn of a bicornuate uterus

ETIOLOGY AND TREATMENT OF JAUNDICE

A JOINT meeting of the Sections of Medicine and Surgery of the Royal Academy of Medicine in Ireland was held on January 25th, the president of the Surgical Section, Sir WILLIAM WHEELER, in the chair

Mr D P D WILKIE of Edinburgh opened a discussion on jaundice by emphasizing the value of close co-operation between physicians and surgeons One form of haemolytic jaundice was congenital, and it was the exception rather than the rule for surgeons to be consulted, though removal of the spleen in these cases was now common He had performed this operation with great success in the rarer cases of acquired haemolytic jaundice Many patients had died without any operation being performed because it had been thought that their disease was cancer, probably of the pancreas, and yet at necropsy no evidence of cancer had been found Loss of weight might be due to gall stones, which might be present without attacks of biliary pain Causes of obstruction of the bile ducts other than stone or malignant disease were discussed, including pancreatitis and cicatricial contraction following such operations as cholecystectomy When the condition of the gall bladder was favourable and the obstruction to the biliary passages could not be removed, cholecystenterostomy, and particularly cholecystogastrostomy, would give excellent results The operation of anastomosing the common hepatic duct with the duodenum was also considered The greatest operative risk was haemorrhage, which could be diminished by decreasing the coagulation time of the blood by intramuscular injections of 15 c cm of 30 per cent of sodium citrate into each buttock, preceded by a local anaesthetic The method of lowering coagulation time by injecting 5 c cm of a 10 per cent solution of calcium chloride thrice daily for three days before operation had been discarded in Edinburgh in favour of the intramuscular injection of sodium citrate Recently blood transfusion had been performed before operation, and if there was much bleeding after the operation it was repeated There was also the danger of hepatic insufficiency frequently patients did very well for the first few days after operation, about the third day they began to get worse, and coma and death followed This could be prevented to some extent by giving glucose by the mouth or subcutaneously before operation, it had been shown experimentally that the life of a dog deprived of its liver could be prolonged by giving glucose Hot packs to the liver were useful in combating post-operative hepatic shock Mr Wilkie dealt with the "white bile" which was occasionally found filling the bile ducts and the gall bladder in cases of obstructive jaundice The fluid was crystal

clear, and more like distilled water than any other fluid found in the body When the obstruction was relieved in these cases and the patient lived, biliary secretion of normal colour and constitution reappeared within a few days Coloured drawings were shown illustrating the effects of experimental ligaturing of the biliary ducts, and indicating that "white bile" was a secretion of the ducts themselves, in human subjects it sometimes continued when the activity of the liver cells was in abeyance Renal insufficiency had also to be considered

Dr T G MOORHEAD remarked that while much had been learned in recent years concerning the pathology and etiology of jaundice, no real advance had been made in its treatment He agreed with Mr Wilkie that the most important thing for the physician to do was to arrive at an accurate diagnosis in other words, he must aim at determining which patients should be referred to a surgeon and which should not Regarding diagnosis, an advance had been made by the introduction of the van den Bergh test, but this test had proved less satisfactory than was at first hoped Since the appearance of McNee's paper in the BRITISH MEDICAL JOURNAL of May 6th, 1922 (p 716), he personally had been working with the test It was at first hoped that it would enable the physician to distinguish between obstructive and toxic jaundice, but in toxic cases very variable results were obtained In genuinely obstructive cases an immediate direct reaction was obtained, and in haemolytic cases an indirect reaction In doubtful cases—just where the physician wanted help—the test failed

Dr ALFRED R PARSONS also referred to the van den Bergh test and to the modern theories concerning the formation of bile pigments from the reticular endothelial cells of the body, and expressed the hope that further experience of the test would enable physicians to distinguish toxic from obstructive jaundice In his own experience the test certainly demonstrated that the type of bilirubin found in the blood in haemolytic jaundice differed from that found in obstructive jaundice He referred to two cases of haemolytic jaundice of the familial type, which had been under his observation several years ago, who had remained in good health in spite of their condition

The CHAIRMAN then drew attention to certain practical points affecting the prognosis in obstructive jaundice In regard to post-operative oozing of blood into the general peritoneal cavity, recent work had shown that if an intravenous injection of 5 c cm of a 10 per cent solution of calcium chloride was administered for three days before operation the coagulation time of the blood was appreciably diminished With a calcium time of seven minutes or less the case was safely operable, if as long as nine minutes the surgical risk was greater Calcium lactate administered by the mouth had been shown to quicken the coagulation time of the blood, but intravenous injection was better He considered the term "white bile" a misnomer the colourless fluid secreted by the glands lining the ducts indicated hepatic insufficiency following obstruction The prognosis was bad if bile did not appear soon after the establishment of drainage in cases of jaundice, or if only a little came for a few days and then stopped A sudden flow of bile flooding the operative field in cases of obstruction gave cause for anxiety Such sudden relief of back pressure had an effect on the liver similar to sudden relief of back pressure on the kidneys The liver became engorged with blood as the result of sudden emptying of the bile ducts, and the condition known as "liver shock" might follow a few hours after operation In such cases surgeons endeavoured to decompress the liver gradually, by keeping a clamp on the tube and allowing small quantities of bile to escape at regulated intervals Sir William Wheeler next referred to the reports he had made to the Academy of Medicine on the results of the Talma-Morison operation in 1904

Dr LEONARD ABRAHAMSON said that for some time it had been believed that infectious jaundice was due to associated infection of the bile ducts, but latterly it had been found that it was septicaemic, and the mode of infection was probably the blood stream In French schools three types of jaundice were recognized (1) the definitely obstructive type, (2) the definitely haemolytic type, and (3) the toxaemic type Cases of jaundice were often seen in which there was retention of the bile pigments but not of bile salts, or in which there was retention of bile salts but not of bile pigments

Mr C J MACAULEY, Dr H MOORE, and Sir WILLIAM TAYLOR also contributed to the discussion

DIATHERMY IN LUPUS VULGARIS

A MEETING of the Royal Medico-Chirurgical Society of Glasgow was held on February 1st, with the President, Dr A MAITLAND RAMSAY, in the chair, when an account of the treatment of lupus vulgaris by the diathermy current was given by Dr MILNER, physician in charge of the radiological and electrical departments, Derbyshire Royal Infirmary After a brief description of the diathermy current and the form of apparatus used, Dr Milner explained in detail the method he employed in the treatment of lupus vulgaris The patient is placed on the condenser couch and the current turned on The operator approximates a well earthed electrode about the thickness of a darning needle to a distance of one-sixteenth of an inch from the part to be treated, when a succession of sparks passes from the patient to the electrode A general anaesthetic is essential and the danger of ether in the presence of sparks must be remembered

The area to be treated is first circumscribed by a ring of sparks, leaving about an eighth of an inch of healthy tissue around it and is then systematically cauterized over the entire surface A subsequent dressing of calamine and bismuth cream is employed A few cases are cured by one treatment, but usually two or three are necessary The resulting scar is surprisingly good and scarcely noticeable Should the scar be at all thick owing to previous treatment of the lupus with other methods, the application of x rays is effective Dr Milner had found that the most favourable case to treat was lupus vulgaris simplex, and emphasized the necessity of ensuring that every diseased part was accessible to the spark He had found the results unsatisfactory in cases where there was, in addition to the lupus, tuberculous disease of the mucous membrane of the nose mouth, or lacrymal apparatus, since reinfection of the wound almost invariably took place Lantern slides were then shown illustrating the results of treatment

The following is an analysis of cases treated—excluding all cases in which the nasal or other mucous membranes were affected with lupus

Total number of cases treated	60
Cases cured	42
Total number of operations performed on cases cured	145
Cured by one operation	5
Cured by two operations	5
Average number of operations on cases cured	3 5

The average time occupied in treatment of each case was 3 4 months In 1 case over four years had elapsed since cure was effected in 13 cases over three years in 6 cases over two years and in 22 cases under two years

Dr A BRUCE MCLEAN described the results of the treatment of a variety of cases by medical diathermy He had found the best results in the following types of case (1) Fibrositis, where definite nodules can be felt these are usually rendered painless after a few applications and often disappear in a few weeks (2) Neuritic pains and neuralgias sciatica responds well to four to six treatments of about forty minutes each (3) Arthritis, although little influence can be exerted on the disease relief of pain can nearly always be obtained (4) Circulatory disturbances particularly those in which a high blood pressure is the important factor, as the diathermy current has a marked influence in the reduction of the blood pressure (5) Gynaecological cases, for example, ovarian neuralgia dysmenorrhoea etc

Dr L STEWART in the absence of Dr J R Rudall showed a series of cases of rodent ulcer treated by the diathermy spark

Reviews.

THE EVOLUTION OF PUBLIC HEALTH

SOME seven years ago Dr George C F Williams of Hertford presented a sum of money to Yale University to found a Williams Memorial Publication Fund He himself entered the Yale School of Medicine in 1878, his father entered in 1850, and his grandfather in 1822 The fund has already published six books, and the founder may well be satisfied with the last volume to appear It is entitled *The Evolution and Significance of the Modern Public Health Campaign*,[1] and is by Dr C-E A WINSLOW, professor of public health at Yale It contains five chapters, and the substance was originally given as an address to the Gamma Alpha Fraternity of Yale University It is an excellent survey of the situation, and it is not an exaggeration to say that nothing finer has appeared since Sir John Simon's *English Sanitary Institutions*, published more than thirty years ago Professor Winslow's thin volume is a masterly survey of the rise and progress of the public health campaign in Europe—especially in this country—and in America, and also of its present position and outlook there

Reference is made to the cultivation of personal hygiene by gymnastic exercises in ancient Greece and to the establishment of public sanitation in ancient Rome, in respect of water supply, drainage, scavenging, nuisance removal, building regulations, and the safeguarding of food Then came the darkness of the Middle Ages, with their partly religious cult of bodily uncleanliness Against the great infections of leprosy and plague the only measures practised were isolation and quarantine A chapter is devoted to the scientific renaissance and sanitary awakening of the eighteenth century—to the work of Mead and Baker and Lind and Blane, the hundred years' progress culminating in Jenner's great discovery of 1796 Professor Winslow maintains, however, that the development of the humanitarian spirit was no less important than the advances in natural science Howard wrought for reform of the prisons, and the Earl of Shaftesbury for protection of workers in the factories which were taking the place of the old home industries, and especially for improvement of the terrible conditions of child labour Next came Chadwick and Southwood Smith and the Board of Health, then Simon himself, who, while he was engaged in the remedy of gross and obvious environmental evils, yet "was far-sighted enough to glimpse the deeper prevention of the present day which aims at building up vital resistance through the personal conduct of life" In the United States Shattuck's epoch-making report of the Massachusetts Sanitary Commission in 1850 followed the lines of the English sanitarians and made recommendations which went beyond some of theirs with regard to the health of school children tuberculosis alcoholism, mental disease, nursing, and the like Shattuck it appears, even recommended the teaching of preventive medicine as part of the medical curriculum, a subject which has only quite recently been required by the General Medical Council in this country He had the temerity also to advocate routine physical examination apart from illness, which so lately as 1909 was adversely commented on by our own Royal Commission on the Poor Law

Professor Winslow devotes a chapter to Pasteur and the scientific bases of prevention, and another to the golden age of bacteriology The period of empirical environmental sanitation he regards as extending from 1840 to 1890, whilst the next twenty years, down to 1910, were the period of scientific control of communicable disease under the guidance of bacteriology The final chapter deals with tuberculosis not as capable of more than very partial control on the same lines as are acute communicable diseases, but rather by fresh air and food and exercise and rest, and especially by a campaign of popular education Similarly, for control of infant mortality education of parents is, Professor Winslow holds, far more important than even the distribution of pure cow's milk, this truth had come to be realized in America when the first conference on infant mortality took place in 1909, so that the movement "became, at that meeting, consciously and definitely an educational one" With regard both to tuberculosis and to infant mortality the fight must be won "not by the construction of public works, but by the conduct of the individual life" The same thing, he holds, is true of "the burden of venereal disease, the obscure ill effects of defective eyes and ears and teeth, and a dozen other problems which in greater or less degree affect the public health" But mass methods of education by bulletins, leaflets, lectures, and cinemas are only a first step Health is a very personal matter, and here it is, as the author points out, that district or visiting nursing has its sphere But mistakes could be made School nursing, tuberculosis nursing, infant welfare nursing, and industrial nursing tended to develop as independent specialties

> "until a reaction set in against undue specialization, and there was formulated the modern ideal of a community nurse, serving a population of not over 2,000 persons, caring for the sick in their homes on a visiting nursing plan and becoming the teacher of health *par excellence*, a sort of community mother, but armed with the expert knowledge which few mothers can possess"

Another tendency is to employ the doctor for prevention, and for the examination of persons in health or in the early and incipient stages of disease—which, if it had been proposed thirty years ago in respect of school children, would have been regarded "as a highly dangerous form of paternalism"

The whole address is characterized by a rare breadth of view, by fullness of knowledge, by grasp of first principles, and by vigorous felicity of style

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COLLOIDAL THEORY OF LIFE AND DISEASE

IN his book on the colloidal theory in biology and pathology[2] Dr AUGUSTE LUMIERE makes still another attempt to express the biological significance of the newer tendencies of physical science It will be acknowledged that no subject in recent years has modified physiological thought so fundamentally as that of the physics of the colloidal state Particularly have our conceptions of the peculiar energy conditions associated with this state of matter modified the way in which many vital phenomena are regarded A few years ago the author published a book on the same subject, and the brief interval appears to have but confirmed him in the assurance with which he handles the subject We feel, however, that the book will disappoint the serious student The author appeals for a greater attention to the chemistry as distinct from the physics of colloidal systems, and proceeds to the hypothesis that the chemical properties of a colloid are determined by the adsorbed layer of soluble matter which forms the envelope of each insoluble micelle Whilst this may be a comfortable hypothesis it must not lead to the view that the colloidal matter itself is inert, for the nature of the material adsorbed is itself essentially determined by the chemical structure of the colloid It is unfortunate that the work on the chemistry of so important a group of colloids as the proteins, notably the researches of Jacques Loeb, should have been ignored The remaining contention is that every colloidal system tends by an irreversible aggregation to move towards a condition of flocculation

These two generalizations are then applied indiscriminately to biological phenomena with an *élan* which is wholly Gallic The characteristic of the colloidal system which we call life is its ability to reproduce its like by synthesis in a favourable environment Lamarck and Darwin, we are told, both mistook the effect for the cause Differentiation, growth, senility—these are discussed in relation to the main hypothesis Spontaneous generation remains a possibility, but new species, it is asserted, are little likely to arise at this stage of the world's history

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[1] *The Evolution and Significance of the Modern Public Health Campaign* By C E A Winslow Dr P H Professor of Public Health Yale School of Medicine New Haven Yale University Press London Humphrey Milford Oxford University Press 1923 (Med 8vo, pp 65 7s 6d net.)

[2] *Theorie Colloidale de la biologie et de la pathologie* By Dr Auguste Lumiere Paris E. Chiron (Demy 8vo, pp xiii + 203 illustrated)

For the rest, the author's application of his views to pathology is founded upon his experiments on the injection of insoluble matter in various conditions of aggregation Chronic conditions, from diarrhœa to anaphylactic shock, are held to be simply the result of the irritation of certain areas or nerve centres by the sudden influx of insoluble matter, which may be of foreign origin or more commonly will be the flocculated products of cell degeneration Immunity is drawn into the picture, and, in general, therapeutics is counselled to study the desensitization of the cell colloids to insoluble matter

Some readers may find inspiration in these pages, but, for ourselves, we have been left with the impression that liberties have been taken with problems whose secrets will not be disclosed with any such skeleton key as that designed in this book.

A BELGIAN CANCER JOURNAL

Le Cancer[1] is a new quarterly journal published in Belgium Its sponsors have come to the conclusion that there are a sufficient number of workers in cancer research laboratories and hospitals in Belgium to justify a periodical exclusively devoted to them, a periodical which will faithfully reflect the various aspects of the campaign against cancer and which will co-ordinate and unify the efforts of laboratory workers and clinicians (This translation from the preface has a familiar sound) They make the reassuring statement that "*ce journal n'est pas l'organe d'un groupe fermé de chercheurs*" On looking over its pages, however, we are struck by the fact that there is not a single article contributed by a laboratory worker, all, in fact, excepting possibly that of the editor himself, are by members of the staff of the Radium Institute of the Belgian Red Cross, and deal exclusively with the technique and practice of radiotherapy

The first article, by Professor A BAYET of Brussels, is a reiteration of his familiar views that tar-workers' cancer is the result of an arsenical intoxication Professor Bayet is a distinguished dermatologist, and he has been impressed by the supposed parallelism between tar cancer (including in that term pitch, soot, paraffin, and probably aniline cancer) and chronic arsenicism In both classes the cancer develops on a keratosis, it frequently affects the scrotum it is often multiple, and the patients generally are younger than the average age for epithelioma This parallel can only be drawn from a prejudiced view of the actual facts and is not borne out by the more extensive experience of such cases in this country He, or rather his chemical colleague Professor Slosse, has been able to detect arsenic in tar and in the tissues and excretions of tar-workers How many varieties of coal tar they have examined is not stated The method adopted, which is said to be capable of detecting a ten-thousandth part of a milligram in one gram of substance, is that of Stzyzowsky Whether the method gives a sharp end-point or not is not known, but it has been objected that some specimens of coal tar contain practically no arsenic detectable by any of the usual methods This Professor Bayet brushes aside with the reply that extremely minute quantities absorbed over a long time are quite sufficient to cause the general intoxication The cancer, according to him, is merely a local expression of a general disease This conclusion is not in accordance with observed experimental facts

Forty pages are devoted to an exposition by Drs Delporte and Cahen of the technique of radium treatment of cancer of the uterus They state that they have given up the surgical treatment of this affection, but no figures of their previous operative results are supplied by which others may judge of the improvement in their hands The cases they record here are all of too recent a date to justify their claim that the results are comparable with those of surgery The same may be said of the other papers, which contain nothing novel It is a misfortune which has attended all the supposed advances in technique in radiotherapy—"cross-fire" methods, deep therapy, and the rest—that enthusiastic devotees, after a brief experience of a new method, have a tendency to publish early reports of cures instead of waiting until a calm judgement can be made

[1] *Le Cancer Journal Belge d'Etudes Cancérologiques* Publié sous la direction du Professeur A Bayet 1re année No 1 15 Novembre 1923 (Pp 90 Brussels. Fr 18)

THE WESTERN FRONT, 1914-1915

[SECOND NOTICE]

IN the first notice published on February 9th (*p* 238) of the volume of the medical history of the war dealing with the medical services on the western front,[1] we dealt chiefly with certain matters of principle raised in the introductory chapters, in which Sir William Macpherson took the opportunity of making something of the nature of a general survey of the kind of work the medical services had to perform, we then ventured to express our regret that he had not found himself in a position to write more at length on the varying situations with which they had to deal, and on the administrative and executive problems which arose We must now refer to some matters of detail upon which there is more room for differences of opinion, but it will be understood that any criticisms we venture are made in the interests of military medicine, and are in no way intended to detract from the great value of Sir William Macpherson's work, nor, we may add, from the great importance which will be attached to any opinion he has expressed

In the chapter on administration the appointment of consultants is recorded, and a good many are mentioned by name We note that both here and in the index Sir Anthony Bowlby is put down as having been appointed consulting surgeon of base hospitals, with his headquarters at Etaples, and that Mr Alexis Thomson of Edinburgh figures as Colonel H A Thompson Some of the consultants mentioned by name occupied their posts for so short a time that their presence hardly became generally known, and not mentioned at all is the name of a surgical consultant who influenced the surgery on the western front to a greater extent perhaps than any of his compeers other than Sir Cuthbert Wallace and Sir Anthony Bowlby himself, it may be noted that throughout the book no definite rule seems to have been followed in the matter of mentioning or omitting the names of the persons concerned in the events recorded

We should like to have heard rather more of the work performed by field ambulances when out of the line, or in times when the front was quiet Not all that they did seems to be mentioned in the summary of their work in the early part of the volume In a future volume we may perhaps also learn more of the work of battalion medical officers The impression gathered from what is said about them is that they always remained near battalion headquarters Yet we remember a time when steps had to be taken to prevent their accompanying their battalions over the top In this connexion it may be mentioned that from time to time the number of casualties among R A M C officers is recorded In a future volume the exact circumstances in which these casualties occurred may perhaps be shown It would be a useful guide as to how far man strength of such a highly specialized character as medical officers might perhaps be lessened

The difficulty experienced in obtaining an adequate supply of medical officers receives notice We should much like to have found an expression of Sir William Macpherson's opinion on the debated question whether War Establishment regulations correctly estimated the medical officer needs of base hospitals it is rather an important matter for the future After an early date in 1915 few medical units were up to regulation strength, and at one period not more than 10 per cent of the actual strength consisted of regular officers, this latter circumstance can hardly have been peculiar to the medical services. Reference is not made to the problem presented by the fact that so many medical men sent out to France were specialists of one kind or another, and resented no

[1] *History of the Great War based on Official Documents* Medical Services General History Vol II *The Medical Services on the Western Front and during the Operations in France and Belgium in 1915 and 1916* By Major-General Sir W G Macpherson K C M G C B I L D Lond (His Majesty's Stationery Office 1923. (Demy 8vo, pp 500 Illustrated 21s. net.)

being employed in the sort of work for which they considered themselves best fitted Only little by little did they realize that in an expeditionary force the opportunities for employing specialists other than surgical specialists are relatively few, and that the great need of an army in the field is for men ready to do any work that happens to be going This is the great advantage gained by the training R A M C officers undergo We recall in this connexion the case of an officer who had distinguished himself at a base laboratory, distinguishing himself equally when sent to take charge of the medical work of a division There were, indeed, so many examples of the same kind that no doubt whatever need be felt of the value of the special education to which R A M C men are submitted

There are only one or two references to whether units were formed of regulars or otherwise But it is stated that early in 1915, "consequent upon the danger of reducing the number of regular officers in units, especially in the front line units," instructions were given that all units must have a certain proportion of regular officers We should like to have had further information about these instructions and to have learnt whether it was eventually found possible to comply with them We are inclined to think that frequently compliance could not have been possible

Three Territorial field ambulances of the 8th Division took part for the first time in a major military operation at Neuve Chapelle, on the second day of the battle these ambulances had occasion to get their stretcher-bearer personnel reinforced by some men from an ammunition column and other sources, and on the third day further reinforcements were sent from a reserve regiment at General Headquarters, together with a party from an unemployed casualty clearing station belonging to the Second Army This course Sir William Macpherson considers to have been justified in the circumstances, and he records in his account of the battle that the field ambulance of the Meerut Division had to ask for assistance from the Lahore Division The statistics of this battle show also that, of the total number of casualties handled by all the field ambulances, no less than 50 per cent were handled by the three Territorial field ambulances in question In addition to dealing with the wounded of their own division, circumstances obliged them to collect a number of those belonging to the 7th Division In commenting on this Sir William Macpherson remarks that it was unusual for application to be made for assistance from outside the division whose wounded was concerned, and adds that it was never repeated in any subsequent battle In this connexion it should be noted that in later battles it became the practice, as shown by the historian in an earlier chapter, for army commanders to provide the medical service with extra personnel drawn from various sources in anticipation of their needs—and especially stretcher-bearer needs—during the progress of any formal battle

The accounts in the last twelve chapters of the work during battle operations, and the intervals between them, vary a good deal in quality In some so much detail is given in respect of the names of the divisions and smaller formations taking part in the battle that the general picture is somewhat obscured, and a reader not otherwise acquainted with matters might find it difficult to appreciate exactly what was the situation with which the medical units had to deal In others the description supplied is admirably clear, and in all cases the reader's task is rendered relatively easy by maps showing the disposition of the medical units In these, however, the strictly technical student will miss any indication of the place from which the D M S concerned controlled the units under his command This is always a point of interest and in a future volume it will probably be shown that in 1918 the distance of a certain D M S from his true front enormously handicapped him in extricating his casualty clearing stations from the difficulties in which a rapid retreat had involved them

The troops on landing marched to camps always on elevated ground and sometimes as far distant as six miles The equipment of each man which was said to weigh over 5 st, included 200 rounds of ammunition Many of the men were reservists just mobilized, naturally, therefore, there were a good many admissions to hospital The historian notes that the hospital records do not show many of these cases to have been serious, but the effects of strain in an untrained man are sometimes not immediately revealed Why the Army Council, or whatever authority was concerned, should think it necessary to land men in an allied country at least 100 miles from any fighting, carrying a full supply of ammunition in addition to their other equipment, is a conundrum left unsolved Also unsolved is the riddle of why the Army Council ever believed that in the event of matters necessitating the actual employment of the permanent Expeditionary Force it would be possible still to depend on the old system of trusting that empty supply wagons would suffice to fill the gap between railheads and the main dressing stations of field ambulances The fallacy of doing so was speedily discovered, and the steps taken to right matters are well described

As for the use of motor ambulances, an impression is left that the historian thinks that the D M S might have employed them in the battle of the Aisne earlier than he did But it is not clear that he had any actually available at the moment, and it is shown that, very shortly before he sent any up, opinion at the front was divided as to whether the condition of the roads would permit of their use Even at a much later date doubt as to the advantage of using them seems to have been expressed by an observer sent out to report on the medical services by Lord Kitchener

In the initial stage the casualty clearing stations (which were intended by the regulations to be, and eventually became, the mainspring of the whole of the medical arrangements) practically did not come into operation, and the historian records that the D M S mentioned in his diary that they were too unwieldy and ordered them to be ready to move with light equipment only This fact is of some historical interest since at a later date the equipment of a casualty clearing station was enormously increased, but is it not also of historical interest that at a still later date the casualty clearing stations were again ordered to reduce their equipment? The real fact is that both the needs and the utility of casualty clearing stations are liable to great variation For instance, there were, we believe, moments when the casualty clearing stations and the base hospitals had practically, though not in principle, exchanged function There were also moments when casualty clearing stations practically replaced the main dressing stations of field ambulances, and others when a main dressing station was doing work properly belonging to a casualty clearing station Finally, there was at least one occasion on which a main dressing station, doing very active work as such, was in point of position in the rear of certain casualty clearing stations on the same sector of the front

It has sometimes been said that the best way to prevent railway accidents would be to make a railway director travel with each train, and it appears to be a fact that the establishment of dentistry as part of the ordinary work of the medical service of a British army in the field was initially due to a dentist having to be fetched from Paris to attend to an army commander just when all his energies were required for the battle then in progress

One of the flashlight pictures by which the narrative is vitalized describes the death of Miss Climie, a Territorial sister During an air raid she sat by the bedside of a nervous patient keeping him soothed by singing to him A bomb fell in the ward and she, but not her patient, was killed Another flashlight shows two snipers firing from a house at some stretcher-bearers carrying men into an adjoining house used as a regimental aid post at the battle of Loos One of its normal inhabitants, a French girl aged 17, who had already been assisting to feed the wounded, seized a revolver, and, making her way into the snipers' house by the back door, fired two shots which either actually killed them or, by creating a diversion, enabled them to be otherwise disposed of

The introduction of helmets was due to observations made by the D G M S on a visit to the medical services of the French army soon after his arrival The French at this time were already using helmets, and also employing advanced operating stations

To sum up, it should be stated that though in view of its

importance as an official history it has been thought right to mention certain weak points in the volume, no reader of this review should conclude that it is otherwise than a most able piece of work Its compilation must have necessitated immense industry, and on the plan adopted probably no one but Sir William Macpherson could have created so satisfactory an edifice Judged even as an epitome of innumerable epitomes it would be hard to beat

NOTES ON BOOKS

THE greater part of the space of the new number of *Brain*[5] is occupied by a monograph on speech and cerebral localization, written by Dr Henry Head It contains four chapters, the first deals with what is meant by localization of function, the second with the functions which are disturbed by a local lesion of the brain which affects speech, and the third with the anatomical site of the lesion in some traumatic cases of aphasia In the fourth chapter the general conclusions are set out These chapters occupy some seventy five pages A series of cases is given in an appendix of nearly a hundred pages

An addition has recently appeared to the Students' Aid Series, *Aids to Practical Pathology*,[6] by Dr F W W GRIFFIN and Mr W F M. THOMPSON The aim of the series is to supply information in a concise and concentrated form, "predigested," so to speak, and easily assimilable If arguments and explanations of theory are omitted, the essential facts of most of the subsidiary medical sciences can usually be collected within a small compass, though it must be admitted that this judicious pruning deprives the subject of much of the interest that a more discursive book possesses A very large number of laboratory tests have been devised to assist the physician in the diagnosis and treatment of disease, and the practising clinical pathologist would require to possess an encyclopaedic memory were he to retain in his mind the details of many of the elaborate investigations he may be called upon to perform *Aids to Practical Pathology* aims at supplying this information as briefly as possible The book is divided into six sections and deals successively with bacteriological methods examination of urine, blood, puncture fluids, faeces, gastric contents, human milk, and histological methods Whilst the greater part of the book is, of course, a summary of tests described in larger books or scientific papers at least two original methods are described—one for the direct and the other for the indirect volumetric estimation of glucose and lactose in the urine Many recent methods of practical pathology, such as the Sigma reaction of Dreyer and Ward, are incorporated, and we are glad to notice that some both new and old, are omitted There is a good index The authors state that it has been their object to produce a book which will "fit the pocket or the laboratory bench rather than the library shelf" We cannot pretend that a pathologist would be completely equipped for all the emergencies of his practice with this small volume safely in his pocket, but to those who have room for it in that receptacle we commend it as a likely friend in the hour of need

In his little book on *Haematology in General Practice*[7] Dr A KNYVETT GORDON has endeavoured to supply the general practitioner with the means of recognizing and appreciating certain changes in the blood After chapters dealing with the biology of the blood cells, equipment, technique, and the normal and pathological forms of blood cells, the rest of the work is devoted to a very brief account of diseases of the blood, acute pyrexial diseases, chronic bacillary and coccal infections, certain wasting diseases such as tuberculosis and carcinoma, and parasitic diseases, including malaria, relapsing fever, and worms The final chapter gives an account of certain blood tests The book is written in an attractive style and contains some shrewd observations Two minor points call for criticism On page 68 Dr Gordon falls into the common error of using 'rubeola' instead of "rubella" as a synonym for German measles, on the same page it is said that whooping cough is the only common disease (except lymphatic leukaemia) in which the combination of a total leucocytosis with marked predominance of lymphocytes is present, but the same association occurs also in mumps The work serves to show the importance of haematological investigations, but we much doubt whether it will enable the hitherto inexperienced practitioner to carry out the examinations for himself

In their book on the diagnosis and treatment of sciatica[8] Professor H ROGER and Dr GASTON AYMÈS provide an exhaustive review of a subject which they have studied not only at the neurological clinic of Marseilles, but obviously also in the medical literature of most countries Among other things they deal at some length with simulated sciatica of which there seems to have been a good deal in France among soldiers during and subsequent to the late war The effective treatment of sciatica is often a matter of such difficulty that the possibility of lighting in this book on a useful suggestion in any given case is worth bearing in mind

The forty third volume of the *Transactions* of the Ophthalmological Society of the United Kingdom has recently appeared[9] The principal item, occupying some 400 pages, is a full report of the congress held by that society in London during the last week of April, 1923 After this come reports of proceedings of affiliated societies—namely, the Oxford Ophthalmological Congress, the Midland, the North of England, and the Irish Ophthalmological Societies, the Scottish Ophthalmic Club, and the Ophthalmological Society of Egypt The volume is well printed on good paper and excellently illustrated, many of the pictures being in colour

[5] Vol xlvi Part IV London Macmillan and Co New York The Macmillan Company 1923. Yearly subscription 21s net. Price per part 6s

[6] *Aids to Practical Pathology* By F W W Griffin M.A M.D., B Ch Cantab M.R C S Eng. L.R C P Lond and W F M Thompson Students Aid Series London Baillière Tindall and Cox. 1923. (Fcap. 8vo pp x + 246 8 figures 4s net.)

[7] *Haematology in General Practice* By A. Knyvett Gordon B.A. M B. B Ch Cantab London Baillière Tindall and Cox. 1923. (Cr 8vo pp vii+100 3 plates 5 figures. 5s net.)

[8] *Diagnostic et Traitement des Sciatiques* By Profes or Henri Roger and Dr Gaston Aymès Paris A. Maloine et Fils. 1923 (Imp. 16mo pp. 464 15 figures Fr 8)

[9] *London J and A Churchill* 1923 (Demy 8vo pp 111 + 721.)

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A New Bismuth Preparation for Intramuscular Injection

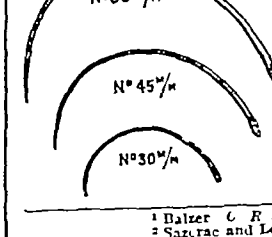
THE treatment of syphilis by intramuscular injections of bismuth was tried by Balzer[1] as long ago as 1889, but this use of the metal has only been established recently as the result of the investigations of a group of French workers Sazerac and Levaditi[2] showed that intramuscular injections of bismuth cured rabbit syphilis, and they also showed that the curative dose (0 05 gram per kg) was about a quarter of the minimal lethal dose (0 2 gram per kg) when the drug was given intramuscularly They found, however that bismuth was highly toxic when given intravenously for the minimal lethal dose was 0 005 gram per kg Fournier and Guinot[3] treated 200 cases of syphilis with bismuth injections and found that the drug was effective in all stages of human syphilis The general result of this and later work has been to show that bismuth has an action intermediate between neo salvarsan and mercury Bismuth does not affect the Wassermann reaction so powerfully as neo salvarsan, but in some cases it has proved effective after neo salvarsan has failed

There seems hope that bismuth may prove to be a more efficient remedy than mercury in the later stages of syphilis but unfortunately bismuth resembles mercury in sometimes producing stomatitis and enterocolitis and the injections are frequently painful Most of the work referred to above has been done with potassium and sodium bismutho tartrate and the dose employed has been 0 1 to 0 2 gram

Messrs Burroughs, Wellcome and Co have now put on the market under the name Bismeol a cream for intramuscular injection containing 0 15 gram of metallic bismuth per cubic centimetre Examination with the ultramicroscope shows that this cream contains the metal in an extremely fine state of subdivision, and that the particles are of remarkably uniform size and equally distributed in the base The dose recommended is 1 c cm of the cream

Needle for Intramuscular Injection

Dr C BURGOYNE PASLEY chief surgeon of the Federated Malay States Perak writes to recommend a needle which he has found exceptionally useful in performing various anastomoses The needle is a fine round bodied intestinal pattern with a large eye It is similar in shape to a half circle needle but the after part is somewhat straighter making it more convenient to handle and less liable to break when gripped with a handle holder The needle has been manufactured to his design by Messrs Allen and Hanburys Ltd



[1] Balzer *C R Soc de Biol* 41 Ser 1889

[2] Sazerac and Levaditi *Ibid* 85 Ser 1922

[3] Fournier and Guinot *Ibid.* 85 Ser 1922

Nova et Vetera.

THE MURDER OF SIR THOMAS OVERBURY

THE case of Sir Thomas Overbury, uniting as it does the horrible and the grotesque, has inspired many authors, its attraction is indeed mainly dramatic, or melodramatic, but in the story, as recorded in the trials of the murderers, a few details are of medical interest

The leading facts of the case are clear enough Overbury was the "ghost" of James I's favourite, Robert Carr, Earl of Somerset, and had incurred his enmity Whether Somerset was wholly a tool in the hands of Frances Howard, Countess of Essex, whose remarriage with Somerset Overbury had opposed, or whether, as Bacon implied in his speech for the prosecution at Somerset's trial, Overbury had blackmailed Somerset ("and certainly, my Lords," said Bacon, "howsoever the tragical misery of this poor gentleman, Overbury, might somewhat obliterate his faults, yet, because we are not upon point of civility, but to discover the face of truth, before the face of justice, for that it is material to the true understanding of the state of this cause, Overbury was naught and corrupt, the ballads must be mended for that point") is not certain It is at least established that a conspiracy to murder Overbury was formed which, save for the fact that it was actually carried out, we should regard as the plot of a melodrama composed by a boy in the fifth form

The first act of the melodrama was to lay Overbury by the heels in the Tower The King was trapped into nominating him ambassador to Muscovy, and he was trapped into refusing to go It was then quite easy to move the King to commit him to the Tower for insolence Overbury being a prisoner, the next step was to replace the Lieutenant of the Tower by a creature of the Somersets who should hand over his prisoner to the care of the Somersets' familiars, Robert Weston and Anne Turner These two, with an apothecary, James Franklin, were the actual agents of the murder According to the confession of Franklin, the number of poisons tried, or at least talked about, was enormous, and, considering the pains which had been taken to segregate Overbury, the conspirators might have been more rapid in the act But actually they took five months to do the work, and the clinical history of the case is that of many more recent homicides by irritant poison The first administration was on May 9th, 1613, when Weston "did obtain and get into his hands certain poison of green and yellow colour, called *Rosalgar*"* which he mixed with Overbury's broth This dose made Overbury very sick ("wrought very vehemently with him by vomits and extreme purging") On June 5th Lord Somerset himself is said to have tried his hand in a letter—"in the letter he sent him a white powder, willing Sir Thomas to take it it will (quoth he) make you more sick, but fear not, I will make this a means for your delivery, and for the recovery of your health Sir Thomas Overbury, never dreaming of base treachery, but conceiving it as a friendly policy, received the said powder, which wrought upon him more vehemently, whereupon his sickness grew more vehement or violent, and his languishment increased"

Even in such a melodramatic coil, this incident seems incredible Somerset at his trial admitted sending a powder but asserted that it was an emetic given him by Sir Robert Killigrew and sent *bona fide* Killigrew gave evidence that he had supplied Somerset with vomits for his own use, but that he never heard that Somerset proposed to send one to Overbury, and in any event had only given Somerset three such powders The prosecution claimed to have traced all three of these, and Franklin (the apothecary) "saith that he provided a white powder which was poison, for my Lady called it Arsenick, which, as my Lady did afterwards tell him, was sent to Sir Thomas Overbury in a letter" On July 1st Weston administered white arsenic, in what circumstances does not appear, and on July 19th Overbury "as men sick desire luscious meats, desired tarts and jellies, which were provided by Mrs Turner, with the knowledge of the said Countess and sent unto him, of which he did eat, the which tarts were poisoned with Mercury Sublimate, not being so well coloured as other tarts are, and Weston confessed that he was straitly charged not to taste thereof" This incident was admitted by both Earl and Countess, the Earl only claiming that none of *his* tarts were poisoned, only those sent by the lady

Still Overbury lingered, "languishing with the extremity of sickness," but at the middle of September the last act was prepared, with the help of the apothecary an enema of mercury sublimate was concocted and "upon the 7th day of October,† after the receipt of the clyster he fell into a great extremity of vomiting and other purging which left him not, till it caused his soul to leave his poisoned body" The corpse was covered with "blains and blisters" (Paul de la Bell "saith that on the 3rd July he made Sir Thomas Overbury a bath by Dr Micham's advice, to cool his body, and that he saw his body very exceeding fair and clear, and again, he saw his body (being dead) full of blisters, and so consumed away as he never saw the like body") and it was given out that Overbury died of the French pox

All the subordinate actors in the melodrama were hanged, the only one who made a fight for his life was the Lieutenant of the Tower, Sir Jervis Elvis Vile as he was—by his own confession—one has a sort of admiration for the man who with the evident shadow of the gibbet over him could stand up to the bullying Lord Chief Justice Coke and say "My Lord, you have not observed your own rules in my cause, you have paraphrased upon every examination, you have aggravated every evidence, and applied it to me, so that I stand clearly condemned before I be found guilty if I be so vile a man as your lordship conceives me, I were unworthy of any favour, but I hope your lordship shall not find it"

Anne Turner, the go-between of Somerset and Lady Essex and the purveyor of the poisoned tarts, had a little additional odium cast upon her by a suspicion of witchcraft, and a search of her effects provided a thrill in court "There was also shewed in court certain pictures of a man and woman in copulation, made in lead, as also the mould of brass, wherein they were cast, a black scarf also full of white crosses, which Mrs Turner had in her custody At the shewing of these, and inchanted papers and other pictures in court, there was heard a crack from the scaffolds, which caused great fear, tumult, and confusion among the spectators, and thro'out the hall, everyone fearing hurt, as if the devil had been present, and grown angry to have his workmanship shewed, by such as were not his own scholars, and this terror continuing about a quarter of an hour, after silence proclaimed, the rest of the cunning tricks were likewise shewed" But she had none of Elvis's pluck, and without demur suffered the Lord Chief Justice to describe her as a whore, a baud, a sorcerer, a witch, a papist, a felon, and a murderer

In sentencing Weston, Chief Justice Coke was at some pains to impress upon him that "the great flies shall not escape, but receive their punishment"—Weston had said he feared "the net was laid for the little fishes, and that the great ones would break through"—but the Lord Chief Justice was wrong and the criminal right After five years in the Tower, it was ordered "that the Earl of Somerset and his lady do repair either to Grays or Cowsham, the Lord Wallingford's houses, in the county of Oxon, and remain confined to one or other of the said houses, and within three miles compass of either of the same, until farther order be given by his Majesty"

Although the accounts of the murder are so circumstantial and there is sufficient corroboration of the details, one point remains obscure—namely, how it came about, considering the clumsiness of the means, that Overbury did not suspect he was being poisoned Many letters were put in evidence showing that he had detected Somerset's malice in both bringing him to the Tower and keeping him there, and these letters breathe very intelligible threats of exposure Further, as some of the depositions quoted above prove, Overbury was not absolutely segregated Yet he never seems to have said or suspected that his illness was not natural

* Rosalgar is one of the many forms of the word usually spelt realgar, arsenic disulphide (As_2S_2).

† This is the statement in Weston's trial but apparently September 15th was really the date of Overbury's death

British Medical Journal.

SATURDAY, FEBRUARY 16TH, 1924

THE TREATMENT OF ANTERIOR POLIOMYELITIS

THAT the diffusion of knowledge as to the early treatment of anterior poliomyelitis is most desirable can hardly be too much insisted upon at the present time The necessity for preventing deformities in the victims of this disease is not yet fully realized, and on these grounds we welcome the paper by Mr Harry Platt on early mechanical treatment, published at page 266 As he frankly confesses, there is little that is novel in his suggestions, but they are none the less valuable, seeing that it is to be feared that previous warnings have not been entirely effectual Surgeons seldom have any opportunities of treating cases of this disease in its early stages, before the appearance of contracture, when the orthopaedic surgeon first comes in contact with them much valuable time and effort, which mean money either to the parents or the public authorities, must be expended in correcting deformities that should not have been allowed to come into being

Mr Platt's summary of the symptomatology, diagnosis, and early treatment is concise but comprehensive, and it should be of great value to all practitioners who may at any time be called on to diagnose and treat a case Above all, it is important to emphasize the teaching that in the acute stage any active measures can do nothing but harm, and that rest and restraint are the principles on which to act

Only in a few parts of this country has the treatment of cripples been sufficiently well organized to make it probable that any moderate epidemic of poliomyelitis could be promptly dealt with, no such organization exists in the great towns or in the country generally so that a really great epidemic would find us but ill prepared to deal with it This is not an imaginary danger We know that in Sweden and Norway in 1905 there was an appalling number of cases in proportion to the population, and in Germany and Austria in 1909 there were more or less localized epidemics, amounting in the one case to more than 500 and in the other to 1,000 cases In the Eastern and some of the middle States of the United States tremendous epidemics have occurred, to which our own little outbreaks are as nothing Thus in 1916 in New York City and State there were 13,223 cases, with a mortality of more than 25 per cent The conditions that render possible these great calamities are not known, but it is clear that, since they have occurred in places as far south as the latitude of New York, as far north as the Scandinavian peninsula, and as far east as Silesia, in countries whose summer climates do not very widely differ from our own, the barrier that protects us from them is probably frail, and one easily to be broken through Therefore, while there is yet time we should set our house in order and see to it that as far as it is possible provision should be made for the early treatment of cases, and the profession be well informed as to the best measures to take to ensure that the immediate effects of the infection are as much as possible minimized, and to prevent the development of contractures

The letter from Mr Muirhead Little, also published in this issue (p 292), would seem to suggest that at the other end of the long course of treatment of these palsies it is essential to look ahead before resorting to radical surgical operations to remove an apparently useless limb He is led to believe—and he is in a particularly good position to form an opinion—that amputation of the thigh in cases of extensive infantile paralysis is being performed much more frequently than was the case some years ago He gives good reasons for asking surgeons to hesitate not once or twice before resorting to this method of treatment, but to give very full consideration to what can be done afterwards, and to form a clear estimate of the limitations of prosthetic surgery

HOMOEOPATHY AND THE "E.R.A." CULT

As we indicated on February 2nd (p 206), the 'E.R.A.' cult makes a special appeal to homoeopathists, because it claims that both diseased tissues and drugs give out electronic emanations, and that drugs can cure disease by giving out emanations of the same kind as those produced by disease This theory supports the tenet that "like cures like

Two reports[1] have recently been published describing the investigations made by Dr W E Boyd dispensary physician to the Homoeopathic Dispensary for Children, and radiologist to the Homoeopathic Hospital, Glasgow He began by making experiments with Abrams's apparatus The first, and perhaps the most interesting, conclusion arrived at by Dr Boyd was that Abrams's fundamental theories were fallacious Abrams measured the action of the emanations from a drop of blood by means of electrical resistances interposed between the drop of blood and his medium, and by means of readings from these resistances the followers of the E.R.A.' cult make the drop of blood tell them the age, sex, race, religion, and diseases of the person from whom it came Dr Boyd however, concluded that these miraculous resistances did not act as resistances at all, but rather as a form of wireless receiver Undeterred by his discovery that the basic theories of the E.R.A. cult were fallacious, Dr Boyd went on to elaborate a machine of his own, the 'emanometer' This consists of a receiver or inductance which receives the emanations with an adjustment by which the length of coil in circuit can be varied and measured The apparatus is connected with another individual, a medium on whose abdomen the reactions are tapped out just as is done by the 'E.R.A.' cult

Dr Boyd claims that disease and even sex can be diagnosed by his 'emanometer' and that homoeopathic drugs also produce specific emanations which can be measured He states (Second Report p 20)

That our drugs record in the highest potency is unquestionable to those who have over a period personally investigated these methods" As a proof of this he gives a series of emanometer readings obtained with potencies of sulphur of 30c, 200c, 1m, 10m 50m and cm.[2] This is really the most important claim he makes for he states that by measuring the emanations from diseased tissues and from drugs the correct remedy can be found for each disease, moreover the readings from these high dilutions are put forward as evidence

[1] (1) *Recent Research on the Relation of Certain Electrical Phenomena to Homoeopathy With Special Reference to the Work of Dr Abrams of San Francisco* October 1922. (2) *The Relation of Certain Electrical Physical Phenomena to Homoeopathy (Second Report) with Special Reference to the Emanometer* October 1923 By W E Boyd M.D. Published by John Bale Son and Daniel not printed from *The British Homoeopathic Journal*

[2] As to the meaning of these signs it would appear that c means a hundredfold dilution and m a thousandfold 30 therefore would mean a hundredfold dilution thirty times 10m a thousandfold dilution ten times and cm a thousandfold dilution one hundred times

that homoeopathic drugs can produce an action even in infinitesimal doses

Those who are unacquainted with the terminology of homoeopathy will probably fail to realize the full nature of Dr Boyd's claims, but these are sufficiently remarkable to repay the trouble of a few simple calculations The mind cannot grasp the figures which his higher dilutions involve, but we may consider the lowest potency or dilution with which he experimented—namely, sulphur 30c This preparation is obtained by diluting a 1 per cent suspension of sulphur one hundredfold, and repeating this process twenty-eight more times, the final product, therefore, contains one part of sulphur in 10^{60} parts of fluid As long ago as 1853 Sir James Simpson of Edinburgh made some interesting calculations,[3] and found that this thirtieth dilution meant that one grain of the drug was present in a bulk equal to several hundred spheres, each with a radius of the distance from the earth to the nearest star Hahnemann presumably believed that matter was infinitely divisible, but the molecular theory of matter has created a serious difficulty for homoeopathists One gram-molecular weight of any substance (for example, 64 grams of sulphur) contains about 7×10^{23} molecules, this is a large number, but it is far too small for the homoeopathists, for twelve of Hahnemann's dilutions would leave less than a molecule of drug in a dose

Electrons do not afford any substantial help to the homoeopathist, for there are only a limited number of these in an atom, an atom of sulphur, for instance, only contains 16 electrons, and we calculate that Dr Boyd's "sulphur 30c" would contain about one electron in a sphere whose radius equalled the distance from Venus to the sun Scientific investigations have shown that drugs can act on animal tissues in remarkable dilutions—for example pituitary principles have been found to act on the isolated uterus of the guinea-pig in dilutions approaching 1 in 100,000,000,000, but at this dilution there would be hundreds of millions of molecules of drug in a drop of fluid, and such a fluid would be stronger than the sixth potency of the homoeopathist

Homoeopathists therefore, do not merely deny the teachings of rational medicine, but they ignore also the fundamental laws of chemistry and of physics, and their attempt to explain their theories by evoking the action of electrons suggests that they have a rather hazy acquaintance with recent advances in physics

It is amusing to note that in the middle of last century the homoeopathists of the day made a very similar attempt to defend their theories by an appeal to physics Sir James Simpson (*loc cit*) gives a full account of the 'magnetoscope' invented by a Mr Rutter in 1851 This appliance consisted of a ball of sealing wax hung from a brass knob and suspended over a dial An operator or medium grasped the knob with his right hand and the substance to be tested was placed in his left hand A lady's hair, handkerchief, or writing caused a characteristic deflection of the ball, and the same effect was produced when the medium held a copper wire 500 feet long and a woman touched the other end The magnetoscope was really a feeble forerunner of Abrams's inventions and, like these, it was seized on by the homoeopathists Homoeopathic drugs when put in the medium's hand, it was alleged, caused movements of the ball each drug caused its own particular kind of movement, and drugs with opposite actions caused movements in opposite directions, and—most remarkable of all—dilution made no difference Arsenic was demonstrated in the 40,000th potency, though how this dilution was obtained we cannot guess

The leaders of homoeopathy went into ecstasies over the new revelation, and Dr Quinn lamented that Hahnemann was not still living to see the triumphant proof of his doctrine that medicines produced actions even in infinite dilution Unfortunately their joy was short-lived, for a few months later the chief investigator, with uncommon honesty, publicly announced that he had been deceived, and that the whole business was a fallacy He stated that the movements of the ball were due to subconscious movements of the operator, and that when the latter did not know what was being put into his hand no results could be obtained

This was, of course, the final blow to the magnetoscope, but homoeopathy has survived to dally with the electronic reactions of Abrams

[3] *Homoeopathy Its Tenets and Tendencies* By J Y Simpson, M D 1853 Edinburgh Sutherland and Knox

THE RESPONSIBILITY OF THE INSANE

Dr JOHN WARNOCK, until recently director of the Lunacy Division of the Ministry of the Interior, Cairo, has contributed to the *Fortnightly Review* for February an article on the responsibility of the insane The author is particularly well qualified to write on this difficult problem from the medico psychological point of view, because not only is he an experienced psychiatrist, but he has acted as expert medical adviser in many hundreds of cases of criminal lunacy His arguments are based upon the view—which accords with that held by all modern psychopathologists—that the theory of partial or limited insanity is untenable The mind, as Dr Warnock contends, functions as a whole and is disturbed as a whole A delusion is not merely a disorder of intellect, but it is the expression of affective and conative disturbances as well it is the outward sign of a mental disorder which impairs the functions of the mind generally, just as in scarlet fever the spots are of little importance compared with the pathological processes going on in the organism as a whole In the face of such considerations it is impossible, Dr Warnock holds, to declare that any act of a lunatic may not be related to his insanity, or that his appreciation of right and wrong may not have been affected by his insanity He suggests, therefore, that as it is not practicable in every case to show how or whether the insanity affects the lunatic's views about his acts (as the lawyers require in order to settle the question of responsibility), the only safe course is to fall back on a practical rule based on experience, offered by the medico psychologists, that insanity and irresponsibility should in practice be considered coextensive

This suggestion, that all lunatics should be held not responsible for their acts, though not accepted by a great number of lawyers, would probably be accepted by most psychiatrists, indeed, as the author points out, mental hospitals are to day conducted on this principle It may be suggested, however, that while the adoption of this principle would solve many difficulties which the problem of responsibility for crime in disordered mental states now presents, there still remains the difficulty of giving an adequate definition of what is meant by the terms "lunacy" or "insanity" There are many persons who exhibit distorted or unstable attitudes who are "uncertifiable," and to whom the description of "lunatic" would be inappropriate, yet who are liable, on account

of their distorted or unstable mentalities, to commit serious antisocial acts Such persons are, in the main, those who create the problems in the criminal courts, and in regard to whom medical men are apt to express divergent views

The subject bristles with difficulties, but, apart from this more or less academic question, there is, as Dr Warnock proceeds to show, much room for criticism of the present procedure for dealing with the insane person charged with a criminal offence The statement in the report of Lord Justice Atkin's committee that "the present system has been proved to work satisfactorily, vindicating the law with firmness and humanity," he considers is very open to question This report shows that sixty one persons have been sentenced to death, apparently as sane, who later on were either sent to Broadmoor or condemned to imprisonment Of 110 cases inquired into, because apparently some suspicion of their mental condition had arisen, more than 50 per cent were found to have been sentenced to death It is argued that justice is degraded when the sentence of the court on insane murderers is practically reversed by the Home Secretary's action, and Dr Warnock urges that it is not humane to compel persons to suffer the agony of the death sentence unnecessarily In conclusion, he suggests that the repeated misunderstandings and uneasiness experienced in England about murders committed by persons alleged to be insane will not be prevented by any minor change in the law or in the rules, it must be laid down that, whenever a reasoned suspicion of insanity is raised by either side or by the court in a criminal case, the accused shall be examined by a commission of experts in a mental clinic, where he can be observed by the medico psychologists, whose duty it must be to decide whether the accused is insane and irresponsible or not Dr Warnock is strongly of opinion that the period of observation should not be spent in a prison, for, as he points out, in a mental clinic the more sympathetic and freer atmosphere tends to make an insane person act more naturally, to show his real feelings, and to express his beliefs Also, prison warders are not like trained mental nurses, who, after an experience of hundreds or thousands of cases, know what to observe Nor have the medical officers of a prison the same experience and knowledge of lunacy as those who spend all their time in its study Dr Warnock suggests that the decision of the commission of experts should be binding on the jury, whose duties should be confined to deciding the fact whether or not the accused actually committed the alleged act He regards the existing practice of leaving the decision as to the accused's sanity to a jury as patently absurd The jurymen, he says, know almost nothing about insanity, and, even if they possessed the necessary expert training, have no proper opportunity of examining and observing the accused's mind

There is much in the author's further criticism of the procedure at present in vogue in respect to medical evidence at murder trials The evidence of mental experts is often given *ex parte*, and is therefore suspect He considers that medico psychologists should, as scientists, demand as neutral a position as that of the judges, and that until it is accorded them they would be wise to refuse to give *ex parte* evidence, as some eminent experts do refuse The suggestions made in this concise and forceful article are of considerable value and interest, and merit the attention of the members of both the legal and medical professions

THE LISTER WARD AT GLASGOW

The managers of the Royal Infirmary, Glasgow, have turned a deaf ear to the prayer of many learned and scientific bodies and many eminent men of science and medicine all over the world, to refrain from pulling down Lister's old ward As we have had to announce, they decided last December, by 16 votes to 7, that the Lister ward should go There are still some who hope against hope that the decision may be reversed We publish in another column a letter from a well informed correspondent, renewing the plea for preservation and calling attention to a new pamphlet issued by Mr James A Morris, R S A, F R I B A., whose earlier appeal was noticed in our columns last October Mr Morris's plea is based mainly on historical grounds, he wishes to save Glasgow from the reproach of having destroyed a building in which work that marks an epoch in the history of medicine was done But he also criticizes unfavourably, on architectural and hygienic grounds, the plans of the building the managers propose to erect when they have torn down the Lister ward From the general point of view the arguments of Mr Morris and of our correspondent are convincing, but if the managers remain impervious, and if, like the householder in the parable, they ask, "Is it not lawful for me to do what I will with mine own?" and adhere to their decision to remove the ward to make room for new buildings, there is still a ray of hope to illumine the gloomy prospect Mr Morris says that an offer of £2,000 for the cost of the reconstruction of the Lister ward still holds good Why should not this sum be increased by subscriptions, and used to defray the cost of taking it down and carefully re-erecting it upon some site not under the control of the infirmary authorities, not necessarily even in Glasgow, but in the hands of a trust, to be preserved for all time, in order to show to posterity in what surroundings Lister worked out his great reform? Not as a monument, for he needs none, either in Portland Place or Glasgow To no man is the proud epitaph of Wren in St Paul's more applicable If any seek Lister's monument, let him look around him in our hospitals and our homes

EYE COMPLICATIONS OF SINUS DISEASE.

The general symptoms and remote manifestations of common affections of the nasopharynx, the nasal accessory sinuses, and the throat, which had been set down for discussion at the last meeting of the Medical Society of London (see p 276), was too large a subject to be covered at all adequately within the limits of a couple of hours It was, therefore, perhaps inevitable that the somewhat threadbare topic of tonsillar infection should have occupied so much of the time left for general discussion to the exclusion of certain other subjects the importance of which Mr Herbert Tilley had indicated but had not been able to elaborate One of these was the ophthalmic complications of infection of the nasal accessory sinuses, a subject to which a series of contributions have recently been made in our columns Dr Anthony Feiling in his article on ocular palsies published last week (p 223), recorded five cases of ocular palsies produced in this way, and at the Annual Meeting of the British Medical Association at Portsmouth a discussion took place on the association of retrobulbar neuritis with nasal sinus suppuration Mr E D D Davis then stated that in fifty-four cases of retrobulbar neuritis sent to him by ophthalmic surgeons only four had definite nasal sinus suppuration In the same discussion Sir StClair Thomson pointed out that retrobulbar neuritis as a sequel of sinus inflammation was a comparatively rare condition—orbital inflammation not ophthalmic inflammation, was the common result of sinus In an article the same author contributed to this Journal

last year (1923, vol i, p 925) he recorded a case of retrobulbar neuritis due to suppuration of the sphenoidal sinuses relieved by washing out and draining these sinuses, and observed that orbital inflammations frequently had their origin in the nose Mr Gavin Young has recently recorded nine cases of retrobulbar neuritis treated by sphenoidal drainage, in all but one improvement resulted, yet in only two was pus found This brings us to the point Mr Tilley wished to elucidate The lantern slides he demonstrated showed the unending variations in size, shape, and disposition of the posterior sinuses, and he suggested that it was owing to such factors that the signs and symptoms of the ocular lesions were homolateral, contralateral, or even bilateral In many cases of retrobulbar neuritis examination of the nasal accessory sinuses failed to show anything to bring them under suspicion, nor was radiography of much help in such cases Mr Tilley laid down a course of action to be followed in such a difficulty First, if a careful examination suggested the existence of syphilis, active treatment should be begun at once Secondly, the patient should be examined by a neurologist for the possible presence of a lesion in the central nervous system Thirdly, if syphilis were absent and the neurologist's report negative, the middle turbinal on the side of the affected eye should be removed, many cases of neuritis immediately improved, particularly when signs of commencing inflammation of the ethmoid were present Last, in the event of there being no improvement in the neuritis after three or four days, the anterior and posterior ethmoid cells and the sphenoidal sinus should be freely opened and drained, a number of cases had been recorded in which, after such procedures, complete vision quickly returned Mr Tilley pointed out that once the diagnosis of retrobulbar neuritis had been established, immediate treatment should be undertaken, because the ocular lesion often progressed with extreme rapidity, delay might mean loss of sight It may be hoped, therefore, that in the near future there may be a closer co-operation between ophthalmic surgeons, neurologists, and the surgeons who devote their time to diseases of the upper air passages

THE INTERNATIONAL CONTROL OF DRUGS OF ADDICTION

IN an article which appeared in the JOURNAL on December 1st, 1923, reference was made to two conferences which it is proposed to summon this year to deal with certain aspects of the traffic in dangerous drugs and international co-operation, through the League of Nations, in giving effect to the Opium Convention of 1912 The Council of the League has now fixed the first of these conferences for November 3rd next It is to deal with the "gradual and effective suppression" of the manufacture, use, and internal trade in "prepared" or smoking opium, and the prohibition of import and export of "prepared" opium as laid down in Chapter II of the Opium Convention, it will be attended by representatives of the Powers owning territories in the Far East The second and larger conference will be held on November 17th, and will deal with the limitation to medical needs of the manufacture of the opium alkaloids and cocaine, and the production of opium and coca leaves for such manufacture, in accordance with the restrictive articles 9 to 14 in Chapter III of the Opium Convention The Council of the League has decided that all members of the League or parties to the Convention of 1912 shall be invited to this second conference, in order to ensure a wide application of the agreements reached A preparatory committee appointed by the Advisory Committee on Opium, consisting of six members, including a representative of the United States and the two European assessors, is to draw up a programme for the second conference, and the Secretary-General of the League is inviting suggestions from the Governments concerned in the preparation of this programme The Secretary-General has also been instructed to communicate with the Governments on the subject of the suppression of heroin, consignments of narcotics in bonded warehouses, publication of seizures of contraband drugs, and increased penalties for illicit traffic While there is this activity in Geneva, it is remarkable that Switzerland has been curiously dilatory in ratifying the Opium Convention, and has been a centre for distribution of the scheduled drugs The Federal Council is now reported to favour ratification, and the Federal Assembly will shortly be asked to carry the necessary vote

THE SIX DAYS' RELIABILITY TRIALS OF MOTOR CARS

THE Society of Motor Manufacturers and Traders has approved in principle of the Royal Automobile Club's scheme for a six days' reliability trial of standard cars, to be conducted in the middle of May next from a fixed centre either in the Lake District, in Wales, or in Devon and Cornwall, on the scheme of a daily run of about 160 miles out and back, each route to include a severe hill climb The time of ascent will be taken in the case of each vehicle There will be brake tests, and note will be made of petrol consumption, oil and lubricant consumption, replenishment, time spent on repairs, wear and tear of tyres, and so forth Classification will be on a price basis No machine with an engine exceeding 1,600 c cm volume will be eligible to compete A section, fearing that insufficient entries will be secured, has been agitating that engines of larger volume should be available This, we are advised by Mr Massac Buist, is quite unnecessary from the point of view of testing standard products, and in his opinion very undesirable in face of the classification adopted To make larger engines eligible would be to offer the opportunity for the American industry to take the first place in sundry categories American cars neither need such adventitious aids to public notice, nor do they require to be put through such tests What is necessary is to do something still further to improve the type of car which is light as regards weight, low as concerns taxation, economical in fuel and lubricant, of good powers of acceleration and hill climbing, and so forth In other words, he continues, we must encourage the evolution of really light cars, which so far represent the least thoroughly explored of all avenues of motor carriage development, and one with which, incidentally, the American industry has not concerned itself yet There is a very large output of vehicles coming within these categories from the Continental as well as from the home industries Further, in other directions we find this year that even more restricted engines are being advocated In this connexion Mr Buist mentions that the most important marine event this year—the race for the Duke of York's trophy promoted by the Royal Motor Yacht Club—will be for craft having engines not exceeding 1,500 c cm volume, while the most important aerial motoring competition this year, to be promoted by the Royal Aero Club, will be for machines that must carry two fully grown persons, yet none may have an engine exceeding 1,100 c cm volume If it is possible both to travel forward and lift into the air two passengers with an 1,100-c cm engine, surely the Royal Automobile Club is being more than generous in allowing cars having engines up to 1,600 c cm to figure in any six days' "legal limit" road event for stock cars The public needs to know more about these last machines The object of the trial will be to provide data under a wide variety of heads, and set forth in comparative fashion, so that any intending buyer will have the opportunity to judge the vehicle which is

best, as shown by relative merit under the particular combination of points which appeal to him personally In France special categories have been planned for cycle cars having some 500 c cm and others 350 c cm engines

TREATMENT OF GENERAL PARALYSIS BY MALARIA

In connexion with the inoculation of certain cases of mental disease with malaria, the *Ugeskrift f Laeger* announces that the Danish Board of Health has issued a circular, dated December 20th, 1923, in which it is pointed out that the inoculation of malaria is permitted only in the hospitals possessing a special licence for this purpose A licence may, however, be obtained under certain conditions by practitioners not attached to hospitals When the inoculated patient is suffering from a bout of malaria he must be confined in a mosquito-proof room, which should, as far as possible, be in one of the upper stories of a hospital The patient must not be out of doors at hours when mosquitos usually feed, and he must not be discharged from hospital before he has undergone a systematic course of quinine and the parasite of malaria has not been found at examinations of the blood repeated twice a week for three weeks Every case must be notified as one of infectious disease to the local health authorities, and when a patient is discharged from hospital after inoculation the health authorities of the area in which he settles must be notified In future the weekly notifications of cases of intermittent fever must include statements as to whether or not the patient concerned has been inoculated with malaria

CANCER OF THE SCROTUM

Early in January, at the Stalybridge County Court, the trial began of a workmen's compensation case which turns on the point whether cancer of the scrotum is to be considered a disease to which "mule spinners" in the cotton industry are particularly liable in consequence of the nature of their employment, and for which, therefore, they should receive compensation In our issue of November 18th, 1922 (p 971), there appeared an article on cancer of the scrotum, by Mr A H Southam and Dr S R Wilson, both of whom are on the staff of the Manchester Royal Infirmary In the hospital records of the years 1902-22 they found 141 cases of this disease, and of these no fewer than 69 occurred in mule spinners, 22 occurred in tar and paraffin workers, and only 1 in a chimney-sweep The way in which the left groin is brought frequently into contact with the machinery during mule spinning was described in that article, and illustrated by a plate The writers found that the usual position of the scrotal growth corresponded with this point of contact, and in their conclusions they suggested that the friction and continual soiling of the clothes with oil were etiological factors They were doubtful whether the growth at any time is innocent in character, and pointed out that it is generally similar to other forms of cutaneous cancer, and equally malignant In our columns of November 25th, 1922, Dr A Leitch, director of the Cancer Hospital Research Institute, reported that malignant disease had been produced in mice by similar lubricating oils, and a full report of his work appeared on December 9th, 1922 (p 1104) It would appear that there are two possible etiological factors concerned in this matter—namely, mechanical friction, and irritation due to the lubricating oil The case in the Stalybridge County Court went off on a technical legal point

THE LONDON FEVER HOSPITAL

We are told that the London Fever Hospital is not sufficiently known to the medical profession in London If this be so it is surprising, for the hospital has been in existence for over a century, during that time has done an immense amount of useful work, filling a distinct place in the hospital organization of London, has always had a distinguished visiting staff, and many valuable contributions to clinical medicine have been founded on experience gained within its walls It is designed specially for the benefit of the professional classes and others who do not wish to make use of the rate-supported hospitals, it has altogether about 200 beds, including 28 private rooms The ward fees are 7s a day for adults and 5s for children The charge for private rooms varies from 6 to 10 guineas a week, but special advantages in the matter of fees are given to subscribers Cases of any infectious fever other than small-pox are admitted, for instance, scarlet fever, diphtheria, measles, chicken pox, influenza, and cerebro-spinal fever The hospital stands in its own grounds of six acres It has observation wards for doubtful cases, and an ambulance will be sent at any hour on application, which may be made by telephone (North 687) The hospital is in Liverpool Road, N 1, and the ambulance journey is short—under twenty minutes from Piccadilly Circus The hospital has two resident medical officers, and a visiting staff consisting of four physicians, a surgeon, and an aural surgeon Like all hospitals providing for patients suffering from infectious disease, the calls upon it vary very much During 1921 and 1922 every available bed was filled, and the committee found it necessary to make additions to the nurses' home and to undertake certain other necessary works We feel sure that those members of the profession in the metropolis who are not in the habit of making use of the London Fever Hospital will be glad to have these particulars, and, although it is rather outside our scope to discuss finance, it may be pointed out that the hospital, beyond what it can earn from its patients, is largely dependent on annual subscriptions, and, as has been said, a subscriber has certain useful privileges For instance, subscribers of a guinea and upwards are entitled after the first year's subscription to send in their servants suffering from scarlet fever, diphtheria, or measles, to be treated free of charge It is intended that in future subscribers of two guineas and upwards should be entitled to free treatment in the wards for any one member of the family or household, and that a reduction of one-third of the weekly charge should be made for a private room if required, or necessitated by the nature of the illness

BORDEAUX MEDICAL CONGRESS 1923

The seventeenth French Medical Congress, which was held at Bordeaux from September 27th to 29th 1923 dealt mainly with three subjects—the remote sequelae of malaria, the treatment of meningococcal infections and the relation of the sympathetic system and the endocrine glands in pathology A brief note of some points considered under the first heading appeared in the EPITOME (para 428) of December 15th, 1923 Dr H Godlewski contributed an interesting report of these three discussions to the September number of the *Revue de Medecine* which has recently been issued The observers, the later stages of malaria are of pressing importance both in France and in Great Britain since the tropical possessions of both countries and their returned soldiers who were infected in the campaigns in Macedonia and Asia Minor, necessitate serious consideration Professor Le Dantec, who introduced the discussion, divided these later stages into two groups (*a*) direct sequels of the primary attack, such as splenic fibrosis, and (*b*) secondary complications such as recurring febrile attacks and reinfections, also certain specific manifestations, such as post-malarial arteritis occurring in cases where the parasites were not found in the peripheral circulation He maintained that malaria was as a rule definitely curable by appropriate treatment,

and was only exceptionally destined to become chronic He pointed out that the failure of treatment by quinine was generally due to the prescription of tablets, in the preparation of which so much compression had been used as to render them insoluble He was in favour of intramuscular injections of quinine formate with glucose if the tongue was coated, if it was clean he recommended oral administration of cachets of the sulphate or basic chloride Intramuscular injections were, however, only satisfactory if rigid asepsis and perfect technique were the rule In the treatment of meningococcic injections Drs Caussade, Sicard, J Roger, and Dambrin reported successes in infants resulting from simultaneous puncture of the fourth ventricle and in the lumbar region, whereby spino-ventricular lavage could be accomplished with antimeningococcal serum Dr Joltrain reported a case in which, after failure of twelve lumbar punctures and serum administration, cure had resulted from opening the ventricle by trephining and injecting serum into it, even though the patient was comatose at the time of operation Another form of operative treatment — namely, subarachnoid irrigation in suppurative meningitis—was discussed in our columns on March 4th, 1922 (p 363), but meningococcal infections were not considered in that article, and the extent of the surface irrigated was much less than in the spino-ventricular method, which appears to be simpler in execution and more fruitful in good results At the Bordeaux congress the question of the interrelation of the sympathetic and endocrine systems was critically reviewed by Professor Pachon, and throughout this discussion the function of the suprarenal gland and the utility of its secretion were chiefly considered In spite of the experimental work of Tournade and Chabrol, who, by anastomosing the suprarenal vein of one dog with the jugular vein of another, have shown that the suprarenal secretion of the first dog raised the arterial pressure of the second, and that this secretion depended on the stimulation of the splanchnic nervous system, Professor Pachon still continued to doubt the deductions that had been made, because the presence of adrenaline in normal arterial blood had not yet been demonstrated he believed, therefore, that it was destroyed after leaving the suprarenal veins On the clinical side the action of the sympathetic nervous system in haemoclasic shock, in metabolism, and in certain skin diseases, appeared to be co-ordinated with endocrine activity or deficiency, and Professor Widal, using the analogy of Addison's disease gave support to the suggestion that there was some radical association of these two systems

VARIATIONS IN THE NATURE OF BLOOD SUGAR

In a paper communicated by Professor F G Hopkins to the Royal Society on February 7th, L B Winter and W Smith recalled that they had, by a method previously described, shown that marked differences exist between the blood sugar of normal persons and those suffering from diabetes mellitus The sugar was extracted from considerable quantities of blood and a comparison made between the observed optical rotation (P) and that calculated from the reducing power of the carbohydrate, on the basis that glucose (C) was the only reducing substance present The variations under different conditions were examined It was found that in diabetic cases the value of P was usually greater than that of C This value was increased as a result of mild hydrolysis with weak hydrochloric acid, whereas the value of C was unaltered This, it was thought, might afford evidence of the existence of complex sugars in diabetic blood Similar substances were present in the blood of rabbits after the injection of either adrenaline or thyroid alone Injection of thyroid and adrenaline together usually caused an increase in the total blood sugar, but no change from the normal, the value of P was low, and complex sugars were absent It was found that after injection of insulin into rabbits the blood sugar was dextro-rotary, but had no copper-reducing power Insulin convulsions in rabbits were relieved by adrenaline alone or by a mixture of thyroid and adrenaline

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We regret to record the death on February 10th of Sir Kennedy Dalziel, surgeon to the Western Infirmary, Glasgow He had been in ill health for some time We propose to publish an obituary notice in an early issue

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The Lettsomian Lectures before the Medical Society of London will be delivered by Dr R A Young, C B E, at 11, Chandos Street, Cavendish Square, W 1, at 9 p m on Monday, February 18th, Wednesday, March 5th, and Monday, March 17th The subject of the lectures is "The treatment of pulmonary tuberculosis"

At the Congress of Scandinavian Surgeons in Stockholm in 1923 it was agreed that the Scandinavian countries should co-operate in an investigation of tuberculosis of the kidneys and the urinary tract Forms to be filled in will be furnished to practitioners willing to give information on this matter for the benefit of the representatives from each Scandinavian country The information thus obtained will be the subject of discussion in 1925 in Copenhagen at a meeting of the Nordisk Kirurgisk Forening

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Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

New Government's Programme

PARLIAMENT resumed its sittings on February 12th, after an adjournment of three weeks to enable the new Ministry to be formed and its members to acquaint themselves with the various departments, and for the Cabinet to formulate its programme

The Prime Minister made a comprehensive statement in regard to policy and proposals in a speech which lasted over an hour and three-quarters His keynote was one of "confidence," but he said at the outset that as no party had a majority it would be necessary to alter Parliamentary habits, especially as a future Government might be in the same circumstances as his own He therefore intimated that he should not resign on account of defeat in a snap division He should resign if defeated on an issue of principle, or if a vote of censure were carried against the Government at the instance of the leader of either of the other parties He gave the House to understand that in making minor amendments to bills it would have to be responsible for such amendments if it made them against the wish of the Government He announced that the resolutions of the Imperial Economic Conference would be submitted separately to the House, and members would be left to come to decisions for themselves on these matters after hearing the views of the Government He afterwards referred in some detail to a number of subjects He mentioned the cases of the 700 ex soldiers whose insanity is not due to nor aggravated by war service, and stated, as already published, that their maintenance will hence forth be a matter for the State, and they will therefore be removed from pauper institutions The Government would take up various promises of social legislation enumerated in the King's speech of last January under Mr Baldwin's administration The Government was preparing a housing scheme on a large scale, it would include the continuance of subsidies The problem was, how to build houses on the average at £500 each, to be let at an average rental of 9s, including rates and taxes To get the additional labour required for the purpose a guarantee of work would be given for a certain number of years Coming to unemployment the Premier said the Cabinet would concentrate first on the improvement of trade as offering the best remedy The Trade Facilities Act would be speeded up and export credits encouraged It was intended to remove the gap in unemployment insurance, and to put an end to selection for uncovenanted benefits A committee including experts and business men would be appointed to revise taxation, so as to put more on luxuries and less on industrial production an attempt would be made also to revise the rating system Turning to foreign affairs Mr MacDonald said he had great hope from the recognition of Russia, though patience would be needed to wait for results, and he prophesied guardedly that there would be a settlement with France before the end of the year—some progress having already been made

England and Wales.

SLUM AREAS IN LONDON

A LECTURE was delivered before the London Society on February 8th by Lieut.-Colonel C B Levita, C B E, Chairman of the Housing Committee of the London County Council, on the subject of slum areas in London After a historical review of building construction and sanitary precaution in the metropolis, Colonel Levita claimed that, although much remained to be done in London, a vast amelioration of conditions had been brought about The census of 1921, however, showed that more than a quarter of a million houses were occupied by two or more families, and that only 38 per cent of the families of London lived in single occupation of structurally separate dwellings Slum dwellings might be divided into two classes (1) premises which, apart from environment, were unsuitable for continued occupation by reason of defective construction, darkness, dampness, dilapidation, or other more or less curable defect, (2) groups of areas and houses subject to sanitary and constructional defects not capable of effectual remedy otherwise than by a rearrangement and reconstruction of some or all of the streets and houses concerned It was to a large degree within the power of the borough councils to remedy the first of these evils, and within that of the London County Council to remedy the second The local authorities in London had been engaged in clearing insanitary areas for more than forty years, and in twenty-eight of the worst areas during this period 26,605 persons had been displaced and 22,337 provided for, at a net cost of £1,183,000 The London County Council had in hand the reconstruction of seven insanitary areas, covering a total area of 55 acres, at an estimated net cost of £1,000,000 The late Government allocated to London an annual sum of £50,000 to meet losses arising from slum clearance schemes, and for the next sixty years the London County Council would devote an equal annual sum of £50,000 to the same purpose It was estimated that there were nearly 1,000 areas, containing 11,500 houses and 100,000 persons, over and above the schemes already started, which should be dealt with, and of these 1,000 areas the reconstruction of 550 was urgent When the reconstruction of a site was a necessity the Council preserved an open space and rehoused a proportion of the persons displaced in proximity, usually in five-story blocks of flats, the balance of the accommodation was provided, away from the site, on one of the Council's housing estates It was impossible generally to do more than clear a site by sections The shortage of skilled building labour greatly hampered the provision of new housing accommodation Colonel Levita quoted from the paper read by Lieut.-Colonel Fremantle at the Annual Meeting of the British Medical Association in 1922, and from the presidential address of Mr C P Childe at the last Annual Meeting, to show the great results which might be expected from a progressive housing policy, he did not think the insanitary areas could be removed sufficiently quickly under the existing Housing Acts, and believed that town-planning principles, now limited to undeveloped land, should be compulsorily applied to built-up areas When an area was declared insanitary it should be replanned by the local authority, which would be given, of course, powers of adjustment and compensation in hard cases

WILLESDEN HEALTH SERVICE

Addressing a meeting of the Kilburn and Brondesbury Park Ratepayers' Association on February 5th, Dr Skene, chairman of the Willesden Public Health Service, described the successful co-ordination of the municipal and private medical services that has been organized in Willesden The council had only eight sanitary inspectors in its employment—one to every 21,228 residents—whereas the Ministry of Health recommended that there should be one to every 10,000 Dr Skene pointed out the need for a special small-pox hospital being available, it could be utilized profitably for other purposes until the special emergency arose He gave details of the work of the ambulance and the school medical services, and the maternity and child welfare scheme During 1923 as many as 144 deserving maternity patients had been sent to hospital for their confinements Only necessitous cases were treated gratuitously contributions being received from all those in a position to pay The annual cost of the public health service was £50,000, or 6s per head of the population, and a rate of 1s 1½d in the pound He thought it might be said that this work resulted in the saving of 1,876 lives in Willesden each year The infantile mortality rate of 15 49 per 1,000 births in 1922 was the lowest that there had ever been in Willesden, and it compared very favourably with the rate of 74 for London generally Since 1914 there had been a reduction of 29 26 in this rate

BRADFORD ROYAL INFIRMARY

An anonymous donation of £30,000 has been received towards the cost of building the new Royal Infirmary, and at the present time the committee has an additional £40,000 in hand The original estimated cost of the undertaking was £250,000, but this will be considerably exceeded under present conditions Already £20,000 has been expended, including the cost of the site of the new building at Daisy Hill, and a residence there has been extended and converted into a nurses' home It is hoped that the foundation stone of the new institution may be laid during the present year The report of the hospital and convalescent fund for 1923 showed a total income of £22,520, an increase of over £3,000 on the previous year, and the highest figure reached since the inauguration of the fund Negotiations are in progress for the sale of the existing Royal Infirmary buildings

GRANT-AIDED PUBLIC HEALTH SERVICES

The Minister of Health has issued a circular to local authorities stating that the Government has considered the provisions of the circulars issued by his predecessors in February, 1921 (No 182), and March 18th, 1922 (No 295), "*in so far as they relate to the grant-aided public health services* (maternity and child welfare, tuberculosis, venereal disease, welfare of the blind, and port sanitation), and have decided to revert generally to the position which previously existed The Minister will accordingly be prepared, with the approval of Parliament, to make grants on the prescribed basis for such further development of these schemes as is considered advisable by, and is within the power of, *the authority, subject,* of course, to the ordinary process of approval of the particular proposal by the Ministry"

Scotland.

EPIDEMIC OF INFECTIVE JAUNDICE

THE *Scottish Board of* Health has issued regulations dated February 4th, 1924, to continue in force till July 31st, 1924, for the notification of cases of infective jaundice or spirochaetosis ictero-haemorrhagica The regulations at present apply only to the city of Edinburgh and counties of Midlothian and East Lothian in which medical practitioners are to notify the local medical officer of health of such cases coming to their notice The disease (sometimes termed Weil's disease) is characterized by irregular fever, jaundice which is often severe and appears about the fourth day of the illness, and a tendency to haemorrhage from mucous surfaces and beneath the skin Cases usually run a favourable course though some are protracted and death occasionally occurs The condition was familiar to many medical officers who served in France, where it occurred both in the British and French armies in certain localities, as well as among German troops and on the Italian front The present epidemic in the Lothians appears to be confined to miners, and a similar epidemic which occurred in Fifeshire some two years ago disappeared when a pathological investigation was carried out at the instance of the mine-owners and a certain pit closed down The spirochaete can be found in the blood of patients at an early stage of the disease and very readily, after the first two or three weeks in the urine or by experimental inoculation of rodents with the patient's blood

The Scottish Board of Agriculture has also taken up the matter by recommending an intensification of measures directed towards the extermination of rats in the affected districts It has been repeatedly shown that infection is usually carried by these animals, both in mines and in houses, and in the present epidemic the cases appear to have centred chiefly around three pits in East Lothian

CONFERENCE ON VENEREAL DISEASE

A conference on venereal disease was held last week in Edinburgh under the auspices of the Edinburgh National Society for Equal Citizenship Councillor Mrs Somerville presided, and an address was delivered by Dr Douglas White to a meeting attended by delegates from twenty-six different bodies, including co-operative guilds, girl guides, the nursing and medical professions, temperance and political associations, and other social bodies The lecturer said that venereal disease had been the bane of civilization for 400 years, but until recently the public health authorities had not taken notice of it The establishment of *clinics, where both men and women could be treated* voluntarily, had been followed by a great reduction in England of the number of infected persons It required a good deal of education for people to continue treatment after they felt quite well, but they were gradually coming up to that mark After describing the method of notification in Canada, Australia, and elsewhere, whereby patients were required to attend a doctor as soon as they found themselves infected with venereal disease, and doctors had to notify failure to continue treatment, Dr White said that he did not recommend its adoption in this country because of the difficulty of enforcing the law and of the risk that publicity would cause concealment Everyone would like to penalize the knowing transmission of disease, and some countries had a law of this kind, but there was always the difficulty of proof It had to be remembered that sex was the great element that had led to civilization, and that upon it the whole fabric of social happiness depended

HISTORICAL ASPECTS OF CHEMISTRY

A lecture on some historical aspects of chemistry was delivered on January 30th by Professor Forsyth J Wilson, D Sc , Ph D , in the Hall of the Royal Philosophical Society of Glasgow After mentioning some of the chemical arts practised by the ancient Egyptians, including the principle adopted in dyeing he spoke of the doctrine of the four elements—fire, air, water, and earth—as developed by Aristotle In addition to these four elements, the alchemists believed in three "principles"—mercury, sulphur, and salt—and in the unity of matter The transmuting agent or philosopher's stone, by means of which it was supposed that other metals could be converted into gold, was shown to be connected with an idea, prevalent in the Middle Ages, that metals were generated in the interior of the earth just as animals and plants were generated on its surface, and that for the production of a metal some fertilizing agent was required In the sixteenth century chemistry received a new impulse from the preparation of medicines and of substances useful in the arts, and what was known as iatrochemistry, initiated by Paracelsus came into existence The views and work of some of the more prominent iatrochemists were discussed, and it was shown how chemistry was gradually freed from mysticism and the ground cleared for a scientific study of chemistry

A report of the Conference on the International Labour Organization and Industrial Hygiene held under the auspices of the League of Nations Union of Great Britain in London last June appeared in our columns on June 30th, 1923 (p 1103) A pamphlet price 2s containing the papers read at this conference has now been published by the International Labour Office at Geneva Its contents are as follows Safety and protection in industry by Lieut Colonel J A A Pickard, the safeguarding of industrial machinery, by Mr G Stevenson Taylor, international co-operation in the study of industrial diseases and injurious processes, by Dr T M Legge and Professor E L Collis, and women workers health, by Miss Constance Smith

Correspondence.

AMPUTATION IN CASES OF ANTERIOR POLIOMYELITIS

SIR,—During the last three or four years it appears that amputation of the thigh in cases of extensive infantile paralysis has been performed much more frequently than was the case before the war

As surgeon to the Royal Surgical Aid Society I have been asked to prescribe artificial limbs for more such cases since 1920 than in the whole period of twenty-five years before that date I feel, therefore, justified in the inference that the practice has become more common

It is to be presumed that such amputations are undertaken either on account of septic ulceration or gangrene, which is dangerous to health or even life, or because the surgeon thinks that the patient will be better off with a stump and a prosthesis than with his paralysed limb and a walking instrument In the first case no objection to the operation can be made, but in the second very serious consideration of the prosthetic possibilities of the case should precede the decision to amputate Generally speaking, an artificial leg is only useful to its wearer if his stump possesses muscular power enough to control it Unfortunately this consideration appears not to have had due weight given to it by all surgeons A case not long ago came before me in which amputation through the condyles of the femur had been performed All the muscles attached to the femur were hopelessly paralysed, so that the long and in appearance admirable stump dangled as a useless encumbrance All attempts to fit a useful limb failed in this case, and a reamputation through the lesser trochanter was recommended, after which the patient might be able to walk with a suitable "tilting table" limb Although such an amputation is the only one which offers a chance of fitting a useful artificial limb in the case of a flail extremity, yet it must be remembered that in such a case the effects of anterior poliomyelitis are not confined to the parts below the hip-joint The palsy and atrophy of the pelvi-femoral muscles are often accompanied by paresis or worse of the abdominal and lumbar muscles, so that the patient is far more heavily handicapped than the war amputee whose remaining muscles are capable of vigorous action

A paralysed lower extremity of which the joints of the foot and ankle have been stabilized and the distortions corrected by suitable procedures, even though these have to be supplemented by walking instruments, is according to my experience of more value to its owner than an amputation stump with the best artificial limb at present obtainable

If this is true of a flail limb it applies with still more force to cases in which some active muscles remain, for these can be made more useful than all the springs and levers of a prosthesis

The lot of the victim of severe anterior poliomyelitis, who can only hobble about in instruments, is pitiable, but pity should not lead the surgeon to amputate unless he is very sure indeed that in the end his patient will be better off —I am, etc ,

London W , Feb 2nd E MUIRHEAD LITTLE

THE APPENDIX AND URINARY COLI INFECTIONS

SIR,—Replying, in your issue of February 9th (p 255), to my letter of January 26th (p 170), Sir John Thomson-Walker refers in his opening paragraph to "the words he prints in italics" The only words printed in italics in my letter, as in his, are the two words *Bacillus coli* I presume "italics" is used inadvertently, intending "within inverted commas"

Briefly, the difference of opinion between us is that when, during the course of an abdominal section, the appendix can be readily exposed I believe it should be removed, even if apparently healthy, on the ground that the disadvantages of doing so (the slight prolongation of the operation and the loss of a very small fraction of the total chain of

defences against the passage of bacteria from the intestine into the lymph and blood stream) are more than counterbalanced by the advantage of insuring the patient against any future trouble from this source, were I the patient under operation I would certainly wish to be so treated Sir John Thomson-Walker considers the loss of even this small amount of the lymphoid defences a greater evil than the risk of future appendicular trouble and, were he the patient, would prefer his healthy appendix to be left behind In his concluding paragraph he writes "More thorough teaching in regard to abdominal diagnosis would go far to prevent *what is undoubtedly the greater of two evils—namely, too late operation for appendicitis*" (the italics are mine) A logical inference from these words is, I maintain, that the *lesser evil* is the *too early operation* for appendicitis, and this is exactly my original contention

The second class of cases to which Sir John Thomson-Walker referred in his lecture at the Hunterian Society—where the normal appendix is removed when recognizable disease is present but overlooked—was not mentioned in your epitome of the lecture, and as this was all I had to go upon I was not aware of his reference to it I feel very strongly, with him, that the steadily increasing number of patients coming into our hospitals and nursing homes with chronic abdominal diseases upon whom a more or less recent appendicectomy has been performed without material relief to the symptoms constitutes a very serious reproach to abdominal surgery The appendicectomy, *qua* appendicectomy, has been skilfully performed, the wound has healed primarily without complication, and yet, the symptoms not being relieved, it is obvious that the appendix was not the cause of the trouble, or at any rate not the sole cause The incision has usually been of the "gridiron" type, but sometimes "Battle's" or other variety of limited incision has been adopted The fault lies in the fact that no general examination of the abdominal viscera was made during the operation, nor is such possible through any of these limited incisions so far as non urgent conditions are concerned "gridiron" appendicetomy is the curse of abdominal surgery This reproach to our work will never be removed until surgeons generally come to regard every abdominal section for non-urgent conditions as essentially and primarily an exploratory laparotomy, *however certain we may feel of our pre operative diagnosis*, it is the opportunity of a lifetime to discover the condition not only of the organs suspected, but of *all* the other abdominal and pelvic viscera, nor should the abdomen be closed until the surgeon knows the condition of every viscus it contains, at any rate so far as inspection or palpation can reveal this This routine examination should be thorough and carried out upon a systematic plan

A good rule, I consider, is to postpone the examination of the suspected viscus until the last, otherwise, should one's pre-operative diagnosis be immediately verified, there may be a tendency rather to scamp the rest of the systematic examination and so to overlook other concomitant, and possibly even more serious, lesions Thus it has happened to me on four occasions (one within the last fortnight) that, with a confident pre-operative diagnosis of chronic gastric ulcer, the preliminary routine examination has disclosed an absolutely unsuspected early carcinoma of the colon (one of the transverse, two of the splenic flexure, and one of the sigmoid flexure), a well marked gastric ulcer being also present in each case The futility of treating surgically, however skilfully, a gastric ulcer and leaving behind a carcinoma need not be emphasized It must be admitted that the prolongation of the operation necessary for this routine examination will slightly increase its risks, but I believe this to be more than counterbalanced by the advantage of not overlooking any other concomitant lesion The general state of the patient must, of course, be taken into consideration, and where this is such that any prolongation of the operation is considered unjustifiable this routine examination should be omitted In the majority of abdominal sections for non-urgent conditions the general state of the patient is sufficiently good to permit of this routine examination, and if it be otherwise I believe it to be better practice to postpone operation for a little while and attempt, by medical measures, to improve the general state rather than to operate at once and omit the routine examination —I am, etc ,

Manchester Feb 6th. ARTHUR H BURGESS

"A NEW OUTLOOK IN CARDIOLOGY"

SIR,—In his paper entitled "A new outlook in cardiology," which appeared in the BRITISH MEDICAL JOURNAL of January 5th, 12th, and 19th, Sir James Mackenzie has succeeded better in justifying the title than the outlook He himself says "It is not contended that the problems with which these articles deal are solved, or that our interpretations are correct," so that it is not surprising if others should feel unconvinced

In the first part of his paper Sir James dwells on the importance of the cell Its store and discharge of energy, its susceptibility to stimulation, its refractory and latent periods, the law of "all or nothing,' the law of "fluctuation," the function of "control," etc , relating to it He then adds, "The recognition that muscle fibres discharge impulses capable of stimulating other cells gives a clue to the origin of many symptoms which arise from hollow muscular organs There are good grounds for assuming that the impulses from the contractions are the cause for the increased heart rate that follows bodily effort" When I read that, I felt encouraged to hope that Sir James Mackenzie was working towards simplicity, and, perhaps, beginning to recognize that the cardiac contraction is after all but a masked peristalsis, in which the earlier contracting fibres could stimulate those contracting later Simplicity does not, however, appear to be Sir James's conception of cardiac processes, for he adds, "These impulses reach the sympathetic, which reacts upon the sino-auricular node, or on the auriculo-ventricular node in auricular *fibrillation or flutter*'

After such a statement one is inclined to give up all further hope of seeing anything from "the new outlook in cardiology" Maybe I lack the necessary Scottish mentality Even when the sympathetic is somehow called into play by the impulses *from the contracting* heart muscles nothing tangible happens, for "the sympathetic acts upon the cells of these nodes by hastening the metabolic process which restores the energy expended when they discharge impulses" In the end, apparently, instead of another heart beat, which one fain imagines is being accounted for, there is "auricular fibrillation or flutter" As though *the whole purpose* of the cardiac mechanism was to produce auricular fibrillation instead of normal beats

Towards *the end of his paper* Sir James Mackenzie, referring to the diaphragm, says "At the beginning of inspiration a few fibres contract, and as the inspiratory movement increases a greater number of fibres are involved" A like action, of few or more fibres, according to the work to be done, Sir James says "we know" in the uterus and bowels, and adds, "Seeing, then, that there is a law applicable to *muscular organs*, both voluntary and involuntary, we can reasonably conclude that the same law applies to the heart" I might with as much reason say that there is a law, which can be observed with a team of horses, in which when the load is light only the *wheelers* pull and when it is heavier more and more horses are involved The law would be obviously false with a well driven team, but it would be quite as reasonable as the muscle fibre law Moreover, unless the auriculo-ventricular node remembered which fibres were called upon to do the easy work last time, and shifted the burden about impartially, labour troubles of a serious kind would soon arise, and the early shifts being exhausted before the late shifts might set up auricular fibrillation through the sympathetic Supported by this fanciful muscle analogy, Sir James writes

> The analysis of the phenomena on the lines indicated in this paper has resulted in the conception that the ventricle is completely under the control of the auriculo-ventricular node and that the small beats are due to participation *of only a portion* of the fibres of the ventricle in the contraction

Surely it is seeking for difficulties to suggest that the ventricle cannot contract gently as well as vigorously, and that a gentle contraction involves the complex process of singling out a few fibres for the purpose'

Under the heading, "The cause of heart failure Sir

James says "The manifest and distinctive evidences of heart failure to which reference has been made, as following the onset of auricular fibrillation" Must we follow him in supposing that auricular fibrillation causes heart failure, and not believe, what seems much more probable, that the failure leads to the fibrillation? Must we also agree that "the view so long held of back pressure is not true" because Sir James maintains that it is the weakness of blood pressure at the liver which causes its engorgement? One is not accustomed to see a crowd increase the more the fewer the people and the less the press, so the old back pressure view seems far the more logical

I cannot help feeling that a new outlook on cardiology is required which is on broader lines than those followed during the last twenty years We cannot see the way for the sign-posts, and the theories based on cardiac tracings appear doubtful even to the authors of them In practice we have been taught to judge the heart by its response to effort, and by little else If I were judging a second-hand motor car with a view to purchase, its response to effort would be an important consideration, but it would tell me less regarding its lasting powers than if I overhauled it —I am, etc,

Mentone, Jan 25th D W SAMWAYS

THE TONGUE IN ADDISON'S ANAEMIA

SIR,—Dr A F Hurst rightly points out (BRITISH MEDICAL JOURNAL, January 19th, p 98) that the glossitis seen in Addison's anaemia cannot be regarded as a specific symptom of that disease, and mentions its occurrence in certain severe secondary anaemias Lieutenant Commander J L Priston refers further (BRITISH MEDICAL JOURNAL, February 2nd, p 216) to its occurrence in sprue and pellagra I only record here one additional disease in which a similar glossitis may be observed because the pathology of the disease in question is single and beyond dispute I refer to acute (haemolytic) streptococcal septicaemia In a clinical lecture on this subject (*Guy's Hospital Gazette*, xxxv, 422, 1921, and the *Clinical Journal*, li, 193, 1922) I stated

'There are four manifestations which we may regard as very suggestive of streptococcal fever They are firstly diarrhoea, often very frequent and troublesome, secondly, the presence of albumen, red cells and casts in the urine , thirdly, rapidly progressive anaemia and emaciation and fourthly, *a curiously smooth, red desquamated tongue* These features I am inclined to regard as especially suggestive of infection with *Streptococcus haemolyticus*

The same group of symptoms may, I believe, accompany a severe localized infection with haemolytic strains of the streptococcus It would seem reasonable to assume in these cases that the blood destruction and the epithelial damage giving rise to glossitis, diarrhoea, and nephritis are both dependent on a circulating cytolytic toxin

Glossitis, anaemia, and diarrhoea are also among the symptoms common to Addison's anaemia, pellagra, and sprue Although not the sole or causal factor in any one of them, may it not be that a streptococcal cytolysin is in all three the common factor responsible for the glossitis and possibly for other associated lesions? Dr Hurst describes the recovery by Dr F A Knott of haemolytic streptococci from the duodenum of 100 per cent of his cases of Addison's anaemia and subacute combined degeneration of the cord investigated up to date Alimentary infections with streptococci have been regarded by Rogers and others as important accompaniments of sprue Pellagra is now included among the deficiency diseases, but the liability to concomitant infections in these diseases is well established Achylia gastrica, which should increase the liability to such infections, is recorded as frequent in sprue and pellagra as well as in Addison's anaemia In each malady there are obviously special factors at work giving rise to special and characteristic manifestations such as the fatty diarrhoea of sprue and the skin lesions of pellagra These manifestations enable us in typical uncomplicated cases readily to distinguish one condition from another In certain cases, however, or at certain stages in an individual case, it may be that factors favouring the production of streptococcal cytolysin predominate and thus successes, by [illegible] occasionally to confuse the clinical p[illegible]d women workers hean

Unless some such common f[illegible]
it seems not a little remar[illegible]

sprue from Addison's anaemia should at times be so difficult, and that in pellagra not only the glossitis and the diarrhoea but also the nervous lesions of subacute combined degeneration of the cord should be so closely simulated —I am, etc,

London, W, Feb 4th. J A RYLE, M D

CONTRACTED PELVIC OUTLET

SIR,—It is possible that many obstetricians in the United Kingdom will agree with what Dr Gibbon Fitzgibbon, the Master of the Rotunda, has written under the heading of "Contracted outlet" in his interesting lecture reported in the BRITISH MEDICAL JOURNAL (February 2nd), for no textbook in this country has more than a passing reference to the subject, at least so far as my reading goes, and the case records of most maternity hospitals likewise suffer from a lack of information

I believe, however, that Dr Fitzgibbon and many other obstetricians have erred on the side of incredulity in this matter In several papers Professor Whitridge Williams has drawn attention to the "typical funnel-shaped pelvis," which he has also fully described in his book on obstetrics The observations of Professor Whitridge Williams have been amply confirmed, except, perhaps, in regard to the causal factor, in large series of cases I have myself seen *many* patients in whom contraction of the outlet has been the only deformity of the pelvis, yet it has been enough to prevent the woman having either a live child born *per vias naturales* or a live child by the normal route without complete laceration of the perineum into the rectum, owing to the narrowing of the pubic arch and the necessity of the head being delivered behind the perineum, if I may be permitted the expression Indeed, I have been in the habit of demonstrating to students transverse contractions of the pelvic outlet in a majority of all cases of complete laceration of the perineum which submit themselves to operation for this injury It may be impossible for the practitioner to avoid laceration in these circumstances when he is called upon to deliver a head which has descended low in the pelvis before its progress has been arrested

A few days ago I performed Caesarean section on a lady aged 41 with a contracted outlet, whose completely lacerated perineum I had repaired after the stillbirth of her first baby seven years ago Abortion terminated the next gestation Now she has a live baby weighing 7¾ lb, and a perfect perineum, instead of no children and another completely lacerated perineum, as would have been the case had the pelvic deformity remained undetected When I was discussing the previous delivery with her doctor, he assured me that the head "would not come into the pelvic arch" To show how common these cases are I may add that I have seen another patient this morning with a contracted outlet only and with a history somewhat similar to that related above

I am confident that the important subject of contracted outlet cannot be dismissed in the summary fashion adopted by the Master of the Rotunda Possibly the amazing statement made by him, "I never take measurements of the outlet," accounts for the little importance he attaches to a deformity which must be well known to all those who have taken the trouble to practise proper methods of mensuration —I am, etc,

Liverpool, Feb 6th W BLAIR BELL

GARDEN CITY SANITATION

SIR,—I little thought of drawing out Dr Lionel Picton to such an interesting length, and the honour of doing this should be its own reward, but the subject is so important that I beg leave to overcome my natural modesty and offer a few remarks on Dr Picton's article

The right method of disposal of excreta is of fundamental importance, and we may not have reached finality in the matter, but Dr Picton, as a philosopher, must recognize that to live in a civilized community is a much more complex affair than to exist in a natural state, and sanitary science has grown up to meet civilized needs Further progress must come through advance and not retrogression Life to-day can only be fully lived by making many actions and habits become automatic, nay, even reflex, so as to [illegible]ve energy and time for the more important things

Among these reflex actions to-day may be placed that of pulling the plug after the morning evacuation and then forgetting all about it My experience is that people will demand this privilege if they can, and one cannot ignore their wishes in the matter

Apart altogether from the convenience, there must be sound reasons for public health authorities to advocate this course of action, and I imagine some of them are these

Dr Picton is an Oxford and not a Cambridge man, and so he has probably not heard of "Parasites Lost and Regained," but we should probably all hear of them if his method was commonly adopted The parasites frequently lost now under a water-carriage system might be often regained in a system where lettuces, for instance, were grown in soil manured superficially by human excreta Probably ordinary horse manure contains many parasites, but they like not the human frame If one considers the frequency of parasitic worms—to take only one instance—and the ignorance of the housewife in pathology, it is clear that this danger might be considerable This is well known to those who have lived in Eastern lands

In the disposal of excreta paper plays a considerable part, and the action of organisms on paper is not obvious No one wants, in digging over his garden in a year's time, to come upon pieces of the *Daily News* of last year

The disposal of the fluid part of the excreta is a knotty problem which even Dr Picton has not solved to his own satisfaction As a matter of fact it often results in sodden ground in the winter and smelly ground in the summer, and the refuge from it is often a cesspool, which is an abomination In practice all the slops go together, and bacteria do not like soap suds The practice of letting hot and perhaps fermenting human excreta fall into cold water straight away is very sound The skilful use of the bed-pan even is a difficult art to acquire, and it is almost impossible to avoid offensive smells, however carefully the pan is used One would not dream of questioning the acuteness of Dr Picton's olfactory organ, but one suspects that it may be dulled by much use

Sanitary engineering is an expensive thing and improvement is always to be hoped for, but I am sure only the proved necessities of communal life have produced our present-day sanitation, it is a necessary evil

In conclusion, may I say that we have dreamed many dreams, as Dr Picton does in his paper, and it is an excellent thing to see him doing it, but the cold light of practice soon dispels the haze which surrounds all theory, and finds out the solid matter in it All our houses in Letchworth are built to get the maximum of sun possible, and we have tested some of the things he suggests, but to carry out his ideas of sanitation will require a carefully selected small community in a carefully selected spot —I am, etc,

Letchworth, Feb 9th NORMAN MACFADYEN

THE LISTER WARD AT GLASGOW

SIR,—Mr James A Morris of Ayr has issued a last eloquent appeal for preservation of the Lister Ward at the Royal Infirmary of Glasgow It was, if I mistake not, Mr Morris who, after a great fight, succeeded in preserving the Auld Brig of Ayr, which, next to Burns's cottage at Alloway, is the most cherished memorial of Scotland's national poet The fervent, even if almost despairing, hope cannot but be expressed that here also it is not too late to prevent an act of vandalism But Mr Morris, as an architect of acknowledged standing, does not confine his appeal to sentiment He attacks the proposal of the Infirmary managers on utilitarian grounds The many medical visitors who went to see the ward during the Annual Meeting of the British Medical Association in Glasgow in 1922 would not but realize the awkwardness of its position in relation to the adjacent very modern and admirable infirmary buildings, so that while they hoped the ward would be preserved they recognized that, after all, there was *something* to be said for its removal in the interests of fresh air, light, and space That consideration was largely met by Mr Morris's *scheme for* taking down the upper stories of the whole block and leaving only the Lister Ward on the ground floor But the managers' reasons for removing even the lower part of the block have nothing to do with these considerations If Mr Morris is correct, it is proposed to erect on and beyond the site of the Lister Ward other buildings of at least equal height, and more than twenty feet nearer to the adjacent surgical block No doubt the new buildings would be devoted to purposes altogether praiseworthy, but surely some alternative site can be found within reasonable and convenient distance of the Infirmary Glasgow is a great city, tremendous in energy and enterprise, and its Infirmary governors unquestionably are actuated by what they regard as the best motives, both from the financial and the administrative side But sentiment is a strong force, and in this matter they surely ought to yield to it As is pointed out in the appeal by Mr Morris, the centenary of Lister's birth is only three years distant The whole world will then be doing homage to his name, and it will be to the everlasting discredit of the city on the Clyde if it does not preserve the actual structure in which there began the greatest and most beneficent revolution in the practice of surgery that the world has witnessed since the dawn of history Will not the managers stop ere it be too late? Many mistakes can be rectified as well as repented This would certainly be repented, but could never be rectified. —I am, etc,

February 11th OLIM GLASGOVIENSIS

OUR DEBT TO DR BRACKENBURY

SIR,—I quite agree with the letter from Dr Harry Roberts, and should like to second it We, as insurance practitioners, owe a great debt of gratitude to Dr Brackenbury and his colleagues of the Insurance Acts Committee, also to Dr Cox, Medical Secretary, and Dr Anderson, Deputy Medical Secretary, of the British Medical Association

They have not only done much hard work on our behalf, but displayed great skill in organization and leadership during the insurance crisis, and, without a doubt, the majority of practitioners are very grateful for the hard fight they have put up for us

The Association has done its part well, and it is "up to us" now to do our part in making some collective formal acknowledgement —I am, etc,

London E.2 Feb 8th REGINALD COCK, M R C S

SIR,—I am delighted to see in the JOURNAL this week a letter from Dr Harry Roberts, suggesting that the great services of Dr Brackenbury should be recognized in a practical way by the whole profession

I should like to suggest that, in addition to a central fund, the secretary of each Panel Committee in the country should be asked to collect subscriptions from all the practitioners in his area This could be done with very little trouble and expense, and I feel sure would secure many more subscriptions than an appeal sent out from London The small expense incurred in each area could, of course, be taken from the fund, and the balance forwarded to headquarters —I am, etc,

Trowbridge Feb 10th FRANK F BOND

EXPLOITATION OF NURSES

SIR,—It ill becomes anyone in the position of Dr Cautley (February 9th, p 255) to level accusations and make such sweeping assertions on matters connected with the Nurses Registration Act and its administration by the General Nursing Council as it is very obvious he is absolutely ignorant of the provisions of the Act May I suggest he studies the Act with the rules and regulations passed by Parliament and I imagine he will realize most of his criticism is wide of the mark and quite uncalled for

He would make it appear that one examination is required, for which a fee of five guineas is demanded whereas two examinations—preliminary, after the first year's training, and a final after three years—are included in the charge Out of the two *guineas* charged for the preliminary examination, one and a half guineas is earmarked for payment of examiners, leaving a very small balance for all overhead charges, such as staff and office upkeep, printing, rent of premises hired for holding

examinations all over the country, invigilators, travelling expenses of examiners, etc The final examination will likewise be a very costly affair, and personally I do not think the fees will cover the overhead charges

The General Nursing Council have followed the methods adopted by various examining bodies, such as the University of London, in their endeavour to carry out the provisions of the Act with regard to examinations, and when the number of centres in which examinations will be held is considered it will be realized that the examinations cannot be conducted at a lesser fee Already I have heard of medical men questioning whether it is worth their while to act as examiners, as in their opinion the remuneration would be inadequate

"Women paying such fees," Dr Cautley states, "should have some voice in the matter", but surely he is aware that two-thirds of the General Nursing Council are nurses elected by nurses themselves, the remainder being medical men, with lay members of the public, all of whom are appointed by the Privy Council, Minister of Health, etc

I need not enter into his other arguments, all of which are more or less ridiculous, but would assure your readers that the General Nursing Council have no desire to make a profit out of examinations They must of necessity ensure that expenses are met, and if it is found that the examinations can be conducted cheaper than contemplated, then undoubtedly the fees would be revised accordingly —I am, etc,

R DONALDSON,
Chairman of Finance Committee, General Nursing Council

London, W 1, Feb 9th

SIR,—The letter from Dr Edmund Cautley in your issue of February 9th (p 255) appears to me to state the case exceedingly well

As far back as October 25th, 1923, I wrote myself to the Registrar of the General Nursing Council as follows

"Thanks for your reply to my letter of the 23rd instant I am afraid that so far as we are concerned your Council's decision as to examination fees practically settles the case for us, as it will do for a good many more hospitals

"Speaking personally, I do not think for a moment that there will be any enthusiasm whatever on the part of fever nurses at any rate to qualify for inclusion of their names upon the Council's register at a cost of five or eight guineas in examination fees, in addition to the fee for registration, since they simply cannot afford that amount of money

'I am sorry indeed, because I am most anxious to see the establishment of a reliable register but I am very much afraid that its success will be gravely prejudiced by the high fee your Council has decided upon Under the circumstances I hardly think it is of any use our offering to co-operate in the examinations"

—I am, etc,

H KERR,
Medical Officer of Health Medical Superintendent City Hospitals for Infectious Diseases

Newcastle-upon-Tyne, Feb 11th

THE WESTERN FRONT, 1914-15

SIR,—May I be permitted to correct one or two errors in the review of Vol II of the General History of the Medical Services, which appeared in your issue of February 9th

Your reviewer states that some cavalry *divisions* moved out to meet the enemy without any ambulances at all The history does not show this, as there was only one cavalry division during the earlier operations of the Expeditionary Force What your reviewer evidently meant was that some cavalry *brigades* were without field ambulances when the cavalry division moved from its concentration area

Again, he refers to the absence of any specific statement that some of the divisional field ambulances were some 200 kilometres from where they ought to have been moving into action with their divisions and that the D G A M S seems to have agreed to content himself at first with only one field ambulance instead of three with each division The map facing page 183 however clearly shows the position of the field ambulances as moving up by rail, on August 21st, their actual position at the time being necessarily indeterminate with regard to distance from their divisions, and there is nothing in the history to warrant the statement that the D G A M S agreed to content himself at first with only one instead of three field ambulances with each division The hurried conference, to which your reviewer refers and at which he surmises the D G A M S came to this decision, appears to be the conference referred to on page 178 Although this conference took place at the War Office, it was the D M S of the Expeditionary Force, and not the D G A M S, who was concerned, and in any case the question of field ambulances was not mentioned The conference, so far as the history records, dealt only with the policy of evacuation of wounded and the placing of lines of communication medical units —I am, etc,

February 11th W G MACPHERSON

DICHOTOMY

SIR,—I have been much interested in the correspondence on the subject of dichotomy which has appeared in recent issues of the BRITISH MEDICAL JOURNAL I know from personal experience that the practice does exist in a variety of forms The vice is of rampant growth, and if it once takes root in a district individual surgeons are unable to fight against it In my opinion it is of great importance to the public as well as to the medical profession itself that efforts should be set on foot which would render fee-splitting a recognized breach of honour A definite pronouncement of such a nature coming from a recognized authoritative source would at any rate give the well intentioned surgeon some assistance —I am, etc,

February 9th PROVINCIAL

THE "E R A" CULT

SIR,—May I trespass on your space in reply to your editorial about the "E R A" in your last issue, with special reference to your final remarks—namely, "That the basic theories of the cult violate most of the known laws of physics" In this age of growth it is difficult to understand that anyone can write in so dogmatic a manner I would ask, What about the at present unknown laws? If we are to condemn a fact because the known laws do not apply to it, we are putting a definite barrier to progress

When wireless telegraphy first made its appearance an expert electrical engineer assured me that it was impossible as it violated the known laws of electricity Had everyone refused to study any but the known laws, could anyone have evolved wireless? Many other instances can be adduced Helium, which was supposed by scientists not to exist on earth in any form, is now being manufactured in bulk Take, again, the transmutation of elements Everything is now known to be in a state of vibration, therefore why not disease, and a further vibratory rate to neutralize it?

We, as a profession, have been using drugs in an empirical fashion without in the least understanding the ultimate method of their action Does it violate even the known laws of science to suggest that the vibratory rate of drugs is the essence of their action? If one calls to mind the numberless methods of treatment in use at the present time whose inception was greeted by the profession with howls of derision, not to say persecution—to take a few instances electrical treatment in general, x rays, hypnotism, suggestion—one realizes that such a novel method as that evolved by the late Dr Albert Abrams would be singularly fortunate if it did not share the same fate Why, I ask, should not a properly qualified man try out any new form of treatment with an unbiased mind, accepting or rejecting as the case proves or disproves itself? That he does so should not lay him open to the charge of neglecting other forms of treatment or behaving in an unprofessional manner

One of the adverse criticisms of the exponents appears to be that they are making money I have yet to learn that this is a sin in any other form of practice The fees are not larger than those charged for any other special treatment, and to my certain knowledge the exponents of the "E R A" are no whit behind others in the number of their gratis patients

That the diagnostic reactions are a fact can easily be verified by those who have the ears to hear and as an alternative test there is the glass rod That mistakes should sometimes be made is inevitable, as has been known to happen in other methods of diagnosis, but these mistakes occur in the preliminary examinations of the blood made without any knowledge of the patient or symptoms A personal examination of the patient is invariably made before treatment is commenced

The oscilloclast is still in its infancy and much has to be done to bring it to perfection, but there is no doubt that up to a certain point it does its work and does it well There is an ever-increasing number of patients who will testify to this

One very important point is that it does not profess to be a cure-all, neither is it a penny-in-the-slot machine To treat successfully with the "E R A" needs knowledge and experience

Should the medical profession neglect Abrams *in toto* his method will simply fall into the hands of unqualified men, in which case the dangers which your contemporary, the *Lancet*, adumbrates would become a reality, further, considerable damage would accrue to the profession by adding to the many who are already practising healing in various ways outside the pale

Finally, the charge of using an instrument of which the construction is unknown comes with ill grace from a profession which uses so freely drugs, synthetic and others, of unknown composition, many of which are indistinguishable from patent remedies —I am, etc ,

J DODSON HESSEY,
M.R.C.S L.R.C.P

St Leonards-on-Sea Feb 6th

SIR,—I read with much interest the article on Albert Abrams and the "E R A" cult, which appeared in the issue of the BRITISH MEDICAL JOURNAL of January 26th It must be abundantly clear to those who know anything at all of physics that the original doctrine as propounded by Abrams represents either the discovery of an entirely new physical phenomenon, quite dissociated from any known form of energy, electrical, chemical, or otherwise either that, or the most arrant nonsense that has been foisted on an incredulous public for a generation

Abrams himself let the cat out of the bag when he said that the "electronic vibrations" were "unappreciable, unidentifiable, and unmeasureable by any known form of scientific instrument" The obvious retort to this statement lies in the question of how he managed to discover it, and that question brings one to the most Gilbertian part of it all—namely, that the resonant abdomen of a healthy young adult is able to indicate, by developing a localized dull patch, the existence of this mysterious form of energy It is difficult to imagine a less scientific form of detector

Very little thought is enough to show how ridiculous is this abdomen-tapping business What is the physiological basis of it? One explanation would be the expulsion of previously contained gas from localized segments of intestine or stomach situated immediately behind the area dull to percussion Acceptance of this explanation would presuppose a kind of intelligence located, say, in the solar plexus!

As is pointed out in the article referred to, the "subcultures" of the doctrine are many One variation is that the "electronic vibration" is in reality a Hertzian wave of a very short wave-length, something of the nature of a few deci- or centimetres But the dull patch in the abdomen is still used to detect it It would be interesting to know whether there is any scientific method of detecting Hertzian waves of this wave-length, if they exist at all

It is of significance that the "E R A" cult has been widely adopted by heterodox systems of therapy such as homoeopathy and osteopathy With regard to the former creed, it is used, I understand, not so much for diagnosis as for checking the homoeopathic remedy indicated by the cross index book of symptoms and remedies Those, like myself, who are sceptics where homoeopathy is concerned will perhaps think that, restricted to this use, there is little added harm in the cult, on the supposition that it doesn't make a ha'p'orth of difference what particular homoeopathic pill or powder is given that sugar is sugar, when all's said and done! My excuse, however, for writing at such length is that, when used for diagnosis and treatment, the capacity of the cult for harm is incalculable, by reason of the neglect of adequate treatment which would inevitably tend to occur —I am, etc ,

London W 1 Feb 5th S COCHRANE SHANKS

Obituary

THOMAS BODLEY SCOTT, M R C S,

Bournemouth

WE regret to record the death of Dr T Bodley Scott, who practised for many years in Bournemouth and took a leading part in the public life of the town For the following appreciative account of his career we are indebted to his colleague, Dr W Johnson Smyth

Thomas Bodley Scott was born in Brighton, the son of Dr S K Scott, a practitioner of that town He was a direct descendant of Sir Thomas Bodley, founder of the famous Bodleian Library Educated at St Bartholomew's Hospital, he obtained the diplomas of M R C S Eng in 1873 and L R C P Edin in 1874 After a trip to Tasmania he settled in Bournemouth, where he established a large general practice He was a man of great personal charm and endowed with exceptional tact and common sense in his dealings with the sick Indeed, his great popularity as a physician became an asset to the town, and decided many visitors to make it their home Dr Scott was the medical attendant and friend of Robert Louis Stevenson during the latter's stay in Bournemouth *Undercoods* was dedicated to several of Stevenson's doctors, but especially to Dr Scott, of him Stevenson wrote



T BODLEY SCOTT
[Photograph by Hazel Bournemouth]

'But one name I have kept on purpose to the last because it is a household word with me, and because, if I had not received favours from so many hands and in so many quarters of the world it should have stood alone—that of my friend, Thomas Bodley Scott, of Bournemouth"

Dr Scott used to recall how Stevenson said to him one morning, "I've got my shilling shocker," and then narrated a dream he had had, which formed the basis of *Dr Jekyll and Mr Hyde* When, in 1887, "R L S" seemed to be condemned to a life in the sick-room, Dr Scott was amongst those who persuaded him to make his home abroad

Dr Scott was a man of wide horizon In his leisure hours he read widely One can see this when one looks into his books—*The Road to a Healthy Old Age, The Religion of a Doctor, Modern Medicine, Endocrine Therapeutics* Most men after a successful professional career would have sought a life of repose—not so Dr Scott Abandonment of services to the sick was followed by services of another kind At the age of 70 he became a town councillor His rapid grasp of the needs of a progressive health resort was evident to all from the start He soon became chairman of the Education Committee, his colleagues on the town council quickly realized that a new force had been added to the municipal life of the town, his opinions on local affairs swayed men's minds, altering the ideas of some, solidifying the ideas of others In November last he was unanimously elected Mayor of Bournemouth He regarded this as a great honour, the burgesses felt honoured too During his all too short period of office he delivered several addresses—all charged with high idealism and studied appeals for civic selflessness

The writer of this memoir attended a recent mayoral reception, we felt very proud of our physician mayor so handsome in his regalia and chain of office, upholding with such dignity the premier office of the town His health had not been very good for some time and a critical condition arose which defied human aid, and our beloved mayor passed from our sight on February 2nd Those who knew him best realize how high his endeavour was to be in tune with the Infinite, to serve the generation in which he lived, and in serving, to establish a memory and an influence that will not soon pass away The funeral was on February 6th At the choral service in St Michael's Church the building was packed The deputy mayor, aldermen, and town councillors attended in their robes of office, several mayors and sheriffs of Hampshire and Dorset boroughs were present for their

with the member for the borough, the local magistrates, representatives of the Masonic order, boards of guardians, the Bournemouth Medical Society, the Bournemouth Legal Society, the Chamber of Trade, and other bodies At the grave, in the Bournemouth Cemetery, a choir of 250 school children sang "Jesu, Lover of my soul," and many a tear fell when the first citizen of Bournemouth found his last resting place During the progress of the funeral to the cemetery thousands thronged the route, flags were at half-mast throughout the town, and never within the writer's memory was there such evidence of universal sorrow amongst the citizens of Bournemouth

Dr Bodley Scott is survived by seven sons and two daughters

WILLIAM HARDCASTLE, M D LOND,

Newcastle upon Tyne

IT was with a profound sense of grief that the medical profession and the public of Newcastle-upon-Tyne received the announcement of the death of Dr William Hardcastle on February 2nd On the evening of January 29th he had attended a social function and on reaching home complained of not feeling well, two days subsequently his illness took the form of a severe attack of influenzal pneumonia, to which he succumbed on the fourth day, at the comparatively early age of 51

An old Charing Cross Hospital and University of Durham student, few men have been held in higher esteem by their patients or been more lovingly appreciated by their medical brethren than was Dr Hardcastle In 1901 he was appointed surgeon to the prison, a post which his father, the late Dr Nicholas Hardcastle, had held for forty years He belonged to an old Newcastle family, Dr William Hardcastle, the grandfather of the subject of this notice, having practised in the city for many years Six years ago, on the death of Dr John Baumgartner, Dr Hardcastle was appointed police surgeon for the East End of Newcastle The duties of both of these appointments were discharged by him with fidelity, admirable tactfulness, and with consideration for all concerned He was regarded as a friend by all the inmates of the prison, official and other In the police-court, while true to his position as a medical administrator, he gave sound and judicious advice which was often of great assistance to the Bench

During the war Dr Hardcastle acted as one of the physicians to the Northumberland War Hospital, and three years ago, when Dr R A Bolam retired from the professorship of medical jurisprudence in the University of Durham College of Medicine, Dr Hardcastle was appointed to succeed him This post gave him the opportunity of making use of his large prison and police experience

To all who knew him, Hardcastle was a delightful companion He had a wide knowledge of books and was a keen collector of works dealing with local antiquities He knew "Old Newcastle" well, its history and traditions, and was deeply interested in all that concerned its past A man of good physique, which by exercise in the open air he did his best to consolidate and maintain, it was not feared that he would have succumbed to his illness so rapidly as he did

At the police-court the presiding magistrate made feeling reference to him and referred to the loss the city had sustained by his death

On February 5th a large crowd of patients, friends, and the public generally gathered at the Old Jesmond Cemetery to pay their respects to his memory A large body of policemen, prison warders and wardresses followed in the procession Six policemen carried the coffin shoulder-high to the chapel and the grave Closely behind the relatives and immediate friends walked in a body the professors and lecturers of the College of Medicine attired in gown and hood Thus amid indications of deep regret and profound sorrow was laid to rest all that was mortal of an esteemed colleague and an honourable medical practitioner

He has left behind him a widow, two sons, and two daughters, for all of whom the sincerest sympathy is felt

T O

THE LATE DR ALFRED MILLER.—At the last meeting of the Warwickshire Panel and Local Medical Committee the following resolution, referring to the late Dr Alfred Miller, whose death we announced in our issue of December 29th, 1923 (p 1279), was unanimously adopted

> 'That the Warwickshire Local Medical and Panel Committee representing upwards of two hundred medical practitioners desire to place on record their sincere regret for the death of Dr Alfred Miller, who for many years was Medical Superintendent of the County Asylum His marked administrative ability and conscientious discharge of his multifarious duties won for him the high regard of all classes of the community, while his genial courteous manner and his ever readiness to help endeared him to all his colleagues, who respectfully tender to Mrs. Miller and her daughters sincere sympathy in their sad bereavement'

We regret to report the death, on January 28th, while on a visit to Ceylon, of Dr BERNARD HARRY WEDD, at the age of 47 Dr Wedd was the fourth son of the late Mr. H A Wedd, of the Manor House, Woodmansterne, and was educated at Harrow and Guy's Hospital He obtained the M R C S Eng and L R C P Lond diplomas in 1903, graduated M B Lond in 1903, and proceeded M D in 1906 In 1907 he took the D P H After holding resident hospital appointments he specialized in bacteriology, becoming assistant to Dr Eyre Later he organized, and for some time directed, the pathological department of the Royal London Ophthalmic Hospital, City Road, and subsequently worked for two years in the cancer research laboratory of the Middlesex Hospital At the outbreak of war he held the post of bacteriologist at the London School of Tropical Medicine, and in spite of impaired health he joined the R A M C and went out on October 14th, 1914, with the 23rd Field Ambulance He took part in the battles of Ypres, Festubert, Loos, Neuve Chapelle, and on the Somme, and was mentioned in dispatches After two years at the front he was transferred to a hospital in Rouen to pursue his true vocation of bacteriology A few months later he was invalided home suffering from paratyphoid fever, and this was followed by rheumatism, to which he had long been subject The following summer he returned to France, and was stationed at Havre until demobilized in 1919 He never recovered from the strain of those five years, and had been unable to do professional work since, except occasional duty as ship's surgeon in order to escape the English winter His writings included "Multiple intestinal tumours," published in the *Middlesex Hospital Archives*, "Effect of radium and *x* rays on the cells of mouse carcinoma," with Professor Sydney Russ (*Journal of Pathology*, 1912), and, in collaboration with his sister, a translation from the French of *Pasteur and his Work*, by L Descour, 1922

Dr T GELSTON ATKINS died at his residence in Cork on January 28th, aged 69 He was the son of the late Mr William Atkins, architect, and was educated at Queen's College, Cork, where he was senior scholar of his year in surgery and midwifery and first exhibitioner in the practice of medicine, surgery, and midwifery He graduated B A R U I in 1874, and M D, M Ch, and L M in 1878 He was consulting surgeon to the Cork Maternity Hospital, and was for over a quarter of a century surgeon to the Cork South Infirmary and County Hospital, but had ultimately to give up the latter position owing to ill health He was a member of the Gynaecological Section of the Royal Society of Medicine, and was formerly surgeon to the County and City of Cork Hospital for Women and Children, and senior physician and joint lecturer on midwifery and gynaecology at the Cork Maternity Hospital He had published original articles in our columns on the surgical treatment of gastric ulcer and dilatation of the stomach by gastro-jejunostomy and jejuno-jejunostomy, the surgical treatment of malignant disease of the rectum, and on gangrenous *appendicitis*

Dr OSCAR DE JONG of Liverpool died, after a very short illness, on January 18th He was born in Ardwick, Manchester, in 1888, the son of Dr E M de Jong, and was educated at the University of Manchester, where he graduated M B, Ch B with honours in 1914 and took the D P H in the following year He was offered a research

fellowship in the Faculty of Public Health of Manchester University, but was unable to accept it by reason of military duties During the war he served in Salonica and Malta as well as in England He was honorary clinical assistant in the skin department of the Liverpool Royal Infirmary, and medical officer to the venereal diseases clinic at the Royal Southern Hospital, Liverpool Formerly he had served as assistant director of the clinical laboratory of the Manchester Royal Infirmary, and assistant medical officer of health at Liverpool and Salford The funeral service, which was attended by many friends and colleagues, was held at St Nicholas's Church, Blundellsands

Dr WILLIAM CURTIS died at Alton on February 8th He was the son of the late Dr William Curtis, who died in 1881, and was the descendant of Dr Thomas Curtis, who started medical practice in Alton in 1700 He received his medical education at St George's Hospital Medical School, and took the diploma of M R C S Eng in 1858 and that of L S A in 1859, after which he joined his father in practice Dr William Curtis took a prominent part in the establishment of a cottage hospital at Alton, of which he continued as one of the medical officers until his retirement in 1911 He took great interest in the history of his native town and from the material collected wrote a history of the town of Alton He was formerly a member of the British Medical Association

The death is announced, at the age of 64, of Dr RICHARD SLATER of Newcastle-on-Tyne, after a long period of illness He was born at Preston, where his father was a prominent mill-owner, and was educated at the University of Aberdeen, where he graduated M B, C M in 1893 In his earlier days he was a keen Rugby football player He was a member of the Newcastle-on-Tyne Division of the British Medical Association, of the Newcastle Clinical and of the Northumberland and Durham Medical Association He is survived by a son, Dr William Arthur Slater, and two daughters

The death occurred on January 29th of Dr WILLIAM GREEN of Portsmouth, at the age of 71 He was a native of Portsmouth, received his medical education at the London Hospital, and took the diploma of L R C P Lond in 1887 Except for the first few years of his professional career, spent at the London Hospital, he had practised the whole of his life in his native town He was a member of the Portsmouth Division of the British Medical Association, and a prominent Freemason

The Services

INDIAN MEDICAL SERVICE

STUDY LEAVE.

CONSEQUENT on the introduction of the Fundamental Rules, which have taken the place of the old Civil Service Regulations, the Secretary of State for India has approved rules regarding the grant of study leave to officers of the Indian Medical Service They appear to be identical with those previously in operation They have effect from January 1st, 1922

AFTER-CARE OF TUBERCULOUS EX-SERVICE MEN

THE Minister of Pensions makes the following announcement

Arrangements have now been made to secure that the local agencies of the Ministries of Labour and Pensions will actively co-operate with the local health authorities in the after-care of ex service men suffering from tuberculosis on their return home after a course of treatment or treatment combined with training in a sanatorium It has been arranged that six weeks (or as long as possible) before the tuberculous man's discharge from an institution the notification of the pending discharge will be sent to the tuberculosis officer of the man's place of residence Thereupon special steps will be taken on the one hand so that as far as possible the patient shall not return to home conditions which are likely to prevent the satisfactory progress of the case or to cause a relapse, and at the same time, on the other hand to do all that is possible to assist the man to obtain employment in a suitable occupation So far as the man's home conditions are concerned the tuberculosis officer and his staff or the Tuberculosis Care Committee, if one has been established in the area will if these conditions are unsatisfactory, take such action as may be practicable to improve them As regards the man's employment, if the tuberculosis officer considers that the man's occupation is unsuitable he will furnish the Employment Exchange with a list of occupations which he considers not definitely unsuitable for the case The employment exchanges will render all possible assistance in this matter, and special efforts will be made by the King's Roll Committee and by the chief area officer and the members of the War Pensions Committee The departments concerned in these arrangements are satisfied that the success of after-care in cases of tuberculosis depends primarily on personal effort and individual attention and all the local organizations concerned have been asked to co-operate actively in the work

ARMY DENTAL CORPS

THE War Office announces that the first examination of lieutenants before promotion to captain and captains before promotion to major, in the Army Dental Corps, will be held in October next

DEATHS IN THE SERVICES

Lieut Colonel Joshua Chaytor White, C M G, Bengal Medical Service (retired), died of anaemia at Sunnybank Hospital Canne on January 30th, aged 59 He was the son of Albert White shipbroker, of Kingstown, Dublin, and was educated at Edinburgh University where he graduated as M B and C M in 1887 and M D in 1893 He took the D P H Cantab in 1901 He entered the I M S as surgeon on September 30th 1889 became lieutenant-colonel after twenty years service and retired on December 22nd, 1912. Most of his service was spent in the sanitary department After eight years military duty he was appointed deputy sanitary commissioner in the United Provinces in December 1897 Ten years later—in August, 1907—he became chief plague officer in the same province and sanitary commissioner in January, 1908 He served on the North West frontier of India in the Chitral campaign of 1895 taking part in the relief of Chitral, and receiving the medal with a clasp In 1914 he rejoined for service in the recent war when he was for some time in command of a hospital for Indian sick and wounded at Barton near Bournemouth he was mentioned in dispatches in the *London Gazette* of July 27th, 1917, and received the C.M G on June 4th 1917

Major Robert Heuston MacNicol, R A M C, died in Queen Alexandra's Military Hospital Millbank, on January 26th He was born on October 2nd 1877, the only son of the late John MacNicol of Dublin and was educated at Trinity College Dublin, where he graduated B A M B, B Ch and B.A O in 1902 After acting as house-surgeon of the Adelaide Hospital, Dublin he entered the R.A.M.C as lieutenant on August 31st 1903 becoming major on February 20th 1915

Brigade Surgeon William Creagh, LL D R A M C (retired) of Lullington, Burton-on Trent died on January 18th aged 85 He was born at Manchester, and was the third son of the late Lieutenant James Creagh, he was educated in Dublin, where he took the L R C S I in 1857 and the L S A in 1859 Entering the army as assistant surgeon on October 15th 1859, he served in the Royal Artillery until regimental service for medical officers came to an end He became surgeon major on April 1st 1873 and retired with the honorary rank of brigade surgeon on August 25th 1880 He served in the Afghan war of 1878-80, when he was mentioned in dispatches and received the medal with a clasp

Universities and Colleges

UNIVERSITY OF LONDON

AT a meeting of the Senate held on January 30th Sir Sydney Russell Wells, M P, was re-elected the representative of the University on the General Medical Council and Dr R H Luster and Professor H R Kenwood, C M G were appointed delegates at the Congress of the Royal Sanitary Institute to be held in Liverpool in July next

UNIVERSITY OF WALES

DR J F WIGHT has been approved in both parts of the examination and has received the Tuberculous Diseases Diploma.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

Parkin Prize

THE Parkin Prize of the Royal College of Physicians of Edinburgh, founded by the late Dr John Parkin Fellow of the College will be awarded next year for an essay On the effects of volcanic action in the production of epidemic diseases in the animal and in the vegetable creation and in the production of hurricanes and abnormal atmospherical vicissitudes" The prize is of the value of £100 and is open to competitors of all nations Essays intended for competition, which must be written in the English language, must be received by the Secretary of the College not later than December 31st 1924 Each essay must bear a motto and be accompanied by a sealed envelope bearing the same motto outside and the author's name inside The successful candidate must publish his essay at his own expense and present a printed copy of it to the College within the space of three months after the adjudication of the prize

Medico-Legal.

THOMPSON v NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION

HEARING BY THE JUDICIAL COMMITTEE OF THE PRIVY COUNCIL

AN appeal from the Supreme Court of New South Wales, in which Dr George Stanley Thompson was the appellant, and the New South Wales Branch of the British Medical Association were the respondents, came for hearing by the Judicial Committee of the Privy Council, sitting in Downing Street, London, on February 7th and following days The appeal was heard by Lord Buckmaster (presiding) and Lords Atkinson, Darling, and Wrenbury Counsel for the appellant were Sir Walter Schwabe, K C, and the Hon Geoffrey Lawrence, instructed by Messrs Light and Fulton, and for the respondents Sir John Simon, K C, M P, and Sir Hugh Fraser, instructed by Messrs Thomas Cooper and Co Mr W E Hempson, Solicitor to the British Medical Association, and Dr Crago, a member of the New South Wales Branch Council, were also present

The case arose out of the expulsion of the appellant from the Branch Dr Thompson, after practising in England and in South Africa, began practice in New South Wales in 1916 In October, 1920, a Mrs Farr consulted him about some chest trouble, and afterwards told him that she had been—wrongly, as she claimed—confined in lunatic asylums, and was still more or less under restraint Dr Thompson formed the view that Mrs Farr was sane, and that her troubles were physical and not due to mental disease, and he took up her case with some vigour He asked Dr Davidson, who had been consulted by her, to see him, but Dr Davidson refused to give an undertaking that Mrs Farr should not in the meantime be removed, and in fact she was removed Dr Thompson then took steps to secure Mrs Farr's liberation, and approached various influential persons in the State with a view not only to a thorough investigation of this case, but to securing medical reforms in lunacy administration generally In March, 1921, he published a letter in a Sydney lay newspaper dealing with the matter, in which he stated that 'It is an outrage that private doctors should have the power to imprison people and move them about at their own sweet will" In the same month he waited upon the Chief Secretary of the New South Wales Government, and a daily paper published a report of his speech (the accuracy of which however, he did not accept), which contained further criticisms At a Council meeting of the New South Wales Branch Dr Thompson's action was referred to the Ethics Committee and he was asked for an explanation of certain utterances, which explanation the committee did not consider satisfactory Meanwhile Dr Thompson asked for an inquiry by the judge in lunacy as to the sanity of Mrs Farr judgement was given in a sense adverse to his contention The *Medical Journal of Australia* commented editorially upon these proceedings, and criticized Dr Thompson in what he judged to be unwarrantable terms Thereupon Dr Thompson published the whole correspondence between himself and the Association in an evening newspaper The Ethics Committee complained of this publication, which was contrary to a Branch regulation of which the appellant said that he was unaware The Ethics Committee subsequently recommended to the Council that procedure be taken for the expulsion of Dr Thompson the complaint being that in a letter to the Premier of the State he had insinuated that the detention of Mrs Farr had been effected or aided by certain responsible medical men lending themselves to improper and wicked motives that he had made certain statements in public in derogation of the honour and integrity of the profession, and that in contravention of professional usage and etiquette he had published the correspondence referred to The Council passed a resolution for expulsion on September 27th, 1921, after Dr Thompson had spoken in his defence An extraordinary meeting of the Branch members was called for November 18th to consider further the question of expulsion, and at this meeting, which Dr Thompson addressed for more than an hour a resolution was carried by 76 votes to 23, confirming the resolution of the Council Appellant stated that in consequence of his expulsion and of the intraprofessional restrictions which followed his practice fell off and a number of doctors who had been accustomed to associate with him in professional work would associate no longer In May, 1922, he filed a declaration and claimed £5 000 damages from the Association together with an injunction to restrain the Association from maintaining the expulsion The judge decided that all the counts must go to the jury and after a prolonged hearing the jury by a majority returned a verdict for Dr Thompson, with £2 000 damages The Association appealed to the full court of the Supreme Court and on May 7th, 1923 the appeal was allowed, and the judgement in favour of Dr Thompson set aside, with costs against Dr Thompson From this judgement Dr Thompson now appealed to the Judicial Committee of the Privy Council

February 7th

Sir Walter Schwabe, for Dr Thompson, presented the submission of the appellant His case was that there had been ample evidence before the judge and jury to find that the respondents maliciously and unjustifiably conspired and combined to expel the appellant, to induce, persuade, or procure other members of the Association to refuse to meet him in consultation or accord him professional recognition in any form, and to intimidate, coerce, and unduly influence them to that end He further submitted that the Article of the Association under which the expulsion of the appellant purported to be authorized should not be regarded as giving absolute power to expel, but as effective only for an object consistent with the objects of the Association as expressed in its memorandum —namely, the promotion of medical and allied sciences, and the maintenance of the honour and interests of the profession In so far as the powers given in this article were not exercised it was contended that the action of the Association was *ultra vires* He contended also that there was evidence that the Council and the Association did not exercise their power of expulsion in good faith, and did not observe the principles of natural justice whereby a member whose conduct was impugned should be given a reasonable notice and a reasonable opportunity of defending himself He claimed that intimidation was employed, the intraprofessional rules were known to all members, and there was evidence that certain members had been frightened from meeting the appellant personally after his expulsion He also urged that the rules were not binding upon him, although he was a member of the Association, because they were in restraint of trade and not reasonably necessary for the purpose of the Association

Lord Atkinson on this point said that the restrictive measures which followed expulsion arose as a result of the rules of the body of which the appellant had been a member, to which rules by virtue of his membership he had subscribed

Some question arose as to the responsibility of the Branch Council for the *Medical Journal of Australia* Sir W Schwabe said that it was on account of the attack upon the appellant made in that journal, which must be considered in some sense an official organ of the Association, that Dr Thompson took the action he did in publishing the correspondence in another (lay) journal Lord Buckmaster said that so far as he could gather up to this point the respondents were not responsible for what appeared in the *Medical Journal of Australia* This point came up again in subsequent argument

Sir W Schwabe then took their lordships at some length through the correspondence

Lord Buckmaster said that the question which they had to decide was whether this medical body had or had not acted maliciously To prove malice was the business of the appellant Lord Darling thought the question was not merely whether the appellant was able to prove malice, but whether, having proved malice he could go on to prove that injury had resulted to himself because of that malice Malice might be contained in expressions used in speech which, however, had no injurious effect that could be proved After some little further argument, his lordship said that the respondents, being bound to inquire whether Dr Thompson had been guilty of conduct derogatory to the profession, found him guilty of such conduct, and all that they had said was that they found he was guilty Having found him guilty, how could they express it otherwise than as they did?

Lord Buckmaster said that what appellant had to prove was that there was ill will towards him, and, if there was such ill will, what injury had followed as a consequence His lordship wished to have the complaint set out under separate heads, and at counsel's suggestion he wrote down the heads as follows "Expression of ill will towards appellant," 'Method of holding inquiry" [by the Council], "Presence at the inquiry of those persons who were responsible for the conduct of the *Journal*," and "Failure to take steps against the *Journal*' [for its editorial attack] Lord Buckmaster said that it was very important to get these things set out, otherwise an inquiry into the matter would be hopeless

Lord Buckmaster asked what was intended by the complaint as to the method of holding the inquiry Sir W Schwabe said that there was generally an antagonistic attitude on the part of the Council, and the appellant was refused a fair hearing Lord Atkinson asked "Was he not heard fully, both at the meeting of the Council and at the general meeting of members? It is stated that at the second meeting he spoke for an hour or more" Sir W Schwabe said that the evidence against Dr Thompson was put to the Council and the general meeting in the manner in which it had already been decided by the Ethics Committee

Lord Buckmaster said that in the evidence tendered to the judge and jury there was only one statement he

could see relevant to the complaint as to the expression of ill will Even if it was shown that what the Branch Council did was not a wise thing for them to do, this did not necessarily prove malice The only definite evidence of malice would be the expression of ill will Lord Atkinson, after further remarks by counsel, said that he was still at a loss to understand on what basis the allegation was founded that Dr Thompson was not given an opportunity of being heard Both at the Council and at the general meeting Dr Thompson was heard in his own defence Sir W Schwabe was understood to reply that the case of the appellant was handicapped because there was no report of the extraordinary general meeting of the Branch at which his expulsion was confirmed Whereupon Lord Atkinson remarked But at that meeting the appellant spoke for over an hour"

February 8th

The first question argued on the second day of the hearing was that of the publication of the article attacking appellant in the *Medical Journal of Australia* This publication, the appellant contended, must have been done with the knowledge and approval of at least some members of the Council

Lord Buckmaster asked on what ground it was alleged that the statement in a resolution of the Council that his [Dr Thompson's] assumption that the editor's action in publishing the article referred to in the *Medical Journal of Australia* would be known to some members of the Council is incorrect" was a false statement Sir W Schwabe said that surely the respondents must be held responsible for the article in some way or other Lord Buckmaster pointed out that the Council did not state in the resolution quoted that it did not know the article had been published, the Council stated only that it was incorrect to assume that the editor's action in publishing would be known at any rate to some members—a very different thing

Sir W Schwabe We do not want to put the case too high

Lord Darling You cannot show that it was true that Dr Crago [who moved the resolution of expulsion at the Council meeting] knew beforehand what this newspaper was going to publish?

Lord Buckmaster The Council states that it is wrong to assume that the editor's action in publishing the article was known to some members of its body *When the publication* had taken place, what could the members do? They could not restrain publication *They had no power to do that* They could write and complain to the editor, no doubt, but that was all that they could do *The resolution refers to the* editor's action in publishing, not to the contents of the publication.

Lord Darling asked whether Dr Thompson had sued the *Medical Journal of Australia* for libel Sir W Schwabe, who was indistinctly heard, was understood to reply that in the *appellant's contention* it was the Association which was responsible for the publication, and that in the action which appellant took against the Association there was a count of libel, not, however, concerning this article, but concerning the publication of the resolution for expulsion He also complained of the procedure of the Association in summoning the *members to the general meeting*, whereby in the notice of meeting the charges against Dr Thompson were not formulated, but the members were simply asked to confirm or otherwise the resolution of the Council

Lord Buckmaster But you could not circulate a number of charges, as yet unanswered, which would have to be printed and would be likely to be read by persons other than those concerned There is not much in that anyhow

A discussion then ensued on the Article of the Branch relating to expulsion, which contained the clause Where any member shall have been expelled he shall not be met in consultation or accorded professional recognition in any other form by any member until it shall have been otherwise decided by the Council" Lord Atkinson said that automatically, once a man was expelled, this rule operated, but one could not join an association and then claim that its rules should have no effect.

Lord Darling Suppose there are a number of people, not formed into any association whatever, who meet and agree together that they do not like a certain person, and that if he is in the same trade as themselves they will not do business with him Is not that what it comes to?

Sir W Schwabe said that to complete the parallel it would be necessary for those individuals to say that if any one of their number did deal with the individual or firm in question they would not deal with him

Lord Buckmaster said that he understood the case to be that this was an *ultra vires* rule because it was in restraint of trade, and therefore did not bind and that the Council put it into operation against the appellant What was meant by "putting into operation"? Did it mean that the Council wrote round to the members and told them that the rule was in operation? It had not been proved that the Council did so Take the hypothesis that it was *ultra vires* The rule was framed honestly, and with no relation to the appellant There was no malice in the *preparation of the rule* Suppose then, a member was expelled and the members of the Association had their attention called to the fact of the expulsion and thought that the rule was not *ultra vires* What was the evidence of malice in a case like that? Sir W Schwabe said that it depended upon what the members did think Lord Buckmaster said that there was no evidence of specific reference to the rule by any one of the defendants to the action Where, then was the malice in sending out a notice that a man had been expelled if those sending out the notice honestly believed it to be true? Sir W Schwabe said that those who sent out the notice knew that it involved ostracism Lord Wrenbury remarked that the contention really appeared to amount to this that there must have been malice because the consequences had been so serious Was that really contended?

Sir W Schwabe No

Lord Wrenbury Then what more do you say? Why do you infer malice?

Lord Buckmaster, a little later, said that to his mind at present the refusal to associate did not appear to be due to the binding character of the rule It did not follow that it was because of the rule that these doctors refused to deal with the appellant They did not refer to the rule at all so far as he could discover Lord Buckmaster went on to say that he could not agree with the statement of the learned judge in his judgement on application for non suit that there were certain pieces of evidence which might be considered as express malice It seemed to him that this was insufficient though there might be more behind it than he was at present aware of

Sir W Schwabe then took their lordships through the judgement on the application for non suit, and following this, through the summing up of the judge—a document of eighty closely printed pages Lord Buckmaster said that it was unreasonable to expect the whole of this to be read if it was not relevant, and he asked counsel to indicate the passages which, in his opinion, bore on the decision their lordships had to make Sir W Schwabe drew attention in particular to a passage in which the judge had said, I have held that these intraprofessional relationships can be held by you [the jury] to be taken as evidence of threats or intimidation on the part of the defendant Association

Lord Buckmaster said that he was waiting to see at what point the judge elaborated the evidence bearing on this He found it difficult to get his mind on the thing which their lordships had to decide His judgement was constantly being deflected to other things in the case

Lord Darling (to counsel) What you have to show is that what they did was not done honestly to protect their own interests, but through malice

Lord Wrenbury asked whether it was argued that the *Medical Journal of Australia* was the official organ of the Association

Sir W Schwabe No

Lord Wrenbury That is what the judge says

Sir W Schwabe Only in the sense that there was a connexion between the two and that members of the Association might publish in that journal

Lord Darling after counsel had read further extracts from the summing up, asked whether this was all the evidence of malice and added that if he had had the summing up of the case he would have taken no notice of that whatever Lord Buckmaster said that he had been reading in the night the judge's summing up, and all he could gather was a discussion as to whether Dr Thompson had been honestly doing what he thought to be right All this might be true but it had no relation whatever to what their lordships had to decide Lord Wrenbury asked where was the intimidation if the expulsion was lawful Lord Darling said that it was the effect of the rule not on the appellant but on other people that constituted intimidation It was intimidation to say to these people, If you associate with him we will take care that other people do not associate with you" It was a little difficult to assent at once to a suggestion of intimidation in this case Lord Buckmaster said that to his mind it was a most astonishing proposition that the Council of a body having expelled a member from their Association became liable for damages because of the existence of an *ultra vires* rule to which they had paid no heed There was no proof that a single one of these people ever took steps to enforce the rule against the appellant Lord Wrenbury said that there was no evidence that Dr Thompson was expelled in order that this rule might be enforced against him

Counsel continued the reading of the judge's summing up and had not completed his reading and his observations upon it when their lordships adjourned until February 11th.

February 11th

Sir W Schwabe, K C, continuing his presentation of the case for the appellant, quoted the circumstances of the Coventry case Lord Buckmaster said that it appeared that in the Coventry case a notice was sent round to the members in the area of the practices concerned calling upon them to do certain things He did not find that any such notice was sent in the present case Lord Atkinson said that the rule upon which the appellant was relying followed upon the fact of expulsion, but apparently the respondents had done nothing to enforce it

Sir W Schwabe pointed out that medical men who were not members of the Association were also affected by the rule, and mentioned that in the rules themselves the term "medical practitioner" was used sometimes instead of the term 'member"

Lord Wrenbury The rule runs "Where any medical practitioner shall have omitted to comply with any rule of the Association," etc, but if he was not a member how could he be required to comply?

Lord Atkinson What ban can this Association place upon a man who is not a member?

Lord Buckmaster In the Pratt case, I believe, the members of the medical profession who were not members of the Association were circularized in the same way as those who were The judge in that case stated, "I am quite satisfied that notice was sent to every medical man practising in Coventry, whether a member of the Association or not"

Sir W Schwabe said that even though no notice was sent out in the present case a report of the action taken by the Council appeared in the *Journal* He proceeded to argue that the ruling laid down in the Pratt case applied also in this, that an Association of this kind could, if it liked, censure and expel a member and publish what it had done, but it could not enforce its decision by punishing or threatening to punish others who dealt with the person expelled Lord Atkinson said that it appeared that in the Pratt case the secretary and members of each Branch concerned were requested to take steps to make the procedure effective

The report of the Pratt case was studied by their lordships, and Lord Buckmaster remarked that the judge had said that the defendants were exercised by actual malice in what they did In the present case he instanced the analogy of four partners, three of whom resolved to end the partnership so far as the fourth was concerned Did this action of theirs therefore become a malicious conspiracy to promote a rule, which they could not enforce, to restrain him from trade? Sir W Schwabe said that in this case third parties were compelled not to trade compulsion was put upon third persons

Lord Wrenbury What possible case could they have against a person who was not a member of the Association at all to prevent him from doing anything he pleased?

Sir W Schwabe said that in the Pratt case there was the clearest evidence that persons not members of the Association were in fear of being brought under the professional ban And did it really make any difference whether the threat was made directly after the expulsion or was in existence before the expulsion? The threat was in existence, all they had to do was to put it into operation He next took up the question as to whether notice was given to the members of the Branch of the action which had been taken against Dr Thompson

Lord Buckmaster referred to the evidence given by Dr R H Todd honorary secretary of the Branch, on this point Dr Todd in the witness box had been handed a card and asked if he had dispatched any such document relating to Dr Thompson since the date of the extraordinary general meeting and he had replied 'No Later, in reply to a point made by counsel on the question of the alleged conspiracy Lord Buckmaster asked whether an association, having powers under its rules could be said to be guilty of conspiracy if it exercised those powers If the General Medical Council in pursuance of its functions, erased a name from the *Register*, was it liable for damages for conspiracy? A group of people interested in the same profession agreed together that their conduct should be bound by certain rules They agreed further that if any member of their group was found, by the body whom they had entrusted with power in the matter, to have broken the rules they would no longer associate professionally with him Was it really urged that for acting on their rules they were liable to be sued for conspiracy and libel? That was a proposition which must be faced

After some further argument with counsel on this point, Lord Buckmaster consulting with Lord Wrenbury, wrote down the proposition in precise terms as follows "A group of professional men agree to regulate their professional conduct by rules One rule provides that any member of their group who breaks the rules shall be removed from membership, and in that event no other member of the group will hold professional intercourse with the removed man They refer to a committee the question of fact as to whether the rule has been broken or not The honest finding of the fact that this rule has been broken is [according to your case] a conspiracy in common law" Lord Buckmaster added That is the proposition you have to contend with

Lord Atkinson Suppose the L C C dismissed an employee, possibly the conclusion it came to in the matter was a wrong one, but would that constitute a conspiracy?

Sir W Schwabe But what if the L C C said to other employers, "If you employ that man we will punish you'?

Lord Atkinson That would give the dismissed person a ground of action But I do not see that in this case there is coercion

Sir W Schwabe went on to argue that the disciplinary aspect of the British Medical Association's work was subordinate and incidental The General Medical Council was the disciplinary body for the profession, not the British Medical Association, with which the General Medical Council had nothing to do

Lord Wrenbury Every medical man is necessarily subject to the jurisdiction of the General Medical Council, certain medical men choose to submit also to the jurisdiction of this other body

Sir W Schwabe proceeded to explain at considerable length the respective functions of the General Medical Council and of the British Medical Association, when Lord Buckmaster remarked that a long and elaborate discussion on the merits of the Association was a matter into which their lordships need not enter Sir W Schwabe quoted as suggestive that there was malice a remark made by Dr Todd to Dr Thompson, as given in the latter's evidence, to the effect that certain members of the profession had "got their knife into him" on account of the action he had taken in a certain case, not the case of Mrs Farr Dr Todd in his evidence, however, had stated that he had no recollection of ever making such a remark to Dr Thompson Lord Buckmaster said that even if Dr Todd did know that this was the case it could not possibly be admitted as evidence, and Lord Darling remarked (amidst laughter) "What the soldier said is not evidence' Sir W Schwabe also mentioned the part played by Dr Davidson, the doctor whom Mrs Farr had consulted before she went to Dr Thompson Dr Davidson, he said, was behind the scenes all the time He was present at the meeting of the Ethics Committee at which the charges against Dr Thompson were framed, and he was at certain of the Council meetings material to the case

The Hon Geoffrey Lawrence, also on behalf of the appellant, submitted some further considerations in closing the case He said that here was a body of rules to which members of the Association had subscribed, and it was urged on the other side that in view of this fact it was impossible to say that there had been any improper threat to members of the Association which could lead in law to an action for conspiracy But it was the basis of the appellant's case that the rules so far as they related to intraprofessional restriction were invalid because they were contrary to public policy They were not necessary to the honour of the medical profession nor the protection of the public The public was protected under the Medical Act The putting into force of these rules amounted to a threat which prevented a body of men from freely disposing of their labour and which resulted in injury to the appellant, and this was ground for an action for conspiracy He submitted that it was perfectly clear that the rules were contrary to public policy If this was the case, how could they possibly be used as a defence in an action for conspiracy? The rules were unnecessary to the Association for the protection of its interests A doctor was not merely a member of the Association, he was a medical man The Association was entitled to exclude an individual who had been a member from its meetings, and to deny him information and the facilities which it afforded to its members, but it was not entitled to exclude him from anything except those benefits, and in these intraprofessional rules it was seeking to deal with him, not as a member of the Association merely, but as a doctor These rules prevented a man from freely practising his profession This was unnecessary in the interests of the Association, and it could not be justified in the way in which trade interests were sometimes allowed to justify threats which otherwise would be actionable on the ground of conspiracy There had been no effort on the part of the respondents to show how these rules were established, and how they acted to the general benefit The British Medical Association was merely a voluntary body, it did not represent the whole of the profession It could not be considered as having the same status as the General Medical Council, nor could the same weight attach to its

disciplinary powers The only other point on which he would trouble their lordships was with regard to the question of malice It was perfectly true that it was not proved that the Association was directly responsible for the *Medical Journal of Australia*, but it was proved that the Articles of Association provided for a journal to be published, and this journal was in fact published at the offices of the Association in Sydney

Lord Atkinson (reading from the rules): " conducted by an editor who shall be responsible for all that appears "

Mr Lawrence said that Dr Armit, the editor, was present at meetings of the Branch Council, and Dr Todd, who was honorary secretary of the Branch, was also the secretary of the publishing company (the Medical Publishing Company) which issued the journal The Medical Journal Subcommittee was a committee of the Council. The journal was intimately associated with the whole organization

This closed the case for the appellant, and their lordships adjourned

February 12th

At the resumption of the hearing, upon Sir John Simon (for the respondents) taking his place, Lord Buckmaster said that their lordships did not wish to hear him on the question of malice, but only on the question whether an agreement of the kind into which the respondents had entered might be considered to constitute a conspiracy to damage the appellant

Sir John Simon said he had anticipated that that would be the point which their lordships would wish to have argued His submission was that every member of the community was entitled to carry on his business or profession in the way that he considered most desirable in his own interests, and, since every right connoted an obligation, in common law no person could lawfully interfere with another in the exercise of his right to carry on his business or profession unless there was some just cause or excuse for interference. But that just cause or excuse might arise in a number of ways One way in which it might arise was that in which the party sued was able to show that the thing that was complained of as interference had been done in the *bona fide* exercise of the defendant's own rights and interests, or—to put it in terms which applied to a profession—had been done, not with a desire to punish or insult another person, but to protect the interests of an honourable profession To take this step of expulsion, therefore, even apart from any question of rule or previous agreement, might amount to a just interference But there were other grounds also which amounted to just interference The defendants might have certain rights as a result of the grant of privileges from the Crown, or, again, as a result of contract between themselves Mr Geoffrey Lawrence had dealt with this point very ably on the previous day It might be quite true that an agreement between individuals was an agreement which the law would call a contract in restriction of trade Trade unionists, for example, had such an agreement, but an individual trade unionist would not be sued on that account Similarly a number of employers might agree together or even bind themselves to a certain course, and it had been held by Lord Campbell in a well known case that such a contract was not in the least criminal It was only in restraint of trade, and therefore illegal in the sense that it was not enforceable in law, but the just cause or excuse for exercising this contractual right might still exist, even though an action could not be brought in the courts to compel observance He quoted in support of this view the judgement of Lord Parker in an appeal from the High Court of Australia in 1913 relating to the Adelaide Steamship Company, when the point of the case was the obligation under an Australian statute, the Australian Industries Preservation Act The position in the case before their lordships, therefore, was that here were members of a profession, or some of them—for of course the British Medical Association was not coextensive with the profession of medicine—who had taken certain action in the protection of the interests of the Association and of its members, as members of an honourable profession, and the question was whether the action taken was or was not covered by the professed object It was urged that what the respondents had done had interfered with the business of the appellant This might be the case, but it was not done with the object of punishing the appellant, it was done in the interests of the profession He asked their lordships to imagine a domestic parallel A cook might go to her mistress and say that she would not remain cook if the mistress retained the services of the kitchenmaid As long as the cook did this in the protection of her own rights it was of no use for the kitchen maid to say that she was being injured the action taken by the cook was not to spite the kitchenmaid, but for the maintenance of the position of the cook A contract, even though it be unenforceable at common law, was a perfectly good and just cause for action provided the action was taken in the absence of malice

Their lordships asked Sir John Simon for his remarks on the Coventry case Sir John said that he knew that the Court of Appeal, or certain members of it, had expressed some doubts with regard to certain aspects of Mr Justice McCardie's judgement in that case But it was enough for him to say that he distinguished between the Coventry case and the present case—in fact, there was a very big distinction It was found, for instance, in the Coventry case that the Association had not been content with exercising its domestic rights and informing the members of its own body, but had gone further

Lord Buckmaster said that in all such cases as the present there had been no attempt to prevent a man from earning his living He could attend as many patients as came to him. All he was restrained from was from letting other people help him Sir John Simon said that Dr Thompson was, of course, perfectly at liberty to consult with and meet professionally any other doctor so long as that other doctor was not a member of the Association to which Dr Thompson formerly belonged Lord Darling then asked But if such doctor did meet Dr Thompson, then anybody belonging to the Association might refuse to meet that doctor, is not that a kind of coercion? Sir John Simon demurred, and said that he did not think this was in the rules Lord Darling thought that it was to be gathered from the rules Sir John Simon then referred to the book of rules, and pointed out that of the rules revelant to this point one spoke of members and the other of 'medical practitioners,' and the hypothetical case mentioned by Lord Darling would fall under the first of these rules relating to members only There was nothing in the rules to show that persons not members of the Association were not free to deal with any doctor outside the Association, though there was a provision which would prevent them from dealing with an unqualified practitioner—quite a different thing, with no relevance to the present case In conclusion, he said he wished only to put forward two independent grounds whereby he claimed that the agreement did not amount to conspiracy—first, that what had been done was in *bona fide* protection of the interests of members of the Association, and secondly that the agreement was one which in any case would be unenforceable in common law

Mr Lawrence, in a rejoinder for the appellant, contended that the excuse offered for interference did not avail as a defence against a charge of conspiracy Here was a contract which, in his submission, was an illegal agreement and unenforceable It was an agreement which was evidently unnecessary to the interests of the body which it purported to serve Lord Darling pointed out that the appellant was himself a party to the contract and he was now saying in effect 'I will sue you for acting upon the contract by which I have myself been bound Lord Wrenbury remarked that it would be very strange if a restraint which was legal and enforceable should be unobjectionable while a similar restraint which was illegal because unenforceable should on that account be objectionable The appellant's case appeared to be that here was something which nobody could enforce, and therefore it was objectionable presumably if it could have been enforced there would have been no objection Mr Lawrence would not admit this interpretation of his argument and said that the case did not rest upon what was in the book of rules but upon the fact that the intraprofessional restrictions had been acted upon

Lord Buckmaster Supposing there were no rules but a doctor had acted in the same way as the rules set out?

Mr Lawrence said that in that case there would have been nothing for which to blame the Association What he complained of was that the Association had passed this rule and the members had acted upon it with the result that the appellant had suffered damage He wished to direct their lordships attention to the question as to how according to Sir John Simon's argument a restraint of trade which was illegal, and therefore unenforceable and unreasonable because not in the interests of the profession or the Association or the public, could possibly be a just cause when otherwise there would be ground of action for conspiracy It was impossible to establish as a just cause—just, because reasonable in the interests of the British Medical Association—what would otherwise be actionable for conspiracy, when at the same time they had to acknowledge that it was a contract which was illegal and unenforceable

On a question from their lordships as to appellant's co responsibility for the rules, and a suggestion that if a similar case had arisen against some other doctor, the appellant would himself have been one of the conspirators Mr Lawrence said that a member was entitled to renounce any responsibility in this connexion and that had such a case arisen it was reasonable to suppose that Dr Thompson would have continued to consult with the expelled member

Lord Buckmaster You say that the finding by the Council which brings the rule into operation makes the Council guilty of conspiracy Of course, the members may or may not be

the rule But the Council did not put the rule into force, they really did nothing, though certain people acted on the rule

Mr Lawrence Why, then, did the Council send round to the members the notice of expulsion? I submit that that notice had no value at all, except for the purpose of bringing these rules into force against the doctor

Lord Buckmaster If you were asked as to when this conspiracy was formed, what would be your answer?

Mr Lawrence At the time of the expulsion

Lord Wrenbury: There was not a conspiracy to expel the doctor, but there may have been a conspiracy to expose him to the consequences of expulsion But the consequences of expulsion existed before this case arose, and were altogether apart from it

Mr Lawrence The Association, when it expelled this man, knew that there were rules in its rule book which would automatically come into force

Lord Wrenbury But these consequences of expulsion were voluntarily adopted by the appellant himself as well as by others They bound Dr Thompson and everybody else

Mr Lawrence The Council passed a resolution of expulsion which would inevitably result in bringing into force these intraprofessional restrictions I submit that that is evidence of actionable conspiracy

Lord Buckmaster Do you say that every man who voted for the rules became a conspirator?

Mr Lawrence Yes

Lord Buckmaster Then what was a member to do?

Mr Lawrence To vote against the rules The proper line for a doctor to take was to say that these rules in his opinion were oppressive, and that he could not vote for them

Mr Lawrence submitted that these rules had been declared to be illegal by Mr Justice McCardie in the Pratt case, and that it was the duty of the British Medical Association to strike them out of its book The argument was that contracts in restraint of trade were illegal—not in the ordinary sense illegal, but only illegal because unenforceable—and therefore it was said that an action could not be brought for conspiracy He submitted, on the contrary, that an action might be brought for conspiracy against a number of persons, although it could not be brought against one person If the agreement evidenced by these rules in fact was unenforceable and not reasonably necessary in the interests of the Association, how could it be set out as a defence in an action for conspiracy? Lord Buckmaster said that it had not been so set out Mr Lawrence in his previous remarks had knocked it down, and Sir John Simon had not even attempted to raise it from the dust

Mr Lawrence, in concluding his case, asked their lordships to bear in mind that this case had been heard at very great length before an Australian jury, who had arrived at the verdict already set out He claimed that there was clear evidence of conspiracy

Judgement Reserved

Their lordships then sat *in camera* for about ten minutes and on the resumption of the public sitting Lord Buckmaster said Their lordships will take time to consider the advice which they will give to His Majesty

Medical News.

THE triennial dinner of the Old Residents' Club of the Manchester Royal Infirmary was held on February 5th at the Midland Hotel, Manchester, nearly 150 old residents from London and all parts of England were present. Mr Alexander Wilson was in the chair, and Dr Owen Jones, who was house surgeon in 1861, was the senior member present In proposing the toast of the "M R I," Dr de Ville Mather entertained the meeting with stories and anecdotes of the old infirmary and members of the staff Dr E S Reynolds, replying, emphasized the value of a resident hospital appointment and the importance of carrying on the infirmary tradition In proposing the toast of the President, Mr S R Wilson referred to many incidents in the President's career and his many sided character The President, replying, compared the work and difficulties of the anaesthetist in the past with the part he plays in the modern operation In the old days the operation was more of a free and easy sociable affair than it is now. The old theatre was the common meeting ground of all the members of the staff, and not one of them would have hesitated to take a hand in the operation if anything of interest was disclosed

IN a statement issued recently the Postmaster General reminds the public that the possibility of the communication of infectious disease through the use of public telephones has several times been investigated, both here and in America, and medical experts have declared that there is no real risk in the use of public call offices Some time ago a series of bacteriological tests were conducted with telephone mouthpieces which had been in use at busy call offices in places of general resort, the mouthpieces had received no special treatment other than that normally given The report on these experiments showed that the results were most satisfactory and that the mouthpieces examined were free from tubercle bacilli Further and more drastic tests were afterwards made Telephones were fitted in the wards of a sanatorium and used only by patients in different stages of tuberculosis The instruments were in use for varying periods, and were not cleaned or disinfected during the course of their experimental use The subsequent bacteriological examination produced entirely negative results and the doctor who carried out the experiments stated that he was of opinion that "the transmission of tuberculosis through the medium of the telephone mouthpiece was practically impossible" The statement adds that a staff of cleaners is permanently employed in looking after the call offices on railway stations and in public places The call offices are thoroughly cleaned and the transmitter mouthpieces and receiver caps disinfected at regular intervals of about three days The cleaning of public call offices situated in residential flats, shops, and other private premises is undertaken by the tenants of the premises, while the cleaning of call offices in post offices is carried out under the supervision of the postmaster

THE Universities Bureau of the British Empire (50, Russell Square, W C 1) has published a classified list of students from the Dominions overseas and from foreign countries now studying in the universities and university colleges of Great Britain and Ireland In all 4,171 names are included, of these 1 090 came from India, Burma, and Ceylon, 744 from South Africa and Rhodesia, 402 from the United States of America, and 321 from Egypt

IN association with the Fellowship of Medicine, the Royal Northern Hospital has arranged, in conjunction with the Central London Ophthalmic, North Eastern Fever, and Royal Chest Hospitals, a two weeks' intensive course from March 3rd to 15th, which will include lectures, demonstrations, and work in all departments from 10 30 a m each day A special course in gynaecology will be given at the Chelsea Hospital for Women from March 3rd to 28th, consisting of lectures and clinical demonstrations in the wards and out-patient department A series of lectures and demonstrations in psychological medicine will be given by Dr J G Porter Phillips and Dr T Beaton at Bethlem Royal Hospital on Thursdays and Saturdays at 11 a m A series of six lecture demonstrations on recent advances in medical electrical treatment will be given by Dr C B Heald at the Royal Free Hospital on Wednesdays, at 5 30 p m, from March 5th to April 9th. Particulars regarding any of these courses can be obtained from the Secretary, Fellowship of Medicine, 1, Wimpole Street, W 1.

DR CHARLES SINGER, lecturer in the history of medicine, will give three lectures at University College Hospital Medical School on Monday, February 25th, and two following Mondays the first on the history of syphilis, the second on the history of plague, and the third on the history of small pox and its relation to inoculation and vaccination The lectures, which will be given at 5 p m, will be illustrated by lantern slides, and are free to all students of the university

AMONG the honours conferred in connexion with the resignation of the late Conservative Government is the knighthood bestowed upon Dr Henry Jackson, J P, who has been Mayor of Wandsworth since 1921 He took the B Sc Lond in 1896, graduated M A Camb in 1900, and M B, Ch B Edin in 1914 He is chairman of the Metropolitan Boroughs Standing Joint Committee and of many local organizations

THE South London Hospital for Women has opened a urological department Out-patients will be seen at 86-90, Newington Causeway, S E, on Tuesdays, at 1 p m

THE late Mr Harrison Cripps, consulting surgeon to St. Bartholomew's Hospital, left estate valued at £172,973, with net personalty of £171,903

DR HAVEN EMERSON has been elected president of the Association for the Prevention and Relief of Heart Disease, whose headquarters are at 370, Seventh Avenue, New York. An account of the association's scheme for cardiac clinics was given in the BRITISH MEDICAL JOURNAL of October 20th, 1923 (p 729)

MR CHARLES P MARKHAM of Ringwood Hall, Chesterfield, who in 1916 defrayed the cost of a large extension to the Chesterfield and North Derbyshire Royal Hospital in memory of his brother the late Sir Arthur Markham, has now presented £10,000 to the hospital with a suggestion that the money should be devoted to some object in connexion with women and children.

A POST GRADUATE COURSE in *x* ray therapy and diagnosis will be held in Bonn from February 24th to March 1st The syllabus includes the prevention of *x* ray burns, *x* ray therapy in gynæcology, dermatology, and surgery, and the physics and pathological results of treatment Those wishing to attend should apply to Professor Martius, Universitäts Frauenklinik, Theaterstrasse 5, Bonn A registration fee of five gold marks is charged

ACCORDING to the correspondent of the *Morning Post* there is a serious outbreak of bubonic plague in Eastern Russia We have seen no confirmation of this statement, but circumstantial details are given with regard to the steps being taken by the Government of Russia to check the spread of the epidemic

THE post-graduate lectures at the Manchester Babies' Hospital were resumed on February 1st, when Dr Hector Cameron dealt with the special character of diseases of infants The lectures are delivered fortnightly, and the next will be given to-day (Friday, February 15th) at 5 30 p m by Dr Dyson on *fungus infections in children*

SEVEN health leaflets have been issued by the Middlesex Hospital Press, at 2d each, for distribution with a view to educating the general public in matters relating to the prevention and early treatment of disease The subjects are as follows Cancer of the womb, what should be known about cancer, its prevention and treatment, the change of life, infantile diarrhœa, care of the teeth, the prevention of deafness, and house flies and disease The information is expressed in the simplest language possible.

WE are asked to announce that the Royal Society of Medicine will give all medical men from the Dominions and Colonies visiting the British Empire Exhibition at Wembley the use of the Society s house from May onwards

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager *429, Strand London*, W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL 429 Strand, W C 2

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429 Strand, W C 2, on receipt of proof

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2930 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc) *Articulate Westrand, London*

MEDICAL SECRETARY *Mediocre Westrand London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin), and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone, 4361, Central)

QUERIES AND ANSWERS

ELECTROLYSIS OF HAIRS ON A MOLE

"ZETA"—The removal of hairs by electrolysis from a non pigmented mole the size of a small pea on the upper lip of a lady is a perfectly harmless and beneficial operation If carried out skilfully and completely it will be found that very little will be left of the mole itself, and the cosmetic result will be good Depilatory pastes if used over too wide an area and in excessive quantity sometimes cause dermatitis, this except in the case of patients who have abnormally sensitive skins, is only temporary but in those liable to attacks of eczema it may be very troublesome

TREATMENT OF CYSTITIS

"J P F" asks What is the most effective treatment for staphylococcal infection of the bladder? A vaccine is out of the question Irrigation with silver nitrate solution is being carried out Hexamine does not seem to improve matters

*** The first essential is to make certain that the cystitis is not secondary to some such lesion as a calculus a diverticulum, an enlargement of the prostate, a lesion in one of the kidneys or a focus in the prostate It is also absolutely necessary to exclude the possibility of a tuberculous ulceration with secondary staphylococcal infection Provided all these possibilities have been excluded, treatment should consist of daily irrigation with 1 in 6,000 potassium permanganate by the ordinary Janet method The permanganate may conveniently be alternated with lavage with 1 in 5,000 mercury oxycyanide

PREVENTION OF PHOSPHATIC CALCULI

SIR JAMES BARR (Liverpool) writes in reply to the inquiry published on February 2nd (p. 221) as follows I would advise M K." to put his patient on a liberal meat diet (if there be no contraindication) fruit, and vegetables Avoid milk and all waters containing much lime Give the patient one or two grains of saccharin with each meal To my taste saccharin is a nauseous sweetening agent, and I therefore advise it to be taken in tablet form More than thirty years ago the late Mr Chauncy Puzey consulted me about a patient on whom he had performed lithotomy three times for large phosphatic calculi in the bladder Under the above-mentioned treatment no more stones appeared, and Mr Puzey became a warm advocate for the use of saccharin I have seen exhibited about a pound of small phosphatic calculi passed by a late distinguished member of our profession, who lived largely on a milk diet I have known such stones to follow the too free use of Contrexéville water which is usually considered an eliminator, but I look upon it as a generator I think it is very important to avoid lime and more especially so in association with a liberal meat diet So far as I know the late Dr James Little of Dublin was the first to prescribe saccharin for increasing the acidity of the urine

GLOBULIN IN CEREBRO-SPINAL FLUID

"J A" asks for information as to the origin and significance of globulin in cerebro-spinal fluid and as to what is to be inferred from its absence in specimens showing (1) strongly positive Wassermann reaction (2) 44 to 52 cells per c mm , (3) increased albumins, (4) no globulin or reducing agent

INCOME TAX.

Motor Car Transactions

"G P N" bought a B car in 1916 for £400 and exchanged it in 1918 for an R. car, value £300, he bought another R car in 1922 for £200, in 1923 he sold the two R. cars for £225 and bought an A S car for £780

*** The amount allowable is £400 + £200 (= £600) less £225—that is £375 net—that being the net cost of replacement Actually the net expenditure when the A S car was purchased amounted to £555 and the excess of this over the sum allowable represents the capital or improvement expenditure

LETTERS NOTES ETC.

INFANTS BORN WITH TEETH.

MAJOR E G KENNEDY, I M S (*Bangalore*) sends a note of the following On examining a female infant aged 3 weeks suffering from mild gastro intestinal troubles I was astonished to see two well formed lower incisor teeth, they were well calcified and of normal shape and appearance. They had no connexion with the mandible, and were growing on the summits of two small papillæ on the margin of the gum They were freely movable in any direction on slight pressure The mother a Eurasian aged 21, told me that these teeth had been present from birth and that in addition two smaller teeth in the position of the two upper central incisors had also been present. The upper teeth had disappeared a few days after birth, presumably the child had swallowed them The child appeared perfectly normal in every other respect, and I saw no other abnormality of the epidermic structures I removed the two lower teeth as they were interfering to some extent with suckling, and because the child would probably have swallowed them sooner or later if left It will be interesting to note in the present case when her the corresponding temporary teeth will appear or not at the usual time

*** Such cases are well known to dentists but are rare and their significance is unknown The teeth seem always to be incisors either upper and lower and to correspond in shape and size to temporary teeth Generally they are lost soon after birth either because they are loose or because they are extracted on account of injury to the mother In one case within our knowledge the lower central incisors were erupted at birth and were persistent at the age of 9 having no successor In another case the lower incisors were present at birth one shed in a few days was partly deficient in enamel and had no root the other remained firm and was not extracted In two other cases a single lower incisor was erupted—in the one case on the second day of life and in the other in the third week Some of these early erupted teeth are exfoliations and may point for instance to congenital syphilis. We know of no records as to whether those that are lost early are followed by normal temporary teeth, and a later report on Major Kennedy's case would be interesting The bearing on a possible pre milk entrance is obvious. We may point out that the general practitioner of the man who has the best opportunity of collecting information on this very interesting subject

PARATHYROID IN SPRUE

DR STEPHEN CORNELIUS (Bombay) writes Mrs L sent for me on December 10th, 1923, and complained of diarrhoea, loss of weight, increasing weakness, and pain and burning in the mouth when attempting to take her ordinary food She had a typical sprue tongue, and the pale, copious, fermenting, very offensive motions confirmed the diagnosis Twelve months before I had treated her for a severe type of malaria, but at this time she was reduced to nearly half her former size She was put on parathyroid tablets gr 1/10 (P D and Co) three times a day, and calcium lactate gr x also three times a day, an hour after the parathyroid Her diet, which at the beginning was restricted to milk, was, in three days, as the tongue improved, extended to buttermilk, junket, and two small bananas a day Within ten days the result of this treatment was very striking Her tongue cleared quickly, the diarrhoea rapidly disappeared, but the most gratifying feature of the case is the way she has steadily gained in weight and strength To day her own words, "I feel well," are significant of the change wrought within so short a time, and which one can only attribute to the parathyroid In the *Transactions* of the Royal Society of Tropical Medicine (February 15th, 1923) Scott stated that, having been impressed with the similarity between sprue symptoms and those of other diseases in which calcium deficiency plays an important part, he put a patient who had suffered from sprue for nearly two years on calcium treatment The patient made a slow improvement, but when parathyroid gland was also given he made remarkably rapid progress The last mail brought me the BRITISH MEDICAL JOURNAL of December 15th, 1923, in which I was extremely interested to find that his later researches on sprue have established the superiority of parathyroid over other methods of treatment The case which I have described above is a striking confirmation of Scott's findings

FATIGUE AND OUTPUT IN THE GLASS TRADE

REPORT No 24 of the Industrial Fatigue Research Board of the Medical Research Council* contains a comparison of different shift systems in the glass trade by Mr E Farmer, the inquiry was promoted by the Board in conjunction with the Glass Research Association Investigation of the relative merits of the ten hour and the eight hour shift systems showed that, although there was an increase in hourly output of bottle blowing on the shorter shift, yet this was usually insufficient to compensate for the fewer hours worked, so that the total output of the eight-hour shift was generally less than that of the other As, however, the factory plant is less economically used on the ten hour shift plan, the total daily output is greater when eight-hourly shifts are the custom The total output was found to be greater in winter than in summer, and the author suggests that improved conditions of work, such as increasing the rate of air movement, would be found advantageous Night work did not appear to put a greater strain on the men than day work the night shift being always more efficient than the morning shift and not much less efficient than the afternoon shift, when, however, twelve of the twenty four hours' work is done in alternate six hour shifts, night work is found to be consistently less efficient than day work It is suggested also that fatigue might be lessened by alternating the work of each member of a "chair" or gang The statistical details on which these results are based are given

ACUTE LUMBAGO

DR WILLIAM HAIG (Crieff) writes In reply to Dr Eugene H Colne (January 26th, p 178) I regret to say I have not had good results in cases associated with sciatic pain These cases are, I think, more in the nature of a neuritis and come on gradually, whereas the acute lumbago which comes on so suddenly and is so immediately and completely disabling suggests, as I stated in my paper, a mechanical condition analogous to a "crick" in the neck My view as to the mechanical nature of the malady was strengthened by my experience in the case of a very stout man to whom I was called one evening some years ago He had been in perfect health and, while bending, was suddenly seized with severe pain in the small of his back I found him lying on the floor unable to move on account of the pain Ascertaining that his temperature and pulse were normal, I diagnosed lumbago, but could not lift him to put him through any treatment by my method owing to his great weight and stoutness, I therefore gave him a hypodermic injection of morphine which relieved his pain, and he got up, moved about as usual, and soon went to bed On visiting him next morning I found him going about his work as a hotel keeper entirely free from pain and, so far as I know, he has never had another attack I take it that his own movements had relieved the 'crick"

PREGNANCY WITH UNRUPTURED HYMEN

DR SYDNEY SMITH (Principal Medico Legal Expert, Ministry of Justice, Cairo) writes It is by no means rare to observe pregnancy in a woman whose hymen is unruptured, and I personally have seen three in the last seven years In each of these, however, there had been normal coitus, but owing to the hymen being fleshy and of annular shape, forming merely a ring round the vaginal wall, no rupture occurred until parturition The subject of the present note presented the unusual feature of a six months' pregnancy with unruptured hymen of such form that no introduction of the male organ was possible I think it is desirable that certain of these cases where the history has been authenticated should be recorded for reference The patient was a young Egyptian girl, who stated that on one occasion only, six months before, her employer had insisted on sleeping with her and that he had had intercourse with her by placing his penis between her legs Menstruation ceased the following month and had not returned, but until her abdomen became considerably enlarged she had no idea that she was pregnant On becoming aware of such she brought an accusation of rape against her employer, and the plaintiff was sent for examination to my department She was found to be pregnant about six months The vagina was undeveloped and a hymen of crescentic shape was found completely surrounding the vaginal orifice This membrane was free from rupture or congenital fissure, and at the time of examination, notwithstanding the softening and dilatation of the parts normal to pregnancy, would not admit more than the tip of the little finger From *x* ray examination her age was estimated at 15 years From my examination I felt absolutely certain that no introduction or even partial introduction had taken place, and as a matter of fact this was later proved to be the case

THE MILITARY PREFIX

"A. 2" writes I heartily agree with your correspondent "Anonymous" that there is a vast difference between the R.A.M.C officer who in the great war went on active service and the gentleman who, often making a double income, walked about in khaki at home, but beyond that I cannot agree with the writer Having acquired my rank and military title (what "Anonymous" would call a prefix!) on active service, and having been gassed and generally much disabled into the bargain, I have very great objection to people who desire to address me incorrectly as "Dr" This is no peculiarity of mine alone, and would therefore very much "*give the lie*" to your correspondent's statement

"SOLDIER" writes I do not see why "Quondam Captain" should not drop his rank if he wishes to, but why should others drop the rank that has been conferred upon them by the King, unless every other rank or title is to be dropped also? Why not drop prefixes such as Duke, Sir, etc, which are really military titles, often bought by or conferred on men who have simply lined their pockets at the expense of the public? Let us also drop the O B E 's, C M G 's, D S O 's, etc, acquired in very many cases in security and comfort far from the fighting line I see no objection to dropping all, but let it be all or none.

CUPPING IN HICCUP

WHILE searching for something else we have come across a note in the *Provincial Medical and Surgical Journal* for 1849 (p 530) which mentions a use for dry cupping not enumerated in the articles on the subject recently published It states that Mr Hunter (not otherwise identified) had found dry cupping a successful means of checking hiccup A soldier was attacked with vomiting and purging "After these symptoms had subsided," the note continues, "he was teased with the most distressing hiccup, which he said kept him awake half the previous night There was slight epigastric uneasiness on pressure Dry cupping over the region of the epigastrium, leaving the glass on half an hour, stopped it almost immediately It recurred again after taking some beef tea, but was readily checked by a reapplication of the glass It also relieved the epigastric uneasiness"

RURAL DEATH STATISTICS

"SENEX" sends a note of fifty death certificates issued by him between April and October 1923, as follows Under 2 years of age, nine (including five babies, premature, etc, in which death occurred in less than seven days) From the age of 2 to 20, none, from 20 to 30, two (one chronic epilepsy, one tuberculosis), from 40 to 50, five, over 60, six, over 70, twenty, over 80, eight His latest consecutive certificates were for the following ages 72, 83, 96, 72, 83, 81 The district is in England and consists of vale and hill, mostly about 1,000 feet above sea level, rural with small villages, total population about 4,000, with a central nucleus of 2,000, occupations of population mainly in quarries, factories, and agriculture

TREATMENT OF ASTHMA WITH COMBINED PEPTONE AND VACCINE

DR VEITCH desires to state, in answer to several inquiries, that the combination of peptone and vaccine may be obtained from Messrs Allen and Hanburys, 37, Lombard Street, E C 3

A DISCLAIMER.

DR C KILLICK MILLARD (Leicester) writes A firm of margarine vendors have recently made use of my name in their advertisements Such action was, I need hardly say, entirely unauthorized and unwarranted, and I took prompt steps to put a stop to it

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VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 29, 32, 33 34, and 35 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 107

* H M. Stationery Office 1924 Price 1s 3d.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

135 Cranial Transparency

M GONZÁLES-ALVAREZ (*Arch de med, cir y esp*, December 8th, 1923, p 449) states that since C Chatelin in 1912 discovered the permeability to light of certain skulls, especially of children suffering from cerebral disease, he has investigated this matter in the newborn and in all children suffering from any brain disorder in his private and hospital practice In the course of eleven years he has observed six cases of well marked transparency of the skull The examination is carried out in a dark room with the source of illumination placed in close contact with the child's head, the hair having been cut short A pocket electric torch may be used or an Auer's gas burner, provided the light is intense and there is a reflector A piece of black cardboard, with a semicircular hole, is moulded accurately to the head in its sagittal diameter, so as to prevent the diffusion of light if there is permeability to light the red transparency of the skull is seen in contrast with the black frame surrounding it Various regions of the skull are examined The extent of the transparent zones differs according to the amount of cerebral substance In subtotal anencephaly the whole of the skull is transparent except the cerebellar region, since the cerebellum is rarely absent, according to Astro, and the rest of the brain is driven back and compressed against this region, where the dura mater and bones undergo a process of thickening which prevents the passage of all light If the anencephaly is partial, the frontal and parietal lobes are those which are usually absent or reduced to a delicate membrane Within the luminous area some dark streaks are seen, corresponding to the meningeal arteries and venous sinuses, as well as dark patches or points which represent portions of brain substance which have not been destroyed or are only slightly affected In cases of intense hydrocephalus the transparency is very marked, the brain being reduced to a delicate layer if the hydrocephalus is internal, while if it is external the cerebral mass is driven against the base of the brain or towards the occiput by pressure of the subarachnoid fluid In order to determine whether cranial transparency was a physiological phenomenon due to the intensity of the luminous focus and the state of the soft tissues and bones in young children, the author examined forty newborn children, some of whom were premature, but without finding any trace of cranial transparency His conclusions are as follows (1) Systematic examination for cranial transparency will prove that it is more frequent than is suspected (2) Its demonstration is very simple (3) Its presence indicates an absence or considerable reduction of cerebral substance (4) A diagnosis of complete or partial anencephaly can be made by this method, and in cases of hydrocephalus the intensity of the lesions can be determined (5) The method possesses some surgical value, since in the performance of ventricular puncture it enables the operator to avoid the cerebral substance and vessels (6) A diagnosis of anencephaly can be made at birth and a fatal prognosis be given with certainty.

136. Luminal in Epilepsy

E RODHE (*Acta Med Scand*, October 4th, 1923, p 362) has given luminal since 1914 in many cases of epilepsy, more than 50 of which he has followed up to the present, in about 30 cases the luminal being the only treatment In *petit mal* the results varied, when there were long intervals between the attacks treatment was usually effective, but when the attacks were frequent its action was slight The dosage was from 0 1 to 0 5 gram distributed in several doses during the twenty four hours, unless the case was one of nocturnal epilepsy or of early morning epilepsy, when a single dose of 0 1 to 0 5 gram was given at night Though the attacks usually recurred when the drug was discontinued, the author records several cases exceptional in this respect. Only once has he known this drug cause severe signs of poisoning such as mania, but if pushed it may give rise to drowsiness and vertigo It can often be given continuously for years even daily, without giving rise to signs of poisoning, but should the patient show intolerance to the larger doses of either luminal or bromides a combination of small doses of the two is very effective The author warmly recommends calcium bromide in this connexion, having found its sedative and anticonvulsive action a useful adjunct to the narcotic action of luminal In any case in which bromides are unsuitable luminal is indispensable

137 Uraemic Fugues.

H CLAUDE and A CEILLIER (*Paris méd*, October 20th 1923, p 299), after emphasizing the close relation between general medicine and psychiatry, define a fugue as a psycho-motor disturbance in which the subject, who is generally unconscious or semi conscious, escapes from his home or his occupation and for a variable time wanders about without any definite object. In the principal psychoses such as melancholia, periodic insanity, and psychasthenia the fugues are the result of obsessions and impulses, whereas in alcoholism, general paralysis, epilepsy, hysteria, and dementia praecox they are due to weakening of psychical control Since little is known about the occurrence of fugues in Bright's disease, especially as the first clinical manifestation of the condition, the authors record two illustrative cases Both presented the characters of an epileptic fugue and were associated with complete amnesia. In the first case, in which the fugue lasted several days, death took place two months later as the result of an apoplectic stroke In the second case, in which the fugue was of twenty six hours' duration, treatment was followed by recovery The blood urea, which was 1 14 grams at first, fell to 0 54 gram after one and a half months' treatment Cases of this kind are not only of theoretical interest but are of the greatest practical and medico-legal importance Treatment proved of considerable value in the second case, and it was owing to the fugue that a hitherto unsuspected cardio-renal condition was discovered.

138 The Duration of Immunity in Typhus Fever

A SCHNABEL of the Robert Koch Institute for Infectious Diseases in Berlin remarks (*Deut med Woch*, 1923, p 972) that typhus is one of those infectious diseases of which one attack confers a long lasting if not permanent immunity Apart from exceptional cases reported by Nicolle and Conseil, Rocha Lima, and Weigl, it is generally agreed that typical typhus infection produces a permanent immunity in experimental animals such as the monkey and guinea pig The following case related by Schnabel is therefore of special interest A medical woman, who had had a severe attack of typhus three and a half years previously, and whose blood serum showed no obvious α 19 agglutinins, exposed herself to fresh infection by artificially infected lice The Weil Felix reaction became positive again, the agglutination titre rising from 1 10± to 1 200++, but no clinical symptoms developed Histological examination of the infected lice showed the typical appearances of the gastro-intestinal epithelium filled with *Rickettsia prowazeki* The change in the Weil Felix reaction is best explained on the hypothesis that the doctor's immunity was not absolute but relative, being sufficient to prevent the occurrence of any symptoms but not the formation of α 19 agglutinins

139 The Muscles and Joints in Typhoid Fever

BELOT, R DE GRAILLY, and CAUBET (*Gaz hebd Sci méd de Bordeaux*, November 11th, 1923, p 556) report the case of a boy, aged 12, who developed myositis of the adductors about the middle of the first week of typhoid fever, followed three weeks later by osteo-arthritis of the left knee and hip As a rule myositis does not occur before the third or fourth week of the disease, during convalescence or a relapse, the determining cause being a muscular effort According to Sabrazès, the adductors are the muscles most frequently affected after the rectus abdominis and the psoas The symptoms are muscular pain, progressive myasthenia, and idio-muscular tremors, but are liable to escape notice and the muscular lesion may not be recognized until haemorrhage or rupture takes place, and is followed by the formation of an abscess Osseous or articular symptoms are usually late manifestations of typhoid fever Marfan has described the following four varieties (1) a mild rheumatoid form ending in resolution, (2) an acute suppurative form starting at the end of the fourth week, (3) a chronic suppurative form resembling a cold abscess, (4) a chronic intermittent form ending in exostoses which may simulate those of congenital syphilis Widal, Lemierre, and Abrami regard osteo-periostitis as a complication of convalescence, whereas Broca, Rendu, and Wurtz have observed cases with osseous symptoms from the first (osteo-typhoid) Many joints may be affected at once or only one or two In the monarticular form without suppuration the hip and knee are very frequently affected Robin Leredde, Barjon, and Lesieur have described cases of early typhoid arthropathy (arthro-typhoid)

Surgery.

140 Observations on Pyelonephritis

W C Sterling (*Surg, Gyn, and Obstet*, December, 1923, p 751) gives the following account of his observations on 175 cases of pyelonephritis A history of an intra abdominal operation, with no relief to the pain or other symptoms, was given by 29 per cent The ages ranged from 24 months to 84 years, the average age being 39 years, 115 were females and 60 were males The commonest causes of the condition were (1) focal infections in the teeth, tonsils, sinuses, skin, etc, (2) kinking of the ureter, (3) nephroptosis, (4) infection from adjacent structures, (5) stenosis of the ureter due to pressure or external processes, such as the gravid uterus, adenoma of the prostate, and so on, (6) calculi Definite infection in the tonsils (demonstrated on removal) was present in 50 per cent of the series, abscesses in the teeth were found in 21 per cent and ureteral stricture was present in 4 per cent Sterling accepts the view that in the vast majority of cases the infection is haematogenous apart from cases due to abnormal position of the kidney, lack of drainage, calculi, and the like The chief agents of infection in his series were streptococci and staphylococci These pyogenic cocci, however, were usually short lived and not demonstrable in the process which they had initiated, whereas the colon bacillus, which is a secondary invader, was easily found in the urine The temperature in acute kidney infections is usually higher than in peritoneal infections, the pulse rate is lower, and there is frequently a chill at the onset The leucocyte count is rarely over 15,000 to 18,000 in renal infections, whereas it is much higher when the peritoneum is involved Pain on the affected side was present in 74 per cent and dysuria with frequency of micturition of various degrees in 50 per cent Haematuria was present in 16 per cent, 71 per cent had bilateral pyelonephritis, in 20 per cent the pyelonephritis was confined to the right and in 9 per cent to the left side Five cases had atrophic pyelitis with marked diminution of the pelvic capacity Sterling attaches much importance in diagnosis to hammer percussion over the suspected kidney, pain being elicited in 90 per cent of the cases, varying with the degree of involvement of the kidney A positive diagnosis can usually be made by an examination of a twenty four hour specimen of urine, and when necessary by a cystoscopic examination, ureteral catheterization, and a pyelogram if in doubt Treatment comprises elimination of the focus of infection, especially in the teeth or tonsils lavage of the renal pelvis with silver nitrate solution, dilatation of the ureter, and correction of any mechanical defects

141 Surgical Treatment of Pulmonary Tuberculosis

H Lilienthal (*Amer Journ of Surg*, January, 1924, p 1) points out that surgical treatment in pulmonary tuberculosis is not intended to supplant medical treatment, but has two special objectives—namely, the placing at rest of the entire lung, and, secondly, the obliteration of apical cavities In cases where the production of an artificial pneumothorax is not applicable, or has been tried without good result, the operation of collapsing thoracoplasty, with resection of the phrenic nerve, puts the lung at rest Since no restoration of function is possible this method can only be employed when the other lung is not affected by rapidly growing tuberculosis and can function sufficiently well to support life The author estimates that arrest of the disease, or great improvement, occurs in about 75 per cent of the cases in which this operation is performed Some complications arising in patients with an artificial pneumothorax are considered and the surgical treatment described Methods of dealing surgically with large apical cavities by extrapleural pressure, the introduction of wax, or by rib resection are also considered, and the author maintains that these operations are sufficiently safe to be recommended in properly selected cases He points out that after the healing of the wound and the attainment of the immediate objective there will still be need of medical and hygienic treatment

142 Acute Osteitis due to Lymphatic Infection.

W Gejrot (*Acta Chir Scand*, December 22nd, 1923, p 357) tilts at the orthodox view that acute osteomyelitis depends on infection by the blood stream, and records three cases in which he argues, infection was conveyed by the lymphatics The clinical features of these cases were remarkably uniform In every case a superficial wound of the soft parts of the hand set up lymphangitis which spread up the arm and gave rise to lymphadenitis in the axilla In one case an abscess developed in connexion with the sixth rib, in the second with the scapula, and in the third with the clavicle In the case in which the scapula was infected the osteitis was not discovered till several months after the primary infection, but the author has little doubt as to the connexion between the two processes In the cases in which the scapula and the rib were involved infection had evidently been a retrograde process, but it is an established fact that lymph may flow in either direction in the lymphatic vessels under certain pathological conditions The author thinks that it was not merely a coincidence that in all these three cases of lymphatic infection flat bones became the site of an acute osteitis Metastatic osteitis in the flat bones always begins as a periostitis, and it is conceivable that lymphatic infection of the flat bones is even more common than haematogenous infection

143. Periarterial Sympathectomy for Varicose Ulcers.

Bardon and Mathey Corriat (*Lyon Chirurgical*, November-December, 1923, p 694) discuss the operation of periarterial sympathectomy, preferably in Scarpa's triangle, as a new mode of treating varicose ulcers of the leg They have collected and recorded the results in 13 cases, with photographs of the condition before and after treatment They find this is an excellent means of producing healing, but not necessarily cure, of the ulcers of the leg The immediate and remote results of treatment appear satisfactory, but recurrence takes place in about 30 per cent of cases amongst those who are too old or who are not careful of the leg after operation The treatment is indicated in those cases of callous but previously clean ulcer, and in simple ulcers where it is desired to promote healing with as little delay as possible In this field it has no rival and is the quickest means of producing cicatrization, moreover, it reduces the time of immobilization It is contraindicated if the general condition of the patient is poor, in old and chronic ulcers, in the presence of arterial degeneration, heart disease, and renal or hepatic insufficiency The operation itself requires care, for, if the decortication is incomplete, it is likely to result in failure, whilst damage to the femoral artery itself may necessitate its ligature The artery is best exposed at the apex of Scarpa's triangle This is below the point where the deep femoral is given off, and is therefore safer if subsequent ligature is necessary, whilst there are fewer branches requiring ligature at this point It is as yet too early to speak of the ultimate chances of cure and the actual risks of the procedure, but the method appears worthy of further trial

Radiology and Electrology.

144 Radiotherapy in Uterine Cancer

Rouffart (*Le Scalpel*, September 29th, 1923, p 1073) observes that some writers have recently expressed unfavourable opinions regarding the treatment of cancer by radiotherapy This is largely due to the fact that too much has been expected, and that the limitations of radiotherapy have not been recognized It cannot be repeated too frequently that radiotherapy is a recent discovery, that its study is difficult, its technique ill defined, the indications for its use are not yet clearly understood, and several years must pass before its therapeutic value has been firmly established Radiotherapy, like surgical treatment or canterization, can be applied only to local lesions, without any hope that it will modify general conditions or avert a new development of the tumour A new growth may be due to predisposition of the patient's system, or in other cases to metastases Against the former we are powerless, whether the original tumour has been excised or treated by radium—the only methods worthy of consideration As Regaud has remarked in his recent report to the Cancer Commission (January 19th, 1923), "there is no general treatment capable of arresting the development of cancer, that is, as yet, beyond the resources of medicine and surgery" The surgeon aims at the complete removal, at one operation, of the whole of the neoplasm, together with its lymphatics and their afferent glands, which form the route by which the cancer cells pass to other regions, this constitutes the best modern treatment The use of radio active substances should follow the same method The neoplasm should be irradiated throughout its mass as well as at the periphery, irradiation should be uniform and sufficiently powerful to neutralize in every cell the tendency to proliferation One thing is obvious at the commencement—distribution of radio active energy will be most easy and efficacious where the tumour is most accessible This explains the more favourable results obtained in uterine cancer as compared with cancer of the tonsil or pharynx Rouffart considers that histological examination of the tumour is more important than the questions of its position and anatomical relations, since it enables the observer to recognize the particular type of carcinoma and the rate of cell division, if this be very active the tumour may be "sterilized" much more quickly than if

cell division is proceeding more slowly The success either of radiotherapy or of surgical treatment depends largely upon treatment being commenced while the disease is still local Rouffart considers that radiotherapy should be always followed by operation, even in an early case he performs hysterectomy three or four weeks after the application of radium He agrees with Gosset, Monod, and Regaud that radiotherapy usually renders the uterus more mobile and lessens infiltration of the broad ligaments, thereby facilitating the subsequent operation and improving the prognosis Rouffart describes his technique and gives details of several cases He concludes that radiotherapy is useful as an adjunct in the treatment of cancer of the uterus, but that it cannot replace operative procedures

145 Orbital Sequelae of Radium Treatment of Maxillary Cancer

A KNAPP (*Journ Amer Med Assoc*, December 1st, 1923, p 1849) deals with the conditions which may occur in the orbit and affect the eyeball after radium has been used in the treatment of cancer of the upper jaw The symptoms are of an inflammatory nature and the ocular muscles show signs of paralysis, thus contrasting with the symptoms which arise from the involvement of the orbit by the malignant process In the case of radium treatment an infective process seems to be a definite factor, and the necrotic process may spread from the orbit to the eyeball, setting up panophthalmitis. These radium effects may be deferred for weeks, or even months, hence the need for careful observation and precautions as regards dosage The radium in his cases was applied unfiltered and in the milder cases of orbital trouble there was not much pain

146 Radium in Cancer of the Cervix.

CL REGAUD, J ROUX BERGER, A LACASSAGNE, H CESBRON, H COUTARD, O MONOD and G RICHARD (*Journ de Radiol et d Electrol*, November, 1923, p 510) give the results of treatment at the Paris Radium Institute during the period 1919–21 In the three years they have treated 226 cases of cervical cancer, all verified histologically In 21 cases there was inoperable recurrence after hysterectomy, of these, 16 died a year or more after treatment, 3 were not cured but their lives were prolonged, and 2 patients seemed to be cured, but one had been treated by *x* rays in addition to radium therapy They consider that these disappointing results indicate that radium therapy should always precede hysterectomy With regard to the 205 cases which had not been operated upon (114 inoperable, 67 doubtful, and 24 operable cases), their earlier results were so disappointing that in 1921 they began to select their cases At the end of 1922 they had 53 complete cures in 226 cases—that is, 12 cures in 1919 22 in 1920, and 19 in 1921 They consider that their results justify hysterectomy after radium treatment They condemn Wertheim's operation as useless and dangerous—useless if the cancer is limited to the uterus, dangerous if it has extended to the pelvic fascia, on account of the dissemination of cancer cells during operation Among 16 cases of hysterectomy performed after radium treatment 2 recovered The authors conclude that in cases suitable for operation hysterectomy performed after apparently successful radium treatment offers the patient, almost without danger, a double prospect of cure

147 Radium Treatment in Rectal Carcinoma

H A KELLY and G E WARD (*Surg, Gyn, and Obstet*, November, 1923 p 626) consider that radium alone, or in conjunction with operative measures is the most valuable therapeutic agent both palliative and curative in all stages of rectal cancer In a series of 200 cases, mostly of an advanced type of disease, which they investigated definite palliation resulted in 62 5 per cent, and 11 per cent were cured, the remainder did not respond at all to the treatment Only six of the total cases were considered as being at all operable The method of implantation of bare emanation needle points into the tumour is considered the most satisfactory but a combination of external and internal radiation has also given very good results The general procedure that they recommend is as follows (1) If the case is operable radiate externally and operate, there being little choice which should be performed first If all the growth cannot be removed either treat internally as well as externally, or implant bare needle points, which can be done after the operation (2) If the patient is inoperable or a border line case treat with heavy external and internal radiation and needle implantation, in the hope of bringing the tumour to an operable size or of causing it to disappear (3) If on admission to hospital there is obstruction of the bowel a colostomy is necessary, but it should not be considered a routine measure

Obstetrics and Gynaecology.

148. Pyelitis during Pregnancy

N W VAUX (*Amer Journ of Obstet and Gyn*, December, 1923, p 681) considers that pyelitis during pregnancy is more common in primiparae (60 per cent) than multiparae The chief symptoms in his patients were pain in the right lumbar region, frequency of micturition pyrexia increase of pulse rate, malaise, headache, nausea, vomiting and usually constipation As regards its etiology the author advances the view that pyelitis is due chiefly to the fact that at the fifth month the gravid uterus impinges upon the sharp brim of the pelvis directly over the ureter, and thus partial or complete occlusion of one or both ureters may be produced in the later months the uterus sags more forward and the pressure is relieved (all his cases occurred between the fifth and eighth months) Moreover, the bladder in all pregnant women contains varying amounts of residual urine, which is readily infected The causal organism in all his cases was *B coli* and though it was never found in the blood culture, which was invariably sterile the author believes that the infection is haematogenous It is curious that all the bloods tested were found to belong to Group 4 (Moss's classification) As regards treatment, the patient is put in Fowler's position with instructions to adopt the knee-elbow position for five minutes at a time thrice daily Milk and water diet is given, and medicinal treatment with potassium citrate, 120 grains in the twenty four hours, seems to yield the best results Urotropine was of little value, and vaccines and intravenous medication were of no use, irrigation of the pelvis of the kidney was also useless In cases debilitated by vomiting, etc, proctoclysis with 5 per cent sodium bicarbonate solution was of great benefit, also subcutaneous saline injections Symptoms usually disappeared in seven to seventeen days, but pyuria and bacilluria often persisted for the duration of pregnancy Ureteral catheterization and irrigation seemed to delay cure All cases went to full time except one in which labour was induced because toxaemia was severe After delivery there were no further symptoms of disease and the patient rapidly became normal

149 Regional Anaesthesia in Gynaecology

W R MEEKER and B E BONAR (*Surg, Gyn, and Obstet*, December, 1923, p 816) discuss in detail the use of local anaesthesia in gynaecological operations and obstetrics The different methods of inducing anaesthesia and their special applications are described and illustrated by anatomical diagrams and plates In obstetrics they consider that the epidural method is more practicable than the trans sacral and gives a more complete relaxation of the pelvic floor than is obtained by any other method In normal delivery cases they consider that the maximum advantage is gained by inducing anaesthesia when the os has reached at least 7 cm dilatation in primiparae and 4 cm in multiparae When prolongation of the action of an epidural injection can be secured still greater benefit will result Terminal infiltration anaesthesia they find to be adequate for the more superficial operations on the vulva, perineum and anus, and combined with injection of the anaesthetic into the sacral canal it is effective also in dilatation, curetting, and urological manipulations For the deeper operations on the pelvic floor and viscera they recommend the association of a low epidural injection with trans sacral block of the upper four sacral nerves In such cases as the posterior resection of a high carcinoma of the rectum or recto-sigmoid the necessary traction of the viscus causes pain and requires a short ether narcosis or nitrous oxide oxygen anaesthesia during this period In pelvic operations by the abdominal route they find local anaesthesia sufficient for the laparotomy, but general narcosis usually necessary for the pelvic work

150 Treatment of Melaena Neonatorum

R L ROCHAT (*Schweiz. med Woch*, November 8th, 1923, p 1042) strongly recommends the treatment introduced by the Americans, Schloss and Commisky It consists in aspirating blood from a vein in the mother's arm into a 10 c cm syringe and at once injecting 3 c cm of the whole blood into the buttock of the infant, the injection being repeated several times a day At his hospital in Lausanne 20 cases of melaena neonatorum have been treated with injections of gelatin or whole blood the latter procedure having been successfully adopted in the last three cases There were only 4 deaths in this series, and in 19 of the cases there was no evidence of syphilis in the parents The author points out that gelatin is not always available and that a further objection is the risk of infecting the infant with tetanus These objections cannot be raised to the blood transfusion which he advocates, and which can be carried

cut in any emergency The author notes that about thirty years ago the mortality from melaena neonatorum was estimated at 40 to 84 per cent, and that this high death rate was greatly reduced when gelatin treatment was adopted He adds that the pathology of this condition is still obscure, and that, as often as not, no inflammatory lesions can be found *post mortem* in the gastro-intestinal tract But, whatever the cause, the parenteral injection of some protein, whether it be horse serum or human serum, promptly increases the rate of coagulation of the infant's blood.

Pathology.

151 Treatment of Serum to Prevent Anaphylaxis

THE usual methods of preventing anaphylaxis, such as by giving small repeated doses of the antigen or by anaesthetizing the animal previous to injection, depend for their efficacy on the response of the animal A BESREDKA (*Ann de l'Inst Pasteur*, November, 1923, p 935) now claims to have devised a method by which the prevention of anaphylactic shock is secured by an artificial modification of the serum Briefly the method is as follows The serum is dried and the powder is then dissolved in distilled water to the amount of one fifth of the original volume, the result being a syrupy liquid which has the property of being coagulated by heat, not at the usual temperature of 70° to 75° C, but at 58° to 60° C This liquid is poured into a Petri dish in a thin layer and placed in the water bath at the lower temperature for about an hour The coagulated serum is now dried Though appearing similar to the dried serum before coagulation, it is really different, as it possesses a much lower solubility in water One part of the dried coagulated serum is dissolved in 9 parts of 0 5 per cent carbolized saline, the resulting liquid consists of a lower white layer called the residual serum and an upper yellowish layer called the purified serum The purified serum, though only containing about one third of the original protein, yet appears to preserve most of the antibodies Using this serum on sensitized guinea pigs, it was found that it was possible to administer [illegible] five to ten times greater than that of the positive dose killing the animal by an [illegible] normal serum without direction of [illegible] Working apparently under the author's [illegible] Schönfelder, using purified antidysentery serum, found that it contained the greater part of the preventive bodies of the original serum, while M S Vaglianos, using purified anticholera serum, was able to show that the agglutinating power and the preventive power were almost identical with those of the unpurified, uncoagulated serum

152. Diagnosis of Diphtheria Carriers

DURING a survey of the school children of Baltimore for the detection of carriers of virulent diphtheria bacilli C G BULL and L C HAVENS (*Amer Journ Hyg*, November, 1923, p 599) reached certain interesting conclusions From each child three swabs were taken—one from the throat and one from each nostril Loeffler's serum was inoculated and films from the resulting cultures made after fifteen to eighteen hours' incubation All definitely negative cultures were discarded, the positive and doubtful were kept for further examination, including the testing of their sugar reactions and their virulence for guinea pigs In all, 7,790 combined nose and throat cultures were examined, of which 387 were morphologically typical, though only 136 were virulent Of the virulent forms, 102 contained typical granular bacilli and 55 gave both typical morphological and carbohydrate reactions All the strains of virulent bacilli behaved typically in the sugars Summing up, they conclude that for detecting carriers at large dependence upon the morphology of the bacilli will lead to false conclusions, because many of the morphologically positive cultures will prove to be avirulent For the detection of virulent bacilli they consider that the whole culture virulence test is the most suitable It is interesting to notice that they find the solid forms of diphtheria bacilli—Wesbrook's A2, B2, and C2 forms—to be of greater significance than the shorter granular forms, D and E

153 The Theories of Transmissible Microbial Lysis

IN a recent communication DA COSTA CRUZ, basing his argument on the acknowledged fact that a culture containing a lytic principle can be made to yield normal organisms, drew the conclusion that Bordet and Ciuca's theory of transmissible lysis was untenable BORDET (*C R Soc de Biologie*, November 10th, 1923, p 963), in reply, shows the fallacy of this conclusion Bacteria have a natural and physiological aptitude to undergo autolysis, and Bordet considers the bacteriophage phenomenon to be due to a disturbance of the normal physiology of the organism, it is a manifestation of pathological autolysis In order to communicate this excessive tendency to autolysis to normal bacilli it is only necessary to add to them a little of the culture fluid of organisms of the same species which have already undergone lysis The culture, if now inoculated on to a fresh medium, will reproduce the lytic principle for itself. But it is not difficult to obtain from this vitiated culture organisms which are in all respects normal All that is required is to wash the organisms thoroughly so as to free them from contamination with the lytic principle, and to plant them upon a fresh medium In this way three types of organism will be obtained (1) lysogenic ones, which perpetuate the vitiation, (2) non lysogenic ones, which are, moreover, resistant to the lytic principle, and (3) perfectly normal ones, which are non lysogenic and which present the usual susceptibility to the lytic principle The rationale of this technique is founded on the observation that contamination with a certain minimal dose is requisite for normal organisms to become lysogenic By freeing them carefully from the lytic principle in their culture and thus reducing this principle below the necessary minimal dose, it is possible to obtain them in a normal condition once more.

154 Tumour Cells in Cultures of Mouse Sarcoma.

W H LEWIS and G O GEY (*Bull Johns Hopkins Hosp*, November, 1923, p 369), employing Drew's medium, have cultured mouse sarcoma with marked success They record the following observations Only two types of cells were observed migrating out from the tumours. The first type corresponded in every respect with the ordinary clasmatocyte (resting wandering cell or macrophage), the second type was a sarcoma cell proper It was noticed that clasmatocytes migrated more rapidly from embryonic and sarcomatous than from adult tissue, but the authors can offer no explanation of this The clasmatocytes were more numerous than the tumour cells, proceeded further out on the cover glass, and were the first to migrate They were also smaller and more irregular than the tumour cells, with smaller nuclei and more vacuoles The sarcoma cells, more or less round in shape, became elongated and irregular as they moved outward Both types showed numerous fat globules of variable size, also granules and vacuoles which readily took up neutral red, and smallish, short, granular, rod shaped mitochondria In the early stages the vacuoles were more noticeable in the [illegible] clasmatocytes, but in older cultures sarcoma cells were observed to become highly vacuolated Although these clasmatocytes have not been identified as such in sarcoma investigations by other workers, yet the authors consider that nevertheless they were probably present

155 A Study of Bacterial Catalase

IT has been known for a long time that certain bacteria are able to secrete an enzyme which has the power of reducing hydrogen peroxide This enzyme is called catalase I OHTSUBO (*Kitasato Arch of Exp Med*, August, 1923, p 61) has made an extensive study of its properties and of its presence in different species of bacteria The technique he employed was to make up a suspension containing 0 5 mg of live bacteria, from an eighteen hour culture, in 1 c cm. of saline From this suspension increasing dilutions were made These were incubated in test tubes containing an equal quantity of hydrogen peroxide solution After one hour at 37° C they were removed, and to each tube was added 0 5 c cm of potassium permanganate solution If there were sufficient enzyme in the bacterial suspension, all the hydrogen peroxide was reduced, and no decolorization of the permanganate solution occurred From the amount of decolorization which took place in the various dilutions the amount of catalase was computed Of the results given it is interesting to notice that *B influenzae* produces practically no catalase, whereas the closely allied *B pertussis* produces a large amount Similarly the gonococcus produces a considerable quantity, while the meningococcus produces hardly any The Shiga dysentery bacillus is negative, the atypical dysentery bacilli—presumably the mannite fermenting strains—are strongly positive The pneumococcus, again, is negative, the *Streptococcus haemolyticus* positive Bacterial catalase was found to be destroyed by heating to 72° C for one hour It is most abundant in young cultures, decreasing after twenty four hours He claims to have shown that there is an ecto-catalase as well as an endo catalase Whether these results will be of service in the differentiation of the various species of bacteria it is impossible to say till they have been confirmed

156. Diagnosis of Early Diabetes

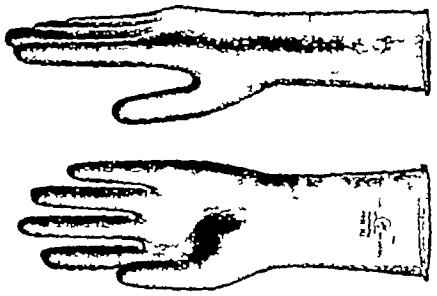
I H PAGE (*Journ of Lab and Clin Med*, July, 1923, p 631) describes a new procedure for detecting incipient diabetes by hourly examinations of the urine during the day by the Benedict-Osterberg method The plotted curves of the results are found to be regular in healthy individuals and give information of abnormally high sugar wastage in border line diabetic cases, as well as of dangerously low sugar excretion in cases undergoing treatment by insulin The procedure seems to be superior to the glucose tolerance test

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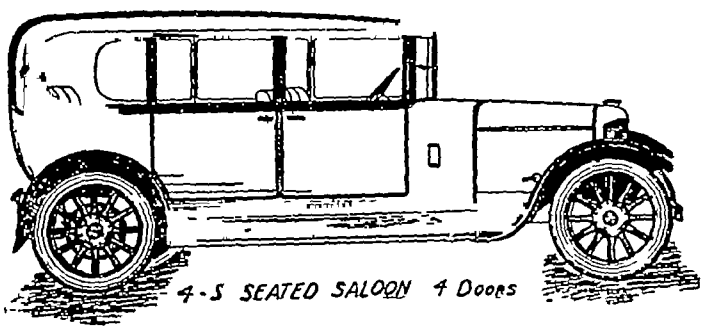
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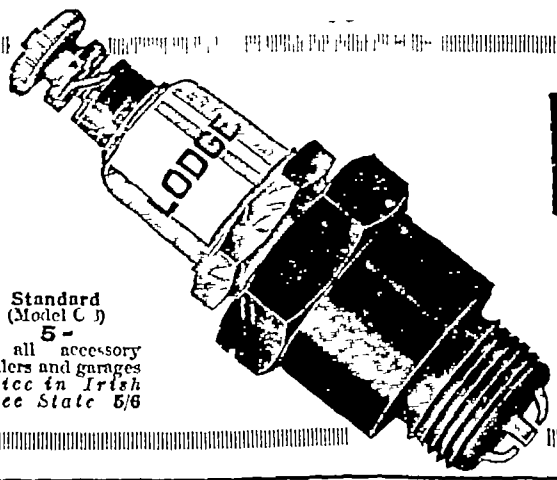
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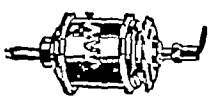
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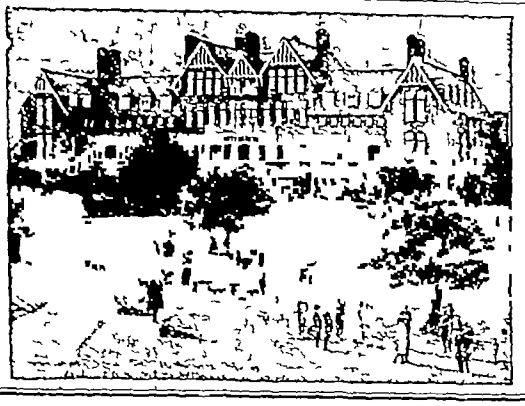
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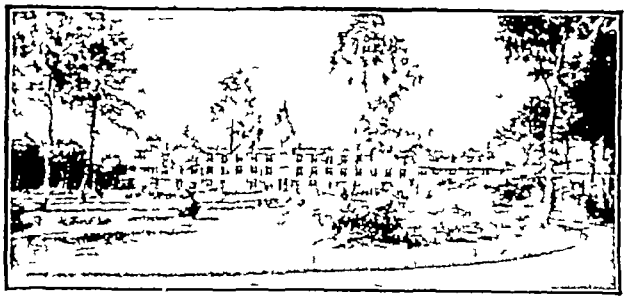
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THE UNIVERSITY AND THE SCHOOL OF MEDICINE OF THE ROYAL COLLEGES

INSULIN THERAPY

Short Courses of Instruction on the use of Insulin in Diabetes are being arranged for Practitioners who are interested in the subject. Each course will last one week. Provided there are sufficient applicants a course will be given during the first complete week of each month. Minimum number 5, maximum 10. Fee £3 3s.

TUBERCULOSIS

A Special Course in Tuberculosis will be held during the fo[illegible]
The course w[illegible]
Sir ROBERT F[illegible]
of each day. Minimum number 8, maximum 15. Fee £10 10s.

For further particulars apply to the Honorary Secretary, University, New Buildings, Edinburgh.

Pathological Laboratory,

UNIVERSITY OF CAMBRIDGE

THE JOHN LUCAS WALKER STUDENTSHIP

Applications for this Studentship, the holder of which shall devote him elf (or herself) to original research in Pathology are invited and should be sent, accompanied by copies of papers containing published work, testimonials and reference before 1st May 1924 to Professor H. R. DEAN, Pathological Laboratory, Medical School, Cambridge, to whom also applications for further information regarding the Studentship may be addressed. The Studentship is of the annual value of £300 and is tenable under certain conditions for three years from 31st May 1924.

15th January 1924.

University of Durham

The EXAMINATIONS FOR DEGREES in MEDICINE, SURGERY and HYGIENE will be commenced at the University of Durham College of Medicine, Newcastle-on-Tyne, on March 10th 1924.

Full particulars may be obtained on application to Prof. R. HOWDEN, Secretary of Examinations.

Guy's Hospital Medical

SCHOOL, London Bridge, S.E.1.

FINAL F.R.C.S. COURSE.

A COURSE of INSTRUCTION for the Final Examination for the Fellowship of the Royal College of Surgeons of England, will commence on Wednesday, March 5th, 1924.

Members of the Class are given every facility to gain the necessary Clinical experience.

The following are amongst those who will take part in the Course:—

Mr. P. TURNER and Mr. R. P. ROWLANDS ... Special Clinical Demonstrations
Mr. R. DAVIES-COLLEY ... Surgical Pathology
Mr. W. H. TRETHOWAN ... Orthopædic Surgery
Mr. L. BROMLEY ... Operative Surgery
Professor J. W. H. BYRE ... Immunity and Bacteriology
Professor T. B. JOHNSTON ... Surgical Anatomy
Mr. W. H. OSBLYR ... Tutorial Classes and Demonstrations.

Clinical Lectures and Demonstrations on Special Subjects will be given by other members of the Hospital Staff.

The Fee for the Course is twenty five guineas, or twenty guineas exclusive of Operative Surgery.

Candidates wishing to join the Course must lodge their applications on or before Saturday, March 1st 1924, with the Dean, Guy's Hospital Medical School, London, S.E.1, from whom full details of the Course may be obtained.

Tuberculous Diseases

DIPLOMA (WALES)

The Summer Examination for the T.D.D. (Wales) will be held for 1924 at Cardiff on June 2nd, 3rd and 4th, instead of in the first week in July as on previous occasions.

Notice of candidature, together with the entrance fee and the necessary Certificates, should be forwarded to the Registrar of the University, University Registry, Cathays Park, Cardiff, not later than April 15th.

The three months Courses for Certificates (b) and (c) at University College, Cardiff, will this year be for the months of March, April and May, and candidates desiring to take them should communicate with the Professor of Tuberculosis by the last week in February.

Preliminary Examinations

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September and December. For Regulations apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

Liverpool School of Tropical

MEDICINE.

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th.—Prospectus from the Hon. DEAN, School of Tropical Medicine, University of Liverpool.

In consequence of the lease of

ASHDOWN HOUSE, Hampstead having expired, Miss BULLOCK has moved her SCHOOL for Speech and Lipreading for Deaf Children and for the cure of Speech Defects in Hearing Children to the larger detached residence standing in its own grounds known as KINGSFIELD HOUSE, Oxney Watford.

The General Nursing Council

for Scotland invite applications from medical Practitioners and Registered Nurses for APPOINTMENTS as EXAMINERS in connection with the Examinations to be held by the Council in Edinburgh, Glasgow, Dundee and Aberdeen. Particulars and forms of Application (which require to be lodged before 28th inst.) may be obtained from the REGISTRAR, General Nursing Council for Scotland, 13 Melville Street, Edinburgh.

Medical Appointments in the

MALAY STATES

Vacancies exist for MEDICAL OFFICER and HEALTH OFFICERS in the Federated Malay States. Salary equival nt to £616 rising t £1,120 with prospect of further promotion. Temporary additional allowance of 10% (20% to married officers) to meet high cost of living. Pensionable if appointment confirmed after three years probation. Free passages provided. Pro-spective candidates should be fully qualified and preferably under 30.

Requests for further particulars and necessary forms of application should be addressed in writing to The Assistant Private Secretary (Appointments), Colonial Office, Downing Street, London, S.W.1.

West London Hospital,

Hammersmith Road, W.6.

Applications are invited for the posts of HONORARY MEDICAL REGISTRAR, HONORARY SURGICAL REGISTRAR, and HONORARY OBSTETRIC REGISTRAR for a period of one year eligible for re-election annually.

The holders of the posts of Honorary Medical Registrar and Honorary Surgical Registrar must hold no appointment at a general teaching hospital during their terms of office. The duties include the preparation of the several Registrar's Reports for the year and the supervision of the records of cases. The candidates appointed must be available as substitutes for the Physicians and Assistant Physicians, Surgeons and Assistant Surgeons as the case may be, and for emergency operations when required and be prepared to undertake such teaching for the Post-Graduate College as may be desired.

Candidates are required to be registered under the Medical Act, to send applications so as to reach me not later than Tuesday 19th February next to attend the Medical Council Meeting on Friday 22nd February at 4.30 p.m. and prior to that date to call upon and send copies of application and testimonials to each member thereof; to abstain from canvassing but nevertheless to send copies of applications and testimonials to each member of the Board of Management at whose meeting on Tuesday 26th February at 5 p.m., candidates must be in attendance.

H. A. MADGE, Secretary.

Corporation of Manchester

PUBLIC HEALTH DEPARTMENT

Applications are invited for the position of ASSISTANT TUBERCULOSIS OFFICER for the City of Manchester at a salary of £450 per annum, plus Civil Service bonus, the latter being subject to revision or revocation. Present value of bonus is £170 10s. 9d.

Candidates must be fully qualified medical practitioners having special knowledge of Medical and Surgical Tuberculosis. Candidates should state whether they possess the Diploma of Public Health.

Applications, stating age, qualifications and experience and endorsed on the envelope "Assistant Tuberculosis Officer," must be addressed to the Town Clerk only (and not to members of the Committee or Council) to be delivered not later than the 9th February 1924 and must be accompanied by copies of not more than three recent testimonials.

The person appointed will be under the administrative control of the Medical Officer of Health and the immediate control of the Senior Tuberculosis Officer. He will also be required to devote the whole of his time to the duties of his position to execute the Deed of Service and to contribute to the Corporation Superannuation Fund.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

Town Hall, Manchester. P. M. HEATH, Town Clerk.
4th February 1924.

Borough of Stockton-on-Tees

APPOINTMENT OF MEDICAL OFFICER OF HEALTH

Applications are invited for the position of Medical Officer of Health for the Borough of Stockton-on-Tees from duly qualified medical practitioners.

The person appointed must possess the qualifications prescribed by Section 15(1) of the Local Government Act 1888, and will be required to perform all the duties prescribed from time to time by the Ministry of Health, and in addition to act as General Medical Superintendent of the Borough Isolation Hospital, Simpson House, at which he will have charge of the Maternity Home in the Borough. He will also be appointed to the office of School Medical Officer. (There is a full time Assistant School Medical Officer.)

The salary will be £1,000 per annum. Office accommodation and staff will be provided by the Corporation.

The appointment is a full time one.

Applications stating age, experience and qualifications, accompanied by copies of not more than three recent testimonials, to be sent to the undersigned on or before Thursday, February 7th, 1924.

Borough Hall, Stockton-on-Tees. THOS. OWNEY, Town Clerk.
6th February 1924.

The Metropolitan Ear, Nose

AND THROAT HOSPITAL (Founded 1851)
Fitzroy Square, W.1

ASSISTANT SURGEON

A vacancy for the above having occurred applications will be received by the undersigned up to 10 a.m. on Monday, March 3rd, from whom all further particulars can be had on or before Monday, March 3rd.

L. L. PHILLIPS, Secretary.

Wanted, Assistant, with view to Partnership Panel and private practice in Western County Very beautiful country; pleasant society Graduate preferred. Must be well up in midwifery Motor cyclist, or able to drive car —Address giving essential particulars and references No 921 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Wanted —A Male Assistant, unmarried Englishman or Scotchman for country town in Midlands Experienced in general and panel practice Must be keen, active, and take well with patients Good and rising salary offered. Address No 913 B M J Office 429 Strand W C 2

Wanted —Well-qualified, experienced, single ASSISTANT with view to ultimate Succession in important Glamorgan Practice. State full particulars with references. Enclose Photo — Address No 903 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted —Temporary Out- door ASSISTANT motor cyclist with own cycle Country town Practice, Beds Small panel, 2 in firm must be experienced in Practice not under 40 Salary at rate £460 State age experience and if married or single —Address No 925 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted an Assistant, age about thirty preferably married, for a branch industrial Practice in the North of England; must be experienced in both medical and surgical work, and willing to work Good prospects for suitable man —Add No 702, B M J Strand W C

Wanted Assistantship by M R C S and L.R.C.P, single age 34. Energetic, keen abstainer Held numerous appts, 4 yrs in private Thoroughly experd. in panel and better-class practice Well received Excel. testimonials. Free now —Add No 936, B M J, Strand.

Wanted —Assistantship by M B B Ch, etc (T C D 1922) L.M, Rotunda (1920) Age 26, total abstainer 9 months resident experience in general hospital, 18 months G P experience unmarried —Address No 906, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted, Assistantship by young practitioner abstainer thoroughly reliable and conscientious moderate salary accepted. Confidential —Address No 933 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted Assistantship (or LOCUM) by M B Ch B (Glasgow) Young, energetic Experienced General Practice Highest references —Address No 929 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted, an Indoor Assistant in a Practice in Glamorganshire Usual bond —Address, stating age references all essential particulars No 957 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Lady Assistant, indoor, in large country town, mixed panel and private practice State all essential details. — Address, No 927 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted immediately, Outdoor ASSISTANT, for Practice in Country Town Good qualifications and references essential —Apply stating age nationality experience with copies of references to Dr MACARTHUR Thirsk Yorkshire.

Assistantship wanted by M B, B Ch (Dublin University) preferably in or near London Excellent testimonials Small salary accepted for sake of experience —Address No 909 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Assistantship wanted by woman graduate (M B Ch B Aberdeen) Some experience Accustomed to dispensing — Address No 816, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship wanted —Well qualified Hospital appointment experience locum and some general practice Keen and energetic abstainer, age 30 single Excellent references —Address No 937 BRITISH MEDICAL JOURNAL Office 429 Strand W C

A well qualified, experienced middle-aged man with slight disability offers his services to any doctor who may require substitute during short absences or a distance (including dispensing) in anyway S W preferred Moderate remuneration according to work Refs and details given.—No 934 B M J Office 429 Strand W C 2

Assistantship desired by M B Ch B (Indin) 23 male British 3 months experience General Practice Keen, energetic. Own motor cycle. Excellent testimonials references Small salary for good experience —Address No 736, BRIT MED JOUR. Office 429 Strand W C

Assistant wanted immediately Midlands Large panel and private. Indoor Salary £325 increase for energetic man Single Scotch preferred — Address No 926 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Assistant wanted, indoor, in Country Town. Usual bond State age and other essential particulars, recent references — J ADYE Bradford, Wilts.

Cambridge Graduate, D S O, successful in own Practice (found to be dispersed after the armistice) desires ASSISTANTSHIP or Branch in or near West Herts Post-grad work 1923 Bacteriologist. Active and keen Single No 930 BRIT MED JOUR. Office, 429, Strand, W C

Gentleman seeks post as COMPANION to INVALID mental or otherwise. No epileptics Willing to travel, take sole charge Permanency preferred —Address stating *full particulars of case and salary offered No 938,* BRITISH MEDICAL JOURNAL Office 429 Strand, W C.

Ealing, Hanwell or Sidcup district, PART TIME WORK wanted by M.B, D P H Would consider an easy Partnership — Address No 951 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

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Note.—It is against the Rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

M B, Ch.B, who since losing own Practice during long army service has been Medical Superintendent large general hospital, giving fine all round experience and much scope major surgery desires ASSISTANCY view Partnership ex H S, H P teaching hospital and others Aged 40 keen, well received, not afraid work or responsibility 1st class tests and references. Small capital —Address, No 724 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

M B, Ch.B (Edin), age 36, experienced anæsthetist, 3 yrs. anæsthetist military hospital would like *employment as* ANÆSTHETIST Good general experience — Address, No 928 BRITISH MEDICAL JOURNAL Office 429, Strand, W C 2.

Pathological and Bacterio- LOGICAL LABORATORY ASSISTANTS ASSOCIATION —*Pathologists and Bacteriologists* requiring SKILLED CERTIFICATED LABORATORY ASSISTANTS are invited to communicate with H P HUDSON Hon Secretary, Panama Villa, Trumpington, Cambs —No Fees

Radiography and Electric Treatment. Gentleman experienced in above requires POST whole or part-time Hospital or with Doctor London —Address No 935, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2

Radiographer (experienced) with own apparatus, requires POST at Hospital *or to assist Surgeon.—Address No 956* BRITISH MEDICAL JOURNAL Office 429 Strand W C

Scotch Graduate (Male), single aged 28 experienced G P, good references desires ASSISTANTSHIP, preferably with view to Partnership Temperate. Particulars in confidence to *No 918,* BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Gentlewoman, presentable, 7 years' experi Military Massage Service, req post RECEPTIONIST SECRETARY doctor's consulting room in London Has some knowledge of typewriting Age 32 Accus to responsibility and willing Well recom —Address, No 908, B M J

Wanted temporary — Experienced qualified female DISPENSER quick outdoor Bedfordshire. £3 5s weekly State age and experience —Address 923 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Doctors requiring Lady DISPENSERS should write to Mr J E WALDEN Westminster College, 11a, St. Georges Road S E 1 (only address) No fees to Doctors. 25 years experience Daughters and other relatives of medical men always in training

Dispenser, Lady (Hall), seeks POST with Doctor within 20 miles London, middle of February Good experience large practice, book keeping &c. Quick and energetic. Good reference young —"W, 16, The Uplands, Loughton Essex.

Ex-Service man requires situation as DISPENSER, STOREMAN in Medical Department. Would undertake Doctors Dispenser accounting for drugs, etc Qualified Apothecaries Hall also 17 years Army Dispenser — Apply "G.P 7, York Road, Brentford Middlesex

Lady Dispenser (Hall Certificate), good experience and references, want POST London or Cirencester neighbourhood. Free March.—Address No 820 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2

Lady Dispenser, Book-keeper (Hall qualification) desires POST with Doctor, Doctors reference given — Miss S JAMES 31, Swinburne Road, Abingdon, Berks

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PROVIDED

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Mr. W. S. ATKINS

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43, BEDFORD STREET, STRAND, W.C.2.

Telegraphic Address:

Positions, Westrand, London.

Telephone Regent 439

Wanted in Glamorganshire, LOCUM or ASSISTANT for 4 weeks Salary at rate of £300 p a. Indoors Do no apply if full details not given —Address No 916, BRITISH MEDICAL JOURNAL Office 429, Strand W C 2

Woman, aged 36, M B, Ch.B, experienced Hospital and general practice, wishes post as LOCUM or ASSISTANT — Address, No 922 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

In Emergencies, The Western Triple Agency Principal (Dr BAZETT resident, can best help Phone Torquay 906 till 10 p m when urgent. Office ("Hermosa Lodge") open all Saturday (closed Thurs afts) Telegrams "Triple, Torquay All Medical Agency work done quickly

Medical Officer —Wanted a LOCUM TENENS for a group of Tea Estates in South Sylhet INDIA for seven months from end of March Selected applicant would be required to sail end of February — Apply, "Churamoni" WM PORTEOUS & CO Glasgow

15/- per Diem —An experi- enced Doctor, has had own practice and done ten Locums past year will UNDERTAKE ENGAGEMENTS any length, Locum or otherwise London preferred Interview Well recommended. — MEDICUS 58, Talbot Road Bayswater W

FOR LOCUM TENENS APPLY TO

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Wanted —Private and Panel PRACTICE or PARTNERSHIP yielding £1 000 to £3 000 a year in or near London or large provincial town Necessary capital available —Apply, PEACOCK & HADLEY 19 Craven Street, Strand, W C 2 (No charge unless sale effected)

Wanted —Within 30 miles of London PRACTICE about £1 500 to £2 000 Good house and garden to rent preferred Ample capital —Details to 3071, c/o Mr PERCIVAL TURNER, 4, Adam Street, Strand, W C 2

Wanted, Country or Country Town PRACTICE producing over £1 000 per annum. Panel not objected to Good house and garden essential.—Send full details, in confidence to Mr W S ATKINS, Medical Transfer Agency, 43 Bedford Street, Strand W C 2

Wanted —Country or Country town PRACTICE or PARTNERSHIP yielding £1 000 a year or more House to be rented. Necessary capital available —Apply PEACOCK & HADLEY 19 Craven Street, Strand W C 2 (No charge unless sale effected)

Wanted by M B, Ch B (Edin) aged 8, a PRACTICE of about £800–£1 000 p.a. Town preferred Preliminary Assistantship essential Experienced in large panel and private practice.—Address No 919 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted by M B, age 37, a middle and working-class PRACTICE of £1,500 or more, with good panel in London or the South or Midlands. Now free and can pay cash — Apply BLUNDELL & Co. 22 Craven Street, Strand W C 2

Coast Town —A General PRACTICE situated at a favourite seaside re ort. Receipts about £2 000. Fees 5/6 upwards Ample scope Plenty of sport (trout and salmon fishing) Double fronted house containing 5 bed rooms, etc. Rent £.5 per annum Premium 1½ years purchase. — Apply, quoting Folio 639 Mr W S ATKINS Medical Transfer Agency 43, Bedford Street, Strand W C 2

Exceptional Opportunity — Owing to breakdown in health a PRACTICE in a Borough in the North of England is for sale It combines town and country work no clubs, and only a small panel of 950 The average receipts for the past three years is nearly £2,000 exclusive of Public Appointments The surrounding country is very beautiful and affords opportunities for hunting shooting fishing and golf Good house and garden available.—Address No 910 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

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THE PRACTICE is a mixed middle and working class, Income £2,000 increasing and with plenty of scope. Situated in a town on the edge of one of the most beautiful districts in England near the Sea. It is compact and easily worked Panel small, but is capable of great increase

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THE FURNITURE is very superior and has been collected with great taste. It is in keeping with the generous proportions of the house

The whole is a sound genuine proposition well worthy of investigation which will be welcome and undertaken only in strictest confidence Price £6 000 Only those with capital should investigate —Address No 917 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

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London, E —A Women and Children s PRACTICE situated in a thickly populated district Receipts £14 per week. No midwifery Ample scope. Excellent house containing 7 bedrooms etc. Large garden Rent £62 per annum Premium £1 000 —Apply quoting Folio 641, Mr W S ATKINS, Medical Transfer Agency 43 Bedford Street Strand, W C 2

London, S E —A Cash and Panel PRACTICE situated in a thickly populated district and producing over £2 600. Panel about 1500 Plenty of scope. House situated in central position containing 3 bedrooms etc. Rent £45 per annum. Premium 1½ years purchase — Apply quoting Folio 631, Mr W S ATKINS Medical Transfer Agency 43, Bedford Street W C 2.

Lancs —Old-established PRACTICE in pretty district owner retiring Nice house, excellent garden tennis lawn garage. Receipts nearly £1,200; Panel 800 Appointments £280 Very compact and easily worked Price £4 000 house and practice Large mortgage on property arranged — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd., 88 King Street

Near Liverpool — Seaside One-third SHARE of £2,200 FOR SALE. Middle-class and panel 1 600 Non-dispensing basis terms to suitable man Expenses very light Estate agent etc and full particulars.—Address, No. 911 BRITISH MEDICAL JOURNAL Office 429 Strand,

Lincs —An unopposed General PRACTICE, situated in a country district within easy reach of a favourite sea-side resort. Receipts £865. Good fees. Ample scope. Excellent house containing 6 bedrooms, etc. Large grounds and garage. Rent £60 per annum Premium 1½ years purchase.—Apply quoting Folio 642, Mr W S ATKINS Medical Transfer Agency 43, Bedford Street, Strand, W C 2

Midlands — Nucleus in Country Receipts for 9 months £100 Small panel. Fees 2/6 to 15/ Midwifery £4 4s Plenty of scope Good open ing for energetic man Sports Ill health reason for selling Good house rent £60 Large garden —LEE & MARTIN Ltd, 71 Temple Row Birmingham.

Midlands — Old-established panel and private PRACTICE Average receipts £1,400 Large panel Good house for sale or rental Premium for Practice £1 800 — LEE & MARTIN Ltd 71 Temple Row Birmingham

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Required at once, Practices and PARTNERSHIPS —Mr W S ATKINS (late of ARNOLD & SONS, London) has a large number of Clients who are seeking Practices and Partnerships and wish to settle down at once.—Send full particulars in confidence, to Mr W S ATKINS Medical Transfer Agency 43, Bedford Street, Strand, W C

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Required in London or Suburbs General PRACTICE with Panel producing over £1 000 p.a. Send full details in confidence to Mr W S ATKINS, Medical Transfer Agency 43, Bedford Street Strand W C 2

Somerset —Country Practice, old-established unopposed Receipts about £1 000 (including panel and appointments £400). Small house. Rent £36, on lease or for Sale Good garden —Address No 808, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

South-West Coast —An old- established middle and better-class PRACTICE situated at a sea-side town Receipts over £1 000 Fees 5/ upwards Splendid house in good position with garden etc. Rent £100 per annum Premium 1½ years purchase —Apply, quoting Folio 646 Mr W S ATKINS, Medical Transfer Agency 43, Bedford Street, Strand W C 2

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To Purchasers —Do not Buy without expert assistance With 40 years experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam Street, Strand W C 2 Telephone: Gerrard 399 Telegrams "Epsomian London."

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Yorkshire —A General PRACTICE, situated in a country district Receipts £2 500 Panel 1,0[illegible] Fees 5/ upwards Excellent house, etc. Rent £52 per annum. Premium £3,500 —Apply quoting Folio 645 Mr W S ATKINS, Medical Transfer Agency 43 Bedford Street Strand W C 2

Wanted, Partnership (£1,000—£2,000) in Obstetrical and Gynæcological Practice or to buy good-class old estab. practice, panel over £500 midwifery wanted, partnership considered qualifications and appts held forwarded on receipt of terms Good house grounds. South of England preferred.—Address No. 953 BRIT MED JOUR. Office 429 Strand W C

Wanted —Partnership or ASSISTANTSHIP with early view to General Practice by experienced Scots Graduate (1919) Some capital available. London or district preferred —Address No 817 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Wanted —Partnership or PRACTICE producing £800 to £1,000 per annum Experienced in general and panel practice Good references. —Address, No 815 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C.

Wanted — Woman Doctor with small Capital to buy a working class Practice in large town in Partnership with another Address, stating full particulars No 955, BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

FRCS (Eng), exceptional experience, requires Surgical PARTNERSHIP or middle class Medical and Surgical PRACTICE £1,500 to £3 000 10–15 miles London. Latter case state mils. surgery fees panel, hospital &c —Address No 939 B M J Office 429 Strand, W C

Junior Partner wanted for general Practice in large Yorkshire town Share for disposal from £1 300 to £1,400 p.a. Large panel several appointments. House available on lease Premium £2 000 — Apply PEACOCK & HADLEY 19 Craven St Strand W C 2

Lanc's Seaside —Half share PARTNERSHIP in excellent practice great scope and very good opening for energetic man Price £1 600 (4 years purchase).—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd. 88 King Street.

MRCP (London), DPH, with knowledge of Bacteriology and Bio-chemistry wishes to hear of JUNIOR PARTNERSHIP in a large practice, where this knowledge could be put to advantage. S of England preferred — Address, No. 920 B M J Office 429 Strand W C.2

Ophthalmic Surgeon, well qualified would be glad to hear of a PARTNERSHIP or OPENING in the South of England —Address, No 711 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Partner wanted good growing general practice £2 000 p.a. within 20 miles London, able to do major surgery Fellowship man to get Share increasing to ½ at 4 years purchase House available for rental Real neighbourhood Good schools golf No agents —Address, No 603 B M J

Partnership with view to Succession Sussex seacoast town (suburb) General Practice yielding about £1,150 p.a. Panel 1 000 Scope for material increase Half share for sale Premium £1 000 — Apply PEACOCK & HADLEY 19 Craven St Strand W C 2

Third Partner wanted, at once, in busy practice in small S W Coast country town Cottage hospital One-third share £4 500 two years purchase — Address No 941 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2.

ORTHOPÆDIC CENTRE BIRMINGHAM

Highbury, Uffculme and

SOLIHULL HOSPITALS

MEDICAL SUPERINTENDENT

The Committee of Management invite applications for the above whole time post which becomes vacant on 31st March next The Hospitals contain 313 beds and have a large Outpatient Department and Curative Workshops Orthopædic cases constitute the majority and there are General, Medical and Surgical in addition to Limb-fitting cases

Three Visiting Surgeons one Visiting Physician, and three Resident Medical Officers are on the staffs of the Hospitals

Salary £800, with single quarters fuel and light, or £100 per annum in lieu of these emoluments, a charge will be made for all meals taken at the Hospitals No married quarters are available and the gentleman appointed, if married will be required to live near the Hospitals Preference will be given to Candidates with War Service Overseas and who are Fellows of the Royal College of Surgeons

The appointment, which will be made subject to the approval of the Ministry of Pensions, will be terminable by one month's notice on either side

Applications accompanied by copies of three recent testimonials and statement of War Service and experience in Orthopædic Surgery, to be received before 8th March next by the Chairman Hospitals Committee, Highbury Hospital Moseley Birmingham

11th February 1924

County Borough of Gateshead

ASSISTANT SCHOOL MEDICAL OFFICERS

The Education Committee invite applications for the posts of Two Assistant School Medical Officers (1 Male and 1 Female) to act under the Medical Officer of Health in connection with the Medical Inspection and treatment of School Children and such other duties as he may decide

Salary £600 per annum

The successful candidates will be required to devote the whole of their time to the duties of the office and the appointment will be subject to three months notice on either side

Preference will be given to candidates having had experience in:—

(1) Refractions and Eye Diseases
(2) Examination of Mentally Defective Physically Defective and Epileptic Children.

Applications, together with copies of 3 recent testimonials to be received by me not later than 3rd, March, 1924

R T EDINGTON, Secretary

11th February 1924

Bristol General Hospital

The Committee invites applications for the following appointments —

2 HOUSE PHYSICIANS HOUSE SURGEON, RESIDENT OBSTETRIC OFFICER, HOUSE SURGEON to the Special Departments and a CASUALTY HOUSE SURGEON

The appointments are for six months from April 1st next at salaries at the rate of £125 per annum with board residence etc., provided in the Hospital

Candidates must be registered under the Medical Acts and produce testimonials of good personal character and ability and must have had recent experience in the administration of Anæsthetics

Forms of application to be obtained from the Secretary must be returned with copies of testimonials addressed to the undersigned on or before Monday March 3rd, from whom further particulars may be obtained

THOMAS W GREGG Secretary

The Royal Portsmouth

HOSPITAL, Portsmouth

(THREE RESIDENT MEDICAL OFFICERS)

SENIOR HOUSE SURGEON (male) required to commence on or about March 17th Six months appointment. Salary at the rate of £200 per annum with board etc Candidates must have held a resident appointment at a General Hospital.

An ASSISTANT HOUSE SURGEON (male) is also required to commence on March 28th Salary £150 per annum with board etc. Six months appointment Eligible on completion of term for senior appointment.

Applications stating age nationality etc, and copies of three recent testimonials to be sent to the undersigned from whom all particulars can be obtained

B WAGSTAFF Secretary

Scarborough Hospital &

DISPENSARY

Wanted HOUSE SURGEON (Female) Duties include Home Visiting Salary £150 per annum with board residence &c

Applications, stating age with copies of testimonials and essential particulars to be sent to the undersigned by February 23rd 1924

J DOUGLAS MUNBY Secretary

Parish of Portsmouth

FIRST ASSISTANT RESIDENT MEDICAL OFFICER

The Guardians of the above-named Parish invite applications for the appointment of a First Assistant Resident Medical Officer for the Workhouse Infirmary Workhouse and Children's Home

The appointment will be made for a period not exceeding three years, and will be subject to one month's notice on either side.

Salary £350 per annum, with furnished apartments rations and all other allowances.

The appointment will be subject to the provisions of the Poor Law Officers Superannuation Act for which purpose the value of the emoluments has been fixed at £125 per annum

Candidates must be single gentlemen duly registered possess the qualifications required by the Orders of the Ministry of Health and preference will be given to Candidates having a knowledge of the treatment of mental diseases and who have experience in surgical work The Infirmary affords plenty of scope for major and minor surgery A Resident Medical Superintendent is in attendance

Applications to be made on printed forms which may be obtained at this Office accompanied by not more than three recent testimonials and a description of the Diplomas Certificates of Degrees Licences and other instruments held by the Candidate and must be returned to me by first post on Saturday the 1st day of March 1924

By order, H O MORRELL, Clerk.

Guardians Offices
St Michael's Road, Portsmouth.
12th February 1924

South London Hospital for

WOMEN,
South Side, Clapham Common, S W 4.

The Board of Management invite applications from fully qualified MEDICAL WOMEN for the undermentioned Resident Appointments:—

THREE HOUSE SURGEONS, each for a period of six months from April 1st 1924.

HOUSE PHYSICIAN for a period of six months from April 16th

Salary in each case at the rate of £50 per annum, with board residence and laundry

Full particulars may be obtained from the Secretary Applications, with copies of testimonials, to reach the Secretary at the Hospital not later than first post on March 3rd

St. Mary's Hospitals,

Manchester

RESIDENT OBSTETRIC SURGEON for the Whitworth St West Hospital (Maternity) also *RESIDENT SURGICAL OFFICER* for the Whitworth Park Hospital (Gynæcological and Children) both appointments for a period of twelve months from 1st April next Salaries £200 per annum with board and residence

TWO HOUSE SURGEONS for the Whitworth St. West Hospital and ONE for the Whitworth Park Hospital each for a period of six months from the 1st April next. Salaries at the rate of £50 per annum with board and residence

Application with copies of three testimonials to be sent to the undersigned, on or before the 25th inst.

R RATCLIFFE Secretary

Cumberland Infirmary,

Carlisle

Wanted, 1st April 1924, qualified RESIDENT MEDICAL OFFICER (Male) 12 months appointment—six months as House Physician and the remaining sixmonths as House Surgeon Salary as House Physician at rate of £175 per annum and as House Surgeon at rate of £200 per annum, with board, residence, etc, in each case

Applications stating age with copies of not more than four testimonials should be received by first post on Wednesday, February 20th, by the undersigned who will supply further particulars if required

J G HOWITT Secretary

St Thomas's Hospital, S E 1

Vacancy The appointment of an OPHTHALMIC SURGEON, with Charge of Out patients Candidates must be registered Medical Practitioners and Fellows of the Royal College of Surgeons of England

Applications and testimonials should be sent in on or before March 3rd, 1924, addressed to the undersigned.

G Q ROBERTS Secretary

St Thomas's Hospital, S E 1

Vacancy The appointment of a PHYSICIAN in Charge of Out patients Candidates must be registered Medical Practitioners and Fellows or Members of the Royal College of Physicians of London

Applications and testimonials should be sent in on or before March 3rd, 1924, addressed to the undersigned

G Q ROBERTS, Secretary

West Derby Union,

ALDER HEY HOSPITAL FOR SICK CHILDREN

RESIDENT ASSISTANT MEDICAL OFFICER.

Applications are invited for the above appointment from ladies or gentlemen fully qualified and with special experience in connection with sick children

The Hospital contains 810 beds and accommodates infants and children other than with infectious diseases.

Salary £200 per annum together with apartments rations etc.

The appointment will be for one year in the first instance and renewable at the option of the Guardians for a second year

Applications to be sent stating age qualifications etc. with copies of *three recent* testimonials to the undersigned not later than the 22nd inst.

Union Offices G W COSTER,
Brougham Terrace, Clerk to the Guardians
Liverpool.

West Derby Union,

ASSISTANT RESIDENT MEDICAL OFFICERS (Male)

The Guardians invite applications for the above positions for the Mill Road and Brownlow Hill Infirmaries Liverpool at a salary at the rate of £200 per annum, together with the usual resident allowances

Candidates must be single, fully qualified and registered Appointment will be for a period of one year in the first instance subject to extension for a further period, not exceeding 12 months at the option of the Guardians.

Applications to be sent, stating age qualifications, etc with copies of three recent testimonials to the undersigned not later than 23rd instant

Union Offices G W COSTER
Brougham Terrace, Clerk to the Guardians
Liverpool 7th February 1924

Royal Berkshire Hospital.

Applications are invited for the post of HONORARY DENTAL SURGEON, for which there are two vacancies

Applications, stating age and qualifications must be *accompanied by copies of not more than three* recent testimonials, and must reach the Secretary not later than the first post on Saturday, March 1st, 1924

Reading HERMAN BURNEY
8th February 1924 Secretary

St Mark's Hospital for Cancer

FISTULA AND OTHER DISEASES OF THE RECTUM City Road E C 1

HOUSE SURGEON required Must be fully qualified Salary £200 per annum board lodging and washing The appointment is for a minimum of six months The successful applicant will be required to commence duties on 1st April

Applications with copies of three recent testimonials to be forwarded to the Secretary at the Hospital on or before Friday, 7th March

New Sussex Hospital,

Windlesham Road Brighton. (30 Beds)

Applications are invited from fully qualified medical women for the post of HOUSE SURGEON to commence duties on March 10th Previous hospital appointment essential Honorarium at the rate of £50 per annum with board, lodging and laundry

Applications with copies of testimonials should be sent to the Secretary of the Hospital, not later later than February 25th 1924

Ancoats Hospital,

Manchester

HOUSE SURGEON (Lady) required to commence duty on March 1st Appointment for twelve months. Salary first six months at the rate of £100 per annum second six months at the rate of £150 per annum

Applications stating age qualifications and experience, with copies of three recent testimonials to be forwarded to the undersigned on or before 25th February

By Order of the Board,
HERBERT J DAFFORNE Secretary

Hull Royal Infirmary.

Wanted ASSISTANT HOUSE SURGEON male, whose duties will be in the Nose Throat Ear and Ophthalmic Departments Candidates must be fully qualified, unmarried, and preference will be given to such as have had experience in similar appointment Salary £150 per annum with board and apartments Applicants must be prepared to enter upon their duties upon the 1st April next Applications, stating age qualifications and previous experience, with copies of testimonials to be addressed to the undersigned

BEN BROOKS, Secretary

Wolverhampton Union

APPOINTMENT OF ASSISTANT (RESIDENT) MEDICAL OFFICER &c.

The Guardians invite applications for appointment as Assistant (Resident) Medical Officer of their Workhouse and Medical Officer of their Cottage Homes at a combined salary of £300 per annum together with furnished apartments, ration &c.

The successful candidate will also be appointed Public Vaccinator for the Cottage Homes, with fees prescribed by the Vaccination Acts and Orders.

Candidates must possess the necessary qualifications to conform to the regulations of the Ministry of Health.

The appointments are subject to the sanction of the Ministry of Health.

Applications upon forms to be obtained from my Office must be delivered to me not later than first post on Wednesday 26th February, 1924.

Poor Law Offices, A. G. ALDRIDGE
Wolverhampton. Clerk to the Guardians.

Evelina Hospital for Children,

Southwark, S.E.

The Committee of Management invites applications for the post of PHYSICIAN to Out-patients (Honorary) (Attendance Mondays and Thursdays at 2 p.m.). Candidates must be Graduates in Medicine in a recognised University and M.R.C.P. London (or shall obtain that Diploma) and must not be engaged in general practice. Application with copies of four testimonials, to be addressed to the Secretary at Hospital before 25th February. Candidates (Male) must call on the members of the Honorary Medical Staff whose names also the Standing Orders relating to the post, will be furnished by the undersigned.

By Order,
H. C. S. SMITH
2nd February 1924. Secretary.

The Sheffield Royal Hospital

Applications are invited for the post of SURGICAL REGISTRAR. Salary £200 per annum, non-resident. Candidates must be Fellows of the Royal College of Surgeons. Applications, with copy testimonial to be sent in to me by Saturday the 23rd February 1924.

The Board Room, JOE W. ROBINSON
6th February 1924. Secretary.

The Royal Earlswood

INSTITUTION, Redhill, Surrey.
(Under Mental Deficiency Act, 1913)

JUNIOR ASSISTANT MEDICAL OFFICER Required.

Applicants must be registered practitioners, males, unmarried and willing to assist in the games and amusements.

The appointment is tenable for three years, if desired. Inclusive salary commences £250 per annum with board, residence and washing, and increment £15 per annum up to £280. Good facilities for Post Graduate Studies. Classes and Examinations.

Applications, stating age, religion and qualifications, with copies of three testimonials of recent date and two references, to be sent on or before the 18th February to the Secretary at the Office, 14 Ludgate Hill, E.C. 4. The envelope to be endorsed Assistant Medical Officer.

H. HOWARD
22nd January 1924. Secretary.

Kent County Ophthalmic HOSPITAL.

For Diseases of the Eye, Ear, Nose and Throat, Maidstone.

Applications are invited for the post of MALE HOUSE SURGEON to commence duties on 1st April 1924. Candidates must be single, fully qualified medical practitioners of British nationality, with knowledge of Ophthalmology, Refraction, Aural and Anæsthetic work. Salary £300 per annum with board, comfortable suite of rooms and laundry.

Applications, stating age, with copies of three recent testimonials to be sent to the Chairman by noon 18th February 1924.

PERCY L. CAMP, Secretary.

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W. J. HICKS, *Secretary.*

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Specially trained Nurses for Mental and Nerve cases (All Nurses are insured under the Employers Liability Act 1906.) Apply the SUPERINTENDENT.

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Superior Male Nurses and Valet Attendants for Mental, Medical, Travelling and all cases.

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ASSOCIATION, LIMITED **(Female).**

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Superior Mental Nurses (Male and FEMALE) supplied at a moment's notice day or night for all Nerve and Mental cases.

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LONDON N.E.—Old-established G.P. Panel nearly 400. Average cash receipts £950 p.a. No midwifery scope. Premium £3,000 to include freehold house.

N.E. COAST.—Old-established non-panel. Income nearly £4,300 p.a. Premium 1½ years purchase. House for sale. Mortgage could be arranged. Great scope for surgery. Lengthy introduction.

LANCS.—Old-established G.P. situated in country town. Very pretty country. Large house (bedal garden and garage. Panel over 800. 2 appointments. Income £1,460. Prem. to include house £4,000.

YORKS.—Old-established County Town G.P. Panel 1,500. Income £2,500. 3 appointments. Detached house with garden and garage to let on lease. Premium £3,500.

WARWICK.—Small Country PRACTICE in pleasant district, suitable only for young bachelor. Panel 190. Income £450. Rent £21 p.a. Premium £350 for quick sale.

ULSTER.—Old-established G.P. situated in residential seaside town. Income about £1,500. Two appointment. Nice house to let. Plenty of sport. Scope for surgery. Small hospital. Premium £2,000.

SOUTH WALES.—Old-established G.P. in residential district. Panel over 1,400. Average income nearly £2,000. Premium £2,500.

PRACTICES WANTED

LONDON W., S.W. and N.W. SOUTH COAST HOME COUNTIES, SOUTHERN COUNTIES and WEST COUNTRY. Income ranging from £1,000 to £3,000. Panel and Non-panel.

Please address all communications to the Manager, Medical Transfer and Insurance Department.

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Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges

1 WEST END OF LONDON—PARTNERSHIP—A quarter share, representing upwards of £700 per annum is offered in an old established Special ed Practice Fees from 2 guineas upwards Very suitable for a man wanting occasional work, or for one starting a Specialty Low expenses Premium £2,000

2 ESSEX.—Outlying Suburb—DEATH VACANCY—Old-established general PRACTICE held by the late incumbent over 25 years Average income £720 Panel of nearly 600 Fees, advice and medicine from 2/6 visits from 5/ Little midwifery House has ample accommodation Garage Stabling Lease held on lease with 8 years to run Rent £45 Lit with electric light Small garden Premium £800

3 CROYDON—Old-established middle and working class PRACTICE There is no panel but vendor states that there is a very large scope for this work if desired Income this year is at the rate of £1 200 Consultations from 2/6 visits from 5/ Very attractive house with nice garden Price £2 000 a large portion of which could be obtained on mortgage Premium £1 500

4 WITHIN FIVE MILES OF THE BANK—PARTNERSHIP—*A half share is for disposal in an exceptionally sound and old-established* middle and working class Practice The average income is well over £5 000 including panel of under 1 000 If desired the panel can be much increased Fees 3/6 and 5/ Midwifery from £3/3/0 About 80 cases Small very convenient house in quiet road Price £400 Premium £3 750 payable £2 000 down

5 WEST END OF LONDON—High-class general PRACTICE Steady income of well over £2 500 a year Fees from 1 guinea. Excellent and very convenient house will be sold or Consulting Rooms would be let to the Purchaser Premium £5 000

6 KENT—LARGE TOWN (within 50 miles of London) PARTNERSHIP A half share in an old-established Practice producing an average of over £3 800 No panel and no appointments Surgery fees 2/ and 2/6 visits 3/ and 3/6 Very little midwifery, 2½ gns Night work extremely light House on lease with 2 reception rooms 6 bedrooms bathroom etc Small garden Rent £60 Premium 1½ years purchase payable by arrangement.

7 NORTH LONDON—Old established middle and working class PRACTICE held by Vendor 4 years Average income for last 2 years £1 400 including appointments worth about £320 believed to be transferable Panel of 350 but this can be much increased if desired Advice and medicine 2/6 and 3/6 visits and medicine 3/6 to 7/6 About 80 midwiferies a year at from 2 to 5 guineas Easily worked with no conveyance Very large scope Fourteen roomed house on 67 years lease ground rent £29 Fair garden. Garage for 2 cars sub let for £44 a year Premium for practice and house £3 250

8 LEEDS—PARTNERSHIP—A one-third share in an old-established middle and better artisan Practice including panel of over 3 000 and appointments Average income for the last three years £5 470 Surgery fees from 2/6 cash. Visits from 4/6 to 12/6 Little midwifery from 2 guineas Suitable house, in central position available A short preliminary Assistantship is essential Premium to include share of drugs motors etc £2 500

9 NORTH OF ENGLAND—In a large town (population over 100 000), a very old established and easily worked *PRACTICE* worth about £900 a year of which over 800 a year is derived from panel The private practice can be greatly increased as vendor has refused an midwifery and night work. Very comfortable house on main road with ample accommodation (2 reception rooms, waiting and consulting rooms with separate entrance 5 bedrooms bathroom, etc) Price £1,200 (£800 on mortgage) Premium for Practice £1 100

10 PARTNERSHIP—NORTH WEST OF ENGLAND—In a large town (population 117 000) the half share of a very old-established Practice worth for the last financial year £3327 including £900 panel patients is for disposal in consequence of the retirement of the senior partner through advancing age Good house available containing 2 reception rooms consulting and waiting room surgery 7 or 8 bedrooms etc It can be either purchased or rented on lease at £80 a year Premium for share £2 350

11 NORFOLK.—UNOPPOSED COUNTRY PRACTICE—Very old established situated in a very pretty part of the county Average income last three years £1 443 including appointments and panel nearly 1 000 Visits 3/6 to 7/6 Midwifery from 2 guineas Good house with ample accommodation Small garden Garage Rent £54 Would be very suitable for two bachelors wanting the attractions of a country life Premium £2 000

12 BRISTOL—Very old-established middle and working-class PRACTICE held nearly 25 years by present Incumbent who is compelled to relinquish on account of ill health Average cash receipts over £1,200 a year including several small appointments and a panel of over 1 300 Visits 3/6 to 10/6 Midwifery £3 3s, 30 cases yearly Very good house specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance; 5 bedrooms, dressing room, etc Garden Price £2 200 Premium £1 800

13 LANCASHIRE—LARGE TOWN—Small PRACTICE of about £200 plus a panel of about 300 patients Very old established but neglected for the last ten years owing to war service Fees mainly 2/6 and 3/6 Very good detached house standing well back from the road on very long lease ground rent £10 Situated in residential area of the town Excellent opportunity for young energetic man to make a good practice Premium for house and practice £1 200, a large portion of which could be obtained on mortgage

14 SMALL CITY PRACTICE producing about £120 a year but offering considerable scope Three well arranged consulting rooms Rent £80 Premium to include fittings etc, £200

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England, West—Country Town £1 700 a year Old-established. Vendor retiring Panel 780 Good house, garden, tennis &c Low rent —Apply No 7482.

Kent—£1,700 a year Very old established PRACTICE. Panel 1 100 Good house rent £50 Easily worked.—Apply No 7487

London, S W—About £850 a year Old-established PRACTICE in near Suburb No panel, no midwifery Good house, garage, &c.—Apply No 7489

Partnership—Northern City Suburb £5 500 a year old-established Partner leaving Quarter or one-third Share for Sale 1½ years purchase Panel over 3 000 —Apply No 7485

Midlands—£800 a year, Industrial Town. Panel 8.0 easily worked no Car House with large garden, lawn and orchard Sell or Let. Premium for practice £1.000 —Apply No. 7483.

Northern Town—About £1,200 a year Vendor retiring Appointments £260 Panel 800 Good house —Apply No 7449

Riverside Suburb—Increasing PRACTICE of £500 a year Good house long lease Small panel Not much midwifery —Apply No 7474

Midland Town—Practice about £1,400 a year Panel 1 420 Excellent house to rent. Appointments about £250 No midwifery —Apply No 7473

Spa Practice—Nearly £3,000 a year Good old-established Practice suitable for an experienced graduate with means —Apply No 7438

Northern Town—Partnership, £2,800 a year Half share for disposal Panel over 3,500 Great scope.—Apply No 7451

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North-West County—Over £3 500 a year Old-estab Large town. Panel nearly 3 000 Good house on lease Moderate terms. Apply, No 7423

Cheshire — £3,500 a year, PARTNER wanted Good Suburb of large Town with Hospital Good fees Panel £1.000 a year Good house available Half share for sale.—Apply No 7444

Wales Coast—Over £900 a year Good general PRACTICE Small panel Good house and large garden Residential Seaside Resort Prem. £1000 —Apply No. 7419

Eastern County—Urgent £800 a year Unopposed. On rail Panel over 500. Detached house on lease Schools near Personally known. Premium 1½ years purchase —Apply No 7455

Welsh Coast—Over £1,500 a year Unopposed Old-established Fees 3 6 to 10 6 Not much midwifery Panel over 1 400. Other appointments about £130 Good house 4 bed bath &c. Room for extension Garage Price about 1½ years purchase —Apply No. 7403

Eastern County—Over £1 000 a year Old-established, Town on rail Panel 600. Large house and garden on lease. Partnership introduction. Apply No. 7385.

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See Advertisement of Bovril Medical Agency Ltd., Page 36

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See Advertisement of Bovril Medical Agency Ltd. Page 36

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LOCUMS SUPPLIED

Death Vacancy—London, S W North of the river Mixed PRACTICE of £1,500 with 1 8 0 panel worked at a lock up surgery Good house on long lease

Surrey—Rapidly increasing PRACTICE of £500 in residential suburb. House and Practice can be bought for £1,400 Practically no panel.

Liverpool—Suburb, near open country Receipts £1.400 Panel 1 100. Appointment £80 Opposition slight Great scope as vendor has been handicapped by illness Rent £50

London, S W—Partnership Share worth £850 with good prospects of increase in mixed Practice Panel 1 300. Good house with separate surgery, Rent £56 on long lease.

Death Vacancy—Large town on South Coast Good middle class PRACTICE of £1,500 including 500 panel Good house and garden can be rented or bought

North Wales—Partnership Share worth £800 in beautiful seaside place Cottage hospital and scope

Within 20 miles—Middle and working-class PRACTICE of £710 Panel worth £350 Good house on long lease. Rent £35 Premium £1,000

Yorkshire—Partnership Third-share of £5 470 in fine town Panel 3,300 and several appointments Good house Little midwifery

Inland Spa—Good-class PRACTICE of £2 900 No midwifery or surgery Good house can be bought.

West London—Partnership Third-share of £2 200 in pleasant district Scope for minor surgery Good proportion of panel Visits 3/6 to 10/6 Living accommodation available

South Coast—Old-established good class PRACTICE of £4,000 in large town Very good fees 10 midwifery 5 gns up Scope for surgery House in good position with garden and garage Rent £100

X Rays Practice of £800 in select seaside place. Good house can be rented

Ireland—Protestant Practice of £1 375 in nice seaside place Appoints £400 and extras Good house Rent £100

South Midlands—Partnership Two-fifths or one-third share of £3 000 in nice country town with cottage hospital in good hunting district Scope for a Surgeon Modern detached house with garage and garden on lease

Peak District—Very old-established PRACTICE in country town Receipts average £1 360 Panel 6 0 Very desirable practice House at reasonable rent

South Devon—Nucleus and RESIDENT PATIENT connexion in beautiful seaside place Large house and garden

East Coast—Practice of £1 140 in beautiful seaside place Panel 8 0 Appointment £40 Rent £60

South Coast—Practice of £1,300 in favourite resort Panel 2 0 Appointment £40 Rent £60 Seven years lease Premium 1½ years purchase

Lancs—Practice of £2,000 in manufacturing town Panel 1 1 0 Appointments £120 Rent £60 Premium £2,000 including £400 good book debts

South Wales—Unopposed Colliery PRACTICE of £3 000 Panel 1 0 0 Appointments £2,000 House with garage No Midwifery

Australia—Unopposed PRACTICE in rapidly growing town Receipts about £1 000 Premium £500 *Purchasers stating their requirements can have Particulars of other Practices not advertised.*

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HOME COUNTY —(2) Well-established mixed PRACTICE nearly £1 900 p.a in an Indu trial Town, under 35 miles from Lond n Panel 1 676 House contains 4 bedrooms, &c. Rent £40 on lease Premium one and a half years purchase, part by instalments Hospital and scope for surgery

EASTERN COUNTIES — (3) Very old-established unopposed Country PRACTICE, about £900 per annum, near Coast. Panel 513 Large modern house (6 bed and dressing rooms) Excellent garden and paddock 2 acres Rent £55 Premium £1,000

SOUTH OF ENGLAND —(4) PARTNERSHIP in a good class i on panel practice of £2,400 per annum in beautifully situated Country Town near the coast One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate, not over 35, and preferably F R C S England Preliminary Assistantship Salary £500 p.a

EAST ANGLIA —(5) Nucleus of PRACTICE in small, select Wat ring Place Income under £200 per annum Small panel. Detached corner house (4 bedrooms) with sea view Price for leasehold £1,250 Excellent golf and educational facilities Premium one year s purchase.

NORTH-WEST OF ENGLAND —(6) PARTNERSHIP in g od class practice about £1 500 per annum in popular Seaside Resort. Panel 650 No clubs Modern residence (4 bedrooms &c.) to rent on lease. Premium one-half share two years purchase Partner must be a north country-man and aged 28-40 Great scope

HOME COUNTY —(7) PARTNERSHIP in old-established and very compact Practice averaging over £3 800 p a in Industrial Town under 40 miles from London. No Appointments or Panel Rent of house £60 Prem one-half share one and a half years purchase, part by instalments

SOUTH WALES —(8) PARTNERSHIP in mixed Practice over £2,800 per annum in Country Town Panel 850 One-fourth or one-third share at two years purchase Incoming Partner should be keen on surgery Hospital

NEW ZEALAND —(9) General, Surgical and Medical PRACTICE over £1 260 in first rate Town Pr in. half a year s purchase

DERBYSHIRE —(10) Well-established PRACTICE of between £700 and £800 per annum in Manufacturing Town Panel 850 No Midwifery Nice detached house (4 bedrooms) in acre of ground to let Great scope for increase Premium one and a half y ear s purchase

SURREY —(11) PARTNER required in good-class non-dispensing PRACTICE over £4 000 per annum in first rate residential district Incoming Partner should hold University degree not over 35 and keen on medicine I remium one fourth share two y ears' p urchase

EAST COAST —(12) Old-established PRACTICE £1,700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double fronted house (6 bedrooms) Rent £55 Premium one and a half years purchase

YORKSHIRE (WEST RIDING) -(13) Old-established unopposed Country I RACTICE £2 500 near large Town Panel about 1 400 Rent of house (5 bedrooms) £50 Premium £3 500

NORFOLK.—(14) Old-established Country PRACTICE in beautiful part Receipts £540 Panel 328 Premium £750

INLAND WATERING PLACE —(15) Old-established high class PRACTICE £2 900 per annum Fees 10 6 to £1/1 Excellent hou e for sale £2,000 Premium for practice £2 900

MIDLANDS —(16) PARTNERSHIP in old-established Prac-tice over £3 200 per annum in excel ent Country Town Panel about 1,400 I remium one-third share one and a half years purchase

UP-THE-THAMES —(17) PARTNER requ red in old-estab PRACTICE in good Residential District within 20 miles of London Share worth £1 000 for premium of £1 200 The incoming partner should be under 32 and able to underta e Surgery

SOUTH COAST —(18) Good class general PRACTICE of £2 000 per annum. Excellent house, Rent £80 Premium one years purchase only

MIDLANDS —(19) PARTNERSHIP in very old-established Practice over £3 000 in Market Town Panel 1 200 Detached corner hou e (4 bedrooms) Rent £65 Cottage Hospital and scope for surgery I remium one third or five-twelfths share two years purchase

NORTH LONDON —(20) PARTNERSHIP in very old-estab lished g od mid lle class Practice in Residential Suburban District Rec ipts average about £5 430 per annum No panel clubs or appointments Suitable house obtainable One-third share at first at one and three quarters years p urc a e

SOUTH-WEST OF ENGLAND —(21) Very old-estab-lished middle and better class PRACTICE over £4,200 in important Seaport T wn No Panel or Appointment Commodious house in excellent po ition Rent £100 I remium one and a half years p urchase

UP-THE-THAMES —(22) Middle class PRACTICE worth about £500 in Residential District. Small Panel House with 4 bed rooms for sale Premium for Practice £500

MIDLANDS —(23) Well-established PRACTICE of £1,400 per annum in Manufacturing Town in the I otteries No panel or midwifery Detached house (5 bedrooms) to rent. Premium £1,800

SURREY —(24) Small non-dispensing PRACTICE about £275 per annum in fir t-rate Residential Town Small panel Excel ent detached house (6 bedrooms) in one acre of ground to rent on lease Premium (to include lease) £500

MIDLAND TOWN.-(25) Old-establ-shed PRACTICE about £1,100 per annum in Resid ntial Suburb Panel 700 H use contains 9 bedrooms Large garden Price £1,900 Premium for Practice £1,500

NORTH-WEST COAST —(26) Well-established middle class PRACTICE about £2,400 Nonappoin ments. Conveniently situated house to rent. Premium £3 000 part by instalments

NORTH WALES —(27) Old-established PRACTICE in small Seaport Town Receipts 1923 £550 Panel 150 No midwifery or night work. Rent of house (4 bedrooms garden half an acre) £50, Prem £750

NORTH OF ENGLAND —(28) Old-established PRACTICE of £1 460 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds, two acres Premium practice house and grounds £4 000 Mortgage could be had on house

FAVOURITE HOME COUNTY —(29) PARTNERSHIP in good-class Country Practice about £3,300 per annum in delightful residential district. Visits up to £2 2s Exce lent modern detached house (7 bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

SOUTH OF ENGLAND —(30) Old-established PRACTICE of £1 700 per annum in Residential Town Panel worth £600 per annum. Detached house (4 bedrooms &c) Rent £50 Prem. one and a half yrs. purchase

BORDERS OF SURREY AND HANTS — (31) JUNIOR PARTNER required in Practice in charming residential country Di trict. Panel 737 Share worth about £600 at two y ears purchase

EASTERN COUNTIES —(32) PARTNERSHIP in old established practice £2,213 per annum in first rate Town. Panel about 2 050 House (9 bed and dressing rooms) standing in own grounds to be sold Premium one-half share, one and three quarters years purchase

SEASIDE TOWN AND HEALTH RESORT —(33) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old-established practice Share worth £1 000 p a at two y ears purchase

LONDON, N W —(34) Well-established increasing upper middle-class PRACTICE in very desirable Residential District Receipts 1923 £956 (1923 to Oct 31st. £802) No panel Appointments or Midwifery, Excel and attractive residence (7 bedrooms) for sale. Great scope. Prem £600

EAST COAST —(35) Popular Resort Old-established middle and working class PRACTICE of £1,184 Panel 847 Rent of house (5 bedrooms) £60 Premium £1, 00

NURSING HOME —(36) Fashionable Health Resort Gross receipts over £2 400 Fees £5 5s. to £15 15s Excellently appointed resid. with ample accom Prem. for Goodwill, furniture and fixtures £' 500

SURREY — (37) PARTNERSHIP in good middle class compact practice over £2 650 in Residential District easy distance of London Panel 1 200 Premium two-fifths share two years purchase Practice investigated by Association s Accountant.

CHESHIRE —(38) PARTNERSHIP in good midd'e and working-class practice over £3 200 per annum in Manufacturing Town Panel returns about £1 000 per annum Modern detached house (6 bedrooms) for Sale. Premium one half share one and a half years purchase Hospital and plenty of scope for special work.

SANATORIUM — (39) For open-air treatment of Consumption Well-establi hed and excellently situated for the purpose Net profits £1 665 p.a. Fe s usually £5 5s we kly Premium £1 000 to include everything as it stands Profits can be readily increased.

CHESHIRE —(40) Important Town Old established mixed-class PRACTICE averaging £3,550 per annum Panel 2350 Good house with 6 bedrooms, held on lease Very suitable for 2 young practitioners keen on surgery Cottage Hospital (40 beds) Premium £5 000 (or near offer) to include all book debts amounting to over £3,900

SOUTH COAST —(41) Popular Health Resort PRACTICE Receipts 1923 £1 310 Small panel House on sea front (3 beds) rent £60 Premium £1 950 (or near offer) Scope for Surgery

SOUTH-EAST COAST —(42) Favourite Health Resort PARTNERSHIP (with view to Succession) in good middle class non dispensing practice about £1 750, including appointments £170 (about) No panel Premium two-fifths share two years purchase and up to one half in two years. *Partner* hould be 28 to 30 single Preliminary Assistantship

KENT AND SUSSEX BORDER -(43) Old established unopposed PRACTICE over £1 300 per annum, in beautiful country district Panel 750 Modern house (5 bedrooms) in acre of ground to be Sold Premium £ 000

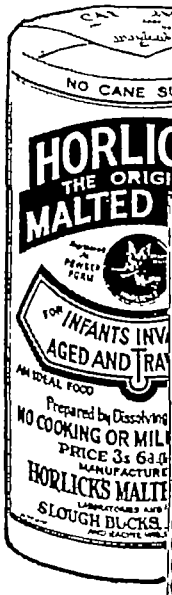
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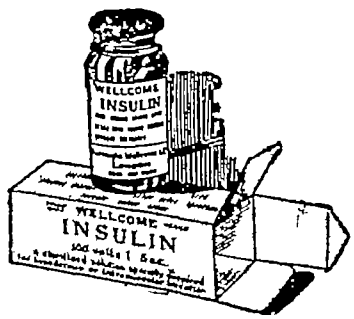
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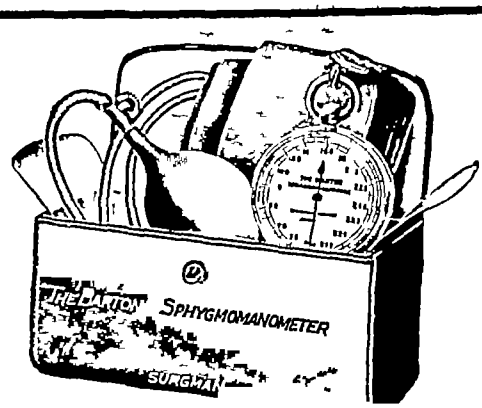
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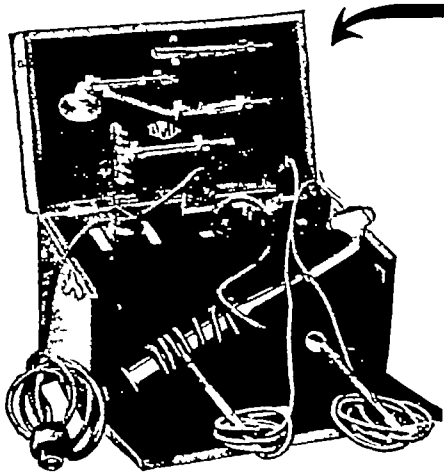
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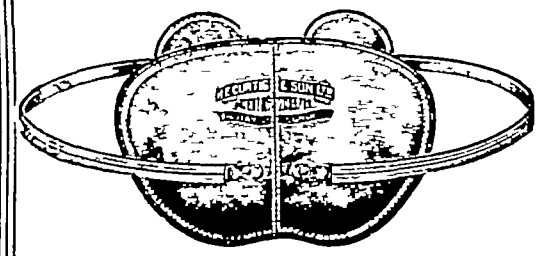
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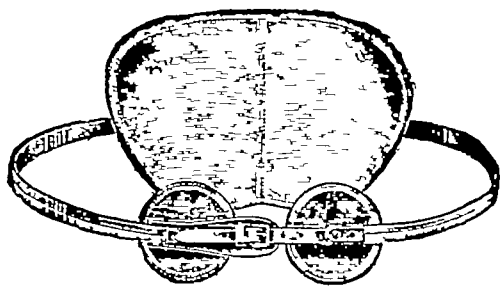
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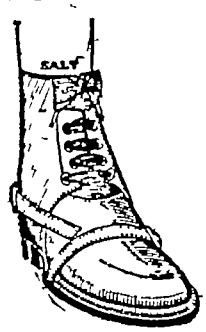
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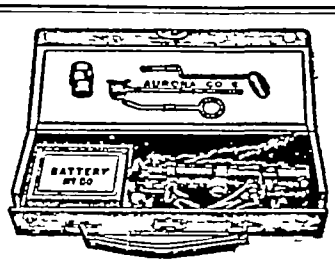
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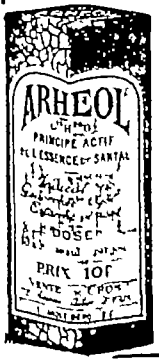
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Curative (B)

Pneumococcus	50 millions
Pneumobacillus	50 millions
Micro Catarrhalis	200 millions
B Influenza	500 millions
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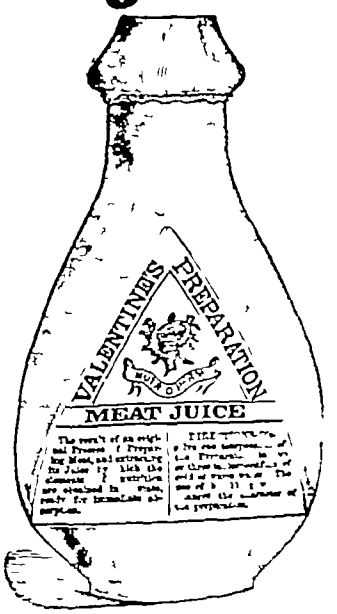
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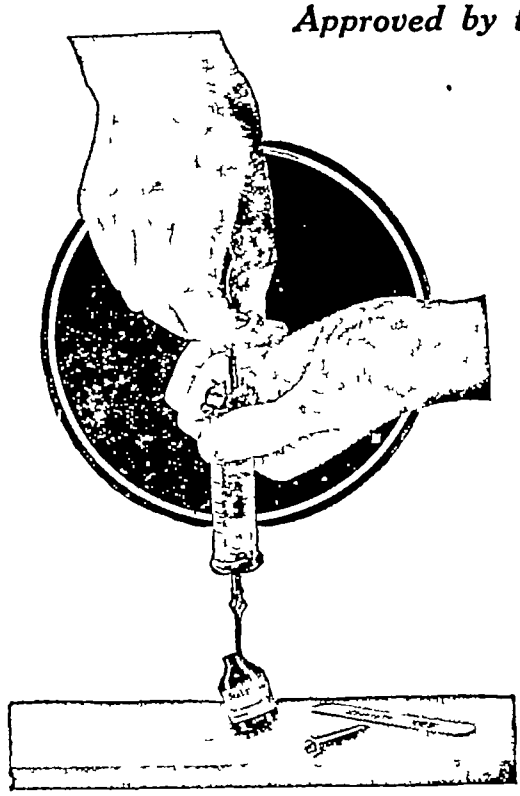
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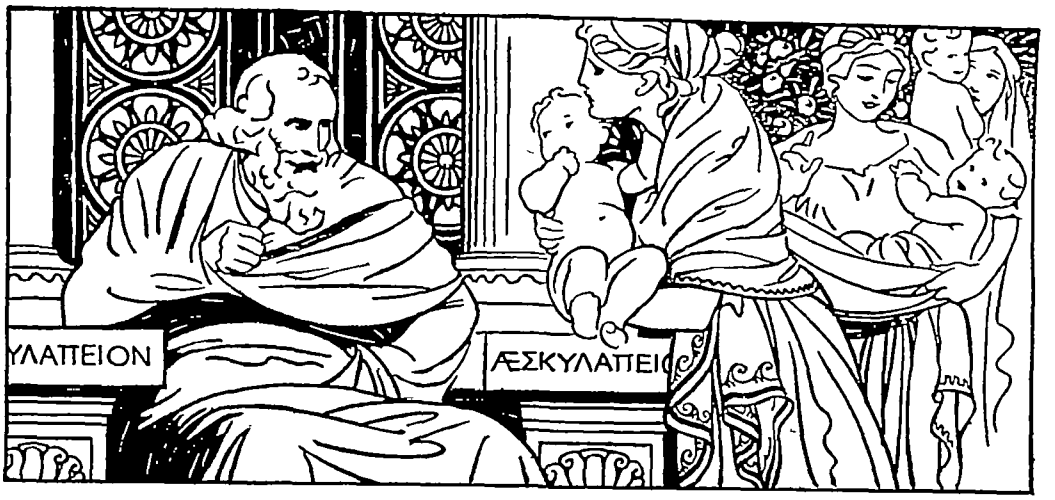
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ANALYSIS

	Breast Milk %	*Cow's Milk* %	*Humanised Trufood* %
Lactose	6 5	4 7	6 3
Fat	3 3	3 5	3 3
Casein	0 9	3 0	0 8
Lactalbumen	0 4	0 3	0 6
Salts	0 2	0.8	0 6
Water	88 7	87 7	88 4

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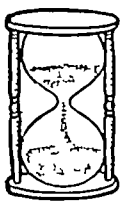


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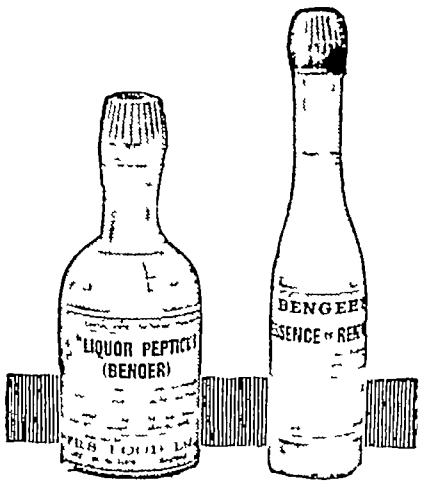
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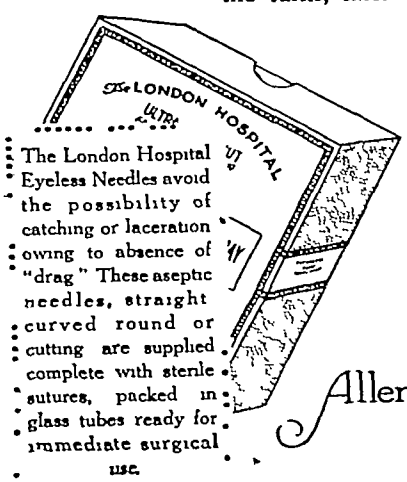
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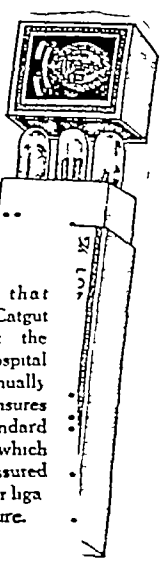
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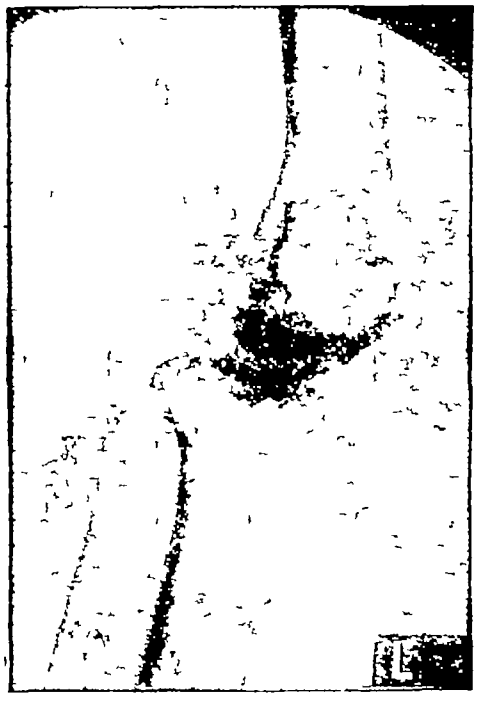


Fig 1

Miss H , aged 38 Left knee joint 23/1/1917 Note osteophytic changes



Fig 2

Miss H aged 42 Left knee-joint, full free movement Note improvement in shape of condyles and patella four years after extension appliances were left off 30 10/22

EXTRACT.—See Pages 184 to 195.

Miss H, aged 36 Rheumatoid arthritis All joints affected Could not reach her mouth with a spoon, knees contracted at right angles, patellæ ankylosed Before I could straighten the knees with my Extension Appliances the patellæ had to be loosened under an anæsthetic. After three months' gradual straightening the contraction was reduced to about 7 degrees The last 7 degrees were straightened out on my extension table and the limbs put in plaster under anæsthesia These manipulations were done under the supervision and with the help of Dr W and Dr G The limbs were taken out of plaster ten days after and Hoefftcke's Extension Appliances again adjusted, this time with elastic traction to help straighten the knee-joints while walking Three years after the last operation the appliances were taken off and patient allowed to walk without any artificial support. Result Full movement in knees and patient able to dress her own hair The limbs, which were atrophied almost to skin and bone before my treatment, are now the same size and shape as before onset of disease. See X-ray radiograms, Figs 1 and 2

It must be distinctly understood that I do not make or apply my extension apparatus without medical supervision

A British Medical Association Lecture

ON

PROGNOSIS IN CARDIO-VASCULAR DISEASE *

BY

THOMAS F COTTON, M D McGILL,

M R C P LOND

CONSULTING CARDIOLOGIST TO THE QUEEN ALEXANDRA MILITARY HOSPITAL AND THE MINISTRY OF PENSIONS

THE veil which has dimmed for so long the vision of the clinician when called upon to forecast with any degree of accuracy the future of the patient with structural disease of the heart is gradually lifting The advance in knowledge in recent years of the physiology of the heart has directed clinical observations in the right channel The progress in our understanding of the pathological changes in cardio-vascular disease has not been so rapid Such knowledge as we possess enables the physician to estimate structural damage of the heart from the clinical signs with a fair measure of exactness The interpretation of symptoms involves problems of so great a complexity that it may be *a long time before they are solved* In a patient with signs of structural disease of the heart there are few symptoms that cannot arise from other causes than disease of the cardio-vascular system Breathlessness on exertion is a symptom of myocardial insufficiency, it can, however, arise from pulmonary tuberculosis Pain that is anginal in character and distribution can vanish when *a focus* of infection or toxic absorption in some part of the body has been removed The recognition of structural damage of the heart rests mainly upon clinical signs Signs are a better index of the progress of the disease than symptoms in the large majority of cases A simple clinical examination of the cardio-vascular system, without recourse to special instrumental examination, should, when completed, give all the information required for a correct diagnosis of the pathological changes and a fairly accurate forecast of the course of the disease

The method employed in the examination of the cardio-vascular system at Sir Thomas Lewis's clinic at University College Hospital has proved highly satisfactory in both diagnosis and prognosis *It is a method the undergraduate* student easily learns to apply, and post graduates in medicine without expert knowledge or special experience find helpful in general practice It is particularly useful in dealing with hospital cases, either in the wards or in the out-patient department, for all patients with cardio-vascular disease can be classified by a simple index system It can easily be determined by referring to the index cards whether there has been improvement in the condition of the patient, or, if the disease has progressed, how great the disablement is likely to be

The physical examination rests upon those signs which indicate heart failure, the degree of cardiac enlargement, the valve defect, the rhythm, infection, etiology, and the state of the arteries It also includes an exercise tolerance test. These signs reveal all that is essential in the diagnosis and prognosis of disease of the cardio-vascular system

There are two main types of heart failure: heart failure with congestion, and heart failure with angina The signs of failure with congestion are those of engorgement of the venous system Distension of the veins of the neck with the head raised above the body in the recumbent position, or such elevation as is given by two pillows under the head, is a certain sign of dilatation of the right side of the heart, and an early sign of heart failure A greater degree of venous engorgement is indicated by enlargement of the liver, cyanosis, crepitations over the bases of the lungs, dropsy, and diminished output of urine. Venous engorgement is always associated with breathlessness Without further examination we may—except in occasional cases of paroxysmal tachycardia of many days' duration—safely diagnose advanced myocardial disease, and at once give a grave prognosis. In heart failure with angina signs of venous congestion are, as a rule, absent There is always disease of the myocardium in these cases and the outlook is unfavourable.

The determination of the degree of cardiac enlargement is the next step in the examination. Increase in the size of the heart is *best ascertained* by palpating the maximal impulse of the heart. *The left* border of the heart lies near the outer margin of the maximal thrust of the heart Such an impulse *felt definitely* to the left of the nipple line is a sign of slight cardiac enlargement It is often associated with a *diffuse* cardiac impulse or a lifting of one or more ribs If the left border of maximal thrust is felt two or three fingerbreadths to the left of the nipple line or extends to the anterior axillary line, then it is *safe to consider the heart* as moderately enlarged There is great enlargement when the left border of the heart extends *beyond the anterior axillary line* Percussion of the left border of the heart should confirm palpation, otherwise it is of doubtful value It is not necessary to map out the right border of the heart No added information is given in determining the size of the heart by percussion to the right of the sternum, except in cases of cardiac displacement Submanubrial dullness is a valuable sign of aortic dilatation, if associated with it there is lifting of the sternum, and pulsation easily palpable to the right or left of the sternal margin in the second or third interspace, the dilatation is probably aneurysmal

Increase in the size of the heart indicates myocardial disease As a measure of myocardial damage the degree of cardiac enlargement is a valuable and reliable diagnostic sign As a working rule, although there will be exceptions, it is safe to give a grave prognosis when there is considerable cardiac enlargement With slight increase in the size of the heart, the risk is not great, provided all other signs favour a good prognosis, if a gloomy outlook is withheld from the patient

The main object of examination with the stethoscope is the detection of gross valvular mischief It is in reality the least important part of the examination of the cardio-vascular system. By auscultation we determine at the mitral area the presence or absence of mitral stenosis and at the base whether or not there is disease of the aortic valve A presystolic murmur or diastolic rumble heard at the apex is a sign of structural damage of the mitral valve and a diastolic murmur heard at the pulmonary or aortic cartilages indicates incompetence from disease of the aortic valve I am not here concerned with congenital valve disease or other congenital-cardiac anomalies They are rare conditions, and it would serve no useful purpose to digress from acquired structural disease

Mitral stenosis may be classified as developed or early When developed the murmur is heard in all positions and at all times, and is accompanied by a thrill felt over the mitral area It indicates considerable narrowing of the mitral orifice If a short presystolic rumble or early diastolic murmur is heard at the apex only when the patient is recumbent or lying on the left side or if to make the murmur audible it is necessary to increase the heart rate by exercise, then the valve defect is slight and it can be classified as early mitral stenosis Aortic incompetence is graded by the character of the pulse and not by the intensity of the murmur *When a diastolic murmur* is heard at the base of the heart, and associated with such a murmur a pulse *that is collapsing* in character the diagnosis of free aortic regurgitation may be made It is safe to consider the regurgitation as slight if the pulse is not collapsing Aortic stenosis *should* be diagnosed when a systolic and diastolic murmur at the aortic cartilage is accompanied by a systolic thrill felt over this area and the pulse is slow-rising *anacrotic* in type and of low tension

A systolic murmur wherever heard is an unreliable sign of valve disease At the mitral area it may indicate mitral regurgitation from slight crumpling of the valve at the aortic or pulmonary cartilage as an isolated sign it is of little diagnostic value and of no prognostic value Such a bruit wherever heard should make the observer listen carefully for a murmur in diastole In the diagnosis of chronic valvular disease it has no other value than that As a prognostic sign it may be neglected The absence enables us to recognize gross valve disease [con-

* Delivered before the West Somerset Branch at Taunton on Friday December 14th 1923.

reason is a valuable diagnostic aid It reveals little concerning the future course of the disease that cannot be more easily determined by other means

A step further in the examination is the consideration of the heart's rhythm The irregularities may be classified in two main groups irregularities that are serious and indicate structural damage, and irregularities that are of no prognostic importance It is possible with our present knowledge to make this division clinically without the aid of the polygraph or electro-cardiograph

There are two types of irregular heart action which are frequently observed, but do not indicate structural damage of the heart One is sinus or respiratory arrhythmia, often noticed in childhood and adolescence, and not infrequently in adults It is an irregularity which is related to breathing The heart rate quickens in inspiration and slows during expiration This type of irregularity is phasic and completely disappears when the breath is held An arrhythmia of this sort should in no circumstances be considered a disability

Extra-systoles are easily recognized, and with a little practice can be distinguished without difficulty from other types of cardiac arrhythmia When an irregularity is present with the patient at rest, and the heart rate between 60 and 100, extra-systoles may be suspected If this irregularity disappears when the heart rate is raised above 120 by effort or other means, such irregularity is nearly always due to extra-systoles In the absence of signs of heart failure they may be neglected as a prognostic sign Apart from the discomfort complained of by some patients they may be disregarded in the management of the patient with cardio-vascular disease

An irregularity which does not disappear when the heart rate is increased to 120 or more is due to auricular fibrillation It is a sign of structural disease of the heart, and is the commonest type of irregular heart action associated with heart failure The high ventricular rate which usually accompanies auricular fibrillation adds to the work of a heart already damaged For this reason auricular fibrillation is of great diagnostic significance and a valuable prognostic sign Auricular fibrillation is an indication for digitalis therapy, and when untreated the outlook is unfavourable

The other types of cardiac arrhythmia are rare, they are recognized by special instrumental examination, and if they are not understood little harm will be done to the patient Auricular flutter will be mistaken for auricular fibrillation, the treatment is much the same, and the prognosis equally unfavourable Heart block will always be suspected when the ventricular rate is very slow

Signs of infection should next be looked for When present they are easily recognized and indicate a grave prognosis There are certain signs which denote an active and progressive infection of the endocardium, and with the aid of these the diagnosis of subacute infective endocarditis may be made with certainty The reliability of these signs is beyond question—as I propose to demonstrate to you from an analysis of cases which I have had under observation

Subacute infective endocarditis may be diagnosed when chronic valvular disease is associated with pallor, clubbed fingers, splenic enlargement, pyrexia, and signs of embolism Pallor which is conspicuous should at once arrest your attention and lead you to think of infective endocarditis A sallow muddy complexion, or a toxic appearance, or the so-called *café au lait* colour of the skin, ought to put you on your guard Do not in dealing with aortic disease attribute the pallor which we are accustomed to associate with aortic regurgitation to the valve defect The relationship of pallor and aortic regurgitation is not an absolute one, but is to be explained by the relatively high incidence of infective endocarditis in this type of valve disease

If the finger-tips are examined in structural heart cases, a certain number will present definite signs of clubbing There will also be found accompanying the clubbed fingers in a relatively large percentage of cases other signs of infection In some this finger deformity is striking, in others it will not be observed unless looked for carefully The clubbed fingers associated with chronic valvular disease are not [illegible] appearance quite like that seen in congenital heart cases The finger-tips are less bulbous in the infective cases, there is in these an increase in the antero-posterior diameter at the base of the nails, with a lateral widening of the nail, from an overgrowth of the subcutaneous tissues The nails are curved in both, but the skin covering the ends of the fingers in the infective case is pale, with a complete absence of venous stasis, which gives to the clubbed fingers in congenital heart disease a congested appearance Subacute infective endocarditis should always be suspected when chronic valve disease has associated with it clubbed fingers and pallor, for in most cases with these signs the spleen will be found enlarged The clinical observations upon which this statement is based were reported in *Heart* (vol ix, No 4) With the object of inquiring into the relation between clubbed fingers and infection in chronic valvular disease I analysed a large number of structural heart cases which we had under observation at the special Heart Clinic at University College Hospital Table I displays the relative frequency of signs of infection in two groups of cases—those with clubbed fingers, and those in whom this sign was absent The following is a summary of these observations

TABLE I

	Infective Endocarditis	Infective Endocarditis	Suspected Infective	Not Infective	Total	No Clubbing
Number	17	27	4	15	63	735
Clubbing	17	27	4	15	63	0
Pallor ,,	17	22	3	3	45	2
Palpable spleen	17	27	1	4	49	6
Petechiae ,,	13	21	2	0	36	0
Emboli	10	18	0	0	28	0
Pyrexia ,,	16	15	0	0	31	0
Autopsy	17	0	0	0	17	0
Deaths	17	26	2	5	50	27
Duration (months)	17	10	10	18		

In 798 cases of structural disease of the heart in pensioners of the recent war clubbing of the fingers was noted in 63 instances

This group of 63 cases was subjected to careful and prolonged examination, and the after histories of the individuals were followed until death, or for periods in no case less than eighteen months from the date of diagnosis

Of the 63 cases, 44 cases proved at the time of the first examination, or subsequently, to be perfectly clear instances of subacute infective endocarditis These cases without exception died within seventeen months of the first diagnosis of the infection, and in the seventeen where *post mortem* examinations were available the original diagnosis was completely confirmed

Of the remaining 19 cases, 4 others presented signs of infection, which were regarded as doubtful but not conclusive, 2 of the 4 died within a short period and were almost certainly infected cases The remaining 2 are still alive, and are almost certainly not cases of infective endocarditis

Of the 15 cases remaining out of the 19, subacute infective endocarditis has in no case been suspected In 2 of these 15 the patients stated that their fingers had been clubbed for periods of very many years In a number of others the clubbing consisted of thickening of the nail bed, and this was associated with small breaks in the skin of the lunula of the nail and a process of chronic superficial irritation In none of the 15 cases were there physical signs of disease of the lungs Of the 15 cases 4 succumbed during the period in which the after histories of the infected cases were followed

From these observations one may conclude that in cases of structural disease occurring amongst adults clubbing of the fingers is usually associated with subacute infective endocarditis Although clubbing of the fingers is not to be regarded in these cases as a conclusive sign of infection, it is nevertheless one of the most valuable signs we possess in coming to a correct diagnosis

A palpable spleen when associated with chronic valvular disease is a sign of infection I know of no evidence which supports the view that splenic enlargement is due to venous congestion from a failing heart The spleen in appearance

is not unlike the swollen spleen of typhoid fever It differs of course in this respect, that splenic infarction is common in infective endocarditis and rare in typhoid fever The spleen is not always soft, it may be hard and of such a size that it occupies a large part of the abdominal cavity

With the object of determining the relation between infection and splenic enlargement in chronic valvular disease, I have made use of the same clinical cases, and in the review of them I have employed the same methods of inquiry as for clubbed fingers Table II displays the relative frequency of signs of infection in the two groups—those with a palpable spleen, and those in whom this sign was absent It also shows the relative incidence of death within a period of three years of all cases

TABLE II

	Infective Endocarditis.	Infective Endocarditis	Suspected Infective.	Not Infective	Total	Spleen not Palpable.
Number ..	18	29	2	18	67	731
Palpable spleen	18	29	2	18	67	0
Pallor ..	18	24	1	6	49	2
Clubbing	18	28	1	3	50	14
Petechiae ..	14	22	0	0	36	0
Emboli	11	19	0	0	30	0
Pyrexia	17	16	0	0	33	0
Autopsy ..	18	0	0	0	18	0
Deaths ...	18	29	2	2	51	85
Duration (months)	21	21	18	36	36	36

There are 18 cases with *post mortem* confirmation of infection The diagnosis of subacute infective endocarditis rests upon the following signs chronic valvular disease associated with pallor clubbed fingers pyrexia petechiae and other embolic signs In one of these pyrexia was absent and in others embolic signs were not recorded A *post mortem* examination was made in all and in every case the structural changes found were typical of subacute infective endocarditis

In 29 cases there were manifest signs of infections or sufficient signs to make the diagnosis of subacute infective endocarditis certain. All in this group are known to have died within a period of twenty two months from the date of diagnosis of subacute infective endocarditis A *post mortem* examination was not possible in any of these, but the clinical evidences of infection are sufficiently distinctive of the disease

There were 2 cases of suspected infective endocarditis In one of these there was clubbing of the fingers and in the other the pallor was striking In both the spleen was palpable Both died within eighteen months.

Subacute infective endocarditis was not suspected in 18 cases The signs of infection were considered insufficient

This table also shows the relative incidence of death within a period of three years of all cases Within a period of three years, 51 cases of a total of 67, or 80 per cent, are known to have died The after histories of the remaining cases of structural disease of the heart without an enlarged spleen show that 85 or 11 per cent, died within the same period It will be seen that signs of infection are rarely observed in the group without a palpable spleen The fingers were clubbed in 14 cases and pallor was noted in 2 No other signs of infection were recorded The death rate is very high in those with a palpable spleen—80 per cent, as compared with 11 per cent in the group without this sign

One is justified in concluding from this table that in cases of structural heart disease occurring in adults a palpable spleen is usually associated with subacute infective endocarditis.

Pyrexia is not of the same order of importance in the diagnosis of subacute infective endocarditis Throughout the course of the disease there may be long and frequent apyrexial periods The presence of fever is helpful when associated with other signs of infection, its absence, unless the observations extend over a period of weeks, should not make you less certain of the diagnosis

Signs of embolism are not always present at a single examination If looked for carefully, one or more petechiae can usually be found The front of the chest, the mucous membranes, and the conjunctivae are the places where the small haemorrhages are most likely to occur Small dull red painful and tender spots which appear on the tips of the fingers and toes and fade in a few days—first described by Sir William Osler and known as Osler's nodes—are pathognomonic of the disease A few red blood cells in a centrifugalized specimen of urine with a trace of albumin is a sign of renal embolism Other embolic signs depend upon the seat of the embolus

Other signs of infection will aid in forecasting the course of the malady Any focus of infection or toxic absorption acute or chronic, tends to make the cardiac lesion progressive, and with the removal of the infecting or toxic agent the advance of the disease may be arrested Oral sepsis, septic tonsils, chronic appendicitis, or an acute subacute, or chronic pulmonary lesion—all influence unfavourably the prognosis in structural disease of the heart

All structural heart cases may, according to their etiology be placed in one of three groups Those with a history of rheumatic fever or chorea, those with a history or signs of syphilis, and a third indefinite group where there is a complete absence in the history of a causative agent which could produce the signs of disease which the patient presents In aortic disease the indefinite group is as large as the *rheumatic and syphilitic groups combined* In this type of valve disease the relative incidence of rheumatic fever is highest under the age of 40, and in men over 40 syphilis is more common than rheumatic fever as an infecting agent I am not convinced that, because of the peculiar susceptibility of the walls of the aorta to spirochaetal invasion, and the greater tendency of the coronary and other arteries to be damaged by the virus of this disease, the prognosis in the syphilitic group is *more unfavourable than* in the rheumatic or indefinite group The prognosis in the rheumatic group in mitral or aortic disease, because of the liability to recurrence of a rheumatic infection, with added damage to the valves and myocardium—all other conditions being equal—may be more unfavourable than in the *indefinite group* I have no evidence from the study of the after-histories of patients in these two groups that this is true Information will be forthcoming within a few years, as the result of a research which is now in progress at University College Hospital, *which should* reveal the true value in prognosis of etiology in structural disease of the heart

The information obtained from the signs of structural disease of the cardio-vascular system is ended with the *examination of the arteries* When combined with hypertension and cardiac enlargement, thickened radial, brachial, and temporal arteries are a fair index of general arteriosclerosis and indicate pathological changes in the interstitial tissues of the kidneys The prognosis depends upon the extent of myocardial damage, together with the degree of functional renal impairment With advanced myocardial disease the prognosis rests more on the state of the heart than on the condition of the kidneys, unless the renal disease is equally serious With slight signs of myocardial disease the prognosis may depend upon the functional state of the kidneys Cardio-renal disease, as its name implies, requires a cardio-renal prognosis

The examination is not complete until the exercise tolerance has been determined It is the patient's response to effort which enables us to ascertain the cardiac reserve which remains in a heart damaged by disease The exercise should be a simple one, such as the lifting of dumb-bells or hopping on each foot Undue breathlessness sometimes associated with pallor and an anxious expression and anginal pain are the signs of distress which one looks for in estimating the exercise tolerance If signs of failure are present signs of distress may be observed with the patient at rest The more advanced the disease, the poorer will be the response to physical effort, and, conversely the better the exercise tolerance, the more favourable will be the prognosis

This completes the examination of the patient The information which the signs have revealed has enabled us to diagnose and prognose, so that at the end of the examination there is placed before us a clinical picture which gives a clear view of the condition of the patient—past present and future

THE IMPORTANCE OF PHYSIQUE AND CORRECT POSTURE IN RELATION TO THE ART OF MEDICINE

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It is the thesis of this paper that man's special anatomic structure or physique in respect of its variations from the anatomic normal and the way in which the body is used in respect of posture have a practical bearing on medical problems Especially is this so with regard to the chronic class of patient, the subject of intestinal stasis and visceroptosis as manifested by neurasthenia, gastro-intestinal disturbances, chronic arthritis, and all the other features of auto-intoxication It will be one of the purposes of this paper, however, to show that in an anatomic and mechanistic conception of disease (Goldthwait[1]) nearly all the chronic conditions have what may be termed an orthopaedic facet to their solution in the need for correcting the poor posture of the body as whole, so frequently present The study of the chronic patient seems to emphasize more and more the importance of establishing the physical conditions for health



FIG 1 — The normal human type (Goldthwait)

The fact that a careful study of such patients from the pathological, biochemical, and bacteriological sides had failed in many cases to show more than the nature of the lesion, led Goldthwait to the study of the anatomical conditions existing, in the hope of reaching conclusions regarding treatment along lines of physical reconstruction The hypothesis of the study was that many of the manifestations of chronic disease and ill health are due to the lack of the right elements of metabolism, or to absorption of the wrong elements of deranged metabolism, resulting, directly or indirectly, from faulty function of the viscera due to improper use of the body in respect of posture Such incorrect posture acts fundamentally by invalidating the normal supports of the viscera To take one instance, stasis in the duodenum in the condition of chronic duodenal ileus, besides leading to toxic phenomena, may, by allowing bacteria to multiply, be a source of infection to its own wall and to adjacent viscera which communicate with its lumen—namely the liver and pancreas (Wilkie[2]) Swaim declared that he saw no more than twenty well postured individuals among 3 000 patients at Clifton Springs Sanatorium Whether the element of poor posture so commonly met with in the chronic patient is to be regarded as the cause or effect of a combination of other factors concerned in a functional breakdown of health is perhaps not clear, but that it forms part of a vicious circle and that its correction offers one of the most encouraging lines of attack in treatment in many cases seems proved by clinical experience

The result of the anatomical analyses are so suggestive as to warrant attention at the present time, and what follows is to be regarded in the main as a short presentation of such study as Goldthwait has engaged in, by one who had the opportunity of being associated with his clinic for chronic patients for nearly two years

The first point of importance revealed by the anatomical study was the rarity amongst these patients suffering from chronic conditions of the structure described in the text-books of anatomy as normal In the second place, it was evident that the variations from the normal group themselves into two general types, easily recognizable when the physical characters of the normal are appreciated.

POSTURAL TYPES

The Normal Human Type (Fig 1)

The torso is of moderate length and breadth The upper abdomen is full and rounded and the subcostal angle is formed in an angle of 70 to 90 degrees There is a generous space beneath the diaphragm and ribs for the viscera of the abdomen, all of which, with the exception of a few coils of small intestine and part of the colon, are situated above the level of the umbilicus Around the viscera and representing a definite part of their support, as well as giving protection along with the viscera to the sympathetic nerves, ganglia, and blood vessels, are well defined masses of fat The normal lumbar lordosis results in a general inclination of the body cavity of 30 degrees downwards and forwards from the perpendicular The pelvis in the axis of its cavity is inclined downwards and backwards about 60 degrees from the perpendicular If we are to suppose that the manifestations of chronic disease are due directly or indirectly to faulty function of the viscera from ptosis and bad habits of posture, it becomes necessary to inquire into the factors concerned with their normal support The inclination of the spine backwards from the fourth lumbar vertebra provides, not a perpendicular plane for the attachment of the viscera, but an inclined plane on which they rest, supported by ligaments and by natural shelves and pockets formed by the adjustment of contiguous structures For the same reason the resultant of the downward thrust of the viscera is received by the lower part of the anterior abdominal wall The third factor in their support is intra-abdominal pressure, which, according to Haven Emerson, is positive within the abdomen, equal at all levels and exerted equally in all directions The chief factors in its maintenance are the tone of the diaphragm, of the anterior abdominal wall, and the muscles of the pelvic floor Lastly, the stomach and liver, and therefore the other abdominal viscera indirectly, are attached to the diaphragm, whose suspensory ligament is the fibrous pericardium The pericardium is finally attached to the low cervical spine through the intermediary of the deep cervical fascia When the tone of the abdominal muscles is lost, the strain of the supporting viscera must ultimately be taken by this sling of deep cervical fascia To keep this sling taut, the head must be held erect with the chin held in, and equally important is an elevated position of the chest, without which the diaphragm is at its lowest and its excursion reduced to a minimum



FIG 2—The slender congenital visceroptotic type, showing the proportionately greater length of the body the increased low lumbar curve forward inclination of the pelvis forward position of the shoulders flat chest prominent lower abdomen narrow upper abdomen, etc (Goldthwait)

Splanchnoptotic Type

In this type of structure, variously called splanchnoptotic (Glennard), congenital visceroptotic (Goldthwait,[1] Smith[3]), carnivorous (Treves,[4] Werner,[5] Bryant[6]), narrow-backed (industrial) (Fig 2), the whole figure and skeleton are more slender in form The torso is longer in proportion than the normal and narrower The lower ribs have a marked downward inclination and at times may almost touch the iliac crests The thorax is of fair size, but the lungs and heart are smaller than the normal The subcostal angle may be so small as barely to admit two fingers The abdominal viscera have peculiarities of shape and attachment The stomach is long and tubular and its attachments are less firm The small intestine is shorter than the normal and may be only 15 feet or less in length (Bean[7] and Swaim[8])

Its mesentery is longer than normal, so that in standing the small intestine occupies the lower abdomen or pelvis The large intestine is also more mobile The cæcum is unusually free and not infrequently the ascending colon is provided with a mesentery Its association with vague right-sided abdominal conditions referred to the right kidney, gall bladder, stomach, and appendix has been emphasized by Waugh[8] and Quain [10] The association of this general type of structure with chronic duodenal ileus has been noted by Wilkie[3] and others

There is very little retroperitoneal fat in this type and the kidneys are less well supported The subdiaphragmatic space is less generous than in the normal and the diaphragm may occupy a very low position

Herbivorous

On the other side of the normal type and in contrast to the slender type is the heavily built sthenic type of human structure called herbivorous by Treves,[4] Werner,[5] and Bryant,[6] and spoken of also as broad-backed (industrial) (Fig 3) The torso is broad and relatively short The chest is broad and deep, the subcostal angle rarely less than 90 degrees, the diaphragm occupies a relatively high position and the space beneath the ribs for the viscera of the abdomen is generous The mesenteries and ligaments of the viscera are short and strong, so that there is not the same tendency to ptosis as in the slender type The large intestine in its ascending portion is rarely possessed of a mesentery There is much general and retroperitoneal fat, so that the kidneys are well held in place The spine is broad and heavy and all the joints are less flexible than in the slender type, so that the erect position is more easily maintained in the heavy type of structure than in the slender



Fig 3.—The heavy human type (Goldthwait)

HABITS OF POSTURE AND THEIR EFFECT UPON THE PHYSIOLOGY

The way the body is used is of quite as much importance as its structure Practically none of the persons suffering from chronic disease investigated in the anatomical analysis was seen to use the body in proper posture with reference to the mechanics of the physiology

When used rightly (Fig 1), the body is held splendidly erect The head is erect, with the chin in, the chest elevated, the subcostal angle opened up and the space beneath the ribs for the viscera the most generous possible Reference must also be made to the relationship of proper excursion of the diaphragm relative to the fully erect position and to respiration as a whole Only with the chest elevated is proper excursion of the diaphragm possible A diaphragm that is stationary or that shows reversed action lessens the negative pressure in the thorax and the positive pressure within the abdomen, thereby diminishing both the aspirating and pressure effects There is also to be considered the effect of proper diaphragmatic breathing on the vital capacity, complemental, supplemental, tidal, and residual air relations, and, with this, alterations in the coefficient of utilization of oxygen, basal metabolic rates, and hydrogen ion concentration (Heald[11]) Good tone in the abdominal muscles is also necessary for proper action of the diaphragm, as its piston-like drive requires the counter-pressure of a strong abdominal wall

The normal supports of the viscera have been described, but it is to be noted that such are only valid with good posture in standing, sitting, and walking The relationship of the position of the head and chest to the problem of visceroptosis is especially stressed Merely to attend to one factor in supporting the abdominal viscera by a belt shows a lack of appreciation of the problem as a whole By appreciating the fact also that posture bears a definite relationship to muscle tone (Sherrington[1]) one is able to demonstrate clinically in the physical reconstruction of the chronic patient that, if habits of proper posture are maintained over a short period of time, the increase of reflex tonus obtained by such posture will serve to maintain the correct attitude without conscious effort thereafter In the drooped relaxed attitude a progressive lowering of reflex tonus is inevitable

The Relaxed Position

In the relaxed attitude (Fig 2) of bad posture, the weight is thrown imperfectly on the feet The knees are commonly in the position of slight flexion and knock-knee The pelvis is altered in its inclination, with increase of the potential of possible strain of the sacro-iliac and lumbo-sacral joints All the antero posterior curves of the spine are increased Kyphosis offers a mechanical impediment to adequate movements of the chest, and its association with hypertrophy of the tonsils and adenoids has been noted by Lane The shoulders are forced forwards on the chest wall, the back of the hands look to the front, the venous return is impeded, and they sweat unduly The action of the diaphragm is reduced to a minimum, the subcostal angle and the space beneath the ribs for the viscera are reduced to a greater or lesser degree The abdominal viscera are forced out of position, their normal supports being invalidated, and it apparently becomes a matter of chance, together with special structure, in what direction the possibility of mechanical interference with their function shows itself—chronic duodenal ileus, orthostatic albuminuria, chronic constipation, movable kidney, and the like There is a second type of faulty posture, where the combination of relaxed muscles and a flattening of the lumbar spine is met with

From the foregoing it is obvious that no part of the body can be used wrongly without the body as a whole suffering, and that if one group of symptoms, whether referred to the foot, knee, hip, back, shoulder, or abdomen, is to be regarded as local only, treatment is not likely to be satisfactory

With the other two types, the disturbances of posture are characteristic With the slender type (Fig 2) the position of good posture is more difficult to assume, and more patience is required in their training The subcostal angle and subdiaphragmatic space may be extremely small With the loss of protection normally afforded by the viscera to the large sympathetic ganglia in the upper abdomen, together with the drag upon the solar plexus which pathologic ptosis of the proximal colon can produce, there is present a greater factor in causing neurasthenia in the visceroptotic than in the absorption of toxin from stasis (Quain[10])

In the heavy type of structure the harmful effects of poor posture develop much later in life than in the slender They begin to show themselves with increasing weight and the development of an acquired ptosis The heavy abdominal viscera cause a backward inclination of the body, so that the strain at the lumbo sacral region is possible, attended sometimes by pain along the lumbo sacral cord

DEDUCTIONS

If the facts stated are correct, such study seems to show that the teaching of anatomy should be put on a basis to include all the types of anatomical structure The need for this is apparent when it is appreciated how often the physician is consulted by patients who have not the normal structure A study of physiology with reference to special structure should also be made In the make-up of creatures so markedly different as the slender and heavy, there is sufficient of interest to note that the types apparently carry their own potential of disease In the study referred to, made with a large group of chronic patients, it was noticed that tuberculosis and mental disorders of the acute type, the hyperglandular disturbances, chronic arthritis of the atrophic type, sympathetic hypertonus and neurasthenia, were commonly associated with the slender type Arteriosclerosis, hypertrophic arthritis, chronic diseases of the kidney, gall stones, degenerative mental disorders and vagus hypertonus went with the heavy type of structure

In thoracic conditions attention to the postural aspect of

the problem means that with the tuberculous patient it should be part of the work to see that the body is so supported that the chest is raised and the drag on the diaphragm removed, so that the normal rhythm and mechanics of respiration are possible Similarly in relation to the action of the heart, Herz[13] has pointed out the close relation between the shape and size of the heart and good and bad posture of the body

Abdominal conditions must be given anatomical and mechanistic consideration The function of an organ may be right or wrong in proportion as its structure is normal or its position is correct Underlying visceroptosis and its manifestations is the general physical or functional condition of the patient, due undoubtedly to contributory factors of bad posture in standing, sitting, and at work, and the occupational postures Poor posture invalidates all the four factors on which the normal position and function of the abdominal viscera depend, and not one but all four factors must receive consideration in ptosis It seems irrational to provide an abdominal support and to leave the chest at the low point In that case the subdiaphragmatic space is not capable of accommodating the viscera, and the action of the diaphragm, on which their function in part must depend, cannot be free Predisposing factors in visceroptosis are overeating, sedentary life, and malnutrition from too many pregnancies destroying the tone of the abdominal wall Psychological causes such as worry, anxiety, disappointment, and the like are fundamental, and in the last analysis are responsible for the poor posture Treatment has to do with all of these Operations may sometimes be necessary, but they should be preceded and followed up by orthopaedic measures of relief to correct the element of bad posture of the body as a whole Otherwise, surgery simply forges a strong link in a weak chain After all, the state of affairs present in the abdomen in a visceroptotic when the normal supports of the viscera are invalidated is comparable to the condition existing in a derangement of a knee-joint, and the same principles of anatomy and statics apply in each case Drainage of the dilated duodenum by operation is necessary in fully developed cases of chronic duodenal ileus, but the element of poor posture should receive attention in planning the general postural treatment of the finer gradations of the condition and of the operated cases The same remarks apply to the vague right-sided abdominal conditions to which a congenital lack of fixation of the proximal colon can give rise It is in all such conditions that co-operation between the physician, surgeon, and orthopaedist trained in such work is especially desirable

In respect of the kidney, when excessive mobility requires surgical interference postural training and physical reconstruction of the patient as a whole is required, since all the mechanics tend towards redisplacement Schulder and Wirth[14] have shown also that in 1,254 children examined, in over 20 per cent they were able to produce albuminuria simply by putting them in special postures Rieser[15] has shown that orthostatic albuminuria is due to renal stasis from compression of the left renal vein in arterial pincers, composed of the aorta and superior mesenteric artery These pincers become operative when the aorta is projected forwards by an increased lordosis or when the superior mesenteric artery is pulled to tautness by ptosis

In mental and nervous disorders it is probable that the anatomical form and the element of poor general statics and posture are of importance

In orthopaedic conditions an appreciation of what bodily mechanics and posture mean is essential Not only must the special joint or part be studied, but good posture must be attained This should be especially considered in the treatment of scoliosis and in the fitment of apparatus In the treatment of the common strains of the lumbo-sacral and sacro-iliac joints the abnormal forward tilting of the pelvis must be corrected In the treatment of chronic arthritis the local treatment of the joints is but part of the problem, and general methods of physical reconstruction along postural lines by the orthopaedic surgeon, have much to offer in controlling the disease itself The correction of round shoulders is essentially a problem of restoring conditions of proper posture of the body as a whole

Lastly lies the great responsibility and opportunity of those in charge of our educational system As a result of the medical profession's endeavours in preventive medicine, the slender type of human being, which used to add so much to the mortality of infancy and childhood, is now being saved The great duty of the medical profession and of educators is to see that they develop properly Whatever else be taught, insistence must always be put upon poise, with its resulting efficiency Judged by the test of posture, as shown in the way the child bears himself in standing, sitting, and walking, the present system is inadequate The instructor in physical education in our schools must be one who is trained to understand the body as a whole, with an appreciation of posture in all its phases as an influence upon the physiology and general development A boy or young adult may carry out his athletics in good physical form, but how rarely does he show good posture and carriage in the long intervals between At a training camp for youths and young men held in 1921, 75 per cent were physically inefficient and nearly all of these were of the slender type of structure

At the Scottish Universities no official attention is paid to physical education Each student should be put through a combined medical and postural examination He should be rated as to the way he uses his body, and taught the simple elements of bodily mechanics Such a system would exert not only a wonderful influence on the students themselves, but would also enable them to educate their own communities and advise parents and schools on the kind of physical education required for the young At some of the colleges in America the students are so rated and are actually not allowed to graduate until they demonstrate the elements of proper bodily mechanics In this connexion McKenzie's[16] paper is of interest and is a direct challenge to our own university authorities To keep people well is the function of the health officer, and, since the best health is not possible unless the body is used rightly, the place of the orthopaedist is obvious Most of the work of the orthopaedist is supposed to be in demand for treating established disease, but that this other work exists there can be no question M Andry is recognized as the father of orthopaedic surgery, and that by deformity he chiefly considered that which is classed as postural provides all the justification that is necessary for emphasizing this phase of the work of the orthopaedist

Conclusions

1 Problems relating to man's posture have a direct bearing on medical and surgical practice Many of the chronic conditions requiring treatment represent a derangement of the mechanism which regulates and maintains the proper and correct posture of the body The physical conditions of health must be established

2 It is in the belief that in an anatomic and mechanistic conception of disease much can be offered by the orthopaedic surgeon along lines of physical reconstruction that this paper is presented The rehabilitation of the chronic patient can best be accomplished by team work and co-operation by physician, surgeon, and orthopaedist The place of the last named is recognized in America with reference to this problem

3 The lack of physical education in the young of our communities, especially at colleges and universities, is to be deplored The lines on which such education should be carried out are indicated in an appreciation of proper posture and its resulting efficiency Such work by the orthopaedic surgeon and educator represents the best kind of preventive medicine and should have a place in the programme of those who have charge of the health of the country

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SPIROCHAETOSIS ICTEROHAEMORRHAGICA IN EAST LOTHIAN

BY

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CLINICAL OBSERVATIONS

By PROFESSOR CULLAND

CONSIDERABLE interest has been excited by communications in the daily press with regard to an epidemic of spirochaetal jaundice occurring in East Lothian. The sufferers have been almost entirely young coal miners employed in the different pits, the earlier cases coming from one pit, the later from another. One farm labourer, however, has also suffered. The first cases occurred in April or May, 1923, so far as is known two cases were in my ward at the time of the meeting of the Association of Physicians in Edinburgh last May, and one of them was demonstrated to the meeting. Probably about a dozen and a half cases in all have occurred. Some of the milder cases were treated at home, the severer ones have generally been sent to the Royal Infirmary, and six of them have been in my ward. Of these, two died. On the whole, the earlier cases have been more severe than the later. I have one case in my ward at present in which the duration of the jaundice and temperature was very short, and the haemorrhage was confined to a slight epistaxis, so that the diagnosis might easily have been missed had the man's doctor not already become familiar with the disease.

The pits affected were "wet," and rats were numerous. I endeavoured in vain to get rats from the first pit affected, though, on my representation to the manager, the rats were destroyed. It is only within the last three weeks that, by the kindness of the owner of the other pit, I received rats. Though there was no doubt about the diagnosis of the earlier cases—spirochaetes were found in the blood of one of the first cases—I delayed publication of any of the cases till the chain of evidence could be completed from both the human and the rat side. It happens that the case which I am about to describe shortly is the first in which we have been able to find the typical spirochaetes in the urine both microscopically and by animal inoculation. The symptoms of the other cases, which I shall publish later, followed the course described in Lord Dawson's classical account of the epidemic in France, and the pathological findings in the fatal cases were of the usual type. The following case is typical of the milder form.

T. W., aged 18, a miner, was perfectly well till November 23rd 1923. On his way home he had a rigor, with headache and pain in the abdomen. That afternoon he vomited a small quantity of brownish fluid—probably a haematemesis. He was markedly prostrated—this is a feature of all the cases—the headache continued, and he suffered from dull aching pains in all his muscles. There was apparently melaena from the first with diarrhoea followed by constipation. He had slight epistaxis. Jaundice appeared gradually but on his admission to the ward on November 29th was already well marked. The conjunctivae were injected and the eyes watery. He was dull, listless and stupid. Temperature 101° F., pulse 84, respirations 32. The lips were dry, and the tongue furred and fairly moist. The lungs were normal, the heart not dilated, blood pressure 128/80. The abdomen showed no abnormality except that the liver region was tender, the liver was easily palpable at first, later it extended to 1½ in. below the rib margin. The spleen was not enlarged. The urine contained bile, albumin in small quantity, and microscopically red corpuscles, a few pus and kidney cells, and a few epithelial and granular casts. The blood count was: red cells 5,400,000, haemoglobin 70 per cent., and white cells 10,800. No spirochaetes were seen. The muscles were tender all over the body, and there was great muscular weakness, knee jerks were absent. Bile was present in the faeces, which gave a definite blood reaction.

The temperature fell by lysis, being only 99° F. on the evening of December 2nd—a duration of nine days, soon after admission the pulse fell to about 70, and the respirations to about 25. Jaundice was at its height about December 5th, the twelfth day thereafter it gradually diminished, but did not disappear till about the beginning of January. No further haemorrhage occurred.

As in some of my other cases, there was a rise of temperature of very remittent type—reaching 103° F. on one evening—*from December 18th to 26th*. This was not associated with any symptoms or change in the results of physical examination, the pulse remained slow throughout, seldom over 70. Thereafter his convalescence was uneventful, the urine gradually cleared up, the slight leucocytosis disappeared, but about the end of December his hair began to fall out, and is only now coming again as a soft and fluffy growth.

Spirochaetes were first found in the urine on December 24th, about a month from the beginning of his illness. In the second part of this note Dr. Buchanan reports on their nature, and on those found in the rats we received.

The fatal cases differ from the milder ones mainly in the much greater amount of haemorrhage, weakness, and toxaemia. Bleeding may occur from the nose, lungs, stomach, bowel, kidneys, and into the skin. One of our fatal cases died with a temperature which had been subnormal for several days previously.

The original source of the rat infection and the reason for the occurrence of the epidemic at this time are difficult to explain. One can imagine a miner returned from the war starting a rat infection, as the men often micturate in the pits, but it is not easy to see why in that case the infection should have remained latent so long. The method of transmission from rat to man can be surmised. Some of my patients were careless in leaving their food on the ground where it might have been infected, others admit drinking water in the pit. It remains to be seen whether the energetic campaign of destruction of the rats will stop the epidemic. It is evident that the rats both above and below ground in that neighbourhood, are widely infected, as two out of three captured by chance were found to contain spirochaetes.

LEPTOSPIRA ICTEROHAEMORRHAGIAE

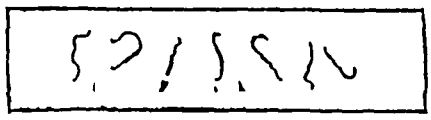


FIG. 1.—In urine of patient. Fontana's stain. The characteristic hooks at the ends are seen but not the elementary spiral.



FIG. 2.—In liver of guinea pig inoculated with urine of patient. Stained by Levaditi's method.

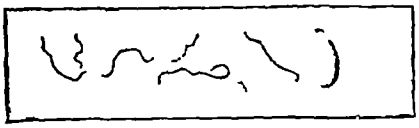


FIG. 3.—In smear made from kidney of wild rat. Unfixed and stained by Giemsa's method.



FIG. 4.—Dark field view of leptospira in culture six days old. Note the characteristic small elementary spirals and hooked ends.

The figures have been drawn approximately 1,000 diameters.

MICROSCOPICAL AND EXPERIMENTAL OBSERVATIONS
By Dr BUCHANAN

Non-motile spirochaetal forms were found in the urine of the patient on examination by dark-ground illumination The closely set, elementary spirals typical of the genus Leptospira were not evident This may have been due to the fact that the forms seen were lying on or under epithelial cells which obscured their delicate structure In stained films of urine a few spirochaetes were found, some of which showed one end or both with small hooks, which are a feature of *Leptospira icterohaemorrhagiae*

Intraperitoneal inoculation of the urine into a guinea-pig proved fatal in fourteen days The ears, nose, conjunctivae, and feet were visibly jaundiced The subcutaneous tissue showed deep jaundice along with innumerable petechial haemorrhages There were large subpleural haemorrhages in both lungs, presenting a typical "butterfly" appearance The liver and spleen were enlarged, but the marked congestion masked any evidence of jaundice in the liver The kidneys showed intense congestion, and numerous subcapsular haemorrhages were prominent The suprarenals were enlarged and congested The intestines showed adhesions and haemorrhages Organisms identical with *Leptospira icterohaemorrhagiae* were found on dark-ground examination to be very numerous in the liver, but fewer in the other organs They were also present, but less numerous, in the blood and urine In sections of the liver stained by Levaditi's method leptospiral forms were abundant

Another guinea-pig, inoculated with an emulsion made from the liver of the infected animal, died in five days with lesions similar to, but not so marked as, those described above

Occurrence of Leptospira in the Rats of the Neighbourhood

Three live wild rats were obtained by the courtesy of the pit owner, two from one of the coal mines and one from the surface at about a quarter of a mile from the pits Motile and characteristic leptospiral forms were found by dark-ground examination in emulsions made from the kidneys of the surface rat and one of the pit rats No spirochaetes were found in the other organs, the urine, or the blood The blood was infected with *Trypanosoma lewisi* The rats were well nourished and showed no signs of disease

Guinea-pigs were inoculated intraperitoneally with kidney emulsion from each of the three rats The one inoculated from the surface rat was found dead on the seventh day It showed definite jaundice, haemorrhages, and lesions similar to those found in the animal inoculated with the patient's urine Leptospiral forms were found as before Noguchi's medium was inoculated from the liver and blood of this guinea-pig After six days' incubation at 37° C., actively motile and obviously multiplying forms of leptospira were still demonstrable at that period

A guinea pig inoculated from one of the pit rats died thirteen days after the injection Leptospiral forms were again found in the blood urine, and organs generally Jaundice and haemorrhages were a feature of the *post-mortem* examination The remaining guinea-pig, inoculated from the second pit rat, in which no organisms were found is still alive and apparently well up to date—that is, sixteen days after inoculation

CONCLUSIONS

It has been definitely established that the leptospiral organisms found in man and rats in the infected area produce lesions typical of infectious jaundice when inoculated into guinea-pigs The result of the inoculations proved fatal in from seven to fourteen days Subinoculation into the same species with either human or rat strains from dead infected guinea pigs proved more rapidly fatal in both case the period being five to six days

The two organisms isolated in this instance from man and wild rats are morphologically identical The organism has been cultivated Its characteristics in dark-ground illumination consist of very minute regular spirals throughout its entire length, and a hook at one or both ends The hooked end rotates in the manner of a propeller, and progress occurs in the direction of the unhooked end If both ends rotate it remains practically in the one place

The pathogenic action, morphology, and behaviour in culture of the leptospira show it to be, so far as the work has proceeded, identical with the Japanese, European, and American strains described and compared by Noguchi

Further investigation is in progress, the results of which will be published in detail at a later date.

The microscopic and bacteriological part of the work has been carried out in the Pathological Department of the Royal Infirmary, and the experimental part in the Royal College of Physicians Laboratory, Edinburgh

Press communications by the Scottish Board of Health have already appeared in the *Scotsman* The information given resulted from the above bacteriological investigation

METASTASIS OF MELANOTIC CANCER EIGHTEEN YEARS AFTER REMOVAL OF THE EYEBALL

BY

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THE following case is of some interest, and we feel should be put on record

A lady, aged 57, came under our care in August, 1922, complaining of a swelling below the left scapula, which she had noticed for two weeks She also complained of gradual loss of strength during the past few months She had no pain at the site of the swelling, but some dull aching round the chest An elastic swelling, oval in outline and about the size of an ordinary lemon, could be felt protruding from beneath the inferior angle of the scapula on the left side

The patient gave a history of having had the left eyeball removed in June, 1904, by the late Mr Juler Mr Frank Juler has kindly given us an extract from his father's notes on the case The eyeball was removed for suspected sarcoma of the ciliary body There was a large dark brown mass in the vitreous, just behind the lens, with haemorrhage upon it There was some bulging of the periphery of the iris. Though there is no note of the histological appearance of the tumour, there can be little doubt that it was an intraocular melanotic cancer

The swelling on the back was explored, and was found to be a dark pigmented growth involving the sixth and seventh ribs, near their angles A mass, including about five inches of the length of each of these ribs, was removed The growth was adherent to the underlying pleura, which could be felt to be adherent to the lung There were some small dark nodules, forming prominences on the surface of the pleura The patient recovered rapidly from the operation, and returned to her usual domestic activities

The growth removed proved to be a melanotic cancer An examination of the urine at the time of operation, and one month later, showed that there was no melanin or melanogen present Three months afterwards the patient began to fail In the middle of December, 1922, she complained of numbness and tingling in her right foot This was followed in a few weeks by complete loss of power, with rigidity Shortly afterwards the left hand and arm were affected in the same way, followed by the same condition in the left leg, and then in the right hand and arm By the beginning of April, 1923 both arms and legs were paralysed and rigid There was loss of control over the bladder, and obstinate constipation The patient died on April 16th, 1923

No general discussion of the delayed appearance of metastases from melanotic cancer of the eyeball is called for, as the whole subject has been dealt with recently by Mr W G Spencer in his Bradshaw Lecture[1] It is, however, worthy of note that so late as eighteen years after removal of the primary tumour there was still no evidence of metastasis in the liver, if, as stated by Garrod,[2] melanuria can be taken as an indication of that having occurred In melanotic cancer of the eyeball death usually occurs within three years of operation, but numerous instances of delayed recurrence or metastasis have been reported Cairns[3] reported a case of metastasis in the scapula eighteen years after removal of the eyeball, and metastasis has been delayed as long as twenty-four years,

as in the case reported by Olbert,[4] and referred to by Spencer Lawford and Treacher Collins[5] in 1891 discussed the subject of melanotic growths of the uveal tract, with notes of 103 cases They were able to trace 79 of the patients, of whom 40 were dead, in 2 of these the interval between the operation and death was seven and eight years respectively Of the 39 patients who were still alive, one had been operated on eighteen years and another sixteen years previously, while the intervals in the other cases ranged from seven months to nine and a half years In spite of their analysis of the fatal cases, they ventured to say with regard to 20 patients who were still alive and well three or more years after the removal of the primary growth, that these cases might be considered with great probability, but not with certainty, as permanent cures It is, however, obvious from a study of their own fatal cases, from the case we are reporting, and from numerous other instances, that no such probability can be assumed Melanotic cancer of the eyeball differs from every other manifestation of cancer in the length of time for which metastasis may be delayed and the prolonged intervals have led to the suggestion that it is not a true metastasis, but an origin *de novo*

It is remarkable that these growths spread with great rapidity and lead to a fatal termination very quickly after a recurrence shows itself This suggests that the new manifestation is due rather to a breakdown in the resistance of the individual than to a sudden activity of the disease for actually or potentially the disease must have been present the whole time, and has presumably been *kept in bounds by the resistance of the patient If we* are to make further progress in the treatment of cancer it would seem that, in addition to the eradication of its local manifestations, we must adopt some means of increasing the resistance of the individual to the disease In no part of the body would it seem more feasible to remove the whole of the primary tumour than in cases of cancer of the eyeball, and yet we are faced with these delayed metastases

It is early days yet to know what may be expected from the experiments on the production of immunity to cancer, carried out by Russ[6] and others[7] in the cancer research laboratories of the Middlesex Hospital, but this would seem one of the most hopeful lines of research yet opened up Certain it is that a definite, and perhaps permanent, immunity to grafted cancer has been conferred on a considerable number of rats by inoculation with irradiated tumour tissue

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A VERY EARLY CASE OF GUMMA OF THE ILEUM

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THE case described was considered worthy of being placed on record as an example of very early gumma of the ileum and also a pathological rarity It will be recalled that in the whole intestinal tract the rectum is the commonest site for specific lesions, and that next in order come the lower part of the jejunum, the colon, the duodenum, and the stomach, in that order [1]

But there are so few records of gumma of the ileum that it is not unreasonable to conjecture that such lesions occur more frequently than is supposed, and may be subjected to surgical interference under a mistaken diagnosis [2] The details of the case are as follows

T C C male aged 45 married in 1916 while serving with the Royal Engineers complained of pain and swelling in the left foot and ankle and subsequently both wrists and the right ankle the o being treated as rheumatism Coincidently with this condition he first complained of colicky pains in the abdomen associated with vomiting of pale green material streaked with blood and stated that the vomiting relieved the pain Later these symptoms increased in severity, with marked distension around the umbilicus and with offensive motions

First Laparotomy

On July 10th 1916 at the 1st General War Hospital Birmingham, *an exploratory laparotomy* was carried out The medical case sheet had the following entry 'Divided adhesions between omentum and gall bladder The small intestine two feet above the ileo-caecal valve was congested and thickened, and a few mesenteric glands were enlarged Two feet of small intestine was removed and lateral anastomosis made between the proximal end of the ileum and transverse colon Appendix was normal

When discharged from hospital two months later, the patient's condition showed little improvement In March, 1917 there was a severe attack of haematemesis and rectal haemorrhage of bright red colour Since that date he stated that he had had attacks of abdominal pain and vomiting which lasted for two months and from which he was then free for two months, with anorexia between the attacks

He was admitted to the Queen's Hospital, Sidcup on May 17th, 1923 complaining of abdominal pain stabbing in nature, in the umbilical region and radiating through to the back, most marked on rising in the morning (no relation to food, though vomiting relieved the pain) vomiting night and morning during the attacks—the vomit consists of a yellow material streaked with blood and contains apparently undigested food diarrhoea constant during the attacks, haematemesis with rectal haemorrhage and pain in both wrists, hands calves and feet, of a stabbing nature

Condition on Admission—Pale, thin man furred tongue slight pyorrhoea alveolaris pharynx red and congested No focus of sepsis found elsewhere in the body Has lost weight and looks rather cachectic No evidence of syphilis on the penis or testicle suspicious old cicatrices on the front of the right tibia The patient denied having had syphilis or gonorrhoea but stated that in 1899 he had a bubo in the groin incised and much pus exuded

Abdominal examination showed a ventral hernia in the old laparotomy scar, through which marked peristalsis, associated with intestinal distension, was seen Tenderness and rigidity over the epigastric and right hypochrondriac regions No tumour was felt, and no enlargement or displacement of the liver or the kidneys detected All abdominal reflexes absent On rectal examination no haemorrhoids ulceration enlarged prostate, thickened vesiculae seminales or any other abnormality could be detected

A report after a bismuth meal and examination by *x* rays stated that the stomach appeared normal in size and position Incisura observed which did not disappear on massage but no correspondeng tender spot

No parasites or amoebae were found in the faeces after repeated examinations no visible blood The benzidine reaction was positive Examination of the urine showed nothing abnormal

Central nervous system Knee jerks absent ankle jerks absent plantar reflex normal Eyes react sluggishly to light and accommodation No areas of hyperaesthesia or anaesthesia noted no Rombergism Patient complains of rheumatic pains in the muscles of both calves No loss of sense of position

On examination of the blood nothing abnormal was detected except a marked eosinophilia (9 per cent) The coagulation time was normal The Wassermann test was positive

Second Laparotomy

A second exploratory laparotomy was carried out on July 10th 1923 On opening the peritoneal cavity much dense fibrous tissue was encountered No anastomosis of the bowel was discovered but in the ileum, two feet from its termination the following condition was found a clean-cut injected segment of gut 3 inches long involving the whole circumference, the centre of which was thickened and boggy with well defined edges, and apparently enlarged lymphatic glands, and dilated lacteal vessels at its mesenteric attachment On attempting to invaginate the bowel with the examining finger, it was evident that the lumen was diminished The mesentery elsewhere showed occasional small white plaques without induration, and the appendices epiploicae were pearly white in appearance There was no free fluid in the peritoneal cavity The gastro intestinal tract elsewhere and the liver spleen kidneys pancreas, and gall bladder all appeared normal

In view of the condition found it was felt that further surgical interference was not warranted and the abdomen was therefore closed in the usual way The matting of the bowel and the omentum precluded a thorough search for further intestinal lesions and it is possible that others existed and have given rise to the long-drawn-out symptoms from which this patient has suffered It may also be noted that usually old gummatous lesions of the gut are *associated* with hepatic infection and definite ascites but neither of these conditions was present in this case [3]

Resection was not carried out for fear of sloughing at the site of the anastomosis *as it was*, the abdominal wound did not heal by first intention but showed the characteristic non union seen in specific wounds

An intensive course of antisyphilitic treatment is now being carried out and the patient's condition is improving markedly in fact he states that he never felt better in his life

CONCLUSIONS

Practically the only other conditions with which the might be confused are dysentery (amoebic or bacillary) tuberculosis, and new growth The want of any history of dysentery, the repeated negative reports on faecal

examinations, and the isolated lesion found, appear to preclude dysentery Again, the long-continued illness in association with so early an inflammatory lesion, and the absence of any infection elsewhere, negative tuberculosis

The site of the lesion, duration of the disease, the soft boggy feeling of the affected segment of gut, coupled with the altered appearance of the mesentery and appendices epiploicae, are against new growth invasion, whereas the condition, and the smooth boggy enlargement of gut and its mesenteric attachment, with defined rolled edge, the scattered white plaques over the mesentery, and the pearly white appearance of the appendices epiploicae, are characteristic of intestinal syphilis [3]

The rôle visceral syphilis plays may be very variable, giving rise to different groups of symptoms according to its site, virulence, and duration [4] That no actual intestinal obstruction had occurred in this case would suggest a very early phase

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LOCAL VACCINE TREATMENT OF PYORRHOEA ALVEOLARIS

BY

H FIELDEN BRIGGS, M D, L D S R C S Eng, D D S Mich,

LONDON

In the summer of 1923 I met in Paris Dr Goldenberg, who is professor at the Institut Pasteur and director of the Institut National de Vaccinothérapie, and became interested in a new vaccine prepared by him for the treatment of pyorrhoea alveolaris He uses a polyvalent vaccine, injected locally into the gums in small but gradually increasing doses, any necessary local treatment being carried out at the same time By the courtesy of Dr Goldenberg, and of M de Libouton, of the Ecole Odontotechnique in Paris, I was able to see numerous patients undergoing this treatment

Goldenberg founds his treatment on Besredka's views as to the local vaccination of tissues "When it is required to vaccinate against a bacterial disease," he wrote, "it will not suffice merely to employ the corresponding attenuated virus It is necessary that the vaccine shall operate along the route it will have to follow This route should be that which the virus itself takes through the tissues during the process of infection" [1] Goldenberg therefore decided to inject the vaccine directly into the mucous membrane of the gums The local conditions are such that it is necessary to use a concentrated vaccine, since large quantities of fluid cannot be introduced The method used was that devised by Maute, in which the bacterial bodies are emulsified in an excipient consisting of similar bacteria dissolved in soda Goldenberg [2] started the preparation of the vaccine with bacteria freshly isolated from the gums of cases of alveolar pyorrhoea—namely, streptococci, staphylococci, pneumococci, *Micrococcus tetragenus*, *Micrococcus catarrhalis*, and the pneumobacillus of Friedlander A mixture is made of equal proportions of these organisms, this is divided into three unequal parts One-half of the original mixture is used as the excipient the microbes are treated with a solution of caustic soda (10 per cent) for twenty-four hours at 37° C, and the solution is then neutralized with hydrochloric acid One-quarter of the original mixture is heated to between 60° and 70° C, thus killing the bacteria The bacteria in the remaining portion of the original mixture are killed by treatment with formol These last two portions are then emulsified in the excipient, and 0 5 per cent carbolic acid is added The resulting fluid is diluted so that each cubic centimetre of the vaccine thus prepared shall be the equivalent of 20,000 million bacteria Goldenberg used one drop of the fluid, which is the equivalent of 0 05 c cm, and contains approximately 1,000 million organisms, as the initial dose Subsequent doses are increased by one drop each time until a maximum of six drops is reached This method was tried with very promising results at the Institut Pasteur and Ecole Odontotechnique To prevent the occurrence of reactions arising from protein substances present in the culture media, the organisms are thoroughly washed with normal saline solution before being treated in the way described Although spirochaetes play an active part in the disease they are strictly anaerobic, and so can only multiply in the presence of the pyorrhoea alveolaris organisms, which, being aerobes, remove the free oxygen which would otherwise kill the spirochaetes When the bacteria disappear in consequence of the vaccine treatment the spirochaetes are thus destroyed indirectly

Technique of Treatment

The following method of treatment, which I have adopted on the experience gained by treating several cases, is a modification of that described by Drs Frison and de Libouton to the French Association for the Advancement of Science last year The vaccine is in ampoules, obtainable from Dr Goldenberg, at the Institut National de Vaccinothérapie, Rue Pages, Paris

The injections are made by inserting the needle superficially into the reflection of the mucous membrane, above the apices of the bicuspids, or canines Care should be taken that the needle does not penetrate too deeply, its orifice should be just covered by the mucous membrane, the most convenient syringe is one graduated to deliver drops of the dimension described (0 05 c cm), and must be carefully sterilized for use A course of treatment consists of ten to twelve injections, given at intervals of not less than forty-eight hours nor greater than eight days The only exception to this is that between the first and second injections a period of four days must elapse The course will thus occupy about twenty-two days, the last five injections being of six drops each The following table may be of assistance to those who adopt this treatment

Day	Drops	Places	Day	Drops	Places
1st	1	1	12th	6	2 or 3
4th	2	1	14th	6	2 "
6th	3	2	16th	6	2 "
8th	4	2	18th	6	2
10th	5	2	20th	6	2 "

After the two-drops injection, I inject each dose in two or three places of the mucous membrane, thus obtaining the maximum activity whilst modifying the local reaction No departure from these directions must be made, for instance, giving three drops after one drop would do harm and not good by bringing on a prolonged negative phase If a reaction takes place all symptoms must disappear before the next dose is given, then the dose which caused the reaction should be repeated Local treatment is absolutely essential, and must be carried on concurrently with the vaccine injections At the second sitting the teeth should be thoroughly scaled, and this operation should be repeated at intervals during the course Worthless and septic roots may be extracted after the third or fourth sitting A mouth wash of salt (1 drachm to 8 ounces of water) should be prescribed, and also a simple tooth powder, such as precipitated, or camphorated, chalk Soap must not be used

Results of Treatment

This treatment has met with very satisfactory results in the hands of several observers M de Libouton reported to the Congres des Journées Médicales 41 cases treated by this method, in which cure resulted in 38 The cure has been maintained for more than two years Frison and de Libouton, at the Congress of the French Association for the Advancement of Science (July 31st, 1923), stated that they had been successful in eliminating suppuration in 59 out of 62 cases, most of which were fully developed Sir G Valadier, Dr Aguilar, and Dr Spalding report equally favourable results, and my own cases bear out their experience I notice that the first injection has a tonic action on the patient, and as the course—which generally consists of ten treatments—progresses the general health steadily improves Foul odour and bad taste in the mouth disappear, the pus decreases, the gums become more firm, and the teeth tighten I have noticed even that

roots discharging the pus characteristic of chronic alveolar abscess dry up, so to speak, and after extraction their sacs appear to be shrivelled and inert There are cases too advanced for any cure except that of extraction, for example, if pyorrhoea involves as much as one-third of the membrane from the apex, the remaining part of the periodontium of the tooth, being necrosed, cannot be brought to life again, so the tooth involved could not be tightened up sufficiently to be useful for mastication, and the best treatment would be extraction Even in such cases, however, a course of vaccine given before extraction is followed by much more rapid healing of the tissues after the operation and by less systemic disturbance The treatment used before the operation acts preventively also where infection is expected to follow surgical action The following are typical of many cases I have treated by this method

Case 1—A man of 56 suffering from dyspepsia alimentary toxaemia and a marked degree of pyorrhoea alveolaris, the mouth was fetid and pus pockets were present about all the teeth After the first few injections the patient's general condition improved almost immediately The languor, headache and dyspeptic symptoms diminished, and by the end of the course there was no need of further medical treatment, the bad odour and pus having disappeared

Case 2—A young man of 23 who complained of vague rheumatic pains accompanied by general malaise but with no other objective signs than pyorrhoea alveolaris. This patient's general condition also improved from the commencement of treatment and after twelve injections the pyorrhoea was cured and he reported that he had never felt better

Such results justify the hope that in the future pyorrhoea alveolaris will prove to be always curable, and that this treatment will serve as a prophylactic against toxaemia and systemic complications of pyorrhoea Goldenberg, indeed, goes further, and holds that this local inoculation is not only indicated in pyorrhoea alveolaris, but also in all cases of dental infection—for example, the complication of infection due to the difficult eruption of wisdom teeth, and so forth My own experience of the method has convinced me that it is of the greatest value, and marks the dawn of a new era in the treatment of pyorrhoea alveolaris, the most widespread and serious disease with which the dental practitioner has to grapple If my article helps to spread knowledge of this last and most important advance in our methods of attack on this modern scourge of civilized people, it will have achieved its purpose

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TREATMENT OF UTERINE HAEMORRHAGE NOT DUE TO PREGNANCY OR NEW GROWTH

BY

G HEAFORD VARLEY, M D Oxon

THE successful treatment of cases of uterine haemorrhage often becomes a difficult and urgent one, for there are many which do not respond to medicine or curetting There then appears to be nothing left but the major operation of hysterectomy

Being greatly impressed by the possibilities of radium in certain instances, I purchased, in 1920, 200 mg of radium bromide, and during the past three years have treated a number of patients with it, amongst these were cases of uterine haemorrhage, and, as a perusal of the notes of nine consecutive cases will show, the treatment was completely successful in each instance Some of them had already been curetted more than once without any improvement Where the bleeding is due to fibroids this is generally best left to the surgeon to deal with, unless the fibroid be a submucous one, when radium will often bring about a cure

The cases quoted are all those of menorrhagia and metrorrhagia, the etiology of this condition I do not propose to go into, as it is a question about which much controversy still exists

Before undertaking radium treatment it is, of course, necessary to eliminate the possibility of malignant disease, and for this purpose it may be necessary for the patient to submit to a curetting, if this has to be done the radium may be introduced into the cervix uteri at the time of the dilatation

The most convenient form in which to have the radium is in a tube containing 50 or 100 mg of radium bromide, the latter strength was used in my cases In addition, a similar tube or applicator is often advantageous for applying to the abdominal wall to obtain a cross fire action if required The tube may be used either unscreened if inserted directly into the cervix, or screened if placed in the vaginal vault In either case an outer covering of pure rubber tubing is used to cut off the alpha rays, which are non penetrating and cause superficial burning of the tissues The vagina is then lightly plugged with gauze and the radium left in position for the time determined upon

The length of exposure is a most important factor with regard to the successful treatment, and will depend upon the amount of radium bromide used, the thickness of the screening, the age of the patient, and the severity of the condition present It must be borne in mind that there is a danger of producing complete cessation of the menses this fact should be carefully explained to the patient, her relations, and medical attendant Women near the climacteric, where the haemorrhage is profuse and previous treatment has failed, often prefer this to the alternative of hysterectomy If, however, the dosage is correctly estimated there is little fear of the menses ceasing

It is best to start with a small dose, and, if this does not prove sufficient to repeat it after the next period In a young adult I have found it safe to commence with a tube of 100 mg screened with 1 mm silver *plus* rubber, and to leave this in for seven hours The second dose will depend on the result of the first It may even be necessary to give a third, but this seldom happens The patient should stay in bed for the day, when the tube can be inserted in the morning and removed during the afternoon There is no need for the patient to lie up afterwards as there are seldom any after effects Nausea and vomiting may occur, and there may be a feeling of general malaise with rise of temperature, but these symptoms disappear in the course of twenty-four hours, and are rare unless a prolonged application has been given, they should be treated on general lines

The first period or two after the application may show no diminution in quantity, or may even be excessive, or the bleeding may continue for some days or even weeks before it finally ceases, as occurred in Case IX This however is rare the improvement as a rule being noticeable from the first

In middle-aged women, where the bleeding is severe and has resisted all previous treatment, a longer exposure is necessary, and in these cases an external application should be given at the same time as the internal, either by means of an applicator or tube In either case a screen of 1 mm of silver and rubber is necessary, and in addition ten to twelve layers of lint must be interposed between the applicator and the abdominal wall in order to prevent burning of the skin An exposure of from fourteen to sixteen hours will as a rule bring about the desired result The after treatment consists in ordering a simple vaginal douche daily for a few weeks

The question naturally arises as to what effect this treatment may have on the possibility of pregnancy It may be definitely stated that it has no deleterious effect, for although pregnancy is uncommon after treatment, it is no more so than in patients not so treated who are the subjects of these conditions

Vaginal discharge is almost always associated with this type of haemorrhage and is often profuse and offensive Radium has a remarkably beneficial effect on this condition as well as on simple leucorrhoea, which rapidly clears up after one or two applications

CASE I—*Metrorrhagia*

Mrs B H aged 34 four children Admitted December 1st 1921, with the history that in November 1918 laparotomy was performed for ruptured pyosalpinx in April 1919, she was curetted after a month's continuous loss in September, 1921 she was readmitted to hospital for severe bleeding—bilateral salpingectomy and right oöphorectomy performed this was followed by a normal period in October in November, 1921 the loss was stated to have been

excessive, with many clots, on November 29th flooding recommenced *On admission the patient was losing freely*

On December 12th she was curetted and a tube of 100 mg., screened with 1 mm platinum, placed in the uterus for twenty-four hours

On June 2nd, 1922, the patient wrote that her general health was fair she had had no more bleeding whatever The vaginal discharge was profuse for a month after the treatment, but since then it had been very slight She had gained in weight

CASE II.—*Metrorrhagia*

Mrs D., aged 25, widow, no children Seen January 26th, 1921

History.—Married eight years *Right tube and ovary removed* four years ago, since then the menses had been very profuse—rhythm 7/21, also excessive vaginal discharge

A tube of 100 mg. radium bromide, screened with 1 mm silver and rubber, was placed in the posterior vaginal fornix for seven hours

On March 28th, 1922, the patient wrote that her general health was excellent The menstrual flow had remained normal, and the rhythm was 6/28 The vaginal discharge improved wonderfully after the radium, but had returned somewhat

CASE III.—*Metrorrhagia*

B. W., aged 50, eight children, four miscarriages Seen May 30th, 1921

History.—Excessive vaginal loss for the past two years, worse for the last two months, offensive vaginal discharge Menses 15 7/28, normal loss, for the past two years the loss had lasted from seven to fourteen days and occurred every three to four weeks, the last period lasted twelve days

Treatment.—Under general anaesthesia the cervix was dilated and a sound passed 3½ inches A tube of 100 mg. radium bromide, screened with 1 mm silver *plus* rubber, was inserted into the uterine cavity and left *in situ* for eighteen hours, a similar tube and screening was placed above the symphysis pubis for fifteen hours

Result.—On September 14th, 1922, the patient wrote to say that she had had no more haemorrhage and the menses had ceased There was still a slight discharge, but her health was better and she had gained weight I heard from the patient again on March 21st, 1923, she said that her health was very good and that she had not been so well for years, she adds, "*My friends remark* how well I am looking I am indeed very grateful to you There is now no bleeding and no discharge"

CASE IV.—*Metrorrhagia*

Miss C., aged 35 Seen December 14th, 1920

History.—*For many years has had profuse vaginal discharge, also great menstrual loss—5/29, regular, no pain Had been curetted for this but without benefit*

She was treated with a 100 mg. tube of radium bromide, screened with 1 mm silver *plus* rubber, placed in the vaginal vault for seven and a half hours

On January 10th, 1921, the patient reported that she had a good deal of pain four days before the period began, which ceased when the flow commenced The loss was much less and lasted only five days She is *much gratified* by the result so far

On February 8th she reported "Period came on two days before expected, lasted six days, but was not so bad as it used to be" *The vaginal discharge was much less The same dose as above was given, but for eight hours*

The patient was seen on May 16th, 1922, and stated that the periods had remained normal in quantity and duration ever since the last treatment

CASE V.—*Metrorrhagia*

R. S., aged 56, ten children Admitted March 7th, 1922

History.—Excessive loss for the last twelve months, with much vaginal discharge Was curetted in 1919 for metrorrhagia, this was followed by temporary improvement

Treatment.—*A tube of 100 mg. radium bromide, screened with thin rubber tubing only, was put in the cervical canal and left in position for eighteen hours*

On April 4th haemorrhage had begun again Treatment was therefore repeated for fourteen hours, the tube being now screened with 1 mm silver

On September 25th the patient wrote to say that there was no bleeding whatever and the discharge had entirely ceased Her health was excellent, and she had no pain On March 22nd, 1923, *the patient wrote to say that she had had no bleeding since she left hospital twelve months ago* There was a slight watery discharge at times

CASE VI.—*Fibrosis Uteri*

Miss E. W., aged 50 Seen August 21st, 1921

History.—Continuous bleeding with occasional "flooding" for the past twelve months Menses began at 13 rhythm 7/28 Remained normal till about four years ago, when the periods became profuse with clots and considerable vaginal discharge She was curetted six months ago since when symptoms had been less severe

Treatment.—The uterus was explored and the mucosa found to be soft and friable A tube of 100 mg., screened with 1 mm silver *plus* rubber, inserted for eighteen hours

March 23rd, 1922 Patient says haemorrhage ceased after application till September, when she had a period lasting five days since then there had been no trace of bleeding and no vaginal discharge

The patient wrote on March 21st, 1923, to say that she was very well There had been no bleeding and no discharge since she last wrote, a year ago

CASE VII.—*Haemorrhage from Cervical Stump following Subtotal Hysterectomy*

Mrs R., aged 42 On March 15th, 1921, a tube of 100 mg., screened with 2 mm lead *plus* rubber, was placed in the posterior fornix for ten and a half hours

The patient has written recently saying, "I think I can say I am cured I have no more pain nor any haemorrhage"

CASE VIII.—*Menorrhagia*

Mrs H. I., aged 36, one child Treated November 1st, 1922 This patient first came under my care two years ago She was then suffering from menorrhagia, which was having a serious effect upon her health She became very nervous and excitable and was worse after each period Various remedies were tried from time to time with little or no benefit The periods, as a rule, lasted six or seven days, and came on every twenty six to twenty seven days The last period was the worst she had had Latterly they had been preceded by shivering and a feeling of extreme exhaustion, the patient being so bad that she had had to go to bed for several days after the haemorrhage had ceased Curetting was out of the question owing to her nervous condition, and I decided to give her a dose of radium, examination having failed to reveal any obvious abnormality The uterine sound passed 3½ inches There was no discharge between the periods

A 100 mg. tube of radium bromide, screened with 1 mm silver, was placed in the vagina for seven and a half hours only, as I was anxious to avoid as far as possible the production of an artificial menopause This danger was explained to the patient and her husband beforehand The only alternative seemed to me to be a subtotal hysterectomy, but I am convinced the patient's nervous system would never have stood the operation

The result of the treatment has so far exceeded expectations The onset was normal and not preceded by any discomfort or nervous manifestation The loss was also normal in amount, and lasted five days only She was able to be about the whole of the time and was delighted with the result so far It of course remains to be seen what the next periods will be like, but should they become somewhat more profuse I feel sure another small dose will effect a permanent cure

April, 1923 The patient has been under constant observation The periods remain normal both in quantity and rhythm She has no pain nor discomfort and has had no return of the nervous prostration She is now strong and well and is able to resume her social duties without trouble or anxiety

CASE IX.—*Metrorrhagia*

Miss J., aged 42 Seen November 1st, 1922 This patient has a history of menorrhagia extending over several years She is a school teacher The periods began at 12, and lasted seven days every twenty three She was curetted seven years ago for excessive and irregular bleeding with "flooding" Eighteen months ago she began *to lose almost continuously* until July last, when she had a severe "flooding" which lasted six days She was then again curetted The loss then stopped for a month, but has now begun again and is continuous

When I saw her she was very anaemic, the mucous membranes being quite blanched, her pulse was 120 and temperature 99° There was a very offensive reddish brown discharge, the cervix was normal, and the uterus freely movable and not obviously enlarged

The alternatives here again were either a hysterectomy or radium treatment, but owing to the patient's state of health and the very obviously septic discharge the major operation was out of the question I therefore gave her an application of radium both internally and above the symphysis pubis The tubes were screened with 1 mm silver and left in position for fourteen hours I pointed out the risks of the artificial menopause to her, but, owing to the very serious state of her general health, decided to give her rather a longer dose than I should otherwise have done in a case less septic and exsanguinated

On the fourth day after treatment the haemorrhage had ceased, the discharge was very slight by the end of the week and the temperature normal She went home obviously much improved even in so short a time, and was to report to me in three weeks The brown discharge continued until the end of December, when a period began and a few clots were passed

On January 13th, 1923, she wrote saying she was much better, adding, "It is nice to be more or less normal again" I heard from her again on January 29th, she had had serious *haemorrhage* on one day followed by continuous loss, she had felt very slack and was sleeping badly She asked me whether I thought she had not better apply for a pension and retire To this I replied that I was quite sure she would ultimately get quite well and advised her for the present, at any rate, *not to send in her resignation*

She wrote again on March 21st saying she had got steadily better since her last letter to me, and that she had felt quite well and done full work all the term

ACUTE INTUSSUSCEPTION IN ADULTS DURING A FAST

BY

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Acute intussusception in the adult is rare. Of 187 cases, acute and chronic analysed by the late H. L. Barnard, only 19 were in patients over 20 years of age, and those were mostly subacute or chronic. The few cases of intussusception that are met with in adults are as a rule of the chronic variety and commonly secondary to the presence of polypi, other submucous tumours, or foreign bodies.

The following two cases of acute intussusception in adults are specially interesting as they both occurred in the same week during the Mohammedan fasting season, when Mohammedans abstain from all food and drink of any description from the small hours of the morning until sunset. Both patients had been in perfect health without a sign or symptom of intestinal—or indeed any other—disorder before they developed the condition. They were both at the end of a fasting day when the symptoms of invagination occurred—in one case after drinking a glass of cold water, but in the other case before taking any food or drink.

CASE I.

A policeman, aged 40, drank a glass of water at sunset—that is, after a fast of nearly sixteen hours. He immediately developed severe colicky pains followed in about two minutes by vomiting of a slightly yellowish fluid. He came to hospital four days later with a history of incessant vomiting and absolute *constipation and all the signs and symptoms of acute intestinal* obstruction and commencing peritonitis. Laparotomy revealed an ileo-colic intussusception. Reduction was impossible *owing to* oedema of the intussusceptum *and commencing gangrene in parts* of the intussuscipiens. Resection and drainage of the bowel and peritoneum were performed, but the patient died twelve hours later.

CASE II.

The second patient, a peasant aged 50, had been fasting for about sixteen hours. Half an hour before sunset, while preparing his long-waited-for meal, he was seized with violent colic followed by vomiting of a small amount of yellowish stringy fluid and absolute constipation. He came to hospital five days later presenting a typical picture of acute intestinal obstruction and peritonitis. On laparotomy pus and faeces were found in the peritoneal cavity as well as an intussusception of the variety known as ileo-caecal or ileo-colica. It had started as an ileo-ileal intussusception about 4 inches from the ileo-caecal valve, the intussusceptum passing through the latter into the caecum. The intussuscipiens was gangrenous in patches and there was a ring of gangrene round the intussusceptum where it was constricted by the proximal end of the intussuscipiens, this had resulted in perforation. Resection was therefore resorted to, and the bowel and peritoneum were drained. The patient died six hours after operation.

In both cases examination of the intussusceptions removed, and of the rest of the intestines *post mortem*, showed nothing in the nature of a tumour of the intestinal wall or of a swelling of Peyer's patches to account for the invagination. The length of invaginated gut was 2 feet in the first and 3 feet in the second case.

It is probable that hunger could be considered as the exciting cause of the invagination in both or at least in one, of these cases. In one of Leichtenstern's 442 cases the evidence of invagination came on shortly after drinking much cold water while sweating. Whatever part the drinking of cold water played in the causation of Case I, in the second case this factor did not exist.

The connexion between "hunger pains" and gastric peristalsis is well established, and so is the presence of a gastro-ileal and a gastro-colic reflex. Hurst, in summing up "mass peristalsis of the colon," mentions that the movement occurred in two of his patients when they felt faint with hunger and food was brought into the room. He considers such cases as "a remarkable example of the influence of the mind on the motor functions of the intestines." He also says that patients who suffer from diarrhoea after meals also have diarrhoea when they are faint with hunger as a result of the unusual postponement of the hour of a meal. It is therefore not very unlikely that excessive hunger, together with the eager expectation of a good meal, as is the habit of the fasting Mohammedan, may excite the abnormal peristalsis which leads to intussusceptions in the ileo-caecal region.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CARBON TETRACHLORIDE AND OIL OF CHENOPODIUM IN HELMINTHIASIS

An article under this heading appeared in the BRITISH MEDICAL JOURNAL of June 23rd, 1923 (p. 1048), and I write to express my agreement with the opinion of its author, Dr. J. G. Reed of Borneo, that carbon tetrachloride is even more effective as an anthelmintic when combined with oil of chenopodium. The following procedure has given good results in the Georgetown Public Hospital, British Guiana. The faeces are examined for ova of *Ankylostoma duodenale* and other parasites before treatment, and also three days after it. Three ounces of saturated solution of sodium sulphate are given in the evening and next morning a dose of carbon tetrachloride, from 40 minims to 1 drachm, according to the age and strength of the patient, is administered. On the third night after this another dose of 3 ounces of the sodium sulphate solution is given. About 60 per cent. of the patients so treated experienced nausea and headache. Of 135 patients, 104 were positive as regards *Ankylostoma duodenale* ova, a few of them were positive also for *Strongyloides intestinalis*, *Ascaris lumbricoides*, or *Trichuris trichiura*. The majority of those faeces which did not contain ankylostoma ova contained those of one or other of the parasites mentioned. About 40 per cent. were found to have become negative after a single dose of carbon tetrachloride. Some patients require several doses, and these heavily infected cases are very weak, anaemic, and oedematous. East Indians form the majority of patients requiring treatment; their faeces invariably contain ankylostoma ova and a characteristic symptom of the condition is a purplish tongue. The following are details of three heavily infected cases:

CASE I.—An anaemic black man aged 56 admitted with pyrexia and delirium was found to have an enlarged liver and the faeces contained large numbers of ankylostoma ova and embryos of strongyloides. The blood count was as follows: total red cells 760,000 per c.mm., normoblasts, megalocytes and microcytes present but no malarial parasites; haemoglobin 10 per cent., colour index 0·6; total white cells 10,000 per c.mm.; differential count—polymorphonuclears 70 per cent., large lymphocytes 25·5 per cent., large mononuclears 4·5 per cent. After two months' treatment with carbon tetrachloride, amounting in all to 6 drachms and with iron and quinine, ankylostoma ova were still present but the anaemia was much less. The blood count was now: total red cells 4,200,000 per c.mm., haemoglobin 50 per cent., colour index 0·6; total white cells 3,200 per c.mm.; differential count—polymorphonuclears 53·5 per cent., large lymphocytes 29 per cent., large mononuclears 3·5 per cent., eosinophils 14 per cent. After further administration of 40 minims of carbon tetrachloride combined with 15 minims of oil of chenopodium ankylostoma ova were absent from the stools.

CASE II.—A black man aged 34 with ankylostoma ova and strongyloides embryos in the faeces. Six weeks' treatment with carbon tetrachloride (4 drachms in all) iron and quinine resulted in an increase of the red blood corpuscles from 1,736,000 to 2,110,000 per c.mm.

CASE III.—A Portuguese, aged 32, whose faeces contained large numbers of *ankylostoma ova* and whose blood count was 1,952,000 red cells and 34,800 white cells per c.mm., only required one week's treatment in hospital.

I am indebted to Dr. A. J. Craigen, resident surgeon, for permission to publish these notes; to Dr. F. G. Rose for the pathological examinations, and to Nurse M. Welch for collecting and tabulating the clinical records.

G. A. GRANDSOULT,
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Reports of Societies.

PHYSICAL BASIS OF EMOTIONAL DISORDER

At a meeting of the Section of Psychiatry of the Royal Society of Medicine on February 12th, Dr H CRICHTON MILLER lectured on the physical basis of emotional disorder Dr C S MYERS presided

Dr CRICHTON MILLER said that psycho-analysts in actual practice tended to seek in emotional experience the causation of all but a limited group of neuroses He held that this was to compromise their therapeutic opportunity unjustifiably, and he proceeded to put forward a formula to cover the etiology of many of these cases—namely, that the condition was due to an awareness of physical incapacity to meet a demand for adaptation, present or impending This incapacity he considered under four headings—alimentary, vascular, endocrinal, and sexual The emotional feeling or tone was no doubt influenced by the alimentary condition, and when a disordered alimentary condition became chronic it might reasonably be supposed that an equally chronic emotional distortion occurred The psycho-conflict which caused an anxiety neurosis was based on a general awareness of incapacity to meet the demand for alimentary adaptation The first thing to do in such cases was obviously to eliminate the intestinal toxaemia With regard to vascular conditions, the influence of blood pressure on the emotions often went unrecognized The sensitiveness of the brain to high or low blood pressure or to instability of blood pressure was one of the factors most frequently responsible for emotional disorder There was a considerable class of alcoholics whose craving for alcohol was based on this sense of inadequacy arising from a low cerebral blood pressure He turned next to cases in the endocrine category It was impossible to formulate any exact conception of the influence of the internal secretions on the emotional life, but in the case of the thyroid some definite knowledge was forthcoming A psycho-conflict might have been the sole cause of hyperthyroidism, though he suspected some physical cause, even if it were granted that the condition was primarily psychogenic But the physiological implications of the emotional conflict could reach a point at which no redress of emotional equilibrium could effect a remedy The thyroid had been recognized as the great anabolic reservoir of the whole system It had been described as the female gland *par excellence* He thought of it as the gland of creation The subthyroid individual could not fail to have numerous repressions, and easily fell a prey to anxiety neuroses A great deal of this anxiety would clear itself up without any analytical treatment But the psycho-conflict really arose from the individual's sense of inferiority due to his inadequate powers of self-expression

Dr Miller described one case which had come under his observation It was that of a young boy, of rather above the average intelligence and fond of games with whom, however, his schoolmaster and his guardian could do nothing because of his habit of continual weeping His outbursts of weeping were quite uncontrollable When asked why he was crying he said that he was thinking of his father and mother It appeared that he had lost his father at a very early age His mother had married again, and his stepfather was very kind to him, but both his mother and his stepfather had been killed a year previously in a railway accident Here was a case which the psycho analyst might think came entirely within the field of psycho-therapeutic methods On the contrary following some indication, he advised thyroid treatment, and the result was perfectly successful Both his schoolmaster and his aunt in whose charge he was, reported that the habit of weeping had ceased, and the boy was now quite normal

The ultimate fate of the individual in life was so intimately bound up with these conflicts that they were justified in assuming that these conflicts had far-reaching implications in the physical organism Analytical psychology was largely occupied with the persistence of puerile characteristics, but it was surely impossible for them to contemplate the tendencies in such regressions apart from the physical side There were subnormal types whose thumb-sucking and other childish activities were apt to become subjects for ardent exploration, but the emotional immaturity might well be approached in certain cases from the point of view of physical immaturity There were many neuropathic individuals who, while they could not be classed as defectives, were immature, and the problem of their treatment might properly be considered an organotherapeutic one Turning finally to the sexual category, the speaker said that the biological objective of every individual from the evolutionary standpoint must be parenthood A psycho-conflict might arise from any awareness of incapacity to meet this demand He instanced the practice of masturbation It was a mistake to regard masturbation as mere gratification of an animal appetite The capacity for sexual response, even of an auto-erotic character, was to some adolescents proof that they had reached a phase of development on the road to maturity, and as such the practice was regarded by them as having a reassuring value In some cases the conflict that centred around masturbation derived from this incapacity to meet the demand of parenthood, and therefore the problem of dementia praecox should perhaps be capable of a reasoned solution It was the duty of those who had to treat these cases to attack dementia praecox early, not only from the analytical point of view but also from the physical, and it was fortunate that here also something could be done by means of organotherapy He took as another illustration coitus interruptus He did not claim that here the consequent neurasthenia could be classified under the general heading of inadequacy to meet life's demand But out of a considerable number of cases of this kind he could recall only one in which there was not a perfectly definite focal infection Primarily this act disintegrated the endocrine system rather than the emotional life Its effect was to throw a strain on the adrenals which in course of time resulted in adrenal exhaustion The menopause, again, presented problems in almost every department of medicine In helping the patient to readjust herself they must not ignore the endocrine side To ascribe the neurosis of the menopause to psychic conflict was to express a very partial truth He added that he was not doubtful of the value of analytical treatment, nor was he unconvinced of its success, rather did he feel that the therapeutic contribution of analytical psychology was too important and its possibilities too valuable to be exposed to criticism, and perhaps ridicule, because of the incapacity of certain analysts to correlate their psychical theory with physiological observation

The discussion on Dr Crichton Miller's communication was conversational, and chiefly in the form of questions addressed to the lecturer

Dr C S MYERS, referring to two cases mentioned by Dr Miller—in one of which thyroid was given, while in the other there was surgical interference with the thyroid, a cure being effected in both cases—speculated as to how far this was therapeutically different from cure by means of psychotherapy, supposing this to have been on a large enough scale to have increased the thyroid secretion in the one case and diminished it in the other

Dr J FREEMAN spoke of bacterial infection as a cause of emotional disturbance For the last twenty years he and his colleagues had been inoculating children who were suffering from tuberculous glands, and the first thing reported to them after treatment was that the child had become "good" instead of being "naughty," which simply meant that the child was now cheerfully bearing with the vagaries of the grown-up He had also spent a good many years on the study of hay fever He found that if one inquired of the patient whether he or she had any emotional disturbance in the hay-fever season—June—such as ill temper and quarrelsomeness, the reply of the patient was a strenuous denial, but the husband or wife of the patient would as strenuously affirm the opposite He thought it quite obvious that persons suffering from hay fever had *considerable emotional disturbance at that time*

Dr T M LEGGE mentioned certain cases of chronic manganese poisoning which he had seen in the Stroud valley The people affected had a characteristic appearance—wrinkled face, glossy skin, whispering voice—and they were subject to uncontrollable bursts of laughter and crying from time to time

Another speaker drew attention to the fact that there was a very important group of emotional disturbances, in which the endocrine glands did not appear to be in any way implicated, which, nevertheless, were dependent on physical

conditions—namely, the emotional disorders found in organic nervous diseases

Dr CRICHTON MILLER, in reply to these and other questions, said that he had studied depressive cases with a great deal of interest, but with a feeling of helplessness At the same time, he felt confident that some day it would be possible to cure these cases in part by endocrine therapy The only really bad depressive for whose cure he had been able to vouch had been cured by marriage He had a feeling that there were two groups of depressives—a thyro adrenal instability group, and a thyro pituitary instability group—but that was merely speculation, upon which he had hitherto based his own organotherapy, which, he frankly admitted, had been unsuccessful It was extraordinarily difficult to classify endocrine types, but surely there was room for a little optimism There could be no quibble with regard to definite myxoedema, acromegaly, or Addison's disease, and if they had to-day reached a point at which they were able to specify certain extreme types it was reasonable to suppose that at some time in the future a more exhaustive and exact classification would be reached One speaker had made a reference to the endocrine type being established by the individual's personal history But that did not in the least eliminate the fact that everyone started life with a certain endocrine pattern, and when it was said that hereditary factors in the make-up of the patient must be recognized it was largely a matter of recognizing the endocrine pattern To what was hereditary transmission of stature to be referred if not to something inherent in the endocrine system? There must be some inherited pattern which determined the balance As for the influence of emotions upon immunity to bacterial infections, he thought that general medical practice had given colour to the belief that such an influence existed There was a general feeling amongst experienced doctors that emotional well being made for bacterial immunity to an appreciable extent in some cases If they came to explain such a vague generalization, he thought it must be that emotional well being presumed a healthy active thyroid, and in the health and activity of the thyroid were almost invariably bound up the health and activity of the parathyroid With regard to gonad inefficiency, it was impossible to discuss this except in the light of rather profound analysis, but if one investigated the feelings of adolescence, especially the conflict over masturbation, one did find with considerable frequency that masturbators and the like were from a gonad point of view inefficient In his experience all the worst masturbators were under-sexed, not over-sexed, although the opposite would be the first assumption of anyone approaching the subject He was convinced, however, that the masturbator was generally hypogonadal, and that it was his sense of gonadal ineffectiveness and his fear for his procreative efficiency which made him cling to his habit of masturbation as a partial means of reassurance

CONGENITAL SYPHILIS

AT a meeting of the Edinburgh Medico-Chirurgical Society on February 6th, the President, Sir DAVID WALLACE, in the chair Mr DAVID LEES opened a discussion on congenital syphilis He first drew attention to the paternal and maternal modes of transmission, and remarked that infection might be transmitted from the maternal circulation to the foetus at any stage of its development, in these cases the mother suffered from latent syphilis and was not removable The conditions influencing the virulence of transmission were discussed, and it was shown that the more recently a mother had been infected prior to conception the more virulent was the course of the syphilis in the child A mother might be infected up to the eighth month of pregnancy and transmit the virus to her child *in utero* Untreated parents were, during the first year of infection, particularly virulent as regards transmission Various theories as to the relation of pregnancy to the course of the disease in the mother were touched upon, in particular Routh's theory of spirillolysis due to chorionic ferments Mr Lees remarked that a child was rarely born at a time when the mother showed active signs of syphilis Congenital syphilis was a generalized condition and therefore had a profound effect on nutrition and development The mortality and morbidity were high The diagnosis of inherited syphilis was fully discussed under the following headings (*a*) family history (*b*) bacteriological and serological tests, (*c*) clinical evidence, (*d*) therapeutic tests The value of the Wassermann test was emphasized, but negative reactions were found at times in clinically positive cases The luetin test was described in detail in Mr Lees's experience the pustular reaction was the only one of value, and this was often absent in advanced stages of congenital syphilis The therapeutic tests were not considered to be a sound diagnostic procedure The variability of the clinical picture of the congenital disease was stressed the absence of the chronological order characteristic of the acquired disease was striking The clinical features of a living child (1) at or soon after birth, (2) during the first six months of life, (3) at later periods of life, with special reference to the skin, its appendages, mucous membranes, and muco-cutaneous junctions, were fully described, and dental deformities associated with the disease were considered The susceptibility of the congenital syphilitic to intercurrent lesions was noted, and in children who suffered from recurrent illnesses syphilitic infection might be the basal lesion Mr Lees considered there was a close association between syphilis and rickets, and chronic chest conditions and pulmonary tuberculosis were more commonly associated with syphilis than was at one time believed Kolmer's maxim, "Always suspect syphilis, but be slow to diagnose it," was worth remembering in problems of diagnosis The prognosis of inherited syphilis in those showing extensive manifestations under one year was bad in those who showed manifestations later and had early treatment a much better prognosis as to life was possible

Dr LEONARD FINDLAY (Glasgow) considered the incidence of congenital syphilis was grossly exaggerated in certain quarters In diagnosis he placed great reliance on the Wassermann test, and showed by tables the high percentage of positive tests obtained in cases where there was clinical evidence of the disease, and negative reactions in those where syphilis was not suspected He referred to work in Glasgow at the Fever Maternity, and Children's Hospitals in relation to this test, the cases in the Children's Hospital giving much the largest proportion Although he expressed great faith in the Wassermann test, he reminded his audience that a positive reaction was of no value in a newborn child Antibodies might be present from the maternal circulation, but unless there were spirochaetes in the child the disease would not develop He had never seen an infant born with a negative Wassermann reaction develop a positive one later The erratic manner in which congenital syphilis may appear in one family was discussed in relation to infection, and the fact noted that in a twin birth one child might be syphilitic and the other not Dr Findlay considered the infection probably passed from the decidua by emboli In the pre-salvarsan days Dr Findlay's death rate was about 73 per cent in infants under 6 months, but since using salvarsan it was only about 25 per cent The result of prophylactic treatment in the mother was striking the fate of pregnancies in twenty-one families before treatment was adopted was 69 per cent dead or syphilitic and after adoption of treatment the percentage of dead and syphilitic cases only reached 10 5

Professor B P WATSON had found that blood withdrawn from the cord gave positive Wassermann reactions when no evidence of syphilis in mother and child was present, and he thought that some Wharton jelly passed into the collecting tube and gave an erroneous result The sooner syphilitic pregnant women were put under treatment the better, since frequently a healthy child would be born

Mr J H CIBBS showed lantern slides illustrating dental lesions in congenital syphilis

Dr J V PATERSON spoke of the relative infrequency of congenital syphilis in private as compared with hospital practice The Wassermann test had not been very helpful from the ophthalmic point of view, but in cases of atrophy of the optic nerve in children it was of value He considered there was a misconception of the facies and general appearance of older syphilitic children most of the textbook pictures were quite misleading In common with his ophthalmic colleagues, he believed that Mr Lees's intensive

treatment in cases of interstitial keratitis had materially shortened the time of recovery and rendered the results of the disease less disastrous

Dr J S FRASER had never known any improvement in hearing as a result of treatment by mercury, iodide, salvarsan or its substitutes, in cases of congenital syphilis Usually deafness in such cases had persisted for years before the patients came for advice He placed more reliance on the opinion of an ophthalmic surgeon than on a Wassermann test in the diagnosis of congenital syphilitic deafness in patients over 20 years of age Eye changes were always present in such cases

Dr CRANSTON LOW showed a case of urticaria pigmentosa with extensive eruption over the body and limbs in a female aged 55, the eruption began thirty-seven years before when menstruation started The rash appeared on the left arm and disappeared when menstruation ceased, reappearing at the next menstrual period Five years ago, after severe strain and worry, a rigor developed and she sweated profusely, the rash appeared on both arms and spread to the body on the following day In this case the rash showed a confluent character which was unusual Urticaria pigmentosa was a very rare disease in adults A piece of affected skin had been excised and was demonstrated under the microscope, no change was found in the epithelium, but small celled infiltration was seen in the corium Numerous mast cells were present, and the section indicated the presence of toxaemia Treatment with colon lavage and peptone injections only caused slight improvement, and the rash did not disappear

Mr W J STUART showed a patient with a complete facial paralysis of two and a half years' duration, caused by an accident Mr Stuart had performed facio-hypoglossal anastomosis three weeks previously, and showed the case so that the results of the operation could be noted by the society at a later date

BLOOD TRANSFUSION

AT a meeting of the Cardiff Medical Society held on February 12th, with Dr R CAMERON in the chair, Mr J BERRY HAYCRAFT gave a demonstration on a simple method of performing blood transfusion He began by emphasizing the importance of employing a simple and rapid method The operation was divided into two stages (1) The selection of the donor Two methods of performing the agglutination tests were described When Types II and III serums were not available, the direct action of the recipient's serum on the cells of the donor was tested (2) The transfusion was performed, using a 3·8 per cent solution of sodium citrate as an anticoagulant The donor's blood was received into a graduated jug containing the solution, and the transfusion performed with an ordinary saline infusion apparatus and glass cannulae The citrate solution was supplied in two graduated flasks contained in sterilized drums, so that they could be kept indefinitely, and the whole apparatus was convenient and portable By this means transfusion could be employed anywhere, and it was not necessary to send patients to a large hospital at a distance

Mr Haycraft added that in injuries to the limbs transfusion should be employed prior to operation, whereas in abdominal haemorrhage laparotomy should be performed first, and the transfusion commenced immediately the haemorrhage was controlled

The Private Practitioner and the Public Health Service

Dr COLSTON WILLIAMS, M O H Glamorgan, in an address on the relations of the private practitioner with the public health services, drew attention to the three points of view—namely, that of the general practitioner, engaged mainly in curative medicine, viewing his work from an individualistic standpoint, the local authority, which was required to provide treatment with due regard to economy and efficiency, and the view of the medical officer of health, who organized treatment within certain limits of expenditure, and who must take a general view of the problem Tracing the rapid change from the old environmental standpoint of public health to the new preventive view, which dealt with the individual from birth through infancy and childhood into adult life, he pointed out that a certain breadth of outlook and social interest must characterize those associated with modern preventive medicine, and with the growing unity throughout the profession, a still closer relationship was possible between the general practitioner and those engaged in public health services The cordial co-operation of the general practitioner in the work of prevention was essential for success The ante-natal clinic, the school clinic, and the venereal disease clinic were unable to deal with more than a small fraction of the problem, and competent private practice must bridge the gaps If the Insurance Act was to attain its fullest usefulness, it must enable the practitioner to give his best service, and to receive the assistance of all scientific aids to diagnosis and treatment Other points of importance considered were medical assistance under the terms of the new Midwives Act, the administration of isolation hospitals, the relation of the practitioner to give his best service, and to receive sirable lines of evolution of the public health laboratory Many difficult problems in relation to voluntary hospitals were arising which the profession seemed somewhat loath to tackle What was to be the status and remuneration of staffs? Should work and payment for work of public authorities be accepted, and if so, what terms would be satisfactory to the profession?

RENAL DISEASE AND ALBUMINURIA

A MEETING of the Brighton and Sussex Medico Chirurgical Society was held on February 7th, with Dr ELIOT CURWEN, *the President, in the chair*

Professor H MACLEAN (London), in a paper entitled "The present position of renal disease and albuminuria," pointed out that the discovery of methods by which the renal efficiency could be accurately tested enabled the clinical aspect to be linked up with derangements of the renal functions A more accurate view of the nature of renal disease could be obtained by considering the problem as one of disturbed renal function than as a collection of clinical symptoms It was often impossible in chronic disease to form any reliable opinion as to the gravity of the condition from the clinical symptoms, and patients who had hitherto been apparently healthy might die of uraemia after being ill for a few days only Such patients frequently presented few clinical signs that could be taken to indicate the condition of their kidneys, but renal tests always gave a reliable picture of the condition present Albuminuria *per se* was no longer held to be of much importance, and it was safe to assert that it could never be taken as a definite indication of diseased kidneys, even when it persisted after acute nephritis Indeed, it was not uncommon to see patients suffering from albuminuria which followed an attack of acute nephritis ten to twenty years before, and yet the renal function of such patients might be perfectly good Dr Maclean pointed out that there were two forms of chronic renal disease, in one form oedema was the prominent feature, in the other there was difficulty in the excretion of nitrogenous waste bodies In the former (hydraemic nephritis) the renal tubules were chiefly involved, while in the latter (azotaemic nephritis) the glomeruli were concerned The hydraemic variety of nephritis tended to pass into the azotaemic form, so that the symptoms at any given time largely depended on the particular stage to which the progressive disease had developed The treatment of chronic nephritis was, on the whole, most unsatisfactory, but some patients did exceedingly well when the diet was so regulated as to suit the particular functional derangement present In hydraemic nephritis, for instance, where there was no difficult in the excretion of nitrogen, a large protein intake, combined with fairly large doses of urea, was often most efficacious in removing dropsy and restoring the patient to comparative comfort On the whole, the dietetic treatment of chronic interstitial nephritis at present was too severe, a more liberal diet containing more protein than customarily given should be allowed in the majority of cases Only in very serious cases should great reduction of diet be recommended Diuretics were comparatively useless in chronic renal disease.

EMBOLISM AND THROMBOSIS

The annual meeting of the North of England Obstetrical and Gynæcological Society was held at Manchester on January 18th. Professor A. Donald (Manchester) was elected president for the ensuing year.

Professor ERNEST GLYNN (Liverpool) summarized his observations on some forty necropsies upon cases of pulmonary or cardiac embolism and of primary pulmonary thrombosis. Almost invariably the lungs had been hardened and dissected, the various thrombi in them drawn out and examined microscopically. Death usually occurred in either embolism or thrombosis in from ten to twenty minutes. The development of primary thrombosis was often suggested by a slight rise in pulse rate without a corresponding rise in temperature. Primary pulmonary thrombosis was much more frequent, death occurred in post-operative cases about the tenth day. In 35 consecutive necropsies, 28 being on post-operative cases, 4 were due to embolism, 30 to primary pulmonary thrombosis, and 1 was doubtful. In another case primary thrombosis and embolism were combined. The main evidence for primary thrombosis was (1) The presence of proved *ante mortem* thrombi, usually in both lungs and in all lobes, which could not possibly have developed in the few minutes elapsing between the acute onset and death. (2) The presence of age changes in the pulmonary thrombi, demonstrated by—(*a*) haemolysis (the blood pigment was deposited not only in the thrombi but often in the walls of the pulmonary arteries surrounding them and even in the bronchial cartilages), (*b*) commencing organization of some thrombi, which occurred in about a third of the cases. The main causes of primary thrombosis were Mild sepsis (demonstrated by the very slight pyrexia and by the frequent occurrence of a non-haemolytic streptococcus in the thrombi), and pulmonary stasis, for the patients were invariably bedridden. The danger of the latter could be greatly diminished by practising movements and deep breathing as soon as possible after operation. At the Liverpool Royal Infirmary from 1905 to 1915 there were 9 necropsies upon cases of primary pulmonary thrombosis (post-operative) from the gynæcological ward, 7 surgical (post-operative) and 3 medical from the rest of the hospital, from 1916 to 1923 there were 2 (post-operative) from the gynæcological ward, 6 surgical (post-operative) and 3 medical from the rest of the hospital. The diminution in the number of gynæcological cases coincided with the introduction by Professor Blair Bell of systematic deep breathing and active arm exercise, practised every morning from the third or fourth day after the major operation. No such exercises were practised in the rest of the hospital.

Dr LEITH MURRAY (Liverpool) showed a paravaginal lipoma weighing 17 oz. removed from a woman aged 25.

On a mistaken diagnosis of 'cold abscess' she had been treated on a spinal splint in a Union infirmary for ten months, eventually being discharged as 'improved.' During this time labour had been induced at thirty-two weeks in view of the obstruction caused by the 'abscess.' Soon after her discharge an elongated soft swelling appeared in the inner side of the right buttock near the anus which extended as high as the finger could reach and encroached on the vagina. The hip spine and sacro-iliac joints were all found normal and pelvic lipoma diagnosed. The specimen was easily removed through a 2½ inch incision over the swelling in the buttock and proved to be a typical true lipoma, hour-glass in shape, the upper lobe 3 inches long was flattened, the isthmus (1 inch by 3/4 inch) had been behind the pubic arch, and the lower lobe (3½ inches long) was rounded.

Professor BLAIR BELL (Liverpool) showed two specimens.

(1) Sarcoma of the uterus from a single woman aged 61, the menopause had occurred at 50. For seven months there had been slight irregular bleeding from the uterus which was enlarged, for the last month the bleeding had been almost constant and there had been a little pain. Panhysterectomy with removal of both appendages and the vermiform appendix was performed.

(2) Cystic sarcoma of the left ovary in a multipara aged 55, ten years after the menopause. Slight abdominal pain had been present for six months followed by dysuria and the sudden onset of severe abdominal pain and vomiting. There was slight abdominal distension, a hard mass apparently rising out of the pelvis was palpable in the left iliac fossa and there was a large cystic swelling in the pouch of Douglas pushing the uterus forward. Panhysterectomy was performed with removal of both appendages and appendicectomy. The solid portion of the ovary had to be separated from its adhesions to the brim of the pelvis and left iliac fossa. Microscopical examination showed the solid portion to be a mixed-celled sarcoma.

Dr LEITH MURRAY and Professor ERNEST GLYNN (Liverpool) showed a rare specimen of diffuse fibromyomatous overgrowth of the uterus. The body of the enlarged uterus measured 6 inches long, 5½ inches broad, and 6 inches antero-posteriorly, it was uniformly studded with nodules of fibromyomatous overgrowth, which formed irregular bosses under the peritoneum. The nodules were whorled and not encapsulated, there was no trace of adenomatous tissue. There were, however, several small groups of young and proliferating blood vessels like those in a capillary naevus.

Dr D. DOUGAL (*Manchester*) read notes of a case of ovarian dermoid, ruptured during labour, and expelled per rectum a month after delivery.

The patient was a primigravida, aged 28, with a medium degree of pelvic contraction. She was admitted forty-eight hours after the onset of labour and after forceps failure at home. On the fourth day after delivery there occurred pyrexia, abdominal pain, distension and vomiting; her condition became critical, the temperature reaching 104° F. A fortnight later a piece of bone was felt through an opening in the anterior rectal wall two weeks after this a necrotic piece of the tumour including the plate of bone and dermoid process was passed per rectum. She was discharged two months subsequently and is now in good health.

Professor BRIGGS suggested that the tumour might be a pararectal, and not an ovarian dermoid.

DETERMINATION OF BASAL METABOLISM

A MEETING of the Section of Medicine of the Royal Academy of Medicine in Ireland was held on February 8th, the President, Dr. T. G. MOORHEAD, in the chair.

Dr. H. F. MOORE read a paper on the determination of the basal metabolic rate and its clinical value. After setting out the principles involved in the determination of the basal metabolic rate, the methods of direct and indirect calorimetry were described, and the clinical advantages of the closed circuit method in direct calorimetry were discussed. This point was illustrated by a demonstration of the Roth-Benedict apparatus, in which the electric impeller and face mask are replaced by simple rubber valves and a mouthpiece, it was shown how the determination could be simplified by using the graphic method of recording respiratory tracings, as described by Roth. The ordinary methods of calculation by the use of logarithms and the circular slide rule (described by Hollingsworth) were explained. The requisite conditions of success and the interpretation of the calculated basal metabolic rate, as well as its clinical value were discussed.

Dr. W. M. CROFTON thought the one drawback of this apparatus was that it seemed too complicated to be used by anybody but an expert, and that it was too big to be carried about by the general practitioner. He was interested to hear that a patient's life had been saved by the administration of oxygen from this apparatus. He did not think the last word had yet been said about the secretions of the thyroid. He was not convinced that thyrotoxin was the only secretion, and had always thought that Bebe's investigations had been insufficiently considered. The histological work of Williamson and Pearce was also of importance; they had found that only certain parts of the thyroid were working at certain times. In cases of exophthalmic goitre a great increase of nuclear protein was found. Investigations by the apparatus shown, combined with investigations of the bacteriology of the urine, might be very helpful in diagnosing cases of exophthalmic goitre and their basal metabolism.

Dr. A. R. PARSONS suggested that it would be rather difficult to sterilize the apparatus. The clinical value of the apparatus was still undetermined, but he thought that in cases of thyroid disease it would be an aid in watching the progress of the patient, and also in determining whether the case was a suitable one for operation.

Dr. H. BEWLEY said that there were a certain number of cases in which it was extremely difficult to determine whether they were genuine cases of hyperthyroidism or not—for instance, cases of shell shock during the war—and he felt that in such cases as these the apparatus would be very helpful.

Dr. L. ABRAHAMSON enumerated three groups of cases in thyroid disease in which guidance was required, and in which he thought this apparatus would be of great use

(1) The patient with a goitre, who was very nervous, and had a certain amount of tachycardia The difficulty in these cases was to know whether one was dealing with a case of exophthalmic goitre, or only with a case of simple goitre (2) The patient with marked palpitation, an unstable pulse, and obvious enlargement of the thyroid (3) The vague cases of hypothyroidism, generally occurring in women, in or about the menopause age He thought that surgery should never be employed in cases of exophthalmic goitre, no matter what the basal metabolic rate might be He had only had one case in which an operation had been performed, at the patient's own request, and the patient had died on the table He thought if a patient with exophthalmic goitre was gaining weight, and the heart was all right, that this was sufficient indication of progress

Dr V M Synge showed an unusual case of muscular atrophy in a boy, aged 12, who had weakness and stiffness of both hands which had started when he was 2 years old and had become gradually worse His hands were wasted, and his fingers showed the condition of claw-hand, he was, however, able to write fairly well, and his grip was moderate The electrical reactions were normal, there were no sensory disturbances, and the knee-jerks were present, there was a slight amount of wasting in the feet, but no arthritic changes, and the boy never had any pain Dr Synge had never heard of a similar case of muscular atrophy occurring at such an early age, and he thought it most nearly resembled the peroneal type of muscular atrophy of Charcot, Marie, and Tooth

The President thought the condition had probably been present at birth He was of opinion that it was probably one of the multiple diseases classified as cerebral diplegia and that it was of cerebral origin In many of these cases, although the lesion was primarily of the upper neurone, a certain amount of atrophy took place later He had seen similar cases, in which the legs instead of the arms had been involved

Dr W Boxwell read notes on an unusual case of hemiplegia

The patient was a woman aged 65, who woke up one morning, and found that she had lost the power of moving her left arm and leg She had neuralgic pain on the left side, and her face was crooked Six days after the onset she developed ptosis of the left upper eyelid, she saw everything double, though the sight was otherwise quite good and both pupils contracted to light Her voice was tremulous and the left vocal cord was immobile She had difficulty in mastication, and the left half of her tongue was flabby and larger than the right There was no involvement of the fourth or sixth nerve on the left side, but all the other cranial motor nerves were involved, more or less The knee jerks were at first normal, then brisk, and then greatly exaggerated, and there was clonus in the left leg The patient could not sit in bed, and always tended to fall to the left side She had ...go, and severe neuralgic pain over the region of the left fifth ... although this area was anaesthetic She suffered from loss ...taste, and loss of smell in the left nostril, there was also ...algesia on the right side The heart's action was very weak The Wassermann reaction of the blood and cerebro-spinal fluid was negative

Dr Boxwell concluded that the trouble was due to a vascular lesion The patient improved slightly, after treatment

Dr E Maxwell said that this patient saw everything singly, up to a distance of three feet from her eyes, and beyond that she saw everything double The epithelium came off the cornea, and a corneal ulcer developed The ptosis was temporary, the condition of the eyes was therefore more likely due to involvement of the sympathetic than to paralysis

CANCER RESEARCH

At a meeting of the London Association of the Medical Women's Federation held on February 12th, with the President, Miss Chadburn, in the chair, a paper was read by Dr Helen Chambers on the progress of the cancer problem She suggested that the Federation might, as a corporate body with a large available amount of clinical material, institute some scheme of research under which individual members' work might be directed, correlated, and unified, so as to yield more valuable results than would accrue from solitary effort She spoke of research up to the present as falling under two main headings—namely, inquiry into causation (and prevention) and into treatment With regard to the advance of knowledge, in the last ten years or so there had been increasing recognition of the important part played by chronic irritation, even though this was due to such dissimilar things as arsenic, petroleum, and parasites The common factor appeared to be repeated death of cells in a localized area and the inference might be that a breakdown product of such cells acted as a growth stimulant Dr Chambers took as examples cancer of the mouth and pharynx in men, and cancer of the cervix in women, and referred to the part played by skin parasites as irritants in cancer of the breast and Paget's disease of the nipple Under the heading of treatment, operation and irradiation by x rays and radium were discussed, and the possibility of the production of an antigenic reaction was touched on Dr Chambers urged the necessity of a thorough understanding of the principles of x-ray dosage and the danger of increasing the rate of tumour growth by ill timed and insufficient treatment She remarked on the difference between the experimental laboratory animal and the human patient, and from this point of view regarded immunization of the cancer patient as still only in the realms of speculation She insisted, however, on the importance of Coley's work, in spite of its empirical nature

In the discussion which followed Dr Eva White mentioned a paper by Robert Knox in which it was suggested that at only one period of its life was the malignant cell susceptible to the action of x rays She wondered whether this, if true, would affect treatment She also suggested vaginal ionization as a prophylactic against cancer of the cervix Dr Louisa Martindale remarked that in cases in which she had used x rays to produce atrophy of the ovaries, if an insufficient dose was used at first the subsequent effective dose had to be much larger than usual She spoke briefly on the Erlangen treatment of inoperable cases

A committee, comprising Dr Helen Chambers, Miss Chadburn, Dr Louisa Martindale, Lady Briscoe, and Lady Barrett, was appointed to draw up a plan of campaign with regard to the proposed part to be played by the Medical Women's Federation in cancer research

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A clinical meeting of the Aberdeen Medico Chirurgical Society was held in the society's hall on February 7th, with the President, Dr G M Duncan, in the chair Dr W F Croll showed a case of congenital heart disease, and briefly commented on the differential diagnosis of four groups of such cases Professor Ashley Mackintosh demonstrated a case simulating carcinoma ventriculi, in which, however, the blood count was more suggestive of pernicious anaemia Mr Gordon Bruce showed a case of Charcot's disease affecting the knee, elbow, and finger joints Dr J F Christie demonstrated a series of cases of skin disease

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A meeting of the Tuberculosis Group Committee of the Society of Medical Officers of Health was held at 1, Upper Montague Street on January 18th Dr Neville Cox pointed out the desirability of uniformity in the arrangements of the annual reports of tuberculosis officers and medical superintendents of sanatoriums, and the opportunities for collective research Dr E Ward mentioned research work that is being attempted in the West of England on the influence of marriage, pregnancy, parturition, and lactation on tuberculosis It was decided that a subcommittee be formed to draft a scheme for standardizing the headings and data of annual reports, and to suggest subjects for collective investigation

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A meeting of the Manchester Medical Society was held on February 6th, the President, Dr E M Brockbank, being in the chair Dr G J Langley, in a paper on the treatment of auricular fibrillation, dealt with the necessity for appreciation of the functional pathology of the condition With regard to the different methods of treatment, the aim of the digitalis treatment was to produce heart block, whilst the aim of quinidine treatment was to terminate auricular circus movement He next dealt with the ordinary method of digitalis administration and Eggleton's "massive" digitalis method, and gave an analysis of the results of fifty cases in which digitalis was administered by the ordinary method. The statistics of quinidine treatment were also discussed.

A CLINICAL meeting of the Medical Section of the Cork University Scientific and Medical Society was held on January 29th with Dr D MORRISSY in the chair. Dr J B HORGAN presented a case of mastoid suppuration in a male aged 30 years which illustrated the difficulties of diagnosis of a suspected lateral sinus thrombosis. Three days after a radical operation for the relief of an acute exacerbation of a chronic suppurative otitis media no improvement had resulted, the cerebro-spinal fluid and the lungs were healthy, and the leuco-cyte count was normal except that the polymorphonuclear percentage was increased. There were no rigors or chilly feelings, but, since there was intermittent pyrexia, a blood culture was made, and streptococci were obtained in pure culture. The internal jugular vein was ligatured and resected, and the lateral sinus was found to contain a septic thrombus two inches long. On removal of this with obliteration of the sinus and administration of antistreptococcic serum the patient made a complete recovery. Dr H. CORFIELD presented a case of separation of the upper humeral epiphysis, without displacement, as shown by a radiogram. Symptoms of pain and a coarse crepitus first occurred two months after a very slight injury, and were possibly due to organization of an effusion into the joint capsule. Dr R. C. CUMMINS demonstrated two cured cases—one of kerion of the beard treated with a mercurial ointment and staphylococcic vaccine, and the other a case of lupoid syphilis of the circumoral region. Dr N. M. CUMMINS showed a case of congenital defect in the ventricular septum. The patient was 30 years old, and had never complained of cardiac distress, though cyanosis, polycythaemia, left ventricular hypertrophy, and a loud systolic murmur with maximum audibility at the fourth left interspace radiating into the neck, arms, and over the chest posteriorly were all present.

Reviews.

DIABETES MELLITUS

IT requires a measure of courage to-day to advance a theory of diabetes which is not dominated by the function of the pancreas. That Dr P. J. CAMMIDGE and Mr H. A. H. HOWARD have chosen this moment for the publication of *New Views on Diabetes Mellitus*[1]—in which the pancreatic hormone plays but a minor part—is earnest, therefore, of a real assurance in their hypothesis. We have, however, been a little intrigued to receive a second book from the pen of Dr Cammidge, which must have left the press hard upon the heels of its elder and bigger brother. It would be ungracious to wonder if this volume—*The Insulin Treatment of Diabetes Mellitus*[2]—was called into being to redress the balance of the first, for such would be against the whole argument of the author. At the same time the reader will do well to read one with the other.

In the main treatise the authors are concerned to seek out a "dynamic" theory of diabetes which shall be expressed in terms of the chemistry of metabolism, and shall succeed views drawn from "the morbid anatomy of the dead-house." A large amount of data from their own experimental work is marshalled, along with much recent research drawn from the literature of carbohydrate metabolism, and an attractive conclusion is reached. Diabetes is held to be a symptom-complex dominated by a hyperglycaemia, rather than a definite metabolic defect. Having chosen the blood sugar concentration as the barometer of carbohydrate metabolism, the various origins of an increased blood sugar level are sought with diligence. These may be endocrine, hepatic, nervous, or renal. Here are added the chief experimental results of the authors, who find that changes in the balance of certain ions of the blood are a predetermining cause of changes in the blood sugar level. *It is suggested that hyperglycaemia* follows a displacement of the equilibrium between the non-volatile acids and bases of the blood towards the alkaline side. We may be permitted to simplify this statement by the generalization that blood sugar concentration is a function of the alkaline reserve of the blood, and in so doing do not feel that we have taken liberties with the work quoted. The only office allowed to insulin is that of effecting a brake-like control on this regulating mechanism.

The experimental work related is interesting and suggestive, though some of the technique, in the absence of more detail, is open to criticism, whilst the reader will be conscious of a certain ingenuity in the deductive reasoning. Our quarrel with Dr Cammidge and Mr Howard is, however, directed rather to their sins of omission. To class all hyperglycaemias as diabetic can be only a clinical convenience to which pathology owes no obligation. The fundamental defect of diabetes is an inability to utilize carbohydrate in the animal economy and the consequent disturbance of general metabolism. It will be this defect in the normal balance of supply and demand which will be reflected in a hyperglycaemia. Are we then to see the cause in a disturbance of the acid-base balance of the blood? The question is not answered. The whole problem of the utilization of carbohydrate is ignored.

We have been concerned here chiefly with the theoretical considerations advanced, and must be content to indicate now that more than half the book is devoted to the authors' methods of diagnosis and treatment, whilst in the volume on the insulin treatment Dr Cammidge gives a review of his own experience and the *methods he has been led to adopt*. Readers will not be surprised that chemical methods form the basis of diagnosis and control, and, where imitation may halt at so elaborate a programme, admiration will not be withheld from the organization which has rendered possible such an exhaustive use of the chemical laboratory.

ACUTE ABDOMINAL DISEASES

IN preparing a second edition of *Acute Abdominal Diseases*,[3] Mr JOSEPH ADAMS, who on this occasion has not had the assistance of Dr Cassidy, has subjected the text to a thorough revision and has introduced over twenty new illustrations. The book is founded on experience gained at St Thomas's Hospital, and the records of that great institution and the work of its staff are freely quoted. All through the book the importance of co-operation between the surgeon and physician is insisted upon, and as far as possible all lesions are considered in all their aspects. Thus acute intestinal obstruction is first discussed as an acute abdominal disease, and then some fourteen varieties of obstruction are described in detail. In many instances typical cases are quoted to illustrate the argument. The chapter on anatomy is written from the point of view of the anatomy of the living rather than of the dissecting-room, and the method of examining a patient suffering from an acute abdominal attack is clearly described. The importance of careful inquiry into the history is insisted upon. While it is true that diagnosis can in many cases be made from the history alone, yet it is probable that the majority of errors are due to imperfections in the taking of the *history rather* than to any omission from the systematic examination of the patient. The error of assuming that an acute abdominal attack spells laparotomy must be avoided, otherwise some day or other the surgeon will be apt to find that absence of knee-jerks, or the presence of root pain or of albumin in the urine, has been overlooked. A valuable feature of the book is the discussion of secondary symptoms. They may be so usually looked upon as due to abdominal disorder that it is well to be reminded of the fact that they may have origin in, say, cerebral compression or glaucoma. Again, some old fallacies, such as the furred tongue in peritonitis and the absent liver dullness in perforation are clearly set forth.

In the chapter on laparotomy such matters as the preparation of the patient, the choice of an anaesthetic (open ether is preferred) operative procedure, incision, technique, closure of the abdomen, drainage, and after-treatment are dealt with in detail. For maintaining

[1] *New Views on Diabetes Mellitus*. By P. J. Cammidge, M.D. Lond. and H. A. H. Howard, B.Sc.Lond. Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1923. (Demy 8vo, pp. xiv + 611, 65 figures. 21s. net.)

[2] *The Insulin Treatment of Diabetes Mellitus*. By P. J. Cammidge, M.D. Edinburgh: E. and S. Livingstone. 1924. (Cr. 8vo, pp. viii + 170, 28 figures. 5s. net; postage 6d.)

[3] *Diagnosis and Treatment of Acute Abdominal Diseases, including Abdominal Injuries and the Complications of External Hernia*. By Joseph E. Adams, M.B., M.S.Lond., F.R.C.S.Eng. Second edition. London: Baillière, Tindall and Cox. 1923. (Demy 8vo, pp. x + 558, 47 figures. 16s. net.)

the Fowler position the author recommends Burton's mattress lifter, which can be fixed to an ordinary bed

In discussing the treatment of the exudate in peritonitis, Mr Adams states that the best results are obtained by dry sponging of the area round the initial lesion, and of the pelvis He considers that lavage is better omitted, and that drainage is rarely called for where the infection is of less than twenty-four hours' duration, even though the effusion may be semi-purulent When in doubt he thinks it is better to drain than not to drain, and uses a tube placed through a low abdominal incision into the pelvic basin Other chapters deal with the complications of external hernia, abdominal injuries, and diseases which may simulate acute abdominal lesions

There is no doubt that, apart from hospital teaching, books of this type have done a great deal to bring about the earlier recognition of acute abdominal diseases by the profession as a whole, and it is a matter for congratulation that the number of moribund admissions to hospitals has dwindled rapidly The facilities offered by the better equipment of the numerous cottage hospitals has also made more prompt resort to operation possible

To be successful diagnosis must be early, and it entails a heavy responsibility upon the practitioner We have therefore no hesitation in recommending most strongly a book which deals with this important subject in so lucid a manner

BIOLOGICAL METHODS

TWELVE parts of Abderhalden's handbook of biological methods have appeared recently, and their size, price, and contents are listed below [1] The occasion seems suitable for giving some account of the general scope of this monumental undertaking The handbook is being written by 500 contributors under the editorship of Professor EMIL ABDERHALDEN, and aims at giving an account of all technical methods used in the biological sciences It is divided into thirteen sections, each section is divided into a number of volumes, and each volume consists of a number of parts or divisions About 116 parts have appeared up to date, and the complete work will presumably contain between 200 and 300 parts Each volume when completed will apparently contain about 1,000 pages, and there will be at least fifty volumes The total cost of the completed work will, at the present prices, amount to over rather than under £100

The scope of the work is very wide, as is indicated by a glance at the titles of the articles in the parts under review, they contain, to take a few instances, articles on the chemical investigation of the urine, the faeces, and other secretions and excretions, photographic methods, school hygiene, methods for the investigation of the inheritance of acquired characters and of inheritance in man, and the phenomenology of religious feeling

The authors are for the most part Germans and Austrians, but there are some contributions from England, Sweden, Holland, Denmark, and other countries In nearly all cases the articles are written by well known authorities on the particular subject

The complete work is, of course, designed for the libraries of large institutions, for the interests of no individual could possibly cover a tithe of the subjects dealt with, and few could afford the complete work The work is one which all research workers should bear in mind, for in it they are likely to find, so far as the publication has gone, an account of the technique employed in any biological problem in which they are interested In all cases good references are given, and the work is calculated to save much labour in hunting through scattered literature As the parts can be purchased separately, individuals can obtain at a reasonable price the articles in which they are interested, furthermore, this plan makes it possible for the articles to be up to date at the time of their appearance

A detailed review of the parts which have recently appeared is impossible, for not only do they cover an enormous range of subjects, but each article very properly deals with the minutiae of technique rather than with general principles

A few articles of special interest to medical men may be mentioned Those on chemical investigation of the urine (Part 101) and of the gastro-intestinal contents (Part 112) deal with problems of great clinical importance That on the analysis of stomach contents is, however, rather short and contains no reference to much modern English and American work on the subject The sections on blood investigation (Parts 106 and 114) are very valuable, they include an essay by Professor Hamburg, whose recent death we have to deplore, on the determination of the resistance of red blood corpuscles to hypotonic and hypertonic solutions Dr Degwitz's article on the methods for the investigation of blood platelets is also of particular interest Other essays deal with the microscopy of the blood and of the blood-forming organs, and with the chemical analysis of blood Some of the articles on inheritance (Part 116) are of general interest, in particular that by Professor Kammerer, who marshalls all the experimental evidence in favour of the inheritance of acquired characters Finally, it may be noted that Dr Korff-Petersen (Part 108) gives a full account of all the methods employed in Germany for the measurement of the bodily and mental development of school children

A SHORT HANDBOOK OF SURGERY

IT is perhaps curious that, though there are many small textbooks of surgery that are widely read, there is no one which enjoys general popularity The latest competitor is the small *Handbook of Surgery* [2] by Mr G L CHIENE, surgeon to the Edinburgh Royal Infirmary The author's intention would seem to have been to furnish the student with a convenient introduction to a wider study, and consequently he has attempted to deal only with the more important surgical conditions Stress is laid on those conditions in which early recognition and prompt treatment are essential, and the book should be found a handy guide by the busy practitioner also Full accounts of operative treatment are not given, and the reader is referred to bigger textbooks for special subjects and for bacteriological and pathological details

The illustrations, of which there are just over a hundred, consist of drawings, photographs, and a few *x*-ray prints The book is divided into two parts The first, on general surgery, deals with inflammation, the specific infections, tumours and cysts, wounds and their treatment, the various forms of injuries and diseases of bones, joints, nerves, vessels, muscle, tendons, bursae, skin, and the deformities of the extremities The second is concerned with regional surgery, including the head, neck, spine, thorax, abdomen, pelvis, and genito-urinary system

The text differs from that of most of the small textbooks in that it comprises a short straightforward description of each subject This plan has its advantages, inasmuch as it makes possible a ready reference to any particular subject or group of subjects For the student reading for an examination it has the disadvantage that it does not supply him with a classification and subdivision of each subject necessary to give him, so to speak, a bird's-eye view of what he is trying to assimilate For him a system of classification would have the advantage of emphasizing particular points less readily seen in a running context

[1] *Handbuch der biologischen Arbeitsmethoden* Edited by Geh Med Rat Prof Dr Emil Abderhalden with the assistance of five hundred contributors Parts 101 103-106 110-112 114 116 Berlin and Vienna Urban and Schwarzenberg 1923 Part 101 (Sec IV, Vol 5 Div 1) *Urine* Pp 165 Price 8 1 Swiss francs Part 103 (Sec V, Vol 5 B Div 1) *Central Nervous System* Pp 92 Price 3 9 Swiss francs Part 104 (Sec V, Vol 5 B Div 2) *Central Nervous System of Vertebrates* Pp 279 Price 11 4 Swiss francs Part 105 (Sec V, Vol 7, Div 3) *Investigation of Sense Organs* Pp 329 Price 13 5 Swiss francs Part 106 (Sec IV, Vol 3 Div 2) *Blood* Pp 251. Price 9s 4d Part 107 (Sec IV, Vol 8 Div 4) *Food* Pp 133 Price 4 9d. Part 108 (Sec IV, Vol 11 Div 1) *School Hygiene* Pp 85 Price 3s Part 110 (Sec V, Vol 3 A Div 4) *Experimental Embryology* Pp 121. Price 6s. Part 111 (Sec. VI, Vol. B, Div 2) *Pure Psychology* Pp 111. Price, 3s 11d. Part 112 (Sec IV Vol 6 Div 1) *Digestion* Pp 462. Price, 19 90 Swiss francs Part 114 (Sec IV, Vol 3 Div 3) *Blood Constituents* Pp 133 Price 7 5 Swiss francs Part 116 (Sec IV Vol. 3 Div 1) *Inheritance of Acquired Characters* (Kammerer), and other articles. Pp 210 Price, 9 Swiss francs

[2] *Handbook of Surgery* By George L. Chiene M B, C M F R C S Edin Edinburgh E and S Livingstone 1923 (Cr 8vo, pp xi + 592, 109 figures. 12s. 6d. net.)

MEDICAL TREATMENT

PROFESSOR R D RUDOLF'S *Notes on the Medical Treatment of Disease for Students and Young Practitioners of Medicine*, which first appeared two and a half years ago and was reviewed in our columns (1921, II, 44), has now deservedly passed into a second edition[1] It is only a little bigger than before, but it has been carefully revised, and considerable excisions have been made to embody new material, such as that on the treatment of diabetes by insulin, which must always be a source of pride to the school of Toronto In briefly sketching the history of Banting's discovery Professor Rudolf writes "After many technicalities had been overcome, with the collaboration of Macleod, Best, and Collip, such an extract was obtained and christened insulin" Strictly speaking the "christening" had taken place some years before by Professor Sir Edward A Schafer, for in his *Endocrine Glands*, 1916, a revised issue of the Lane Medical Lectures for 1913, he designated the then "hypothetical autocoid" of the islands of Langerhans "insuline" In the section on jaundice reference is made to Vincent Lyon's intraduodenal spraying of the biliary papilla with magnesium sulphate solution so as to render aspiration of the contents of the biliary tract possible

Professor Rudolf's book is specially attractive as a sound expression of long experience, and this character is well maintained in the second edition

PATHOLOGY OF RESPIRATORY DISEASES

THE *Précis de Pathologie Médicale* is a series of six volumes to be written by French physicians and pathologists, three have already appeared—namely those dealing with diseases of the respiratory system, diseases of the blood, and diseases of the alimentary system The three volumes in course of preparation will deal with infectious diseases, diseases of the heart and blood vessels, and diseases of the nervous system The six volumes when complete will provide a comprehensive review of medical pathology

Volume II,[2] to which we draw attention here, is written by Professor BEZANÇON and Dr DE JONG, whose work, as is well known, entitles them to speak with authority on diseases of the respiratory system After an introductory section dealing with the anatomy and physiology of the respiratory passages, the book deals methodically with pathological conditions met with in the nose and larynx, trachea and bronchioles, and pulmonary alveoli There follows a long section on tuberculosis, dealing successively with primary infections, secondary tuberculosis of children and adults in all its divers manifestations an outline is given of reliable means of diagnosis and treatment The succeeding sections describe chronic lesions of the respiratory apparatus, circulatory disturbances, pleurisy, pneumothorax, and diseases of the mediastinum There is no index, but a detailed table of contents will help the reader to find his way through the book and search for any particular subject he desires The 82 illustrations are very clear, especially those depicting microscope preparations The two coloured plates, representing the tissue cells and microbes in different respiratory diseases, are a valuable addition to the book

A book such as this aims at winning an intermediate place between the exhaustive treatise meant for the specialist and the more slender manual to which the student resorts when the examination day draws perilously near It would, however, be a good book for those students who read French with facility, and it will certainly be very useful as a reference book in the pathology of respiratory diseases

CURES THAT FAILED

IN Oliver Wendell Holmes's *Currents and Counter Currents of Medical Science*, a book which is not so well known here as it deserves to be, there is to be found a reprint of two lectures delivered in Boston in 1842 "On Homœopathy and its Kindred Delusions" He selected four topics for his first lecture—namely, the Royal Cure of the King's Evil, the Weapon Ointment, Tar Water, and Perkins's Tractors All these cures, like many others, had their day and fell into disrepute and disuse, *though to be* sure the "day" of the Royal Touch, to which Samuel Johnson was submitted, lasted for some seven centuries The Autocrat, however, appears to have ignored the fact that before these cures failed, and while they were still popular, a large number of people whose diseases were of the mind and not of the organs of the body did derive benefit from these various quackeries

It is with this aspect of the question that Dr JAMES J WALSH of New York is particularly concerned in his book entitled *Cures The Story of the Cures that Fail*[3] Some of the healers no doubt really believed the claims they made for their nostrums, not a few were conscious impostors, but all alike wrought cures as long as there was novelty in the method and plausibility enough in the manners of the healer As the author remarks, it seems at first sight strange that so many quacks should arise in the United States and make fortunes there, but it is common experience, in Europe as in America, that the educated and semi-educated classes are often the most credulous

Beginning in the seventeenth century with Valentine Greatrakes and his strokings, Dr Walsh goes on to tell of his countryman Dowie, who claimed to be a reincarnation of Elijah, of Quimby, who "cured" Mrs Eddy of "spinal nervousness" and thereby probably directed her energies towards "Christian science", of Dr Elisha Perkins and his tractors, of Andrew Jackson Davis and the osteopaths, the chiropractors, and other products of "God's Own Country" All these effected actual cures of imaginary diseases, just as M Coue has been doing lately, and like them (as Dr Walsh believes) the Coue cure will fail when its novelty has worn off As for Perkins—whose strips of metal which he called tractors were sold for five guineas a pair—Mr C J S Thompson has kindly called our attention to a coloured caricature by Gillray of the method, which is now in the Wellcome Historical Medical Museum

We cannot, however, go all the way with our author when he includes psycho-analysis among these quack cures No doubt suggestion takes a much larger part in the cures wrought by the disciples of Freud than they are ready to admit, but the practice is based upon a very large number of observations and laborious experience, and whether, as Dr Walsh thinks, its successes are merely due to suggestion or not, it should not be classed with the universal cure-alls which have no scientific basis Hypnotism is also included by Dr Walsh among the cures that fail, and here again we must take leave to dissent from the author's sweeping condemnation The book is somewhat loosely put together and consequently contains some needless repetitions, but nevertheless it is very readable and may be recommended to all, medical as well as lay, who wish to guard against future impostures by a knowledge of past weakness and deceit

TOWARDS LIFE

DR A RABAGLIATI in a prefatory note to his book *Towards Life*,[4] confesses to the belief that it will not be widely read because it sets forth the unpopular doctrine of self-restraint He says, with what truth we will not pretend to determine, that this generation is perhaps less likely to accept this doctrine than any of its predecessors But philosophy does not appeal to the unphilosophic, they have no need of it, and the book would in no case command

[1] *Notes on the Medical Treatment of Disease for Students and Young Practitioners of Medicine* By Robert Dawson Rudolf C B E M D Edin F R C P Professor of Therapeutics in the University of Toronto Second edition. Toronto University of Toronto Press London Baillière Tindall and Cox. 1923. (Med 8vo pp 486 4 figures. 4 dollars)

[2] *Précis de Pathologie Médicale* Tome II Maladies de l'appareil respiratoire By F Bezançon and S I de Jong Paris Masson and Co 1923 (Cr 8vo pp viii + 566 82 figures 2 plates. Paper cover fr 20 bound, fr 25.)

[3] *Cures The Story of the Cures that Fail* By James J Walsh M D Ph.D Sc D London and New York D Appleton and Company 1923 (Demy 8vo pp ix + 281. 8s. 6d net)

[4] *Towards Life Happy Healthy Efficient* By A Rabagliati M.A M D F R C.S Edin Bradford Lund Humphries and Co London The C W Daniel Co 1923. (Demy 8vo pp 224 10s. 6d. net.)

their attention It is much more probable that the work will fall short of its object by reason of the insistence of the author on giving out so much of his message through the medium of verse Even to the earnest and whole-hearted student the method is forbidding, and to many more it will hardly seem worth while to dive into a metrical cascade for thoughts which might have been more clearly seen in a pool of lucid prose To the lover of verse it will seem almost sacrilegious to pen a sonnet to "Influenza," and to him who has no poetry it will appear unnecessary

Dr Rabaghati's main thesis is that neither health, happiness, nor efficiency can be obtained by direct search, but only indirectly by the exercise of self-restraint This line of argument is difficult to follow, since it appears to laud the bliss of ignorance The reader is disposed to wonder whether the author would attribute the stamping out of malaria to direct search or self-restraint—but surely this is a step towards life

The author lays stress on the necessity, from the point of view of medical progress, of appreciating the dignity of the body He is a teleologist and a theist, believing that the power of God is everywhere demonstrably manifest in nature, a large part of the book is devoted to this demonstration and to classifying and naming the forces at work in the universe An immense amount of thought and reflection has gone to the making of the book, which will appeal to the philosophic rather than the scientific thinker

NOTES ON BOOKS

THE *Dictionary of Medical Treatment*,[10] by Dr JAMES BURNET, is the second edition of a book first published in 1911, and then entitled "Handbook of Medical Treatment" It is intended to serve as a handy guide to therapeutics for the medical student It is arranged in alphabetical paragraphs, the heading of each being printed in large type A very large field is traversed, and in so brief a work the suggestions cannot be regarded as exhaustive The author, however, impresses on the student the necessity of discovering the primary cause of symptoms Much of the criticism which was made when reviewing the first edition still holds good The author cannot be an authority upon all the subjects dealt with, and students must not suppose that the treatment of malaria, trypanosomiasis, yellow fever, and other tropical diseases can be disposed of in the short paragraph allotted to each The teaching in the three pages of the appendix devoted to infant feeding is not altogether in accordance with that of present day authorities on the subject As a very summary review of therapeutics this book may be of use to students

The second edition of the compact little dictionary for the clinical laboratory,[11] by Dr KARL KLOSS of Amsterdam and Dr LEO HAHN of Teplitz Schönan (Bohemia), has undergone thorough revision, and contains a large quantity of new matter, including examination of the blood for tubercle bacilli, the Wassermann and Sachs Georgi reactions, the determination of bilirubin, sugar, cholesterin, and indican in the blood, the rate of sedimentation of the corpuscles, the calorimetric determination of albumin in the urine, and various new tests connected with the urine, cerebro spinal fluid, and stools In subjects where a fuller discussion is impossible through want of space reference to the literature is given There are two appendices—one containing lists of laboratory reagents, stains, and culture media, and the other important physiological data relating to the blood, urine, and gastric contents

Dr DABOUT has published a French medical dictionary,[12] which, we learn from the preface by the well known neurologist Dr GUSTAVE ROUSSY, is the outcome of ten years' preparation It is a handy little volume containing more than 12 000 words, and should be useful to those who are in the habit of reading French medical literature In a small book of this kind omissions are inevitable, but in a dictionary published in 1924 the absence of insulin, quinidine, and toxin antitoxin is rather surprising Accents and breathings in the Greek etymologies are frequently omitted or are incorrectly given, and there are a good many errors in the spelling of foreign names Gram is described as a contemporary English bacteriologist and Castellani is annexed as a contemporary French physician The date of Bayle, who first described general paralysis, is given as the end of the nineteenth century, whereas he actually flourished from 1799 to 1858 The preparation of a book of this kind is a laborious task, and it is difficult to ensure complete accuracy, the hints we have given may assist Dr Dabout in the preparation of his second edition

The principal word in the title chosen for his book[13] by Dr CHAUVOIS is of his own invention, and the nearest equivalent for the title in English would perhaps be "the pot bellied" The author holds that any relaxation of the abdominal walls may produce ill health, and describes its remedial treatment In effect the volume is a fairly complete handbook on physical exercises such as many people nowadays habitually practise at home, its strong point being its wealth of illustrations The author seems to hold that protuberance of the abdomen is abnormal and due to neglect, even in babies and quite old people—a point on which there may be room for difference of opinion We recall in this connexion an aged professor of jiu jitsu who, though in such good training as to be able to overcome well known boxers and wrestlers, was pot bellied to a very marked degree

An interesting account of the part played by the trained social worker in connexion with infant welfare centres in Paris is contained in a pamphlet by Dr ELISABETH DENIS[14] The general results and individual cases described by the author show the efficient work that is already being carried out by the doctor and social worker in close co-operation As a typical example she cites a child brought to a centre in connexion with a children's hospital whose only trouble was a slight digestive disturbance due to improper feeding The doctor would give details as to diet to the mother, but knew full well that she would probably not understand them, or, if she did, would not make any effort to carry them out, therefore he was tempted to admit the child to the already overcrowded hospital before it became worse The advent of the social worker has changed all this She interviews the mother both before and after the doctor's consultation, by tactful questioning discovers the home conditions, and adapts the prescribed treatment both to the purse and to the intelligence of the mother She can explain in more detail what the mother has to do, and in her home visits give useful help in the matter of infant hygiene In some cases the work has been carried farther, and unemployed husbands have even been found work! These hospital social service workers are already working in connexion with six of the children's hospitals of Paris, and the great help they are rendering to doctors and patients alike is becoming more and more apparent.

Dr HENRY A ELLIS'S little book entitled *How Shall I be Saved from Consumption?*[15] is a popular work based on a series of lectures given to sanatorium and dispensary patients, and is intended to supplement the instruction of the family doctor and to assist in directing the daily life of those threatened with the disease With a conscientious but somewhat wearisome emphasis, necessitating the constant use of military metaphors, the writer insists throughout the work on tuberculosis being a struggle between the "enemy germ and soldier cell" The book is divided into three parts in the first the causes of diminished resistance are considered, and several pages are devoted to a diagnosis of tuberculosis, in the second part treatment is discussed under the headings of hygienic, immunic [*sic*], and medicinal treatment, and the third part deals with the dispensary, the sanatorium, and the after care of the patient The wisdom of imparting a little knowledge to the laity, especially as regards diagnosis, may well be questioned, but the writer has adopted "Tell the people" as his guiding principle Signs of haste in the composition of the book and of inadequate revision are to be observed There is no index

Professor C ACHARD's book on the Medical Clinic of the Hôpital Beaujon[16] consists of twenty seven lectures dealing mainly with acute infectious diseases, such as staphylococcal septicaemia, puerperal infection, diphtherial paralysis,

[10] *A Dictionary of Medical Treatment A Guide to Therapeutics for Students and Practitioners with an Appendix on Diet* By James Burnet M A M D M R C P Edin Second edition London A and C Black Ltd (Cr 8vo pp 156 5s net)

[11] *Taschen Lexikon für das Klinische Laboratorium* By Dr Karl Kloss and Dr Leo Hahn Second edition Berlin and Vienna Urban and Schwarzenberg (Cr 8vo pp iv + 250 18 figures)

[12] *Petit dictionnaire de médecine* Expressions techniques Termes médicaux By Dr F Dabout Preface by Dr Gustave Roussy Paris J B Baillière et Fils (Fcap 8vo pp vi + 662. Paper fr 20 bound fr 26.)

[13] *Les Dérangés du Ventre* By Dr L Chauvois Paris A Maloine et Fils 1923 (Imp 16mo pp 166 103 figures 7 plates 1r 8)

[14] *L Assistance Sociale dans la Consultation de Nourrissons de l Hôpital* By Dr Elisabeth Denis Paris Amédée Legrand 1923 (1p 50)

[15] *How Shall I be Saved from Consumption?* By Henry A Ellis B A M B Ch B London George Allen and Unwin Ltd 1923 (Cr 8vo pp 190 6s net.)

[16] *Clinique Médicale de l Hôpital Beaujon* By C Achard Paris Masson et Cie 1923 (Med 8vo pp 457 93 figures Fr 25 net)

tetanus, and typhoid inoculation, and nervous disorders such as disseminated sclerosis, hemianopsia, tabes, von Recklinghausen's disease, and rhizomelic spondylosis Four lectures are devoted to Graves s disease, in which every aspect of the condition is discussed While not possessing the literary charm which we are accustomed to associate with French clinical lectures, such as those of Trousseau, Tournier, and Dieulafoy, to mention only three masters of French medicine, Professor Achard's work is characterized by a clearness of exposition and complete mastery of the subject that render it a useful work to consult, especially as it contains numerous references to the literature of this and other countries

The thirty fourth annual edition of *Burdett s Hospitals and Charities*[1] is rather larger than its predecessor It contains far more information about the hospitals of Ireland, India, the Dominions, and the colonies than has been the case hitherto, and this has led to the omission of the American section which appeared in previous editions The increase in importance of contributory schemes of medical relief is recognized, as also is the value of the Voluntary Hospitals Commission, the general improvement in the financial situation of the voluntary hospitals is an encouraging feature The tables of hospital income and expenditure reveal the remarkable fact that during the year 1922–23 a sum of nearly twenty four million pounds was raised and expended in organized charity as compared with thirteen and a half millions in 1913 The steady progress of the Hospital Sunday movement is also noted Useful information about the finance of the nursing service is included in special tables The major part of the volume is devoted to the directory of medical institutions and charitable organizations

[1] *Burdett s Hospitals and Charities 1924* Founded by Sir Henry Burdett K C B K C V O Thirty fourth year London The Scientific Press Ltd 1924 (Cr 8vo pp lxxix + 1015 17s 6d)

PREPARATIONS AND APPLIANCES

Reduction in the Price of Insulin

It is generally known that there are two great difficulties in the economical manufacture of insulin for therapeutic purposes The first lies in the fact that the pancreas contains, besides insulin, various substances of unknown composition which decompose this active principle directly the gland is removed from the body and which can continue their action during the process of manufacture The second difficulty is that of purifying the insulin in order to obtain a product most suitable for injection Great improvement has, we are informed, been effected in the yield There have been no dramatic discoveries, but a series of improvements in process have been made, each step contributing its share to greater economy in preparation and purity of the product When first issued the cost of a phial of insulin containing 100 units (approximately ten doses) was 25s subsequently it was found possible to reduce this price to 17s 6d, and later increased demand, together with improved methods of production, made it possible further to reduce the price to 12s 6d Burroughs, Wellcome and Co have now decided to make a further reduction, and the 100 unit phial of Wellcome brand insulin will be sold at 6s 8d (that is, 8d per dose of 10 units) on and from February 25th Hospitals will be supplied at a lower rate

A similar announcement is made by the British Drug Houses, Ltd (16, Graham Street, City Road, London, N 1), which, in this matter, is associated with Messrs Allen and Hanburys, Ltd

A Pelvimeter

Dr R E Tottenham, gynaecologist to Dr Steevens s Hospital, Dublin, has devised a portable pelvimeter, which he describes as follows

The instrument is composed of a series of five hinged links, each link being about three inches long and somewhat flattened from side to side. The terminal link at each end has an adjustable head One of these heads carries the straight rod this rod is calibrated in centimetres, up to 35, and moves freely to and fro, and is thus capable of accurate adjustment to the skin, as in the case of the lead leg in Skutsch s instrument. The other head carries a rod about thirteen inches long somewhat curved at one end, which terminates in a ball point At *exactly 7 cm* from this ball point there is a second ball point, the object of this is that it also can be used to measure from, thus obviating the necessity of having to remove the rod from the vagina (in order to reverse it), as in the case of Skutsch s instrument, when the conjugate is being measured in this way the number of times the instrument has to be passed over the vulva is reduced, and time saved

The advantage of the numerous joints is that the instrument can be made to assume almost any shape in the one plane It will fit readily into most sterilizers, and can be carried about the person It can be used for either internal or external pelvimetry, and a direct reading obtained in the former case, and in the latter also if desired

When it is desired to measure the external conjugate (1) The instrument is fixed in the position shown in Fig 1, the calibrating rod is pushed to the ball point B, and the distance at

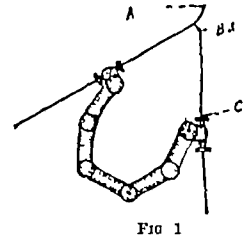
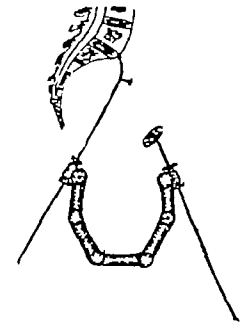
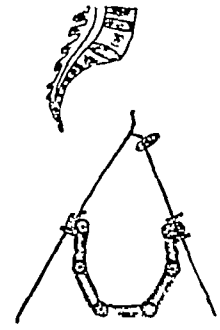


Fig 1


Fig 2

C is read off If it is, for example, 25 cm, we know that the ball point B is 25 cm from C As point A is exactly 7 cm from B, therefore A is (25+7) = 32 cm from C (2) A vaginal examination is now made and the promontory of the sacrum located the curved rod is introduced, and point A applied to the promontory The calibrating rod is now adjusted so that the tip just dimples the skin over the front of the pubes, at about its middle (It is necessary to mark this point with a pencil before the reading is taken, as it is essential to be able to return to the same spot in the future measurements.) The reading is again taken at C suppose it to be 18 cm From A to C was 25 cm, therefore 32–18 represents the distance from the skin over the front of the pubes, to the promontory of the sacrum (Fig 2) It is now required to find the thickness of


Fig 3

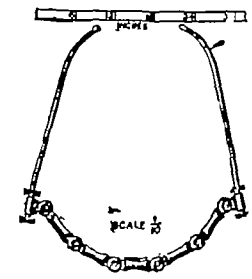


Fig 4

the pubes Without removing the curved rod from the vagina the ball point B is brought on to the back of the pubes at a point corresponding to that marked on the front and the calibrating rod is adjusted as before (Fig 3) The reading is taken at C, suppose it to be 21 cm We know that the distance from B to C is 25 cm, therefore 25–21 represents the thickness of the pubes=4 cm

We are now in possession of the fact that from the skin to the promontory is 14 cm and that the thickness of the pubes is 4 cm, *therefore the conjugate is 10 cm*

The transverse diameter is measured in a somewhat similar manner, save that possibly, for anatomical reasons, in obtaining the second measurement ball point A may have to be rotated until it faces the calibrating rod, as in Skutsch s pelvimeter since I have found it somewhat difficult to apply point B to the near end of this diameter

Fig. 4 shows a method of using this pelvimeter for external measurements, the distance between the points of the two converging rods being measured off by the calibrating rod laid against them

I desire to express my indebtedness to Dr Hastings Tweedy who gave me the original idea of this instrument, and to Mr Edwin Haines for his advice and skill in making the pattern The instrument can be obtained from Messrs Allen and Hanburys

TREATMENT OF PULMONARY TUBERCULOSIS.

LETTSOMIAN LECTURES

THE first of the three Lettsomian Lectures by Dr R A YOUNG, on the treatment of pulmonary tuberculosis, was delivered on February 18th in the house of the Medical Society of London, the President, DR H R SPENCER, in the chair

Dr Young pointed out that the scourge of tuberculosis was certainly coeval with civilization, if indeed it did not date its origin from the time when men first made habitations for themselves and became gregarious The disease was rare in birds and mammals in a wild state, but was often contracted in captivity The relations of the human, bovine, and avian strains of bacilli were still unsettled, but the last two were probably derivatives of the first The bovine type was nearly always concerned with diseases in children, and in adult tuberculosis the human type was almost invariably found Early bovine infection seemed to be protective against human infection, except when the latter occurred in massive doses

History of Treatment

Tuberculosis existed among the Egyptians, as had been demonstrated by the study of mummies, and its occurrence was indicated in the old Hindu writings, the Upanishads and Vedas, but to Hippocrates the credit was due for the first description of the disease and the name "phthisis" The early Greek and Roman physicians recognized the therapeutic value of rest, sunshine, fresh air, inhalations, and change of scene, sick persons attending the temple of Asklepios received this treatment, and during the day were entertained by plays and spectacles, the whole constituting, perhaps, an ideal sanatorium treatment The Jewish Talmud, B C 500, prohibited the use of tuberculous animals for food Celsus recommended sea voyages and nourishing diet as good treatment, and among the medicines prescribed was turpentine mixed with butter and honey Pliny recognized the value of residence in pine forests, and Galen used human and ass's milk mixed with honey, the latter also appreciated the importance of a dry climate in treatment In the days of King Alfred unction and blood-letting in moderation were the chief remedies, and during the dark ages there was but little advance Then, in Leyden, Sylvius discovered tubercles, and in 1689 Morton recognized the existence of scrofula also In the time of Charles II the extent of the disease might be estimated by the many thousands of cases "touched" by him for the king's evil In Italy, thanks to the teaching of Morgagni, the infectious nature of tuberculosis was early recognized, and in 1754 a conference was held which agreed on the importance of large, airy rooms in treatment, open to the rising sun, and with clean floors and walls In 1757 an Italian magistrate issued an edict on these lines, and in Naples in 1782 another edict ordered that tuberculous patients be isolated and their houses be cleansed, some form of notification was established, and severe penalties enacted for physicians who did not notify It appeared, therefore, remarked Dr Young, that the methods of modern public health authorities were not quite so modern as might have been believed In England the treatment of tuberculosis was at first considered very hopeless Bloodletting, vegetarianism, and a milk diet were the chief methods in vogue, and the avoidance of the winter season in cold countries In 1843 Sir T Watson, who believed the disease was not contagious, advised the use of warm clothing good food, rest, fresh air, and emetics Hastings, Penzance, the Isle of Wight, and the South of France came into favour at this time for these patients In 1840 Bodington recommended nourishing diet, including wine He thought cold and frosty days the most favourable for treatment, and built a sanatorium accordingly, but carping criticism and bitter opposition rendered his plan unsuccessful, so he transformed the sanatorium into an asylum with pronounced success In spite of the efforts of W McCormac of Belfast in 1865, sanatorium treatment made no progress until 1888, when Walther definitely founded the sanatorium idea and transformed it almost into a cult To him was due the credit for making the sanatorium the central factor in tuberculosis treatment In 1904 Frimley Sanatorium was started as an extension of the Brompton Hospital for Consumption, and its success was undoubtedly due to the careful selection of patients who would be most likely to receive benefit, and to the real insight and administrative ability of Dr Marcus Paterson, who, in collaboration with Dr Inman, developed the special form of treatment by graduated labour In 1861 A Spengler had suggested the value of Swiss mountain resorts, and in 1864 Weber, Powell, and Williams extended this treatment Koch, who in 1882 had established the etiology of tuberculosis by recognizing the importance of tubercle bacilli, which Ehrlich had detected earlier, commenced tuberculin treatment in 1890 Between 1898 and 1908 congresses and national associations were formed in several countries, and societies were started to consider the best way of treating the disease From them grew up the present complex organization of notification, treatment in the home, dispensary, sanatorium, and hospital, and also after-care and preventive methods In 1887 R W Philip founded the Royal Victoria Dispensary in Edinburgh, and in this and in his subsequent work gave a valuable lead to the workers at the tuberculosis problem The drop in the mortality rate during this time was pronounced Between 1851 and 1855 the figure was 2,805 per million, but in 1920 it was 889 Two years previously the rate had risen sharply to 1,323, and although some authorities still considered that the decreased death rate was due to acquired immunity, it was more probable that it was to be related with the improved conditions of life—better wages and food, and better conditions of employment This explanation would account for the rise in the death rate from tuberculosis towards the end of the war

Basis of Treatment

There was a great variety of treatments for tuberculosis, but the pathologist was still being asked for the true specific Certain important generalizations had now emerged from the mass of literature on the subject Pulmonary tuberculosis was almost exclusively due to the human type of bacillus, it was confined to man, was unknown in infancy, rare in childhood, and developed during puberty and adult life Exposure to this infection was almost inevitable, and more than 90 per cent of the adult population gave a positive test for tuberculosis This reaction, however, did not necessarily indicate disease, and, conversely, active and progressive lung disease might coexist with evidence of there being a high resistance to tuberculosis The development of the disease implied that protective forces were deficient, or even swamped by the infection, and the manifestations of the disease varied widely in different individuals The bacilli were found to be very difficult to kill, and might live for long periods, remaining potent for infection In races much exposed to the disease, many infected persons recovered spontaneously, in races not so exposed the disease was usually acute and fatal In spite of the pleomorphism of tuberculosis, four main types were recognizable—namely, the acute miliary, acute caseous, chronic fibrocaseous, and fibrous Although these types were not hard and fast, yet the very difficult question of prognosis depended somewhat on the recognition of the particular type concerned With regard to the principles of treatment, the increasing amount of public health and social activity in this respect was rendering it increasingly difficult to treat individuals as such medical students to-day saw very few cases of the disease The all-important initial stages were most usually encountered by the general practitioner Four principles of treatment might be laid down Treatment should be commenced as early as possible, and for this it might be necessary to affiliate tuberculosis dispensaries to teaching hospitals and to arrange more post-graduate study, including residence in sanatoriums Secondly, the exact stage present should be identified and treatment designed accordingly Thirdly, the resistance of the patient should be increased by every possible means Fourthly, it was necessary to secure as complete rest as possible, in order to avoid excessive auto-inoculation, this point was insufficiently recognized by patients and their friends

The Choice of Treatment

In determining the variety of treatment to be employed it was necessary to discover where the disease was localized, and its type and degree of intensity More than one examination was usually necessary for this purpose—a fact now recognized by the Ministry of Health, but, unfortunately not by the average patient Detailed knowledge of the past history and the present symptoms, especially those indicating toxæmia, such as rapid pulse and lowered blood pressure, should be obtained, and the examination of the temperature ought to be spread over several days, and be made at different times during the day The sputum examination was not the sole criterion of activity, and in some ways was even fallacious—for instance there might be advanced disease without tubercle bacilli being found in the sputum The x ray examination was of great value in confirming the presence of tuberculosis and in defining its extent and the presence of complications Information was also afforded as to progress during and after treatment Tuberculin reactions had some value, the complement fixation test was still on its trial, but correct opsonic determinations were not usually obtainable, so that the decision had to be made very often on a balance of probabilities The first point to settle was where the treatment should take place, after which the nature of the treatment could be laid down Home treatment might be the most suitable in the febrile stage, if the conditions were good and the general practitioner understood the special requirements After the disappearance of toxæmic symptoms the patient should go to a sanatorium In advanced cases also home treatment was the best if the risks were recognized It was more generally used in America than in England One important precaution was necessary in home treatment —the patient should be made to understand that he was a patient, and should not work too much whilst waiting for sanatorium treatment There was a great need of inexpensive nursing homes where such patients might be accommodated With regard to the sanatorium there were many misconceptions, but Dr Young maintained that in his opinion it was the most valuable of all the methods of treatment, though not to be considered as a standard to be applied in all stages of disease The best type of patient for this treatment was in the early apyrexial or the old arrested stage, in which a slight breakdown had occurred Patients in whom a successful pneumothorax operation had been performed were also suitable for sanatorium treatment Unsuitable cases included those in which there was active and spreading disease, severe intoxication, chronic arthritis or other complications, and old age Strength of character was a great factor in recovery, and sanatorium treatment sometimes failed because patients of weak character were turned into chronic valetudinarians Diet was also a very important matter, and a regular weekly sequence of menus was most advisable Climatic treatment had always been very popular, except during the war period, and there were four locations to be considered—namely, the mountain, marine, inland, and desert The great advantages of mountain treatment included the prevalent dry and dustless air Davos and Arosa were justly famed, St Moritz was less to be recommended for invalids nowadays Of the lower heights Montana, Leysin, and Les Avants were frequently good for patients in whom the diagnosis was doubtful, since they could obtain treatment there without any stigma being inflicted The followng types of the disease should not be sent to mountains for treatment advanced cases and those with complications, especially haemoptysis, laryngitis, albuminuria, and cardiac disease It was often advisable to spend a second winter under these conditions to complete the cure For the second variety of climatic treatment the sea coasts were by no means unsuitable, as had once been thought, especially if the residence was a short distance inland France and the Italian Riviera were not at all suitable for cases requiring treatment Nowadays sea voyages were only recommended for arrested or quiescent disease There were numerous valuable inland resorts for tuberculosis treatment, and as regards deserts the Egyptian, except in certain places, such as Helouan, was not ideal because of the absence of facilities for special treatment and the amount of dust present

VITAMINS.

MEDICAL RESEARCH COUNCIL'S REPORT

THE Medical Research Council has just issued a second edition of its report on Accessory Food Factors (Vitamins) [1] The first edition was published in April, 1920, at a time when the importance of vitamins was by no means universally recognized, and when many were sceptical of the claim made But time has served to diminish the number of the sceptics and to add to the number of those who see in the study of accessory food factors and of faulty food in general a hopeful sign that the stronghold of disease has begun to be attacked at its foundations The gathering together into one volume of the observations and experiments which formed the basis of the statements made in the first edition has had much to do with the spread of knowledge in regard to these essential constituents of the food among members of the profession in general The report served also as a source of authoritative information and of inspiration to many of those who were devoting themselves to the investigation of problems relating to vitamins It has become the standard reference book for workers on this subject in nearly every civilized country It is well, therefore, that the information it provides should not lag behind the times, and that it should continue to fulfil its function of furnishing a well considered account of the essential facts concerning accessory food factors so far as they are at present known This function is admirably fulfilled in the second edition which gives a comprehensive account of the subject, including the results of the large amount of work which has been done since the first edition was published

There are nine chapters in the present volume, as well as a fairly complete bibliography and a convenient and well arranged index

The first chapter, introductory to the rest, is by no means the least important, referring as it does succinctly both to what has been accomplished and to much that remains to be done In it we are assured that although the precise chemical nature of vitamins is still unknown, their reality has been fully established and a great number of concrete facts ascertained concerning their origin, distribution, and general physical and chemical properties We are assured also that without these accessory factors in nutrition, which, so far as is known, cannot be synthesized in the animal, and for the supply of which it is mainly dependent on the tissues of plants, normal metabolism is not possible while with the vitamin supply secured it seems to be proved that all known tissue constituents can be synthesized from the amino-acids of protein with the other basal foodstuffs Surely it would be difficult to conceive of factors in nutrition more important than these, which quantitatively are infinitesimal in amount as compared with other essential constituents of the food

Vitamins and Growth

The second chapter deals with accessory factors and growth It reiterates the indispensability of the two accessory factors—fat-soluble A and water soluble B—for growth and nutrition, giving the observations and experiments in proof of this The antiscorbutic substance (vitamin C), also indispensable for normal growth and nutrition, is dealt with separately in Chapter V Of special interest are the illustrations of the influence of vitamin A and vitamin B on the growth and nutrition of rats, given in the second chapter they are of fundamental importance Young rats, when fed on an artificial ration of purified protein, carbohydrates, fat and inorganic salts, completely fail to grow, but when the artificial ration is supplemented with adequate amounts of vitamins they remain in excellent health, normal in growth and appearance, normal in their breeding propensities and in their capacity to rear their young, and show a normal standard of resistance to disease In young rats the deleterious effects of deficiency of vitamin A are made manifest by the appearance of keratomalacia, or by a greatly lowered state of general health, resulting in an abnormally high death rate from

[1] H.M. Stationery Office London or through any bookseller 1924. Pp 171 Price 4s 6d.

acute infections, particularly of the lungs The deleterious effect of vitamin B deficiency in rats is evidenced by muscular inco-ordination due to involvement of the nervous system and by serious disturbance of general health No reference is made in this chapter to the important effect of insufficiency of this vitamin in disturbing gastro-intestinal function in these animals, although the matter is referred to in connexion with pigeons and monkeys in Chapter IV Where both vitamin A and vitamin B are deficient in the food the deficiency of the second is that which first exerts its deleterious effect on the animal, since there is little store of it in the body for emergencies

Sources of Vitamin A

Chapter III deals with the distribution of vitamin A (fat-soluble A) in natural foodstuffs The valuable table in which the nutritive values of the foodstuffs as sources of this vitamin are indicated by the rough, but sufficiently accurate, method of positive and negative signs has been revised It will be seen from it that green leaves in which active assimilation is taking place are the chief source of the vitamin, *fruits, tubers, roots, and seeds containing* comparatively little of it In the animal the liver is the richest source, while the fat secreted in the milk and in eggs holds an intermediate place The important assurance is given that there is no foundation for the belief that dark-coloured cod-liver oils contain more of the vitamin A than the white medicinal oil Very important also is the reminder that the amount of the vitamin present in milk varies with the diet of the animal, and that animals deprived of this factor are unable to rear their young for more than a limited period, hence the need of butter fat or green leafy *vegetables for nursing mothers*

This chapter deals also with the origin and physiological significance of vitamin A, with its properties, and with attempts to isolate it We are told that it is synthesized by the plant, that its production, although dependent on light, is independent of carbon dioxide, oxygen, and chlorophyll, that nothing definite is known of the part it plays in nutrition of the plant or animal—although in the latter its physiological function appears to be related to the *metabolism of fats, calcium, and phosphorus, that considerable* amounts of it may be stored in the animal body, perhaps with the reserve fat supplies, and that different species of animals differ in their need for it Except that young and growing animals require more and store more than fully grown animals, little appears to be known of possible variations in the needs of different animals of the same age and species—an important matter concerning which information is required

In this chapter also the properties of vitamin A are discussed at length and much that is new is to be found in regard to them in this interesting record of progress, notably in regard to the effects of oxidation in reducing the vitamin value of foodstuffs Reference is made to the origin and source of the large stores of vitamin A in the liver of the cod and many other fish Like mammals, fish probably derive the whole of their vitamin A either directly or indirectly from the vegetable kingdom Investigation has shown that a minute diatom (*Nitzschia closterium* W Sm) is capable of synthesizing the vitamin when grown in sterilized sea water in the light, and, further, that the concentration of the vitamin attained in these organisms is very high Many other marine algae also contain this vitamin These vegetable organisms form the food of a host of minute animals, which in their turn are eaten by many kinds of small fish, and these in theirs by the cod and other fish Readers interested in this aspect of the matter may like to be referred to the article on "Photosynthesis and sea air," published in the BRITISH MEDICAL JOURNAL on April 7th, 1923 (p 601)

Of peculiar interest is the effect of deprivation of this vitamin in causing liability to infection Direct experiments show no change in the agglutinin and amboceptor titre or of the opsonic index of the serum of animals fed on diets deficient in the vitamin, there is evidence of a remarkable diminution in blood platelets, but this observation at present lacks confirmation Increased susceptibility to infection is, however, one of the most important of the effects of deprivation of this vitamin, although not so far demonstrable by means of the test tube or pipette

Vitamin B

Chapter IV is headed "Deficiency Diseases Beri-beri Vitamin B (water-soluble B, anti-neuritic vitamin)" In it beri-beri is dealt with and the probable identity of water-soluble B and anti-neuritic (anti-beri-beri) factors are considered Then follows an account of the distribution of the vitamin among foodstuffs, of experiments with pigeons and with rats, and of the use made of such experiments in determining the distribution of the vitamin in foodstuffs The approximate relative values of the more important foodstuffs are given, and emphasis is laid on the concentration of this factor in the germs of seeds The experiments with pigeons on which these approximations are based were of two orders—preventive and curative—the former being considered the more valuable In the preventive experiments the birds were fed artificially, and an estimate was made of the daily ration of the particular foodstuff necessary to prevent polyneuritis in pigeons, when added to a vitamin-free diet consisting of highly milled and polished rice In the absence of an adequate supply of vitamin in the supplementary foodstuff the birds developed severe symptoms in from fifteen to twenty-five days, with paralysis of legs and wings, leading to complete helplessness and death within twenty-four to forty-eight hours Protection was reckoned to be successfully accomplished if the birds showed no symptoms after a period of fifty to sixty days Objections might be raised to the results reached in these experiments were it not that they are definitely stated to be approximations Nevertheless the comment may be made that polyneuritis columbarum may develop after periods as prolonged as 120 days, and that considerable variation exists among individual pigeons in regard to their susceptibility to deficiency of vitamin B

The properties of vitamin B are then discussed, and an account given of the attempts to isolate it Its origin and physiological significance, its effect on the secretory power of glands, its relation to other constituents of the food, its storage in the animal organism, its excretion and its relation to the growth of the higher plants, fungi, yeasts, and bacteria, are all dealt with in due order To peruse this important chapter is to realize the far-reaching importance of this remarkable food essential, and to believe that, much as we have learned of the part it plays in nutrition, we have as yet but touched the fringe of knowledge The "anti-neuritic" label is still attached to it, and rightly so, perhaps, since it focuses attention on one of its functions, but its utility is wider than this, while it is still open to doubt whether want of this vitamin is indeed the sole factor responsible for the causation of beri-beri It seems probable that its relation to gastro-intestinal health is intimate, and that its deficiency in association with the other food faults which accompany it in human dietaries is concerned with much of the gastro-intestinal ill health so common at the present day

Vitamin C

In Chapter V "Scurvy (Vitamin C, the Antiscorbutic Vitamin)" is discussed at length, and the same plan followed as in the discussion of vitamin A and vitamin B in the preceding chapters A table showing the distribution of this factor in foodstuffs is given One of the most important matters dealt with in this interesting chapter concerns the poverty of milk, in all its forms, in this essential factor and the necessity for its provision when infants are reared on cow's milk The requirements of different species of animals for this vitamin are discussed, and here again we see the necessity for further knowledge in regard to the requirements of different individuals of the same species and of the factors which determine possible variations in this regard In designing a dietary for human beings we have especially to cater for those that are most susceptible to deficiency of vitamins of whatever class, rather than for the average individual who can do with less of them

Rickets

Chapter VI is lengthy, it deals with rickets as a deficiency disease It is concluded that there are two outstanding factors involved in the etiology of rickets (1) the amount of a substance (antirachitic vitamin) in the diet having similar physiological properties and distribution to vitamin A, and (2) the degree of exposure to sunlight In addition stress is laid on the absolute and relative amounts of calcium and phosphorus in the diet, and on the amount and type of energy bearing foodstuffs (especially cereals) in it The interaction between sunlight, and other forms of light radiation, and food in the prevention and cure of rickets is discussed, and the hypothesis advanced that light radiation may be regarded either as an economizer of the antirachitic vitamin or as a mobilizer of reserve supplies in the tissues Sunlight appears to make safe some diets that are relatively deficient in this vitamin

This interaction between food and sunlight is thought to render intelligible the distribution of rickets in different races and in different communities The question of the interaction between vitamins and other factors which may be concerned in the prevention or causation of disease is one of much importance, *for it seems probable that*, as in rickets, so in a number of other diseases, vitamin deficiency may be one of a set of factors concerned in their causation—but *only one*

The succeeding chapters of the report (VII and VIII) are, for the practitioner of medicine, the most important, dealing as they do with the application of experimental work to the practical problems of human diets They indicate in moderate terms how great is the importance of this work in therapeutics and how great the value both to man and animals of the experimental method of research Already the results reached are capable of application in the prevention and treatment of disease, the capital expenditure entailed in the prosecution of the work already yields a high rate of interest If criticism of chapters so admirable in their theme and execution be permissible at all, it is that, far as they go, they hardly go far enough Yet it is well, perhaps that a case resting on foundations so sure should be under rather than over stated

Teeth Pellagra

The final chapter (IX) deals with the influence of diet on teeth The discussion of pellagra, *provisionally included* in the first edition, has been omitted, the reason being that "while pellagra must still be regarded as a disease of dietetic origin, no fresh evidence has been brought forward in support of that view, and the latest researches upon the subject point to a quantitative or qualitative defect in the protein of the diet as playing the chief part in the etiology of this disease"

Conclusion

The report as a whole should be studied by all who profess to heal the sick or to prevent disease, for whatever else in medical literature one may be forced to neglect in these days of much writing, one cannot afford to neglect this, nor to make the knowledge it provides part of one's mental equipment Vitamins, in an otherwise properly constituted diet, are indispensable for proper metabolism, a thorough knowledge of them, in an otherwise properly constituted mental equipment, is indispensable for the proper practice of medicine To quote the last paragraph of the introductory chapter "The practical importance of the facts will not be understood unless it be recognized that a deficiency in food, which, when complete or extreme, leads to actual disease, may, when only relative, be responsible for ill health of a vague but still important kind"

The report is a milestone on the path of knowledge in regard to the relation of faulty food to disease, from it we can look back with satisfaction along the road already traversed, and, turning, face the tedious journey ahead with courage, hope, and confidence

R McCarrison

A professorship of children's diseases has recently been established at the Strasbourg faculty of medicine, its first occupant being Dr Rohmer who has hitherto been in charge of the children's clinic at Strasbourg.

Nova et Vetera.

THE SCAMNUM OF HIPPOCRATES

In his work on the articulations Hippocrates described with considerable detail those methods which he had found the best for the reduction of dislocations of the hip joint Among other means what has been known as "the scamnum of Hippocrates" takes an important place (Latin, *scamnum*, a bench or stool, from *scando*) This was a table provided with means of extension and counter-extension, in short, it appears to have been the prototype of Hawley's and other tables which have been and are now used in the treatment of fractures and dislocations of the lower extremities It is thus described in the English version of the Genuine Works of Hippocrates published by the Sydenham Society in 1849

It will be of importance for any person who practises *medicine in a populous city to* get prepared a quadrangular board, about six cubits or a little more in length, and about two cubits in breadth, a span [that is, nine inches]* will be sufficient thickness for it and then along it from the one end to the other, an excavation must be made, so that the working of the levers may not be higher than is proper" [This is very obscure]

Then at both sides we are to raise short, strong and strongly *fixed posts, having axles, and in the middle of the bench* five or six long grooves are to be scooped out about four inches distant from one another, three inches will be a sufficient breadth for them and the depth in like manner, and although the number of grooves I have mentioned will be sufficient, there is nothing to prevent their being made all over the bench, and the bench should have in its middle a pretty deep hole, of a square shape, and of about three inches in size, and into this hole, when judged necessary, is to be adjusted a corresponding piece of wood, round above, which at the proper time, is to be adjusted between the perineum and the head of the thigh bone This upright piece of wood prevents the body from yielding to the force dragging downwards by the feet, for sometimes this piece of wood serves the purpose of counter extension upwards, and sometimes, too, when extension and counter-extension are made, this piece of wood, if susceptible to some motion to this side or that, will serve the purpose of a lever for pushing the head of the thigh bone outwards It is on this account that *several grooves are scooped out on the bench, so that this* piece of wood, being erected at the one which answers, may act as a lever, either on the sides of the articular heads of bones, or may make pressure on the heads along with the extension, according as it may suit to push inwards or outwards with the lever, and the lever may be either a round or broad form as may be judged proper, for sometimes the one form and sometimes the other suits with the articulation This mode of applying the lever along with extension is applicable in the reduction of all dislocations of the thigh In the case now on hand, a round lever is proper, but in dislocations outwards a flat lever will be the suitable one By means of such machines and of such powers, it appears to me that we need never fail in reducing any dislocation at a joint

"And one might find out other modes of reduction for this joint If the large bench were to have raised on it two posts about a foot [in diameter'], and of a suitable height on each side near its middle, and if a transverse piece of wood like the step of a ladder, were inserted into the posts, then if the sound leg were carried through between the posts and the injured limb were brought over the transverse piece of wood, which should be exactly adapted in height to the joint which is dislocated (and it is an easy matter so to adjust it for the step of the ladder should be made a little higher than required, and a convenient robe, folded several times, is to be laid below the patient's body), then a piece of wood, of suitable breadth and length, is to be laid below the limb and it should reach from beyond the ankle to the head of the thigh bone, and should be bound moderately tight to the limb Then the limb being extended, either by means of the pestle like piece of wood (formerly described), or by any of the other methods of extension, the limb which is carried over the step with the piece of wood attached to it is to be forced downwards, while some body grasps the patient above the hip joint In this manner the extension will carry the head of the thigh bone above the acetabulum while the lever power that is exercised will push the head of the thigh bone into its natural seat All the above-mentioned powers are strong, and more than sufficient to rectify the accident, if properly and skilfully applied For as formerly stated, in most cases reduction may be effected by much weaker extension, and an inferior apparatus

* The Sydenham translation has a fathom which is absurd. In the original Greek the word is σπιθαμιαῖον (dodrantalis) = a span.

with intravenous injections of polyvalent antidysenteric serum in hypertonic saline and with the administration by mouth of magnesium or sodium sulphate rapidly improved, the patients returning to normal in from a week to ten days Bacteriological evidence incriminating *B dysenteriae* Flexner was derived from the examination of the faeces of early cases, the agglutinating properties of their serums in the later stages, and from *post-mortem* examinations of 7 of the 72 fatal cases

A report on the three outbreaks of epidemic enteritis due to food infection which have occurred in Aberdeen since 1919 has now been made by Drs Anderson, Kinloch, and Smith [2] In none of them was the nature of the infection determined In November, 1921, thirty people suddenly became ill after eating tinned boiled beef, the symptoms were nausea, vomiting, diarrhoea, and muscular cramps, all the patients made a fairly rapid recovery, being practically restored to their normal health within twenty-four to forty eight hours The vendor declared that the tin was not a "blown" tin, and there was no marked discoloration or odour about the meat, although it was stated by some that it had a peculiar sour taste A careful search was made for the infecting microbe, the patients were examined and the offending food was exhaustively analysed, but with negative results Some evidence was found that the toxins of *B aertrycke* (Mutton type) existed in the meat, and the conclusion tentatively suggested is that the outbreak was due to the toxins of this organism, the bacilli having been destroyed in the process of canning Another outbreak of enteritis of undetermined origin affected twenty one patients of the City Hospital shortly after the outbreak just described, but in this instance the symptoms were those commonly ascribed to bacillary dysentery The diarrhoea and vomiting lasted from twelve to seventy-two hours, and recovery was complete in every case Bacteriological investigation failed to throw any light on the nature of the infection The fourth outbreak of food poisoning occurred in June, 1923, and 110 persons contracted enteritis The source of the infection was traced to the milk supply, and suspicion fell on a particular farm, and the fact was elicited that all the children of the farmer had suffered from an acute diarrhoea within a fortnight of the time the enteritis had appeared in the city The dairyman somewhat prematurely intimated to the farmer that his milk supply was under suspicion, after which the reticence of the farmer was such that on inquiry no accurate information could be obtained of the nature or distribution of the diarrhoea in his own family In this outbreak those who partook of the infected milk in Aberdeen suffered from symptoms resembling those attributable to bacillary dysentery The acute stage lasted about forty-eight hours and was characterized by vomiting and diarrhoea, and the faeces contained much blood and mucus The 110 people affected all recovered Bacteriological examinations failed to isolate any bacteria known to be pathogenic, and examination of the patients' blood also gave no positive evidence This outbreak was, it is believed, caused by a living bacillus of unrecognized type of a strain allied to *B dysenteriae*

Thus the careful investigation of three outbreaks of food poisoning in Aberdeen did not succeed in convicting the offending microbe in experience which has led the three workers from whose paper we are quoting to the following conclusion It seems reasonable to suggest either that even under the most advantageous conditions, modern bacteriological methods not infrequently fail to provide proof of the nature of Gaertner-dysenteric group infections, or that viruses hitherto undetected can originate diarrhoeal outbreaks simulating clinically Gaertner dysenteric infections"

[2] *Journ of Hygiene*, vol. xxii No 1 October 31st 1923

APPLIED SCIENCE PROFIT AND LOSS

As noticed in our issue of February 9th, health officers from nineteen foreign countries are on a visit to Britain—under the auspices of the League of Nations, with financial aid from the Rockefeller Trust—to observe and study the methods of disease prevention and health preservation practised here We welcome them They will, we are sure, find much to interest, and even—without making any claim for national health supremacy—a good deal to instruct them, just as our own officers found on a similar visit to other countries They will be told how the average length of life has been increased by no less than ten years since the modern era of sanitation began, and how wonderfully the death rate of infants and children is being reduced by welfare schemes, which they will see in daily operation On the subject of their visit we have received the following observations from Dr J C McVail "Coming as they do under the League of Nations, whose prime purpose is the prevention of war, the irony of the whole present relation between the preservation of life and health by applied science on the one hand, and the destruction of life and health by applied science on the other, must surely impress itself, not only on health specialists, but on the whole of the thinking world We rejoice in every new discovery for the prevention and amelioration of disease We spend time and thought and effort, and some millionaires devote their wealth freely, to the devising and working out of new means for promoting physical welfare But at the same time, also throughout the civilized world, science is engaged in endless searching after new methods of destroying life We labour at the diminution or abolition of coal smoke, so as to make our cities healthier by preventing pollution of the air, at the same time the most skilful chemists are occupied in the invention of gases capable of so poisoning the air as to make it capable of wiping out whole armies or cities The great war revealed undreamt of possibilities of human slaughter, whilst the ranks of the civilian medical profession of belligerent countries were depleted in order to send to the seats of war men who could do all that human skill can accomplish in preventing or curing illness amongst the troops, primarily for humanity's sake, but incidentally with the result that the more successfully the health of one army was protected, the more capable it was of wounding and killing the forces which were opposed to it Has any statistician attempted to calculate the balance of profit and loss between the successes of science in saving life and preserving health, and its success in destroying life, and maiming, crippling, and injuring the health of the survivors? On the one hand, there is the control of plague, cholera, small-pox, malaria, and yellow fever, the diminution of tuberculosis and many other diseases, the saving of child life On the other hand, there was, from 1914 to 1918, the war in the air, and on the land, and on and under the waters—from the air the destruction of life in peaceful cities by bombs dropped from Zeppelins and aeroplanes, on land not only all the armoury of death by weapons of warfare, but by devilish devices of chlorine, mustard, and other gases, and by the spraying of burning liquids, from the waters by the bombing of defenceless seaports, from under the sea the destruction of the *Lusitania* and even of hospital ships But what of to-day? Have national ambitions and international hatreds and terrors really

diminished? If the chemists of some of the great countries were to discover a means for the wholesale application of, say, hydrocyanic gas to armies or cities, is there any certainty that it would not be applied when the temptation came, say, to a megalomaniac 'man of destiny'? If not used to destroy rival nations, would it not certainly be used to terrorize them into slavery unless they preferred extinction? And the very existence of such fears drives nations on to measures which only increase the dread they are intended to guard against. The whole spectacle makes angels weep and devils rejoice. What, however, is the lesson of it all in the present connexion? It is that every health officer sent to this country by the League of Nations, and every one sent from this country, should in his own sphere become a teacher of the great principles for which the League was established—a teacher of universal peace between the nations of the world. Viscount Cecil, who as Lord Robert Cecil was active in establishing the League, would be doing good service to the cause he has so much at heart if, before the medical officers from abroad return to their own countries, he would deliver to them—and by no means to them alone—an address on the theme briefly indicated here, an address which would have a far wider sphere of influence than anything appearing in a professional journal."

ST BARTHOLOMEW'S HOSPITAL IN 1851

In taking up a volume of hospital reports and wondering what mental fare will be presented, there is often to be found the welcome interest of some article dealing with its history or the lives of former worthies. In recent numbers of the *Guy's Hospital Reports* our curiosity about Richard Bright and Astley Cooper has been first whetted and then gratified, in past numbers of *St Bartholomew's Hospital Reports* there have been accounts of the history of the foundation, of the apothecaries' shop, and of its former heroes. In the current number[1] of the *Reports* of the great Smithfield hospital there is a reprint of an article from *Household Words* of February 8th, 1851, entitled "Twenty-four hours in a London Hospital," written, not by the editor, Charles Dickens, as the picturesque style might perhaps tempt the reader to imagine, but, so it is believed, by Alfred Paget, who in the winter of 1850 stayed with his brother, "the ever-present, ever-working warden and assistant surgeon," James Paget. It may be interesting to have this opportunity of contrasting the past, which is sketched in a kindly optimistic vein, with the present state of London's oldest hospital. The reader is first taken for a walk up Ludgate Hill at 6 o'clock on a midwinter morning in an atmospheric mixture of Thames fog and sea-coal smoke and conducted into Smithfield, which is full of oxen infuriated by their drovers' iron goads. One of these sorely driven animals gores a grey-haired charwoman, who is borne off, in company with the reader, to the hospital, as the day wears on she gets worse, and at 11 p.m. "a Hansom's Patent Safety whirls into the Square with the Chief Surgeon," to perform successfully a delicate operation upon her under chloroform. But in the interval the reader sees the daily routine of the institution, and stands by the side of Mr. Wood, the hospital apothecary, or "house doctor," as he rapidly diagnoses and treats the patients in the surgery and performs the functions of house-physicians, then non-existent, in the wards. Into the admission room, where on Thursdays patients come up in the hope of admission to the wards, the almoner, the physician, and the surgeon, attended by the beadle and usually by the matron and steward, enter at midday to select those suitable for the vacant beds. This done, the sisters of the wards call out the names of the patients allotted to their vacant beds, and march off, followed by their flocks of sick or injured. The details of the diets are described, and a graphic picture is drawn of the apothecaries' shop or dispensary, where the men "preparing and extracting the poisonous juices of henbane and foxglove and monkshood are always more or less sick after it." Happily next day they were turned on to the more harmless duty, to them, of mixing black draught, of which the yearly output was 1 352 gallons. Fashions change indeed, for the average number of leeches used during the year then was 29,700, nowadays a student may never have seen them applied. A popular product of the apothecaries' shop was the cough linctus, and in one winter the increased demand led to an inquiry, which showed that some of the most constant applicants made a living by selling tarts in which this favourite physic took the place of jam. The ward visits of the staff occupied from 1.30 to 2.30 p.m., when the students went to the anatomical lecture and the physicians and surgeons drove away in "certain yellow chariots and blue broughams." The students living on the spot dined at 5 p.m. in the college dining hall with the warden, and at 7 p.m. attended the surgical lecture. After this the wards became quiet, and the night nurse watched the poor woman brought in that morning, and counted the weary hours by St Paul's clock, at 3 a.m. the hum of Smithfield began and increased till the rumbling wheels and other noises of awakening London obscured the sound of the striking hours.

[1] *St Bartholomew's Hospital Reports* 1924 lvii 5-21.

SURGICAL TREATMENT OF ANGINA PECTORIS

JONNESCO,[1] who first introduced resection of the cervical sympathetic system in 1896, for the treatment of glaucoma, exophthalmic goitre, and epilepsy, used this method in 1916 for the first time in a case of angina, and was gratified by the completeness and permanence of the relief obtained. We dealt with the subject at some length in an article published on June 4th, 1921 (p. 823), where an account was given of an operation in 1914, by Tuffier, who wound a strip of fascia lata round a fusiform aneurysm two inches long, the patient survived the operation for six years, and died ultimately of carcinoma of the uterus but symptoms referable to the anginal condition persisted during the years after the operation. Recently the treatment of the nerves concerned in the production of angina pectoris has again received attention. Last year M. D. Daniélopolu, professor of clinical medicine in the University of Bucarest, contributed to the Académie de Medecine two papers[2] dealing with the possibility of relieving the attacks by treatment of the posterior roots of the spinal nerves. In the first paper he demonstrated the possibility of anaesthetizing with novocain the spinal nerves on the left side and so putting an end to the pain for a period of some hours, though the other sensations, such as palpitation, remained. He concluded that whilst the pain impulses were transmitted through the nerves the other sensations were localized in the heart and aorta. He described an attempt at surgical treatment for angina pectoris—namely, the cutting of the posterior nerve roots on the left side, or their corresponding spinal nerves. The patient had suffered severely from anginal attacks occurring several times a day, the intention was to cut the second, third, and fourth dorsal nerve roots on the left side, but a severe anginal attack stopped the operation after section of the second root only. However, the anginal attacks ceased after the operation, but, unfortunately, hepatic and renal complications, probably not attributable to the operation, led to the patient's death. The operation as described is not particularly difficult, but it is recognized that it may

[1] *Bulletin de l'Académie de Médecine* 3e série. Tome lxxxiv. No. 30. p. 93 et seq.
[2] *Bull. et Mem. de la Soc. Méd. des Hop. de Paris* January 25th 1923 p. 69 and June 7th 1923 p. 778.

be too severe for some patients with angina, especially since general or spinal anaesthesia is necessary In his second communication Danielopolu considered in detail the course of the sensory nerve fibres concerned, and gave an account of the surgical treatment that has been attempted hitherto, summing up in favour of the operation of cutting the spinal nerves which correspond with the skin areas to which the anginal pain is referred This operation is easily performed and only a local anaesthetic is necessary, if the results are a little more tardy than when the posterior nerve roots are cut, they are in the end equally effective

INFLUENZA

THE number of deaths returned from the great towns in the week ending February 9th (501) shows that the rule of diminishing rate of increase is being followed, it looks as if the return for the current week might be in the neighbourhood of 600 and for the following week very slightly higher But the sudden change of weather may modify the course of the curve unfavourably, and it is possible that an extension to the north-western manufacturing areas—which so far have been little affected—may also play a part It seems, however, very unlikely that this epidemic will be as severe as that of two years ago So far as can be judged, this relatively favourable position is wholly a function of fatality rather than infectivity, because the number of cases has been very great, perhaps as great as in the last recrudescence It is to be hoped that both bacteriological and clinical team work will furnish us with data for comparison with previous experience Perhaps team work is more often talked about than executed in the clinical sphere It is not unduly pessimistic to hold that this generation is certain to suffer every few years epidemics such as we are now passing through, and may have to face something much more serious If there were one-tenth as many practitioners keeping epidemiological records as there are recorders of rainfall, we might have materials for epidemiological forecasting which would be a great deal more valuable than any arithmetical rules But epidemiological record keeping, like rainfall recording, must be done on some system, and a satisfactory system can only be evolved from an exchange of ideas between practitioners epidemiologists, and statisticians We think this is a matter which might be considered

CARBON MONOXIDE POISONING FROM EXHAUST GASES

AN account of a disastrous picnic in Norway has recently been published by Professor T Harbitz[1] A party of thirteen persons set out in a motor boat last August, two adults who were sitting on the starboard side, just over the silencer felt unwell and one after the other went to the cabin where they lay down on the benches Losing consciousness they rolled off the benches on to the floor, and when brought to hospital they were found to be dead Another passenger a girl aged 7, who spent only a comparatively short time in the cabin, was also unconscious when she reached hospital, but recovered Several other members of the party suffered from headache, nausea, giddiness and vomiting At first food poisoning was suspected but no poison could be found in samples of the food On the day of the accident, after it had happened, chemists and motor experts went for a four hours' excursion in the motor boat without experiencing the slightest discomfort A leak was found in the silencer, and an analysis of the exhaust gases showed a mixture containing fully 9 per cent carbon dioxide 1 per cent carbon monoxide, and 2 per cent oxygen in addition to nitrogen The necropsy in both cases showed the characteristic signs of carbon monoxide poisoning Professor Harbitz points out that even less than a fifth of 1 per cent of CO in the inspired air can cause serious poisoning, but he suggests that the CO_2 and the benzene vapour in the exhaust gases may have contributed to the poisoning in these cases He is also inclined to think that slight chronic poisoning by exhaust gases may be fairly common, and that in the streets of large towns, where there is much motor traffic, the mixture of carbon monoxide and other toxic gases from exhausts may have an injurious influence on town dwellers The possibility of such accidents in closed motor garages was indicated in a note in the JOURNAL of October 20th, 1923 (p 738) Sir William Gowers reported a case of chronic poisoning by petrol fumes in our columns as long ago as March 7th, 1903, and in our issue of April 4th, 1908 (p 807), there was a report of two other cases of poisoning which occurred as a result of manœuvring a car about a closed garage, the engine being kept running all the time Yet another case was reported in our issue of April 25th, 1908 (p 987) Every one of these patients recovered In all the acute cases the patients owed their rescue to the fortunate circumstance that the sounds made by their convulsive struggles were heard by people near at hand, otherwise death would no doubt have occurred as in the Norwegian cases

[1] *Norsk Mag f Laegevidenskaben* January 1924 1 47

THE UNIVERSITY OF HONG KONG

ABOUT eighteen months ago we were able to announce that the Rockefeller Foundation had given half a million Hong Kong dollars (approximately £60,000) to the University of Hong Kong for the establishment of a modern school of medicine, with professors in medicine and surgery, who would devote themselves to teaching and research We also stated that the Foundation contemplated a further gift of a quarter of a million dollars for a chair of obstetrics when the school was ripe for this extension A telegram to the *Morning Post* states that the last offer was accepted at a congregation of the University held in Hong Kong on February 18th About a year ago Dr John S Anderson, a distinguished student of the University of Glasgow, and afterwards a member of the staff of the helminthological department of the London School of Tropical Medicine, was appointed to the chair of medicine The chair of physiology has been held for some time by Professor H G Earle, formerly of Cambridge, and that of pathology by Professor C Y Wang, M D Edin The Rockefeller gift made it possible to separate the teaching of anatomy from surgery, the first named subject is taught by Professor J Shellshear, D S O, formerly of Sydney, N S W, and the second by Professor Kenelm H Digby, formerly of Guy's Hospital The School of Medicine in Hong Kong, founded in 1887, owed its origin to the energy of the late Sir Patrick Manson, then in practice there The purpose of the University, which was constituted in 1912, is to educate Chinese students in European knowledge It has three faculties — medicine, engineering, and arts Chinese merchants have given generously towards its buildings, and British commercial firms in China have also made large contributions In 1921 it received further endowments from the Colonial Government, so that it is now on a secure financial basis

THE BROOKLYN POST GRADUATE SCHEME

THE October issue of the *Long Island Medical Journal*, of which a copy has just reached us, is devoted to medical graduate education, and contains interesting information of the educational work that is going on in the various hospitals in Long Island, New York The system of medical

post-graduation instruction which has been in existence there since 1921 has grown steadily The services of the teaching staffs and of the various hospitals of Brooklyn, and the island generally, have co-operated to produce a scheme of instruction which covers all the year with the exception of January, February, and the holidays Ten hospitals are at present concerned in this scheme, and the direction of it is in the hands of a joint committee of graduate instruction During the spring term of 1923 the Long Island College Hospital and the medical society of the County of Kings jointly arranged thirty-four courses—twenty-seven "extension" and seven "intensive" The intensive courses were all given at the college and occupied from four to ten hours a week A fee was charged on the basis of the cost of material and special equipment required The extension courses were devised for the benefit of doctors who had little free time for study They were of a practical kind and occupied one hour a week for a period of eight weeks In addition a series of practical lectures was given once a week for which no fees were charged The instruction consisted of clinical talks, illustrated by charts, specimens, demonstrations, and patients The success of the whole scheme was so definite that an autumn course was arranged on a still broader basis More hospitals have become teaching hospitals in consequence of this scheme, and the number of teachers has multiplied, which is greatly to the public benefit Hospitals in Long Island that were unable to co-operate in this way have arranged clinical demonstrations The free public library of the medical society of the County of Kings—which was founded in 1844 and is the fifth largest medical library in the United States—and also the other medical libraries of Long Island, are available for post-graduates

THE PRICE OF INSULIN

THE Medical Research Council announces that the principal firms engaged in the manufacture of insulin in this country have arranged to reduce the retail price from 12s 6d to 6s 8d per bottle of 100 units, the change to take effect on February 25th It will be remembered that the original price in April of last year was 25s, and that this was reduced to 17s 6d in July A gradual increase of 40 per cent in the strength of the unit then followed, and on January 21st, 1924, the price of 100 revised units was fixed at 12s 6d After less than a year's experience of large-scale production the manufacturers have thus found it possible to reduce the original price by nearly three fourths nominally, and by four-fifths relatively to the actual strength of the product The new price is below the most recent retail price in America of which information has been received It may be added that the recently described method of extracting insulin without the use of alcohol has not yet reached the stage of commercial application In view of the difference between laboratory and large scale methods, and of the efficiency to which the alcohol process has now been brought commercially, it must remain uncertain for some time to come whether or not further reductions in price are to be expected from any change of method in this direction

SMALL POX IN SWITZERLAND.

THE report of the Swiss Federal Health Service for 1922 contains some striking facts with regard to the small pox epidemic which began in the latter half of 1921 and continued throughout 1922 Vaccination is compulsory in certain cantons, but in others it is not, owing to anti-vaccinationist propaganda, which "used for its own ends facts which were incorrectly reported or misinterpreted when they were not entirely fictitious" Cantons retaining vaccination have not been affected with small pox even to the extent of a single case, despite the fact that freedom of communication existed between them and the others where the epidemic was rife The disease has been of a particularly mild form (only one death is reported, that of an unvaccinated infant), and it was quite common for infected individuals to remain at work or even travel about Thirteen cantons were affected, and altogether 1,159 cases were reported during 1922 Of these patients at least 90 per cent (excluding those whose state as to vaccination was not known) had never been vaccinated, and not one person under the age of 15 who had been vaccinated in infancy or successfully revaccinated within recent years caught the disease The total cost to the country of the epidemic that can actually be calculated from the returns of the cantons (not including the loss to the community of time and labour) amounts to nearly 740,000 Swiss francs (£30,000 about) In the cantons where vaccination is still compulsory the expenses were practically negligible—amounting, for example, in Tessin to only 100 francs The authorities conclude in their report that all these expenses could have been avoided if vaccination had been systematically applied throughout the country A scheme is under consideration for the education of public opinion as to the falsity of the pernicious propaganda which is directly responsible for the continuance of the epidemic

IMPERIAL SOCIAL HYGIENE CONGRESS

AN Imperial Social Hygiene Congress is being organized by the National Council for Combating Venereal Diseases It is to be held at the British Empire Exhibition, Wembley, from May 12th to 16th, and the Overseas Dominions and Crown Colonies have been invited to send representatives to report on their experience of the various methods of dealing with this problem in public health The conference will be opened on May 12th by the Minister of Health, addresses on the general aspects of social hygiene will be given by Sir George Newman and Sir Leslie Mackenzie in the morning, and in the afternoon by Dame Rachel Crowdy and Sir Arthur Newsholme On the morning of May 13th a conference on education and social hygiene will be opened by Sir Frederick Mott and Professor J A Thomson, and in the afternoon there will be a conference on the place of local authorities in the venereal diseases campaign On May 14th there will be meetings of the Treatment Section, including in the morning a display of propaganda material, and in the afternoon a conference on how to secure the maximum efficiency of a venereal diseases clinic On May 15th the work of the Medical Section will include a display of medical films in the morning, and in the afternoon a conference on the position of the general practitioner in antivenereal disease campaigns The last day—May 16th—will be devoted to the imperial aspect of the problem in the morning there will be a conference on the social hygiene movement overseas, and in the afternoon a discussion of the methods of enlightenment for illiterate races At the meeting of the Council of the British Medical Association held last week Dr H G Dain and Mr Bishop Harman were appointed to represent the Association at the congress

As we go to press we learn, with great regret, of the death of Sir Malcolm Morris, K C V O, which occurred on February 19th at Bordighera A memoir will appear next week

LADY TWEEDY has presented to the Museum of the Royal College of Surgeons some instruments used by her late husband, their designer, among which are his optometers for estimating the degree of astigmatism and of other errors of refraction They will form an instructive addition to the section of ophthalmic instruments, which already includes several employed in practice by their inventors, Beer, Guthrie, and Tyrell

BRITISH MEDICAL ASSOCIATION IN AUSTRALIA.

VISIT OF SIR WILLIAM MACEWEN

SIR WILLIAM MACEWEN attended the meeting of the Council of the British Medical Association in London on February 13th, and gave an account of his visit to Australia He represented the Association at the Medical Congress held under the auspices of the British Medical Association in Melbourne last November In addressing the Council, Sir William Macewen spoke in the warmest terms of the cordiality of the welcome he received in Australia We are able to reproduce the full text of his account of the manner in which he was received as ambassador of the Association

The meeting in Melbourne in November last was, he said, the first Australasian Medical Congress held under the auspices of the British Medical Association On November 12th the President, Mr G A Syme, M S , F R C S , opened the Congress by delivering the presidential address in presence of the Governor-General of Australia, Lord Forster, many distinguished persons, and a large audience The address was valuable, it was instructive, interesting, and eloquent—one which emanated from the full fruition of the President's ripe experience and was worthy of the occasion At the end of that address I had the opportunity of conveying the greetings of the British Medical Association in the following words

It is my privilege to thank the Australasian Medical Congress for the invitation which was so kindly and courteously conveyed to me to visit this Congress on this memorable occasion and to join in its work *My presence here is the fulfilment of* the acceptance of that invitation The British Medical Association has sent me to act as its ambassador to this Congress, and my mission is to convey to the Australasian Medical Congress the hearty greetings of the British Medical Association, coupled with the assurance that they vividly appreciate the benefit of the union between these two bodies which is so auspiciously consummated to day, and which can be relied on to bring strength, breadth of view, fresh vigour, and vitality to both It is also hoped that it may prove another bond of Empire unity

The British Medical is a voluntary Association founded on very democratic lines, any member of which may aspire to and occupy the highest offices in the Association if elected thereto by his fellows It was founded in order to further the art and science of medicine, and for the purpose of promoting good feeling and fellowship among the members of the profession In point of numbers it is one of the greatest professional associations, comprising some 25,000 members It is the chief medium by which the Government of the country can receive the opinion of the profession on medical questions It may be inferred that when the British Medical Association gives a finding on any medical subject submitted to it, that finding represents the voice of the majority of the profession

The advancement of the science and art of medicine has been its chief aim for all the years of its existence Everything pertaining to the advancement of medicine has a humanitarian purpose, because it is humanity that is the beneficiary The further the science of medicine is advanced the better the etiology of disease will be understood, and the more prophylaxis is practised the less will the *medical profession have* to do Some think that the medical profession is thus working out its own extinction, but if the extinction be due to the abolition of disease that would be its greatest distinction

You have said, Sir, in your kind allusion to me, that I have come far to join this Congress It would ill become me to take credit for that It is a small thing to do, compared with the never to be forgotten journey which your sons took in 1914 and onwards when the flower of your manhood and the best blood of Australia went forth to do battle against tyranny and oppression Inspired by the spirit of our Empire I have come here on a pilgrimage to the country which, in the hour of need, gave its best to aid the Motherland in its old, old fight for freedom

Allow me to thank your Excellency Lord Forster, for the very kind and gracious manner in which you have welcomed me to Australia, and you, President Syme, for your generous words *in introducing me to this Congress* I have also to thank the ladies and gentlemen of this great meeting for their cordial and enthusiastic reception.

The Sections of the Congress met next day in the Melbourne University, and were very largely attended by many "live men" I had the opportunity of visiting a number of the Sections and was impressed with the excellent tone of the communications, the careful and painstaking manner in which they had been prepared and also by the fair and straight discussions which ensued, all of the speakers showing an intimate knowledge of the subjects emanating from their own practical experience It was indeed a great Congress in every way, and one of which the Australasians may well be proud

They have great schools in Australasia—in New Zealand, New South Wales, Victoria, and in Southern Australia The medical departments are large, well equipped, and they have enthusiastic and vigorous staffs, many of them engaged in valuable and varied original work from which a bountiful harvest is looked for

As your ambassador, entrance to all these departments and an enthusiastic welcome was accorded me The University of Sydney marked the occasion by conferring on me *ad eundem* the degree of M D The University of Melbourne asked me to perform the opening ceremony of their new Anatomical Department, handing me a golden key for the purpose, which they desired me to keep as a memento of the event On that occasion I gave the following address

By your courtesy and kindness it is my privilege to declare this Anatomical Institute open It is a magnificent building, eminently suited to the purpose to which it is dedicated

Few anatomical schools possess such adequate accommodation for the teaching of anatomy, and it is well provided with laboratories for research Research must be a feature of a school situated as yours is in the midst of a fauna presenting remarkable phenomena of the deepest interest awaiting the scrutiny of the investigator, and of those who can correlate these phenomena to others in the evolution of life Even human anatomical knowledge, old as it is, is still far from *complete There are organs whose structure and function* require further study and investigation that light may be shed on many dark places As man is but a bit of nature, everything pertaining to the structure and function of creation has its bearing upon analogous human structure and function

For the proper equipment of this Anatomical Institute and its laboratory many instruments of precision and pieces of apparatus are necessary, but these will doubtless be contributed by the civic spirit of the enlightened and generous public of Victoria

The students of this and of all the Australasian universities have a splendid, unique, and in many respects an unexplored field They may be assured that in working in these universities they are not isolated—they are part of a great whole All their endeavours for the elucidation of truth will be watched with keen interest by the great world of science, and they may rely on their efforts being received with critical though generous appreciation

It is said that this institution has cost £70,000 and has been the gift of the Government of Victoria That Government has to be congratulated upon its enlightened conceptions and its munificence Never has it spent money to better advantage and, like those who cast their bread upon the waters, it will return to them a hundredfold, for those who encourage the science and art of medicine aim at securing for the people freedom from disease, clearer and more vigorous brains in healthier bodies, longer and better spent lives

Allow me to thank Your Excellency the Governor, the Chancellor, and the Council of the University of Melbourne for enabling me in this small way to be associated with your noble efforts, and to express the hope that your university will flourish in pursuing the *Via, Veritas, Vita*

A tablet has been put up at the south entrance to the *Anatomical Institute bearing the following inscription*

UNIVERSITY OF MELBOURNE
DEPARTMENT OF HUMAN ANATOMY AND HISTOLOGY
This Building, Devoted to the Study and Advancement of Anatomical Science, was
opened on
Monday, the 12th November, 1923,
by
SIR WILLIAM MACEWEN, C B , D Sc , D C L , M D , I R S ,
President of the British Medical Association, Regius Professor of Surgery, University of Glasgow and one of the Honorary Surgeons to H M the King in Scotland
SIR JOHN MACFARLAND, M A , LL D , Chancellor of the University
R J A BERRY, M D , I R C S , I R S F Professor of Anatomy

Everywhere your ambassador was met with the greatest courtesy and friendliness It is not easy to convey in words how much I appreciate the whole-hearted welcome given me in our big southern continent The kindness and urbanity meted out to me, and to my son who accompanied me, were generously and spontaneously given wherever we went—in the Government Houses, the Residencies, where we were received as honoured guests (Sir Alexander MacCormick acted right royally for the late Governor General of New South Wales), and in the homes of our medical colleagues, where we were privileged to join the family group—made one feel very keenly the strength and spirit of the family ties which bind Britons together

Not only were we welcomed by the medical profession but by many of the most distinguished members of the laity—the Prime Ministers, Chancellors and Professoriate of the Universities, by judges, merchants, and also many of the more humble classes I may quote the letters of the Prime Minister of New South Wales as example

New South Wales
Premier's Department Sydney

Dear Sir William Macewen,

I am directed by Sir George Fuller to enquire following the call of his representative upon you last week, if there is anything he can do to make your stay in New South Wales a pleasant and instructive one Sir George realises that the members of your own profession will be straining every nerve to do you honour but would himself like to be able to find some means of serving you on his own behalf and on behalf of the State He would be glad to arrange for you to be accommodated with railway or other facilities to enable you to see some of the points of interest and beauty of New South Wales and if you would be good enough to let me know your desires in this direction I shall be pleased to make the necessary arrangements

Yours faithfully
Clifford H Hay
October 22nd 1923 Secretary

New South Wales
Premier's Department Sydney

Dear Dr Todd

Mr Hay has shown me your letter of 30th October conveying Sir William Macewen's appreciation of the courtesy shown him by the Government in affording him facilities to visit the Blue Mountains and Jenolan Caves In making grateful acknowledgement of your letter I desire to state that it afforded me personally very great pleasure to be able to show Sir William Macewen some little attention as a distinguished visitor to our State I trust I shall have the pleasure of meeting him in Melbourne next week

Yours faithfully
George U Fuller
November 2nd 1923 Premier

Among the many other testimonies of goodwill I encountered I will mention only the official welcome extended to me by the Sydney University Medical Society in the Great Hall of the University on October 19th Speeches were made by the President of the Society (Dr R A Money), the Dean of the Faculty of Medicine (Professor Mills), and the Professor of Surgery (Professor Sandes), who did me the honour of saying that I had always taken a kindly interest in the students In my reply I thanked the audience for the enthusiastic welcome they had accorded to me and said that the students and I had always been friends and added that I would always regard myself as a student I concluded by paying a tribute to the Australians for their part in the war, saying that it had made manifest the units of the British race in a critical hour

Through the great kindness and goodwill of many of the leading business men, statesmen, and merchants I had an opportunity of gaining an insight into the commercial industrial, and financial conditions of Australasia and a first-hand information into the politics and aspirations of the statesmen of the Commonwealth I thus had a unique opportunity of learning the views of most parties and of making deductions therefrom

The country, its magnificence, its vastness, the beauty of its flora and its rich and altogether its extraordinary fauna, were a never ending source of wonderment The eucalyptus alone among plants, the marsupials of all kinds from man-kangaroos to mice, and its most brilliantly coloured birds and their cries, made one wish to have another life to live

I have to thank the Council for giving me the opportunity of visiting one of the most wonderful countries in the world—a country which has been opened up by the intrepidity of our early explorers—and the vast strides our kinsmen have made in the way of settlement and civilization within eighty odd years is not the least of its wonders The Australians are a great people, strong, vigorous, and independent, and are endowed with unbounded generosity and kindness

Sir William Macewen also referred to the extraordinarily kind reception he had received in New Zealand, where the hospitality was on the same generous pattern as in Australia He was most kindly received by the Governor-General, Admiral Viscount Jellicoe, and he must also acknowledge the welcome which he received on behalf of the members in New Zealand from Dr W E Herbert, Chairman of the New Zealand Branch Council He attended a quite enthusiastic meeting in the Dominion, and was the guest at a banquet afterwards

On reviewing his whole tour there were two names which he wished to mention with special gratitude One of these was Dr A L Kenny of Melbourne, the general secretary of the Australasian Medical Congress, and the other Dr R H Todd, honorary secretary of the New South Wales Branch

At the conclusion of Sir William Macewen's report, the Chairman of Council (Dr R A Bolam) said that the Council was deeply grateful to Sir William Macewen for acting as ambassador of the Association on the other side of the world Australia and New Zealand had certainly welcomed him with the cordiality he deserved The Chairman felt confident the Council would wish to place on record its sense of the great service which Sir William Macewen had rendered to the Association in the course of this tour, and its pleasure in the fact that he had returned safely, looking very much better for his trip (Applause)

Dr A Lyndon suggested that a letter be sent to the honorary secretary of the New South Wales Branch, thanking him and requesting him to convey the thanks of the Council to his members and to all concerned for the hospitality shown to the representative of the Association

This was agreed to

ALCOHOL ITS USE AND ABUSE

LADY PRIESTLEY MEMORIAL LECTURE

BY

W E DIXON M D, F R S

The Lady Priestley Memorial Lecture, arranged by the National Health Society was delivered at the house of the Royal Society of Medicine, on February 18th, by Professor W E Dixon, M D, F R S, whose subject was 'Alcohol its use and abuse'

Sir James Crichton Browne, who presided, said that he supposed there was no subject, outside religion, about which there had been more heated and acrimonious controversy than alcohol Misrepresentations exaggerations, contradictions, and delusions had swarmed in this field On the one hand, alcohol had been extolled as the elixir vitae, and on the other denounced as a deadly poison It was neither one nor the other but a good gift to man, susceptible, like other gifts of gross abuse, but capable also of inestimable service when properly employed

The Growth of Temperate Habits

Professor Dixon after showing how the habits of eating and drinking had arisen out of human experience and instinct, said that the drink habit had undoubtedly served its purpose in the past it was one of the many forms of individual protection resorted to by nature to save men from diseases associated with the herd instinct Dr William Mayo had said that in France and Italy the consumption of billions of gallons of wine had saved the people from extinction they could not have lived had they drunk their polluted water In modern Vienna when a pure water supply from the mountains was substituted for a contaminated one from other sources the consumption of alcoholic beverages was reduced by 40 per cent With the growth of hygiene the necessity for alcohol from this point of view ceased to exist, though the custom of drinking alcoholic beverages remained Most countries, however, showed a considerable reduction in such consumption He indicated the immense fall in consumption per head of population which had taken place in this country since the eighteenth and early nineteenth century As to

the recent decline in other countries, he gave some figures for France, where, between 1913 and 1921, the consumption of alcohol for beverages had diminished by more than 50 per cent, though wine during those years had shown some increase at the expense of spirits This diminution was due, partly at least, to legislation and enforced economy, and not solely to moral ideals In Belgium also a 50 per cent reduction in the consumption of alcoholic beverages was shown in recent figures compared with those for 1910 With regard to America there had been a diminution in drinking, though statistics were at variance The so-called "boot-legging" was common in some parts of the States, and some American journals were protesting that the physician had taken the place of the bar tender In an analysis of 1,000 cases the reasons given by American physicians for prescribing alcohol were bronchitis in 354, general debility in 167, "la grippe" in 163, while other conditions offering similar excuse were boils, colds, diabetes, eye-strain, and headaches He would not suggest that this was usual or even common with the American physician, a few physicians who prescribed freely might satisfy a good many people But, on the general question, he thought it would be accepted that throughout the civilized world there was, and had been for some time, a growing tendency towards moderation and temperance, and, further, that either the most objectionable results of drinking must be eliminated by reform, or almost any educated and intelligent public would encourage some form of prohibition

The Function of Alcohol

The lecturer went on to speak of the wide distribution of alcohol throughout nature, always in association with living cells In man both yeasts and the *Bacillus coli communis* formed [illegible] for the invitation which was so kindly extended to me to visit this Congress on this memorable occasion and to join in the [illegible] and as it was one of the most easily absorbed of all substances it must be taken up directly into the system Three important facts about alcohol might be regarded as established The first was that alcohol was very rapidly absorbed from the stomach and intestines into the tissues, where it was oxidized very slowly, and there it could be regarded as a food, in the sense that it spared the carbohydrates, fats, and proteins The late M Duclaux, of the Pasteur Institute, was so much impressed by the experimental evidence on this question that he asserted that alcohol was a food surpassing starch and sugar in alimentary value, since weight for weight it contained more energy The second fact about alcohol was its so-called stimulant action on the central nervous system mental operations were shortened, simple reaction times quickened, mental associations (such as making words to rhyme) facilitated, reading in whispers rendered easier, and the appreciation of small differences in weights enhanced The view that all these effects were due to direct stimulation of the central nervous system as in the case of caffeine or cocaine, might be regarded as disproved, they were due to a direct depression beginning with the activity of the higher faculties of the mind The activity of these faculties was blunted and the real person was liberated from the bondage of those restraints which social customs and conventions demanded Alcohol freed the primitive instincts and emotions For all precise mental operations the use of alcohol was detrimental, whether in typewriting, target pricking typesetting, shooting, choice reactions, and the like it diminished accuracy and speed Alcohol was an artificial means of relaxation, under its influence the burdens anxieties, and worries of the modern strenuous life were forgotten The sociability produced by the flowing bowl as described in picturesque writings, was really due to the diminished irritability of a supersensitive nervous system The third fact about alcohol which appeared to be generally accepted was that in conditions of fatigue and mental depression alcohol acted as a true stimulant in that certain faculties of the mind, such as attention and memory, were improved The lecturer indicated the possible value of alcohol to a mental worker returning home to dinner, irritable and overwrought, after a strenuous day, and unable to take an interest in his food Physiologists were aware that appetite and digestion were largely influenced by the mind If worry and anxiety were removed, appetite and digestion would return It might, therefore almost be said that *aperitifs* were physiological in present-day conditions, were it not for the fact that they were so often consumed by the wrong people But in spite of these and other useful functions, the evidence was clear that alcohol was not a necessity for a healthy man, it was a luxury, and an expensive way of taking food On the other hand, when it was taken in strict moderation, injurious effects had yet to be proved

Social Effects

This was not, of course, the entire balance sheet Thousands of people were reduced to poverty, misery, and disease, and were provoked to commit crime as a result of excessive drinking, on the other hand, millions of people stated that alcohol added to the joy and general agreeableness of life Social workers and physiologists from time to time arranged and annotated the evidence for and against alcohol, and placed it before the public He thought that everyone should be grateful for such reviews, because truth came first, even before the principles one had been accustomed to advocate But in this connexion it might be interesting to note what the publican, who had an interest in the elimination of drunkenness, thought to be the most frequent causes of that condition In an inquiry among London publicans the following were given as the principal reasons for drunkenness irregular feeding, intensive drinking during shorter hours of trade, discomfort of home life and domestic troubles, mistaken kindness of friends It was generally agreed by these close, if not unbiased, observers that food was the solution of the problem The publicans said that foreigners, including Jews, rarely got drunk, because they ate while drinking

The Problem of the Alcoholic

The most important class of drinkers had yet to be considered—namely, the alcoholics, the group which had created the drink problem It was important to learn something of the nature of the desire which impelled the alcoholic to take alcohol One of the most drastic prohibitions ever attempted in history was the Harrison Narcotic Law, and after a trial of eight years it was the universal opinion of those best able to judge that the law had signally failed in its purpose He believed the explanation to be that too little thought was given to the nature of the addicts, and all the consideration was concentrated on the drugs The word "alcoholism" was sometimes too widely used, it should be strictly analogous to "morphinism" and "cocainism" Alcoholism used in this sense was not drunkenness nor the habit of drinking, even occasionally to excess The normal man, after taking alcohol, became in certain respects abnormal The alcoholic, on the other hand, took alcohol because he needed it if he was to become normal He was a neurotic, to whom every common incident of life was exaggerated Alcohol gave him temporary relief from his inertia and depression Alcoholism was regarded by many eminent authorities as a symptom of a pre-existing mental condition In the early stages the alcoholic resisted the craving, but soon, whenever he felt depressed, his one thought was drink The mental physician must determine how best to treat the neurotic, but it was well to remember that the neurotic type of alcoholic was precisely the same type of person who, if opportunity offered, would take to drugs, temporarily this gave him the relief that alcohol gave, and after once partaking of the joys of the hypodermic needle he practically never returned to alcohol While there were such people in our midst it was of the utmost importance that any steps to ensure temperance should be taken with great forethought and circumspection In this connexion Professor Dixon pointed out an evil which had already arisen merely from the high price of alcohol—namely, the use of methylated spirits, either for drinking alone or for mixing with wine or beer The habit of drinking this spirit was particularly prevalent in Scotland The lesson he drew from this was that if this country suddenly adopted prohibition there was little doubt from what source some people would obtain their supply of alcohol By study and experiment it

should be possible to produce a spirit sufficiently nauseating to prevent its imbibition without interfering with its commercial value He also touched on the dangers arising from illicit liquor traffic in prohibitionist countries or countries in which the supply of alcohol was greatly diminished In America inebriety was less prevalent than a few years ago, but when it occurred its effects were far more serious This was most likely due to "moonshine" liquors, which were improperly manufactured and contained methyl alcohol and poisonous aldehydes In America, from the beginning of prohibition to the end of 1919, 255 deaths had been reported from poisoning by a substance generally believed to be methyl alcohol, and there must have been at least one hundred cases of blindness following the use of wood alcohol Similar tragedies, though in smaller degree, were found in other prohibition countries Thus Blegvad of Denmark had seen 32 cases in the last year or two in which central amblyopia sooner or later supervened after the daily drinking of kogesprit in place of the more expensive brandy Rostedt stated in 1921 that since the complete prohibition of alcohol in Finland cases of eye injury from substitutes for brandy totalled 60 In England large quantities of methyl alcohol or wood spirit were used for varnishes, and unconsidered drastic legislation in this country would certainly not be free from very grave dangers along these lines

The Need for Education

The answer to the alcohol problem was not prohibition, but, in a large measure, education Unfortunately, the educational methods on this subject hitherto employed left much room for improvement, they savoured of political contests and bias Some of the pamphlets and books on the scientific aspects of alcohol were grossly inaccurate, and a number were even nonsensical The propaganda of the local option contests recently concluded in Scotland supplied abundant examples of inaccuracies of every description An educational campaign such as this was misleading and did harm A proper educational campaign required to be guided by science Personal prejudices and interests must be ruthlessly disentangled from moral argument Among other misstatements he mentioned the common allegation that cirrhosis was always caused by alcohol Cirrhosis of the liver was very frequently associated with alcohol, though alcohol was not the direct cause of this condition, and various authorities mentioned a proportion of one-quarter to one-half of the total number of cases of cirrhosis as being due to or associated with alcohol One disgraceful state of affairs still required solution, especially in the larger cities—namely, the condition of the public-houses These must not be allowed to remain as mere drinking palaces Their place must be taken by decent houses of recreation and refreshment in which all people might meet in a reasonable and friendly manner

Altogether, while he admitted that the result of America's vast experiment had yet to be recorded, Professor Dixon did not believe that prohibition would accomplish what its advocates claimed for it Certainly prohibition had nothing to do with self-control, and equally, of course, nothing to do with education

DIVERGENT VIEWS ON PROHIBITION

SIR HUMPHRY ROLLESTON, P R C P , in proposing a vote of thanks, said that the lecturer had enabled the audience to see both sides of the shield—both the uses and the abuses of alcohol He feared that every person approaching such a subject as this was biased by his own impressions, but Professor Dixon had shown at least how complex was the problem and how difficult it was to form any dogmatic opinion If, on the one hand, the effect of alcohol was observed on the amœba there could be no doubt at all that alcohol was a protoplasmic poison, but not only did man differ from lower forms of life, individual men differed from one another, and in this imperfect world there were numbers of people who, from heredity or circumstance, were in absolute need of some kind of narcotic These people, if denied alcohol, would take to some other narcotic, most probably more harmful.

SIR THOMAS HORDER, Bt , in seconding the vote of thanks, remarked on the difficulty of making any positive affirmations or denials on this subject, and gave an amusing instance out of his recent experience He was asked if there had been any experiments, carefully devised, the conclusions of which proved that the taking of alcoholic beverages in moderation was injurious to health To this he had replied "No," and unhappily his reply, which was published, was taken to mean that he sympathized with intemperance A month later he was rung up at 2 30 in the morning by a sergeant at the Harrow Road police station, who said that he did not know whether he would think it necessary to come to the station, but a man had been brought in and charged with being drunk while in charge of a motor lorry, and had stated that the doctor he wanted to see was Sir Thomas Horder! With regard to prohibition in America, the speaker thought that it was not understood in this country exactly what kind of situation the United States had to face Prohibition was introduced primarily to get rid of the gin palace, which was a terrible evil, and an institution to which in this country we had no parallel National health demanded that at all costs these gin palaces should be shut up, and whatever prohibition had or had not done, it had effected a great improvement in this respect

DR CHARLES PORTER (M O H Marylebone), who had lately returned from a visit to the United States, said that he had come to the conclusion that prohibition was the finest thing that the United States had yet done The evils, such as "boot-legging," which it was supposed prohibition had brought in its train, were not of such dimensions as some people over here would like them to believe The hospital admissions of alcohol cases had, of course, increased, but these cases, in the pre-prohibition era, would have spent the night at the police station, as it was they were generally discharged from the hospital the next day He had spoken to many people in the United States who held various views on the general subject, but the feeling among all of them was of immense relief that the saloon had disappeared Employers of labour were loud in their praises of prohibition because it was reflected in better-kept time sheets and in increase of efficiency on the part of the workmen The health visitors also expressed the strong opinion that the condition of the homes of the people had very greatly improved since prohibition came in, and as a medical officer of health it was in this sociological aspect of the question that he was chiefly interested After studying it at first hand he felt that American prohibition was one of the most valuable experiments ever performed by any nation, and he deprecated an attitude of criticism, still more an attitude of ridicule

DR ARTHUR SHADWELL referred to the present inadequacy of scientific conclusions, and said that what was known scientifically about the action of alcohol was as nothing to what remained still unknown On the other hand, Professor H E ARMSTRONG, who spoke as a chemist, said that, however much might yet remain for science to do or to discover, it had ensured for this country and for other nations of Western Europe a safe water supply, and this had contributed more than any other single factor to eliminate the excessive use of alcohol with its attendant evils

SIR JAMES CRICHTON BROWNE closed a brief but brisk discussion by quoting various physiologists, the latest of them Professor Starling, to the effect that in a society like ours the abolition of alcoholic beverages would be a mistake, and not to our permanent interests, and that, if made compulsory, such abolition would be a national calamity

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THE German Congress for Diseases of Digestion and Metabolism will be held on April 26th and 27th under the presidency of Professor von Bergmann of the Frankfort Medical Clinic when the following subjects will be discussed (1) Diseases of the pancreas, introduced by Geelen, Gulecke, Stepp and Minkowski (2) Gastric diseases following operations introduced by Zweig and Haberer The place at which the congress will be held has not yet been settled Further information can be obtained from the secretary, Professor Tuld, Uhlandstrasse 157 Berlin.

THE RADIUM INSTITUTE, LONDON

ANNUAL REPORT

TWENTY-SIX years ago radium was unknown, it was discovered by the brilliant researches of P and Mme Curie and G Bemont in 1898 Its action on human tissues was apparently disclosed accidentally by Professor Becquerel of Paris in 1901, who, having incautiously carried a tube in his waistcoat pocket, noticed that a severe inflammation appeared on the skin within fourteen days Investigation into the action of radium on living tissues soon revealed unsuspected opportunities for the utilization of this new element in the treatment of disease, and the extensive researches which have been carried out in the Laboratoire biologique du Radium in Paris and in the Radium Institute in London have had a large share in defining the possibilities of radiotherapy and establishing its value

WORK OF THE INSTITUTE

What a large place radium therapy has come to occupy in medical practice may be seen from the annual report of the Radium Institute for 1923 [1] The number of treatments administered during the year was 6,951, and of these 3,776 were given free of charge to necessitous patients, 947 emanation applicators were prepared during the year and distributed to hospitals and medical practitioners throughout the United Kingdom for the treatment of patients Of the 868 new patients who were seen for the first time during 1923, 93 were definitely cured, 137 apparently cured, and 328 improved

Mr A E Hayward Pinch, F R C S , the medical superintendent of the Institute, records, in his report, that the provision of a limited number of bedrooms for the reception of in-patients has proved of very great value to the institution They have made it possible to carry out many surgical procedures which are essential to efficient radium therapy and have enabled treatment to be given in a shorter time and with a minimum of fatigue and discomfort This accommodation is always greatly in demand, and an extension of the in-patient department is soon to be undertaken

Methods Employed

The method which experience has proved to be most useful for prolonged radiation may best be described by quoting from the annual report

> In the majority of cases which receive a course of prolonged gamma radiation from surface applicators the total exposure is of thirty hours duration and it has been found, as the result of practical experience that this is best given in four periods The apparatus is first applied from 10 a m to 4 p m —six hours It is then removed and the patient has a period of rest from 4 p m to 10 p m during which he sees visitors, has tea and dinner, reads or writes etc At 10 p m the radium is re applied, and the patient settles down for the night It is removed at 7 a m —nine hours The patient then has his bath, breakfast, and rests till 10 a m when the third exposure is given, the radium remaining on until 4 p m as before—six hours At 10 p m the apparatus is applied for the last time being finally removed at 7 a m —nine hours thus completing the prescribed period of thirty hours During the periods of rest the radium is used for the treatment of those cases which require unscreened, or short lightly screened exposures

If the treatment demands the burying of the radium tubes in the tissues the tubes after insertion are allowed to remain undisturbed for the whole length of the exposure, and are only removed when it has terminated

Diathermy

Some highly successful results have been obtained during the past twelve months by the combination of diathermy with radium in the treatment of carcinoma of the tongue, mouth tonsils and fauces many cases of very advanced type being greatly benefited the suffering much relieved, and the progress of the disease retarded or arrested

Dosage

The general trend of radium therapy is in the direction of increase of dose, more especially at the first exposure, and the employment of quantities of radium element varying from 250 to 750 mg with screening of 2 mm of lead, and exposure of twenty to thirty hours' duration Some degree of systemic disturbance follows such treatment, but it is never very great and rapidly disappears Caution must be observed in employing large doses when the radiation is directed chiefly to the abdominal cavity, for reasons which have been made apparent by recent experimental researches, to which attention will be drawn in the latter part of this article

Preparation of Apparatus

In addition to the actual treatment of disease the Institute has many other activities All forms of apparatus are made by the laboratory staff, from the tiny glass capsules the size of a millet seed for burying permanently in malignant growths to the flat applicators for the treatment of extensive superficial affections Advice is freely given to medical practitioners on the treatment of disease with radium, and if precise information is furnished as to the nature and extent of the disease or growth a suitable apparatus, correctly screened, with full instructions as to technique and exposure, can usually be forwarded to any address in the British Isles within two or three days

Research Department

From the research department of the Institute, of which Dr J C Mottram is the director, five papers have been published during the year, of which four are directly concerned with the effects of radium on the tissues Reference has already been made to the danger of heavy irradiation of the abdomen Dr Mottram has shown that large doses of radium or x rays produce desquamation and necrosis of the intestinal mucosa Even small exposures interfere with the normal production of mucus by the alimentary tract This stoppage of mucus allows the bacteria of the colon and caecum to invade the mucosa, and this is followed by desquamation and necrosis The anaemia and thrombopenia which follow exposure to x rays or radium may possibly be connected with a bacterial invasion of the blood stream from the intestinal tract as a result of injury there The alimentary tract must therefore be protected from radiation as far as possible during treatment

Different reasons have been advanced to explain the increased growth observed in animals subjected to small doses of radiation for long periods Dr Mottram and Dr Cramer have shown this to be accounted for by a general increase of the adipose tissues of the body, secondary to changes in the testes and pituitary gland Papers have also been published on the histological changes which occur in lymphatic glands following exposure to radium, and on the effects of exposure to radium on blood platelets

RADIUM THERAPY IN DISEASES OF THE THYROID, THYMUS, SPLEEN, AND LYMPHATIC SYSTEM

It has been customary in the annual reports of the Radium Institute to give an account of new developments in radium treatment and to direct attention each year to the value of radium therapy in different branches of medicine Thus the report for 1921 dealt with radium therapy in gynaecology, that for 1922 with radium therapy in diseases of the alimentary canal The special section of this annual report is on radium therapy in diseases of the thyroid, thymus, spleen, and lymphatic system

The apparatus required for the radium treatment of this group of diseases is relatively simple Flat surface applicators are chiefly employed, few screens are necessary—either lead 0 1 mm and 2 0 mm , silver 1 0 mm , or platinum 0 3 mm in thickness gives the requisite filtration for the various conditions The secondary radiation caused by the passage of gamma rays through the metal screens is apt to cause surface irritation, and this secondary radiation must be absorbed by the interposition of sheets of black paper, lint, and rubber between the outer surface of the metal screen and the skin of the patient The surface applicators are kept in position by means of thin strips of rubber adhesive plaster and a few turns of crepe Velpeau bandage.

[1] The report is not on sale but we understand that the Medical Superintendent of the Radium Institute Riding House Street Portland Place W 1 will be happy to send a copy to any member of the profession who is specially interested

The Thyroid Gland

Prolonged and repeated exposure to screened radium radiations would ultimately induce fibrosis of the thyroid gland cause atrophy of its cellular elements, and arrest of its secretory functions, but in the doses commonly employed in radium therapy the rays have little effect on the structure or functions of the normal thyroid gland, as has been determined by experimental researches on animals In diseased conditions of the thyroid gland, however, radium radiations have a pronounced effect, particularly in exophthalmic goitre and malignant goitre

In simple goitre radium therapy is of little real value and might be definitely harmful if there existed also any degree of hypothyroidism Radiation might produce a shrinking of the goitre, but this could only be brought about by the production of fibrosis, resulting in compression and destruction of many of the vesicles and a decrease in the amount of thyroid secretion supplied to the blood Similarly, in cystic or adenomatous goitres radium treatment is practically useless In exophthalmic goitre, on the other hand, radium therapy is often very successful, especially in patients who are not emaciated and do not suffer from vomiting and diarrhoea Flat applicators containing 70 to 100 mg of radium element screened with 2 mm of lead are employed, and a total exposure of from twenty to thirty hours given The patient should be kept under observation for three months and the treatment repeated if necessary, with such modifications as may seem advisable A definite exacerbation of all the symptoms sometimes follows the irradiation, attributable to the congestion attendant upon the reaction, causing an increased outflow of the thyroid secretion into the blood stream This transient exacerbation is usually followed by a gradual but steady and definite improvement in the patient's symptoms and general condition Radium rays arrest the vitality and retard the development of the actively proliferating cells found in hyperthyroidism, they produce their beneficial effect by reducing the cellular secretion and by provoking a fibrosis of the connective tissue of the gland, causing the organ to become firmer and smaller

In malignant disease of the thyroid gland radium therapy may be employed advantageously in advanced and inoperable cases both of carcinoma and sarcoma Radium treatment often arrests the progress of the disease in a most striking fashion, causing a great reduction in the size of the growth and affording much relief to the symptoms The treatment is thus described

The treatment should be carried out by "cross fire irradiation with external applicators containing 150 to 250 mg of radium element screened with 2 mm of lead Exposures of thirty hours duration repeated at intervals of six weeks are necessary The employment of radium tubes buried within the growth is strongly to be deprecated as this procedure is almost inevitably followed by a rapid fungation of the growth through the skin incisions It is important to preserve the surface of the skin intact as long as possible as the presence of fungation and ulceration adds greatly to the patient's distress

The Thymus Gland

The thymus gland increases in size during the first two years of life, remains stationary until about the tenth year, and then begins to atrophy and to undergo fatty degeneration When atrophy does not occur at the usual time, and the gland persists or becomes hyperplastic, it may be associated with thymic asthma, or the condition known as status lymphaticus, in both conditions radium therapy may do good Many cases spoken of as thymic asthma prove to have been attacks of laryngismus stridulus, but there remain certain instances in which an enlarged thymus constricts the trachea, thereby producing a true pressure dyspnoea In status lymphaticus there is hyperplasia of all the lymphatic structures of the body, and such patients have enlarged tonsils, adenoids, and enlargement of the glands in the cervical, axillary, and inguinal regions, as well as an abnormal thymus Since this gland serves no useful purpose in adult life, and its persistence may be a possible source of danger, the adoption of measures to hasten its atrophy are quite justifiable

With this object in view "cross-fire' radiation of the area [illegible] containing 50 to 100 mg radium element screened with 2 mm of lead should be adopted The total exposure should be of from fifteen to twenty hours duration, preferably given in three or four equal periods on successive days The gland rapidly shrinks and a second series of exposures is rarely, if ever necessary

The Spleen

There are three diseases associated with great enlargement of the spleen in which radium treatment is indicated —namely, simple splenomegaly, splenic anaemia, and spleno medullary leukaemia In each radium therapy results in a considerable shrinking in the size of the organ, with an associated improvement in the patient's general condition

Simple Splenomegaly —Here there are practically no symptoms beyond the discomfort occasioned by the size and weight of the organ, and the effect of radium radiation is usually very striking We read

A spleen which before radiation reaches down into the left iliac fossa rapidly recedes under appropriate dosage and at the end of six weeks or two months may not be palpable below the costal margin The radiation of the enlarged organ is best accomplished by means of numerous 'half strength' flat surface applicators containing from 200 to 400 mg of radium element screened with 2 mm of lead the total exposure being of from twenty to thirty hours duration

Splenic Anaemia (Banti's Disease) —The classical signs of this condition are a chronic enlargement of the spleen, with marked anaemia, but without any leucocytosis Radium treatment usually induces a definite decrease in the size of the spleen, with some slight improvement in the colour index, but the disease is a steadily progressive one, and the remission usually proves but temporary, a repetition of the treatment being called for at intervals of from four to six months

Radiation is carried out with "half strength' surface applicators screened with 2 mm of lead and total exposure of from twenty to thirty hours The amount of radium employed varies with the size of the spleen but generally quantities of from 100 to 200 mg of radium element are necessary

Spleno medullary leukaemia is unquestionably greatly benefited by radium treatment Improvement of the blood condition takes place almost immediately, three days after the termination of the exposure a decrease in the white cell count may be observed, and this decrease may be steadily maintained for four or five weeks, at the end of which time the number of leucocytes may be reduced from perhaps a quarter or a half a million to 50,000 or even 20,000 per cubic millimetre At the same time the anaemia is lessened, the haemoglobin content rises, and the tendency to haemorrhages is diminished The patient's general condition is also improved and appetite and strength return In long standing cases, in which extensive fibrosis of the splenic interstitial tissue has already taken place, no actual decrease in size is likely to be effected by radium, but in cases of more recent origin the organ may rapidly shrink to almost normal dimensions As to the method of treatment the report states as follows

The radiation employed in the treatment of spleno-medullary leukaemia should be wholly of the gamma type 'Half strength' flat surface applicators screened with 2 mm of lead are used and containing from 100 to 400 mg of radium element according to the size of the spleen The total radiation should be of from twenty to thirty hours, and when possible this should be spaced over two or three days, as by so doing the possibility of inducing some slight systemic disturbance is much lessened Patients vary greatly in regard to the amount of disturbance experienced possibly the most constant feature is a feeling of nausea (which in very susceptible patients may induce actual attacks of vomiting) with headache and a slight rise of temperature These symptoms are however quite transient and disappear within twenty four or forty eight hours

The patients need to be kept under careful observation and periodic examinations of the blood should be made A steady progressive increase in the leucocyte count should be regarded as an indication for further radium treatment This is however rarely necessary at lesser intervals than four months and in favourable cases a period of six or nine months may elapse between exposures In very advanced cases accompanied by severe anaemia, transfusion of blood may advantageously be employed between the radium treatments

DISEASES OF THE LYMPHATIC SYSTEM

Chronic Lymphadenitis

Discretion must be exercised in the treatment of tuberculous lymphadenitis by radium In the early stages of the disease, when the glands are relatively small and discrete,

appropriate radium treatment will usually reduce their size and number and arrest the progress of the disease Caseation or suppuration, however, demands aspiration or free incision and drainage before radium treatment is given The action of the radium rays in the treatment of tuberculous adenitis is probably twofold The rays cannot be administered in such powerful doses as will definitely kill the tubercle bacilli, but the vitality of the microbes within the glands is probably diminished by irradiation so that their destruction is more readily accomplished by the phagocytic cells Further, the radium irradiation acts as a stimulus to the production of fibroblasts, with the consequent development of a protective fibrosis

Lymphadenoma (Hodgkin's Disease)

The enlarged glands and secondary lymphoid nodes present in lymphadenoma can be treated successfully by irradiation The most favourable response is obtained when the superficial glands only are affected and no enlargement of the spleen, liver, or mesenteric glands is appreciable The "cross-fire" method of radiation is the most practicable, and after exposures of twenty to thirty hours' duration with suitably screened applicators the glands rapidly diminish in size and number

One application does not cure the disease and the duration of the remission varies very widely Sometimes the disease remains quiescent for twelve to eighteen months, whereas in other cases a repetition of the treatment may be necessary at intervals of six months Radium treatment will prolong the patient's life considerably and postpone the appearance of a secondary anaemia and its accompanying symptoms

Lympho-sarcoma

The lympho-sarcoma cell is peculiarly susceptible to gamma radiation, and it is in the treatment of this disease that the most spectacular results of radium therapy are to be seen, and the report becomes eloquent

> Lympho sarcomatous masses appear literally to melt away under the action of radium, and patients who have presented themselves for treatment with enormous lympho-sarcomata of the mediastinal and cervical regions producing dyspnoea, dysphagia, congestion of face and neck, etc, their condition on admission being grave in the extreme respond in a fashion that is often amazing The masses commence to shrink within a few hours of the application of the radium and within a week or ten days the symptoms of pressure and obstruction are greatly relieved, and the change in the patient's appearance is most remarkable

The rapid degeneration and absorption of the lympho-sarcoma cells necessarily produces auto-intoxication, and considerable systemic disturbance often occurs, the patient should be kept strictly at rest, and laxatives and diuretics judiciously administered, until the symptoms have subsided The radium tubes should not be buried in the substance of the tumours for when once any breach of the covering skin has occurred the tumours exhibit a great tendency to fungation "Cross-fire" radiation with a large quantity of radium should be employed—400 to 700 mg of radium element screened with 2 mm of lead, and a total exposure of thirty hours have been employed in some cases with most gratifying results It is better to give an intensive dose at the first exposure than smaller doses at successive intervals In a few instances the report states, the remission has been of long duration the patient keeping in comparatively good health for one or two years

Lymphatic Leukaemia

Like all other forms of treatment radium therapy appears to be of no avail in acute lymphatic leukaemia In the chronic form of the disease however, the use of radium is followed by an improvement in the condition of the blood On account of the great susceptibility of the lymphocyte to radium radiation of the enlarged glands is speedily followed by a very definite decrease in the total number and percentage proportion of the lymphocytes the count not infrequently falling to between 10,000 and 20,000 per cubic millimetre in about a month Accompanying this there is usually a general improvement in the patient's health which may last for a year or eighteen months, but as a general rule indications of a relapse appear in about six months, and a repetition of the treatment becomes necessary Though the ultimate prognosis is bad, radium treatment usually effects a considerable prolongation of the patient's life

Lymphangioma

A few cases of macroglossia have been treated at the Radium Institute with good results The exposure have to be repeated at intervals of six weeks over a period of a year or even longer Improvement occurs very slowly, and the treatment must be persevered with

Endothelioma

After the removal of endotheliomas by operation radium irradiation is often of great value, since these growths spread only by direct extension radiation may be concentrated on any isolated extensions of the growth which the surgeon may have failed to eradicate An inoperable growth may be treated by the actual insertion of one or more tubes of radium, screened with 1 mm of silver supplemented by "cross-fire" irradiation with external applicators screened with 2 mm of lead, an exposure of from twenty to thirty hours being given When the growths occur in connexion with the parotid or submaxillary glands, the burying of radium tubes should not be lightly undertaken on account of the liability to the development of a fistula leading to progressive intractable ulceration

Secondary Tumours

Radium therapy may be employed as an adjunct to surgery in the treatment of secondary malignant tumours in lymphatic glands, for the purpose of bringing about the degeneration of any scattered or isolated foci of the disease, and of arresting the permeation of malignant cells through the lymphatics The amount of radium to be used, the screening, and the exposure have to be adjusted to the requirements of the case no hard and fast rules can be laid down, but, in general terms, when buried tubes are used the exposure should vary from eighteen to twenty four hours If benefit results the treatment may be repeated at intervals of five or six weeks

ROYAL MEDICAL BENEVOLENT FUND

AT the last meeting of the Committee nineteen cases were considered and £226 voted to seventeen applicants The following were among the new cases relieved

L.R.C.P. and S.Edin., aged 61 broke down in health four years ago and has undergone several severe surgical operations He can only manage part time assistantships or light locum work Voted £26 in twelve monthly instalments

Daughter aged 53, of F.R.C.S.Edin. one of twelve children, the father died when she was 18, and her mother six years ago *The mother's income* was an annuity Applicant has been crippled with neuritis and unable to work for three years. She is now slowly improving but the light work she is able to manage is not sufficiently remunerative to live upon Her income last year amounted to £45 Voted £12 in twelve monthly instalments

Widow aged 37, of L.R.C.P. Edin. who died in November, 1923 The practice was the only source of income and applicant is left with four children aged 6 to 16 years and the estate is not expected to realize more than £100 a year Applicant asks for educational assistance *The Committee* made a small grant to enable the Guild to investigate this case

Three children, aged 9 to 14 years, of M.B. Aberd. who died in 1915 The mother married again and has now lost her second husband before he was able to make any provision for her or his step-children The mother asks the Fund to help with education The children have £5 per annum each from the grandfather's estate The Committee made a small grant to enable the Guild to investigate this case.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, K.B.E., M.S., at 11, Chandos Street, Cavendish Square, London, W.1

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys The Guild appeals for second hand clothes and household articles The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Insurance Capitation Fee

THE Public Health Advisory Committee to the Labour party, at its meeting last week, considered the award of a 9s fee to panel doctors made at the recent inquiry It passed almost unanimously a motion that pending the appointment of a Royal Commission on medical and other services, the additional *money required for this payment* should be provided by the Treasury The Minister of Health is meeting the Consultative Council of his department before framing a bill

In this connexion Sir Kingsley Wood asked on February 13th whether the Minister of Health had decided what steps he proposed to take on the report of the Committee of Inquiry appointed to consider the remuneration to be paid to insurance *practitioners* Mr Wheatley said he was not prepared at this stage to anticipate the provisions of any legislation required to give effect to the recommendations in the report Sir Kingsley Wood inquired whether the Minister could say what was the extra sum involved as a result of the report, and whether he was prepared to receive a deputation of representatives of approved societies before he came to a decision on this matter Mr Wheatley said the whole matter was receiving the consideration of the Cabinet and a statement would be made as early as possible Mr Pringle wished to know whether it was not the fact that every member of the Cabinet was pledged not to take any money *legally belonging to* the societies Sir Kingsley Wood asked whether the Prime Minister intended to advise the setting up of a Royal Commission to investigate the medical services under the National Insurance Act and kindred matters The Premier replied suggesting that the question should be put down for that day week, when he hoped he would be able to give a reply

Pension Facts and Figures

The number of pensioners—male, female and children—for which the Ministry of Pensions is responsible at the present time is approximately 2 266 000 as compared with 2,572 000 a year ago—a reduction of about 12 per cent *The main reasons* for the fall are the recovery of health, the cessation of allowances on children attaining the age of 16 the remarriage of widows and deaths

During 1923 about 150 men resident in the Glasgow area received home treatment with allowances about 900 were given out patient treatment without allowances, and approximately 3,000 were provided with treatment of all kinds with allowances

The number of ex service pensioners attending hospitals during December, 1923, was 37 215 (with allowances 10,259 without allowances 26 956), as compared with 70 875 (with allowances 19 833, without allowances 51 042) during December 1922 and with 88 434 (with allowances 27,701 without allowances 60 733) during May, 1922.

The Minister of Pensions is reviewing the administration of the final award regulations and *hopes shortly to be able to arrive at a* satisfactory solution of the problems involved There is no intention of closing Bellahouston Hospital if it can be avoided' It is hoped that an arrangement may be reached with the Glasgow Corporation, which owns the land upon which *the hospital stands*, whereby an extension of the lease may be obtained The building at Beckett's Park, Leeds, used by the Ministry of Pensions as a military hospital, is held on a lease which will expire next August Negotiations with a view to obtaining a renewal are proceeding

Since July, 1922 the earliest date available 900 awards in respect of pulmonary tuberculosis have been discontinued out of a total of 38 000 awards in payment for that disability

The Minister was asked by Mr Macpherson whether it was proposed to reconsider the cases of men suffering from *tuberculosis as* those of men who were stricken with insanity had now been considered to a special extent Viscountess Astor inquired whether legislation was possible whereby men suffering from tuberculosis would be made to take full advantage of sanatorium treatment The Minister postponed replies to these questions, but promised early consideration of the case of ex-service men suffering from tuberculosis who had been deprived of pensions on the ground that the disability had ceased but who were unable to follow any but exceptional occupations *most difficult to obtain* the point being whether such cases would be assisted

On January 1st 1924 there were 4 623 ex service men certified as service patients in county and borough mental hospitals in England and Wales, these were *on the legal footing* of private patients In addition there were 152 ex service men undergoing special treatment at the Old Manor Salisbury—a private institution they were certified as private patients Besides these numbers 770 whose illness was *in no way* due to nor aggravated by the war had ceased to be ex service patients But these latter were in future *to be given* the legal footing of private patients the Government undertaking their maintenance from April 1st

Foot-and Mouth Disease

Mr Noel Buxton (Minister for Agriculture) made a statement on February 18th as to the recent outbreak of foot and mouth disease which he said was the most serious that had occurred in this country for forty years that in 1922 being less widespread The first case occurred on August 27th at Rotherham in Yorkshire and since that date 2,617 outbreaks had occurred in thirty seven counties in England and Wales and eleven in Scotland involving the slaughter of 89 000 cattle, 30 000 sheep, 42 000 pigs and 110 goats The estimated cost for compensation amounted to £2 851 000 Isolation had been adopted in preference to slaughter *only* in a few exceptional instances because of the necessarily costly measures it entailed The Minister laid great stress on the importance of research into the cause of the disease and the endeavour to find some means of rendering stock immune On the advice of Sir William Leishman a small committee of veterinarians and human pathologists would be appointed to frame a scheme of investigation to allocate the conduct of it to particular institutions or individuals, and to supervise and co-ordinate the results It might be two or three years before results were obtained

The Small pox Outbreaks

—The new Minister of Health was questioned by Sir Kingsley Wood, on February 12th, as to the steps *being taken* to deal with small pox in various parts of the country Mr Wheatley replied that the responsibility rested upon the local authorities and their officers There were only seven districts with any considerable number of cases and the medical officers of the Ministry were rendering all possible assistance and advice to the *authorities in these areas* Mr Wheatley added, in answer to other members, that he was not prepared to recommend an extension of the Government supply of vaccine as he was advised there was no difficulty in getting glycerinated calf lymph of reliable quality from reputable firms

Imported Stains for Microscopic Work—Mr Keens asked on February 14th whether certain stains used in *microscopic work in* the research department of various hospitals and other laboratories had to be imported from Germany whether he knew that the customs and excise department opened certain of these bottles to ascertain the alcoholic *content*, and some of them were rendered useless for research purposes thereby and serious loss of time and energy was thus occasioned to research workers Mr Graham for the Treasury, said that when stains used in microscopic work were imported the customs and excise department opened the smallest possible number of bottles to ascertain the *alcoholic* content But bottles might be delivered without being opened provided that the importer indicated in the customs entry that the strength of the stain was not to be tested and paid spirit duty at the rate appropriate to preparations containing spirits and not tested as to alcoholic strength

Tuberculosis and Milk Supplies—In reply to Sir Robert Aske on February 18th the Minister of Health said that he was giving attention to the report of the veterinary inspector of Newcastle upon Tyne on his examination of cattle sent in for slaughter for *food*, showing that of cattle externally sound over 74 per cent were suffering from tuberculosis, and as to representations on the subject made by the city council In answer to another question as to whether the Government would introduce legislation to protect infants against the risks of infected milk the Minister said that the operation of the Milk and Dairies (Consolidation) Act 1915 was postponed until September 1925, by the Act passed in 1922

Hospital Accommodation in London—Mr Somerville Hastings on February 19th, asked the Minister of Health to state the number of persons at present requiring treatment in the hospitals of London and unable to obtain it *through* lack of beds, and what he proposed to do to provide the necessary accommodation for such persons Mr Wheatley in a written reply stated that no information was at present *available* and considerable inquiry would be necessary even to obtain an approximate estimate He proposed however to ask the Voluntary Hospitals Commission to report as to the extent of additional accommodation required and the best means of providing it He added that the provision of hospital beds was *not within* the statutory powers of the Ministry

Venereal Disease—Mr Somerville Hastings asked on February 19th whether the Minister of Health could give any estimate as to the effect the provision *of free* treatment by the State had had *on* the incidence of venereal diseases and whether if the result had been good he intended to adopt similar methods for free treatment for other diseases In a written reply, Mr Wheatley stated that the information in his possession went to show that the incidence of the diseases mentioned was declining and the provision of free treatment had undoubtedly contributed to that result There were certain features of these diseases which differentiated them from other *communicable* diseases and the provision of free treatment was especially desirable in such cases He could not undertake within the limits of question and answer to discuss the expediency of adopting similar methods for the treatment of other diseases

Notes in Brief

The question of introducing legislation on smoke abatement is receiving the attention of the Government

About £60 000 have been allocated in the current year to the Ministry of Agriculture for general investigation into animal diseases

The Minister of Health is prepared to consider proposals for the establishment of additional infant welfare centres by local authorities or voluntary bodies acting in co-operation with the former and to pay the usual grant-in-aid on approved expenditure

The provision of hospital treatment for advanced cases of tuberculosis in Leicestershire is receiving the consideration of the Minister of Health correspondence having already taken place between his department and the county council as to the most suitable means of effecting such provision

Provisional figures as to deaths registered in 1923 show that small pox caused 7 measles 5 200 influenza 8 371 diphtheria 2,674, and scarlet fever 971.

England and Wales.

LEICESTER PUBLIC MEDICAL SERVICE

THE Board of Management of the Leicester Public Medical Service presented its report for 1923 to the annual meeting held on February 12th. This report is a record of continued progress. Thus the total number of subscribers, which at the end of 1922 was 39,441, was 40,342 at the end of the first half of 1923, and 41,355 at the close of the year. Some 29,000 of these subscribers were direct contributors to the Public Medical Service. In addition to these there were over 8,000 insured members of friendly societies seen through the agency of the service. The capitation fee to acting members of the service for attendance on subscribers who are not State-insured persons was the highest rate so far paid. The number of prescriptions dispensed last year was 202,486, representing an increase of more than 6,000 over the total for 1922. By arrangement with the local Education Committee accommodation is provided at the Central Dispensary for the dental work of the school clinic, and by arrangement with the Ministry of Health a consulting-room is provided for the Regional Medical Officer. During the year many improvements were effected at the central premises. The charitable activities of the service on behalf of cripples and the blind have been continued.

PREVENTION OF RHEUMATIC FEVER

Dr. Alfred Mantle of Harrogate, who has just been awarded the Liddle prize by open competition in this and other countries for the best essay on the cause and prevention of rheumatic fever, has decided to devote the £120 awarded to propaganda work for educating the poorer classes in the prevention of rheumatism in childhood. In the JOURNAL of last week we noted (p. 305) that the Middlesex Hospital has issued seven leaflets with a view to educating the general public in matters relating to the prevention of disease. A considerable percentage of heart trouble is known to be of rheumatic origin in early life, and may be prevented if proper care be taken by an early examination of the throat and mouth and by the treatment of certain conditions which may lead to rheumatism and possibly infection of the heart. We learn that Dr. Mantle desires to use his prize money to combat this disease in childhood. The poor are always ready to consider any pains about the limbs as "growing pains," and the great importance of rest in bed at this time is neglected. Much might be done to remedy this by medical officers and the children's welfare societies' health inspectors, who could educate the mothers as they have done so successfully in the tuberculosis campaign.

WELSH NATIONAL SCHOOL OF MEDICINE

Lord Glanely, who is retiring next October from the presidency of the Court of Governors of the University College of South Wales and Monmouthshire, after the customary term of five years, has given a further donation of £12,500, which is earmarked for the laboratory building fund. He has now contributed a total of £65,000, and his first gift of £25,000 earned a Government grant of the same amount. He has expressed the hope that the Government will give a further grant for the balance, not only of his gifts, but of other donations also, as he believed they had intended to give pound-for-pound grants. Principal Trow, at the meeting of the Court of Governors of the College held on February 14th, pointed out that the course in medicine differed from that in other medical schools in being based upon a three years' graduate course in science, followed by a subsequent period of three years' medical study. The Rockefeller Institute had recently made a grant to the Medical School of £14,000, and recognition of it by the University of London and the Conjoint Board had now been obtained. The erection of the laboratories for physics and chemistry on the Cathays Park site was proceeding as rapidly as possible, and the building of the department of public health and preventive medicine was about to be resumed. Plans were well advanced for the erection of a special laboratory for the department of medicine on the hospital premises. The recent appeal for funds for building purposes had brought in £59,250 from sixteen subscribers, and a total of £119,834 had so far been promised. In the three faculties of arts, science, and medicine, 1,061 students had been registered this session. Accommodation for them was only adequate in the faculty of arts, but in this latter it was of a kind scarcely equalled elsewhere.

MANCHESTER ROYAL INFIRMARY

The annual report of the Board of Management of the Manchester Royal Infirmary refers to the financial success achieved by the Manchester Hospitals Fund, which was inaugurated last year by the then Lord Mayor of Manchester, Councillor William Cundiff, and resulted in a contribution of £74,000 to the voluntary hospitals of Manchester. This valuable organization will continue its work during the current year, and will endeavour to secure financial assistance from sources which have hitherto been inaccessible. The report includes a note on the beneficial results obtained by insulin treatment, and points out the need felt for a considerable extension of the surgical accommodation at the infirmary, there being not far short of 1,000 cases on the waiting list. The income of the infirmary and the Barnes Convalescent Hospital last year was £85,539, and the total ordinary expenditure was £108,824.

ROYAL HALIFAX INFIRMARY

The annual report of the Royal Halifax Infirmary for the last year shows the existence of a very satisfactory state of affairs as regards the finances and the general working of the institution. In addition to meeting the ordinary expenditure, it has been possible to transfer £3,000 to the renewal account. Extensive alterations are being made in the heating, lighting, and hot-water systems, which will cost more than £4,000, but will result probably in very considerable economy. Mr. Joseph Whitaker has generously undertaken to build and equip a new x-ray block at a cost of about £6,000, to be a memorial to his parents and to his son, the late Dr. Frederick Whitaker, who had been a member of the honorary medical staff of the infirmary. Through the instrumentality of Dr. J. Crossley Wright, a portable x-ray apparatus had been installed, enabling x-ray photographs to be taken in the wards. All sources of income had been well maintained, and the workpeople's contributions had reached the record figure of £8,798. In the words of the president, Mr. W. A. Simpson-Hinchliffe, "We don't owe anybody anything, we have not an overdraft, we have a credit balance. I think that after three years of depression that is a wonderful thing." The accommodation throughout is fully adequate for the patients, and there is no waiting list.

THE BIRMINGHAM TUBERCULOSIS CONFERENCE

The *Transactions of the National Association for the Prevention of Tuberculosis*, being a record of the ninth annual conference held in Birmingham last July, have recently been published in a volume. A full report of this conference appeared in our columns of July 21st, 1923 (p. 112), and those who were present will probably be glad to have a printed account of the papers then read, and the full detail of the Birmingham discussions. The main subjects with which the conference dealt were the care of cases of advanced tuberculosis, the nature and extent of tuberculosis resulting from infected milk, the prevalence of phthisis in different industries, and suggested amendments in the procedure of the notification of tuberculosis. The public address on the actual position of the tuberculosis problem to-day, given by Sir Robert Philip, and an account of the conference of branches and societies interested in after-care and tuberculosis, which was held at Birmingham during the same week, are included in the volume.

SAMPLING MEDICINES

Circular 462, of the Ministry of Health dated December 28th, 1923, recommends for the consideration of local authorities under the Sale of Food and Drugs Acts suggestions with regard to the sampling of prescribed medicines drawn up by the Society of Public Analysts. These are to the effect that the inspector should mark on every bottle the

height reached by its contents before he divides the sample into three parts, and that the bottle so marked should be submitted to the analyst, and, in the second place, that the analyst and the medical officer of health should both be consulted as to the type of prescription to be used for checking the accuracy of dispensing, and also as to the desirability of instituting proceedings in any given case In commenting on these suggestions the Ministry observes that it is desirable in considering whether proceedings should be taken under the Acts "that proper regard should be paid to the degree of accuracy in the analysis of the article in question, and to the margin of error allowable in ordinary dispensing operations" This observation has given rise to some criticism, as tending to increase the difficulty of securing a conviction under the Acts by introducing a suggestion of an allowable but undefined margin of error The circular also emphasizes the necessity of ensuring that in a sample of bottled milk a uniform distribution of the milk fat throughout the three parts of the sample should be secured

Scotland.

The Morison Lectures

The Morison Lectures before the Royal College of Physicians of Edinburgh will be given next month by Dr John Thomson, consulting physician to the Hospital for Sick Children, Edinburgh The subject is the symptoms, diagnosis, and treatment of mental defect during infancy and early childhood The lectures will be given at the College at 5 p m on Monday, Wednesday, and Friday, March 3rd, 5th, and 7th

Tradition in Dermatology

On February 16th Dr Henry MacCormac, at the invitation of Sir Norman Walker, addressed the students of the University class of dermatology in Edinburgh In introducing the lecturer, Sir Norman Walker said that although a number of teachers from other schools had given lectures to his class at different times, this was the first occasion on which one of his old pupils had functioned in this way Taking as his subject "Tradition in dermatology," Dr MacCormac dealt with the progress of the study of diseases of the skin from the time of Willan and Bateman at the beginning of the nineteenth century Before them the methods in use merely attached labels, often meaningless, to the conditions then known But these pioneers reduced the subject to order by classifying eruptive processes according to their external characters It was interesting to observe their influence on their Continental colleagues Thus, although Alibert, the founder of the great school of dermatology at the St Louis Hospital in Paris, did not accept the English teaching, two of his pupils, Biett and Rayer, were enthusiastic followers of the English model, and through their influence the new system was introduced into France Bateman was the parent of the term "eczema," but he used this word to designate acute traumatic dermatitis from such agents as sunlight, mercury, and chemical substances Soon, however, the original signification of the word became lost, for Rayer added to it chronic eczema, and so became the originator of the eczema conception which was handed down by successive generations of dermatologists throughout the nineteenth century Thus the term introduced by Bateman, growing in the course of years, came to devour a large part of the remaining dermatoses in its new aspect Both Willan and Bateman were Edinburgh graduates They were also colleagues at the Public Dispensary in London, and when Willan died in 1812, Bateman, from his long association with his master and friend, was able to continue the unfinished work of his colleague By their new and scientific classification a method based on the Linnean system, they gave an alphabet to dermatologists and taught them to read Their system of dividing skin diseases into orders—papules macules, pustules, etc—was so complete that it had survived down to the present time Hebra characterized their work when he said that it was in England, the country of Willan and Bateman, that the largest share in what might be termed the reformation of dermatology took place

The Census Report

The second volume of the report of the Scottish census[1] has been issued It contains material of much value and interest to all who are engaged in the work of local government

The rate of increase in the population in the decennium was only 2 6 per cent, or much the lowest since census taking began in 1801 While the female increase was 3 4 per cent the male increase was so low as 1 7 per cent, this is to be attributed to the war The excess of females over males is now 187,213 The excess of births over deaths was 360,180, but the net population increase was only 121,953, the difference being a measure of the influence of migration The population of the civil divisions varies immensely Six parishes had each over 100,000 inhabitants, whilst two had less than 100 In six parishes the density of population exceeded 2,400 per 100 acres, whilst in thirty two parishes it was less than 1 per 100 acres, the lowest being Durness, near Cape Wrath, with 232 acres to each unit of the population Of the burghs—all self governing—four have over 100,000 inhabitants, and nineteen have less than 1,000 Glasgow has 1,034,174, and New Galloway 348 Edinburgh has a much greater area (32,401 acres) than Glasgow (18,589 acres), while at the other extreme four burghs have less than 50 acres each Burghal density varies from 55 6 persons per acre in Glasgow to 0 4 persons in Culross The burghal and non burghal populations are 67 8 and 32 2 per cent of the total, but many small burghs are practically rural, and various populous districts are under county council in preference to municipal government Making allowance for such facts, the urban percentage is 77 3 and the rural 22 7 There are 176 inhabited islands in Scotland, with a total population of 154,624 The most populous is Lewis (including Harris), with 31,687 inhabitants, whilst on each of three islands there was only a single person, and six had two persons each, three of the islands being lighthouse stations There are twenty six lunacy districts, six of them single parishes Under the Insurance Acts there are twenty three burghal areas, the minimum population for this purpose being 20,000, and the rest of the country is within thirty-two county areas Education areas number thirty-seven, four of them being the four cities

It is not proposed to follow the report in its very full account illustrated by diagrams, of the ages of the people, nor into what it has to tell about conjugal conditions, orphanhood or birthplaces, or Gaelic speakers Bad as housing conditions are in Scotland, it is right to point out that in some respects they show a steady improvement While one-roomed houses still constitute 11 76 per cent, such houses are fewer by 5,363, or 4 1 per cent, than in the year 1911 The largest absolute difference—an increase of 17,015—is shown in three roomed houses, and the largest relative increase—of 12,179, or 12 8 per cent—in four-roomed houses Windowless houses have at last disappeared from the census enumeration In Scotland as a whole 8 1 per cent of the population at the census were in one-roomed houses and 39 3 per cent in two-roomed In the four cities the percentages so housed were Glasgow 12 8, Dundee 8 9, Edinburgh 4 7, and Aberdeen 4 4 Varying the calculation by taking as a measure the number of persons per room, the Registrar General, after entering into many details, writes

> Reviewing these figures generally it may be stated that the percentages living in the less crowded conditions have all increased while those living in the more crowded conditions more than two per room or more more than three per room have decreased although the percentage living more than four per room at this census is slightly higher than in 1911

Royal College of Physicians of Edinburgh

The annual dinner of the Royal College of Physicians of Edinburgh was held on February 15th The president of the College, Professor G Lovell Gulland, was in the chair,

[1] Report of the Thirteenth Decennial Census of Scotland Vol. II Foap pp lv + 271 with Appendix H M Stationery Office 120 George Street, Edinburgh. £1 net £1 0s 9d post free.

and the vice-president, Dr J C Dunlop, the treasurer, Sir Norman Walker, and the secretary, Dr J S Fowler, acted as croupiers After the President had proposed the loyal toasts, the vice-president gave the toast of the Imperial Forces, to which Rear-Admiral Sir Reginald Tyrwhitt, C O coast of Scotland, and Colonel R S Hannay, D D M S Scottish Command, replied The health of the guests was proposed by Dr Barbour Simpson, a town councillor, and acknowledged by Viscount Novar and the Lord Constable The City of Edinburgh, coupled with the name of the convener of its Public Health Committee, was toasted by Dr G D Mathewson, and finally the Royal College of Physicians was proposed by Sir Harold J Stiles, President of the Royal College of Surgeons, and suitably acknowledged from the chair

Early History of Edinburgh Royal Infirmary

An interesting lecture was delivered on February 14th by Mr Russell Paton to the Greater Edinburgh Club in the College of Art Hall, Edinburgh He gave an account of the foundation of the Infirmary in 1729 in a "small hired house" situated in Robertson's Close During the first year 35 patients were treated, of whom one died The Lord Provost of the time, George Drummond, proved the spirit of the enterprise, which was commenced with £2,000 In 1736 a royal charter was obtained and building commenced on a piece of ground which had been purchased for £420 *All classes co-operated* Merchants gave building materials, farmers lent their carts, and labourers, instead of monetary subscriptions, gave one, two, or more days of work free The first part of the Royal Infirmary was ready in 1741, and the managers resolved that sick persons of any nation should be admitted without restriction, adopting the motto *Patet omnibus* The Infirmary played a part in treating the wounded of the 1745 rebellion, and after the battle of Culloden the Duke of Cumberland gave £50 Evidently there was a strong Jacobite feeling among the management of that day for, while the bare fact was recorded, no thanks were tendered The first bath to be installed in Edinburgh—a marble bath—was provided in the Infirmary in 1747 With the dawn of the new industrial era it was found necessary to transfer the Infirmary to a new and much larger building, which was opened in 1879 and is still in use This was built around the old George Watson's Hospital and cost £350,000 Its capacity was for 525 patients, but additions made at the end of the nineteenth century brought the number of beds up to the present 963 Again expansion has become urgently necessary and an appeal is being made for the necessary funds

Central Midwives Board for Scotland

The recent examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh Glasgow, Dundee, and Aberdeen, has just concluded with the following results There were 109 candidates and 99 passed Of the successful candidates 23 were trained at the Royal Maternity Hospital, Edinburgh, 31 at the Royal Maternity Hospital, Glasgow, 2 at the Maternity Hospital, Aberdeen, 8 at the Maternity Hospital, Dundee, 8 at the Queen Victoria Jubilee Institute, Edinburgh, 8 at the Cottage Nurses' Training Home, Govan, Glasgow, and the remainder at various recognized institutions

At the meeting of the Board for the election of office-bearers, Dr James Haig Ferguson was unanimously re-elected chairman, Dr Michael Dewar was re-elected deputy chairman, and Sir Archibald Buchanan-Hepburn, Bt, convener of the Finance Committee The meeting appointed other committees and examiners, and approved the list of recognized institutions, with the teachers attached thereto, for the training of midwifery nurses

At a special meeting of the Board for the hearing of penal cases, Dr James Haig Ferguson in the chair, three certified midwives were cited to appear for various breaches of the rules failure to take and record pulse and temperatures, failure to keep register of cases, etc, and misdemeanour, or generally incapable of carrying out the rules The secretary was instructed to cancel their certificates and remove their names from the roll, and to prohibit them from attending women in childbirth in any other capacity Favourable reports having been received from the officers of the local supervising authorities in regard to the conduct and practice of a number of midwifery nurses on probation, it was resolved to take no further action A number of cases were instructed for citation

Ireland.

Lisburn and District Medical Guild

During the past year the Lisburn and District Medical Guild has held a series of interesting and well attended meetings Its proximity to Belfast has enabled the members to receive visits from specialists in various departments, and so to keep in touch with the latest developments of scientific medicine Included in last year's programme were papers on pyloric stenosis, by Dr G R B Purce of Belfast, and on the statistics of operations in the County Antrim Infirmary since 1900, by Dr J Munce, the anaesthetist there Dr R Marshall of Belfast lectured on the latest discoveries with regard to auricular fibrillation, Dr S B Boyd Campbell contributed papers on subacute endocarditis and on encephalitis lethargica, and Mr T S S Holmes described cases met with in his surgical practice The diagnosis and treatment of acute conditions of the abdomen were dealt with by Mr S T Irwin, and Dr Smith, of the biochemical department of the Royal Victoria Hospital, Belfast, gave an address on the urea content of the blood, and the latest teaching with regard to the insulin treatment of diabetes mellitus Mr H P Malcolm gave a demonstration of the advantages obtained and the method of use of the Alton extension apparatus for tuberculosis of the hip, and Dr J L Rentoul contributed an account of various kinds of tuberculin

Irish Medical Committee

At a very largely attended and representative meeting of the Irish Medical Committee held in the Royal College of Surgeons in Dublin, on February 13th, Dr Joseph Power Ardfinnan, was in the chair, amongst other important business transacted the following resolutions were passed

1 That the Irish Medical Committee on behalf of the Irish medical profession, strongly protests against the reduction of the remuneration for medical certification under the Insurance Act that the Committee only agrees to accept the terms now offered by the Irish Insurance Commission until August 31st next

2 That pending the result of the proposed Committee of Inquiry, outlined in the letter of the Chairman of the Irish Insurance Commission, the profession be organized thoroughly in each county in Ireland that a medical organizer be appointed forthwith and to meet the expenses of his appointment etc, a levy of £2 be made upon each member of the profession in Ireland—the levy to be voluntary in the case of those members of the profession who are already subscribers *to both medical organizations in Ireland*

3 That in the event of the report of the Committee of Inquiry being either unsatisfactory, or the Dail refusing to enact medical legislation providing efficient medical services for the people, and on terms acceptable to the profession, the Committee recommends that a delegates' meeting be summoned to consider the advisability of withdrawing from the public medical services

4 That the details of organization such as the signing of pledges, arrangement for making the levy etc be left in the hands of the Executive Committee appointed by the Irish Medical Committee at its meetings held on June 20th, 1923, and February 13th, 1924

5 That the scales of salaries adopted by the British Medical Association for whole-time medical officers, tuberculosis officers, and medical school inspectors be applicable to Ireland

6 That arising out of Sir Joseph Glynn's letter of December 27th 1923 the Minister of Finance be requested to invite the Irish Medical Committee, in accordance with custom to nominate representatives of the medical profession in the Free State to act on the proposed Committee of Inquiry

7 That the Irish Medical Committee is of opinion that in the best interests of the medical profession the medical schools and clinical hospitals should arrange for a short course of professional ethics for their senior students

8 That the Executive Committee arrange for a deputation to accompany Sir James Craig M D, T D, and Senator W O Sullivan, M D, to wait on the Minister of Finance with regard to the taxation of motor cars used by medical practitioners

Correspondence.

THE BRACKENBURY TESTIMONIAL

SIR,—There has been a very widely expressed desire that the eminent services of Dr H B Brackenbury to the medical profession should be recognized, having regard particularly to his recent most useful and brilliant work in preparing and presenting the case of the insurance practitioner before the Court of Inquiry Steps are already being taken to approach insurance practitioners through their Panel Committees, as it is thought that insurance practitioners as such would desire to have a special opportunity of expressing their gratitude But our correspondence and conversations with many colleagues show that numerous doctors having no connexion with insurance practice would be glad of an opportunity of showing their belief that Dr Brackenbury's services for many years past have been of great value to the profession as a whole They consider that Dr Brackenbury's recent advocacy and conduct of the case of the insurance practitioner have been such as to enhance very considerably the reputation, influence, and prestige of the medical profession

A large and influential committee is now being formed, and an opportunity will shortly be given to those who wish to join in a well earned tribute to one who has rendered unique services to his profession —We are, etc,

J F ALLAN (Bradford)
T RIDLEY BAILEY (Bilston)
H S BEADLES (Romford)
A CLARICE BEGG (Swansea)
R A BOLAM (Newcastle on Tyne)
J W BONE (Luton)
H C BRISTOWE (Wrington)
H J CARDALE (London)
L J CARROLL (Bradford)
H GUY DAIN (Birmingham)
J SINGLETON DARLING (Lurgan, co Armagh)
HOWARD DAVIES (Pontypridd)
J D EWART (Manchester)
C E DOUGLAS (Cupar Fife)
W MCADAM ECCLES (London)
C E S FLEMMING (Bradford on Avon)
A W FORBES (Sheffield)
E R FOTHERGILL (Hove)
C C GENGE (Croydon)
T D GREENLEES (St Leonards)
R HARDING (Kingston)
N BISHOP HARMAN (London)
J J HEALY (Llanelly)
R WALLACE HENRY (Leicester)
G AINSLIE JOHNSTON (Ambleside)
ARTHUR T JONES (Mountain Ash)
E K LE FLEMING (Wimborne)
B M LEWIS (Pontypridd)
E LEWYS LLOYD (Towyn)
T WOOD LOCKET (Westbury)
RICHARD LUCE (Derby)
ARNOLD LYNDON (Hindhead)
PETER MACDONALD (York)
J MCGREGOR ROBERTSON (Glasgow)
S MORTON MACKENZIE (Dorking)
A MANKELL (Bradford)
E W G MASTERMAN (Camberwell)
H MILBANK SMITH (Worthing)
D NAUNTON MORGAN (Gilfach Goch)
S GLANVILLE MORRIS (Mardy)
H F OLDHAM (Morecambe)
E G D PINEO (Langford, near Bristol)
F RADCLIFFE (Oldham)
J W F RAIT (Radlett)
J MORGAN REES (Pontypridd)
HERBERT SHACKLETON (Bradford)
D A SHEAHAN (Portsmouth)
A TENNYSON SMITH (Orpington)
W MUIR SMITH (Eastbourne)
H S SOUTTAR (London)
E A STARLING (Tunbridge Wells)
W E THOMAS (Ystrad Rhondda)
A E TUNSTALL (Bradford)
W N WEST WATSON (Bradford)
E ROYSTON WOODROOFE (Bradford)

February 18th

P S —Communications from those who desire to join the committee or who have any suggestions to offer as to the nature of the testimonial may be directed to any of the above, care of the Medical Secretary, British Medical Association, 429, Strand, London, W C 2

DR BRACKENBURY AND DR DAIN

SIR,—At a meeting of the Birmingham Panel Committee held this afternoon, the subject of a testimonial to the Chairman of the Insurance Acts Committee, Dr Brackenbury, was raised

The members were in cordial agreement with the suggestion, but felt that the Chairman of the Conference of Panel and Local Medical Committees, Dr H G Dain, should be included in any professional recognition of services rendered during the recent controversy

This is not to minimize the magnificent work done by Dr Brackenbury, but the members of the above Committee feel that he would be the first to recognize the invaluable nature of Dr Dain's services—to whom it was largely due that the suggestion of a Court of Inquiry was adopted as an alternative to accepting the Minister's final offer

The members of the Birmingham Panel Committee feel that the two chairmen were the outstanding figures in the late negotiations, and that they should share in any honour that may be conferred by the medical profession —We are (on behalf of the Birmingham Panel Committee),

F L'E BURGES
W J GARRATT
W T LYDALL

Birmingham Feb 19th

BRITISH EMPIRE CANCER CAMPAIGN

Scientific Advisory Committee

SIR,—After conference between representatives of the Royal Society, the Medical Research Council, and the British Empire Cancer Campaign, a scientific advisory committee has been appointed as part of the organization of the campaign The following gentlemen have consented to serve

Sir John Bland Sutton, President of the Royal College of Surgeons
Dr H H Dale, C B E F R S Head of the Department of Biochemistry and Pharmacology under the Medical Research Council
Sir Richard Carton G B E
Dr F Gowland Hopkins F R S *Sir William Dunn* Professor of Biochemistry in the University of Cambridge
Dr Robert Knox, Director of Electrical and Radio therapeutical Department Cancer Hospital
Sir William Leishman K C B K C M G F R S, Director General, Army Medical Service
Professor C J *Martin*, C M G, F R S, Director of the Lister Institute of Preventive Medicine
Dr Robert Muir, F R S, Professor of Pathology in the University of Glasgow
Sir Humphry Rolleston, K C B, President of the Royal College of Physicians

—We are, etc,

C S SHERRINGTON
President of the Royal Society
GOSCHEN,
President Medical Research Council.
CAVE
Chairman British Empire Cancer Campaign.

London W 1 Feb 14th

CUPPING

SIR,—I am the French colleague humorously spoken of by Dr Robert J Simons in the BRITISH MEDICAL JOURNAL of January 5th (p 38) I felt surprised to hear that cupping is not used in England English patients whom I attend to for many years always have appeared to me quite ignorant of the word "cupping," and Dr Simons himself, by his hesitation, induces me to send you a note concerning cupping

In France cupping is a common method There is always near a patient someone who knows how to cup A thick tumbler, a mustard pot, a jam pot, can be used when we have no proper cups Cupping is used dry or wet in all the inflammations of organs, in liver aches spleen aches etc, in dyspnoea, bronchial asthma, bronchitis, oedema,

and always we have almost immediate relief, in full measure

How does cupping work? After cupping we observe a colouring of the skin from the clear pink to the dark red colouring produced by the extravasation of the blood from capillaries into flesh This colouring is of variable depth, one to four centimetres deep into the very middle of the muscles and organs This blood, a real injection into the depth of the tissues, falls into decay, the red globules break up and set free the antitoxins that impregnate them Besides we can observe a great polynucleosis that enables the patient to resist infectious germs

In surgery, cupping is used in the treatment of deep abscesses, boils, and anthrax after the incision It draws up the matter, almost without pain, and healing is rapid In addition to the virtues already enumerated is joined, I think, the production of a curative and preventive auto vaccine

Then, cupping is not empiricism, by the *modifications* in the capillaries cupping relieves the aches, by the antitoxins that it sets free it neutralizes the poisons in the body, by the polynucleosis, and perchance by the autovaccines that it develops, cupping enables us to fight infectious germs

On account of this triple part, cupping is worthy of a place in modern therapeutics, it is certain, rapid, and easy —I am, etc,

Hyères, France, Jan 29th A VALMONT

MEMORY SIGHT

SIR,—I was much interested in the article, "Memory sight," by Colonel R H Elliot (February 9th, p 235), since it raises various questions in connexion with imagery

He describes a case where both eyeballs were removed and yet the patient appeared to retain keen visual imagery The question arises as to whether these were true visual images It is to be doubted whether there is such a thing as a pure visual or other kind of image For example, in the image one has of a room there are visual, kinaesthetic, tactual and other elements, although in most people the visual elements predominate, so that a psychologically untrained person would, and does, talk of such an image as if it were purely visual Suppose in such a case it was possible to remove the visual part, what would remain, and in what terms would it be described? In the case described, where both eyeballs were removed, it appeared that visual imagery was retained, and this would appear to show that the image does not depend on the appropriate sense organ for its formation It would be interesting to know if in any case the visual imagery had been definitely tested before and after removal of the eyeballs and what, if any, difference was found

Many psychologists speak of what we may call motor images as involving a re-excitation of the appropriate muscle mechanisms (the behaviourist standpoint, although they do not talk of images) and it is strange that the same line of thought has not been followed with regard to sensory images

Following this line of speculation a point arises in connexion with Colonel Elliot's case that seems to be crucial —the question of colour If we suppose that the tactual, kinaesthetic, and other elements can form such an image that might be described as visual the presence of natural colouring would determine whether purely visual elements were present or not It would be interesting to learn what effect, if any, removal or destruction of other sense organs has on imagery —I am, etc,

Psychology Department University of Edinburgh Feb 18th DAVID SLIGHT, M B

THE CAUSE OF DENTAL CARIES

SIR,—Dr Michael Grabham's observations on teeth and food in Porto Santo (BRITISH MEDICAL JOURNAL, 1923, vol II, p 623) serve to direct attention to the most common disease of civilized *man* Four theories are commonly advanced to explain dental caries hot food, sugar, soft mushy food, shortage of lime and phosphorus The mineral deficiency theory rests on imagination Scattered all over the world are numerous districts yielding hard water, and their people are as much affected with dental caries as other districts whose water is soft The thermic theory is supported by the fact that all wild animals are free from dental caries and all savage men Dental caries is a disease of civilization, and its cause is to be found amongst the thermic and chemical changes that cooking and milling induce in food There is urgent necessity for careful feeding experiments with litters of pigs to determine the effect of heat and sugar upon teeth

The soft or mushy food theory rests on the assumption that softness neutralizes hardness, much as an alkali neutralizes an acid Hardness and the need of hardness originated and developed teeth Softness is the absence of hardness, like darkness is the absence of light Deep-sea fish have *no* eyes, not because they are in the dark, but because they have never been in the light Soft food does not cause dental caries it induces atrophy by not stimulating tooth development with hardness, and the result is crowded and irregular teeth This is well illustrated by the Maoris, who possess beautiful dental regularity, spoiled by caries, these people have too recently been chewing fern root for retrogressive tooth changes to be evident Comparative anatomy abounds in retrogressive changes due to soft food, and it is never, except when the result of fire and mills, accompanied by caries The causes of dental caries are injury and infection, the causes of atrophy, suppression, and extinction of teeth are loss of function and the attack on atrophic teeth of a greater volume of hostile energies than composed those of the energies that originated teeth —I am, etc,

Cambridge, N Z, Nov 29th 1923 W STAPLEY

CANCER AMONG THE INSANE

SIR,—Having regard to the prominence given at the present time to the mortality from cancer, it may be desirable to draw attention to the small proportion of deaths from this cause in asylums It should be noted that the majority of deaths of the insane are verified by *post-mortem* examination, hence asylum death statistics are more reliable than death statistics in general In 1920, deaths from cancer among the insane numbered 233 (74 males, 159 females) out of 7,945—2 9 per cent , in 1921, 269 (111 males, 158 females) out of 8,019—3 3 per cent (Reports of the Board of Control)

The cancer death rate in the insane is about one-fifth of the tuberculous, and one-fourth of the general paralytic rate It is to be remembered that asylum death rates are much higher than those of the community in general, hence if the incidence of cancer per 10,000 living persons be taken, it may be found that there is not much difference in the insane from the sane Indeed, Coupland (*Journal of Mental Science*, 1913) found the proportion higher in the insane But the large majority of insane persons are of the cancer age, and it appears to me desirable that this matter should be further investigated I suggest three main reasons for the small proportion of cancer deaths to the total deaths in the insane

(1) The high death rate from tubercle (diminishing each year) and general paralysis
(2) The careful attention to hygiene, and the regulated life of the insane
(3) The somewhat low scale of diet, with relatively small amount of meat, in county and borough asylums

Possibly others may differ, but my general impression is that cancer is relatively uncommon in the neuroses as well as in the psychoses, and that it is a disease to which persons with brains above the average are rather more liable to succumb —I am, etc,

Hastings, Jan 27th HARVEY BAIRD, M D

TREATMENT OF ACNE VULGARIS

SIR,—Dr James Avit Scott in his memorandum on the treatment of acne vulgaris (January 26th, p 150) states that he has not found that "dieting exerts much influence on the disease, except in the cases of young girls, who seem to feed on sweets and chocolates to the exclusion of almost any other food" May I draw attention to the fact that pig fat may at times have an etiological relationship to acne, particularly of the suppurative form

In 1904 I happened to see two cases of severe and inveterate acne pustulata within a few days of one another In both cases pig fat was a factor in the causation

The first case was that of a soldier who, on his return journey from the South African war in a troopship for a wager drank the water in which the pork was boiled The seamen standing by told him he was in 'for an attack of small pox" for having drunk this water Within twenty four hours he had a widespread attack of acne pustulata on his back, which proved most intractable to treatment until x rays were used

The second case was that of a lady whose complexion had been completely ruined by acne vulgaris with exaggerated pustulation The acne had been present for ten years, and was exactly coincident with the period over which she had taken bacon for breakfast every morning without missing a day This was done at the instance of a medical man who had urged her to increase the fat in her diet on account of loss of weight, etc During this period she had never been without pustules, and when I saw her she presented the worst condition of acne that I have ever seen, with long 'blind' boils (one was 1½ in in length), pitted scars, and keloidal ridges She had been under many medical men, specialists and others, but grew worse rather than better Stopping the breakfast bacon permitted a complete cure to be effected

Since these two cases brought the matter so prominently to my mind, I have seen many such cases where pig fat was undoubtedly a factor of importance in the causation of acne, particularly of the pustular form My own son is one of these, and so sensitive is he to pig fat that one small rasher of bacon will determine a definite crop of pustules on the following day, whereas if he avoids pig in all forms he remains free

I am convinced that this is more common than is realized, and while admitting that it is by no means the commonest cause of the disease, it is well worth while to bear in mind the possibility

I have almost always found that the sulphur lotion treatment is sufficient to cure the existing acne, but it is essential that the grease be removed before the lotion is applied For this purpose I have been using lately a grease-removing fluid (kudos) used by motorists for their hands, it does not seem to injure the skin in any way and is effective

Where fresh crops of comedones and pustules appear after the sulphur treatment has been used effectively, there may be difficulty in determining what dietetic or other factor is at stake It is not the coincidence of seborrhoea which is the fact of most importance, but apparently the excretion into the follicles of a material or materials which the organisms transpose into a strong irritant, which remains long enough in contact with the walls of the follicle owing to the fatty nature of the plugs These excreted wastes undoubtedly come from different sources and pig fat is undoubtedly one among the number — I am, etc,

W KENNETH WILLS, O B E, M B,
Physician to the Skin Department
Bristol General Hospital

February 1st.

SIR,—Mr C H Golding-Bird's letter (February 2nd, p 215) in reply to my article (January 26th, p 150) is very interesting, but unfortunately he does not state the daily dose of calcium sulphide he prescribed in the case he mentions

In the treatment of acne vulgaris I order sulphur internally together with rhubarb, not for the infinitesimal amount of sulphur which may be absorbed and excreted into the skin, but simply as a laxative and to counteract the griping effects of rhubarb The zinc sulphate baths are intended to prevent and to deal with the secondary infection of the acne lesions with pus cocci, and I find that they do this most effectively

Sulphur externally Being the drug *par excellence* for the treatment of all conditions of the skin affecting the pilosebaceous orifices, I order it in the form of a lotion containing tragacanth which fixes it on the skin and enables it to act for a longer period than would be the case with a lotion such as Vidal's sulphur lotion, which is a 10 per cent suspension of sulphur in spirit and rose water

Dr Douglas Heath and myself have used calx sulphurata both internally and in the form of baths for various conditions of the skin, including acne vulgaris, but internally the results have been disappointing, possibly because our dosage was not sufficiently pushed, and in the form of baths it is a mode of treatment which seldom meets with the approval of the patient's household Zinc sulphate, on the other hand, is pleasant and clean to use, it does not smell and does not corrode or stain the bath fittings, whatever material they are made of

Up to date I have had excellent results in the treatment, by my method, of about a hundred cases of acne vulgaris including several medical students, but I have no doubt that some cases would respond to treatment all the quicker if in addition autogenous vaccines or possibly the internal administration of calcium sulphide were prescribed, but the former are not yet within the easy reach of all medical practitioners —I am, etc,

JAMES A SCOTT,
Consulting Dermatologist, Ministry of Pensions
West Midland Region

Birmingham Feb 3rd.

PREVENTION OF DEATH UNDER CHLOROFORM ANAESTHESIA *

SIR,—The letter of Mr Wharry in the BRITISH MEDICAL JOURNAL, August 25th, 1923 (p 327), on cyanosis during anaesthesia due to impaction of the epiglottis, leads me to make public a discovery made by me fifteen years ago, and on which I read a paper on December 1st before the Assam Branch of the British Medical Association In almost every case of disaster under chloroform anaesthesia the respiration fails first owing to the epiglottis sagging back and occluding the upper aperture of the larynx forcible attempts at inspiration may lead to its impaction In the course of many years, almost entirely devoted to surgery, I have come across several cases in which this has occurred, and have in every case been able to restore the patient by the means to be subsequently described In the course of some seventeen years' surgical work, during which chloroform has been the anaesthetic most generally employed, I have never had a death on the table, though I have had to restore several patients apparently moribund

In one case that of a lady on whom I was operating apparent primary heart failure occurred The patient seemed to be dead but I restored her by hooking up the epiglottis which was definitely impacted in the larynx In this as often occurs, there was no warning cyanosis I failed, I believe to convince the anaesthetist that recovery was due to manipulation, and not to some rally of the heart Two cases of collapse occurred whilst I was operating surgeon in Dublin In one, a man the heart judged by a stethoscope had stopped for over a minute the pupils were completely dilated and he appeared to be dead He was restored by hooking out the epiglottis, and I resumed the operation In another case an infant death seemed to have occurred or to be about to do so and the pupils dilated completely but restoration was effected *in the same manner*

I am not prepared to state that all cases of chloroform emergency are due to this cause, but it is my belief that the overwhelming majority, probably 90 per cent, are I am of opinion that in every case, during chloroform administration, the respiration fails first, as the Hyderabad Commission stated, but that the interval between respiratory and cardiac failure, in the case of a feeble heart, is so short that the respiratory failure is overlooked and the death attributed to primary heart failure

The following is my procedure in restoring a case of collapse during anaesthesia

(1) Gag to be placed in the *left* side of mouth which is to be forced widely open
(2) Tongue forceps in anaesthetist's left hand pulls out tongue as far as possible
(3) Anaesthetist stands on right side facing patient's head
(4) Place index or first two fingers palmar surface to convex surface of back of tongue and pull it upwards and forwards In more severe cases milder cases this will release the epiglottis In more severe cases should this procedure fail the tip or nail of the index finger must be insinuated under the free edge of the epiglottis I have found this a matter of some little difficulty in two or three cases. The finger should then be slid along the lower and posterior surface and the epiglottis lifted up and pressed by the pulp of the index finger against the back of the tongue Breathing will start immediately Long slender fingers are a great help in this manœuvre In one extremely difficult case so depressed was the epiglottis and so difficult to reach that I could not get a finger tip under its edge the patient was apparently dead I pressed down the epiglottis further and forward into the aperture of the larynx when air getting round the edge breathing started and I was able to free the epiglottis a few moments later My most recent case of restoration by this method occurred a few months ago when amputating the thigh of a native who had been badly mauled by a wounded tiger Chloroform was being administered by a doctor babu who had practically no previous

*Abridged for publication.

experience Just after I had sawn through the bone and was securing the vessels, the patient stopped breathing, and I had to restore him by this method In this case the epiglottis was more stuck to the aperture than impacted but tongue traction alone did not free it In a bad case of collapse it may be necessary to carry out artificial respiration for a short time, with the epiglottis held up, before the respirator's rhythm is resumed

No other restorative need be employed It is obvious that much of the technique of chloroform administration, as ordinarily practised, has the effect of keeping the epiglottis away from the danger zone Chloroform is the best emergency anaesthetic we at present know Large hospitals have their choice of many methods, the general practitioner at home or abroad has generally to make shift with chloroform I hope these notes will enable him to use it more safely I appeal for a thorough test without prejudice, and if this is fairly carried out I believe we shall hear a good deal less at coroners' inquests about status lymphaticus as a cause of death —I am, etc

Assam. T J PALMER
Hon Colonel I A M C (Retired List)

FIBRILLATION HEART-BLOCK

SIR,—Sir James Mackenzie in his admirable series of papers on "A new outlook in cardiology" published in the JOURNAL of January 5th, 12th and 19th, states "When the auriculo-ventricular node and bundle cease to control the ventricle, the ventricle at once passes into fibrillation" and he continues "As a consequence there is a total cessation of output of blood from the ventricle the patient becomes unconscious, and if the fibrillation is continued beyond a few seconds death ensues"

I now beg to ask with all due deference how this doctrine is to be reconciled with our old teaching on the mechanism of heart-block

Heart-block was supposed to be due to damage to the auriculo-ventricular bundle and when the bundle was so completely damaged that impulses could not pass, the heart-block was supposed to be complete A man with heart-block can live for some time and the ventricle does not fibrillate Am I to understand that our whole views of the mechanism of heart-block have now to be modified?—I am, etc,

Corbally, Limerick Feb 11th E G FENTON

THE BLOOD SUGAR IN EPILEPSY

SIR,—In an article on the blood sugar in cases of epilepsy, in the JOURNAL of February 9th (p 232), Messrs Daly, Pryde, and Walker state they have found that "the copper reducing value of the polarimetric solution obtained from dog's blood by the method of Winter and Smith exhibits *irregular variations* from day to day"

From the following results it will be seen that no such variations appear to occur in rabbit's blood extract within thirty-eight hours of preparation Bang's old micro-method was used for estimating reducing power

Hours after Extraction	I	II	III	IV	V
0	Per cent 0 047	Per cent 0 057	Per cent 0 045	Per cent 0 072	Per cent 0 057
15	—	—	0 045	—	—
16	0 047	0 060	—	0 072	0 055
22	0 045	0 057	—	—	—
35	—	—	0 045	—	0 055
38	—	0 060	—	—	—

—I am, etc,

Durham University College of Medicine Newcastle on Tyne Feb 11th G A CLARK, M D

THE OVERTRAINING OF NURSES

SIR,—I was very glad to read Dr Cautley's letter on the training and examination of nurses (February 9th, p 255) I feel most strongly that at the present time nurses are required to know so very much that no nurse need know On no account would I advocate the lowering of the standard of nursing knowledge The more highly trained the better—as a nurse But that is the point Nurses now are trained as though they were going to practise as doctors, and not only as nurses All such training is useless, and a waste of time It may be very interesting to a nurse to attend lectures on various diseases and injuries and their treatment, but this is not necessary knowledge for them to obtain, and, as Dr Cautley points out, they may be too tired with their practical training in nursing to attend such lectures, and might be much more profitably employed either doing the practical work or taking exercise in the fresh air

Why should nurses have to attend lectures, and be liable to be examined on such subjects as intestinal obstruction, appendicitis, diseases of the urinary organs, diabetes mellitus, and joint affections? All these subjects are given in the syllabus of examination of the General Nursing Council Is it seriously considered that a nurse is more efficient as a nurse because she knows why an appendicitis should be operated on, or what may cause intestinal obstruction, or the causes and treatment of haematuria?

But, as I said at the commencement of this letter, a nurse cannot be too highly trained in what she really ought to know—knowledge which will make her an able and reliable nurse She should be most thoroughly trained in all the details of antiseptic surgery and understand the facts on which such practice is founded, and also fully realize what disasters to the patient may follow what may seem some trivial carelessness in carrying out its precautions And the nurse should be well taught how to deal with surgical emergencies in the way of first aid But to require a nurse to know the causes and treatment of secondary haemorrhage (other than first-aid treatment) seems to me to ask for a knowledge quite unnecessary to her I have seen a paper set for a nursing examination asking for this information about secondary haemorrhage

I think the "nurses' chart" is excellent, giving indication as it does that she has received training and become efficient in such things as the "management of patients after operation" the application of fomentations the giving of hypodermic injections, etc I venture to think that all time taken from the practice of these essential things to attend lectures on the organisms present in the pus of an empyema, is simply a sad waste of time, and if attendance on such lectures debars the nurse from sufficient exercise in the fresh air it is disastrous to her —I am, etc,

Bristol Feb 12th CHARLES A MORTON

SIR,—I want to support every word of what Dr Cautley says about the nurses I very word of that letter I agree with and I have never seen a more absurd and fantastic syllabus, and one more calculated to cause endless waste of time and energy Surely there is yet time to stop the whole scheme —I am, etc,

Stroud, Feb 17th C LIONEL COOKE

GARDEN CITY SANITATION

SIR,—Dr Pieton's re-exposition of the Poore system could hardly be bettered Dr Macfadyen's letter is that of the inexperienced his remarks on paper and lettuces put him out of court as a competent witness By all means let the townsman go on pulling the string and letting the sanitary engineer do the rest—if he likes to pay for it

But if there are garden cities or village settlements which do not relish a large initial capital outlay do not wish to clump their houses into blocks for the sake of a sewage system, and do not wish to throw away £5 a year per house and buy manure for their gardens, let them not be discouraged by Letchworth The thing can perfectly well be done, with very little more trouble to the individual than pulling the chain

I regret that Dr Poore's experimental garden at Andover no longer exists At his death the property was sold and the conditions under which he cultivated it came to an end But I knew him and his garden intimately, I saw his results, and after more than thirty years' experience of his methods have no doubt whatever of their success and their suitability, with modifications, for a garden city—except,

perhaps, on a clay soil, for of that I have no experience. Difficulties there are, of course, but I have come across none that could not be overcome.—I am, etc.,

J. P. WILLIAMS FREEMAN

Westhill near Andover, Feb. 16th.

MALARIA RELIEF WORK IN RUSSIA

SIR,—I venture to appeal through your columns for support for a piece of work which I think should be of special interest to your readers.

The Society of Friends has for some years been carrying on relief work in Russia, having its headquarters in the county of Buzuluk in the Volga valley. Recent developments have been largely in the direction of medical work, of which the most important part is the treatment of malaria. The famine conditions which prevailed in the winter of 1921-22 considerably lowered the physical condition of the survivors and rendered them susceptible to epidemics, and the outbreak of malaria in 1922 had a most disastrous effect on the life and the whole moral of the people.

In October, 1922, the Friends' Mission opened at Buzuluk a bacteriological laboratory and malaria clinic, which was immediately besieged by applicants for treatment. Blood tests were made in each case and the patients supplied with quinine until the stock was exhausted. Since then large quantities have been shipped from England and America, but there has never been enough to treat all who were in need. The disease is still rampant, and between 200 and 300 patients are treated daily at Buzuluk. Clinics have also been opened at outposts in seven different parts of the county. We have a certain stock of quinine on hand, but this will all be needed during the next two or three months, when benign tertian will be the prevailing form of malaria. It is most essential that the peasants should be kept well during that time as otherwise no ploughing or sowing will be done with the result that famine conditions will return. There is, however, only too much reason to expect a recurrence of tropical malaria in July and unless further help is forthcoming we see no probability of being able to meet the need. Even now we are having to turn people away from all the clinics owing to our limited supplies.

The people are steadily getting back to normal conditions, and with an improved standard of health and better feeding we hope that this disease will in time die out, but if we stop the treatment now or in three months' time all our former help will have been in vain. May I ask any of your readers who are interested to send contributions to me at Devonshire House, 136 Bishopsgate, London, E.C.2, endorsed "For Malaria Clinic, Buzuluk." Gifts in kind would be gratefully received at our warehouse, McClean's Buildings, New Street Square, E.C.4.—I am, etc.,

CARL HEATH
Secretary Society of Friends Council for International Service

February 13th.

PREFIXES

SIR,—In a letter on the question of the military prefix Dr. Macbeth Elliot (February 2nd, p. 217) raises a totally different point, and says that to some of us the perpetual title of "doctor" seems insulting. I flatly deny that it is an insult to be addressed as "doctor" provided one possesses a doctorate. In the universities Doctors take high rank, for instance, they take precedence of Professors. When I took my M.D. degree I was presented in front of two men of great eminence who were receiving honorary degrees—men with whom I should not be mentioned in the same breath.

But the word "doctor" as applied generally to members of the medical profession has acquired an entirely fresh significance. It has come to be an occupational designation. I do not address every clergyman I meet as "parson", nor do I say, "Good morning, lawyer." But I notice the squire's wife says "Good morning, farmer" or "Good morning, postman," and puts us in the same category when she says, "Good morning, doctor." In my club I notice that we alone of professional men are designated by a word supposed to represent our occupation—"Doctor, please pass the salt," like "Waiter, get me some more bread," but I do not hear, "Lawyer, do you mind passing the pickles?" Even the waiter says "Sir" to other members of the club except peers and "Doctor" to members of the medical profession.

We have, in fact, by our insistence on being called "doctor" acquired an occupational designation in common with farmers, constables, guards, porters, cabbies, and cooks, and we are the only profession enjoying this happy position. When one addresses an officer as "Admiral" or "Colonel" or a Church dignitary as "Dean" we are giving him a rank in his profession ("officer" or "parson" would be his occupational designation)—a totally different thing.

I reached the climax of my disillusionment, however, when by inadvertence I opened an American circular. It was in the form of a letter, and began "Dear Doc." To such vulgarity can a highly prized title be prostituted. This is what has been accomplished for us M.D.'s by those who desire to emulate the procedure of a certain animal in one of Aesop's fables.

Personally, I some time since gave up using my doctorate except when visiting my own university, hence I trust you will allow me to subscribe myself as

PLAIN MR.

February 9th.

HOMOEOPATHY AND THE "E.R.A." CULT

SIR,—I have no desire to inflict on you a disquisition on the merits or demerits of either the "E.R.A." or homoeopathy, but I do wish to register my protest against the regrettably unscientific leading article on those questions in the current number of the BRITISH MEDICAL JOURNAL.

Whether or not the explanations given of certain observed phenomena are correct in no way affects the accuracy of the observation, and to dismiss the observation as absurd, simply because the explanations thereof are shown to be illogical or not in accordance with accepted scientific beliefs, is unworthy of any body claiming to represent scientific opinion.

That "like cures like" can be verified by anyone with a sufficiently intimate knowledge of pharmacology and a sufficiently careful observation of the patient's symptoms and signs. It is an incontrovertible fact. There is of course, in all experimental work, a large 'margin of error." There are factors such as those of personality and the mysterious power of suggestion to be discounted, as well as those of hygiene, diet, and rest, before one can be sure of one's conclusions; but, even so, there remains a great mass of testimony to the truth of the observation, and this testimony is mostly founded on work done with potencies from the 6c upwards.

Homoeopaths would welcome any logical and scientific explanation of these facts, and they are perhaps inclined to make an appeal to questionable methods of verification of the theories of action, but they do not require any verification of the fact, for their clinical experience extending over a great variety of diseases, gives them all the verification of the *fact* that they require.

The homoeopath, then, is fully entitled to apply the principle of the 'law of similars" even in the absence of an adequate explanation of that law, and no one is entitled to say him nay unless he also has shown by repeated experiments that that law is non-existent.—I am, etc.,

F. BENNETT JULIAN, M.B., M.Sc.

Liverpool, Feb. 16th.

, We have received a letter, as to generalities somewhat similar to that above from Dr. H. Feigie Woods, who, however, says of the emanometer that "the 'physiological basis' for its phenomena is not yet known, but intelligent men of all shades of medical and scientific thought have, after critical investigation, had to admit the reality of those phenomena." We are disposed to think that sufficient has now been said, and we do not expect to be able to devote space to more letters on the subject.

Obituary.

SIR THOMAS KENNEDY DALZIEL, M B, C M EDIN, F R F P S GLASG,

Surgeon, Glasgow Western Infirmary

We record with regret the death of Sir Kennedy Dalziel, which took place at his town residence, Bath Street, Glasgow, on February 10th after a long and painful illness. Almost a year and a half ago he found it necessary to undergo a serious operation, from which he recovered sufficiently to resume work to a considerable extent, but in September last he developed grave symptoms which called for further surgical interference. From the nature of the malady it was apparent that recovery could not be hoped for, and since then he had been confined to bed, and had suffered almost continuous pain and discomfort. He faced the situation with fortitude and patience, but the end must have been a welcome relief to himself and to his relatives, who had to look on and watch his suffering. By his passing the medical profession of Glasgow and the West of Scotland has lost one who, by his industry and skill as a surgeon and his pleasing and attractive personality as a teacher and a man, had earned a position of eminence and distinction among his fellows to which few have the good fortune to attain.

Thomas Kennedy Dalziel was a native of Dumfriesshire, having been born at Morkland, Penpont, in 1861. His education was obtained at a private school in Dumfries, from which he proceeded to Edinburgh University, where he graduated in medicine and surgery in 1883. He began his professional life in the Glasgow Royal Infirmary, where he held the post of house-surgeon. With the view of preparing himself for a surgical career he continued his studies at Berlin and Vienna, where he devoted his time particularly to experimental surgery and pathology. On his return he began practice in Glasgow, and in 1885 he succeeded Sir William Macewen as casualty surgeon for the central division of the city, which appointment he retained till 1894. He joined the surgical staff of the Western Infirmary as assistant in 1889, and was associated with Sir Hector C. Cameron in ward work and teaching till in 1899 he was promoted to the post of visiting surgeon. Sir Kennedy Dalziel was also associated for many years with the Royal Hospital for Sick Children, where he began work on the surgical side in 1891, ultimately attaining to the post of senior surgeon there. He took a very active part in the planning and erection of the new hospital at Yorkhill, which was completed in 1914, when he became consulting surgeon. He acted also for many years as consulting surgeon to the Glasgow and South-Western Railway and to the City of Glasgow Fever Hospitals.

In the earlier years of his practice in Glasgow he took a prominent part in medical teaching as lecturer in anatomy in the Western Medical School and as professor of medical jurisprudence and public health in the Anderson College, and later as professor of surgery there. He had rich natural gifts as a teacher, and his services were soon in demand, and greatly valued. He had the advantage of facile and lucid speech, and his wide experience, coupled with a well balanced and well stored mind, rendered his teaching very attractive. He became a Fellow of the Royal Faculty of Physicians and Surgeons, Glasgow, after examination in 1887, and in 1913 was appointed to give the Dr James Watson lectures for that body. He took as his subject "Some practical points in abdominal surgery," and his lectures were thoroughly appreciated. He was appointed a councillor in November, 1921. For many years he acted as examiner in his subject for diplomas under the Triple Board, as well as for other licensing bodies and the University.

His writings and publications were almost entirely confined to abdominal surgery, of which he was recognized as one well qualified to speak. His reputation was perhaps greater in this domain than in general surgery and his success there was the result of a masterly technique, deft and delicate manipulation, and rapid though not hurried work.

Sir Kennedy Dalziel was in his earlier years an enthusiastic Volunteer, first in Dumfriesshire, and later with the Royal Engineers (Clyde Submarine Division). When the Territorial Medical Service was established in 1908 he was gazetted to the 3rd Scottish General Hospital, with the rank of major *a la suite* whose services would be available on mobilization. At the outbreak of war in 1914 he was mobilized with his unit for service at Stobhill Hospital, with the rank of lieutenant-colonel. He rendered good service there and also in many other directions.

Towards the end of the war he visited various hospitals in France on behalf of the War Office. In recognition of his eminent national services in his profession, particularly during the war, the King conferred upon him the honour of knighthood in the birthday honours of 1917.

About eighteen years ago Sir Kennedy Dalziel acquired the estate of Nether Kinneddar in the parish of Saline, about eight miles from the town of Dunfermline. This estate forms an interesting link with Sir Walter Scott, who frequently visited there in the days of Lord Kinneddar. Sir Kennedy had a natural bent towards farming and stock-breeding and undertook the cultivation of one of his farms himself. This was his hobby, and in its development he found joy in his leisure. The farm became a model of its kind, and on it he began to found a herd of shorthorn cattle and other pedigree stock. He was a frequent attender and exhibitor at the Highland Society and other shows, where his stalwart figure and happy disposition promised soon to become as well known in that sphere as he was in his professional life. In the life of a gentleman farmer he found the rest and relaxation necessary to enable him to carry on.

He is survived by Lady Dalziel, two sons, and three daughters. One son is engaged in surgery in Glasgow, the other is a sheep farmer on the Pentlands. Both of these saw war service, the former gaining the Military Cross, while the latter was seriously wounded. To these we extend our sympathy in their great loss.

MAJOR-GENERAL W B BANNERMAN, C S I,

I M S (retired)

Major-General William Burnet Bannerman, C S I, Madras Medical Service (retired), died in Edinburgh on February 3rd, aged 65. He was the son of the Rev James Bannerman, Professor of Divinity in the Free Church College, Edinburgh, and was educated at Edinburgh University, where he graduated M B and C M in 1881, subsequently graduating as M D in 1889, B Sc (Public Health) in 1896, and D Sc in 1909. He entered the Indian Medical Service as surgeon in 1883, became lieutenant-colonel after twenty years' service, and brevet-colonel in 1911, and was promoted to surgeon general, passing over the rank of colonel, in the same year. He retired in 1918 soon after the title of major-general was given to all serving surgeon generals.

Though he rose to be head of his service in Madras, it was for his work in the sanitary department that General Bannerman was best known. After seven years on military duty, he entered civil employ in the Madras Presidency in 1891, and in 1893 was appointed a deputy sanitary commissioner. In 1898 he went to Calcutta as chief plague officer in that city; in March, 1899, he was transferred to special duty on research work in the Bombay plague laboratory, and in June, 1902, became superintendent of that laboratory. In June, 1906, the title of his office was changed to Director of the Bombay Bacteriological Laboratory, the work was the same. There he remained until his promotion to surgeon general.

He served in the Burma campaign for four years—1885 to 1889—receiving the Frontier medal with two clasps. His services were recognized by a good service pension and the C S I in 1911, and by appointment to be honorary physician to the King in 1913. The Philadelphia College of Physicians also conferred upon him their Fellowship in 1908. He was the author of a work on *The Plague Prophylactic* (1905), and of numerous reports on plague. After his retirement he went to reside in Edinburgh. He

was up to the time of his death a member of the Edinburgh and Leith Division of the British Medical Association, and was president of the South Indian and Madras Branch, 1915 to 1918

THE LATE DR BERNARD HARRY WEDD.—Professor S Russ writes as follows The death of Dr B H Wedd, recorded in your issue of February 16th (p 298), will be deplored by many, but especially by those who were privileged to know him intimately A man of retiring disposition, modest to the point of self-effacement, critical in a constructive way, and wonderfully balanced in judgement, he has left a record of work in many fields which bear the stamp of his sterling personality Dr Wedd had a remarkable range of knowledge, and this broadened his aspect on research problems to the advantage of many who were associated with him He did not publish a great deal, perhaps mainly because the criteria of proof that he thought necessary in experimental matters were so rarely realized, but a stricter impartiality than his in scientific judgement it would be difficult to meet Few of his colleagues guessed that he had to combat delicate health most of his life, but he cheerfully undertook the most laborious and dangerous work with a field ambulance for the first two years of the war He was a fine sportsman in every sense of that term

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The death is announced, at his house in Bournemouth, of MR W I SOFFE who before his retirement practised at East Harling, in Norfolk He was a student at the Middlesex Hospital and took the diplomas of M R C S Eng and L R F P S Glasg in 1863 Dr Michael Beverley, formerly of Norwich, has sent us a tribute to Mr Soffe's memory "Mr Soffe," Dr Beverley writes "had a considerable practice in the neighbourhood of East Harling, where his name was a household word He was a *persona grata* in the families of his patients and was much esteemed and trusted by them A sound practitioner of the old school, he kept himself *au courant* with the new It was always a pleasure to his professional brethren to meet him in consultation or otherwise On his retirement from practice, now many years ago, he went to live at Bedford, where he made many friends amongst the medical men there and occasionally assisted them The nearness of Bedford to London enabled Soffe to enjoy to the full his favourite relaxation—the theatre—and he seldom missed one performance a week On the drama he was quite an authority—especially with the old classical plays An assiduous and intelligent reader, books were in fact the great solace of his declining years He was a great talker and an amusing raconteur His great forte, however was letter writing His lengthy epistles, admirably expressed, were always a pleasure to read"

DR GEORGE SNELL died suddenly in London, at the age of 72, on February 12th He received his medical education at Guy's Hospital and the University of Aberdeen, and graduated M B, C M Aberd in 1891 and M D in 1893 After holding appointments at the Kensington Dispensary and the Victoria Hospital for Children, Chelsea, he decided to specialize in lunacy, and became assistant at the Glamorgan County Asylum Later on he was appointed superintendent of the British Guiana Lunatic Asylum, a large institution accommodating 700 patients and having a staff of three medical officers He held this responsible post for twenty-one years, and at the time of his resignation the surgeon-general, Sir David Palmer Ross, M D, C M G placed it on record that "Dr Snell performed his duties in a most efficient and satisfactory manner, and his success was due to his professional and administrative ability, and the gentle care he always bestowed on his patients I have no hesitation in saying that, on his retirement, Dr Snell handed over to his successor one of the best managed institutions in the Colonies"

DR ALLEN THOMSON SLOAN, a well known Edinburgh practitioner, who died on February 8th, aged 63, was educated at Watson's College and Edinburgh University He graduated M B, C M Edin in 1882 and M D in 1885 After holding a succession of resident and extern appointments at the Edinburgh Royal Infirmary, he began practice in Edinburgh nearly forty years ago During the war he served on a medical board, which involved a good deal of travelling This duty, together with the work of a large practice, overtaxed his strength, and he was compelled about a year ago to give up active work Before retiring he was joined in practice by his son, Dr A T Sloan, junr, the well known Scottish International Rugby player His youngest son, Lieutenant T I T Sloan, was killed in action near Rouex, in 1917 Dr Sloan was a member of the Edinburgh and Leith Division of the British Medical Association

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Universities and Colleges

UNIVERSITY OF OXFORD

AT a congregation held on February 16th the following medical degrees were conferred

D M—S C Dyke
B M—R V Facey B G Scholefield

At a congregation held on February 19th it was announced that the Trustees of the Rockefeller Foundation had offered to the University the sum of £75,000 for the development of the Department of Biochemistry

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UNIVERSITY OF CAMBRIDGE

AT a congregation held on February 9th the degree of Doctor of Medicine was conferred upon R A Woodhouse

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UNIVERSITY OF LONDON

THE Senate, on January 30th received from the Ministry of Health and approved the draft of a suggested charter for the School of Hygiene embodying the heads of agreement which were approved in October 1922 Dr Iris Fox was recognized as a teacher of pathology at the London (Royal Free Hospital) School of Medicine for Women, and Dr G W Goodhart as a teacher in clinical pathology at University College Hospital Medical School Certain emendations were agreed to in the regulations for the second examination for medical degrees Part I. It was decided to suspend for 1924 the operation of the resolution of the Senate adopted on October 24th (BRITISH MEDICAL JOURNAL November 17th, 1920, p 947) with reference to the change of date of the M B, B S examination for internal and external students It was resolved that in and after 1924 the latest dates of entry for the M D and M S examinations for internal and external students be as follows M D (July) in all branches with or without thesis, May 15th, M S (July) Branch I, with or without thesis May 15th M S (July) Branches I, III and IV, with or without thesis March 1st, M S (December) Branch I, with thesis and Branches I III, and IV, with or without thesis September 1st

The ceremony of Presentation Day will be held in the Royal Albert Hall on Wednesday, May 14th and not on Friday, May 2nd, as stated in the University Calendar for 1923-24 (*White Book*)

University medals at the M D examination for internal and external students, December 1923 have been awarded as follows In Branch III (*Psychological Medicine*), to Mary R Barkas (St Mary's Hospital), and in Branch IV (*Midwifery and Diseases of Women*) to Sybil G Mocatta (St Mary's Hospital)

Applications for grants from the Thomas Smythe Hughes Medical Research Fund must be received not earlier than May 1st and not later than July 16th 1924 The grants are allocated annually for the purpose of assisting original medical research Further particulars may be obtained from the Academic Registrar

A University Studentship in Physiology value £50 for one year tenable in a physiological laboratory of the University or of a school of the University, will be awarded to a student qualified to undertake research in physiology Applications must be received by the Principal Officer on or before May 31st 1924 Full regulations for the award of the studentship may be obtained on application

Applications for grants from the Dixon Fund for assisting scientific investigations must be received between April 1st and May 15th 1924 Full particulars may be obtained from the Academic Registrar

Applications for the Graham Scholarship in Pathology value £300 per annum must be received by the Principal Officer at the University not later than by the first post on Monday March 3rd The scholarship was founded under the will of the late Dr Charles Graham to enable 'a young man to continue his pathological researches and at the same time to secure his services to the School of Advanced Medical Studies connected with University College Hospital as a teacher under the direction of the Professor of Pathology"

A course of lectures on mental deficiency for medical officers of local authorities and institutions and medical men engaged in work for defectives, will be given at the central buildings of the University from May 19th to 24th The arrangements are being made by the Council of the Central Association for Mental Welfare in consultation with the University Extension Board

ROYAL COLLEGE OF SURGEONS OF ENGLAND

AN ordinary Council meeting was held on February 14th, when the President, Sir John Bland Sutton, was in the chair

Diplomas of Membership were granted to 197 candidates, and Diplomas in Ophthalmic Medicine and Surgery were granted jointly with the Royal College of Physicians to 12 candidates (The names were published in the report of the comitia of the Royal College of Physicians printed in our issue of February 9th, p 258.)

Mr. W Thelwall Thomas was elected to represent the College on the Court of the University of Liverpool for three years

Morbid Histology

A resolution, proposed by Mr Sampson Handley and seconded by Mr R P Rowlands, "That steps be taken by the Council to revive and encourage the study and teaching of morbid histology," was carried and referred to the Museum Committee

Election of Council

A meeting of the Fellows will be held at the College on Thursday, July 3rd, for the election of three Fellows into the Council in the vacancies occasioned by the retirement in rotation of Mr William F Haslam, Mr T H Openshaw and Mr Raymond Johnson A reception will be held from 4 to 6 p m on the same day, and the annual exhibition of additions to the museum will be open for inspection

The Services.

THE NAVAL MEDICAL SERVICE

A RETIRED naval medical officer, in the course of a letter over the pseudonym "Action," writes

"Recently a committee of the medical members of the Senate of London University reported to the Admiralty on the Naval Medical Service The fact that it is not intended to publish the report will disappoint most naval medical officers, as did the failure to publish the report of the Durnford Committee

"Now trying to improve or popularize the Naval Medical Service are three bodies—London University, the Naval and Military Committee of the British Medical Association, and presumably the Admiralty Surely the time is ripe for a commission such as reorganized the Army Medical Service Many of us think we know the reforms necessary for success, but it is only by an open commission that suggestions can be encouraged and organization perfected Perhaps a few suggestions may not be impertinent

"The condition that causes most dissatisfaction is the apparently unfair distribution of shore billets The establishment of a roster should not present insuperable difficulties Rosters for the men are kept at drafting establishments, as it is well known that an unfair distribution of home billets is a fertile source of discontent It is not uncommon to find some officers employed four or more years in one shore billet or a sequence of shore billets The reasons for such officers being employed ashore to the exclusion of others have been explained variously, but never satisfactorily Shore billets help to take the place of the rare post graduate courses, for it is whilst holding them that there is the best opportunity for study Hospital medical officers should take their turn at sea It is Gilbertian that sea going medical officers who are really indispensable—for the hospitals can always be staffed by civilians as during the late war—should rarely get any reward in spite of doing most of the unpleasant work

"Probably the next cause of most heart burning is the failure to obtain promotion to surgeon captain In the old days the great attraction of the service was the handsome pension that a senior fleet surgeon drew about as much as a surgeon commander draws at present when money is worth so much less The penalty for failure to attain promotion is now much more serious, as a relatively large pension cannot be obtained without promotion The remedy is to revert to the old scheme of granting pensions by removing the maximum limit Another disadvantage of failure to attain promotion is compulsory retirement at 50 instead of 55, just at the time when a professional man expects to receive most pay in order to meet the expenses of children's education or to save in order to provide sufficiently for dependants Probably it will be found necessary to revert to retirement of surgeon commanders at 55 instead of 50 There need be no alteration of the age for retirement of surgeon captains In civil life it is the successful man who retires early, in the navy the reverse is the case Again it should be made possible for all medical officers to have an equal chance of promotion It has always been difficult for a medical officer joining after 24 to obtain promotion This difficulty results in graduates of London and Cambridge and some other universities being practically excluded from promotion Promotion by seniority plays a great part in the navy as elsewhere, but in other branches more consideration is ensured by the more equal age at which candidates join Promotion by merit occasionally occurs, but there are few cases of real outstanding merit A new method has recently been given some consideration Selection has been made to a greater extent from amongst the officers on the point of being compulsorily retired This which might be called the compassionate method seems unfair to the senior but younger officer The proper remedy lies in having an upper limit to the promotion zone, so that all officers may remain in the real promotion zone for an equal length of time

"Another suggestion is that there should be an increase in the number of surgeon captains so that the flagship medical officers may be of that rank, but, in order that expense may be spared, they should be paid at the rate of senior surgeon commanders, the numbers paid at the higher rate remaining as before Lastly, there should be a fixed number of promotions each half year as in the executive branch, otherwise there is an unfair distribution of promotions

"The above are some suggestions that might popularize the service if it is not considered practicable to appoint a commission Many more suggestions are available, some have been omitted in order to curtail this letter, others because they are more suitable for discussion at a committee"

Medical News.

As already announced, several special courses have been arranged for next month by the Fellowship of Medicine and Post Graduate Medical Association A two weeks' intensive course will be given by the staff of the Royal Northern Hospital in association with the Central London Ophthalmic Hospital, the North-Eastern Fever Hospital, and the Royal Chest Hospital (City Road), from March 3rd to 15th, a special course in gynæcology at the Chelsea Hospital for Women, covering the whole month, commencing on March 3rd, two series of lectures and demonstrations in psychological medicine at Bethlem Royal Hospital from March 8th to April 5th, and in electrotherapy at the Royal Free Hospital from March 5th to April 9th In addition to the foregoing there will also be a course on diseases of children, arranged by the Royal Waterloo Hospital for Children and Women, from March 17th to April 5th At the end of March a course in ophthalmology will be given at the Royal Westminster Ophthalmic Hospital, details of which will be announced later Copies of the syllabus with particulars of the courses can be had from the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W 1

LORD ATHOLSTAN, who has been conducting a crusade in the *Montreal Star* against tuberculosis and the conditions which produce it, has offered a personal contribution of 500,000 dollars to assist the Quebec Government in combating the disease The *Times*, from which we take this information, states that the donor suggests that measures should be taken similar to those instituted six years ago in Framingham, a town of some 17,000 inhabitants in Massachusetts An account of this experiment was given in our columns some time ago Briefly stated, it consists of an intensive study of tuberculosis, its prevalence, and the domestic conditions favouring it in a small community A large staff was engaged and a house to house visitation made, information being collected as to the number of people affected and the conditions of the houses in which they resided

AT a recent conference of educational associations in this country it was stated that instruction in mothercraft was given in sixteen towns, it is interesting to note that a similar movement is on foot in France Taking the view that ignorance plays a very important part in the production of a high infantile mortality rate, various organizations have for some years agitated for the teaching of mothercraft to all schoolgirls The usual objections were raised to such a proposal that it would increase an already overburdened curriculum, that the subject was too advanced for elementary schoolgirls, and that it would not yield any permanent results The subject of *mothercraft* was, however, introduced into the school syllabus at eight institutions in Paris and district The girls, whose ages ranged from 10 to 13, showed great interest in the course, and so successful was the experiment that in March, 1923, the subject was made compulsory in every French elementary school for girls The Comité National d'Enfance was invited to co-operate with the educational authorities in drawing up the syllabus, and two courses have been proposed—a compulsory elementary course to be given by the regular mistresses, for whose assistance a book has been prepared, and an advanced optional series of lectures by specially qualified instructors (doctors and midwives)

A NOTE of the first congress of tropical medicine held in West Africa last year appeared in our columns of November 17th (p 953) The inaugural speech of the High Commissioner and Governor General of Angola, General Sir J M R Norton de Matos, has now been published, together with an abstract of the history of this Portuguese colony from 1484 to 1921 An account is given of the transformation of a conquered country into a loyal colony, the introduction of civilization and of commerce, and the establishment of educational and medical services.

THE National Clean Milk Society (3, Bedford Square, W C 1) has now published a detailed account of the proceedings of the National Milk Conference on Pasteurization held in London last November, a report appeared in our columns of December 1st, 1923 (p 1062) The aim of this society is the improvement of the hygienic standard of milk and milk products, and the education of the general public with regard to the importance of a clean and wholesome milk supply

A COURSE of six lectures on milk and milk products will be given at the Chelsea Polytechnic Manresa Road on Thursday evenings at 7 p m , beginning on February 28th Similar courses have been attended during the last twelve years by over 500 persons, including sanitary inspectors and people engaged in the dairying trade This course will be given by members of the staff of the National Institute for Research in Dairying and the British Dairy Institute, Reading The fee is 5s

THE anniversary dinner of the Medical Society of London will be held at the Grand Hotel, Trafalgar Square, on Wednesday, March 12th, at 7 30 p m

AT the February meeting of the council of the Society of Members of the Royal College of Surgeons of England Dr Sidney C Lawrence was presented with an illuminated address in order "to place on record their high appreciation of his services as honorary secretary for the past fifteen years and the great zeal and ability with which he has discharged the duties of his office"

THE Society of Superintendents of Tuberculosis Institutions has devised a course of training and examination for nurses in institutions dealing with pulmonary tuberculosis An outline of the conditions of training appears in the February issue of *Tubercle* The society will award certificates to those who pass through the full course of training and satisfy the examiners A schedule of the practical training required is appended In addition there is a statement of the classification of cases of tuberculosis adopted by the society in October, 1921, and a list of the terms used in describing the immediate results of treatment The first examination will be held next May Further particulars may be obtained from the honorary secretary of the society, Dr P W Edwards, Cheshire Joint Sanatorium, Market Drayton, Salop

AT the meeting of the Manchester Clinical Society to be held in the Medical Society's library on Thursday, February 28th, at 4 30 p m , Sir Thomas Horder will give a lecture on medicine and old ethics

A CONJOINT annual meeting of the Canadian and Ontario Medical Associations will be held in Ottawa, from June 17th to 20th inclusive, under the joint presidency of Dr J F Kidd, president of the Canadian Medical Association, and Dr J F Argue, president of the Ontario Medical Association

A COURSE in tropical hygiene will be held at the Institute for Naval and Tropical Diseases at Hamburg from March 10th to May 17th and again from October 6th to December 6th Each course will consist of lectures, demonstrations, and practical work dealing with the etiology, morbid anatomy, symptoms and prophylaxis of tropical diseases The courses will be conducted by Nocht, Fülleborn, Giemsa Mühlens, Paschen Da Rocha Lima, and others Further information can be obtained on inquiry addressed to the Institut für Schiffs und Tropen krankheiten, Bernhardstrasse 74, Hamburg

THE annual provincial meeting of the Tuberculosis Society will be held at Cambridge on April 10th, 11th, and 12th A full programme will shortly be issued A limited number of rooms in Clare College will be available at an inclusive charge of £1 per diem Members wishing to avail themselves of this accommodation are requested to notify the honorary secretary, Dr F J C Blackmore, 139, Herbert Road, S E 18, at once

DR MALCOLM CAMPBELL and DR D MACKELLAR DEWAR have been appointed justices of the peace for the county of the City of Glasgow

THE fifteenth congress of the German Röntgen Society will be held from April 27th to 29th at the Langenbeck Virchow Haus in Berlin under the presidency of Professor Wintz The first day will be devoted to diagnosis, the second to the dosimetry of x rays, radium, and light rays, and the third to technique Further information can be obtained from the secretary, Dr Graessler, Buerger Hospital, Cologne

THE twenty eighth congress of French speaking alienists and neurologists will be held at Brussels in April under the presidency of Dr Glorieux of Brussels and Dr de Massary of Paris The subjects to be discussed are mentally deficient children, introduced by Drs. Vermeulen of Ghent and Simon of Vaucleuse, disturbances of language, introduced by Dr Froment of Lyons and the adaptation of the mental patient to his environment, introduced by Dr Sano of Gheel,

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager 429 Strand London W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL 429 Strand W C.2

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager 429 Strand W C 2 on receipt of proof

THE telephone number of the *BRITISH MEDICAL* ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand, London*

MEDICAL SECRETARY *Mediocre Westrand London*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

The address of the Irish Office of the British Medical Association is 16 South Frederick Street Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin) and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone, 4361 Central)

QUERIES AND ANSWERS

CHRONIC INTESTINAL STASIS

"SUFFFRER" writes Concerning the interesting lecture by Sir W Arbuthnot Lane (January 26th, p 142) may I ask the following two questions (1) Is there any evidence that the adults of uncivilized races defaecate more than once a day generally? (2) It is known that workers in paraffin are liable to cancer Does not the lecturer think that the long continued regular administration of liquid paraffin may conduce to this disease?

A MEDICO CHIRURGICAL AND PHILOSOPHICAL MAGAZINE

"R B" asks for information with regard to the weekly *Medico Chirurgical and Philosophical Magazine* first published on February 8th 1823 He asks Were any numbers issued above 48, which was the last number of vol ii published January 3rd 1824? Who was the editor of the magazine? If it ceased publication after Saturday January 3rd 1824 was it on account of the publication of the *Lancet* in October, 1823 some six months after the first publication of the weekly *Medico-Chirurgical and Philosophical Magazine*? That it was intended to publish a third volume (our correspondent continues) is evident from the notice at the end of the last number of vol ii (No 48) which reads under the heading To Correspondents The ensuing number of the *Medico Chirurgical (Review) and Philosophical Magazine* (commencing the 3rd vol) will contain a portrait with a memoir of Sir Astley Cooper Bart.' At the end of No 44 there is a notice anent the alteration of title We beg leave to apprize our numerous respectable friends and readers the gentlemen of the honourable professions of medicine surgery etc , that it is intended on the commencement of the ensuing year, to introduce the word 'Review' to our title in the following manner The Medico-Chirurgical Review and Philosophical Magazine.'" Was a number published under this title?

SLOW PULSE AFTER INFLUENZA

DR. A G WILKINS (Stafford) inquires as to the significance of a slow pulse in the following case A woman aged 50 one month after the beginning of influenza suffered from shortness of breath without physical signs of dilatation or valvular disease After exertion and two minutes repose the pulse was markedly slower than before exertion

*** Bradycardia following an acute infectious disease especially influenza or enteric fever is a well known phenomenon and is likely to occur after exertion in association with a fall of blood pressure the so called hypotension of effort" described by French writers Our correspondent does not state whether any such changes of blood pressure occurred in this patient

INCOME TAX

A C M ' was demobilized on October 24th 1922 and acted as locumtenent from November 24th 1922 to September 30th 1923 earning in all £214 apart from unassessable advantages as free room and board etc On these earnings he is asked to pay £20 2s 10d since then he has been taking a D P H. course and has not been earning any income

*** The earnings of £214 have to be divided into the two financial years ending April 5th 1923 and April 5th 1924 *Prima facie* it would seem that the earnings falling into the

latter year would not amount to the limit of exemption—that is, £135, the amount of tax to be paid in respect of the earnings to April 5th, 1923, would depend partly on their total amount and partly on whether the military pay to October 24th, 1922, covered the whole of the "reliefs" due, including the half rate relief on the first £225 of taxable income On the face of the facts given, £20 2s 10d seems excessive No allowance can be claimed for the expense of further study or research, in effect it is capital outlay

"A M O H" is assessed under Schedule E in respect of a salary from a public appointment The inspector of taxes has refused to make him any allowance for his subscription to the British Medical Association

*** In considering this question it is necessary to distinguish between the assessment of profits under Schedule D and the assessment of salaries under Schedule E In the former case expenses are allowable if they are in fact incurred for current purposes of the practice, in the latter case it must be shown that they were incurred "wholly, exclusively, and necessarily" in the performance of the duties of the office Where the appointment is held on the condition that the holder shall be a member of the British Medical Association, then we consider that the payment is "*necessary*," but the matter is not clear where there is no such express condition

LETTERS, NOTES, ETC

Pernicious Anaemia and Acholuric Haemolytic Jaundice

DR F PARKES WEBER (London, W) writes In Dr A Piney's interesting considerations on pernicious anaemia (BRITISH MEDICAL JOURNAL, February 16th, p 271) I was somewhat surprised to read the following "Hunter's conception of pernicious anaemia as a haemolytic anaemia receives Hurst's support, but there is no resemblance between it and the known haemolytic anaemias—namely, acholuric icterus" There certainly had been difficulty in diagnosis in a case which I demonstrated at the Royal Society of Medicine, Section of Medicine, May 29th, 1923 (*Proceedings*, vol xvi, p 73), as a "case of acquired chronic haemolytic (acholuric) jaundice," first seen fifteen years ago Dr William Hunter, who was present at the discussion, has filled nearly three pages of the *Proceedings* with a careful argument in favour of the case being really one of pernicious anaemia Others present took a different view Difficulties have been met with in regard to the diagnosis of various more or less similar cases of patients with severe anaemia, slight jaundice, and considerable splenomegaly

Vaccination

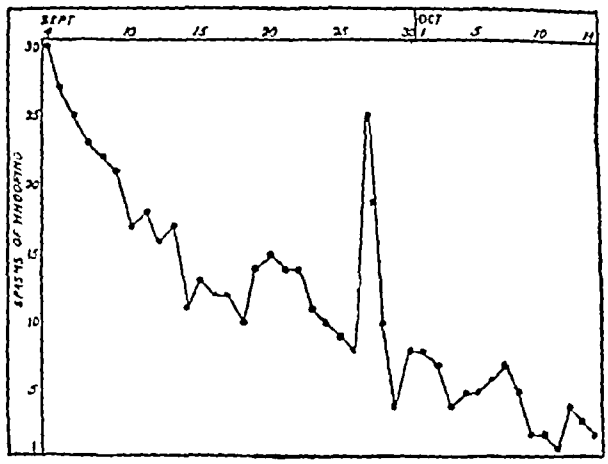
DR JOHN W WEIR (East London, South Africa) writes From my experience of over twenty five years of Government work with small pox and vaccination in a native territory I formed the opinion that if general infantile vaccination were neglected small pox would very soon appear in a form a hundredfold more virulent and fatal, with a corresponding area affected I was repeatedly called upon to deal with outbreaks of small pox which, on account of its mildness as in Poplar, was not reported until it had spread considerably and there had been one or two deaths With very few exceptions the severe cases and the deaths were among those who had in some way lost their opportunity, or had been careless about vaccination, or in whom it had been improperly performed So much did the natives come to realize this that they were frequently with difficulty restrained from pressing for vaccination for themselves and their children, although they had been vaccinated only two or three years previously The high mortality at Poplar workhouse, instead of relaxation, would indicate the necessity of a more careful infantile vaccination, with an examination, and if necessary revaccination, after five years especially of all inmates of public institutions If the views expressed by Dr Millard were adopted by other medical practitioners some of the laity might be led to oppose vaccination, with dire results

The Etiology of Heart Disease in Early Life

DR A C F HALFORD (Brisbane) writes In the BRITISH MEDICAL JOURNAL of October 20th 1923 is a full account of the discussion on the etiology and treatment of heart disease in early life In his opening paper Dr Reginald Miller lays stress on rheumatic fever as a principal factor in the damaged hearts of children which are met with so frequently in all parts of the world Statistics show that disease of the heart and blood vessels is the greatest single cause of invalidity and death in every country where records are available It is therefore gratifying that the profession is making a serious attempt to combat the ravages of rheumatism in particular Prevention is freely mentioned by the speakers, but one line of action open to us was referred to by only one (Dr Raven) of those taking part in the discussion There is no other reference in the report to the infectivity of rheumatism I have always warned parents of its danger as a "catching" disease I have during the last twenty years at least inquired into the family history of the patient and have been rewarded by readily discovering evidence in 80 or 90 per cent of my cases of association *over long periods of time* with similar sufferers, that is to say, if a mother have it, examination of her children will almost inevitably reveal valvular disease quite unexpectedly, or chorea or—what one may regard of less etiological importance though it cannot be overlooked—recurring tonsillitis I cannot recall an instance of the disease in the father with a similar sequence of events, but if my conviction is justified, that the disease is not readily communicable, but requires close association and many repetitions of the dose, then the observation is not singular Rheumatism, as a disease with a strong predilection for the valves of the heart and joints occurs under all sorts and conditions of life and in Australia it has no respect for persons Why there is so much said about environment I cannot conceive It is time enough to go back to this old bogy when we have eliminated entirely the influence of the previous case

Whooping Cough Spasms

DR J A DICKIE (Morpeth) sends a record and chart of the number of whooping cough spasms in a girl of 14 He discovered after attending for some time that the mother had been keeping a note of the time of occurrence of each spasm since the illness reached its height on September 4th, 1923 Unfortunately no record had been kept of the earlier stages between that date and the commencement of the illness on August 19th On September 27th (twenty fourth day of record) the times were as follows a m 12 5, 2 5, 3.50, 5 0 7 20, 8.30, 9.55, 10 55 11.30, p m, 12 50, 1 30 3 0 3 35, 4 20, 5 30, 6 0 6 20, 6 35, 7 15, 7 40 8 0, 8 30, 9 30, 10 10, 10 35 The accompanying chart of the total



attacks in each period of twenty four hours shows the improvement in the disease It may be added that whereas during the first three days of the record thirty two spasms of coughing occurred between the night hours of 8 p m to 8 a m, and forty nine attacks during the remainder of the twenty four hours, yet during the more convalescent stages this relation was reversed as follows During the three days October 4th, 5th, and 6th there were nine attacks between 8 p m and 8 a m, and seven attacks during the remainder of the twenty four hours During the sharp relapse on September 27th there were ten attacks during the night and fifteen during the day

Tests of Drunkenness

DR J INGLIS CAMERON (Larbert) writes Driving a motor car while under the influence of alcohol being admitted by all to be so serious a crime, it seems necessary that a standard definition of the condition should be arrived at Since clinical signs and symptoms are obviously so misleading and therefore useless, a scientific if empirical test surely is indicated Let the law state that anyone driving a motor vehicle with more than a certain proportion of alcohol present in his blood as determined by any scientific test decided upon, whether chemical, physiological, or otherwise, shall be liable to a punishment for driving while under the influence of alcohol It would then be the duty of any doctor examining such a suspected driver merely to draw off so much of the driver's blood and send it to a competent authority for examination and report It is true that not a few people would thus be liable to punishment though not strictly under the influence of alcohol, but the crime in question is so serious a one that such an arbitrary test surely is necessary. In any case ignorance of the law is no excuse at law for infringement of the law This surely is quite as arbitrary a proceeding as the arbitrary test I suggest

Herpes Zoster and Varicella.

DR E L SORTAIN (Brighton) writes —The following is worth recording Mr H had a sharp attack of herpes of the face and head. I jokingly remarked that there was a curious connexion between chicken pox and his disease and that his daughter of 9 might develop it fourteen days after he started This is exactly what happened to the very day.

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 28, 29, 32, 33, 34, and 35 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *115*.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

157 Medical Treatment of Gastric Ulcer

F SMITHIES (*Amer Journ Med Sci*, December, 1923, p 781) remarks that the treatment of this disease has been largely symptomatic and unsatisfactory, since the ulcers recur in 84 per cent of cases, whatever has been the type or duration of treatment The disease is usually associated with others—for example, infections of the upper respiratory tract, appendix, gall bladder, perigastric lymph nodes, or of the pelvic viscera Smithies, in a series of 522 chronic gastric ulcers (proved histologically), finds that 33 7 per cent were due to chronic or acute infections, 14 7 per cent to arterio sclerosis, 11 3 per cent to chlorosis, and 7 8 per cent to syphilis He confirms recent observations that the condition is not dependent upon excess of hydrochloric acid and pepsin In a recent study of 500 cases he found only 30 per cent having free hydrochloric acid above 0 25 per cent, in 45 per cent the acidity was within normal limits, while in 25 per cent acidity was reduced or entirely absent Digestion of partially or completely necrotic epithelium, resulting from injury, may occur equally readily in the presence of normal or even subnormal acidity and be due to bacterial activity The condition cannot be regarded as a distinct pathological entity, it is a local accident in the course of a variable systemic disturbance The ulcer in some cases undergoes spontaneous cure, while in other apparently similar cases it results in stenosis, haemorrhage, perforation, or carcinoma, 85 per cent of all cases occur in the pylorus The value of the test meal in diagnosis is overrated, but x rays are of great service in both diagnosis and localization At the commencement of treatment all possible foci of chronic infection should be investigated, including the whole of the alimentary tract and pelvic organs The condition of the circulatory and nervous systems should be noted, and, in addition, any errors of occupation or environment corrected At least two negative Wassermann tests should be obtained before syphilis is excluded Recurrent and fibrosing pyloric ulcers should be treated surgically Gastro jejunostomy aids the stomach to empty itself, reduces intragastric tension, and diminishes free hydrochloric acid The underlying principle of all successful treatment of gastric ulcer is 'physiological rest'—that is, (1) physical and mental rest in bed for one to three weeks, (2) fasting for three to five days, with rectal feeds Pain may be relieved by frequently renewed hot compresses, painful peristalsis by chewing paraffin wax for ten minutes every hour, while fasting, this also prevents parotitis by keeping the mouth clean and promotes a free flow of saliva and mucus, which aids in the prevention of painful hunger contractions Mouth feeding may be commenced on the third to the fifth day, the food should be warm, liquid, and in small quantity Carbohydrates should be preferred, they leave the stomach most quickly and cause the least degree of gastric activity Milk is unsuitable as a routine food—it coagulates, stimulates acid and pepsin secretion, and furnishes a culture medium for bacteria, if given, it should be pasteurized, citrated, or predigested Smithies condemns the routine administration of alkalis or of other medicines alkalis may produce toxic symptoms, they stimulate gastric activity, and it is doubtful if any kind of medicine has a direct healing effect on gastric ulcer Acidity is best relieved by small doses of milk of magnesia or solutions of calcined magnesia Gastric lavage is seldom necessary, but when required, warm Carlsbad water (1 drachm of artificial Carlsbad salts to 1 quart of water) is useful Recurrent haemorrhage is an indication for laparotomy

158 Treatment of Mussel Poisoning by Adrenaline.

S L HENRICHSEN (*Ugeskrift for Laeger*, October 18th, 1923, p 743) has observed two cases of severe poisoning after a meal of uncooked mussels The first patient a man aged about 60, was found sitting up in bed gasping for breath and unable to speak on account of severe coughing There was an extensive scarlatiniform rash and his face, scalp, nape of the neck, and wrists showed patches of circumscribed oedema He was too ill for gastric lavage Noting the similarity of this condition to true asthma, the author gave a subcutaneous injection of adrenaline There was a prompt response In half a minute the dyspnoea was less severe, and in two minutes the respiration had become normal, the cough had ceased, and the patient was able to lie down In twenty minutes the rash had completely disappeared, and the oedema had become less. The second patient was a man, aged 40, who, after a large meal of mussels, developed severe dyspnoea and intolerable generalized itching He rolled about in bed, scratching himself incessantly his respiration was wheezing, and there was a severe attack of asthma An injection of adrenaline acted with the same magic promptness as in the first case, an asthmatic attack that was just beginning immediately after the injection failed to materialize The author is unable to explain the action of adrenaline in these cases, but he refers to the experiments of Januschke and Pollak, who found in experimental animals that the injection of Witte's peptone gave rise to a bronchial spasm which was promptly relieved by adrenaline They believed that the peptone induced a vagotonic state which passed off when the sympathetic system was stimulated by adrenaline.

159 Bronchial Affections treated with Jaborandi.

E MAHLO (*Muench med Woch*, December 21st, 1923, p 1505) records the results of treatment of bronchial affections with tea made from jaborandi leaves and given as an infusion three times a day No toxic effects were observed The drug increases the bronchial secretion, expectoration is rendered easier and the sputum more liquid The author recommends the drug in acute bronchial catarrh with tenacious mucous secretion and with dry troublesome cough He thinks the drug deserves more frequent use in bronchial asthma with dry catarrh, both in the acute attacks and in the intervals between the attacks relief is obtained by liquefying the sputum In whooping cough with dry catarrh it is also of service The drug is cheap, profuse sweating is sometimes produced, but this can be diminished by cold drinks

160 Appendicitis as an Infectious Disease

A FONIO (*Schweiz med Woch*, October 11th, 1923 p 947) gives evidence in support of the thesis that (1) appendicitis is primarily a disease due to one or two specific germs, the mixed bacterial flora of appendicitis in its late stages being a secondary phenomenon, and that (2) the disease may be conveyed from one person to another, existing as an endemic To throw light on the first point he has examined numerous appendices removed in what he calls the primary stage, and in most he found Gram positive diplococci and slender bacilli in the walls of the appendix In several cases these germs had penetrated to the serosa and even to the fibrinous deposit thereon and to the adjoining omentum An examination of several normal appendices showed a similar bacterial flora only in two-thirds, the mucosa being alone infected In several of his cases of early appendicitis the Gram positive germs were obtained in pure culture after they had penetrated the walls of the gut, and in none of these cases could the ordinary bacteria of the intestines, such as the *B coli*, be found. Hence the author's conclusion that early in the disease the wall of the appendix acts as a filter, transmitting a certain Gram positive germ but no other germ With regard to his second point, he has conducted inquiries, among the 275 patients operated on by him for appendicitis, as to the occurrence of other cases of appendicitis in their neighbourhood In as many as 151 cases, or 54 9 per cent, other cases of appendicitis had occurred in the same family or in the immediate neighbourhood of the first patient There were altogether 245 such cases of secondary or contact appendicitis Among these 245 cases there were as many as 175 in which the disease broke out in members of the same family to which the first patient belonged The author concludes that the endemic occurrence of appendicitis is comparable with that of diphtheria rather than that of cholera and scarlatina which tend periodically to break out in fulminating epidemics

161 An Early Test for Pertussis

GARZIA (*La Pediatria*, August 15th, 1923, p 891) publishes brief records of eleven cases of suspected whooping-cough where for diagnostic purposes he injected subcutaneously 1/10 c cm of a vaccine containing 250 million *B pertussis* per cubic centimetre All the cases which had whooping cough gave positive results, those children who, though they had been in contact with whooping cough and might have been expected to develop it, yet gave negative results, did not develop the disease The numbers are too small for a definite statement, but the author promises a further communication, since a test which would indicate whooping cough in the early stages before the characteristic whoop occurs would be very valuable

Surgery.

162. Total Resection of the Carcinomatous Stomach

KELLING (*Zentralbl f Chir*, December 1st, 1923, p 1774), at a meeting of the Surgical Association of Central Germany, recorded two cases of total resection of the stomach for carcinoma in men aged 55 and 51 respectively The first patient survived six and a half months, for five of which he remained in good health and in three was able to continue his work as a shoemaker The second patient survived fourteen months all but three days, was free from symptoms for nine months, and for six months was able to continue his work as a gardener Removal of the stomach was followed by absence of hunger pain in spite of an almost continuous lack of a feeling of satiation during the first few months after the operation Carbohydrates were completely digested in the intestine from the first, meat less so, and fat least of all No dilatation of the intestine took place to serve as a reservoir for the food in place of the stomach In both cases a recurrence took place in the abdominal cavity, in the younger man signs of stenosis gradually developed at the junction of the oesophagus with the small intestine, while the older patient had a rapidly growing glandular recurrence with ascites In the subsequent discussion Wrede recorded the case of a man in whom complete resection of the stomach had been performed for adenocarcinoma of the lesser curvature four years previously, since when he had enjoyed excellent health and had gained 22 lb in weight He had an appetite for his meals, the number and amount of which were the same as those of a healthy man, he was able to eat anything, though he had to be careful with heavy bread and cabbage A short time after taking a little food he had a feeling of fullness in the gastric region, but this soon disappeared and he could continue his meal Xrays showed that there was no compensatory dilatation of the intestine.

163. Acute Abdominal Conditions.

W G CRUMP (*Amer Journ of Surg*, January, 1924, p 6) deals with the surgical treatment of the acute abdominal conditions which arise from congenital abnormalities, external violence, or pathological processes He emphasizes the importance in these cases of paying careful attention to the previous history of the patient lest symptoms of diagnostic value be overlooked He also insists upon the need for operating as early as possible without waiting for laboratory findings or the occurrence of fresh symptoms The various diagnostic points before and during the operation are considered fully, and also the etiological circumstances in so far as they have a bearing on the diagnosis or treatment He mentions illustrative cases of different conditions, and describes in detail the special treatment of intestinal stasis, acute diverticulitis, obstruction, pathological perforation, and other conditions encountered

164 Adenomyoma of the Sigmoid

E STARR STUDD and G S FOULDS (*Surg, Gyn, and Obstet*, November, 1923, p 648), who report five illustrative cases which had been operated on at the Mayo Clinic since January 1st, 1911, state that adenomyoma of the sigmoid, of which the first case was described by Herbert Spencer in 1913, is commonest between the ages of 35 and 45 in nulliparous women or in those who have not borne children recently In 14 cases in which the age was recorded it varied between 26 and 48 years, the average age being 39 Adenomyomata of the sigmoid present a similar appearance to adenomyomata in other situations, being grey in colour, solid, and fibrous Microscopically they consist of a stroma of connective tissue and smooth muscle fibres in varying proportions enclosing glandular tissue or dilated spaces lined with cylindrical epithelium resembling that of the endometrium Although these tumours rarely show any pathological evidence of malignancy they have a marked tendency to infiltrate and recur, though they do not form metastases In most of the authors' cases there was a history of dull pain in the lower abdomen on the left side with constipation which had lasted two or three years Both the pain and constipation were most severe during menstruation There was no cachexia Acute or subacute intestinal obstruction occasionally occurred On physical examination very little abnormal is discovered, except in some cases in which there is a mass in the left side of the pelvis extending into Douglas's pouch A ray examination shows a filling defect in the sigmoidal region, but there is nothing distinctive in the picture On procto sigmoidoscopic examination the mucous membrane is found intact, but there is a narrowing of the bowel from extraluminal pressure Treatment of adenomyoma of the sigmoid is entirely surgical, and consists in making a temporary colostomy at first to enable the patient to recover from symptoms of obstruction The lower loop of the bowel can then be thoroughly cleansed by daily irrigation Resection of the bowel, the result of which is usually good, can be undertaken later.

165 Appendicitis Caused by Oxyurids.

K JAROSCHKA (*Deut Zeit f Chir*, November, 1923, p 99) states that the first to find oxyurids or their remains in the intestinal wall was Wagener, who discovered calcified specimens in Peyer's patches The head of an oxyurid was also found by Edens in the same situation According to Zinn, calcification of the parasites is frequently observed in children Writers differ considerably as to the importance of *Oxyuris vermicularis* in the causation of appendicitis It is a remarkable fact that in Mexico, where almost every Indian harbours a great variety of intestinal parasites, appendicitis is a rare occurrence Tyson never saw a case of appendicitis among the negroes of North America in spite of widespread entozoal infection among them Similar observations have been made in Egypt and China Jaroschka examined a hundred appendices which had been removed in the Kiel Surgical Clinic from patients aged from 1 to 60 years, and found oxyurids in 28, and in 3 their ova without the presence of the parasites The oldest patient in whom the worms were found was aged 54 and the youngest 18 months Jaroschka's conclusions are as follows (1) *Oxyuris vermicularis* is capable of causing mechanical and toxic damage to the mucous membrane of the appendix (2) True appendicitis is much less frequently due to oxyurids than is supposed by some writers (3) On the other hand, oxyurids frequently produce symptoms closely resembling those of true acute appendicitis (appendicopathia oxyurica of Aschoff) (4) Oxyurids may give rise to similar tumours to those produced by *Trichocephalus*. (5) Oxyurids appear to be capable of penetrating a hitherto normal rectal wall and giving rise to an abscess in the periproctal tissue.

166 Pleuro-pulmonary Carcinomatosis.

A DALLA VOLTA and A VALENTI (*Arch di Patol e Clin Med*, December, 1923, p 569), who record an illustrative case in a woman aged 53, state that pleuro pulmonary carcinomatosis, which is almost always secondary to cancer of the stomach, is a rare condition, though not so infrequent as the small number of cases on record would suggest Clinically the possibility of its presence may be suspected when in the course of gastric or pancreatic epithelioma the patient suddenly develops a dry cough, increasing dyspnoea, pain in the chest, and slight cyanosis without any rise of temperature or distinct local signs The radiological picture is characteristic, though to some extent resembling that of diffuse tuberculous peribronchial interstitial sclerosis There is considerable increase in the density and visibility of the shadows of the bronchi and blood vessels, as well as a system of opaque trabeculae which represent the lymphatic pulmonary network filled with cancerous growth In some parts, especially towards the hilum and base of the lung where the density of the tissues is most marked, the skiagram shows an almost homogeneous opacity The authors emphasize the importance of systematic radiological examination of all patients suffering from gastric tumours, as by this means it is possible to make a diagnosis at an early stage of pleuro-pulmonary carcinomatosis.

Diseases of Children.

167 Aortic Dilatation in Children

T H SHELDON (*Brit Journ Child Dis*, October–December, 1923, p 216), who records an illustrative case, maintains that dilatation of the aorta in children associated with chronic interstitial nephritis is more common than is generally imagined His patient was a boy, aged 10, who was in good health until the age of 6, when he had measles followed by bronchopneumonia and whooping cough, and had never been well since Attacks of haematuria occurred at intervals, with severe pain in the side The radial arteries were hard and thickened, and the blood pressure was 210/155 mm Hg. Examination of the heart revealed a short rough presystolic bruit at the apex not accompanied by a thrill, a loud systolic bruit conducted into the axilla, and a very accentuated second sound At the base of the heart there was a long rough systolic bruit conducted into the carotids The second sound at the base was accentuated Ophthalmoscopic examination showed albuminuric retinitis A skiagram of the chest revealed fusiform enlargement of the arch of the aorta The Wassermann reaction was negative Death took place from uraemia The dilatation was attributed to the high blood pressure resulting from chronic interstitial nephritis All other causes of aortic dilatation could be

excluded—such as syphilis, acute infections, congenital malformations, and arterio sclerosis, since all these conditions have a distinct *post mortem* or histological appearance In the present case on the other hand, the naked eye appearance of the aorta and of its relations was normal, and the histological examination showed only a very slight departure from the normal in the form of some hypertrophy of the media

168 Scarlet Fever without Eruption.

C LEINER of the Mautner Markhot Hospital, Vienna (*Med Klin!* December 9th, 1923, p 1603), states that the clinical diagnosis of non eruptive scarlet fever is usually based on the occurrence of tonsillitis in a family of which one or more members have had an undoubted attack of scarlet fever Leiner, however, has observed several cases which prove that the diagnosis of scarlet fever in such cases is not justified as some time after recovery from the tonsillitis the patient developed typical scarlet fever It is true that cases have been recorded of patients with tonsillitis not contracting scarlet fever in spite of exposure to this disease, but this can be explained by the fact that scarlet fever is not a highly contagious disorder It very often happens that after the occurrence of a case of scarlet fever in hospital no further cases develop in spite of the absence of any disinfection It seems as if a special predisposition were required for the development of scarlet fever, as is exemplified in the case of patients with burns, who are extremely liable to contract the disease The simultaneous occurrence or appearance in rapid succession of tonsillitis in several members of a family is not uncommon, apart from any exposure to scarlet fever Leiner therefore concludes that tonsillitis in members of a family in which undoubted scarlet fever has occurred is due not to the causal agent of scarlet fever but to the ordinary organisms causing sore throat

169 Bismuth Therapy in Congenital Syphilis

GENOESE and MAZZACUVA (*La Pediatria*, October 15th, 1923, p 1081) publish brief records of 18 cases of congenital syphilis treated with bismuth injections They say the results are better than with mercury but not quite so good as with arsenical preparations Of the various preparations of bismuth on the market they used three (1) luatol (a tartrate of bismuth, sodium, and potassium) (2) bismucol (a colloid), (3) spironal In every case the drug was injected intramuscularly into the gluteus, and the average dose was 20 to 30 cg given on alternate days, with occasional intervals of four days None of the evil effects observed with other bismuth preparations were noted Elimination as tested in the urine was slow, it could be found in the urine so late as forty or fifty days after injection The best results were obtained with the colloid preparation Most of the children were under 6 months old

170 Acute Leukaemia in Children

P LEREBOULLET and G BOULANGER PETIT (*Paris méd*, November 3rd, 1923, p 357) state that leukaemia is not infrequent in children, and usually assumes an acute form Of 100 cases of acute leukaemia collected by Boudet 30 were in children, 19 8 per cent of all his cases occurring between the ages of birth and 10 years, and 22.5 per cent between 11 and 20 years Of 70 cases of acute leukaemia collected by Broussole 10 occurred in children, males being more frequently affected than females The method of feeding does not appear to have any etiological importance The onset is usually sudden, like that of an acute infectious disease, with headache, shivering, pains in the limbs or joints, and a rise of temperature to 100 4° or 102 2°, or the first symptoms may be intense sore throat, stomatitis, or some form of haemorrhage In some cases the onset is more insidious, and the loss of colour and strength suggests the possibility of tuberculosis In contrast with what occurs in the adult, the liver and spleen are considerably enlarged The lymphatic glands in most cases are increased in size, and the reaction of the bone marrow is shown by dull pains in the bones Bucco-pharyngeal lesions are constant so that the condition may be mistaken for tonsillitis or diphtheria Haemorrhage appears early, the commonest form being epistaxis, but all the other varieties may occur, such as bleeding from the mouth and gums haematemesis, melaena, haemoptysis, and purpura The general health is always considerably affected Fever of the continued or oscillating type is present Vascular and extracardial murmurs are frequently heard The urine is scanty and contains a considerable amount of uric acid and purin bases Oedema is frequent and may be either generalized or more frequently be confined to the face or ankles The red cells are always reduced in number, even to 2 million or less, and nucleated forms are almost always present The number of leucocytes may range from 80,000 to 1,330,000 (Veeder). The characteristic white cell is of the embryonic or undifferentiated type, a large round mononuclear cell without any granules, it constitutes 50 per cent of the leucocytes Acute leukaemia may simulate a variety of diseases, such as tonsillitis, scarlet fever, diphtheria, acute articular rheumatism, osteomyelitis, typhoid fever, mumps pulmonary tuberculosis, Barlow's disease, purpura, and chloroma, and the diagnosis, though in some cases very easy in others can only be made by examination of the blood The disease is always fatal, and death usually takes place in a few weeks, it is exceptional for the patient to survive as long as four months

171 Contagiousness of Acute Anterior Poliomyelitis

E SCHWARZ (*Schweiz med Woch*, December 27th, 1923, p 1202) has investigated the numerous outbreaks of acute anterior poliomyelitis during 1923 in Switzerland In the first three quarters of the year 123 cases were notified, and in October alone there were 70 new cases In epidemics in America no sources of infection have been found in 75 to 90 per cent of all the cases, but in at least half the Swiss cases the source, or probable source, of infection could be ascertained In those cases in which there was a single known exposure to infection the incubation period seemed to be from three to ten days It was characteristic of this outbreak that school children and adults were affected rather than infants, in one area, with 90 cases, there were only 33 children under the age of 5, whereas there were 35 children between the ages of 6 and 16, and 22 patients above the age of 17 There was also a comparatively high proportion of atypical cases

Obstetrics and Gynaecology.

172. Foetal Injuries in Breech Delivery

R N PIERSON (*Surg, Gyn, and Obstet*, December, 1923, p 802) states that in breech deliveries injury and shock more often than asphyxia are responsible for foetal mortality and injury He ranges himself with Ehrenfest, Eardley Holland, and others in pleading for deliberation and gentleness in completing podalic deliveries, and combats the traditional teaching that if the time between delivery of the navel and mouth exceeds eight minutes the child will be killed by asphyxia due to compression of the umbilical cord Potter, whose routine method of delivery in vertex presentations is by podalic version, is quoted as placing no general limit on the time to be taken in extraction after birth of the umbilicus —a time which in his practice frequently exceeds eight, ten, or even fifteen minutes without injury to the child Pierson points out that many instances of foetal mortality in which a clinical diagnosis of asphyxia pallida is made can be shown by complete *post mortem* dissection to be due to spinal or cranial injuries resulting from unnecessary haste in extraction Analysing 36 cases of foetal death in breech delivery the author found spinal cord haemorrhage in 47 per cent, fractured vertebrae in 38 per cent, and intracranial haemorrhage in 44 per cent Asphyxia was the sole cause of death in 5 per cent only, and trauma alone in no fewer than 55 per cent Trauma was found unexpectedly in many cases in which no obstetrical difficulties had been noted The conclusions drawn are that (1) the incidence of breech extraction should be diminished by practising external version when ever possible and by stricter limitation of the indications for podalic version, (2) the high foetal mortality and injury should be lessened by ante partum pelvimetry and by avoidance of undue haste in completing extraction (3) cranial and spinal injuries can largely be prevented by avoiding dangerous bending of the foetal spine (on which no excessive traction must be exerted), by accommodating the longest diameters of the foetal body, shoulders, and head to the longest pelvic diameters, and by not exerting more than moderate degrees of suprapubic pressure

173. Sequels of Gestation Toxaemia.

B ZONDEK and JAKOBOVITZ (*Klin Woch*, January 22nd, 1924, p 135) give an account of the sequels of gestation toxaemia, with especial reference to kidney affections and eclampsia Since albuminuria and oedema may occur in healthy pregnant women, it is difficult to define kidney disease of pregnancy The main characteristic of the various symptoms of gestation toxaemia, including renal disturbance, is that they disappear rapidly after parturition When eclampsia has occurred the albuminuria is long in disappearing The authors record in detail the late results in 38 cases of gestation toxaemia after one to seven years, of which 25 had completely recovered Gestation toxaemia is only dangerous during pregnancy and parturition (the authors have had 15 fatal cases in five years) After parturition, if the symptoms quickly subside the prognosis is favourable, and

even when a slight albuminuria or hypertonus remains it disappears usually in a few weeks or months In cases of pure toxaemia the prognosis as regards late results is favourable The diagnosis between kidney changes resulting from gestation toxaemia and the combination of such with a previous chronic nephritis is usually not possible before parturition Hypertonus and haematuria are not diagnostic The increase in the content of the residual nitrogen of the blood is suggestive of chronic nephritis When chronic nephritis is present before pregnancy this may be intensified by gestation toxaemia Possibly gestation toxaemia may start chronic nephritis, but this must be rare The prognosis is unfavourable in cases with visual disturbances, especially in those with changes in the fundus oculi In such cases there is a tendency to eclampsia (out of 30 cases eclampsia occurred in 26) Even if the ocular symptoms subside other changes remain, especially hypertonus, and slight functional changes in the kidneys Therefore ocular symptoms during pregnancy deserve special attention

174 Patency of the Fallopian Tubes

N S HEANEY (*Amer Journ Obstet and Gynecol*, November, 1923, p 581), following Rubin's original method of transuterine sufflation of the Fallopian tubes for testing their *patency in cases of sterility, recommends using an ear* syringe as suggested by Solomon With the patient in the lithotomy position and the cervix drawn down, a 1 oz all rubber ear syringe is adapted to the cervical canal with or without a glass tube Normally air easily passes into the peritoneal cavity with an audible gurgling, though occasionally light pressure is required, and if the syringe empties it is a sign that the tubes are patent, but if they are closed air refuses to pass after the syringe is about half empty The test is simple and conclusive and no special training is needed The contraindications and possible dangers are detailed, and emphasis is laid upon the fact that the mere passage of air through the tubes is not an index that they are normal unless it passes with ease, if pressure is required the indication is that the tubes are constricted congenitally or by adhesions A satisfactory test does not necessarily imply that pregnancy can take place, since there may be other factors giving rise to sterility

175 Treatment of Incomplete Febrile Abortion

E BOVIN (*Hygiea*, December 31st, 1923, p 993) gives statistical evidence in support of his advocacy of expectant treatment for incomplete febrile abortion Of 3,806 cases of abortion admitted to his hospital during the past eleven years 1,141 were cases of incomplete febrile abortion In 623 of these cases the abortion was completed spontaneously, and the mortality was only 1 3 per cent Among the 518 cases in which delivery was artificially completed there were 15 deaths, the mortality of 2 9 per cent being more than twice as great as that with expectant treatment alone This was abandoned on account of severe haemorrhage in 206 cases, among which there were 5 deaths When expectant treatment had to be abandoned the mortality from artificial evacuation was much lower among the patients who had been afebrile for some days before the operation than among those who were still febrile The author confirms Winter's observation that giving quinine frequently by the mouth often promotes the spontaneous completion of an abortion He endorses Latzko's opinion that, if statistics based upon sufficiently large numbers are studied, the mortality from the active treatment of febrile abortion will be found to be approximately 50 per cent greater than that from expectant treatment The capacity of the uterus to expel its contents automatically has been much underrated

Pathology.

176 A Flocculation Test for Diphtheritic Toxin and Antitoxin

ACCORDING to G RAMON (*Ann de l'Inst Pasteur*, December, 1923, p 1001), if a series of test tubes be put up containing 20 c cm of diphtheritic toxin and varying quantities of antidiphtheritic serum, and the mixtures be allowed to stand for some time, there appears in some of the tubes an opalescence which increases after some hours till finally flocculation occurs This reaction is specific, *for it occurs neither with* normal serum nor with other antitoxic serums, nor with toxin modified by heating at 100° C If the progress of the reaction be noted carefully it is seen that flocculation appears in one of the tubes before becoming manifest in the others This fact is of considerable importance, for if the particular mixture of toxin antitoxin present in this tube be injected into guinea pigs it is found to be completely innocuous, and to be completely devoid of protective properties against a dose of pure toxin In the case of the tubes containing less antitoxin the mixtures are still toxic to guinea pigs, and in the case of those containing more antitoxin the mixtures are protective to guinea pigs against toxin administration In other words, in that mixture in which flocculation first appears there is as complete a neutralization of toxin and antitoxin as is possible Starting from this point the author has worked out an *in vitro* method of titrating antidiphtheritic serum The procedure is quite simple A given serum is titrated by Ehrlich's method, so as to obtain the number of units per cubic centimetre, it is then put up in varying dilutions with a toxin, the quantity which is necessary to produce flocculation is noted and the corresponding number of units calculated The method is available either for the standardization of toxin or of antitoxin, for once the necessary comparative standards have been established any toxin or antitoxin can be titrated against the standard There are, of course, certain technical points involved, but on the whole the method appears to be very simple If its value is confirmed it will undoubtedly save a vast expenditure both of animals and of time

177 Gall Stones

ALESSANDRI (*Rif Med*, November 25th, 1923, p 1069), discussing *the formation of gall stones, divides them into five groups* (1) Pure cholesterin stones, usually solitary, of a radiating structure, and sometimes with a bile stained nucleus (2) Combined calculi, consisting of cholesterin with a covering of calcium bilirubinate, usually solitary and found in the cystic or bile ducts (3) Multiple calculi of cholesterin, calcium, and bilirubin (4) Amorphous, small calculi of bilirubin, often found in the intrahepatic ducts (5) Calcareous concretions The two leading theories as to the formation of gall stones are those of Naunyn and Aschoff Bacmeister According to Naunyn there is a cholangitis facilitated by biliary stasis, with shedding of epithelium, coagula of mucus, and fibrin rich in calcium which forms the primary nucleus These, by a process of cholesterinization, become transformed into pure cholesterin Sometimes, owing to the presence of albumin in the bile, the crystals of cholesterin which were free in the bile form a nucleus Aschoff and Bacmeister say the causal moment in the cholelithiasis is not the same in all cases The cholesterin may precipitate either from some obscure tissue change or from a diminution in the amount of bile salts in the bile, which keep the cholesterin in solution The presence of albumin brings about the precipitation of the calcium bilirubinate The pressure in the gall bladder from the parietes has a determining influence on the final shape and consistency of the gall stones

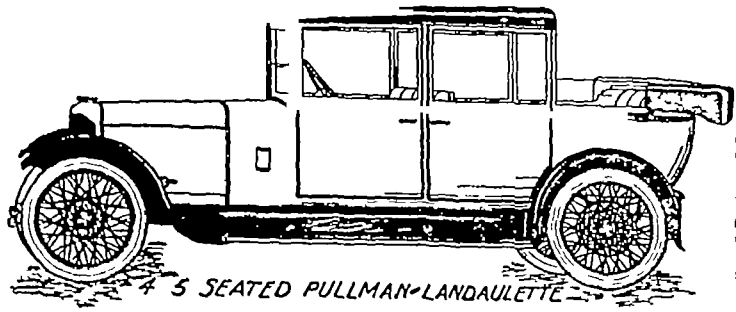
178 Meningitis Due to Micrococcus tetragenus

L BLUM, E VAUCHER, and KARBIENER (*Rev de Med*, October, 1923, p 577) report a case of meningitis in a boy aged 15, due to infection by *Micrococcus tetragenus* The origin of the infection was not determined, and the illness lasted for three months, after which only slight symptoms persisted The onset was gradual and febrile, the first lumbar puncture produced a clear, sterile fluid, containing 49 cells per cubic millimetre, with lymphocyte preponderance There was at this time a leucocytosis of 18 500 per cubic millimetre Two days later pus containing *M tetragenus* in pure culture was obtained by lumbar puncture Within a week the spinal fluid was again clear and sterile and no micrococci were detected in it The blood agglutination titre was at first 1 in 200, later it rose to 1 in 2 000, and when the patient left the hospital it was 1 in 500 Slight complications occurred—namely, a dry basal pleurisy on the left side, nephritis, and cystitis—but these quickly disappeared, a slight but persistent tachycardia possibly indicated cardiac infection Six other cases previously reported are discussed in detail

179 Cerebro-spinal Polymorphonucleosis in Tuberculous Meningitis.

P MERKLEN and F HIRSCHBERG (*Paris méd*, November 24th, 1923, p 428), who record an illustrative case in a woman aged 28, with a review of the literature, maintain that a polymorphonuclear reaction in the cerebro-spinal fluid in the course of tuberculous meningitis is a strong indication of the existence of general miliary tuberculosis Among 14 cases of tuberculous meningitis studied by L RAMOND (*Thèses de Paris*, 1906–7) there were five examples of pure or predominant *polymorphonucleosis* in the cerebro spinal fluid, and in each of these five cases the autopsy showed the existence of recent miliary granulations in the lungs and other organs In the remaining nine cases, in which the cerebro-spinal fluid showed lymphocytosis, there was no evidence of general miliary tuberculosis The authors conclude that the persistence of a polymorphonuclear reaction in the cerebro-spinal fluid in tuberculous meningitis should induce the clinician to look for signs of miliary tuberculosis in the lungs and other organs

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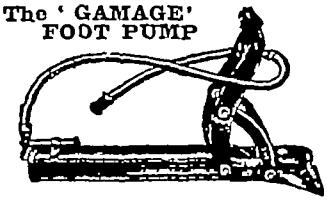
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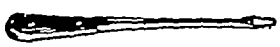
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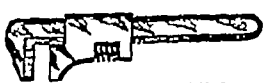


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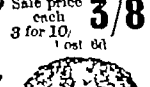
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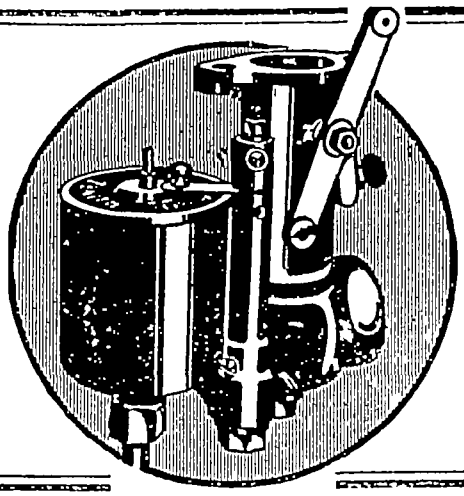
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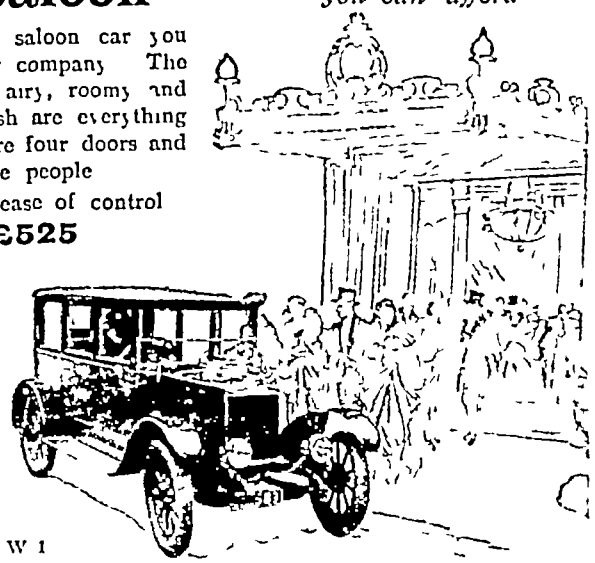
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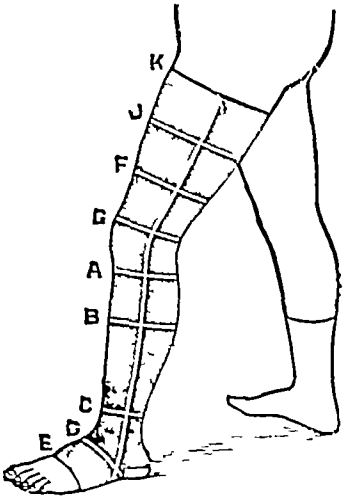
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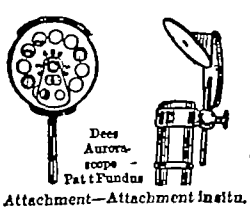
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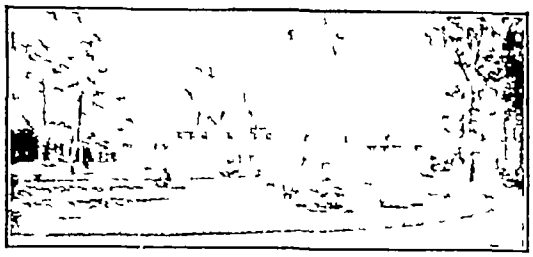
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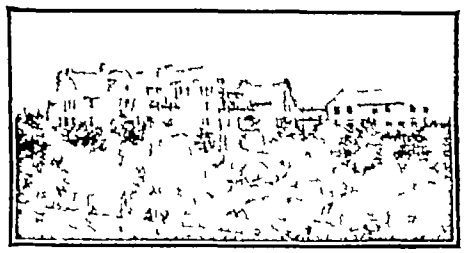
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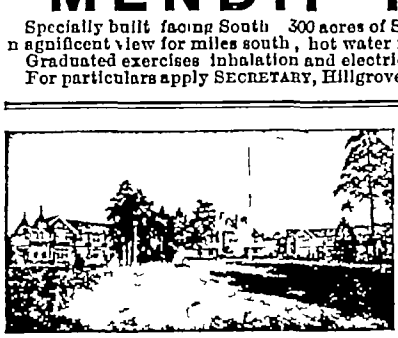
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University of Glasgow, January, 1924 ROBT BROUGH Registrar

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The Senate of the University of London invite applications for the Graham Scholarship in Pathology value £300 per annum in the first instance for two years founded under the will of the late Dr Charles Graham to enable a young man to continue his pathological researches and at the same time to secure his services to the School of Advanced Medical Studies connected with University College Hospital as a Teacher under the direction of the Professor of Pathology

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Applications addressed to the Principal Officer University of London South Kensington S W 7 must (a) be accompanied by the names of not more than three references one at least of which should be the name of some Professor Lecturer or Teacher of the University or College in which the Candidate has conducted his studies in Pathology (b) state the Research upon which the applicant proposes to work and (c) be received not later than the first post on Monday, March 3rd, 1924 Envelopes should be marked 'Graham Scholarship

E C PERRY Principal Officer

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The TUTORIAL CLASS for the next Examination will commence shortly Correspondence Tuition if desired —For particulars apply FRED GRAHAM M D F R C S Ed Northfield Liberton Edinburgh

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DIPLOMA (WALES)

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Notice of candidature *together with the entrance* fee and the necessary Certificates should be forwarded to the Registrar of the University, University Registry, Cathays Park, Cardiff, not *later than April 30th.*

The three months Courses for Certificates (b) and (c) at University College, Cardiff, will this year be for the months of March, April and May, and candidates desiring to take them should communicate with the Professor of Tuberculosis by the last week in February.

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The EXAMINATIONS FOR DEGREES in MEDICINE, SURGERY and HYGIENE will be commenced at the University of Durham College of Medicine, Newcastle-on-Tyne, on March 10th, 1924.

Full particulars may be obtained on application to Prof. R. HOWDEN, Secretary of Examinations.

University of Durham College
OF MEDICINE, Newcastle-upon-Tyne

LECTURESHIP ON MEDICAL JURISPRUDENCE

Applications are invited for this Lectureship and should be sent, with testimonials, to the Registrar not later than March 10th, 1924.

Liverpool School of Tropical
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COURSES OF INSTRUCTION (lasting three months) for the Diploma and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th.—Prospectus from the Hon. DEAN, School of Tropical Medicine, University of Liverpool.

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Royal Halifax Infirmary
ELECTION OF HONORARY OPHTHALMIC SURGEON

Notice is hereby given that an election of an Honorary Ophthalmic Surgeon to the Institution will take place at the Infirmary on March 31st, 1924, at 7.45 p.m. The Staff consists of two Honorary Ophthalmic Surgeons. The appointment is open to duly qualified practitioners who practise in cases of the eye, ear, throat and nose only, and the officer appointed will be required to confine his practice to such cases.

Candidates are eligible whether resident in Halifax or in Leeds, Bradford or other neighbouring towns.

Further information as to conditions and regulations may be obtained on application to the undersigned. It is requested that applications in writing, with originals of testimonials (which will be returned in due course), be sent to the undersigned at the Royal Halifax Infirmary on or before March 7th, 1924.

By Order of the Board of Management.
EDMUND SCHOFIELD, } Honorary
G. R. J. DUCKWORTH, } Secretaries.

Royal Halifax Infirmary
ELECTION OF HONORARY RADIOLOGIST

Notice is hereby given that the election of an Honorary Radiologist to the Institution will take place at the Infirmary on March 31st, 1924, at 7.45 p.m. The appointment is open to those who hold one of the recognised diplomas in Radiology of the United Kingdom, and the officer appointed will be required to confine his practice to Radiology and allied sciences.

Candidates are eligible whether resident in Halifax or in Leeds, Bradford or other neighbouring towns.

Further information as to conditions and regulations may be obtained on application to the undersigned. It is requested that applications in writing, with originals of testimonials (which will be returned in due course), be sent to the undersigned at the Royal Halifax Infirmary on or before March 7th, 1924.

By Order of the Board of Management.
EDMUND SCHOFIELD, } Honorary
G. R. J. DUCKWORTH, } Secretaries.

ORTHOPÆDIC CENTRE, BIRMINGHAM

Highbury, Ufculme and
SORRENTO HOSPITALS

MEDICAL SUPERINTENDENT

The Committee of Management invite applications for the above whole time post, which becomes vacant on 31st March next. The Hospitals contain 310 beds and have a large Outpatient Department and Curative Workshops. Orthopædic cases constitute the majority and there are General Medical and Surgical in addition to Limb-fitting cases.

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The appointment, which will be made subject to the approval of the Ministry of Pensions, will be terminable by one month's notice on either side.

Applications accompanied by copies of three recent testimonials and statement of War Service and experience in Orthopædic Surgery, to be received before 8th March next by the Chairman, Hospitals Committee, Highbury Hospital, Moseley, Birmingham.

11th February, 1924.

The General Hospital,
Birmingham

Applications are invited for the post of DIRECTOR OF THE VENEREAL DISEASE DEPARTMENT.

Candidates must be qualified medical practitioners and have had experience in the treatment of venereal disease.

The appointment will be made for three years in the first instance but terminable by three months' notice on either side at the end of the first year. It will be subject to the agreement between the Birmingham City Council and the Board of the Hospital and also subject to the approval of the Ministry of Health.

The Director will be responsible for the clinical work in the outpatient department and for the beds in the inpatient department. His assistants will be appointed from the staff of the hospital.

The successful candidate must undertake to engage in private practice in venereal disease only.

The salary will be £600 per annum. The pathological work will be done by the Pathologist appointed to carry out the work for the Department.

Applications stating experience and qualifications should reach the undersigned by *Feb. 27th.*

A. H. LEANEY, House Governor.

January 29th, 1924.

Wanted—Assistantship by M B B.Ch etc (T C D 1922) L.M Rotunda (1920) Age 29, total abstainer 9 months resident experience in general hospital, 18 months G P experience unmarried—Address No 906 British Medical Journal Office 429, Strand, W C

Wanted—Assistant, outdoor, British panel private and midwifery East London £400 Furnished rooms, etc Usual bond. State age, date of qualification, and positions (if any) held since No testimonials—Address, No 1027 British Medical Journal Office 429 Strand.

Wanted—Assistant, single, not under 25 Panel and private practice in beautiful Country Must be well up in Midwifery Motor-cyclist or able to drive Car—Address No 1031 British Medical Journal Office 429 Strand W C 2

Wanted by M B, Ch B (Edin) 27 ASSISTANTSHIP (outdoor) comm in May British ex serve at present holding hosp appt, 6 mths H S H P, 3 mths Junr H S and Locum exp good anæsthetist keen conscientious scope for surg pref Excel testm—Address No 1028 Brit Med Journ Office 429, Strand, W C 2

Wanted by M B (Camb), M R C S, ASSISTANTSHIP LOCUM or Part-time work, London preferred Experienced in General Practice Three years' hospital appointments—Address, No 1015 British Medical Journal Office 429, Strand W C 2

Wanted, in Manchester, ASSISTANTSHIP (preferably with view to Partnership or Succession) Excellent testimonials Hospital appointments.—Address No 1029 British Medical Journal Office, 429, Strand, W C 2.

Wanted, near Manchester, experienced single well-qualified ASSISTANT with view to Partnership Panel 2 000 References required—Address [illegible]

Medical Journal SCHOLARSHIPS, each of the value of £40 a year for three years may be awarded to Students desirous of entering the Faculty of Medical Sciences. [illegible] No 1024 Brit Med Journal Office 429 Strand, W C 2

Wanted—Work one or two evenings a week in London, preferably S E Good testimonials and experience in private, panel and dispensing—Address No 1003 British Medical Journal Office 429 Strand W C 2

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Edinburgh Graduate, 29, Jewish wants ASSISTANTSHIP from Oct, 1921 Manchester, Liverpool or London preferred 3½ years experience in teaching hospitals and G P Well received Excel testm Interview if desirable—Add, No 1016 B M J Office, 429, Strand W C 2.

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M B, Ch B (Glasgow) seeks ASSISTANTSHIP or LOCUM TENENCY Experience private and panel practice Young, unmarried Excellent references—Address, No 1011 British Medical Journal Office, 429, Strand W C 2

Manchester suburb—Practitioner requires ASSISTANT with view to Partnership Must be experienced State qualifications—Address No 1008 British Medical Journal Office 429 Strand W C 2

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The appointment of SECRETARY of the Willes den General Hospital is now open at a remuneration of £400 per annum with meals during hours of service Candidates must send in handwritten application by February 29th 1924 to the Chairman G J FURNESS Esq , J P , Roundwood House Willesden N W 10 with three typewritten copies of recent testimonials, particulars of previous experi ence war service if any and guarantees available Canvassing will disqualify

Hospital for Epilepsy and PARALYSIS, Maida Vale W

HONORARY EAR NOSE AND THROAT SURGEON REQUIRED

Applications are invited for the post of Honorary Ear, Nose and Throat Surgeon They should be accompanied by not more than three recent testi monials and reach me by 8th March 1924

H W BURLEIGH, Secretary and General Superintendent

Mansfield & District Hospital

The Board of Management of the above Hospital (104 Beds) invite applications for the post of ASSIS TANT HOUSE SURGEON (Male) Salary at the rate of £150 per annum, with board residence and laundry

The appointment is for six months from the 31st March next

Applications, accompanied by not more than three recent testimonials should be sent to the undersigned

Dated this 19th day of February 1924

A H LIMB, Secretary

Third Assistant Medical OFFICER required single (male) under 30 years of age Salary £300 per annum rising by annual increments of £25 to £375 with apartments, rations and laundry Deductions will be made under the Asylum Officers Superannuation Act 1909 Applications together with copies of not more than three recent testimonials should be forwarded to the Medical Superintendent WEST HAM MENTAL HOSPITAL Goodmayes, Ilford

Leicester Royal Infirmary

There will shortly be a vacancy for a HOUSE SURGEON Appointment for six months Salary at the rate of £150 per annum with board, apart ments and washing

Applications forthwith, with copies of recent testimonials to the House Governor and Secretary at the Infirmary

Surgical Officer (Resident) wanted for CHALMERS HOSPITAL for six months from 1st April next —Apply, with testi monials to J WILSON BRODIE, C A Secy , 35A, St. Andrew Square, Edinburgh

West London Hospital, Hammersmith Road, W 6

Required one HOUSE PHYSICIAN and two HOUSE SURGEONS (Males) These appointments are tenable for six months from 1st April next. Salary £100 per annum with board, lodgings and washing allowance

Candidates are required to be registered under the Medical Act to send 4 copies of their letters of application, and 4 copies of each testimonial sub mitted so as to reach me not later than Tuesday 18th March Selected candidates will be required to call upon such members of the Medical Staff as directed to be in attendance at a meeting of the Medical Council on Friday 28th March at 4 p.m., and the House Committee Meeting at 4 45 p.m. the same day, when the appointments will be made.

H A. MADGE, Secretary

Nottingham Children's HOSPITAL.

Applications are invited for the post of RESIDENT HOUSE PHYSICIAN (woman) Previous Hospital experience essential The salary will be at the rate of £150 per annum with apartments board, and laundry The appointment will be for six months, and the duties will commence as from 16th March, 1924

Applications together with testimonials stating age qualifications, and experience to be sent to F PRAGNELL, the Honorary Secretary 1 King John s Chamber , Bridlesmith Gate, Nottingham, by the 3rd March 1924.

Selected candidates will be required to attend at the Hospital for a personal interview on 11th March, when the appointment will be made

Kent & Canterbury Hospital, (115 Beds)

Required RESIDENT MEDICAL OFFICER. Salary £175 per annum The work is equally divided between two Resident Medical Officers, and special opportunities exist for gaining experience in Ophthalmic and Venereal work

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F P CARROLL, Secretary

The Metropolitan Ear, Nose AND THROAT HOSPITAL (Founded 1838) Fitzroy Square W 1

ASSISTANT SURGEON

A vacancy for the above having occurred appli cations, with not more than three recent testimon ials should be forwarded to the undersigned from whom all further particulars can be obtained, on or before Monday, March 3rd

L L PHILLIPS Secretary

The Metropolitan Ear, Nose AND THROAT HOSPITAL. (1838) (Incorporated) Fitzroy Square W 1

HOUSE SURGEON (non resident) salary at the rate of £150 per annum

Applications are invited for the above appoint ment and should be forwarded with not more than three recent testimonials to the undersigned from whom all particulars may be obtained.

L L PHILLIPS Secretary

The Metropolitan Ear, Nose AND THROAT HOSPITAL. (1838) (Incorporated), Fitzroy Square W 1

CLINICAL ASSISTANTS

Applications are invited for the above appoint ments and should be forwarded to the undersigned. In appointing Assistant Surgeons preference is given to those who have served the Hospital as Clinical Assistants

L L PHILLIPS Secretary

Hertford County Hospital, Hertford

A vacancy has occurred on the Staff of the above-named Hospital for an HONORARY ASSISTANT SURGEON Candidates must possess a Surgical degree of a British University or Membership or Fellowship of one of the Royal Colleges of Surgeons.

Applications must be in the hands of the Secretary on or before the 8th March 1924

PERCY G BROOKS Secretary

Medical Officer wanted for the Parish of LAIRG salary of £100 per annum and free house provided by the Parish Council in addition to private practise, National Health Insurance emoluments &c

Applications to D MACKAY Parish Council Office, Lairg Sutherland, not later than 8th March.

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

Town or District	Town or District.	Town or District.
CONTRACT PRACTICE.		
ENGLAND.	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	OAKDALE, MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*	FINSBURY METROPOLITAN BOROUGH *(Assistant Medical Officer of Health.)*
SOUTH BANK, & ESTON *(Medical Aid Associations or Workmen's Clubs.)*	OGMORE VALLEY, GLAMORGAN *(Llynfaham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*	LINCOLN CITY AND COUNTY BOROUGH *(Medical Officer of Health.)*
WALES.	TONDU & ABERKENFIG, GLAMORGAN *(Workmen's Medical Scheme.)*	LIVERPOOL EDUCATION AUTHORITY *(Assistant School Medical Officer.)*
ABERTRIDWR, GLAMORGAN *Windsor Colliery (Medical Scheme.)*	**PUBLIC HEALTH.**	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
EBBW VALE MON *(Workmen's Medical Society.)*	BERKSHIRE EDUCATION COMMITTEE. *(Assistant Medical Inspector of Schools.)*	PLYMOUTH EDUCATION AUTHORITY *(Woman Assistant School Medical Officer.)*
GILFACH GOCH GLAMORGAN *(Woolmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE *(Woman Assistant School Medical Officer.)*	PORTSMOUTH BOROUGH *(Medical Officer to the Portsmouth Child Welfar Centres and Municipal Maternity Hospital.)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG, GLAMORGAN *(Workmen's Medical Scheme.)*	DARLINGTON EDUCATION COMMITTEE *(Assistant School Medical Officer.)*	ROTHERHAM UNION *(Medical Officer.)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer.)*	SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer.)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand London, W.C. 2

Town or District	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division of Branch
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *(Senior Resident Physician.) (Senior Resident Surgeon.)*	Mr A. RADFORD M.C. F.R.C.S. 5 & 6 4th Floor National Bank Buildings, Durban	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street Brisbane	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon. Sec. Victorian Branch), Medical Society Hall E. Melbourne Victoria.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr R. H. TODD (Hon. Sec. New South Wales Branch) B.M.A. Building 30-34 Elizabeth Street Sydney N.S.W.			WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian, Branch No. 6, Bank of New South Wales Chambers St. George's Terrace Perth.

Address 429 Strand. W.C. 2.
February 20th, 1924

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

Saint Pancras Dispensary,
39 Oakley Square, N.W. 1.

There is a vacancy for the post of HONORARY OPHTHALMIC SURGEON to attend this Dispensary one day each week. Every candidate must be a Fellow of one of the Royal Colleges of Surgeons of Great Britain and Ireland and not practising Pharmacy.

Applications and testimonials to be sent to the Honorary Secretary Mr H. PETER BODKIN 2 Endsleigh Street, Tavistock Square London, W.C. 1 on or before the 28th February 1924. The election will take place on 4th March 1924.

H. PETER BODKIN Hon. Sec.

St Thomas's Hospital, S.E. 1

Vacancy. The appointment of an OPHTHALMIC SURGEON with Charge of Out-patients. Candidates must be registered Medical Practitioners and Fellows of the Royal College of Surgeons of England.

Applications and testimonials should be sent in on or before March 3rd 1924 addressed to the undersigned.

G. Q. ROBERTS Secretary.

Royal South Hants and
SOUTHAMPTON HOSPITAL
Fanshawe Street, Southampton

Required a JUNIOR HOUSE SURGEON (Male) and unmarried. Candidates must be doubly qualified and be willing to engage for six months. Salary £150 per annum with rooms board and laundry. Duties to be taken up on the 15th March.

Applications stating age to be sent to the undersigned (with printed copies of testimonials, limited to five) not later than Saturday 1st March.

T. A. FISHER HALL, Secretary.

15th February 1924

St Thomas's Hospital, S.E. 1

Vacancy. The appointment of a PHYSICIAN in Charge of Out-patients. Candidates must be registered Medical Practitioners and Fellows or Members of the Royal College of Physicians of London.

Applications and testimonials should be sent in on or before March 3rd 1924 addressed to the undersigned.

G. Q. ROBERTS Secretary.

The Board of Control

(Lunacy and Mental Deficiency) invite applications for TWO POSTS of INSPECTOR. The salary will be

(a) £500 rising by annual increments of £20 to £800 for men and for women possessing a medical qualification,

(b) £400 rising by annual increments of £20 to £650 for women.

Bonus, which varies with the cost of living is also allowed. Present bonus on salaries of £500 and £400 is £184 and £158 1s. respectively.

The duties will include the visitation and inspection of institutions, and candidates should possess a competent knowledge of the methods of teaching, training and managing mental defectives. A medical qualification though not essential would be of value.

Candidates must be natural born British subjects and the children of fathers also natural-born British subjects. Posts will be pensionable under Civil Service Superannuation Acts.

Forms of application, with further particulars, can be obtained from the *Secretary, Board of Control* 66 Victoria Street London S.W. 1., and must be completed and returned to him not later than Saturday 22nd March.

Corporation of Manchester
PUBLIC HEALTH DEPARTMENT

Applications are invited for the position of ASSISTANT TUBERCULOSIS OFFICER for the City of Manchester at a salary of £450 per annum, plus Civil Service bonus the latter being subject to revision or revocation Present value of bonus is £170 19s 9d

Candidates must be fully qualified medical practitioners having special knowledge of Medical and Surgical Tuberculosis Candidates should state whether they possess the Diploma of Public Health

Applications stating age, qualifications and experience, and endorsed on the envelope 'Assistant Tuberculosis Officer' must be addressed to the Town Clerk only (and not to members of the Committee or Council) to be delivered not later than the 29th February 1924 and must be accompanied by copies of not more than three recent testimonials.

The person appointed will be under the administrative control of the Medical Officer of Health and the immediate control of the Senior Tuberculosis Officer He will also be required to devote the whole of his time to the duties of his position, to execute the Deed of Service and to contribute to the Corporation Superannuation Fund

Canvassing in any form, oral or written, direct or indirect is prohibited.

Town Hall, P M HEATH
Manchester Town Clerk.
4th February, 1924

Borough of Stockton-on-Tees
APPOINTMENT OF MEDICAL OFFICER OF HEALTH

Applications are invited for the position of Medical Officer of Health for the Borough of Stockton-on Tees from duly qualified medical practitioners

The person appointed must possess the qualifications prescribed by Section 16(2) of the Local Government Act 1 88 and will be required to perform all the duties prescribed from time to time by the Ministry of Health and in addition to act as General Medical Superintendent of the Borough Isolation Hospital, Smallpox Hospital have under his charge the Maternity and Child Welfare Centres and the Maternity Home in the Borough. He will also be appointed to the office of School Medical Officer (There is a full time Assistant School Medical Officer)

The salary will be £1,000 per annum Office accommodation and staff will be provided by the Corporation

The appointment is a full time one

Applications stating age experience and qualifications accompanied by copies of not more than three recent testimonials, to be sent to the undersigned on or before Thursday February 28th, 1924

Borough Hall, THOS DOWNEY
Stockton on Tees Town Clerk
6th, February, 1924.

City of Leeds
ASSISTANT MEDICAL OFFICER OF HEALTH

Applications are invited from qualified and registered medical practitioners for the post of Assistant Medical Officer of Health for the City of Leeds Candidates must not be more than 45 years of age and in addition to previous experience in public health administration, should also have a certain amount of experience in general medicine.

The person selected will be required to devote his whole time to the office and to perform such duties as are allotted to him by the Medical Officer of Health It will be necessary for him to enter into an agreement of service with the Corporation, terminable by three months notice on either side and to contribute to the Corporation Superannuation Fund The salary will be £750 per annum

Applications, together with copies of three testimonials, endorsed "Assistant Medical Officer must be delivered at my office 26 Great George Street, Leeds not later than March 8th, 1924

ROBERT B FOX, Town Clerk.
Leeds 15th February, 1924

St Audry's Hospital,
Melton Suffolk.

MEDICAL SUPERINTENDENT

Wanted, a duly qualified Male registered Medical Practitioner to fill the office of Medical Superintendent of the above County Hospital for Mental Diseases. Salary £1 000 with partly furnished house (Plate and Linen not provided), including rates taxes, in respect of the same, feul, light, garden produce and laundry

Appointment made subject to deduction under the Asylums Officers Superannuation Act, 1909

Application form may be obtained from me and should be returned to me with copies of testimonials by March 8th

CECIL OAKES
Clerk to the Visiting Committee.
St. Audry's Hospital Melton, Suffolk.

County Borough of Gateshead
ASSISTANT SCHOOL MEDICAL OFFICERS

The Education Committee invite applications for the posts of Two Assistant School Medical Officers (1 Male and 1 Female) to act under the Medical Officer of Health in connection with the Medical Inspection and treatment of School Children, and such other duties as he may decide

Salary £600 per annum

The successful candidates will be required to devote the whole of their time to the duties of the office and the appointment will be subject to three months notice on either side

Preference will be given to candidates having had experience in:—

(1) Refractions and Eye Diseases
(2) Examination of Mentally Defective Physically Defective and Epileptic Children.

Applications, together with copies of 3 recent testimonials to be received by me not later than 3rd, March, 1924.

R T EDINGTON, Secretary
11th February, 1924

City of Leicester Education
COMMITTEE

APPOINTMENT OF AN ASSISTANT SCHOOL MEDICAL OFFICER (MALE)

The Education Committee invite applications for the post of Assistant School Medical Officer (male) to carry out the duties of the Medical Inspection of Sch ol Children in the City of Leicester, under the direction of the School Medical Officer

The person appointed will be required to devote his whole time to the duties of the office

The salary attached to the post will be £600 per year

Application (by letter, and accompanied by copies of not more than three recent testimonials) should be forwarded to the undersigned not later than Saturday the 8th March

Town Hall F P ARMITAGE
Leicester Director of Education.
16th February, 1924

Bristol General Hospital

The Committee invites applications for the following appointments —

2 HOUSE PHYSICIANS HOUSE SURGEON RESIDENT OBSTETRIC OFFICER, HOUSE SURGEON to the Special Departments and a CASUALTY HOUSE SURGEON

The appointments are for six months from April 1st, next at salaries at the rate of £125 per annum with board residence etc., provided in the Hospital

Candidates must be registered under the Medical Acts, and produce testimonials of good personal character and ability and must have had recent experience in the administration of Anæsthetics

Forms of application to be obtained from the Secretary must be returned with copies of testimonials addressed to the undersigned on or before Monday March 3rd, from whom further particulars may be obtained

THOMAS W GREGG Secretary

Queen Charlotte's Lying-in
HOSPITAL, Marylebone Road N W 1

TWO ASSISTANT RESIDENT MEDICAL OFFICERS male or female, required to commence their duties on 1st April 1924 Applicants must be registered Appointment for four months The selected candidate will take alternate duty in the In patient Department and on the District

The post of SENIOR RESIDENT MEDICAL OFFICER will also become vacant on the 1st April, 1924 The salary of the Assistant Resident Medical Officers is at the rate of £80 per annum and of the Senior Resident Medical Officer £100 per annum with board, residence and washing allowance (4/- weekly) One of the present Assistant Resident Medical Officers is a candidate for the Senior Post.

Applications with copies (not originals) of not more than three testimonials will be received by the Secretary up to 6th March 1924

The Royal Portsmouth
HOSPITAL, Portsmouth

(THREE RESIDENT MEDICAL OFFICERS)

SENIOR HOUSE SURGEON (male) required to commence on or about March 17th Six months appointment. Salary at the rate of £200 per annum, with board etc. Candidates must have held a resident appointment at a General Hospital.

An ASSISTANT HOUSE SURGEON (male) is also required to commence on March 28th Salary £150 per annum, with board, etc. Six months' appointment Eligible on completion of term for senior appointment.

Applications, stating age nationality etc., and copies of three recent testimonials, to be sent to the undersigned, from whom all particulars can be obtained

B WAGSTAFF, Secretary

National Hospital for Diseases
OF THE HEART Westmoreland Street W 1

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) The appointment is for a period of six month but may be renewed for a further period not exceeding six months

Candidates must be prepared to commence duty on the 20th March 1924 Salary at the rate of £150 a year with board, residence and washing

Candidates must be duly registered medical practitioners will not be expected to call on the Honorary Medical Staff but should sent their applications, with copies of three recent testimonials, to the undersigned, at the Hospital not later than Saturday 8th March 1924

ROBERT G E WHITNEY, Asst Secretary

South London Hospital for
WOMEN,
South Side, Clapham Common, S W 4

The Board of Management invite applications from fully qualified MEDICAL WOMEN for the undermentioned Resident Appointments:—

THREE HOUSE SURGEONS each for a period of six months from April 1st 1924

HOUSE PHYSICIAN for a period of six months from April 16th

Salary in each case at the rate of £50 per annum, with board residence and laundry

Full particulars may be obtained from the Secretary Applications with copies of testimonials, to reach the Secretary at the Hospital not later than first post on March 3rd

The Queen's Hospital for
CHILDREN
Hackney Road, Bethnal Green, E 2

Vacancies will occur for one HOUSE PHYSICIAN on 1st May, and one HOUSE SURGEON on 5th April (open only to men or women who have held appointments at recognised hospitals)

Six months appointments. Salary £100 per annum, with board residence and washing

Candidates should apply to the Secretary as soon as possible for forms of application which must be duly filled in and returned not later than 12th March.

T GLENTON KERR Secretary
18th Feb, 1924 Telephones: Dalston 305 & 534.

Elizabeth Garrett Anderson
HOSPITAL Euston Road.

Wanted fully qualified medical women to act as CLINICAL ASSISTANTS (honorary appointments for one year) Throat and Ear Department, Friday morning from 9 30 and Ophthalmic Department Wednesday and Saturday morning from 9.30. Also ASSISTANT MEDICAL OFFICER, V.D Department Appointment for one year from 1st April next. Tuesday and Friday evenings from 6.30. Fee £1/1/0 per attendance

Applications for these posts with testimonials, should be sent to the Secretary before 29th February

IMOGEN H MURPHY, Secretary

Ancoats Hospital,
Manchester

Two HOUSE SURGEONS (1 Lady 1 Gentleman) required to commence duty on March 1st. Appointment for twelve months. Salary first six months at the rate of £100 per annum, second six months at the rate of £150 per annum

Applications stating age qualifications and experience with copies of three recent testimonials to be forwarded to the undersigned on or before 25th February

By Order of the Board
HERBERT J DAFFORNE, Secretary

National Hospital for the
PARALYSED AND EPILEPTIC,
Queen Square, W C

The Board of Management invite applications for the post of ASSISTANT PHYSICIAN which will shortly become vacant at the above Hospital

Particulars of the appointment may be obtained from the undersigned to whom applications should be sent on or before Saturday, March 8th

Applicants must be Members or Fellows of the Royal College of Physicians

GODFREY H HAMILTON Secretary

Leeds Maternity Hospital

Required, an ASSISTANT RESIDENT MEDICAL OFFICER, duly qualified and registered. Board, lodging and laundry will be provided without salary The successful candidate will be required to assist the R.M O in the Hospital and on the Districts The appointment is for 6 months commencing March 1st.

Applications to be made to Secretay, Medical Faculty, Leeds Maternity Hospital, and to be in by February 27th.

Hull Royal Infirmary.

Wanted, ASSISTANT HOUSE SURGEON male, whose duties will be in the Nose, Throat Ear and Ophthalmic Departments Candidates must be fully qualified unmarried and preference will be given to such as have had experience in similar appointments. Salary £150 per annum with board and apartments. Applicants must be prepared to enter upon their duties upon the 1st April next. Applications stating age qualifications and previous experience, with copies of testimonials to be addressed to the undersigned

BEN BROOKS Secretary

THE MEDICAL AGENCY,

WATERGATE HOUSE,
York Buildings, Adelphi, W C 2.

Managing Director J A. REASIDH.
Telegrams: Telephone:
TUBERCLE, London" GERRARD, 8931

The Agency undertakes the Transfer of Practices, Introduction of Partners, Investigations for Purchasers, Valuations, Negotiation of Terms, the Supply of Locum Tenens and Assistants, and Medical Accountancy

MR. J. C. NEEDES,

(P W Needes)
Medical Partnership & Conveyancing Agency,
Change of address from 8 Duke St., Adelphi, W C.2, to
ALDINE HOUSE,
10/13, Bedford Street, Strand, W C 2
See Advt of Bovril Medical Agency Ltd Page 30

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"LOCUMS" AND ASSISTANTS SUPPLIED

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Transfer of PRACTICES & PARTNERSHIPS arranged.
Reliable LOCUMS & ASSISTANTS always available.
No Charge made to Purchasers

DR. J. FIELD HALL

MEDICAL TRANSFER AGENT,
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Telegrams: "Assistamo, London."

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MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL AND FEVER CASES

Nurses reside on the premises and are available for urgent calls, Day or Night.

THE NURSES' ASSOCIATION

(In conjunction with the MALE NURSES' ASSOCIATION)
29, York Street, Baker Street, London, W 1
(Mrs.) MILLICENT HICKS *Superintendent.*
W J HICKS *Secretary.*

ST. LUKE'S HOSPITAL.

ESTABLISHED 1751.

PRIVATE NURSING STAFF DEPARTMENT

TRAINED NURSES for MENTAL and NERVOUS CASES can be had immediately
Apply to LADY SUPERINTENDENT 19, Nottingham Place London W 1 Telephone: Mayfair 5420.

NORTHERN BRANCH —Apply LADY SUPERINTENDENT 57 Clarendon Rd Leeds. Phone: Leeds 2614

York Road (General Lying-IN HOSPITAL), Lambeth S E —Established 1765 Patrons H M THE QUEEN and H M QUEEN ALEXANDRA Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Telephone 791 Central For rules fees etc. apply ROSE B WHYTE, Secretary

MALE NURSES

Temperance Co-operation, Ltd.
Phone Mayfair 3297 Telegrams Assuaged, London.
Superior Male Nurses and Valet Attendants for Mental, Medical Travelling and all cases.

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ASSOCIATION, LIMITED (Female).
Phone. Mayfair 2287 Telegrams Isolation, London.
Superior Mental Nurses (Male and FEMALE) supplied at a moment's notice day or night for all Nerve and Mental cases.

8, HINDE STREET, MANCHESTER SQUARE, LONDON, W 1.

Both Institutions are under the same Management
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Secretary: W WALSHE.
MANCHESTER—237 Brunswick Street. *Phone Central 1699 Tele. Assuaged, Manchester*
EDINBURGH—7 Torphichen Street. *Phone Central 2715 Tele.: Assuaged, Edinburgh.*

All Nurses are insured under Employers Liability Act.

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Telegrams: "Instruments, London"

50, 52 WIGMORE ST.
LONDON W 1

LOCUM TENENS provided at short notice.

FOR SALE.

LONDON S W —Old established G P Panel over 800 Income £1 000 p a Small house suit young man Premium £1 800 to include lease

DERBYSHIRE —Old-established G P Panel over 600. Income nearly £800 Premium £1,000 Scope for increase

CHANNEL ISLANDS —NUCLEUS unopposed capable of increase Nice house large garden 10 years lease rent £125 p a. Suit semi retired man Premium £200

LONDON N E —Old-established G P Panel nearly 400 Average cash receipts £950 p a. No midwifery scope Premium £3 000 to include freehold house.

N E COAST —Old-established non panel, Income nearly £4 300 p a. Premium 1½ years' purchase. House for sale Mortgage could be arranged. Great scope for surgery Lengthy introduction

LANCS —Old-established G P situated in country town Very pretty country Large house (6 beds) garden and garage. Panel over 8 0 2 appointments Income £1 400 Prem. to include house £4 000

YORKS —Old-established Country Town G P Panel 1 500 Income £2 500 3 appointments Detached house with garden and garage to let on lease Premium £3 500

WARWICK —Small Country PRACTICE in pleasant district suitable only for young bachelor Panel 400 Income £450 Rent £21 p.a. Premium £350 for quick sale.

ULSTER —Old-established G P situated in res dential seaside town Income about £1,500 Two appointments Nice house to let Plenty of sport Scope for surgery Small hospital Premium £2 000

SOUTH WALES —Old-established G.P in residential district. Panel over 1 400 Average income nearly £2 000 Premium £2 500

Please address all communications to the Manager Medical Transfer and Insurance Department

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C. 2.

Telegrams BOVMEDICAL, WESTRAND-LONDON *Telephone* GERRARD 3543 (3 Lines).

Established by Bovril, Limited, to provide an efficient and reliable transfer service for the Profession at minimum charges.

Under the personal direction of Dr. J. FIELD HALL, and Mr. J. C. NEEDES.

An Accountant's certified report is required in respect of every practice or partnership, the disposal of which is undertaken by the Agency

The commission chargeable in respect of any practice placed exclusively in the hands of the Agency for transfer has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being £50

NO CHARGE IS MADE TO PRINCIPALS FOR THE INTRODUCTION OF LOCUM TENENS OR ASSISTANTS

Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges

PRACTICES AND PARTNERSHIPS FOR SALE

1 LEEDS.—PARTNERSHIP.—A one-third share in an old-established middle and better art an Practice including panel of over 3 000 and appointments Average income for the last three years £5 470 Surgery fees from 2/6 cash Visits from 4/6 to 12 6 Little midwifery, from 2 guineas Suitable house in central position available A short preliminary Assistantship is essential Premium to include share of drugs motors etc , £2 500

2. KENT.—LARGE TOWN (within 50 miles of London) PARTNERSHIP.—A half share in an old established Practice producing an average of over £3 800 No panel and no appointments Surgery fees 2/ and 2/6 visits 3/ and 3/6 Very little midwifery 2½ gns Night work extremely light House on lease with 2 reception rooms, 6 bedrooms bathroom etc Small garden Rent £60 Premium 1½ years purchase payable by arrangement

3 NORTH LONDON.—Old established middle and working class PRACTICE held by Vendor 4 years Average income for last 2 years £1 400 including appointments worth about £320 believed to be transferable Panel of 300 but this can be much increased if desired Advice and medicine 2/6 and 3/6 visits and medicine 3/6 to 7/6 About 80 midwiferies a year at from 2 to 5 guineas Easily worked with no conveyance Very large scope Fourteen roomed house on 67 years lease ground rent £29 Fair garden Garage for 2 cars sub let for £44 a year Premium for practice and house £3,250

4 LARGE NORTHERN TOWN.—Close to a well known School of Medicine and Hospital PRACTICE producing last year £900 mostly panel No midwifery Would suit anyone desiring easy work, or working for higher qualification Moderate premium for immediate sale House must be bought for £1 100 of which £800 can remain on mortgage

5 WITHIN FIVE MILES OF THE BANK.—PARTNERSHIP.—A half-share is for disposal in an exceptionally sound and old-established middle and working class Practice The average income is well over £5 000 including panel of under 1 000 If desired the panel can be much increased Fees 3/6 and 5/ Midwifery from £3/3/0 About 80 cases. Small, very convenient house in quiet road Price £400 Premium £3 750 payable £2 000 down

6 NORFOLK.—UNOPPOSED COUNTRY PRACTICE.—Very old established situated in a very pretty part of the county Average income last three years £1 443 including appointments and panel nearly 1 000 Visits 3/6 to 7/6 Midwifery from 2 guineas Good house with ample accommodation Small garden Garage Rent £54 Would be very suitable for two bachelors wanting the attractions of a country life Premium £2 000

7 DEATH VACANCY.—SHROPSHIRE.—In a very pleasant country town amid t beautiful surroundings a very old-established PRACTICE to which is attached a valuable License for six female patients is for immediate disposal. The practice averages for the past three years over £1,000 per annum including appointments worth £40 to £50 and 350 panel patients Held by late Incumbent over 20 years. Visits 5/ and 7,6 Very little midwifery Large house and grounds Freehold price £2 500 of which £1 000 can remain on mortgage Premium for practice and license £1 550 Locum in charge

WANTED TO PURCHASE

1 SOUTH WEST OF ENGLAND.—Preferably between Taunton and Land s End Country PRACTICE producing about £1 500 a year House with 2 or 3 reception rooms 6 bedrooms and good garden Capital available and free to negotiate at once

2 SOUTHERN COUNTY.—Country PRACTICE preferably unopposed Income £1 000 upwards Fair sized house with good garden Would buy if necessary Capital £4,000

3 HANTS, SOMERSET, OR DEVON.—Country Town PRACTICE or good provincial town Income £1 000 £1 500 Some panel. House with 4 or 5 bedrooms nice garden Fee for immediate purchase

4 MIDLANDS OR SOUTH.—Unopposed Country PRACTICE producing about £1,200 upwards. Good sized house with garden. Capital £2 000

RESIDENTIAL SUBURB OF LONDON.—Good cash and panel PRACTICE bringing in upwards of £2 000 Panel of at least 2 000 Convenient medium sized house Capital available

6 LONDON OR SUBURBS.—Working-class PRACTICE producing an income of upwards of £1,500 Small house sufficient Capital £2 000

7 SOUTH OF LONDON.—Small town preferably on coast PARTNERSHIP, offering scope for Surgery Small house, or rooms sufficient. Capital £1 500

8 LONDON OR WITHIN 10 MILES.—PARTNERSHIP offering good Surgical scope Income £1 000 upwards Capital £2 000 House suitable for a bachelor

9 SMALL TOWN OR COUNTRY preferably Seaside.—PRACTICE about £1 500 No branch surgery Commodious house Ample capital

10 MIDLANDS.—LARGE TOWN.—Good middle and working-class PRACTICE Income £1 000 upwards House on rental Ample capital

11 LONDON ANY PART.—Cash and panel PRACTICE of £2 000 upwards Panel of not less than 2 000 Small house suitable for bachelor £3 000 cash available and free to buy immediately

12 GOOD PROVINCIAL TOWN ANY PART OF ENGLAND.—Surgical opening in general PRACTICE Income from £2,000 Capital £3 000 £4 000

Profits accruing to Bovril, Limited, from the Agency will be allocated amongst recognised Medical Charities.

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DERBYSHIRE —(12) Well-established PRACTICE of between £700 and £800 per annum in Manufacturing Town, Panel 850 No Midwifery Nice detached house (4 bedrooms) in acre of ground to let Great scope for increase Premium one and a half year s purchase

SURREY —(13) PARTNER required in good-class non-dispensing PRACTICE over £4 000 per annum in first rate residential district Incoming Partner should hold University degree not over 30, and keen on medicine Premium one fourth share two years purchase

EAST COAST —(14) Old-established PRACTICE £1,700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double fronted house (6 bedrooms) Rent £55 Premium one and a half years purchase

NORFOLK.—(15) Old-established Country PRACTICE in beautiful part. Receipts £540 Panel 328 Premium £750

MIDLANDS —(16) PARTNERSHIP in old-established Practice over £3 200 per annum in excellent Country Town Panel about 1,400 Premium one third share one and a half years purchase

UP-THE-THAMES —(17) PARTNER required in old-estab PRACTICE in good Residential District within 20 miles of London Share worth £1 000 for premium of £1 200 The incoming partner should be under 32.

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UP-THE-THAMES —(22) Middle-class PRACTICE worth about £500 in Residential District Small Panel. House with 4 bedrooms for sale. Premium for Practice £500

MIDLANDS —(23) Well-established PRACTICE of £1,400 per annum in Manufacturing Town in the Potteries. No panel or midwifery Detached house (5 bedrooms) to rent. Premium £1,800

SURREY —(24) Small non-dispensing PRACTICE about £275 per annum in first rate Residential Town Small panel. Excellent detached house (6 bedrooms) in one acre of ground to rent on lease. Premium (to include lease) £500

MIDLAND TOWN —(25) Old established PRACTICE about £1,100 per annum in Residential Suburb Panel 700 House contains 7 bedrooms Large garden Price £1,900 Premium for Practice £1,500.

NORTH-WEST COAST —(26) Well-established middle class PRACTICE about £2,400 No appointments. Conveniently situated house to rent Premium £3 000 part by instalments.

NORTH WALES —(27) Old-established PRACTICE in small Seaport Town Receipts 1923 £550 Panel 150 No midwifery or night work Rent of house (7 bedrooms garden half an acre) £50 Prem £750.

NORTH OF ENGLAND —(28) Old-established PRACTICE of £1 460 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds two acres Premium practice house and grounds, £4 000 Mortgage could be had on house.

FAVOURITE HOME COUNTY —(29) PARTNERSHIP in good-class Country Practice about £3 000 per annum in delightful residential district Visits up to £2 2s Excellent modern detached house (7 bed and dressing rooms) in grounds of three and a quarter acres, to be sold. Cottage Hospital Premium one half share two years purchase

SOUTH OF ENGLAND —(30) Old-established PRACTICE of £1 700 per annum in Residential Town Panel worth £600 per annum. Detached house (4 bedrooms &c) Rent £50 Prem. one and a half yrs. purchase.

BORDERS OF SURREY AND HANTS — (31) JUNIOR PARTNER required in Practice in charming residential country District Panel 737 Share worth about £600 at two years purchase.

EASTERN COUNTIES —(32) PARTNERSHIP in old established practice £2 213 per annum in first rate Town. Panel about 2 050 House (9 bed and dressing room) standing in own grounds, to be sold. Premium one-half share, one and three quarters years purchase

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SOUTH COAST —(41) Popular Health Resort. PRACTICE Receipts 1923, £1 310 Small panel. House on sea front (3 beds) rent £60 Premium £1 950 (or near offer) Scope for Surgery

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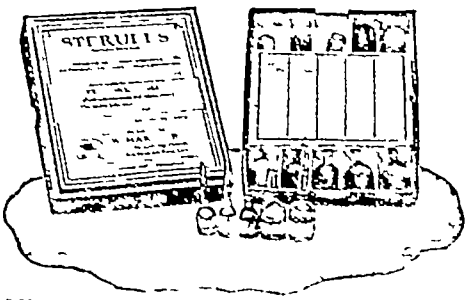
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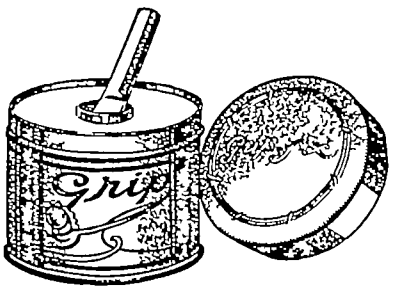
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MARCH 1st, 1924

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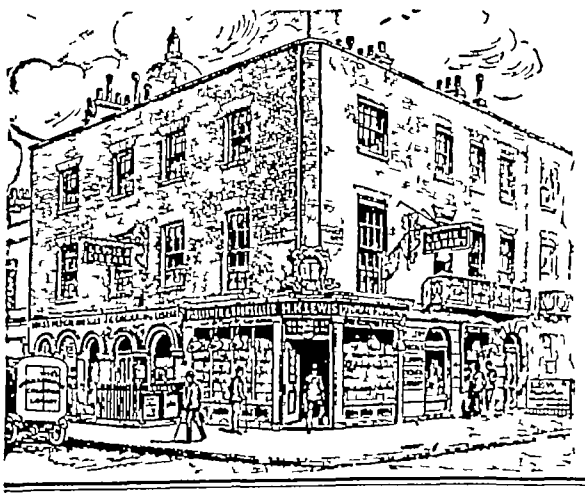
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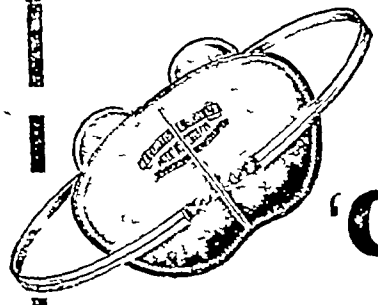
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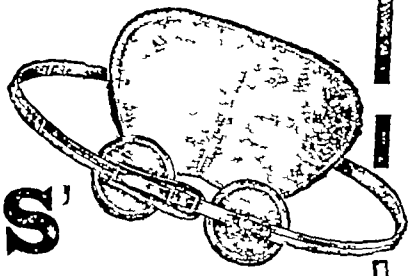
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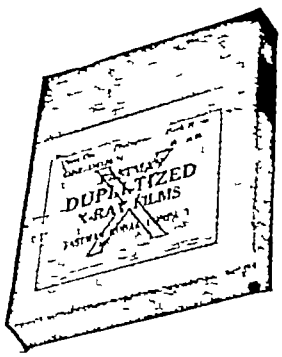
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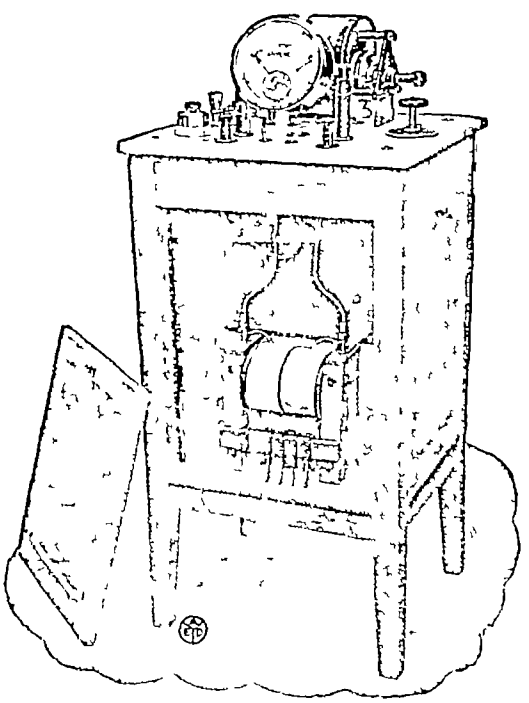
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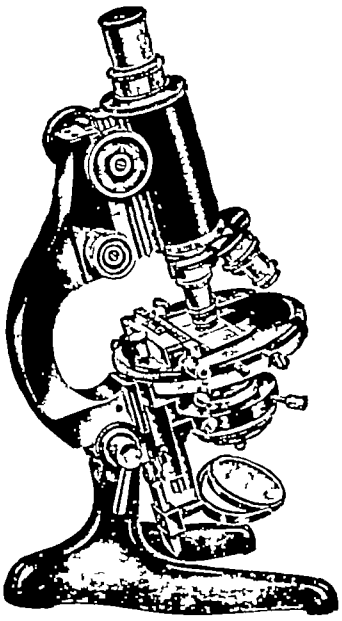
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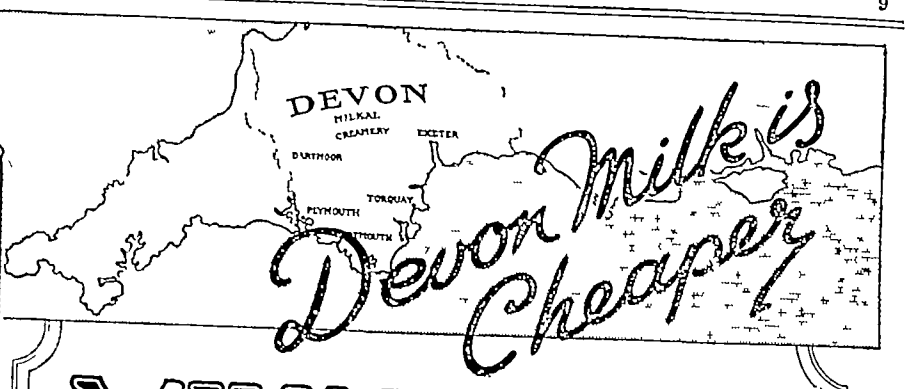
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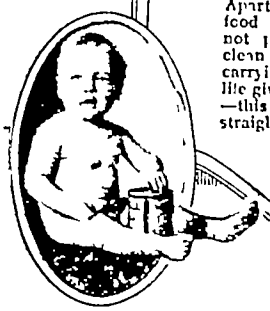
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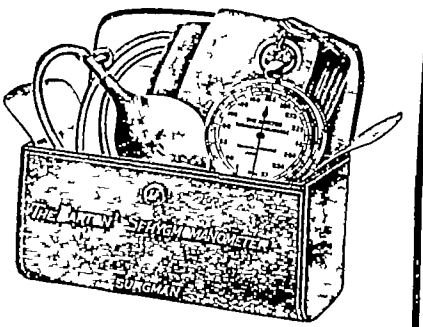


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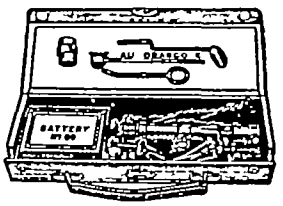
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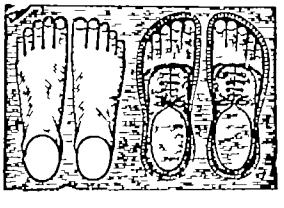
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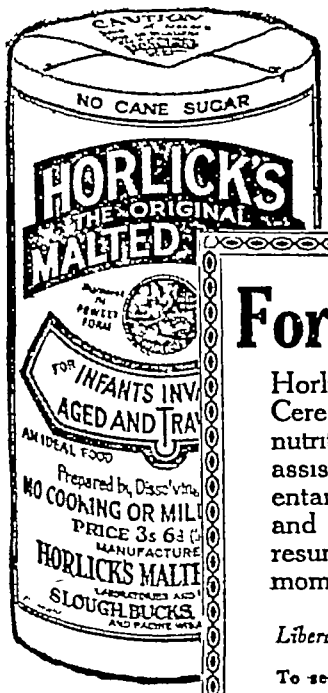
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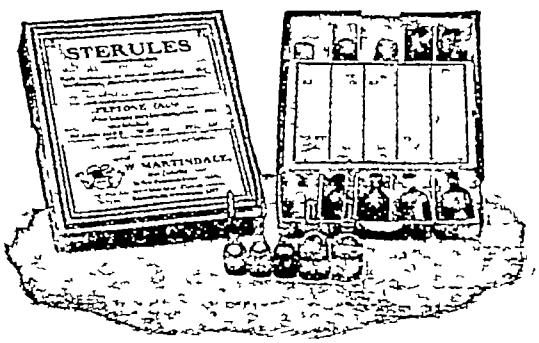
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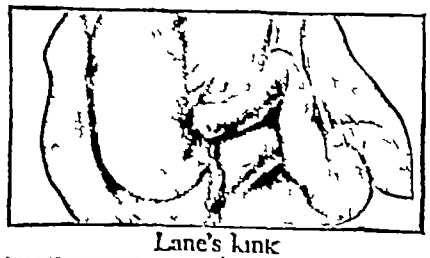
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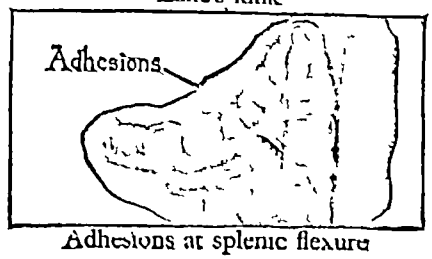
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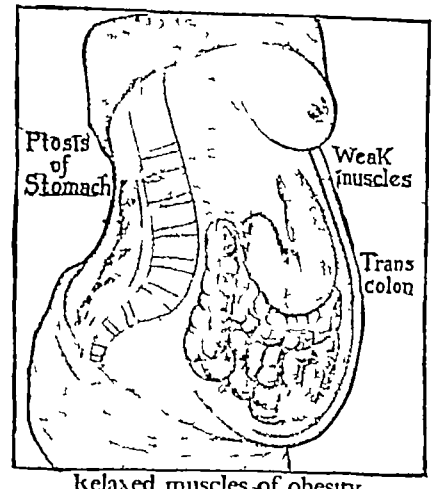
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A PALESTINIAN 'HIGH PLACE OF BAAL'—Corrupt worship in the 'High Places' was the cause of the impassioned denunciations and appeals of the Hebrew Prophets and led to the great pioneer work (already begun by Moses but allowed to lapse) which resulted in the inestimable contribution they made to the world's civilisation. Chaldea and Egypt had already evolved the germ of the idea of monotheism, but the Hebrews alone imbued it with the ethical spirit set the example of its application to social institutions popularised it and gave it the form in which it has been accepted by the world. They in fact, created that spiritual conception of the Highest Being which lies at the root of our present civilization, and in this connection endowed the world with some of its finest literature. Recent excavation has brought to light a number of the 'High Places' in which at on time the Hebrews worshipped in common with the Canaanites—Semites like themselves with whom they became assimilated and whose religious practices and general culture they absorbed. Here was carried on that debased form of service, often described in the Hebrew scriptures and which made appeal to the lowest instincts Originating in a nature-religion it was supposed by the Semites to have been divinely sanctioned from time immemorial Its chief deities were Baal, who needed to be propitiated by very horrible sacrifices and the Mother goddess, Ashtaroth of whom the most crude images have been brought to light near the High Places. The sacred pillar" with an altar, marked the sanctuary Often other monoliths were added from time to time and thus an alignment was formed, as in the accompanying illustration



DATE (The 'High Places" associated with the Hebrews) from c. 1400 B C.?

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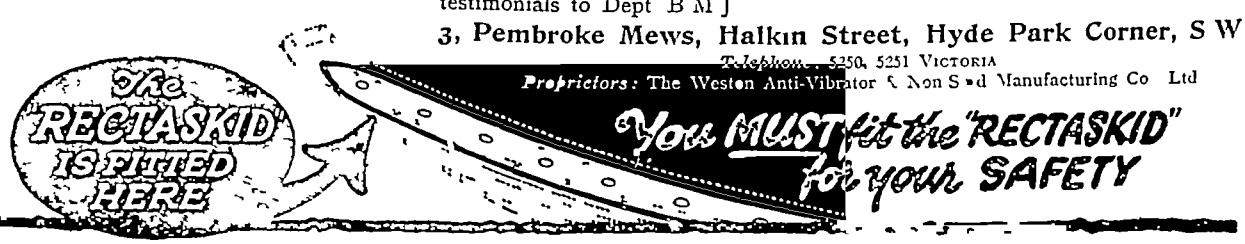
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A Preliminary Inquiry

INTO

THE NATURE OF THE CELL IMPULSE.

BY

SIR JAMES MACKENZIE, M.D., F.R.C.P., F.R.S.
(From the St. Andrews Clinical Institute.)

STIMULATION

THE process of stimulation is recognized as the response of the cell to an impulse. This process forms the basis of all vital activity. It is recognized that the organs of the body are constantly assailed by impulses from without or from within the body, the impulses being generated by the functional activity of the organs.

While this description indicates the nature of stimulation, there is still much that is obscure about the manner in which it is carried on in the maintenance of life. When, for instance, the physiologist applies an electric stimulation to the cut end of a sympathetic nerve, and produces an increase in the contraction of the heart, the experiment is spoken of as a stimulation of the heart. But this is an end-result, and the physiologist cannot explain what took place between the cut nerve and the muscle contraction. Many symptoms of disease are the results of increased activity of organs which are said to be stimulated, but here again the symptom is but an end result, and it is not known how it was brought about.

In our investigations into symptoms it was manifest that little progress would be made until we had an understanding of the processes which led up to the end result. In our search for this fuller knowledge we had occasion to investigate the functions of the conducting system of the heart. It may be pointed out that until the part played by the conducting system in the heart beat is understood it will be impossible to interpret fully and correctly any action of the heart, experimental or clinical.

When we considered *the pulse beat which occurred in* auricular fibrillation and flutter we came across a condition which threw some light upon stimulation. It is now recognized that the contraction of the ventricle is dependent upon the auriculo-ventricular node, and we can infer the condition of the node by the character of the radial pulse. The advantage of studying this node in these conditions lies in the fact that the impulses which stimulate the node are constant in number. In auricular fibrillation they are innumerable, in auricular flutter they are within the neighbourhood of 300 per minute. When the body is at rest the pulse rate may have fallen to 50 or 40 beats per minute. When moderate effort is made the pulse rate may rise to 140 or 150 beats per minute. As the impulses are constant in number, this variation in rate can only be due to a variation in the excitability of the cells of the *auriculo-ventricular node*. This is an illustration of stimulation arising through an increased excitability of cells. How that comes about has been an object of study, but it does not immediately concern the purpose of this paper.

Having considered the excitability of the cell, we turned next to consider the other factor—namely, the impulse. It is well known that the heart muscle cells, when they contract, throw out impulses. The questions arose, Was this function peculiar to the heart muscle cells? or was it common to all muscle cells? The answer to this latter question was easily given in the affirmative. We had but to consider what happened in a uterine contraction to recognize that large numbers of impulses were generated. These impulses are taken up and conveyed by afferent nerves into the central nervous system, and give rise to a series of reactions in remote organs, such as increased pulse rate, flushing, sweating, pain, *nausea*, and *vomiting*. Here, then, was another form of stimulation due to the increased number of impulses.

The Impulse

As our inquiry proceeded we found that the interplay *between impulse and* cell excitability was regulated and controlled by certain very definite laws, and it was by the operation of these laws that the activity of organs was modified to meet the requirements of daily life. But to understand these laws we require a fuller knowledge of the impulse. It has been the object of many investigations, but so far it has eluded explanation. Attempts have been made to analyse it from a chemical and electrical point of view, with no satisfactory result. It has been thought to be an electric force, but it was found to behave in a manner different from electricity. It has been recognized as a "force," but no one seemed to see where such a conclusion led. If it is a "force" and it does not correspond to any of the other forces recognized in nature, because it possesses peculiarities and properties of its own, then it is but logical to recognize it as a force as distinctive as gravitation, magnetism, or electricity.

If this be recognized, we can at once see how futile it would be to attempt a chemical analysis to find out its nature. Nobody would dream of such a procedure to find out the nature of gravitation. The way to investigate such a force is the method which has been pursued in regard to all the other known forces in nature. The enormous growth of the knowledge of the properties of matter has not come through the investigation of the forces in nature themselves, but in finding out the effects they produced. It is therefore evident that the only way this force can be investigated is by studying, not the impulse itself, but the effects which it produces.

The Impulse a Vital Force

So far as this preliminary study of the subject has gone, we recognize that an impulse is the product of cell activity, that it can only be conveyed by living structures, and acts by stimulating cells to discharge their function. In being entirely related to living matter it differs from all other forces which have so far been recognized. Electricity, for example, with which it has been compared, can be conveyed by non-vital as well as vital structures.

In this inquiry it must be kept in mind that the effects which the force produces are the only evidences of its existence. The information to be drawn from these effects must be left to our powers of observation and reasoning, and this, again, must be guided by the results of experience. This being the case, the explanations which may be given at one time are provisional and must be continually revised, as experience sheds additional light upon the problem.

THE GENERATION OF IMPULSES

In the primitive cell there exists in a rudimentary form the function of every highly specialized cell. Amongst these functions is that of producing impulses. This function is highly specialized in the cells of certain regions of the brain, and *in a structure like the sino-auricular node* of the heart. The function of impulse production is also possessed by other cells, notably by muscle cells. It is even present in the undifferentiated cells of plants.

The statement that impulses are the outcome only of cell activity is based upon the fact that they can neither be generated nor conducted without the presence of living cells. No cell can be stimulated into activity without the reception of an impulse or of some force which may produce the same effects as an impulse. The skin is a great sheet of cells and these cells may be stimulated into activity by mechanical or other agencies. But the force which is conveyed into the interior of the body and which gives rise to the reactions, whether it be a sensation or the contraction of a muscle, is not the force which was applied to the skin, but is the impulse which such force caused certain cells of the skin to discharge. The impulses thus discharged were taken up by cells with parts specially evolved for the purpose, such as the receptors of afferent nerves.

Most of the organs of the body are never subjected to mechanical force yet from every organ there flows a continuous stream of impulses. These impulses are generated by the cells of the organ. When a cell discharges its energy in the shape of its peculiar function it at the same time discharges an impulse. The human body provides innumerable instances. A hollow muscular organ is never at rest. Even in its most quiescent state its cells are continually passing into and out of activity, though its activity varies within

wide limits The number of cells engaged in contraction may be relatively few, and little or no movement can be detected At other times there is an increase in the number of cells participating in the contraction, and the contraction becomes stronger A great number of cells may participate and a strong contraction of the organ may result This can be shown in the case of a large full-time pregnant uterus The hand placed over it may detect no signs of contraction, then at occasional intervals a slight hardening may be detected At other intervals this hardening may be greatly increased, and there is no difficulty in recognizing that this variation in hardening is due to the increase in the number of muscle cells taking part in the contraction

Coincident with these contractions we get ample evidence of the production of impulses With the milder contractions there may be a slight increase in the pulse rate, a flushing of the face, and a slight degree of pain When the contractions become more severe they are accompanied by a greater increase in the pulse rate, flushing in the face, and perspiration, pain of great severity, and an uncontrollable desire to bear down, with a suspension of respiration also, accompanied, it may be, with nausea and vomiting Such phenomena, connected so clearly with the contraction of muscle, can only be explained by the generation of a great number of impulses produced by the muscle cells, taken up by the receptors of afferent nerves, and conveyed into the central nervous system, where they have reacted upon and stimulated the efferent nerves of the various organs concerned in producing all these phenomena

If the skin of the chest be lightly rubbed with a piece of flannel, in some people a series of reactions follows Two of the most striking are the appearance of a goose-skin (the pilomotor reflex) across the chest and down the insides of the arms, and at the same time the pupil dilates Here the impulses from the skin have passed into the central nervous system and stimulated the sympathetic nerves which supply the pilar muscles and the dilator of the pupil

Dr Maitland Ramsay has recorded another very striking illustration In a case of iritis it was necessary to keep the pupil widely dilated, but atropine produced only a partial dilatation The application of a blister at the side of the head or behind the ear produced complete dilatation of the pupil As soon as the blister healed, the pupil became again partially contracted and atropine failed to produce complete dilatation The blister was again applied The pupil again became widely dilated The raw surface was kept open and the pupil remained widely dilated

The explanation is simple The atropine causes dilatation by removing the influence of the constrictor muscle of the pupil on account of its action on the third cranial nerve The removal of the influence of the constrictor pupillae was not sufficient to cause complete dilatation The application of the blister generated impulses in the skin which stimulated the sympathetic and produced an increased contraction of the dilator pupillae, with a consequent complete dilatation of the pupil The healing of the blister stopped the impulses, the renewal of the blister and the persistence of the raw surface kept up an increased flow of impulses and a constant stimulation of the sympathetic

TONE AND THE VISCERO-MOTOR REFLEX

When a voluntary muscle is at rest it remains in a slightly contracted state, giving rise to a firmness when it is palpated When its nerve is cut the muscle loses its firmness and becomes soft and flabby

The explanation of this change is that before the nerve was cut there was a continuous flow of impulses along the nerve, which, affecting but a few muscle fibres, kept the muscle in a state of mild contraction The cutting of the nerve resulted in a cessation of these impulses and a consequent abolition of the contraction This mild contraction is called tone

While this description of tone may be accepted, the question arises, Whence come the impulses which produce it? It is manifest that the impulses must have a source Clinical observation can throw a good deal of light upon the subject

If the abdominal wall be carefully palpated in patients with an affection of an abdominal organ, the wall may be found hard and resistant (the viscero-motor reflex), sometimes in limited areas, sometimes in more extensive areas, and sometimes the whole abdomen may be found hard and rigid This has long been recognized, but no satisfactory explanation has been forthcoming In some patients this hardness will be found to come and go with the worsening or improvement of the underlying morbid state, as in gastric ulcer and appendicitis When it disappears it will be found to merge imperceptibly into the contracted state called tone, and when it increases it resembles an increase of tone Indeed, there is little doubt that both conditions are due to the same cause—the tone being due to a few impulses reaching the muscle, while the hardening is due to an increase in the number of impulses

Evidence of a similar kind is found in the "rigidity" of joints In some patients the shoulder-joint may be so fixed that no movement can be obtained If the patient is put deeply under chloroform the muscles relax and the joint can be moved with ease The movement may elicit a grating sensation, evidently produced by a disease of the articular surfaces As the effects of the chloroform pass off the rigidity returns It is evident that the inflamed joint was the source of the impulses which caused the rigid contraction of muscles

Reasoning from such facts as these, we conclude that the impulses which maintain tone are produced by the cells of the viscera or of the joint, and that the impulses from a particular source reach a particular muscle or group of muscles The recognition of this increased contraction affords the clue to the seat of disease, inasmuch as the increased impulses are the result of disease Further, as only certain diseased states produce these impulses, it may be possible to recognize the nature of the disease

THE CONDUCTION OF IMPULSES

(a) Cell to Cell Conduction

There are different ways in which impulses are conducted They can be transmitted from cell to cell This occurs in plants, as in the hairs of Drosera, and in primitive animals like the sponges, where there is evidently no specialized part concerned in the conduction or reception of the impulse There are a number of instances in which this method of conduction occurs in the human body The conduction of impulses which produce cutaneous sensations can only occur by this method until they reach the receptors of the afferent nerves, the cells in this instance being those which constitute the epidermis It is likely that this is the method of conduction of impulses in the auriculo-ventricular bundle and its branches (Purkinje cells) and in capillaries

(b) Conduction by Nervous Network

The best illustration of this method of conduction is in the medusa In this animal the chief parts concerned in the generation and conduction of impulses and the regulation of the contraction of the muscle are (1) a number of sensory bodies at the margin of the bell, (2) an underlying network of nerve fibres connected at the outer margin of the bell with the sensory bodies, (3) the muscle layer of the bell

For a long time Romanes's interpretation of one of his experiments upon the medusa held the field He found that when he took a strip of the bell, cut in a zigzag manner so as to avoid the possibility, as he thought, of nerve conduction, on applying a stimulus to one end of the strip a wave of contraction spread through the whole strip He reasoned from this experiment that the impulse for contraction was conveyed from muscle cell to muscle cell, without the intervention of any nervous apparatus This observation and interpretation has long been used as one argument in favour of the myogenic doctrine of the heart's contraction, and of the manner in which impulses for contraction were conveyed in the heart

The later experiments of Mayer have shown that this result was wrongly interpreted Mayer has shown that such a strip of muscle consists of a muscle layer over a network of nerve fibres If a part of the muscle be destroyed so that there is a gap in the strip and an impulse be started, the muscle contracts as far as the gap, and the contraction

is begun on the other side of the gap, and continued to the other end of the strip On the other hand, if a gap be made in the nervous network, the muscle layer being left intact, the contraction, started at one end of the strip, ceases when it reaches the gap in the nerve fibres, and there is no resumption of the contraction at the other side of the gap From this experiment Mayer draws the conclusion that the impulse of contraction is not conveyed by the muscle, but by the nervous network

In another experiment Mayer cut out of the body a ring of tissue which he immersed in sea water By appropriate stimulation he was able to start a contraction in this ring, which passed as a wave completely round and continued beyond the place of excitation and went round and round without any additional stimulation This "circus movement" would continue for weeks if the tissue was supplied with fresh sea water Here again, if he made a gap in the muscle layer, the wave passed on uninterrupted, but when a gap was made in the nervous network the movement ceased on reaching the gap

The peculiar nature of the impulse is revealed by another experiment Mayer[1] cut out a ring of the bell as before, but left a strip of the bell attached to the ring When the circus movement was started, each time the wave passed the strip a wave of contraction passed along the strip to its end He then placed the ring in a solution containing magnesium chloride, leaving the strip in plain sea water The magnesium had the effect of paralysing the muscle The circus movement was started, and each time it passed the strip the strip contracted Gradually the circus movement became less till it ceased and no movement could be detected, yet the impulse passed *round and round*, as was shown by the contraction passing along the strip at intervals evidently due to the impulse continuing to pass round the network

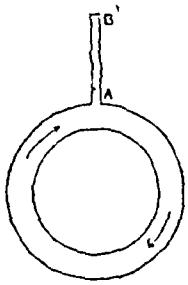


FIG 1.—Diagram of circumferential portion of medusa.

(c) Neurone Conduction

Under this term is described that form of conduction by individual neurones as distinct from the network form of conduction

The neurone is a highly developed cell, and there are at least four different parts specialized for particular functions *There is the part concerned in* (1) the reception of impulses, (2) in the conduction of impulses, and (3) in the discharge of impulses, while there is (4) the cell body, which does not

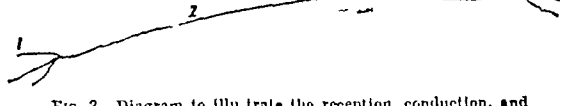


FIG 2.—Diagram to illustrate the reception conduction, and discharge of impulses

take any part in either reception, conduction, or discharge of the impulses, but whose function is to preside over nutrition In this respect we see that the dendrites, the axon process, and the terminal fibrils play the same part as the fibres of the network in the medusa *This development* of the neurone has not been sufficiently appreciated, and, in consequence, a good deal of confusion exists with regard to its function

The peculiar functional part of a neurone may be seated at a considerable distance from the cell body, as in the afferent neurones of the skin (Fig 2) The receptors of these neurones are the specially developed part, so that if in experiment the nerve is cut *their function is lost and* cannot be investigated On the other hand, efferent neurones of the vagus and sympathetic have their functional peculiarity in the fibrils at the periphery, so that if their fibres are cut and the peripheral portion stimulated the functional peculiarity of the neurone can be exercised and investigated This *seemingly simple and obvious* statement has not been appreciated

There can be little doubt that there is a large afferent part of the autonomic system which has completely escaped experimental observation simply because adequate means for investigation have not been employed It is manifest that if in an experiment the afferent nerve be cut stimulation of either cut end cannot reveal the peculiar function which is situated in the receptors It is evident that other means must be sought to gain the knowledge of the functions of afferent nerves This means will be afforded by the opportunities of the physician, for it is manifest that it is through his opportunities that a knowledge of the source of the impulses can be recognized It is these impulses which stimulate the receptors of the afferent neurones, and some of the more striking manifestations which they produce are the symptoms of disease

This constitution of the neurone gives a definite direction to the conduction of impulses In the intact body impulses can only be conducted when they enter the neurone by the part specially evolved for their reception, and they leave the neurone by the part specially evolved for that purpose Hence it is that the impulse travels only in one direction—from receptor to the discharging end—and passes from *neurone to neurone or to effector organ in a particular way* It is only by a study of the passage of impulses that we can obtain a knowledge of the function of the different parts of the nervous system

Nerve Force

The term "nerve force" has been applied to this vital force, the impulse From the foregoing description it can be gathered that it is in no sense a "*nerve force*," the nerves being merely structures specially developed for its conduction While it is the peculiar function of the cells of some part of the brain to generate and discharge impulses, other structures also do so, as already described, so that the impulse, then, cannot be looked upon as a force produced by any particular kind of cell

The Passage of the Impulse when the Conductors are Damaged

In the heart we find that impulses travelling along a structure like the auriculo-ventricular bundle act in a peculiar way The bundle may be damaged either by disease or by experiment, so that only a few strands can convey the impulses, and for some reason they are delayed in passing this narrowed part but when they get beyond the part they stimulate *the whole bundle and produce* a complete ventricular contraction

The same peculiar activity can be shown in the conduction of impulses by the network of fibres in the medusa If a strip of the bell be made, and a cut almost severs the strip into two, the impulses which cause contraction of the *near portion* pass over this narrow part and cause as complete a contraction of the part beyond

In a nerve trunk the conduction *may be reduced* to a small part of the nerve at one part The impulses which pass this small part cause a complete response in the part beyond, showing that the impulse did not lose by having to pass over a narrow strand of the nerve

The Passage of Impulses through Unspecialized Tissues

It is now well recognized that in the living body there is a force whose presence can be demonstrated by the use of *sensitive electrical* instruments, such as the "electrocardiograph" Hitherto this has been *attributed to a* "current of action" produced by the contraction of the heart, but beyond that nothing is known

A "current of action" implies the presence of a force As it appears only as a consequence of muscle contraction, we are justified in assuming that the "current of action" is nothing more nor less than one of the effects of the impulse *and that its* transference into an electric force is but an example of the change of one force or the effects of one force into another, as when the effects of gravitation are changed into electricity Some aspects of the

[1] Rhythmical Pulsation in Scyphomedusae Papers from the Tortugas Laboratory of the Carnegie Institution of Washington, vol. i 1906 p 122

conduction of impulses have been described The manner in which they pass through the body to be taken up by the electro-cardiograph at the extremities is another aspect

This faculty of traversing unspecialized tissues so long as they are living is illustrated by a striking experiment If the peripheral end of a cut phrenic nerve of a dog be laid upon the dog's heart, the whole diaphragm contracts with each beat of the heart The impulses pass through the pericardium to reach the cut nerve, and the pericardium, beyond being composed of living cells, is not specially evolved for the conduction of impulses

In noting these instances of the conduction of impulses, we see that there is something peculiar about the force which distinguishes it from any other force In observing the effects it produces we gradually began to realize that it demonstrates peculiarities in the behaviour of the tissues In its passage through the tissues it does not necessarily stimulate them

The fact that impulses are so universal and readily permeate all living tissues raises the question how it comes about that only certain organs are stimulated This has led to a review of the activity of cells and their susceptibility to impulses, and it has shown that this susceptibility varies in a manner that enables their activity to be regulated so that all organs, when they respond to impulses, do so in a fashion which enables their functions to be performed in a well ordered, purposive, and effective manner

This inquiry has resulted in the discovery that the reception of impulses is governed by the law of fluctuation The graded character of the response of the effector organ to impulse and stimulation and inhibition are dependent on this law of fluctuation

THE INTERPLAY OF IMPULSE AND CELL

In our investigations into the reaction of cells we find that all responses, whether physiological or the symptoms of disease, can be expressed in the terms of impulses and the susceptibility of the cells to stimulation Hitherto many terms have been accepted as explaining reactions, because of some superficial character of the end-result, without any appreciation of what was really implied by the term Stimulation and inhibition are terms of this sort, which, beyond indicating a seeming increased or decreased activity of an organ, yield no explanation of the processes which brought about the result

In the same way terms have to be invented which suggest the existence of structures which do not exist The term "centre" is spoken of as a definite entity, whereas it is but a figment of the imagination, created for the purpose of providing an explanation of reactions whose nature is not understood So far as we have gone we see that some concept requires to be evolved that will express what is meant by a centre, based on the relation of the impulse to the receptors of neurones

When we deal with disease, this way of looking at the phenomena enables us to obtain a far clearer insight into the nature of ill health Already a great many symptoms which had baffled explanation are now capable of interpretation, and it needs but an extension of our knowledge of the susceptibility of cells to impulse for a great advance along the whole front of the attack on disease

This will be grasped if we consider what constitutes disease Disease has been defined as the reaction of the body to an injurious agent The reaction means the effect produced by impulses upon cells Ill health and death are but the outcome of the relation of the impulse and the cell

The absence of a clear understanding has led to the use of terms which do little more than surround the reaction with an air of mystery Such terms as "anaphylaxis" and "immunization" are in common use, but all attempts to explain them simply result in developing hypotheses impossible of proof The clue to the explanation is to be found in this relation of the cell to the impulse In our research into digitalis we have shown that there were conditions of the heart when the pulse rate could be reduced by digitalis from 150 to 30 or 40 beats per minute In some such patients the pulse rate might rise suddenly to 70 or 80 beats per minute, and increased doses of digitalis be without effect on the pulse rate In the terms of the bacteriologist, the patient had become "immune" to the "toxin" of digitalis

Such a result was a mystery until it was shown, with an abundance of evidence rare in medicine, that the reaction to digitalis is due to the interplay between the impulse and the cell There was also indicated quite clearly the reasons why such startling differences could arise, and there is every reason for believing that investigation on these lines will lead to revealing the nature of all those reactions which are to-day obscured by the use of a pedantic terminology, descriptive only of end-results

CONCLUSION

While immense progress has been made and is being made in the knowledge of inorganic matter, little advance has been made in the knowledge of living matter beyond the accumulation of an enormous mass of reactions or end-results The reason for the great progress in the one case was due to the recognition of the forces in nature which produced effects upon inorganic matter The reason for the lack of progress in respect of living matter has been the absence of a knowledge of a vital force comparable to those of gravity, electricity, and magnetism

The recognition of this vital force permits the same lines of investigation to be followed which has yielded such a rich harvest in the inorganic world Although our attempts have as yet achieved but a small measure of success, we see it needs but time and experience to obtain a great addition to our knowledge of both physiological and pathological processes which will enable us to understand the nature of ill health Now that we see the interplay between the impulse and cell, and recognize the effects produced, we realize how the absence of this kind of knowledge has rendered it impossible to explore such fields essential to medicine as the great system of afferent nerves and the processes and structures concerned in regulating the functions of organs

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OCCLUSION OF THE POSTERIOR INFERIOR CEREBELLAR ARTERY

BY

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AND

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ALTHOUGH a number of cases of occlusion of the posterior inferior cerebellar artery have been reported, the symptom complex manifested by this lesion is not yet widely known This, together with the realization that these cases provide a unique opportunity for amplifying our knowledge of the functions of the tracts and nuclei found in the retro-olivary region of the medulla, renders it a duty to place on record the results of investigations of all patients suffering from this condition

The patient described in this paper exhibited most of the typical features seen after obstruction of the posterior inferior cerebellar artery and also presented a few points of special interest

Charles C, aged 64 whilst following his usual employment as a painter, became suddenly dizzy and experienced a "hot flush" in the left side of his neck and head He did not lose consciousness and was able to summon his workmates to assist him, as he was unable to walk without support Within a short time of the onset he complained of abdominal pain and suffered from vomiting but neither of these symtoms persisted long After being taken home in the ambulance and put to bed, he was seen by Dr Moreland of Cheetham Hill, and was given soda and milk, when it was found that he was unable to swallow, the fluid returning through his nose When admitted to the Manchester Royal Infirmary a week later he was still unable to swallow and complained of difficulty in coughing, and the dizziness prevented him from walking without support

Nervous System

Cranial Nerves—The left pupil was smaller than the right, but both reacted to light and accommodation. *Lateral nystagmus* was present, which was more marked on looking to the right. The patient did not complain of diplopia and the ocular muscles acted perfectly. There was no weakness of any facial muscles, nor did the tongue when protruded deviate to either side. All the special senses including taste, were normal. *The left side of the palate* was paralysed, but Dr. D. Lindley Sewell found no affection of any of the laryngeal muscles on kindly making a laryngoscopic examination for us. Analgesia and thermal anaesthesia were found over the greater part of the distribution of the ophthalmic and superior maxillary divisions of the left trigeminal nerve. The recognition of painful and thermal stimuli was defective over the left half of the palate. A small patch of herpes was present in the left malar region.

Sensation—In addition to the dissociated sensory loss on the upper part of the left side of the face analgesia and thermal anaesthesia were found over the right half of the neck, trunk and both extremities on this side. There was no disturbance of any other form of sensation. The precise extent of the dissociated sensory loss is represented in Fig. 1.

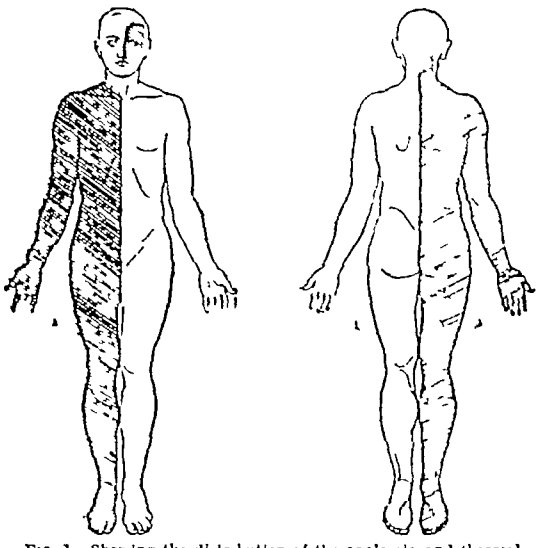


FIG. 1.—Showing the distribution of the analgesia and thermal anaesthesia.

Muscular System—Movements of the left arm and leg exhibited marked ataxia, but no paralysis or paresis of any muscle could be discovered.

Reflexes—The reflexes of the superior extremity were normal. The knee jerks and Achilles jerks were present, but not very easily elicited. There was no ankle clonus and the plantar response was flexor. Abdominal reflexes were absent.

The general examination revealed evidence of very general arterio-sclerosis, but the Wassermann test was negative. Albumin was present in the urine, the systolic blood pressure was 185 and the diastolic 120. A blood urea estimation kindly made by Dr. G. E. Loveday gave 76·0 mg. urea per 100 c.cm. of blood.

After History

During a stay in hospital of seven weeks the dysphagia disappeared, the ataxia became less marked so that the patient was able to walk about, and less difficulty was experienced in obtaining the knee jerks, but the other manifestations persisted.

The clearly defined syndrome renders the anatomical localization of the lesion fairly simple (Fig. 2). The sudden onset in a patient suffering from well marked arterial disease assists in arriving at a pathological diagnosis, but it is less easy to determine with certainty which vessel is affected, and some observers have frankly stated that it is impossible clinically to distinguish between occlusion of the vertebral and the posterior inferior cerebellar arteries. An anatomical study[1] has failed to solve this difficulty, but has provided the following information which may be of considerable value:

(*a*) Any paresis of the trunk, limb or tongue muscles definitely denotes involvement of the vertebral or anterior spinal arteries.

(*b*) Crossed and dissociated sensory loss unassociated with dysphagia and laryngeal paralysis is most likely to be due to vertebral occlusion since the spino-thalamic tract is never supplied by the posterior inferior cerebellar artery below the caudal extremity of the nucleus ambiguus.

(*c*) Rarely branches of the vertebral may replace the bulbar branches of the posterior inferior cerebellar, and occlusion of the former at the point where these branches arise, may produce the characteristic syndrome which we associate with the latter without any paresis of trunk or limb muscles.

Three points of special interest are illustrated by this case:

1. Since the occluded vessel supplies a considerable part of the spinal tract and nucleus of the trigeminal nerve and never contributes any branches to the nuclei of this nerve in the pons, and since the loss of sensation on the same side of the face as the lesion is dissociated, it is believed that the spinal nucleus receives only pain and thermal fibres.

2. Anatomical investigation has proved that the more caudal part of the spinal nucleus and tract is most constantly supplied by the posterior inferior cerebellar artery, and that, when the bulbar branches of this vessel are reduced in number, it is the cephalic extremity which escapes. In the case reported in this paper it is significant that the sensory loss was confined to the upper part of the face, which confirms the opinion expressed by Spiller[2] that the ophthalmic division of the fifth nerve descends to a lower level than the other two branches and that the fibres of the inferior maxillary division pass to the cephalic part of the nucleus.

3. On anatomical grounds it appears that in our patient the bulbar branches of the artery are less numerous than usual which leads to a reduction in a cephalic direction of the retro-olivary region generally supplied. This results in

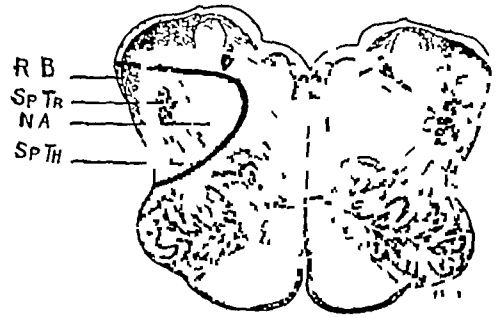


FIG. 2.—Section of the medulla at the mid-olivary level. The black line marks out the typical area of the medulla supplied by the bulbar branches of the posterior inferior cerebellar artery. R B = Restiform body. Sp. Tr. = Spinal tract and nucleus of trigeminal nerve. N A = Nucleus ambiguus. Sp. Th. = Spino-thalamic tract.

escape of the upper part of the nucleus ambiguus as well as the cephalic extremity of the spinal nucleus and tract. Since no paralysis of laryngeal muscles was found, this case supports the view that it is the upper part of the nucleus ambiguus which supplies fibres for the innervation of the muscles of the larynx, whilst the caudal part gives origin to the efferent fibres to the palate and striated muscles of the pharynx.

In conclusion, we desire to acknowledge our indebtedness to Dr. A. Coleman, house-physician, for assistance in taking the notes.

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SPRUE AND PERNICIOUS ANAEMIA

BY

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I READ Dr. J. L. Priston's communication published in the JOURNAL of February 2nd, with much interest. In this country we rarely see cases of sprue, but two very marked cases, both of which proved fatal, came under my observation in the years 1895 and 1899, and I was much impressed with the close resemblance between some cases of sprue and pernicious anaemia. In pernicious anaemia glossitis and gastro-intestinal symptoms, which are such prominent features of sprue, are often present. In sprue, anaemia may be very marked, and, as Dr. Priston points out in the advanced stages of that disease may present all the characteristic features of pernicious anaemia (high colour index, poikilocytosis, megalocytosis, etc.). Dr. Philip H. Manson-Bahr, in his article on sprue in *Byam and*

Archibald's *Practice of Medicine in the Tropics* (vol iii, p 2257), describes the condition of the blood in sprue in detail

In sprue, as in pernicious anaemia, the profound anaemia appears to be due to the absorption of some blood-destroying toxin from the gastro-intestinal tract, probably a different toxin in the two diseases In both diseases the blood destruction seems to take place chiefly in the portal circulation, with resulting deposits of pigment in the liver In pernicious anaemia there is not the extreme emaciation of fat and muscle which is present in the advanced stages of sprue In sprue the sudden remissions which are so often seen in pernicious anaemia are said not to occur, but this point requires, I think, further observation and corroboration

Dr A F Hurst has recently pointed out (BRITISH MEDICAL JOURNAL, January 19th, 1924) that in pernicious anaemia there is no free hydrochloric acid in the stomach, while Dr Pinston states that in sprue the gastric contents may show hyperchlorhydria, normal acidity, or hypochlorhydria, this (that is, that in some cases of sprue in which the blood changes are characteristic of pernicious anaemia there is hyperchlorhydria or normal acidity), if confirmed by subsequent observations, would appear to be a point of fundamental difference

Dr Manson-Bahr states that in sprue, sections and other preparations of the red bone marrow show no evidence of erythroblastic response, such as is described in pernicious anaemia This point requires, I think, further observation and corroboration It is highly probable that in cases of sprue, in which blood changes similar to those of pernicious anaemia are marked and of long duration, the same alterations in the bone marrow which are so characteristic of pernicious anaemia will be found

In pernicious anaemia, as in sprue, the mouth and tongue lesions are, in my opinion, probably part and parcel of the lesions in the gastro-intestinal tract I have never been able to agree with Hunter's view that oral sepsis is the cause of pernicious anaemia As I have more than once pointed out, I have met with cases of profound pernicious anaemia in which the patient for years before the onset of the disease had had no teeth, and in which the gums were perfectly healthy and there was not, and never had been, any source of oral sepsis In sprue, even when the anaemia is very marked, it may not present the characteristic features of pernicious anaemia

In my first typical and marked case of sprue, "the patient was extremely debilitated, greatly emaciated, and profoundly anaemic, there was some oedema of the feet He looked as if he were suffering from pernicious anaemia or advanced malignant disease On February 25th, 1895, when I first saw this patient, the red corpuscles numbered 2,400 000 per cubic millimetre the haemoglobin was 34 per cent The red corpuscles were perfectly normal in size and shape, there was no poikilocytosis The white corpuscles were not markedly increased in number, and were normal in character" Whether in the later stages of this case the blood picture changed to that of pernicious anaemia, as it does in the later stages of some cases of sprue, I am unable to say for the blood was not again examined

This patient died on February 23rd, 1896 The *post mortem* examination was made by Professor Robert Muir The body was extremely emaciated and the muscular atrophy profound, it exactly resembled, both during life and after death, the extreme muscular wasting which is seen in advanced cases of myopathic muscular atrophy Remarkable changes, which we have pictured in the published report of the case, were found in the muscles In that paper[1] we state "These muscular changes have not, so far as we are aware, been previously described, but we venture to think they will probably be found in other cases of the disease in which the muscles are, as they were in this case, extremely atrophied

In both of the cases which we have had the opportunity of studying, the voluntary muscles throughout the body were atrophied in quite a remarkable degree During life the condition exactly resembled that characteristic of the advanced stage of myopathic muscular atrophy In neither of the cases was there any paralysis, but merely profound muscular weakness proportionate to the muscular atrophy, there were no fibrillary twitchings the electrical changes were not noted

"In the first case, in which we were able to make a complete *post mortem* examination, the peripheral nerves were normal in every respect in the second case the peripheral nerves were not examined

"The portions of the voluntary muscles which were submitted to microscopical examination showed, in both cases, similar changes These changes were much more marked in the first than in the second case They consisted of great proliferation of the nuclei of the sarcolemma, which in places were enormously enlarged, and degenerative changes in the muscular fibres In places, the muscular fibres had apparently been completely absorbed by the enlarged nuclei, the degenerated remains representing the remains of muscular fibres In the second case there appeared to be some increase of the intermuscular connective tissue This seemed to be the result of the muscular atrophy and not its cause There was no lipomatosis

"It is probable, we think, that the muscular changes were due to the action of some toxin absorbed from the intestine"

Exactly similar muscular changes were found in a second case of sprue, in which the same extreme muscular atrophy was present, which came under my notice in May, 1899 In that case the muscles were also examined by Professor Robert Muir

I refer to these remarkable muscle changes in the hope that someone who has the opportunity of examining cases of sprue may make a microscopic examination of the muscles, or, better still perhaps, send specimens of the muscle removed after death to Professor Robert Muir, Glasgow University who will, I am sure, be glad to investigate further cases in the hope of throwing light on this very remarkable condition

In a third case of profound muscular atrophy which occurred in a man, aged 64, who came under my notice in September, 1896, very similar changes were found in the muscles by Professor Robert Muir This was not a case of sprue, but the patient had been addicted for several years to chewing tobacco in great excess, his wife stated that he was hardly ever without a quid in his mouth The patient himself told me that he never swallowed the saliva while "chewing", he further stated that he had always been very susceptible to the action of tobacco, he had never in his life been able to smoke two pipes straight off, for some months before I saw him he had discontinued "chewing" in such large quantities The only possible cause of the profound muscular atrophy and muscle changes in this case appeared to be nicotine poisoning

My chief object in writing this note, however, is to suggest that in cases of Addison's (pernicious) anaemia a trial should be made of parathyroid extract This idea occurred to me after reading Dr H H Scott's paper in the BRITISH MEDICAL JOURNAL of December 15th, 1923, in which he recorded some remarkable results obtained in sprue from parathyroid treatment A few days after I had read Dr Scott's paper I saw, in consultation with Dr Ballantyne of Dalkeith, a case of Addison's (pernicious) anaemia, and advised him to try parathyroid extract together with arsenic Unfortunately the patient was practically moribund when I saw her, she died two days afterwards and there was no chance of proving whether parathyroid treatment was likely to be successful in pernicious anaemia or not I suggest, however, that it should be given a thorough trial.

A word in conclusion as to nomenclature I have always thought that it is a mistake to name diseases after their discoverers, and in this case, since Addison's name is already associated with the tuberculous disease of the suprarenal capsules, the term "Addison's anaemia" is, I think, particularly unfortunate A name should, if possible, indicate the cause of the disease, or, if that is not known, some of its important characteristics Though the disease is in rare cases recovered from, and in many cases, under modern methods of treatment, is of longer duration than it was when Biemer gave the name "pernicious" to it, the term still, I think, is a good one, since it correctly differentiates it from other forms of apparently primary anaemia, such as chlorosis, the exact cause of which we do not know Some years ago I suggested that if the term "pernicious" is thought undesirable, the disease might, until its exact cause is discovered, be termed *gastro-intestinal*, or perhaps *gastro-intestinal-hepatic anaemia*

[1] A Remarkable and Hitherto Undescribed Muscular Lesion occurring in Sprue, with notes of a case of peculiar (? Myopathic) Muscular Atrophy in which somewhat similar changes were present. With Pathological Report by Professor Robert Muir, M.D., F.R.C.P.Edin (*Clinical Studies*, 1908, vol. vi, p 51.)

THE SURGICAL ANATOMY OF FEMORAL HERNIA

(*With Special Plate*)

BY

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IT is with very great diffidence that I venture to suggest certain modifications in the description generally given of the surgical anatomy of femoral hernia. Long custom has so firmly established its details that it seems almost sacrilegious to disturb them, and yet a close examination of the cases which have come under my notice has convinced me that some of the statements made about the anatomy of this condition are erroneous and have no foundation in fact, whilst other features of practical importance have not received the attention they deserve.

The Appearance of the Hernia

One of the most characteristic features of a femoral hernia is its appearance, a small spherical swelling lying below the fold of the groin (Fig. 8). This swelling is not due to the hernia itself or its contents, and still remains when the hernia has been completely reduced. It is produced by a pad of fat, encapsuled by the tissues through which it has protruded, and arising from the mass of extraperitoneal fat which normally occupies the crural canal. This irreducible spherical mass of fat is at least very generally present, and it has given rise to the totally erroneous impression that the contents of a femoral sac are often irreducible. Beneath the skin of the groin this mobile ball of fatty tissue, tethered above in the crural ring, can be readily felt, and it is so characteristic of the condition that an *immediate diagnosis of femoral hernia will rarely be at fault*. The sac may only occupy a very small portion of its root, and the common existence of this fatty mass at the head of a hernia suggests that its traction on the peritoneum above it may have been the primary cause of the hernia itself.

This fatty tumour is of very definite value in the diagnosis between an inguinal and a femoral hernia. In any ordinary case the contrast is sufficiently striking between this soft, spherical, mobile swelling below Poupart's ligament, and the oblique elongated tumour above the ligament formed by an inguinal hernia (Fig. 8). Absolute certainty can, however, be reached if the finger can be introduced into the *external abdominal ring and finds it empty*, whilst the swelling below persists.

Relation to the Pubic Spine

A classical point in the diagnosis between an inguinal and a femoral hernia depends on the relation of the swelling to the pubic spine. In the former case the swelling *is said* to lie internal, in the latter external, to this point. This statement does not, however, rest on a very secure basis of anatomical fact, for an examination of any normal male will show that the spermatic cord either crosses the pubic spine or lies external to it, crossing the inner extremity of Poupart's ligament, and this remains the natural position of an ordinary oblique inguinal hernia. It is, however, true that the pubic spine is most readily palpated from the outer side of an inguinal hernia, by displacing the latter inwards and upwards, and from the inner side of a femoral hernia. The relation of the swelling to Poupart's ligament is of more direct value, in those cases where it can be readily felt. Even in a stout person the position of the ligament may be ascertained with sufficient accuracy from that of the pubic spine, since the latter can always be exactly located by following up the tendon of the adductor longus to its origin just below it.

Gimbernat's Ligament and the Neck of the Sac

It is my invariable practice to operate through a vertical incision over the swelling, this at once exposes the spherical mass of fat, when by a sweep of the fingers it can be cleanly isolated from the surrounding tissues (Fig. 1). If the mass of fat is at all well developed it is a mistake to attempt to discover the sac directly within it. A better plan is to draw it downwards, when the neck of the sac, almost free from fat, will be seen emerging from the crural ring. On drawing down the neck the yellow globules of extraperitoneal fat appear, showing that the whole of the neck is in view and that the *normal peritoneum* has been reached (Fig. 2).

An *observation of great importance* can now be made. It will be found that at the neck of the sac, just where it lay in the crural ring, there is a well defined thickening. In early cases this involves the outer coats only, and these can actually be divided without opening the peritoneal coat and the sac itself. In old cases all the coats will be fused together and a narrow band of almost cartilaginous hardness may be formed, producing a close and sharp constriction in the neck of the sac (Fig. 3), and this thickened neck is invariably *smaller* than the crural ring in which it lay.

It is clear, then, that Gimbernat's ligament and the other structures of the crural ring can play no direct part in the strangulation of a femoral hernia. Apart from the observations made above one would have thought that this was sufficiently obvious, since the femoral vein forms the outer boundary of the ring and must necessarily be compressed by any structure wedged tightly in the ring, with oedema of the leg as an inevitable result (Fig. 4), and this does not occur. Gimbernat's ligament does however play *an indirect part of great importance*. *The constant friction* of this sharp and rigid structure on the neck of the sac is the immediate cause of the thickening of the neck, first in the outer coats and then in the whole structure. On the inner side of the neck this is most marked, and it is just here that the pressure on a loop of intestine may be the most acute and the most rapidly destructive.

Surgical Bearings

The practical importance of these observations can scarcely be overestimated. If the sac be drawn well down and the neck fully divided, a wide access to the abdominal cavity will be obtained, ample in most cases for the adequate examination of a loop of *strangulated intestine*. If further space is required, as for the resection of a gangrenous loop, it is readily obtained by dividing Poupart's ligament in the line of the incision. In my opinion there is no valid objection to this proceeding on mechanical grounds, and indeed some surgeons, notably Mr. Hey Groves, adopt it as a routine method. It certainly has the advantage of allowing the whole operation to be carried out in full view. With such an exposure suture of the conjoined tendon to Cooper's ligament is easy, and the complete exclusion of the femoral canal which results furnishes the most substantial method yet devised for the closure of a large femoral orifice. It is only rarely, however, that such a procedure will be required. After a high division of the sac the opening can usually be closed quite satisfactorily by suturing Poupart's ligament to Cooper's.

The thickening which occurs at the neck of the sac seems to me to be actually defensive, preventing the development of an enormous hernia, and protecting the femoral vessels from pressure. What may happen when no such constricting band is present is well shown in the following case.

Eliza M., a woman of 69, was admitted to hospital with an enormous strangulated right femoral hernia reaching half way to her knee. She told us that it had been twice as big but that the day before it had burst and that a large amount of water had poured out. In addition to the hernia she had had in fact a huge hydrocele of a hernial sac, the whole forming a tumour which actually reached to her knees. On opening the sac several coils of congested small intestine were exposed with a large mass of adherent omentum wedged into the neck of the sac and producing a moderate degree of strangulation. The contents were returned into the abdomen without difficulty, and it was now found that the neck of the sac was so large that the whole closed fist could be passed directly into the abdominal cavity. The neck of the sac occupied the greater part of the space between Poupart's ligament and the bone, and the femoral vessels instead of lying to its outer side lay beneath its centre. The opening was very satisfactorily closed by means of a large filigree of silver wire.

A close examination of anatomical detail during the course of an operation is not easy, but by the kindness of Sir Arthur Keith I was able to find in the museum of the Royal

College of Surgeons several specimens which admirably illustrate the relation to Gimbernat's ligament of the neck of a femoral sac The accompanying drawings (Figs 5 and 6) of one of these specimens show clearly that while Gimbernat's ligament lies opposite to the constricted neck of the sac, it is not the direct cause of the constriction The neck is obviously smaller than the canal in which it lies, and the narrow constricting band completely encircles the neck, although it is best developed on the side of Gimbernat's ligament The manner in which this constricting band protects the femoral vein from pressure is clearly shown

I recently operated on a case in which the neck of the sac was constricted in an entirely different manner, and in which the cause of the constriction produced symptoms of a very unusual nature

A man of 45 was sent into my wards with a diagnosis of renal colic At long intervals he had had attacks of pain spreading from the right iliac fossa into the groin and accompanied by frequency and scalding on micturition These attacks had increased in frequency and severity and were accompanied by the appearance of a swelling in the right groin On examination he was found to have a small right femoral hernia, and the diagnosis was made of a femoral hernia containing a portion of the bladder wall On exploring, however, no sign of the bladder could be found, but passing round the neck of the sac posteriorly was a dense round cord Further examination showed that this was an obliterated hypogastric artery, with an abnormal origin from the external iliac Traction on this cord drew down a part of the bladder wall and no doubt accounted for his symptoms, which have entirely disappeared since the operation, when the cord was divided and a radical cure of the hernia performed

If in this case the hernia had been strangulated it is highly probable that the bladder would have been pulled down, and in such an event the division of Gimbernat's ligament as usually advised would involve a very real danger of injury to the bladder It should be remembered that protrusions of the bladder are by no means uncommon complications of femoral hernia

Conclusions

I venture to think that the points to which I have referred are of practical importance in the diagnosis and treatment of a femoral hernia They may be briefly summarized as follows

1 In most cases the presence of a femoral hernia is characterized by the appearance of a soft, spherical swelling in the angle between Poupart's ligament and the tendon of the adductor longus

2 The pubic spine is not so satisfactory as Poupart's ligament itself as a boundary between inguinal and femoral hernias

3 Gimbernat's ligament is not directly concerned in the strangulation of a femoral hernia, and its division serves no useful purpose, and may be dangerous

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EPITHELIOMA OF THE SKIN AFTER PROLONGED EXPOSURE TO CREOSOTE

(With Special Plate)

BY

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THE following case is an example of occupational cancer It is an instance of epithelioma of the skin of the right hand in a worker exposed for many years to creosote It will be noted that he had also a few warty growths on the left arm, one of which presented evidence pointing to possible early malignant changes

The patient, who was 66 years of age at the time of his death, had worked for thirty three years in a creosote factory, his work was to carry wood after creosoting, and he stated that he was "up to the eyes in creosote" A good many years ago (certainly fifteen) a small swelling (?) appeared at the back of his right hand, "like a corn" Every now and then it cracked open and healed up again Eight years ago the growth had increased to the size of a two shilling piece, subsequently it gradually spread until just before operation it was a large fungating ulcer covering the dorsum of the hand (see special plate)

A portion of the edge of the ulcer, removed and examined histologically previous to amputation, proved to be a squamous epithelioma

A circular amputation above the elbow was performed by Mr S Raw, surgeon to Sunderland Royal Infirmary, to whom, and to Dr Gilbertson of Sunderland, I am indebted for the clinical history Seven or eight weeks later the patient died suddenly and a *post mortem* examination was made

Post mortem Examination

There were a few small warts on the left forearm Beyond changes common to his age, the organs were healthy, save that there were small secondary epitheliomatous deposits in both lungs, in the liver, and in both kidneys There were also two secondary deposits in the heart walls—one the size of a walnut in the left ventricular wall, involving its whole thickness and beginning to break down in the interior, and the other, the size of a pea, at the right border of the right ventricle

The case is put on record because it appears fairly certain that creosote was the cause of the malignant growth and subsequent death of the worker It will be noted that the internal organs showed numerous secondary deposits of cancer The large deposit involving the wall of the heart projected into its interior The glands in the right armpit were enlarged and invaded by malignant disease The amputation wound was in excellent condition

REINFLATIONS IN ARTIFICIAL PNEUMOTHORAX TREATMENT *

BY

L S T BURRELL, MA, MD,

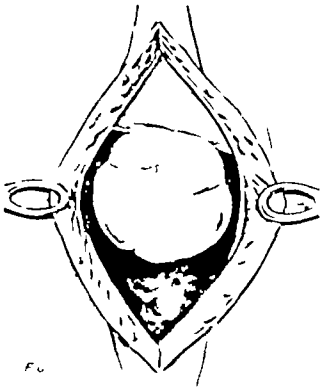
PHYSICIAN TO THE BROMPTON HOSPITAL, ASSISTANT PHYSICIAN TO THE WEST LONDON HOSPITAL

THE importance of rest in the treatment of active tuberculosis is well recognized Rest of the body and of the diseased part, followed by training of the body and rest of the diseased part until the lesion has healed, is now a common method of treatment In pulmonary tuberculosis the lung can best be rested by artificial pneumothorax When a lung is collapsed no special skill is required to put a needle into the pneumothorax cavity and inject gas But it is only by experience that the amount of gas, and when it should be given, can be judged A common mistake is to give a definite quantity of gas at definite intervals Not only does the rate of absorption vary considerably in different individuals, but the optimum degree of collapse also varies Moreover, the same patient may require more or less gas at refills as the treatment proceeds

When starting pneumothorax treatment I give small frequent refills until the lung is well collapsed I like to get a good collapse after about a fortnight and some five or six refills I then find the degree of collapse which is best for the individual patient Some require full collapse and others do much better when the collapse is less complete We have next to discover how long the optimum degree of collapse will last without a refill, this is best done by means of *x* rays If the patient does not do so well when the intrapleural pressure is higher than −2 cm water, any further collapse of lung causing such symptoms as dyspnœa and loss of weight, it can be seen by *x* rays how much collapse of lung there is at this pressure, and by frequent screening when the lung begins to re-expand If it is seven days the refills should be given weekly, if four days, then two refills a week are required If, when the refill is due, the intrapleural pressure is −12 cm water, then we know that the optimum pressures are between −2 and −12 cm, and the correct quantity of gas to give is that which will raise the pressure from −12 to −2 cm By this means the lung is kept completely at rest, it is not collapsed beyond the optimum degree and the intrapleural pressure is never allowed to reach that stage at which re-expansion occurs As time goes on it is usually found that the gas is absorbed less quickly and so longer intervals can be allowed between the refills. The object is always to keep the lung at rest Sometimes

* On behalf of the Medical Research Council

H. S. SOUTTAR: THE SURGICAL ANATOMY OF FEMORAL HERNIA



The pad of fat which encloses the sac

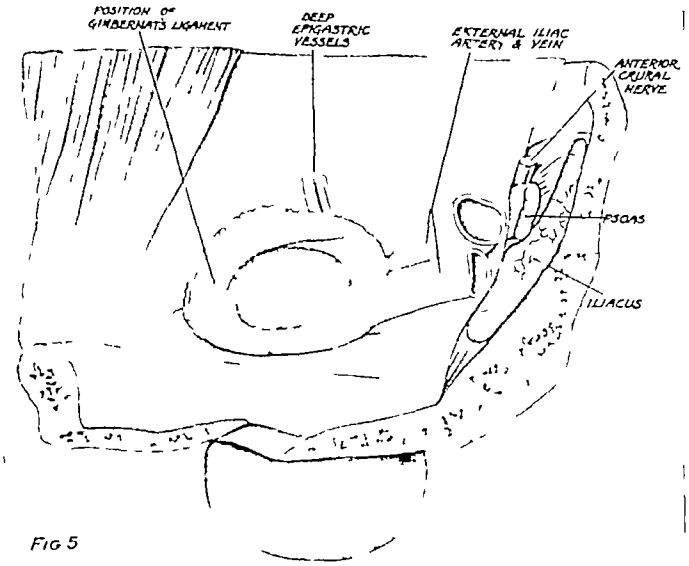


FIG 5

Femoral hernia as seen from within abdomen. (From Specimen 2673 Hunterian Museum Royal College of Surgeons by kind permission of the Curator Sir Arthur Keith.)

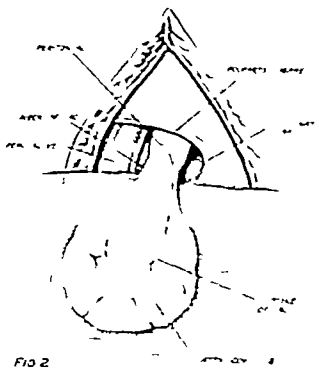
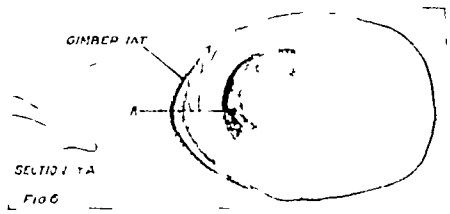


FIG 2

The sac drawn down to expose the neck



The same from the left posterior aspect



FIG 3

Division of the constricting band



FIG 7

Constriction of neck by abnormal obliterated epigastric artery

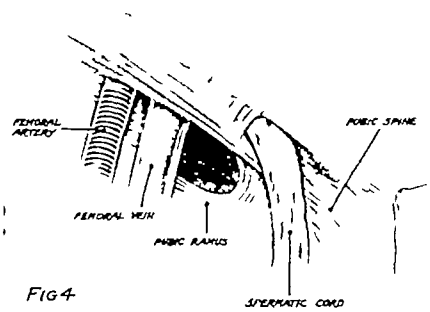
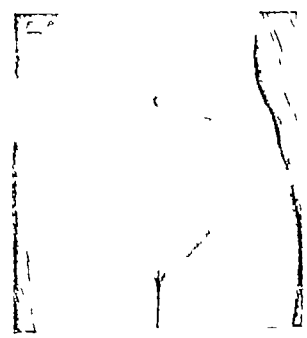


FIG 4

The boundaries of the crural ring



Femoral and inguinal hernia contrasted

H A COOKSON EPITHELIOMA OF THE SKIN AFTER PROLONGED EXPOSURE TO CREOSOTE

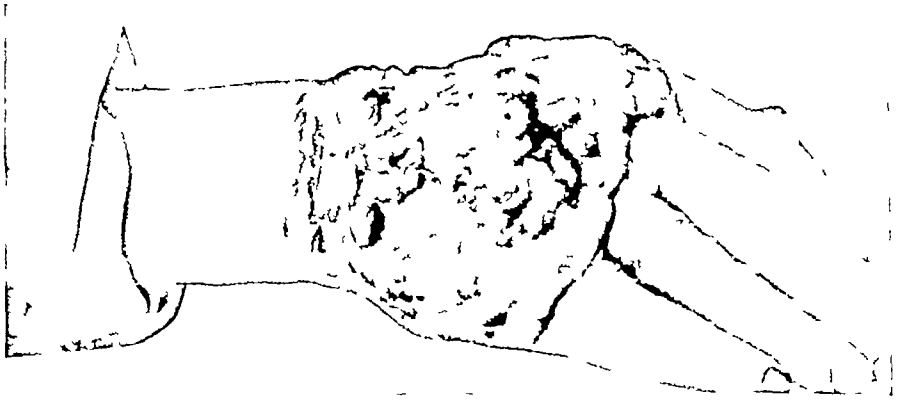


FIG 1.—Epithelioma of right hand of creosote worker



FIG 2.—Section of squamous epithelioma arising in right hand of creosote worker

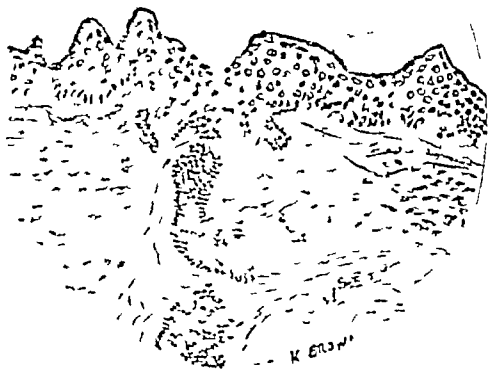
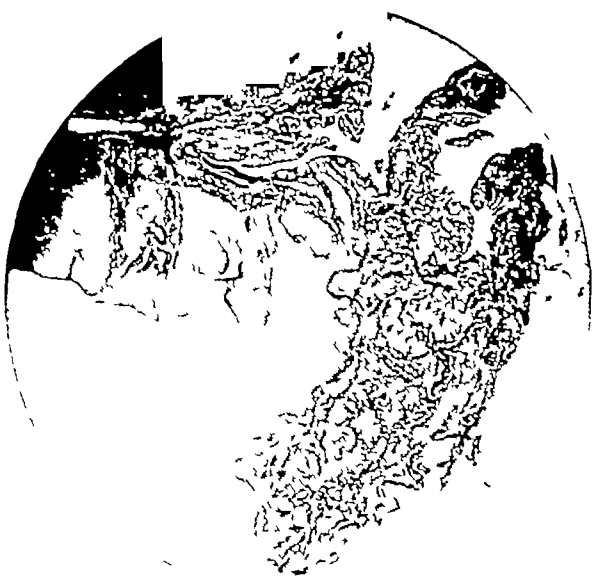


FIG 3.—Section of wart on left forearm of same patient. Note downgrowth of epithelium

J A WHITE ELEPHANTIASIS NOSTRAS AFTER LYMPHATIC INJURY



F P STURM PEDUNCULATED TUMOUR OF THE TONSIL



Photomicrograph of section of pedunculated tumour at lower lateral aspect of left tonsil (× 3)

large refills (1,000 or even 1,500 c.cm.) are given at long intervals. In these cases the lung is completely collapsed and then allowed to re-expand before the next refill. I call these concertina cases, because the lung is alternately expanding and collapsing. As a rule in such cases the patient complains of dyspnœa and discomfort just after the refill; this is followed by a period of well being, and this again by a period of increased symptoms before the next refill. Most of these patients lose weight; some, however, remain well, and this is usually because the disease is arrested and the treatment may safely be discontinued.

The difference between individuals is very considerable. I saw a patient recently who had been having 1,500 c.cm. of gas every five weeks. He had been having artificial pneumothorax treatment for over two and a half years, felt well, and was free from symptoms. The lung had completely re-expanded five weeks after the last refill, 600 c.cm. of air left a pressure of −6 cm. water, but it caused very good collapse. After two weeks there was not much re-expansion, but a week later the lung had expanded considerably. In this case to keep the lung at rest 500 or 600 c.cm. of gas should have been given every fortnight. However, as he kept so fit even when the lung was expanded it seemed that the disease was arrested, so I stopped the refills and he has remained quite well. On the other hand, absorption may be very slow. In one case there was practically no re-expansion of lung twelve weeks after the last refill and the lung had not completely re-expanded after six months.

X rays are of the very greatest value, but if not available an attempt must be made to ascertain the optimum degree of collapse from the signs and symptoms. If a patient says he feels ready for a refill it usually means that the interval between the refills has been left too long, for a refill should be given before the patient begins to feel the return of symptoms. Again, the temperature is often a guide. The chart shows a case in point.



R = Refill given.

The refill should have been given three days before, and when it was given too much gas was introduced and so a reaction occurred. Vital capacity is also of use in judging the optimum degree of collapse. After a refill the vital capacity is diminished, but if small refills are given the diminution should be very small. If the vital capacity is taken daily it will be found that at first it improves after a refill and then remains constant for a time. After this it will be found to diminish slightly, and the refill should be given before this diminution begins.

Adhesions may prevent a satisfactory collapse of lung, and may be so great that the treatment has to be abandoned. It may, however, be decided to continue the refills in the hope of stretching the adhesions and so making an efficient pneumothorax possible. In such cases very high pressures are not needed, for better results are obtained by giving frequent refills, leaving the intrapleural pressure constant and thus keeping a steady pull on the adhesions.

When fluid develops during pneumothorax treatment the gas is less quickly absorbed, so that the lung often remains collapsed for a long period without a refill. It is usually wise, however, to remove the fluid and replace it with gas, because if it is left adhesions are almost certain to form.

Sometimes, though only a partial pneumothorax is obtained owing to adherent pleura, it is sufficient to relieve the symptoms. Usually in such a case the pneumothorax cavity is gradually obliterated by contraction of the adhesions and increase of adherent pleura. In such cases the refills should be continued as long as possible, for the diseased lung becomes fibrotic and the patient often does very well. It is useless to continue the refills if there is so much adherent pleura that an efficient pneumothorax cannot be obtained. It may happen during treatment that the disease begins to spread in the other lung, and in this case the refills should be stopped. The patient then usually improves so that it may be said that the pneumothorax aggravated the disease. But cases are often to be met with in which the disease is spreading rapidly and steadily, and after an artificial pneumothorax has been induced there soon appears a spread on the other side. On stopping the refills, however, there is improvement on both sides, although the patient is kept on exactly the same treatment as before the artificial pneumothorax was started. It seems, therefore, that it is really the pneumothorax which checks the spread of the disease.

In conclusion, I should like to emphasize two points. (1) It should be remembered that the object of the treatment is to rest the lung, and that therefore the lung should be rested and not alternately collapsed and expanded. (2) It is not necessary to compress the lung fully, a very satisfactory collapse can be obtained with the intrapleural pressure still negative, and harm is often done by giving too large a refill.

TWO CASES OF INTESTINAL OBSTRUCTION

BY

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I. *Strangulation through an Aperture in the Ligamentum Latum Uteri*

THE unusual feature of the first case was the nature of the strangulating agent, and I can find no published report of a similar condition. Barnard[1] stated that hernia may occur into pouches in the broad ligament, and mentioned that a case of internal hernia of this type was exhibited in the museum of the London Hospital, but I have been unsuccessful in tracing it.

I have investigated the bodies of ten adult women, all probably parous, and in every case it was possible to stretch the round ligament forwards and to demonstrate a thin, apparently avascular *fold of peritoneum joining it to the* main part of the broad ligament. On no occasion did it require any real force to perforate this "*meso-ligamentum teres*" with my finger, and I can only suggest, as a possible cause of the condition described below, that as the result of the recent pregnancy, all the structures connected with the uterus were in a relaxed state, and that in some manner a coil of gut had ruptured this meso-ligamentous fold, perhaps when passing into the inguinal sac. After reduction, the coil would be left lying under the round ligament, a condition favourable for an internal strangulation to occur at any moment.

Mrs. V., aged 35, was admitted to hospital with the following history. Fourteen days previously she had had a normal labour. The pregnancy and puerperium were also without abnormal incident. At 11 a.m. on the day of admission, while bathing, her child she was seized with sudden violent pain in the region of the navel. The pain was continuous and very acute. After two hours vomiting began and recurred at intervals all the afternoon, but was at no time faeculent in character. The bowels were not opened during the day, and no flatus was passed after the onset of symptoms. She stated that a small hernia, never bigger than a pigeon's egg, had existed on her left side for three years; it had always disappeared spontaneously when she lay down. It was not present at the time of the examination, but from her description it was probably inguinal. With the exception of pleurisy two years previously the patient could recollect no previous illness.

On examination six hours later the patient was obviously extremely ill and suffering from severe collapse. Her temperature was 97·5° and the pulse rate 65 and very weak. She complained all the time of agonizing abdominal pain, and her face was cold and beaded with sweat. The abdomen was lax, and no distension or visible peristalsis was noticed. Percussion demonstrated the presence of some fluid in the flanks, and on palpation slight tenderness and rigidity were discovered in the lower part of the left iliac fossa. No mass was to be felt. *Per rectum* the involuting uterus could be made out, but nothing abnormal was discovered.

The diagnosis was at first rather doubtful, and seemed to lie between an acute perforation and acute intestinal obstruction; but had peritonitis been present the lack of general rigidity at such an early period would have been difficult to explain. Acute intestinal obstruction seemed therefore to be more likely, due possibly to internal strangulation.

After restorative treatment had been given the patient's condition improved somewhat, the pulse quickened to 112, and it was thereupon decided to operate without further delay

First Operation

The abdomen was opened through a right paramedian incision, an assistant giving intravenous gum saline at the same time Before incising the peritoneum a reddish black mass was visible through this membrane, and, on opening into the peritoneal cavity, free blood stained fluid escaped, the abdomen being apparently filled with dark plum-coloured coils of small intestine The caecum was collapsed but otherwise healthy, and, on examining the pelvis, a band was immediately felt rather on the left side, anterior to the uterus This was divided between forceps, thereby relieving the strangulated gut, and a small artery was distinctly seen in the centre of its cut surface The affected coils, obviously on the verge of complete gangrene, were resected through the healthy gut above and below As this left a margin of rather less than four inches of ileum below, the two cut ends were closed, and a lateral anastomosis with the caecum effected

Further investigation showed the strangulating agent to be the left round ligament, one end being traced to the internal abdominal ring, and the other directly to the uterus The ligament measured about four inches in length, and, before division, the middle two inches were quite free from the broad ligament, thus bridging over and strangulating the subjacent coils of intestine There appeared to be no evidence of old pelvic inflammation, such as might give rise to an adventitious band simulating the round ligament The abdomen was closed completely and the patient returned to bed, where treatment by means of glucose saline per rectum, pituitrin subcutaneously, and by radiant heat, was carried out The excised gut measured just over eight feet in length

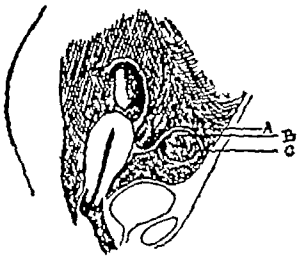


FIG 1.—Anatomical features in Case I A, Round ligament B, Orifice through which intestine had passed C, Internal abdominal ring

After operation the patient's condition was still very precarious, but the intravenous infusion of gum saline had almost certainly prevented her from dying in the theatre, and twenty four hours later the general condition had greatly improved, the temperature having become normal and the pulse 80 Post-anaesthetic vomiting occurred only twice By the fifteenth day convalescence was well advanced, and the bowels were being opened from one to three times daily On the sixteenth day, however, the temperature rose to 103° and the patient vomited a quantity of undigested stomach contents Vomiting recurred twice during the next twenty four hours, and consisted of bile stained fluid (about 15 oz.), the patient complaining now, for the first time, of pain in the lower part of the abdomen, where slight tenderness and rigidity were found on examination Three enemata were given during this period, with a poor result on each occasion, and, as the patient was not relieved and her temperature remained high, it was decided to operate again in case of leakage at the line of anastomosis, or of partial obstruction caused by a kink

Second Operation

This time a left paramedian incision was employed The peritoneum showed marked oedema, and a localized abscess was found lying partly in the pelvis between coils of intestine lightly matted together After the pus had been swabbed out it was seen that, although no definite kinking had occurred, the area of the anastomosis, together with some tags of omentum, was firmly adherent to the first incision No obvious leakage had taken place The omentum was freed, but it would certainly have been dangerous to separate the adherent gut, a drainage tube was therefore inserted into the abscess cavity, and the abdomen closed

For ten days much pus was discharged from the wound, accompanied by the usual intermittent pyrexia, but the general condition of the patient had improved considerably Fourteen days after the second operation a large right perinephric abscess had to be evacuated, and from this time onwards convalescence was without further incident All the wounds healed up, and the patient was discharged exactly two months after admission

II *Strangulated Retroperitoneal Hernia*

The condition found in the second case was possibly similar anatomically to that first described by Treves[2]—namely, hernia through the mesentery between the ileo-colic and superior mesenteric arteries, an example of which was published recently by Rock Carling and Mervyn Jones [3]

With the exception of the case of the right duodenal pouch, this appears to be the only area in the mesentery of the small intestine which would favour the occurrence of an "idiopathic" hernia, in that its texture at this part has been shown in many cases to be much weaker than that of the rest of the fold, on account of the almost total absence of lymph vessels and fat In addition, the presence of an arterial arcade would certainly help in the formation of a ring or neck, as emphasized by Waldeyer[4] in his description of the mesenterico parietal fossa, and as occurs also in many of the other retroperitoneal fossae, described fully by Brosike,[5] Jonnesco,[6] and Treitz [7]

Treves[2] states that in one subject examined by him, a man of 52, the area he describes was actually cribriform, there being about twenty small holes grouped together within the arterial boundaries In the present instance, however, I particularly noticed the relatively high position of the neck of the sac, and this, together with the fact that the ileo-colic artery was not definitely proved to be a posterior relation, suggests that the true condition was a fossa dipping behind the concavity of the superior mesenteric artery, enlarging downwards and to the left behind the peritoneum, into which intestine had herniated

Such a state of affairs would approximate to a hernia into the fossa of Waldeyer,[4] but involving the right leaf of the mesentery instead of the left I do not know whether such a fossa has been described, but no mention of its occurrence has been found in the exhaustive work of Moynihan and Dobson[8] on this subject

Mr O., aged 37, a healthy working man, was admitted to hospital having been taken suddenly ill eight hours previously with symptoms of rapidly increasing abdominal pain, vomiting, and collapse The pain, which for a short time was colicky in character, started in the umbilical region, and quickly became continuous, generalized, and very severe Vomiting had occurred several times, and on the last occasion, shortly before admission, was apparently becoming faeculent There had been no motion of the bowels or passage of flatus since the onset of symptoms No history of previous illness of any importance or of abdominal injury could be obtained, and up to the time he was taken ill the patient performed his usual work as a horse cleaner

On admission he was suffering from shock He wore an anxious expression, his temperature was 97°, and his pulse rate 90 and of a "running" type Cyanosis was absent There was little movement of the abdomen on respiration and no visible peristalsis was seen Palpation revealed slight rigidity of both the upper and lower abdomen, and there appeared to be a diffuse fullness below the umbilical region, which was very tender and resonant on percussion Rectal examination gave no further information, the hernial rings were clear, and the urine normal A diagnosis of acute intestinal obstruction was made

Operation

Under general anaesthesia the abdomen was opened through a paramedian incision A small amount of clear fluid escaped and slightly distended small intestine presented in the wound Collapsed gut, however, was soon found at the ileo-caecal valve, and was traced for a short distance upwards, where it was seen apparently to enter into a sac Further examination revealed the following condition The superior mesenteric artery, after crossing the duodenum, occupied a rather unusual position, lying a little over an inch away from the posterior abdominal wall between the layers of the mesentery In that part of the mesentery between the artery and its root, just below the duodenum, was an orifice directed upwards and to the right, the superior mesenteric vessels formed its anterior boundary, whilst behind were the structures of the posterior abdominal wall at a point about the position of the right side of the body of the third lumbar vertebra The ileo-colic artery was not identified Through this aperture small intestine had passed, and was lying in what appeared to be a retroperitoneal sac, or possibly free in the retroperitoneal tissue—a point on which it was difficult to be certain The extruded gut extended down behind the peritoneum below the promontory of the sacrum, and, by pressure from below combined with gentle traction above, about three feet of ileum were drawn out without much difficulty, examination of the site of constriction showing nothing more than slight ecchymosis of the surface, most marked on the entering loop There was also considerable oedema of the affected mesentery, and commencing distension of the lately incarcerated intestine The mouth of the sac admitted the tips of four fingers, but no attempt was made to close it by suture owing to the proximity of the large vessels, and, moreover, it appeared to collapse to a mere slit when the fingers were withdrawn

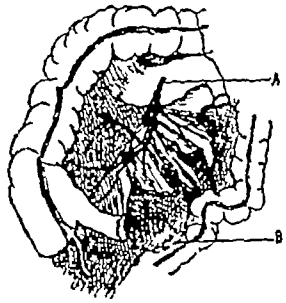


FIG 2.—Hernial Sac in Case II A, Superior mesenteric artery B Sac, indicated by the dotted line

The patient made an uninterrupted recovery and was discharged from hospital on the twenty-second day

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3 Rock Carling and Mervyn Jones BRITISH MEDICAL JOURNAL, 1923, ii, 1062
4 Waldeyer *Virchow's Archiv* vol 60, 1874, p 66
5 Brösike *Ueber intra abdominale (retroperitoneale) Hernien und Bauchfelltaschen*, Berlin 1891
6 Jonnesco *Hernies ou hernies formées dans les fossettes normales*
7 Treitz *Hernia* [illegible] hernia, 1906.
8 Moynihan and

SUPPURATIVE OTITIS MEDIA TREATED BY ZINC IONIZATION *

BY

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DURING the past year 50 patients attending the Central London Ear and Throat Hospital were referred for treatment by ionization They included 57 suppurating ears, and of these 45 were treated by ionization In 29 of these the otorrhoea rapidly ceased, 2 relapsed after a few weeks, 13 were not cured, and of 3 the result is not known This gives a percentage cure of 60

Of those not cured 6 were cases of cholesteatoma and 2 were old mastoid operation cases Neither of these classes is quite a fair test of this method of treatment If we omit these eight failures the percentage cure works out at 80 By cure I mean complete cessation of discharge, I take no account of cases improved

The cases were referred by various members of the staff, most had been under the ordinary antiseptic treatment for some time

Fifty Cases of Suppurative Otitis Media

No of suppurating ears	57
Ears ionized	45
Ears not ionized	12
Result of treatment by ionization (45 ears)—	
Cured	29
Not cured	13
Unknown	3
Condition of the 29 cured—	
Still dry	27
Relapsed	2

Attic and Cholesteatoma Cases

These were of the well known type with tiny attic perforation either in Shrapnell's membrane or burrowing under the anterior or posterior ligament of the malleus The membrane itself was glued to the inner wall of the tympanum by cholesteatoma, and was by the pneumatic speculum shown to be either totally fixed or mobile only in small areas These cases, which generally have only a scanty foul smelling discharge, usually have symptoms of toxaemia, such as headaches, giddiness, and chronic ill health They are the most dangerous class, always on the brink of a calamity In the hope of benefiting this type of case I tried various preliminary methods of treatment, such as drops of liquor pepticus, liquor pancreaticus, and aniline oil with spirit After these had been used for a week I washed out the tympanum with warm ether followed by the zinc solution and then ionized My hope was that the cholesteatoma would be partially disintegrated and thus capable of being washed out My only reward was a temporary improvement Not one of these cases was cured I am firmly convinced that such cases are not curable by any form of antiseptic treatment nor by ionization

Cholesteatoma is in a class by itself Our knowledge of its causation is incomplete At present the only efficient treatment is a radical mastoid or possibly ossiculectomy operation Occasionally a case that seems to be cholesteatoma does dry up, leaving a wax-like fixed drum, but such cases are the exception

Of the other patients who were not cured one had definitely chronic mastoiditis One had subacute otitis, as shown by redness of the drum and pulsation of the pus coming through the perforation, she had headaches and probably also mastoiditis One was a child of 2 with pinhole perforations The mechanical difficulty in washing out the tympanum was the cause of failure here The other cases were examples of septic Eustachian tubes, and were referred for treatment of adenoids, oral sepsis, etc One case which appeared suitable in that she had an adequate central perforation did not dry up Three cases sent for treatment were nearly dry, and were not ionized Another case with polypi dried up after removal of the polypi without ionization

Technique

This is described fully in Friel's *Ionization*, and I will not go into detail, but would emphasize the importance of the preliminary toilet of the ear The tympanum must be emptied of pus and débris, mopping, suction, intratympanic irrigation, instillation of cocaine and adrenaline, all help to produce the open tympanum desired, for it must never be forgotten that sterilization takes place only over the area covered by the zinc solution

Number of Treatments

The majority (22) of the successful cases were ionized only once, 4 received two treatments, 2 received three treatments, and only 1 as many as four If the case does not dry up after two or three ionizations it is not likely to yield to this form of treatment We must then diligently search for the cause of the chronicity This may be remediable if it is sepsis coming back from the nasopharynx If it is due to an infected mastoid antrum a mastoid operation is indicated, if it is due to a closed tympanum with septic pockets inaccessible to the ionizing fluid the problem is very difficult Evidence of carious bone associated with polypi calls for a mastoid operation

The results obtained have been gratifying, many have been dramatic One case which had been discharging for twenty seven years dried up with one treatment (She, with some other patients, was exhibited before the meeting) Another case had a history of twenty years' suppuration, another of ten, yet in each case they were dry after one ionization Another case, which had attended for treatment at the hospital for three and a half years (displaying marvellous patience), was cured after two ionizations It is extraordinary that sepsis should remain limited to the tympanic cavity for such a number of years, but that it is so must be a fact Were they cases of chronic mastoid disease—a view held by Mr Heath—sterilization of the tympanic cavity by ionization would cause only a temporary improvement and they would rapidly become reinfected The possibility that the antrum might be filled with the zinc solution and might be ionized concurrently with the tympanum is, in my opinion, not credible

A gain to the surgeon practising this method of treatment is that his knowledge of the topography of the diseased drum is greatly increased The appearance of the membrane of a "closed" tympanum is very deceptive A depressed area adherent to the inner wall frequently simulates a perforation, and frequently one's first impressions have to be amended by subsequent observation The passing of an intratympanic cannula is a great check on the correctness of one's idea of the topography of the perforated drum

My experience of these cases and others forces on me the conclusion that in zinc ionization we have the most efficient method of treatment of tympanic sepsis of a certain type It is not suitable for acute or subacute cases or for attic cases with cholesteatoma Of course, in treating any case of otorrhoea, oral and post-nasal sepsis must be eliminated to prevent infection, this is just as true of cases treated by ionization as by any other method The criterion of suitability is an open tympanum with an adequate perforation leading to it in which the sepsis is limited to the tympanic cavity A tympanum 'closed" by polypi or cholesteatoma is unsuitable The advantages of treatment by ionization are

(1) It will cure any case of otorrhoea which is curable by drops

(2) It will accomplish this in one-hundredth part of the time, thus saving an enormous amount of the patient's, doctor's, and hospital's time

(3) It will cure a large number of cases which do not mend with ordinary antiseptic treatment

My thanks are due to Dr Dan McKenzie, in whose clinic I carried out the work, and also to the other members of the staff who so kindly referred the cases

* Read at the monthly clinical meeting at the Central London Ear and Throat Hospital June, 1923.

Hunterian Lecture

ON

THE "TOXAEMIAS" OF PREGNANCY.

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BY

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(Abbreviated Report)

THERE has been an illogical tendency to group various disorders of pregnancy under one heading and to attribute their manifestations to a common causal agency Moreover, it has become customary, by the application of the general term "toxaemia," to convey a false impression of knowledge belied by the very diversity of opinion that characterizes our every discussion of the subject In its literal interpretation, the term is innocent enough, but as commonly employed in this particular connexion it almost imparts that comfortable sense of fatalism which is the most insidious enemy to research As a necessary preliminary to the scientific study of these problems, I submit that any presupposition of a common etiological factor should be dismissed for the time being, that each form of derangement should be examined strictly on its own merits, and, in certain instances, that each individual case should be regarded as a separate entity

A tribute is due to the memory of John Lever, sometime obstetrician to Guy's Hospital, who first recorded the association of albuminuria with eclamptic convulsions The discovery was presumably made under the influence of his contemporary Richard Bright, but it is worthy of note that his treatment differed but little in general from certain much vaunted methods of the present day, and his results were almost equally successful If we except a death apparently due to other causes, we find that twelve of his thirteen cases recovered His clinical descriptions are excellent, for he was not obsessed by other than the simplest hypothesis, to which further reference will be made

At the present time there is an inclination to assume that noxious elements or toxins tend to arise directly or indirectly from the ovum, and in particular from its growing edge, the placenta, thereby constituting what one might describe as a form of biochemical neoplasia Alternatively, it is suggested that anaphylactic phenomena are established Innumerable variations of these theories have been proposed A different hypothesis has been advanced by Young, who believes that toxins arise from the autolysis of localized areas of placental necrosis, following some form of interference with the maternal blood supply On first principles one finds this conception more attractive than those in which the living tissues of the ovum are regarded as a potential source of serious disease Wallis and Williams have suggested that the overproduction of a toxic substance in the corpus luteum is the cause of all the trouble So great has been the desire to attribute the ills of pregnancy to the agency of toxins that one author has postulated toxic hyperexcitability of the vagus as a satisfactory explanation of pregnancy vomiting

The Dublin school, whose clinical results are more convincing than their pathological theory in view of the biochemical evidence, appear to imply that excessive metabolic products accompanying the pregnant state subject the excretory organs of the body to an extra strain, which is reinforced by the effects of overeating and defective alimentary elimination, or, as an alternative supposition, that "the food ingested and the toxic elements from the foetus require the same ferments in the blood to neutralize them The foetal toxin takes some of the elements from the blood which are intended for the digestion of food This leaves the latter with no ferment, and therefore the food acts as a toxin" In connexion with this latter view of the situation, the observations of McQuarrie and Whipple with regard to the influence of intestinal obstruction and proteose intoxication on the renal function are of some considerable interest, but I would refer you to an engaging criticism of their work which has recently been published by Paramore

Paramore maintains, on the basis of clinical and experimental evidence, that the intra-abdominal pressure is definitely raised in pregnancy, and that an exaggerated increase of this pressure determines a toxaemia, but he regards this toxaemia as a purely secondary factor, due to mechanical interference with the capillary circulation of the liver and kidneys, and consequent impairment of their excretory functions

Vitamins and the ductless glands have naturally been held to blame, and there is indeed one aspect of an endocrine disturbance that may be worthy of attention, although at the moment it is purely speculative Kark has assumed that eclamptic phenomena represent the effects of an overaction of the pituitary gland, which is normally called into play during the latter periods of pregnancy for obvious physiological purposes He suggests that this occasional excess of pituitrin in the system leads to contraction of the arterioles in various parts of the body and produces thereby necrotic foci in the placenta, liver, and kidney, and oedema of the brain We may shortly be in a position to examine the validity of this hypothesis by the application of an extremely delicate test for the detection of pituitrin in the blood

Quite apart from any potential superabundance of pituitrin it is possible to conceive that a hyperactivity of purposive pressor effects is otherwise induced, whether as a result of circulatory disturbances of reflex or mechanical origin or under the influence of adrenaline or any of the pressor bases Unfortunately we have no means of detecting the relative quantities, or even the actual existence, of these latter in the general circulation, and for the present we can only hope to observe the vascular phenomena as such

I do contend, however, with all due deference, that we should confine our investigations to the study of tangible physiological, anatomical, and pathological factors, rather than allow our minds to make use of an imaginary primary specific toxin for the existence of which there is at present no direct scientific evidence whatever

BIOCHEMICAL OBSERVATIONS

Considerable attention has been afforded of recent years to the inorganic constituents of the body under various conditions This has naturally appealed to those of us who are merely amateur biochemists Much credit and blame have been attached to the part played by calcium, particularly in the economy of the female Applying the method of Laidlaw and Payne in determining the total calcium content of the serum in pregnancy, eclampsia, and pregnancy with albuminuria (apart from actual nephritis), I have found no considerable deviation from the normal Osman and I investigated the acidosis factor in pregnancy We found, in common with other observers, a reduction in the bicarbonate content of the plasma No further reduction was found in cases of albuminuria of pregnancy, although in nephritis proper there is frequently a marked decrease in the alkali reserve, associated with phosphate retention and diminution of the calcium content of the serum In certain cases of eclampsia, however, a definite fall in the plasma bicarbonate was noted, but one has since attributed this to the effects of the convulsions and of labour itself, as corresponding figures have been obtained in the later stages of normal labour, and a particularly low figure in a case of pregnancy accompanied by convulsions due to a definite cerebral lesion It is now generally agreed that the acidosis factor plays a negligible part in the "toxaemias" of pregnancy Further reference will be made to this subject under the heading of pregnancy vomiting As regards the "physiological acidosis" of pregnancy, Mairack has demonstrated a primary reduction of CO_2 tension in the blood, and only in a minority of cases an actual alkali deficit, which is presumably due to the excess of base over acid required by the foetus in the later stages of pregnancy I have been able to detect the characteristic fall in plasma bicarbonate at the earliest

stages It is possible that we may eventually find some relationship between the circulatory changes subsequently suggested and the variations in the acid base balance On the whole, no conspicuous deviation has been demonstrated by responsible observers in the inorganic constituents of the blood in eclampsia

De Wesselow, who has published excellent work on this subject, aptly observes that the renal lesions of pregnancy can hardly be attributed to the overstraining of a normal function, since the influence of foetal demands in the ordinary course of events appears actually to diminish the quantities in circulation of such metabolites as require excretion Even in eclampsia there is not that marked accumulation which is found in certain types of nephritis Parr and Williams found a variable increase in the non protein nitrogen content of the blood in eclampsia, but this was never really excessive, and the extent of the increase bore no definite relation to the severity of the symptoms As is elsewhere indicated, the ammonia coefficient fallacy has been satisfactorily exploded, and variations in the nitrogen partition of the urine are no longer regarded as an index of that hepatic disorder which may undoubtedly exist In fact, Nash and Benedict have recently implied that ammonia appearing in the urine is formed by the kidneys and not by the liver Unfortunately, observations directed to the detection of functional failure on the part of the liver have not hitherto yielded any information of considerable value* Losee and Van Slyke, whose observations on the alkali reserve we have already confirmed, found no definite increase in the amino nitrogen content of the blood or urine in eclamptic women and conclude that there is no evidence of defect in the desaminating function of the liver Alsberg found no impairment of laevulose tolerance in eclampsia, and Tallerman has more recently noted a departure from the normal in only one of three cases

Dienst suggests that thrombus formation is concerned in the pathology of eclampsia—and it is certainly a factor to which we must give attention He attributes the tendency to thrombosis, for which there is clinical evidence to an increased blood content of fibrinogen and fibrin ferment in pregnancy, and states that abnormally high levels are reached in eclampsia To a certain extent de Wesselow supports this observation but remarks that much higher levels are reached in cases of pregnancy complicated by infection Falls has demonstrated a slight increase in the *coagulability of the blood in pregnancy*, and especially during labour, but regards the variations as being within normal limits

It must be admitted, after serious consideration of all the available evidence, that biochemical investigations have hitherto failed to elucidate the fundamental factors of these problems They have reflected the results of derangement, but they have not thrown light on etiological antecedents It must be remembered, however, that our present-day methods are of a somewhat macroscopic order, and that, although the records may be uninspiring there is every reason to encourage further biochemical research

Unfortunately biochemistry is a dangerous ally, and those who fly to its aid have often little knowledge of its actual values

ALBUMINURIA OF PREGNANCY

One is inevitably struck by the absence of abnormal features in the average case of albuminuria of pregnancy, with the possible exception of oedema Although there appears to be only a difference of degree between cases of "symptomless" albuminuria and those which are pre-eclamptic, the former exhibit remarkably little clinical or biochemical deviation from the physiological standard This was impressed on my attention in the course of investigations on the acidosis factor in normal and abnormal pregnancy *I have further been unable to find any* increase whatever in the inorganic phosphate content of the plasma in these cases, such as would afford evidence of renal retention in that respect De Wesselow found an almost negligible rise in the blood urea content of mild types of albuminuria although the urea concentration test showed some slight degree of renal impairment These and other considerations suggested a comparison with various forms of "functional" albuminuria

In cases of orthostatic albuminuria *apparently* due to lordosis, Sonne assumed that the two kidneys would not be equally involved, as the left renal vein would be more liable than the right to compression by an anterior curvature of the spine, and he was able to demonstrate by ureteric catheterization a left-sided unilateral albuminuria Rieser postulated a compression of the left renal vein between the aorta and superior mesenteric artery in cases of visceroptosis associated with lordosis In view of the mechanical conditions obtaining in late pregnancy, an investigation on these lines seemed therefore to be worthy of pursuit

I was fortunate in obtaining the expert collaboration of Mr V L Lloyd, who has in each instance undertaken *the actual catheterization, but we have been unfortunate* in failing to obtain a sufficient number of suitable cases to afford any satisfactory conclusion Apart from the difficulty of obtaining clinical material, there are various technical difficulties to be encountered The interior of the bladder may be so distorted in the later stages of pregnancy as to render ureteric catheterization far from easy and although I have envied the patience, gentleness, and skill which my colleague has invariably displayed, it has been quite impossible to obtain the desired specimens of urine on every occasion, and our results have thus been limited to somewhat pitiable proportions

Corresponding specimens of urine were obtained from the left and right kidney respectively in five multigravidae and four primigravidae The former showed no marked difference in the protein content of the urine from either side Although there was slightly more on the left than on the right in certain cases—and in no case was this position reversed—the differences were regarded as being within the limits of experimental error The relative quantities of urine varied considerably, but the variation was not uniform In none of these cases was there excessive albuminuria In three of the four primigravidae, however a definitely asymmetrical excretion of protein was observed in the first case a heavy cloud on the left and a faint trace on the right, in the second case 20 parts per 1,000 on the left and 6 parts per 1,000 on the right, and in the third case, of which details have already been published, 14 parts per 1 000 on the left and 1 2 parts per 1,000 on the right The fourth case showed only 0 4 part per 1,000 on either side There was very little difference in the relative quantities of urine obtained from either ureter over a corresponding period in any of these latter cases It will be noted that in no case of the whole series was the urine of the right kidney completely free from protein

In spite of general opinion as expressed in recent years, we are able to *suggest*, therefore, that mechanical pressure and a resulting hyperaemia of the left kidney exercise a certain etiological influence At the same time it is indicated by the above observations that this particular factor does not represent the whole matter, since *albuminuria* was invariably found on the right side in some degree Rather than attempt to support these experimental data with indirect evidence, which is always so fatally plentiful, we shall propose to continue the investigations as opportunity occurs and await definite results In the meantime it may be profitable to examine other possible circulatory alterations with further lines of research in view

The pregnant uterus may directly produce local venous compression, of which one particular instance has already been suggested The local pressure effects may be exerted on the vena cava itself or on its branches, further instances are to be found in the varicose veins, haemorrhoids, discoloration of the vulva, and oedema of the lower limbs (apart from renal defect) which commonly accompany pregnancy It is tempting to postulate, in association with the implied compression of the left renal vein, a circulatory disturbance of the corresponding suprarenal gland, which might explain certain features of eclampsia itself but until we have a means of estimating the adrenaline

* Since this lecture was delivered Messrs Comyns Berkeley and E C Dodds have presented an important communication to the Royal Society of Medicine with special reference to the detection of hepatic *abnormality in eclampsia and the pre-eclamptic state.*

content of the blood this conjecture represents the wildest speculation Fischl was able to produce in animals not only albuminuria but also an actual nephritis by repeated experimental lordosis Lever himself attributed the manifestations of eclampsia to the results of compression of the renal veins by the pregnant uterus

These influences may be further reinforced by a *general* augmentation of venous pressure such as would accompany the efforts of labour, vomiting in late pregnancy, convulsions from whatever cause, and even the straining due to constipation On the other hand, Paramore maintains that increased intra-abdominal pressure directly effects an occlusion of the *capillaries* in the liver and kidneys

A further important series of possibilities is suggested by the observations of Pembrey and his fellow workers on the albuminuria which accompanies muscular exercise This condition is not apparently due to the action of metabolic products, as it is not a marked feature of prolonged periods of muscular work It was originally attributed to venous congestion due to relative cardiac incompetence Pembrey and his collaborators, however, found the albuminuria to be preceded by oliguria or anuria, which they believe to represent in turn a purposive renal vaso-constriction Although the average case of albuminuria of pregnancy is not accompanied by any marked decrease in the output of urine, the more serious cases and the aberrant types mentioned above are commonly characterized by oliguria In labour we may reasonably expect to find an adjustment similar to that observed in other forms of muscular activity In pregnancy there are at least two possible factors which might conceivably determine a compensatory vaso-constriction in various parts of the body, including the kidneys and liver one is a physiological increase in the capacity of the vascular system, another is an increased capacity due to venous obstruction In this connexion Bolton's well known observations on the effects of experimental narrowing of the inferior vena cava provide invaluable material for meditation

These and other reflections appear to afford a sufficient indication to resurvey the circulatory conditions as they exist in the pregnant woman One obvious field of inquiry is provided by a comparison of the vascular features obtaining in quadrupeds, where certain direct pressure effects are presumably eliminated Up to the present I have had some difficulty in obtaining information in this direction, as few relevant observations seem to have been made on the pregnant animal

Eclampsia

According to the point of view, eclampsia presents a pathological problem of unlimited interest or a train of truly terrifying symptoms Its most impressive features are the cerebral manifestations and the high blood pressure with which they are commonly associated The accompanying renal lesions have inevitably suggested a comparison with uraemia, which unfortunately affords us little help There is even greater variation between different cases of uraemia than there is between different cases of eclampsia Moreover, as Batty Shaw has pointed out, the term "uraemia" itself is a misnomer, though useful clinically, it implies a state of affairs that is unsupported by experimental evidence Marrack has justly observed that the disturbances usually classed as anaemic are not necessarily allied with evidence of renal retention or of acidosis Such disturbances appear to be explained by vascular changes, they are found in patients with high blood pressure and fair renal efficiency On the other hand, none of the characteristic symptoms may be exhibited in cases with extreme degrees of renal impairment

It is in general with the former of these types that eclampsia may be appropriately compared, although eclamptic convulsions are occasionally unaccompanied by any marked increase of blood pressure, and although on cursory examination the kidney may show striking evidence of defect In spite of oliguria and excessive albuminuria, evidence of a serious accumulation of waste products in the blood has not been forthcoming as a rule, though it is true that certain of these products might easily have escaped the biochemist's eye

To attribute all forms of eclampsia to a uniform sequence of pathological events is almost as illogical as to apply a common cause to all the ills of pregnancy, and doubtless the renal element assumes a paramount importance in various cases, but it must be admitted that in the majority it would appear to play a secondary part Certainly brilliant results have been recorded from decapsulation of the kidney in apparently hopeless cases, and it would be absurd to suggest that the renal influence may not predominate, but for the moment we are groping for fundamental etiological factors rather than portraying the manifestations of disease

Post-mortem and clinical appearances imply a definite derangement of hepatic function I understand there is corresponding biochemical evidence, but that already published is not convincing, and even were the fact established, it would not necessarily indicate the source of trouble It is obvious that any satisfactory hypothesis must take into account the liver lesions, and it may be said at once that these are not such as could be explained on the basis of passive venous congestion via the hepatic vein The influence of toxic bodies in the portal or general circulation, capillary occlusion as suggested by Paramore, or impairment of the afferent blood supply however induced, are all potential factors, though each is highly speculative

It is easy enough to explain the cerebral symptoms and *post-mortem* findings in the brain on grounds of circulatory disturbances if we consider the possible effects of haemorrhages, thromboses, congestion, and oedema The excellent results of veratrone administration recorded by Stevens and others have afforded striking evidence of the influence of blood pressure on eclamptic convulsions, and the occasional good effects of venesection cannot seriously be attributed to the removal of toxins from the circulation The causes of hyperpiesis have already been discussed, but, at the risk of repetition, it is again suggested that we should to some extent concentrate our attention on the vascular factors of this grave disorder

"Accidental" Ante-partum Haemorrhage

Haemorrhages of this class are commonly designated as "toxaemic" Although the etiology implied may ultimately prove to be correct, the present-day use of the term suggests a somewhat unjustifiable idea of superior information Fortunately the treatment of the condition rests on a sound basis provided by general experience It is due to remark on the excellence of the clinical and pathological records published a few years ago by the late Gordon Ley Whatever the future may decide as to the validity of his conclusions, the merit of his actual observations will inevitably withstand the test of time Admittedly this form of haemorrhage is frequently associated with albuminuria, and occasionally with eclampsia, but it is surely illogical to postulate *ipso facto* a common etiological agency It is, indeed, obvious that, in the large majority of cases, the albuminuria is not discovered until the haemorrhage is manifest, although it *may* have pre-existed I have in mind certain instances in which the albuminuria definitely followed the haemorrhage in point of time, and I am equally aware that a reverse order of events may obtain Systematic ante-natal supervision will determine the common sequence, but this unfortunately will not prove anything The histological appearances of the affected uterus have not been similarly interpreted by different observers Although Gordon Ley and others have regarded the oedema, necrosis, and haemorrhage as being due to a common cause (toxaemia), and remarked that the haemorrhages were in fact secondary to the necrosis, it has been alternatively contended that the necrosis is secondary to the haemorrhage

Dr James Young has argued that the underlying and primary element is an interference with the maternal blood supply, this may be due to simple mechanical factors determining a separation of the placenta from the uterine wall, or to a blockage of the ovarian or uterine veins from thrombosis, kinking, direct pressure, etc Without taking into consideration for the moment the further stage of his hypothesis, which attributes all accompanying "toxaemic" symptoms to the autolytic products of secondary placental infarcts, I again submit

that potential mechanical and vascular factors should be seriously examined If we reflect on the anatomical relationships of the pelvic and abdominal veins in late pregnancy, the local and general changes in pressure, the possibility of vasomotor disturbance and that of any increased coagulability of the blood we shall find a sufficient field for research without the necessity of postulating a "hidden hand" With a growing tendency to apply Caesarean section to the more serious cases of ante-partum haemorrhage our opportunities of direct observation are increasing Young has compared the appearances in certain cases to those produced by a sudden strangulation of the veins in axial rotation of ovarian cysts, and certainly the aptness of this comparison has been obvious on several occasions in my own experience

As regards the relationship of the albuminuria, etc, to the haemorrhage I am not prepared to press any particular hypothesis The common etiological factor suggested by Gordon Ley and others of the same opinion would certainly afford a reasonable explanation were it substantiated in fact, although it is exceptional to find toxaemic symptoms associated with haemorrhages in the earlier months of pregnancy Young and Miller have adduced, as additional evidence in favour of their theory, a series of cases of placenta praevia accompanied by albuminuria and even eclampsia, whereas Haffner, after an extensive and careful study, has concluded that there is no direct relationship between albuminuria and placental infarction Paramore believes that the increased volume of the uterus due to "concealed" haemorrhage so adds to the already raised intra abdominal pressure as to affect directly the functions of the liver and kidneys. One objection to this contention is the undoubted association of "accidental" ante-partum haemorrhage with multiparity, of which a common feature is laxity of the abdominal wall To say the least, consensus of opinion is not striking, and since the satisfactory nature of the treatment does not demand any special urgency, it behoves us deliberately and without bias to accumulate definite facts before proceeding to further speculation

VOMITING OF PREGNANCY

Although no completely satisfactory explanation has hitherto been afforded to account for the milder degrees of nausea and vomiting which so commonly characterize the earlier period of pregnancy, the work of recent years has gone far to elucidate the pathology of those more serious forms of vomiting which have been variously termed pernicious" or "toxaemic" The former of these expressions is non-committal, but the term "toxaemic" would appear to be especially misleading in this connexion, as every biochemical and histological manifestation scientifically observed can be attributed to the *effects* of the vomiting itself I need not review in detail the admirable work of Harding on this subject nor the psychological theory of per si tent vomiting in pregnancy expounded by Hurst, since these are already well known, but I may be allowed to recount in brief certain observations of my own, although the results are of a negative character

The work of others, to which further reference will be made had led me to assume for the time being that the more serious degrees of this condition were due in general to the starvation and dehydration consequent upon the vomiting and lessened intake, at the same time, I had been satisfied by certain definite clinical observations that the ordinary degrees of "morning sickness" or "physiological" vomiting were not entirely attributable to a hysterical factor The object was therefore to investigate the latter type of case from a biochemical point of view To provide a working basis several factors were taken into consideration Harding had noted in his earlier papers evidence of ketosis occurring in the mildest cases of nausea, which he attributed to carbohydrate depletion, a lowering of the alkali reserve had been demonstrated even in early pregnancy, and a marked increase in the ammonia-acid ratio had been shown in the urine of more serious cases of pregnancy vomiting It was suggested that this might imply a shortage of phosphate available for "buffering" purposes

In the first place I found that the bicarbonate content of the plasma was not appreciately reduced below the normal pregnancy value, even in cases of moderate severity This confirms the observations of Losee and Van Slyke in the same direction It must be remembered, however, that in cases of actual vomiting acid is being eliminated via the stomach, this may account to some extent for the adjustment of the acid base balance No evidence was found of any reduction in the blood sugar content, little importance was attached to this observation as the level tends to be maintained even in extreme starvation As regards the phosphates (which I estimated by Briggs's modification of the Bell Doisy method), it was soon obvious that the inorganic phosphate content of the plasma showed no evidence of depletion, the average figure obtained in cases of vomiting of mild and moderate degree was 3 2 mg phosphorus per 100 c cm (range 2 35 to 4 0) These values may be compared with those obtained by de Wesselow in normal pregnancy and in non pregnant females It was further considered however, that the inorganic phosphate content of the plasma, as in the case of blood sugar, might not justly reflect the phosphorus reserves of the body in general There are theoretical and particularly practical objections to determinations of a metabolic balance which led me to estimate instead the "acid soluble" phosphorus content of the blood corpuscles For technical reasons, this procedure necessitates estimations of the "acid soluble" phosphorus content of whole blood and that of its corresponding plasma respectively, together with haematocrit readings in each individual case The necessary observations and calculations having been made, one again found no evidence of depletion The average figure obtained in cases of mild and moderate vomiting was 30 6 mg phosphorus per 100 c cm corpuscles compared with 29 9 in normal non-pregnant females (It may perhaps be explained that "acid-soluble" phosphorus includes the phosphorus of inorganic phosphates, together with that of organic substances other than lipoids The organic factor appears to be contained in the corpuscles, whilst the plasma phosphate is almost entirely inorganic) The excretion of phosphate during twenty-four hours in a few of the cases under consideration showed no increase, nor was any *direct* evidence obtained of excessive elimination of acid in the urine It was further observed that the ammonia acid ratio showed no definite deviation from the normal—and here I must again remind you that I was investigating cases of only comparatively mild degree Finally, it became obvious that there was *no* excretion of "acetone" bodies in the large majority of these cases Professor Harding has agreed with me that his earlier observations were at fault in this respect

It is not without interest to note, as indicating the unreliability of unsupported clinical and therapeutic observations, that pending the results of the above investigation I treated a very large number of cases of pregnancy vomiting at an ante-natal clinic and elsewhere by administering basic sodium phosphate (in the form of sodii phosphas effervescens) with confidence and with remarkably good results As these were almost invariably cases of persistent vomiting continuing beyond the fifth month of pregnancy, I can only believe that they afforded further evidence of cure by suggestion. The metabolism of phosphorus in pregnancy naturally represents a much more intricate problem than I might appear to have indicated and negative evidence cannot be conclusive, at the same time there appears to be no indication to proceed further along these particular lines

It remains to consider for a moment the etiology of the ordinary phenomenon of "morning sickness," and to proceed to an examination of the evidence relating to the more serious conditions of persistent and pernicious vomiting To explain the former Harding postulated a carbohydrate disturbance occurring in the maternal liver as the primary factor This derangement of the ketogenic antiketogenic balance essentially depends on a shortage of glycogen, due in turn to foetal demands unsatisfied by a sufficiently increased maternal intake and leads to the production of "acetone" bodies in the blood and urine Lochhead and Cramer have shown that the presence of the foetus imposes a special demand

for carbohydrate, and that the pregnant woman has therefore a tendency to pass into a state of specific carbohydrate starvation But whilst it is freely admitted that these factors assume the utmost importance in continued vomiting, a failure to demonstrate ketosis in the early stages inevitably implies that they are not a *primary* cause In fact, we have at the present time, so far as I am aware, no real evidence of biochemical abnormality at the outset of the condition, and still less have we any evidence whatsoever to indicate a specific "toxin" Dr Hurst has suggested that the "physiological" degrees of nausea and vomiting are reflex in origin, and that the pathological perpetuation and accentuation of the condition are primarily hysterical, the result of auto- and hetero-suggestion These hypotheses are obviously open to doubt if it can be shown that any biochemical deviation from the normal *precedes* the vomiting, and if any of the manifestations cannot be explained as the *result* of the vomiting with its consequent starvation and dehydration Reference has already been made to the misinterpretation of changes in the nitrogen partition of the urine As a result of persistent vomiting, we have on the one hand a diminished intake of nitrogen and on the other a ketosis, which together can sufficiently account for the high "ammonia coefficients" observed Underhill and Rand showed that it was possible to ascribe all such changes in pernicious vomiting to starvation, and that the administration of carbohydrate tended to re-establish the normal value Certainly Gilliatt and Kennaway considered starvation alone to afford an inadequate explanation of the intensity of the changes, but it must be remembered that the disturbance is not so severe as to cause any marked alteration in the acid-base equilibrium The further data of Harding and Potter are in conformity with the latter observation, they found that, although the excretion of "acetone" bodies in the urine might reach a remarkably high level, their concentration in the blood was not excessive, and not to be compared with that in such cases of diabetes as show a marked depletion of the alkali reserve, nor was the alveolar CO_2 generally lowered

In severe cases an increase in the non-protein nitrogen and uric acid of the blood has been noted Harding and Drew believe that this is due to the dehydration following continued vomiting, and to an impairment of renal function resulting from the lack of available water When the anhydraemia and oliguria had been overcome by therapeutic reinforcement of fluids, a reduction of the blood constituents in question was found to accompany the diuresis Added to the ill effects of carbohydrate starvation in progressive vomiting we must therefore consider the influence of dehydration and its consequences

As regards the renal impairment, however, we must take into account the further possibility of a mechanical factor on the lines suggested by Paramore Assuming for the moment that a mechanical or purely vascular factor may determine renal defect in pregnancy, we must admit that violent vomiting would very definitely accentuate its operation, especially in the later stages of pregnancy I recently had an opportunity of investigating a patient whose various features indicated such an explanation

There is no reason to believe that every instance of vomiting in pregnancy is attributable to a common cause, the bulk of the evidence is to the contrary But I do urge that we have at the present time no evidence of a primary toxaemia, and that, generally speaking, the treatment is most emphatically *not* further starvation

The nature of my argument precludes a summary of conclusions If I have suggested anything, it is that we should regard individual cases without preconceived diagnosis or theory, and continue to investigate them with every means at our disposal, that we should accurately record our observations without inductive comment, that we should reconsider and further examine the vascular conditions of pregnancy in general and in detail, and that we should not proclaim the existence and influence of toxic agencies until they have actually been demonstrated

Without being given to undue optimism in these matters, one feels that the problem of pernicious vomiting has for practical purposes been solved As regards albuminuria and eclampsia, therapeutic indications still largely rest on a basis of clinical values My own experience is too small to enable me to add anything of importance to the opinions expressed at the British Congress of Obstetrics and Gynaecology in 1922, to the reports of which I refer you without prejudice At the same time one would prefer, in the present state of our knowledge, to treat a given case on its own merits, rather than in accordance with any pre-arranged plan, however distinguished its origin There are very definite objections to the grouping of cases for statistical purposes not only is it a questionable procedure to subordinate treatment to research, but it is also extremely doubtful whether statistical methods are of any considerable value in elucidating problems that comprise such a multiplicity of elements

I have already apologized for the poverty of my experimental data For this I do not entirely accept the blame In the first place, those of you who have engaged in any combined clinical and biochemical research on cases for whose treatment you may have also been responsible will fully realize the difficulties Team work is essential in medical research By "team" one does not imply a committee of individuals similarly, however highly, qualified The various laboratory methods and the therapeutic technique of the present day each require a special degree of skill and training, and it is almost impossible for any ordinary person to combine efficiency in both respects with the requisite exercise of clinical insight and judgement At all events the attempt involves an unnecessary expenditure of time and energy

Secondly, I would refer to the very considerable difficulty that has been experienced in obtaining clinical material and accommodation for cases under investigation Every available facility has been given by the staff of my own hospital, and I am grateful to others for the occasional opportunity of making observations But, as Dr Janet Campbell has emphasized, the limited numbers of obstetric beds in our hospitals afford entirely insufficient scope for teaching purposes, much less is there provision for research Perhaps it would ultimately lead to a better organization if we clearly and candidly exposed the gaps in our knowledge and at the same time made evident the hopefulness of our task

[A full list of references and other acknowledgements will be published in a forthcoming edition of the *Guy's Hospital Reports*]

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ELEPHANTIASIS NOSTRAS AFTER LYMPHATIC INJURY

(With Special Plate)

ELEPHANTIASIS NOSTRAS (pseudo-elephantiasis) is sufficiently rare to be always interesting, and this case appears worthy of being reported because of its retarded incidence, the typical appearance of the leg, and the similarity to that produced by filarial infection

Mrs W, aged 31, fractured her right ankle when she was 6 years old, and subsequently developed tuberculosis of the bone, which was treated surgically

When she was 9 years old the glands of the right groin were removed for chronic tuberculous lymphadenitis The scar of the operation—5 inches in length—lies parallel to and about three-quarters of an inch below Poupart's ligament From the size and depression of the scar it is obvious that an extensive dissection was carried out and it is almost certain that either the deep vertical inguinal glands were removed or the lymphatics draining into them injured

Eight years later—when she was 17—she developed a patch of lupus over the lower part of the tibia This has since spread all over the leg and foot, as the photograph shows At the age of 25 she complained of "swelling" in the ankle, the oedema has since spread and now extends to the knee During the course of the last six years there has been temporary amelioration of the symptoms under treatment—hot baths, thyroid, local applications—but the condition has not been arrested

At the present time the resemblance to a well established filarial elephantiasis is remarkable The right leg is enormously hypertrophied the skin is thickened but not thrown into folds there is no discoloration or sign of inflammation, and it is thickly studded with patches of lupus The following are the measurements of the two legs

	Right Leg	Left Leg
Middle of instep	13½ in	10 in
Round ankle	22 in	11½ in
Calf of leg	25 in	18½ in
Two inches below patella	23 in	16½ in
Middle of thigh	24 in	24 in

It will be noted that the thighs are symmetrical, but not oedematous, these thigh measurements are explained by the size of the patient, who weighs 17 st

The leg does not pit on pressure no fluctuation can be made out On palpation the subcutaneous tissues are firm and brawny, giving the typical feeling of a solid oedema

Filarial elephantiasis is excluded by the fact that the patient has never been out of Britain Luetic elephantiasis can be excluded as her two children are perfectly healthy and she did not react in the slightest degree to iodides in heavy doses She has otherwise enjoyed good health and has had no illnesses, excepting appendicitis twelve months ago, she made an uneventful recovery from the operation She is at present eight months pregnant and the pregnancy is running a perfectly normal course At her previous confinements she did not suffer from phlegmasia alba dolens

It would appear, then that this condition is one of lymphatic oedema due to obstruction of lymph channels—the so-called elephantiasis nostras or pseudo-elephantiasis There can be no doubt that this obstruction of lymph vessels was caused by a chronic infiltration of lymph channels due to the *Bacillus tuberculosis*, and to this was added the occlusion of lymphatics, including those of the deep vertical inguinal system, by injury during the excision of the groin glands

Lymphatic oedema may be a very late symptom of lymphatic obstruction, and this case is remarkable in that sixteen years elapsed between the operative injury of the lymphatics and the onset of elephantiasis nostras

I have advised amputation in the region of the knee-joint —which the patient is willing to undergo—as it is obvious the condition is slowly progressive, and the limb is already practically useless

Saltcoats J ALLAN WHITE, M B, Ch B

A PEDUNCULATED TUMOUR OF THE TONSIL

(With Special Plate)

TUMOURS of the palatal tonsil are of extreme rarity in children The case here reported I believe to be unique The patient from whom the preparation was obtained is a girl of 11, whose palatal and pharyngeal tonsils were enucleated in the course of the routine work of the Ear and Throat Clinic, Leigh She had a very large pharyngeal tonsil, and the palatal tonsils actually met in the middle line A pedunculated growth, of the size and naked-eye appearance of a red currant, hung over the plica triangularis from the lower pole of the left tonsil The enucleated tonsil with its attached growth was sent to the pathologist, Dr W E Cooke, whose report is as follows

A tonsil with a pedunculated tumour attached was received from Dr Sturm's Clinic on November 18th 1923 The tumour measured 13 by 5 by 4 mm, and was attached to the tonsil by a pedicle 4 mm in length by 2 mm in breadth and thickness The colour of the tumour was a deep purple at the free end shading gradually to a greyish pink as the pedicle was approached

Microscopical Appearance.—The tumour is covered with stratified epithelium, which blends at the pedicle with that of the tonsil Immediately internal to the epithelium is fibrous tissue containing dilated blood vessels, capillaries and veins These dilated vessels are more prominent at the free end of the tumour Approaching the centre of the tumour are bundles of striped muscle, and mucous glands with dilated ducts embedded in a stroma of fibrous tissue which is continuous through the pedicle with the stroma of the tonsil.

The tumour is a pedunculated fibro-adenoma The angiectasis is probably due to intermittent torsion of the pedicle

I am indebted to Dr W E Cooke for the photomicrograph which illustrates this note

F PEARCE STURM, Ch M

Ear and Throat Clinic Leigh, Lancs.

Reports of Societies.

"BAYER 205" IN TRYPANOSOMIASIS

AT a meeting of the Royal Society of Tropical Medicine and Hygiene on February 21st, with Surgeon Rear-Admiral SIR PEROY BASSETT-SMITH in the chair, Professor F K KLEINE described his recent expedition to Africa to investigate the action of "Bayer 205" on trypanosomiasis The expedition, which started in 1921, was undertaken at the request of the Bayer firm of Leverkusen, and the party consisted of Professor Kleine, Dr Fischer, his colleague, and Miss H Ockelmann (who has since become Mrs Kleine) of the Robert Koch Institute Previous to his lecture Professor Kleine exhibited microscope slides of *T gambiense* and *T rhodesiense* in human blood, and *T congolense*, *T brucei*, *T vivax*, and other trypanosomes in the blood of animals

Professor Kleine said that it gave him the more pleasure to describe his work to his British colleagues because in Rhodesia the British Government gave him every facility for carrying out his experiments The work began, however, in the Belgian Congo, where sleeping sickness was widely prevalent With regard to the transmission of the disease, his observations went to show that the transmission was not effected in a direct way A tsetse fly, feeding on an infected person and subsequently on a healthy one, did not infect the latter with its proboscis as with a vaccinating lancet, but the ingested parasites had to undergo a certain development which might take some weeks (depending on temperature) for its completion before the fly became infective The relation of the parasites and tsetse flies to each other was similar to that of the malaria parasites and anopheles In animal trypanosomiasis his investigations had covered *T brucei*, *T congolense*, and parasites of the *T vivax* group, in human trypanosomiasis *T rhodesiense*, the producer of sleeping sickness in Rhodesia, transmitted by *Glossina morsitans*, and *T gambiense*, in the Congo, transmitted by *Glossina palpalis*. The fact that two species of Glossina were involved did not disprove the identity of the parasites, for both these flies were able to transmit both trypanosomes His first work was directed to finding out, in cattle, how long after the administration of "Bayer 205" prophylactic protection lasted Both in Rhodesia and the Congo it was shown that even large doses of "Bayer 205"—even up to 10 grams for a bullock weighing 5 cwt, the dose being repeatedly given—did not prevent infection by trypanosomes The drug did, however, diminish the virulence of trypanosomes in experimental cattle, the cattle remaining in good condition, while the control animals died Combinations of "Bayer 205" and tartar emetic greatly improved the prophylactic and therapeutic results

Turning to human trypanosomiasis, the lecturer distinguished three stages of sleeping sickness (1) blood infection, (2) enlargement of glands (3) infection of nervous system In Rhodesia in 1922 the number of patients treated was 35, he could not state how many belonged to the third stage, but the percentage must have been a high one, because about half the patients had to be carried into the camp The diagnosis of sleeping sickness was made by demonstrating parasites in the blood Subcutaneous injections were given, 1 gram of "Bayer 205" in 5 c cm of warm physiological solution of sodium chloride being injected near the spine at the height of the middle of the scapula A second injection was given after ten days, and a last injection after a further eighteen days Patients who showed a relapse as proved by blood examination or who had trypanosomes in the cerebro-spinal fluid were given a fourth and fifth injection The clinical results were controlled by constant examinations of the blood One patient (a European), considering himself cured, left the camp prematurely, and died later from sleeping sickness, another (a native) died unexpectedly after the fourth injection, and no autopsy could be made, all the other thirty-three patients showed after a few weeks a surprising improvement in bodily strength Three months after commencement of treatment lumbar punctures were made on twenty-one of the patients, and in eight trypano-

somes were found in the cerebro-spinal fluid, though the blood was free These eight cases were those which had presented nervous symptoms at the commencement of treatment, though by the time the punctures were made these symptoms had almost entirely disappeared, and six of the patients gave an impression of vigour and capacity for heavy work He thought it must be assumed that "Bayer 205" was able to exercise some influence upon the parasites in the brain, and that the trypanosomes which were not at once killed by the drug were greatly reduced in virulence By April, 1923, nine months after commencement of treatment, the native commissioner of the districts from which the patients came reported that three of them had died, two of these had been on the list as severely affected, and the third had been suffering from another disease The remaining thirty were alive and apparently in good health.

In the Congo 150 patients, mostly in the first or second stage, were under observation The diagnosis of sleeping sickness here was arrived at by microscopical demonstration of living parasites in the secretions of the enlarged glands of the neck, or, if no glands were present, the blood was examined microscopically Lumbar punctures on twenty-four patients who were mentally quite normal gave uniformly negative results, and even in patients who were psychically abnormal it was not always possible to find trypanosomes in the cerebro-spinal fluid In these Congo cases the intravenous method of injection was employed Doses of 1 gram of "Bayer 205" were given as far as possible on the first, third, and fifteenth days The drug was dissolved in 10 c.cm. of rain water and injected into a vein of the arm, children received a proportionately smaller dose, and in them the jugular vein was used In patients who had trypanosomes in the cerebro-spinal fluid or were in a serious clinical condition the treatment was continued at intervals of ten days, but more than five injections were never given In all persons in the first and second stages of the disease a feeling of improvement was soon noticeable, the strength returned, and the glandular swellings subsided Of ninety-six patients whose blood was examined every few days for five months after the third and last injection, trypanosomes were found again only in the blood of two, both children—whether as the result of relapse or fresh infection could not be decided A remarkable improvement occurred in two maniacal patients, but in two other such patients no results were obtained Seven patients in the third stage of the disease, who had been treated previously with other remedies without avail, appeared, in spite of five injections, to make no progress clinically Albuminuria occurred in many of the cases following the injections, but disappeared after some time without doing serious injury, in one patient severe albuminuria actually decreased after further injections of "Bayer 205", probably the kidney epithelium got accustomed to the drug It was wise not to repeat injections too often, for the parasites then seemed to resist the drug, and for this reason and on account of the action of the drug on the system it was better to change to another drug such as antimony if, after four injections of "Bayer 205," trypanosomes reappeared in the blood and did not disappear of themselves The result of his experience in Africa was to confirm his impression that the percentage of cures was fairly high, and he agreed with Manson-Bahr and others that "Bayer 205" at the present time was the best remedy for sleeping sickness

Sir PERCY BASSETT-SMITH, from the chair, congratulated Professor Kleine upon his results, from which it appeared certain that this drug could be credited with bringing about a great reduction in the toxicity of the organism The drug had an undoubted influence upon all kinds of trypanosomes

Professor WARRINGTON YORKE (Liverpool) said that one of his patients was, he believed, the first Englishman to be treated with "Bayer 205" This patient had contracted in Rhodesia a particularly malignant form of sleeping sickness In spite of treatment with arsenic and antimony he still went down hill At that time the speaker was greatly impressed by accounts of experiments on animals with "Bayer 205," and he wrote to Germany for the drug He was informed that the authorities would not allow the drug to go out of the country, and this prejudiced him and his patient also against the treatment But eventually he thought that it would be well to send his patient to Germany to be treated He went to Germany, had three injections of the drug, and within a couple of months he came back a different man Candidly, the speaker was amazed at the change This man then went out to Africa, was there for two years, and returned to England two or three months ago He had remained perfectly well, and although it was always difficult to determine whether a patient suffering from sleeping sickness had been cured, he had no hesitation in declaring that in this case there had been such a cure [The patient in question then came forward and said that he had received no pain or inconvenience from the injections he had had in Germany, and since then, apart from an attack of malaria while in Central Africa, he had felt perfectly fit, and had not known a day's sickness] Professor Yorke went on to say that he was impressed, on looking through the literature of the subject, to find how few records there were of batches of cases which had been kept under prolonged observation after treatment had ceased The result of this was a great confusion of thought with regard to the actual mortality of the disease and the results to be expected from treatment There was a widespread notion that sleeping sickness was extremely fatal, and progressed steadily to a fatal issue This notion was unsupported by reliable statistics, but it was based on the fact that undoubtedly an enormous number of cases had died, especially during the severe epidemics which raged on the littorals of the great lakes twenty years ago Professor Kleine had stated that whether patients suffering from sleeping sickness were spontaneously cured was not known, but he surmised from analogy with other diseases that this might happen Two or three years ago the speaker had to write a critique on a number of papers advocating a method of treatment which it was claimed gave better results than any hitherto obtained by injections of arsenic and antimony preparations, and he endeavoured to ascertain from an exhaustive search in literature whether people did recover spontaneously, or, otherwise stated, what proportion of cases which had not been treated recovered or remained alive after a long period, and also what proportion of cases were alive after long periods following one or two injections of a drug The results of his efforts and the references were published in the *Tropical Diseases Bulletin*, and the conclusion he was bound to draw was that there were cases which did recover spontaneously, also that there were a number of cases which might be considered as recovered after one or several injections of atoxyl. In considering the results of the treatment of sleeping sickness, it must be borne in mind that there were in Africa several distinct types of this disease That which was due to infection by *T. rhodesiense* ran almost always a fatal and virulent course, and before the advent of "Bayer 205" little success was obtained in the treatment of it The confusion had arisen over the infections due to *T. gambiense*, for these infections were of two types—one a severe type such as was seen in the epidemics in Uganda twenty years ago, and was still seen in certain parts of the Congo, where it swept away vast numbers of the population, and the other type seen in the mild endemic form of the disease in West Africa particularly He quoted from some reports from Northern Nigeria relating to cases which had been observed in 1913 and left untreated Here the disease, though widely prevalent, was mild, and spontaneous cures appeared to be frequent Two years ago he wrote to the principal director of medical services in Nigeria and asked him whether he could spare a medical officer to investigate what had happened to these cases This officer, whose report was published six or eight months ago, traced the history of thirty-five of these untreated cases, of the e twenty-three were still alive and in good health, and of the twelve who were dead six had died of small-pox or some disease other than sleeping sickness The officer examined large numbers of natives without finding a single case of infection, and he stated that the opinion of the natives was that the disease had actually died out It was the difference between the two forms of infection by *T. gambiense* that had led to confusion in the mind with regard to the mortality of the disease Incidentally he

thought there was a great deal to be said in favour of the view, which Professor Kleine had been unable to accept, that the spread of epidemics was due to mechanical transmission by the Glossinae. On the effects of treatment by "Bayer 205" Professor Kleine's observations were most hopeful, and it was of vital importance that the results in his cases should be observed and reported on from time to time by the Rhodesian and Congo administrations.

Dr. GLOVER COLLOW agreed that the Nigerian form of the disease was the mildest that one came across, and if an observer was treating Nigerian cases he was apt to imagine that his drug had a greater value than it actually possessed. It was necessary also to discriminate between the disease in the white and in the native. He quite believed that natives did sometimes recover spontaneously, but he had yet to discover a case of spontaneous recovery in a white man. With regard to treatment with antimony and atoxyl, in the Rhodesian cases of which he had knowledge he was aware of only one, or possibly two, which had recovered. The speaker went on to relate the after histories of some of the series of cases which he had described, with Dr. Manson-Bahr, at a meeting of the society a year ago (BRITISH MEDICAL JOURNAL, January 27th, 1923, p. 149). In the five cases which had been under his care the present condition of four was excellent, and that of the fifth was quite good. The dates on which the last injection of Bayer 205" was given in these cases were between February and September, 1922, and no other treatment had been given subsequently. Of the cases reported by Dr. Manson Bahr, one had kept well and fit and was leading an ordinary life, another had died of sleeping sickness, a third had gone to America and had relapsed, after which she was treated by tryparsamide and was still under observation, and the fourth—a Rhodesian case—had died of the disease. Dr. Low's new series consisted of four cases, two of which had contracted the disease in Nigeria, one on the Gold Coast, and the other on the Congo. In the first of these cases a course of "Bayer 205" was begun in April, 1923. 12 grams in all were administered at the usual weekly intervals. The patient's condition improved immensely, and he left the hospital, fit and well, at the end of July, and was reported in November to be still well. In the second case the course was started in June, 1923, and was continued until 10 grams were given, the patient was reported in November last to be quite well and fit. In the *third case treatment began on* August 7th, 1923, 10 grams were given in as many injections, and the patient was reported in January to be doing well. In the fourth case three previous injections had been given in the Congo, after which the patient was sent to England, and came under his care in October, 1923. A full dose of 10 grams was then given, and the patient had now gone to America, it had been arranged that her progress should be reported from time to time. Dr. Low raised the question as to the standard of dosage which should be taken. The first of his four patients had a relapse after five injections, when trypanosomes were again found in the blood. He thought that it must be concluded that the drug was very efficacious, though it should not be lauded as a specific cure, for to do so was to raise false hopes in the patient's mind. There was no doubt also that it was a poisonous drug, and affected the kidney, though in the cases he had brought forward the effect on the kidney had been ignored, and eventually the albuminuria had disappeared. But then these cases had been nursed with great care, kept on a milk diet, and so forth.

Sir FREDERICK MOTT said there were points of similarity between the meningo-encephalitis found in this disease and that found in general paralysis of the insane. A question in his mind was whether the affection should be called sleeping sickness until there was definite evidence that the central nervous system had been invaded by the trypanosome. He did not know whether when there was lymphocytosis—and nearly all the cases he had seen had had enlarged glands at the back of the neck—it indicated that there were trypanosomes in the central nervous system. He supposed that there was nothing equivalent to the Wassermann test whereby it could be ascertained whether the central nervous system had been invaded by the toxin. The necessity appeared to be to obtain a drug which would pass through the choroid plexus into the central nervous system and so kill the trypanosome. He had had sent to him from the Rockefeller Institute samples of tryparsamide which, it was claimed, would render the cerebro-spinal fluid negative, and the accounts of experiments with this drug on animals rather indicated that it did pass through the choroid plexus. He understood that some experiments had been undertaken at the Pasteur Institute which showed that atoxyl really had very little effect upon the trypanosome, but that if an extract of liver substance—or of any organ, but particularly liver—were taken with the atoxyl, a drug was obtained which had a very profound action upon trypanosomes and spirochaetes. Experiments were proceeding upon a combination of bismuth with some cell product which, it was claimed, had a very toxic effect upon the trypanosomes and would render the cerebro-spinal fluid negative. The speaker raised the question whether there might be two kinds of trypanosomes, one with a tendency to get into the cerebro-spinal fluid, and the other with no such tendency, the former being responsible chiefly for the fatal cases.

Dr. ANDREW BALFOUR said that he had received reports from the Rockefeller Institute regarding the use of tryparsamide in cases in the Belgian and French Congo. The results were stated to be very satisfactory and it was believed that tryparsamide was a rival to "Bayer 205." It was essential that a drug, to be beneficial in these cases, should have the power of penetration, not only into the brain, but into the nerve substance. The fastness of trypanosomes subjected to the action of a trypanocidal drug was a source of trouble, and he wondered whether Professor Kleine had come to any conclusion as to the nature of this property. There were two possible ways in which it might be combated, one by giving a large initial dose, and the other by ringing the changes on different drugs. *In future it might be possible first to lower the* vitality of the trypanosome with either "Bayer 205" or tryparsamide, and afterwards to deal it a final blow with the other drug.

Dr. C. M. WENYON read a letter from Mr. Lloyd, entomologist in the medical services of Nigeria, who stated that in a certain district in that country, where he was working with Dr. Johnson, there was far more sleeping sickness amongst the natives than many people imagined. A certain amount of "Bayer 205" had been available and sleeping sickness had been treated with this drug. The observations had not continued for a sufficient length of time to permit of conclusions as to the reliability of the drug or the permanence of cure, but one striking fact was that many of these cases came in apparently *in extremis* and after one or two injections were very much better. Whatever the permanent results might be the temporary results were very satisfactory.

Sir WILLIAM SIMPSON asked whether the time had not come when the exact description of "Bayer 205" could be given. He also commented on the fact that, of Professor Kleine's 150 Congo cases, the statistics of subsequent blood examinations related only to 96 and nothing was said about the remainder. Dr. A. BAGSHAWE asked whether Dr. Kleine had made any study as to the best time in the life-cycle of the trypanosome for the action of the trypanocidal drug. Dr. COOK (Uganda) said that there appeared to be a change in the virulence of sleeping sickness epidemics, and he instanced the difference between the *state of affairs* on the shores of Lake Victoria Nyanza and the Sese Islands at present and ten years ago.

Dr. MANSON BAHR replied to the discussion on behalf of Professor Kleine, who feared that his English would not be sufficiently fluent for the occasion. He said that Professor Kleine never had believed in the mechanical transmission of *the trypanosomes*. If the parasite was mechanically transmitted how was it to be explained that the distribution of the trypanosomes and of sleeping sickness coincided more or less accurately with the distribution of the tsetse fly? If mechanical transmission was the factor various other biting flies would be able to spread sleeping sickness far beyond the confines of tropical Africa. *With* regard to the dosage of "Bayer 205," this would have to be settled by further experiment, especially on man. But he thought it would be wise to start in an intensive

manner so as to attempt to "knock out" the parasite at the beginning Possibly 2 grams might be given during the first week, 1 gram during the second, and 1 during the third He entirely agreed with Dr Low that a campaign on a large scale with "Bayer 205" should be organized in Central Africa In reply to Sir Frederick Mott, he knew of no experiments in which "Bayer 205" had been mixed with organic extracts in the same way as had been done with trypanamide He agreed that it was quite possible that further work would show that some trypanosomes were capable of penetrating the nerve substance in the same way as some strains of *Spirochaeta pallida* Very little information was to be obtained from observing the action of "Bayer 205" upon trypanosomes *in vitro* In cases in which there was fastness he thought it well to change the drug altogether, giving a drug entirely different, as Dr Andrew Balfour had suggested In cases in which trypanosomes returned to the blood after "Bayer 205" had been given, it would be as well to switch over to antimony tartrate or tryparsamide In reply to Sir William Simpson, he himself did not know the chemical formula for "Bayer 205" The formula, which was very complex, was built around trypan-blue as a nucleus The substance was derived from trypan-blue in much the same way as salvarsan had been derived from atoxyl From a clinical point of view it mattered little what the chemical formula was In due season it would be given, and he did not doubt that future students would have to learn it from their textbooks He agreed with Dr Bagshawe that further observation might show that there was some period in the life-cycle of the trypanosome in the human blood when it was most vulnerable, and therefore most liable to be killed by a specific drug Professor KLEINE added that the administrations both in Rhodesia and the Congo had made arrangements for qualified observers to report upon his cases

INFLUENZA IN HORSES AND IN MAN

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine held on February 22nd, with the President, Dr R J REECE, in the chair, Lieut.-Colonel A J WILLIAMS, D S O, R A V C, read a paper entitled "Analogies between influenza of horses and influenza of man"

After a brief sketch of the history of the disease, Colonel Williams gave an epidemiological and clinical account of the outbreak which began in Calcutta in April, 1915, at a time when there was an enormous influx of remounts from Australia, and spread to Peshawar in the north (1,500 miles), to Loralai in the north-west (1 250 miles), and to Bangalore in the south (1 000 miles) In the six months of prevalence 16,921 cases were recorded, with 893 deaths All types and breeds suffered, but the initial outbreak was in newly landed animals, acclimatized horses took the disease in milder form, and country bred horses were not affected as severely as imported animals The usual mode of infection was by direct contact with those sick of the disease, and strict isolation the only effective method of prophylaxis With regard to clinical type, catarrhal symptoms were present in all outbreaks and, in seasoned horses, the most prominent feature A typical epizootic cellulitis was commonly observed In severe cases of this type there was an initial temperature of 105° to 106°, great prostration, extensive effusion, causing great swelling of dependent parts, and in some cases the head was so badly affected as to interfere with respiration There was swelling of the eyelids, with lacrymation and effusion into the anterior chamber In bad cases pneumonic complications were so extensive and severe that the condition was hopeless and the termination rapidly fatal Compared with human influenza, there was the same sudden onset, short period of incubation, prevalence of catarrhal symptoms, effects on the cardiac, respiratory, and digestive systems The disease was never, however, conveyed from horse to man

The paper was discussed by the PRESIDENT, Dr MAJOR GREENWOOD, Lieut.-Colonel FREMANTLE, M P, Sir JOHN MOORE, Professor HOBDAY, Mr MCINTOSH, Sir WILLIAM HAMER, Dr MCVAIL, Dr GOODALL, and Dr PARKES WEBER

CHILDREN'S DISEASES

A CLINICAL meeting of the Section for the Study of Diseases in Children of the Royal Society of Medicine was held on February 22nd at Guy's Hospital, with the President, Mr R H A WHITELOCKE, in the chair Cases and photographs were shown by Dr H C CAMERON, Dr O L OSMAN, and others, as follows

1 *Chronic Remittent Ophthalmoplegia in an Infant*—A child, now aged 2 years and 8 months, was admitted to hospital when 8 months old for sudden paralysis of the muscles of the right eye, with ptosis, immobility of the eyeball and of the pupil. Within a few days the paralysis had almost disappeared, leaving behind slight ptosis and slightly deficient pupillary reactions Lumbar puncture showed nothing abnormal The paralysis had become complete for a few days on four occasions The child's health was satisfactory otherwise, and the paralysis was unaccompanied by pain, fever, vomiting, or giddiness There was nothing to suggest the presence of syphilis in the patient or in the family, and no history of migraine in the parents, nor family history of similar trouble. The dates of attacks were first, November, 1922, second, May, 1923 third, August, 1923, fourth, December, 1923 The condition was described by Oppenheim as chronic remittent ophthalmoplegia, and by Charcot as oculomotor migraine

2 *Cyclical Vomiting heralded by an Increase in a Chronic Remittent Ptosis*—This case was shown for the sake of comparison with that just described The patient was a boy, aged 10, in whose family there was a history of epilepsy, but not of migraine, bilious attacks or ptosis For eighteen months he had suffered, at monthly intervals, from recurring attacks of headache and vomiting Each attack was preceded by increased drooping of the left eyelid during the previous twenty four hours, so that the child's mother was always able to predict it Each attack lasted about a week, during which time the ptosis gradually decreased, but never entirely disappeared even between attacks There were no visual phenomena during the attacks, which did not differ from cyclical vomiting in children, and the boy was in good health, though thin, and mentally very active

3 *Congenital Nuclear Hypoplasia (Moebius) involving the Facial and Oculomotor Nuclei*—The patient was a boy, aged 3½ years, with bilateral facial paralysis of congenital origin In crying and laughing there was no change in the mask like expression, the forehead was completely immobile There was profuse salivation from the paresis of the lips The mother stated that his suction when an infant was awkward, but better performed at the breast than with the bottle The ocular movements, especially laterally, were very restricted, and there was troublesome epiphora, for which in the first year of life the lacrymal duct had been dilated The optic discs were normal and vision was good The labio-glossal pharyngeal nucleus appeared in this case to have escaped Speech was only defective in that P and B sounds were replaced by T and D The tongue could be protruded well, and intelligence was good Most of these cases showed other congenital defects and in this one there was talipes equino-varus and the fingers of the right hand were webbed and deformed

In reply to questions Dr CAMERON said that in the literature on the subject the definite absence of the nuclei was affirmed The intelligence of the child would depend on the intelligent co-operation of the mother, and the amount of time she was willing and able to devote to him in order to educate him so as to compensate for his difficulties The prognosis was apparently good in that the condition appeared to be stationary, differing in this respect from progressive bulbar paralysis The patient originally described by Moebius was 17 years old

4 *Congenital Anophthalmos*—Photographs were shown of a girl, aged 6, born by Caesarean section, in whom this condition was present Shortening of the upper eyelid gave the appearance of exophthalmos the eyelids could be approximated by voluntary effort, but during sleep the eyes remained widely open There was no other congenital abnormality and no other members of the family were

5 *Erb's* were shown of three children (members of from this condition The family consists of (1) A girl, aged 11, normal (2) A girl, aged 9, whose left arm was affected, she weighed about 10 lb at birth (vertex presentation, normal labour) (3) A boy, aged 8, whose right arm was affected, he weighed 13½ lb at birth (difficult labour, considerable force used in extracting the child) (4) A boy, aged 4, a survivor of twins (the other died of wasting at 4 months), normal (5) A girl, aged 2½, normal (6) A boy, aged 6 months, right arm affected, he weighed 12 lb at birth, and labour was difficult In the three cases paralysis was noticed soon after birth

In reporting these cases Dr Cameron discussed the possible causation of Erb's palsy The same paralysis in infants described by Duchenne was generally attributed to a pull on the arm during delivery, but cases were known which had been delivered without any such pull, it was questionable whether the nerve trunks were ruptured in all cases He suggested that Erb's palsy might be of similar origin to leg paralysis following congenital dislocation of the hip, the spasm of the muscles being secondary to the dislocation

6 *Myotonia Congenita (Thomsen's Disease)*—The patient, a girl aged 9 was the eleventh of thirteen children All the brothers and sisters were normal except the sixth a male, now aged 20 years who had Thomsen's disease Two uncles of the patient died in asylums otherwise no significant history The patient weighed 8 lb at birth she was breast fed always had nocturnal enuresis and slowness of movement took a long time to dress, and could not do drill properly at school There was marked enlargement of the calf, thigh, arm, forearm and neck muscles She walked on a wide base, was slow in starting but once started rapidly achieved a normal pace The reaction time to visual and auditory stimuli was within normal limits Drum tracings illustrating muscular contractions were shown

7 *Amyotonia Congenita (Oppenheim)*—Two cases of this condition were shown—one advanced, the other incipient In neither case was there a family history of any similar disease The advanced case—that of a girl now aged 9 years—was shown by Dr Cameron before the Royal Society of Medicine in 1917 [1] when she was 2 years old The child was breast fed until 12 months old the teeth were cut at 8 months. She was well nourished but small she had been improving and crawling was accomplished comparatively easily She was shown again in 1919 - when the amyotonia was more clearly evident though otherwise the child was stronger and had learnt to walk Now after a further interval of five years the flaccidity and hypermobility of the joints was very striking and the hypotonicity involved the arms, legs and trunk, but not the face Eighteen months ago for the first time evidence of atrophy of muscle groups began to appear Until that time the child was not wasted, and when at rest sitting or reclining appeared in every way normal There was now atrophy of the trapezius, triceps and other muscles of the left arm and shoulder no pseudo-hypertrophy, mechanical irritability or fibrillar contraction had ever been noted The tendon reflexes were absent A radiograph of the bones illustrating absence of rickets but extreme slenderness was shown it was taken at the age of 2 years The incipient case which will probably develop on the lines of the preceding one, was that of a girl aged 18 months She was plump and well covered, with active movements not noticeably weak yet with extreme amyotonia of all the muscles so that the most fantastic postures could be assumed An *x* ray examination had excluded rickets the general health was good and the child was just learning to walk

Dr Cameron reminded members that seven years ago there was not general agreement that the case was one of amyotonia congenita On that occasion the late Dr Batten pointed out that he knew of no recovery in these cases, whereas Oppenheim had considered that recovery was possible Dr Cameron considered that the progress of the advanced case had proved Dr Batten's opinion to be correct He thought that the explanation of the conflicting opinions was due to the fact that the child grew and developed, learned to walk, etc, but at the same time the dystrophy was slowly increasing

8 *Lymphangioma of the Leg*—The patient was a boy aged 6 The swelling was noticed a few days after birth and rapidly increased after the sixth month At 18 months the circumference of the affected leg below the knee was three times that of the other The swelling ended above somewhat abruptly at the middle of the thigh Two attempts had been made to excise the redundant tissue, at least in part but no perceptible decrease resulted A radiogram of the affected leg showed great thickening of the periosteal bone Amputation was originally considered but was not performed as the swelling apparently ceased to extend, and the boy has grown strong and sturdy He walked in the third year the size of the tumour prevented this previously The swelling compared with the size of the boy was now of moderate dimensions its measurements not having changed, it caused little inconvenience

9 *Hypothyroidism of Very Slight Degree*—The patient a girl aged 18 months was breast fed until she was 15 months old She sat up at 5 months and walked at 15 months She was admitted to hospital because she was losing her power of walking The skin was somewhat dry the abdomen rather prominent, with slight eversion of the umbilicus The temperature was slightly subnormal The facial expression was a little dull The ossification of the skull was defective the anterior fontanelle was widely patent and the posterior fontanelle just palpable There were no other bony deformities suggesting rickets The *x* ray examination showed no trace of rickets but the wrist was still cartilaginous, and the epiphysis for the os magnum, which normally should appear in the first year was still absent Treatment had not yet been begun

Dr Cameron said that although the clinical diagnosis of this case might appear to be debatable, the *x* ray findings were almost diagnostic In all other classes of infantilism the epiphyses were normal

10 *Spasmophilic Convulsions with Hemiplegia*—The patient a male child aged 1 year and 3 months was a full time normal child he was breast fed for nine months The first fit occurred in October 1923, and consisted of twitching of the right side of the face right arm and leg, with some stridor Similar fits occurred subsequently about once a month until February this year when they became much more frequent recurring two and three times each day After one such fit on February 3rd it was noticed that the right arm was spastic and that the child could no longer walk On February 13th the child had a succession of fits about twenty in number, each one commenced with twitching of the right eyelids and then the convulsive movements spread to the whole of the right side of the face clonic movements of the right arm and leg occurred later The right arm was spastic afterwards Next day the child had no fits but Chvostek's and Trousseau's signs were positive Since admission into hospital the child had had many similar fits accompanied by some laryngeal stridor The hemiplegia was permanent

Dr Cameron added that under dietetic treatment the prognosis of these eclamptic convulsions was generally good In the case under consideration there was extreme cyanosis, after which the child was permanently hemiplegic, and the probability was that the asphyxia had given rise to haemorrhage

[1] *Proc Roy Soc Med* vol x Part 1, p 86
[2] *Ibid* vol xii Part 1 p 25

PYORRHOEA ITS PREVENTION AND TREATMENT

At a meeting of the Odontological Section of the Royal Society of Medicine on February 25th, Mr DOUGLAS GADELL in the chair, the discussion on "Pyorrhoea its prevention and treatment," which was opened by Mr J G Turner at the November meeting (BRITISH MEDICAL JOURNAL, December 1st, 1923, p 1044), was resumed

Mr C H HOUSDEN said that he placed much more faith in gum massage with the toothbrush as a preventive measure than in mouth washes It was advisable to select a toothbrush carefully, the brush should be one in which the bristles were arranged in tufts so as to give a serrated edge It was well to keep the brush in some antiseptic, such as lysol It was of no use to treat pyorrhoea with medicaments only, Nature must be given the chance to play her part

Mr F STJ STEADMAN considered it an undoubted fact that periodontal disease was caused by the sticky debris of carbohydrate food Unfortunately, instead of removing the offending teeth, many dentists were still filling them so that they remained tender and functionless He was convinced that pyorrhoea was due to neglect of the mouth in childhood, the important years during which something might have been done to cure the trouble had been allowed to pass by In the majority of cases periodontal disease commenced before the age of 10 He disagreed with Mr Turner's teaching as to the extraction of six year-old molars, also with his method of cutting narrow spaces between the teeth, he thought this was likely to lead to further food impaction He had used ionic medication and, lately, high frequency after the excision of the pockets Ionic medication with zinc chloride and copper sulphate was specially useful in the treatment of cases in young adults

Mr WILLIAM HERN said that he had long held the view that pyorrhoea was essentially a local disease, caused by the growth and colonization of organisms It began as a gingivitis at the gum margins, most probably in those portions of the mouth where friction, natural or artificial, was absent or in abeyance This view of the local origin of pyorrhoea was confirmed by the fact that pyorrhoea was found to occur in the areas furthest removed from the action of the lips and tongue, and around those teeth especially in the molar region which were not antagonized by teeth in the opposite jaw He had noted also a marked increase of pyorrhoea in mouths where the movement of the tongue was for any reason inhibited Pyorrhoea developed gradually and spread by contiguity There was no clear line of demarcation between gingivitis and pyorrhoea In the absence of organisms no general disease would cause pyorrhoea, and, equally, general treatment alone would not cure it He disagreed with some of Mr Turner's methods of prevention, notably his extraction of the first molars as routine practice to gain space, and the extraction of alternate teeth, unless those teeth themselves were so pocketed as to be incapable of treatment The cutting of spaces between the teeth would also spoil accurate contours and encourage the arrest of food fibres In the prevention of pyorrhoea gum friction with the toothbrush was essential, and massage of the gum with the finger and thumb was of advantage when gingivitis was present

Mr D R CURROCK spoke of the necessity of making radiographs in periodontal disease This disease was not

only a disease of the gingival tissues, but of the periodontal membrane, and often of the deeper bone Unless a systematic examination was made many of the deeper cases would be entirely missed A number of cases in which there had been failure in the treatment of pyorrhoea were cases in which teeth had been left behind apparently sound, though if one had looked closely with the aid of x rays translucency and alteration in the deeper bone would have been found

Mr C HOWKINS spoke of the importance of continued periodical examination of persons who had been treated for pyorrhoea Advanced cases where bone was involved presented a different aspect altogether If here there were loose teeth, food traps, and pockets, the question of extraction ought to be considered Certain teeth, if not too bad, should be retained for a time, because these would be of use in keeping the dentures firm He had great faith in the cutting away of pockets The object should be to get rid of anything which could collect food, and thus to give the patient a fair chance of keeping his mouth clean

Mr MAXWELL STEPHENS referred to the frequency with which patients were found who lacked sufficient manual dexterity or sufficient co-ordination between the fingers and brain to attend to mouth hygiene in a proper manner, and the necessity for continuing supervision of such cases

Mr J G TURNER, in reply, said that clinical observation showed that pyorrhoea was a disease of young life, beginning in childhood, attacking all sorts of persons, the vigorous and healthy equally with the debilitated, those with perfect dentition as well as those with imperfect It was widely prevalent in some countries among people with whom caries of the teeth was comparatively infrequent, but here in England it was a commonplace of practice to find pyorrhoea and dental caries in all its forms in the same mouth In the lower animals pyorrhoea was readily produced by sticky food, and in man and the lower animals alike when food was eaten which was not sticky both pyorrhoea and dental caries were absent, witness Eskimo skulls of one hundred years ago compared with the people of the same race to-day, who were now eating molasses and fine-ground flour, and whose teeth were as bad as those of the people of more advanced races In the skulls of wild animals in museums there was no trace of pyorrhoea Sticky food meant carbohydrate food, but this contained nitrogenous as well as non-nitrogenous ingredients, and both kinds of ingredients might serve as nutrient media for the germs of pyorrhoea Unless these clinical findings could be controverted they were sufficient answer to the claims regarding mal-occlusion or traumatic occlusion as the cause, or some general constitutional defect as the prime factor in the production of pyorrhoea The toothbrush touched only the less important areas, and mouth washes were entirely unable to penetrate between the teeth until destructive pathological processes had opened the way through atrophy of the intradental papillae Waxed silk was but a poor cleanser, and again he pleaded, as he had done in his remarks at the beginning of the discussion, for the use of three-ply worsted Food packing appeared to be regarded by many as the starting point of pyorrhoea, and for fear of it they condemned all spacing and all extractions But food packing was not the beginning, it was the result of pyorrhoea He defended alternate extraction and the cutting of spaces, but said that he did not cut spaces which would admit anything very large He did not advise the use of discs for this purpose, but of steel strips When the steel strip and the polishing tape worked freely between the teeth, these could be followed by the three-ply worsted, which would get at the sticky germs around the neck of the teeth He had given up ionization because he found that he could get more rapid results with mechanical methods, and he was still unconvinced that the current did not take the surface path of least resistance

Haemorrhage following Tooth Extraction

At the same meeting Mr WARWICK JAMES read a brief communication on haemorrhage following tooth extraction

His object, he said, was to raise a protest against the common method of plugging the socket It was time the procedure adopted for haemorrhage in general surgery was applied to a similar condition following the extraction of a tooth In considering the question of treatment it was necessary to determine what were the causes of haemorrhage, how it could be prevented, and, if it occurred, how it might be most easily arrested The first principle was to extract the tooth with as little damage to the tissues as possible Should haemorrhage occur, the general surgical principle laid down of determining where the bleeding point was situated applied equally in the case of a tooth socket The haemorrhage would be found in the majority of cases to be situated in the muco periosteum torn from the bone Should the haemorrhage come from the bone a large part of the socket would have been removed in the effort to extract the root The procedure for treatment in cases of haemorrhage should be as simple as possible The muco-periosteum should be turned back gently and any loose fragments of bone removed Any difficulty in determining the point from which the blood was coming might be overcome by applying lateral pressure to the soft tissues over the socket, first to one side and then to the other, sterile gauze being used for the purpose Where a fragment of alveolus had been removed and pressure applied in this manner, the haemorrhage would be completely arrested in most cases Should haemorrhage recur on removal of the pressure, a roll of gauze upon which the patient could close the jaws was often effective, but the pad must be carefully applied so that the pressure was brought to bear directly, or by tension on the gum, upon the bleeding vessel Should this procedure fail, a stitch through the gum, pulling the soft tissues together across the socket, would succeed, one stitch would usually suffice, but if there was any doubt greater security might be assured by a stitch commencing on the side which was not bleeding, then taken through the bleeding side, and back again through the same side, so that the vessel was included in the loop, and then back again through the original flap Ligature of the bleeding vessel might be undertaken, but was difficult to carry out

PITUITARY EXTRACT IN OBSTETRICS

AT a meeting of the Edinburgh Obstetrical Society on February 13th a discussion on the uses of pituitary extract in obstetric practice was opened by the President, Professor B P WATSON Professor Watson said that in the course of labour pituitary extract should only be employed to stimulate uterine contraction when this was markedly inadequate and in the absence of any possibility of obstruction to the dilatation of the cervix or to the passage of the child In a case of rigid cervix or of delay due to a small pelvis, large head, malposition of the head, or rigid pelvic floor, its administration invited disaster, and rupture of the uterus and foetal death were bound to occur Any idiosyncrasy to the drug would be revealed at once, occasionally it caused vomiting and faintness, and so the initial dose should never be large, certainly not more than 0 5 c cm , he had often used latterly 0 25 c cm with equally good results The first uterine pain after injection was sometimes tetanic and prolonged, the injection, therefore, should always be given in the presence of the medical attendant, so that an anaesthetic might be administered if necessary his experience was that if the first injection produced no bad effects, subsequent doses would be equally well borne, as the drug had no cumulative effect The effect on the blood pressure was negligible, and it could safely be used for the induction of labour in pre-eclamptic toxaemia In the operation of Caesarean section Professor Watson had for some years made a practice of injecting 0 5 to 1 c cm of pituitary extract directly into the uterine muscle as soon as the uterus was exposed in the abdominal incision Its effect in causing strong contraction of the uterus was almost instantaneous, with the result that there was little bleeding from the uterine incision, and even when the placenta was situated anteriorly the haemorrhage was negligible As regards the induction of labour by pituitary extract, out of a series of 195 cases he had been successful in 91 per cent The maternal mortality was *nil* there were twelve foetal deaths, none of which could fairly be ascribed to the use of the drug

Dr FORDYCE said that while he welcomed the introduction of a method of inducing labour other than such mechanical means as the use of bougies or packing the uterus, his experience with regard to the use of pituitary extract for the induction of premature labour had been disappointing In a considerable proportion of cases where the recognized technique had been observed it had completely failed He had never used it in Caesarean section in the way Professor Watson had described

Dr HAIG FERGUSON said that his experience of this method of inducing labour was also disappointing He suggested that where inertia threatened towards the end of the second stage a dose of pituitary extract might sometimes be safer than forceps He had never injected the drug directly into the uterus in Caesarean section, but had found that the uterine wound was often more difficult to suture owing to intense contraction if the injection had been too early

Dr R W JOHNSTONE thought that as good results might be obtained from three or four minims as from larger doses he had found such doses especially useful in cases where, as the result of scopolamine-morphine narcosis, there was a tendency to uterine inertia His experience of the injection of pituitary into the uterus in Caesarean section was that while in the classical operation it was very effective, in the lower uterine segment operation it considerably increased the difficulty of delivering the child's head

Tuberculous Infection of Fibroids

Dr R W JOHNSTONE then read a short paper on adenomyoma of the uterus with tuberculous infection, and reported a case in his own practice After referring to the relative rarity of tuberculous infection of fibroids he gave a short account of six cases of adenomyoma infected by tuberculosis which he had been able to find recorded Two of these were in von Recklinghausen's original monograph on adenomyoma, and one each had been reported by Lichtenstein, Hosh, Archambauld and Pearce, and Grünbaum

Dr Johnstone's patient was a married woman of 45 sterile, who had been suffering for three months from pain low down in the right side so severe as to interfere with sleep, her father died from haemoptysis but otherwise there was no history of tuberculosis in the family Examination showed the uterus to be the size of an orange and a diagnosis of fibroid tumour was made Supravaginal hysterectomy was performed the patient made an excellent recovery and has since reported herself as being free from all symptoms The uterus was found to contain two tumours on the posterior wall each about the size of a plum, and investigation showed them to be adenomyomatous and infiltrated with tuberculous giant-cell systems especially in the cellular mantle surrounding the gland elements Tuberculous giant cells were also present in the endometrium and in the muscular wall of the uterus whilst the right cornu showed a well marked salpingitis isthmica nodosa with some giant cells By microscopic examination the endometrial origin of the adenomyoma was determined

After discussing the significance of the association of the two conditions Dr Johnstone gave as his opinion that the tuberculosis was secondary to the adenomyomatous condition, and that the endometrial prolongations into the tumours had proved to be areas of diminished resistance to the tuberculous infection The paper was illustrated with several lantern slides demonstrating the more important points

BONE AND JOINT TUBERCULOSIS

AT the February meeting of the Oxford Medical Society, Mr G R GIRDLESTONE read a paper on the modern treatment of bone and joint tuberculosis He began by outlining the immense improvement in the treatment of these cases during the present century Where formerly there had been suffering and deformity, there was now freedom from pain, restoration of health, and, in most cases, vigorous activity A much clearer conception of the nature of the disease had been gained The infection was, as a rule, very prolonged, the bone or joint focus being only a late development of a deep-rooted disease It was now recognized that treatment included improvement of the general resistance of the body as well as local treatment of the affected joint The balance between the bacillus and its human host was almost even modern tests had shown that the virulence of the tubercle bacillus was practically constant (except in some skin lesions), and that the variable factor was the vitality of the patient The means of raising the vitality of the patient were known, and provided cases were brought under proper treatment early enough it was possible, in almost every case, to ensure recovery It was not enough to restore the health of the patient by treatment under modern open air hospital conditions, health must be maintained by adequate after-care after the patient had gone home Those who dealt with the disease should recognize that the responsibility of choosing between making almost certain of the patient's recovery, and risking failure, rested with them The aim of treatment was to secure complete re-establishment of the health of the patient, who should be free from any sign of active tuberculosis, focal or general, with his powers of resistance to the tubercle bacillus so raised as to enable him to repel any renewed attempt at activity Bone or joint disease must be checked by the prompt elimination of any harmful factor, such as strain or movement, and the provision, so far as possible, to the affected part of rest, comfort, warmth, free circulation, and, if possible, a local stimulus to healing Septic infection must be avoided, and the strength and function of the affected part restored Mr Girdlestone then dealt at length with the various modern methods of treatment, and discussed the action of different rays of the sun He pointed out that there were harmful as well as helpful factors in these rays, and that best results were only obtained when the effect of the sun was balanced by that of moving air These agents modified the metabolism of the skin, and reports from the Cambridge pathological laboratory suggested that the skin had a very important part to play in the fight with the tubercle bacillus While advocating heliotherapy strongly, he called attention to the very excellent results that had been obtained from open air hospitals, such as Baschurch and Heswall, before the advent of heliotherapy in its present form The methods of local treatment of the affected part adopted by various special hospitals were separately described and compared, and a plan of treatment, not exactly following the practice of any one school, was advocated During the acute stage the method of choice was surgical "rest," enforced and uninterrupted, laid down by Dr H O Thomas, and practised in the Shropshire Orthopaedic Hospital, later the less complete immobilization, practised in other special hospitals, was recommended, but throughout treatment Thomas's tests of joint soundness, coupled with x ray evidence, should be repeatedly applied The value of operations was discussed Nowadays formal operations on children were never carried out, but in adults these operations might lead to a sounder and more certain cure Finally, Mr Girdlestone insisted that it was necessary not only to perfect technical methods of treatment, but also so to organize the work of the hospital, and the district which it served, that patients were brought promptly into touch with treatment and followed up by after-care in continuity until all fear of relapse was past

ACIDOSIS

A MEETING of the Liverpool Medical Institution was held on February 14th, with the President Mr G P NEWBOLT, in the chair

Dr L CUNNINGHAM read a paper on some problems of acidosis He considered the best definition of acidosis was that of Henderson, who defined it as a condition of diminution of the alkali reserve of the body due to excess of non volatile acids, with the exception of carbonic acid This definition excluded the condition in which the alkali reserve was reduced by an alkalaemic process—namely by acapnia loss of CO_2 from the blood, and compensatory excretion of alkali The defences of the body against variations in acid base equilibrium were then discussed The result of investigation of the corpuscular chloride in acidosis negatived the inference of Henderson that when the body was striving to call alkali into use in the plasma the increase induced in the hydrochloric acid load of the corpuscles would be very large and much more than analyses of plasma CO indicated Emphasis was laid on the desiccation of tissues and cardiac failure in diabetic coma The importance and advantages of Van Slyke's method of determining the depletion of alkali reserve was urged and the fallacies of Sellard's bicarbonate test were briefly outlined Dr Cunningham adduced evidence showing that the alkali reserve in renal inadequacy depended entirely on the nature of the nephropathy and the extent of the deficiency in the elimination of mineral acids by the kidneys Acidosis was never found in hydraemic nephritis and only occasionally in the azotaemic and mixed types of de Wesselow's clinical classification Ketosis and the importance of diacetic acid were dealt with and an account was given of the progress of acute cases of ketosis in children treated at the Northern Hospital Anaesthesia

was shown to produce a definite acidosis Treatment was then discussed, including the merits and disadvantages of alkalis and the importance of glucose and insulin in ketosis

Dr J C MATTHEWS read a note on a case of thrombosis of the posterior inferior cerebellar artery in a male aged 46

The onset occurred during the night and was characterized by dizziness, shivering, and nausea, numbness of the right side of the face and of the left arm and leg was also present Five weeks later there was no paralysis, but only slight ataxia with a tendency to fall to the right The left pupil was larger than the right and both pupil reactions were normal There was crossed dissociated hemianaesthesia of the right side of the face, the left side of the body, and the left limbs, temperature and pain sense being completely lost The patient recovered and engaged in a strenuous business less than a year after the onset The only symptoms remaining were those due to the crossed anaesthesia, contact of the left hand with a cold metallic object produced a painful sensation like that produced by excessive heat, and cold rain driven by wind produced over the right half of his face a painful sensation like very hot water

Mr R C DUN and Dr R J MINNITT read a note on the technique of cleft-palate operations Mr Dun considered that 2½ to 3 years was the most suitable age for operation, and Langenbeck's the most satisfactory method He postponed operation if the general health was not good, if any cough or fever was present, or if the urine contained acetone Attention to dental caries, unhealthy tonsils, and adenoids was important, and the child should be accustomed to mouth syringing before the operation The vital point in the technique was that the surgeon should have a clear field of vision, and Mr Dun described an electrically driven suction apparatus which effectually kept the mouth and nasopharynx clear of blood and mucus Dr R J Minnitt described improvements in the administration of ether and ethylene by the Shipway apparatus to patients with cleft palate, and demonstrated the electrically driven suction apparatus previously described

NULLITY OF MARRIAGE

AT a meeting of the Medico-Legal Society held in London on February 19th, with EARL RUSSELL in the chair, Dr S. HENNING BELFRAGE, a medical inspector of the High Court, opened a discussion on the law of nullity of marriage He pointed out in the first place that the law of nullity was based on the principles of the ecclesiastical courts embodied in the Matrimonial Causes Act of 1857, though the principles and rules on which the courts acted in declaring a marriage null and void were not laid down in the Act, but were traditional As time had passed there had been an increasing elasticity of interpretation of these rules and principles The judges had frequently complained of the unsatisfactory state of the law, which was not surprising, since these cases had medical and surgical aspects, and medical science had advanced considerably since the original rules and principles were laid down It was doubtful whether the courts did more than contemplate an incapacity or impediment with an anatomical basis—namely, some condition demonstrable by physical examination and due to faults of development, accident, or disease, which existed at the time of marriage Such cases were nowadays the exception rather than the rule, and it had become the practice to infer incapacity, such inference being drawn from evidence of which the medical was the most important The usual case to-day was based on abnormality of sexual function, and involved consideration of the integrity, efficiency, and stability of the nervous system In addition to the spinal and lower cerebral centres they had to consider those higher centres which were concerned with imagination, volition, and intellect, and which were subject to profound disturbances by the emotions This sexual function was only second to the function which was concerned with the acquirement of food, and it entered into the mental life to an extent which in the opinion of one school of thought, at any rate, overrode all others in influence on mental life They found in practice, broadly speaking, three varieties of feminine abnormal reaction to the sexual demands of marriage The first was that type of reaction in which attempts at consummation evoked violent and uncontrollable resistance, associated with profound emotional disturbance These cases were termed hysterical in the courts, but they did not correspond to what psychologists termed hysteria, being, on the contrary, a true nervous reflex of a highly organized character, which, like all true reflex nervous action, was outside the control of the higher brain centres The second type was that of vaginismus—a condition recognized by gynaecologists as being a definite clinical manifestation, but regarded sceptically in some legal quarters In this there existed a mental state familiar to neurologists, and expressed as a local pain or hypersensitivity The real origin of the trouble was in the mental attitude towards the sexual act Finally, there were those cases which the courts regarded as wilful, wrongful refusal, where, for instance, no reason was advanced which appeared sound to the ordinary individual, but there was a quiet, unemotional, deliberate, and persistent refusal to allow consummation Fear of childbirth, or of disease, or dislike of personal contact were considered merely commonplaces of morbid attitude towards sex matters, and until recently the courts had refused to infer incapacity where these were pleaded Dr Belfrage referred to three cases in illustration, and said that from the medical standpoint he would like to see such grouped together as cases of abnormal nervous reaction to the sexual life, to be definitely accepted and legally defined as constituting a real impediment to the proper consummation of marriage In a brief reference to the duties of the medical inspector, Dr Belfrage remarked that the inspector not infrequently had difficulty in estimating the husband's capacity, and in the absence of any evidence of organic disease or defect was obliged to infer complete capacity He thought it would be an advantage if the inspector were asked by the court merely to state that he found no reason to lead him to suppose that the husband was not capable With regard to the question of virginity in the wife, and the extent to which intercourse might previously have taken place, it was by no means always easy to give a definite opinion Habitual intercourse gave rise to definite signs, but lawyers should recognize that one or two acts of complete intercourse might leave few or no signs In the majority of cases, however, the combined evidence of the appearance of the several genital structures was clear enough to enable him to give a definite opinion In conclusion, Dr Belfrage suggested the formation of a committee of lawyers and medical men to recommend a more definite statement of the law in cases of abnormal conduct in the sexual relationship of husband and wife

Mr BAYFORD, K.C., hoped there would be little change in the law with regard to nullity, since the effect would be that a decree could be obtained fraudulently The proper course would be to obtain a decree for divorce, since declaring the ceremony annulled in such cases from the beginning would alter completely the whole aspect of the law as it had existed for 200 years He agreed that there were cases of wilful and wrongful refusal from which incapacity could be inferred The refusal was apparently voluntary, but in fact it was involuntary

Mr NOEL MIDDLETON opposed legislative changes which might do more harm than good, since such legislation would make one act of intercourse sufficient to prevent an annulment, even though consent was only given once and all other acts had been refused He admitted the existence of hard cases, but objected to legislation being based on them More medical knowledge was wanted and more evidence which would bring home to judges the medical aspect of these cases

Mr R W BARNARD drew attention to the danger of collusion if decrees of divorce were to be granted on grounds of wilful and wrongful refusal

EARL RUSSELL pointed out that in this matter of wrongful refusal Sir Samuel Evans had introduced a considerable breath of fresh air into the divorce courts after the ecclesiastical atmosphere of Sir Francis Jeune, and had gone a little beyond the existing law Any new legislation must take into consideration the consequences that would develop, and it might be better to leave the matter to judges to extend the law to meet special cases that came before them

Dr C GRAHAM GRANT said he was both a medical man and a barrister, but, speaking as a layman, he considered that marriage was a contract in which sexual intercourse was vital, so that if the latter were withheld he thought the contract ought to be set aside

Reviews.

CHARLES DARWIN

To the writings of few living Englishmen can Bacon's commendation—"Studies serve for Delight, for Ornament and for Ability"—be more justly applied than to those of Professor KARL PEARSON. He always instructs and often delights us, most of all when, as now, he pronounces an *éloge*—a nobler thing than a eulogy—upon the career of a great man, Charles Darwin.[1] As Professor Pearson says, the importance of new truth is highest for the young.

> The 'reversal of thought' is too severe a task for us. If old and wise we are prepared to admit the new truth even if we cannot understand it, if old and foolish we express horror and hatred for it because we will not admit that our mind has grown too rusty to reverse its thought. Here comes in the glory of the young, their impressions are not prescriptive truths, their minds are not too rusty to reverse their thought.'

In Professor Pearson's undergraduate days at the end of the seventies, although the Darwinian battle had been won, or almost won, in the biological arena, its wider implications were still matter of *hot controversy*. In the undergraduate days of the late nineties, Darwin had already become a classical authority, his own works were no longer read by all intelligent youths, who but vaguely realized the significance of his struggle and triumph, Weismann's book on germ plasm was probably more often read than *The Origin of Species*. To undergradutes of 1923, Darwin has his place with Buffon, Linnæus, and Lyell—a great name indeed, but no longer a direct source of inspiration.

If Professor Pearson's lecture (delivered to London County Council teachers) did no more than stimulate some of those who heard him and some of the larger audience he now addresses to read Darwin for themselves, it would be much. But Professor Pearson *does in truth a great deal more* than this, for he shows—what Darwin's modesty never allowed him to mention—the immensity of the obstacles Darwin had to overcome. Not merely common bitterness and anger, but presuppositions rooted in the minds of men rising intellectually very far above the common stature. Darwin's cousin, Francis Galton, was such a man, and by 1854 he had studied deeply and travelled far, but he writes:

> The method of obtaining fire by rubbing sticks together was at one time nearly universal. It seems remarkable that the time of discovery of the art of fire-making is not recorded in the Bible. We may easily imagine that our first parents obtained their fires from natural sources, of which some parts of the Caucasus at least abound in examples. But when Cain was sent an outcast, *how did he obtain fire?* It is remarkable that his descendants are precisely those who invented metallurgy and arts requiring fire. We might almost theorize to the effect that he or they discovered the art of fire making, and pushed the discovery into its applications.

It is easy enough now to ignore the chronology of Archbishop Ussher and the theory that the world was created in 4004 B.C., but it was no laughing matter eighty years ago.

> Darwin, says Professor Pearson, broke down a barrier and let the waters of scientific inquiry flow out upon us wide and as arid a land as Newton fertilized. To us as everyday men and not zoologists or anthropologists by profession he opened up all the vistas of the ages. We look back through hundreds of thousands of years of growth in living forms where we were pulled up at a few thousands by a dogmatic beginning of all things.

Ought we to flatter ourselves that similar shocks administered to our traditional beliefs in this generation excite less bitterness than did the revision of world chronology in the minds of bishops, a Prime Minister, and even Fellows of the Royal Society and Members of the French Academy, sixty years ago? What living investigators have shaken common opinions in a manner comparable with that of Darwin? The name of Einstein at once suggests itself, certainly no platform orators or preachers have fulminated against him, but is this really because we are more tolerant or because *the views of Einstein cannot as yet be formulated* in speech intelligible to the non-mathematical? Another name, that of Sigmund Freud, suggests the answer. One pictures the scorn with which the coupling of this name with that of Darwin would be greeted. A hasty theorist, pouring forth unproven and unprovable hypotheses, debasing the *most beautiful things* in life with nasty ideas, how can such a man, it will be said, be linked with the patient naturalist who kept his theory to himself through twenty years of verifying labour? But, even if this be a just criticism, one is still permitted to wonder whether it is really the manner, or supposed manner, *of Freud rather* than his matter which has excited spleen. "Not science, but a mass of assertions and absolutely gratuitous hypotheses, *often evidently fallacious*. This kind of publication and these theories are a bad example." These words were not written of Professor Freud by an orthodox critic, but of Charles Darwin by an eminent member of the French Academy of Sciences in 1872. That *homo sapiens* is not the crowning figure of a special creation was a shock to our human vanity as well as a great discovery. At least we should deal very tenderly with the prejudices of our grandparents, lest our grandchildren bring us too into condemnation. After all, some genius may yet make Einstein intelligible to all the world.

[1] *Charles Darwin 1809 1882*. An Appreciation by Karl Pearson, F.R.S. Cambridge University Press. (Pp. 27. 2s. 6d. net.)

TREATMENT OF DIABETES

THE rapid exhaustion of the first edition of Professor HUGH MACLEAN'S handbook on *Modern Methods in the Diagnosis and Treatment of Glycosuria and Diabetes*, which was reviewed in our columns last year (vol. i, p. 974), has given the author the opportunity of revision and of adding his experience of the treatment by insulin.[2] As the whole problem of the treatment of diabetes has thus been entirely changed, *full details* about this remedy are given in a chapter of thirty-one pages. In the section on the type of case in which insulin is indicated, it is pointed out that although it may be said on the whole that the urine of a patient requiring insulin will give well marked reactions for acetone and diacetic acid, acetone may appear in the urine of any person, diabetic or otherwise, if the diet has recently been changed to one rich in protein and fat and poor in carbohydrates. In cases of doubt a blood sugar estimation is desirable to avoid the mistake of giving insulin to persons with innocent renal glycosuria, a condition which appears to be much commoner than has been supposed, for among forty-eight persons without any history suggesting diabetes *in whom glycosuria was detected* in routine examination of the urine for official or general medical purposes, twenty-three, or nearly half, were found to have this harmless manifestation. Such persons may suffer much from a strict diabetic diet, and if treated by insulin a hypoglycæmic reaction is extremely likely to follow. Indeed, it is cases of renal glycosuria that enforce Professor Maclean's opinion that glycosuria *per se* is probably of no more importance than albuminuria, and that it stands in the same relation to diabetes that albuminuria does to nephritis.

In describing the symptoms of insulin hypoglycæmia, the variation that may exist in normal persons in their reaction to doses of insulin is illustrated by the effect of hypodermic injection of 20 units of insulin in two healthy medical men, one had no symptoms whatever the other had on two occasions such severe manifestations that it was difficult to obtain blood for the estimation of sugar. Although it is admittedly too early to make definite statements, Professor Maclean's experience is not in favour of the view that insulin has any curative effect in chronic cases of diabetes, in a few acute cases, after the severe symptoms had been tided over by insulin, the urine subsequently remained free from sugar either without insulin or on very small doses. But this effect could no doubt have been obtained by judicious dieting and cannot with any confidence be ascribed to specific action of insulin. In short, it appears as unlikely that insulin will cure well established diabetes as it is that thyroid extract will once and for all cure myxœdema. Although insulin has revolutionized the treatment of diabetic coma, so that a medical man is under a moral obligation to employ it, the

[2] *Modern Methods in the Diagnosis and Treatment of Glycosuria and Diabetes*. By Hugh Maclean, M.D., D.Sc., M.R.C.P. Second edition, revised and enlarged. London: Constable and Co. Ltd. 1924. (Demy 8vo, pp. xi + 191, 13 charts, 9 figures. 12s.)

need for blood sugar estimation as a guide is urgent, for there is the risk that after relief of coma a return of symptoms, really due to hypoglycaemia, but erroneously regarded as a relapse of the coma, may lead to the administration of a dangerous dose of insulin The necessity of withholding sugar during the insulin treatment of diabetic coma and the danger of using as a cardiac stimulant adrenaline, which inhibits the action of insulin, are clearly brought out

This authoritative handbook is clearly written, always aims at simplification of methods, and is not without an occasional touch of the epigrammatic—for example, "Mathematics is not always an exact science when applied to clinical medicine, though it undoubtedly has its place in this field, that place must always be subordinate to common sense"

ANDROLOGY

MR KENNETH WALKER[3] desires recognition for "andrology" the study of diseases of the male organs of generation, as a definite branch of medical science comparable to gynaecology He would separate the subject from diseases of the urinary tract, thereby apparently replacing the term "genito-urinary surgery", and he has excluded from his book all reference to lesions that come under the heading of venereal, because these diseases have already become the subject of special study Mr. Walker is convinced that andrology will one day be accorded due recognition On the other hand, it is possible to maintain that the splitting up of medical science into a great multitude of branches, each dealing with separate organs or a system of organs, may be carried too far It is conceivable that one day the pendulum will swing in the opposite direction, and that even gynaecology may cease to be differentiated to the present degree. To divorce the scientific investigation of one system of organs from its relation to other systems—is it not retrogression?

Notwithstanding his self-imposed limitations, Mr Walker has produced a readable and interesting book His aim has been to present to general practitioners and students the points of practical importance in the diagnosis and treatment of diseases of the genitalia Pathology is only introduced when it has a definite bearing on treatment, and the technique of major operations is for the most part omitted Where the function of organs, such as the prostate and seminal vesicles, is unknown, Mr Walker is able to sustain the reader's interest by recounting the observation he has made on the accessory sexual glands of mammals, and on the distribution of prostatic enlargement throughout the world He exposes one of the dangers of his attempt to differentiate andrology when he calls attention to the error of diagnosing primary chronic nephritis when the renal condition is really secondary to prostatic obstruction He calls attention to the futility of attempts to cope with sepsis in cases of enlarged prostate by such means as bladder irrigation, diuretics, and urinary antiseptics. He draws a fanciful picture of massage of the prostate promoting a sudden absorption of toxins into the blood stream, and thus acting in the same way as an injection of vaccine

Mr Walker reveals in his book two great merits in himself—the conservatism of his surgery and his powers of reasoning Thus he is strongly opposed to the indiscriminate removal of every enlarged prostate, irrespective of the existence of signs of obstruction or of any other disability He thinks that radium may offer better hope of relief than surgical excision in carcinoma of the prostate He regards the routine operation for varicocele, whether giving rise to symptoms or not, as mischievous and senseless He notes the frequency of failure of orchidopexy for imperfect descent of the testicles when the patients are seen after a sufficient lapse of time He even has some respect for the prepuce

The evidence in favour of tuberculous epididymitis being a descending infection is very well set out, and on this evidence is based the opinion that in many cases orchidectomy for this disease is an illogical operation An interesting series of experiments is related in support of the author's opinion that in acute epididymo-orchitis the route of infection is through the lymphatics in the walls and sheath of the vas, and not through the lumen In dealing with the internal secretion of the testis he describes the case of a patient in whose mental condition and outlook on life an extraordinary change was produced by inserting testicular grafts into the tunica vaginalis of a damaged and functionless testicle

Mr Walker has allowed to pass some phrases which more careful revision would have induced a writer of fastidious literary taste to eliminate, "commonness" is not quite identical in meaning with frequency, a stream is not commonly spoken of as an "affair," and "certain complications of the testicle" is a strange expression, though no no doubt one, or both, have often led to complications But such lapses, though they may sometimes cause the reader to smile, do not detract from the serious interest of the book If andrology is fated to take its place in the overcrowded curriculum of medical study it could not have a more entertaining professor than Mr Kenneth Walker

ANAESTHESIA, LOCAL AND GENERAL

IN a big book, *Practical Local Anesthesia and its Surgical Technic*,[4] Dr R E FARR has set himself the task of describing in minute detail the methods he follows to produce local anaesthesia In the first part he deals among other matters with equipment and technique, the second part treats of all portions of the body except the abdomen and the third is devoted entirely to the surgery of the abdomen. Spinal anaesthesia is omitted, as the author states that he has had little experience of it He weakens his arguments in favour of local anaesthesia by his somewhat intemperate statements of the dangers and ill effects following general inhalation anaesthesia. The casual reader might be led to think that Dr Farr believes that all surgeons operating under general anaesthesia must be in a desperate hurry to get their patients off the table alive Again, his citation of the possibility of aspiration into the larynx of foreign bodies such as tooth plates, tobacco quids, etc, as an argument against the use of general anaesthesia, bears no more weight than would the citation of the possibility of the occurrence of abscesses following the use of dirty needles or unsterile fluids as an argument against the use of local anaesthesia In both cases the results are the outcome of negligence The author, however, is constrained to admit that even now there is a definite place in surgery for general anaesthesia, for he states that the services of what he calls a psycho-anaesthetist should always be available in case the patient prefers to have general anaesthesia, or in case the local effects are not produced as desired The person with this title is apparently unqualified, a sort of Pooh-Bah among assistants in the theatre, for, in addition to her duties as anaesthetist, she is to hand the patient refreshment when necessary, to deal with possible nausea and vomiting, to superintend the lighting and heating of the theatre, the transportation of the patient, and diplomatically and sympathetically to answer any questions the patient may ask. Apart, however from his bias against general anaesthesia, the author has written a book that is interesting and in a way instructive. He does not wholly confine himself to the technique of local anaesthesia, but describes surgical instruments which he finds useful at particular stages of the operation The illustrations are plentiful and clear, the printing excellent, and typographical errors rare

The chief addition Dr P. J FLAGG has made in the preparation of the third edition of the *Art of Anaesthesia*[5] is a description of an oxyhaemoglobinometer or haemoxometer, a clinical instrument devised by him for reading the oxygen content of the blood The chemistry and physiology of anaesthetics and anaesthesia are not discussed, but the

[3] *Diseases of the Male Organs of Generation* By Kenneth M Walker, F.R.C.S., M.A., M.B. B.Ch. Oxford Medical Publications London Henry Frowde, and Hodder and Stoughton. 1923 (Demy 8vo pp. xii + 234 78 figures. 12s. 6d net.)

[4] *Practical Local Anesthesia and its Surgical Technic* By Robert Emmett Farr M.D., F.A.C.S., Minneapolis, Minn. London Henry Kimpton. 1923 (Roy 8vo pp. xiii+529 219 figures, 16 plates. 42s net.)

[5] *The Art of Anaesthesia* By Paluel J Flagg M.D Third edition revised Philadelphia and London J B Lippincott Company (Med 8vo pp. xxii + 371 136 figure 1 plate. 18s. net.)

author's teaching is practical and his outlook broad and sane Most of the apparatus described is unfamiliar to and unlikely to be met with by the British student, but the book will be of interest to the specialist The advice given is in the main sound, and though we gather that he gives morphine and atropine practically as a matter of routine procedure prior to operation in the case of adults he is however, careful to state the disadvantages of morphine as regards the depth and frequency of respiration following its use In the opinion of some authorities in this country the disadvantages outweigh the advantages following its use, and atropine alone is given before operation as a routine method, morphine or its derivatives being given only when there are special indications, such as excessive nervous manifestations, excessive pain, or when an anaesthetic such as gas and oxygen is about to be given In America, owing, it is said to the shortage of qualified anaesthetists, the question of the unqualified anaesthetist is not yet settled, and in consequence many of the remarks made by the author read strangely to those of us who are not familiar with this species of unqualified assistant Dr Flagg makes an interesting statement with regard to the use of gas and oxygen in America Apparently it has not been found as satisfactory an anaesthetic as its promoters anticipated, with the result that it is gradually going out of fashion and being superseded by other forms of anaesthesia Whether this is the result of its being administered by unqualified assistants or not the author does not state, but if such an anaesthetic were administered by the untrained it is not surprising that the results were not satisfactory, for of all anaesthetics gas and oxygen is the most difficult to administer satisfactorily from the points of view of the patient, the surgeon, and the anaesthetist The book is plentifully and well illustrated There are, however, far too many misprints, and this is a distinct blot on the appearance of a relatively high priced book now in its third edition

CLINICAL TEACHING

PROFESSOR BARKER, following an example of some years ago by the late Dr John Murphy of Chicago has published in a volume with the general title *Clinical Medicine*[6] a verbatim report of his weekly clinics at the Johns Hopkins Hospital It affords a picture of students learning rather than of the professor teaching Every teacher knows that the more he can draw out of his students at the bedside or in the "amphitheatre" the more lasting will be the impression left in the memories of the audience The report of these clinics recalls those perfect didactic conversations at the breakfast table that Oliver Wendell Holmes used to portray Professor Barker seems to succeed in transferring his own thoughts into the minds of his students by means of his questions Teachers will welcome these records of catechetical classes for their suggestive stimulation The student who dreads the final ordeal at the examiners' hands may gain confidence from studying the answers Professor Barker has considered worth reporting

But another aspect occurs to us The busy practitioner has not lost his desire to learn, but may find it difficult to attend hospital classes again A course of Barker's Tuesday Clinics will put him on good terms with himself Modern laboratory reports and advances in biochemistry are discussed with the student on the assumption that he is hearing about them for the first time A particularly good example of this is contained in the conversation on the blood changes in Hodgkin's disease In his introductory remarks Professor Barker, when considering the methods necessary for collecting the facts which constitute a general diagnostic survey of the patient, suggests the following heads

1 The anamnesis, or history of the patient his family, and his previous environment and experiences
2 The general physical and psychical examination
3 The application of certain laboratory tests
4 X ray examination.
5 Examinations in special domains including specialists reports

After the diagnosis he discusses prognosis and treatment Each case closes with a note of the subsequent history or with the necropsy notes. The thirty-one cases described in this volume cover diseases of respiration, of the circulatory apparatus, the haemopoietic system, the digestion, the uro-genital system, the muscles, bones, and joints, the nervous system, disease of metabolism and of the endocrine glands They are all full of interest, and the method of discussion is arresting and illuminating

THE SANDS OF LIFE

DR WILLIAM FLIESS will forgive this loose translation of the title of his book, the second and enlarged edition of which makes its appearance after seventeen years[7] These years have been spent in the wilderness, but the author is in no wise cast down With Kepler he says, "I conquer I have plundered the treasures of Egypt I am content to find a reader in a hundred years since God Himself has waited six thousand years for His interpreter My holy zeal suffices me." Heigh-ho, but what is all this bother? A new foundation for biology is proclaimed—"ein neues biologisches Weltbild" The critics are challenged Away with the microscope and the laboratory! Life is in harmony with the orbit of the earth and the cycle of the moon The sands of life spill out to the chiming of the heavens

The whole course of living substance is an exercise in periodicity in which 23 and 28 days and the year—in all their permutations—mark the chapters Some two hundred life-histories are submitted to analysis, and the worst that will be required of the disciple is the ability to derive the square of 28 and a certain ease in the calculation of permutations Birth, adolescence, and maturity, age, sickness, death, and the sequence of generations—all are explained, in man, if you will, alike also in plants and worms Poetic inspiration and righteous indignation are as calculated in onset as the activities of the endocrine glands, in which latter connexion, as befits a pupil of Freud, sexual phenomena are by no means neglected Life is the reflection of the sun and moon in the germ plasm, which has become here a "Familiensubstanz" It were perhaps unkind to recollect that to Pythagoras we owe an earlier philosophy of numbers or that we still expend our pennies on the calculations of Old Moore Chance at the roulette board is written in numbers—and the gambler, too has his infallible system

To those, then, who seek a biology elsewhere than in the laboratory, and to those also who seek a new drawing room game, we proffer this book

NOTES ON BOOKS

Les Cercles Vicieux en Pathologie[8] is a French translation of the third edition of Dr J B HURRY's book on that subject Dr Hurry gives two definitions of a vicious circle In one it is defined as a morbid process consisting in the perpetuation and reciprocal aggravation of one disorder by another, in the other, as a pathological condition that perpetuates its existence by reproducing the conditions that cause it Definitions apart, the vicious circle is well known in pathology and Dr Hurry's book abounds in references and quotations from medical and surgical literature A good example of the condition is that of gastric retention with hyperacidity leading to pyloric spasm, which in its turn aggravates the retention and hyperacidity Separate chapters are devoted to each of the great physiological systems and to the condition as met with in the diseases of plants and animals Even within the limits of health frequent disturbances of the harmonious co operation of the organs occur, but these disturbances call forth reactions which restore the normal condition of equilibrium The same thing, doubtless happens in disease and if the original trouble is slight the vicious circle is broken and cure results on the other hand the collateral assistance may be inadequate and the condition become chronic The author enters fully into a discussion of the natural and artificial modes of effecting a rupture of the vicious circle The book is illustrated with numerous diagrams of the features of the more important vicious circles

[6] *Clinical Medicine I Tuesday Clinics at the Johns Hopkins Hospital* By Lewellys F Barker M.D LL.D Philadelphia and London W B Saunders Co. 1922. (Roy 8vo, pp 617, 67 figure 35s net)

[7] *Der Ablauf des Lebens* Grundlegung zur exakten Biologie Von Wilhelm Fliess. Zweite neubearbeitete Auflage Liepzig und Wien Franz Deuticke. 1923. (Sup. roy 8vo pp. xv + 406.)

[8] *Les Cercles Vicieux en Pathologie* Par Dr Jamieson B. Hurry Traduit sur la troisième édition anglaise revue et augmentée Par Dr G. Landrin et Dr F François Paris A Maloine et Fils 1923 Med. 8vo, pp ix + 354 24 plates Fr 20.

THE RELATIVITIES OF THE PHYSICIST AND THE PHYSICIAN

THOUGH the doctrine of the mathematical physicist makes no direct appeal to the physician, he will appreciate the eager attention workers in a branch of science other than his own have given to a theory that has made possible the prediction of conditions previously unforeseen, but verified by subsequent observations, and he cannot remain unmoved when this theory involves a restatement of laws fundamental to his own thinking, such as those of inertia and of gravitation Einstein's doctrine may be described intelligibly in language relatively free from the technical terms of the mathematician, and such expositions have been given by Einstein himself and by Viscount Haldane and others, but the theory is so essentially the outcome and embodiment of the developments of mathematical physics that its argument and demonstration can only be followed by those with considerable technical equipment We shall not, therefore, attempt a formal review of Mr James Rice's book on *Relativity*,[1] which is designed for those with the equipment of senior students of physics, but will take it as the text of some general observations bearing on the subject

The basal problem for the terrestrial observer depends on the fact that in making an observation he identifies each item by its position in his terrestrial space and time His event is a time point, and the succession of these time points at infinitesimal intervals forms a world-line He has long known how to compare his own observations with those of another terrestrial observer, and has been able to summarize those observations in laws of nature For the practical purposes of terrestrial life such natural laws are sufficient, but the physicist desirous of finding the true nature of the universe of which he is a part must investigate the conditions under which the account of his observations and their summaries will be true at any point, for any observer able to observe the same events This is the essential problem of the mathematical physicist, and Einstein's theory is the most systematic solution at present offered

When the physician, satisfied as to the essentially terrestrial character of his employment, has comforted himself with the assurance that, however the physicist may compel him to formulate the mutual relation of inertia and gravitation, he will need no essential revision of their influence in his particular problems, he may yet, reflecting on these problems themselves, soon discover that, like the physicist, he must recognize the principle of relativity at the very base of every observation he may make The field of his every observation and every intervention is the body and mind of another, and the point of view of that other mind is by no means a matter of indifference for the accuracy of the observation and for the success of the intervention An old quip describes the physician as putting drugs of which he knows little into a body of which he knows less, and if it is to remain a mere quip even within the present range of science the physician must daily practise the transference of his point of reference from his own mind to that of the patient and back again by methods analogous to those of the physicist

In his practice the ancient physician was guided by opinion which was either the direct summary of experience, personal or corporate, or the result of deduction from some theory in less immediate contact with still older experience, his modern colleague, with his measures for time and space, his chemical balance and thermometer, has at command a body of knowledge exact as far as it goes In this "as far as it goes" he hidden many relativities Results *in vivo* are not always the same as those *in vitro*, observations on the laboratory animal are not directly transferable to man, and records of vital processes which are found congruent by a series of scientists when submitted to experiment are subject to disturbances when the observations are repeated in patients In the special problem of the administration of a drug there is always the bifurcation into that of the action which the drug itself will exert on the body and that of the influence which the administration will have upon the mind and the consequences due to the latter manifested in the body For the investigation of the first part of the problem physiological inquirers have used, and still use, their own bodies Simpson recovered from the effects of chloroform under his own table, Francis Galton went alphabetically through the *Pharmacopoeia* till he was arrested by croton oil, and there are few on the *Medical Register* who have not adopted this method, at least so far as to taste the mixtures they prescribed, with the taste they have passed to the other branch of the problem where the facts are psychological, the methods of investigation different, and the relativity is wider

Whatever service the body of the physician may render him as a pharmacological laboratory, it is even more useful for the study of vital processes in their continuity and in their normal range, and also when fortune gives occasion in those breaches of continuity or disturbances of range which we call disease The discomforts of disease are in the patient associated with an emotional aura, but in the physician there is added an intellectual interest in the phenomena, both physical and emotional The physician is rarely a "normal" patient, but he frequently becomes a wiser physician His experience supplies a talisman by which his imagination may touch into life the previously dead terms of his books, and having once stood at the patient's point of reference he has felt its importance and is for the future able to estimate its distance from his own Experience touched by imagination is very fertile Thus the recurrent pain of rectal tenesmus with its impress of action cumulative to an acme of unified effort affords insight into the subjective aspect of those uterine contractions which a man can only observe Impressions, so vivid, of process in a vital function are not easily gained Yet to some the moving picture of phagocytes in a cinematograph film has suggested a desire to see this method of teaching become routine in medical education

One of the early acquisitions of the physician in his excursions of personal illness is the discovery that for the patient the relative importance of the disease and its symptoms may be quite the reverse of that which they have for the physician The physician's first aim is to range the process he observes in the patient into the frame of one of the known diseases, but for the patient the herpes may be more than the pneumonia, his hyperæsthetic hearing more than the enteric fever in which it has arisen, or, more important still, the pain may be more than the cancer For this reason the treatment of symptoms, at one period the opprobrium of therapy, may become a necessity while the main process is running the due course of its natural history

In the psychical sphere the treasure trove of personal adventure may be of high value The physician passing in review the recollected activities of his own fever enlivened brain will have deeper impressions of the influence of "wish fulfilment" than he can store from many dreams On occasion the pain of hunger during an attack of enteric fever has set on foot a series of constructive devices which supplied an imaginary bread that imitated the mechanisms of chewing and swallowing, and relieved the very real hunger, or again, the elevation of a febrile illness has removed those habitual inhibitions which genius so easily oversprings but the normal mind so rarely Whatever be the truth in the doctrine of the illogicity of dreams in the strict sense of Rignano's argument, such experiences leave the physician more ready to look for some definite point of outset for the delirium of his patients, even those who have passed the technical limits of sanity

Whether this comparison of the relativities of the physicist and the physician be a close analogy or a loose simile, the apparatus of the mathematician in his equations of transformation has no equivalent which is at the disposal of the physician The method of the psycho-analyst, in so far as it is valid, might have analogy to such an apparatus, but it is not likely to become so much the common property of physicians that they will be able to dispense with the gains of fortuitous individual experience

R C B.

[1] *Relativity A Systematic Treatment of Einstein's Theory* By J Rice, M A, Senior Lecturer in Physics at the University of Liverpool Longmans, Green, and Co 1923 (Pp xvi + 397 18s net.)

British Medical Journal.

SATURDAY, MARCH 1ST, 1924

BACTERIOLOGY OF SCARLET FEVER

WE have recently drawn attention to researches which are being prosecuted in different parts of the world into the difficult question of the bacteriology of scarlet fever, a problem which has given rise to considerable controversy Professor G Caronia and Dr M B Sindoni[1] consider this disease to be caused by a minute anaerobic diplococcus, and claim to have initiated a mild and attenuated form of scarlet fever in five children inoculated with their cultures On the other hand, certain varieties of haemolytic streptococci have long been regarded with suspicion by many different research workers, including Mervyn Gordon, Bliss, Tunnicliff, and G F and G H Dick[2] The last two have published several papers defining the part played by haemolytic streptococci in this disease, we quoted recently the remarkable experiment in which they claimed to have caused scarlet fever by swabbing the tonsils and throats of two volunteers with a culture of a haemolytic streptococcus isolated from a small collection of pus obtained from a nurse with scarlet fever

A problem of such magnitude as this cannot be regarded as solved until the conclusions of one set of observers are confirmed by independent investigations from other quarters Drs George and Gladys Dick are, however, proceeding at a lively pace, and are backing up their hypothesis with some very striking evidence of a novel and ingenious kind In the first place, it may be noticed that not all the haemolytic streptococci associated with scarlet fever present the same cultural characteristics They may be divided into two groups according to their effect on mannite, which a few ferment but the majority do not Experimental scarlet fever has already been produced by them with one of the strains that fermented mannite, and they now claim to have been equally successful by inoculating cultures of a non mannite fermenter[3] Two volunteers were chosen, but only one developed the disease A like insusceptibility to scarlet fever was noticed in a previous series of experiments, in which only two of the ten volunteers acquired the disease, though all these were young adults who said they had not had scarlet fever The reason for this apparent insusceptibility raises an interesting question on which light has been thrown by other recent researches In 1918 Schultz and Charlton made an observation which has proved fertile in new ideas[4] They noticed that when 1 c cm of serum from a normal person, or from one convalescent from scarlet fever, was injected into the skin of a patient with acute scarlet fever, a blanching of the skin occurred at the site of injection, but no such blanching followed the injection of serum from persons with acute scarlet fever, at times, however, normal serum did not occasion blanching The question was taken up by Mair, who propounded the view that in scarlet fever a toxin is elaborated to which the clinical manifestations of the disease, including the eruption, must be ascribed[5] Recovery follows the production of antitoxin When a patient in the acute stage of scarlet fever receives an intradermal injection of the serum of a person convalescent from scarlet fever the local blanching is due to the fact that the local toxin is neutralized by the injected antitoxin The serum of some normal persons may also cause blanching when injected into scarlet fever patients, in which case it may be assumed that such normal serum possesses antitoxin The serum from other normal individuals may not induce this blanching, this is explained by the assumption that their blood contains no appreciable quantity of antitoxin

In searching for a reason to explain the insusceptibility of some individuals to scarlet fever Drs George and Gladys Dick have arrived at a similar conception by an opposite method of approach In an article describing a skin test for susceptibility to scarlet fever[6] they record the results which followed the intradermal injection of a diluted filtrate of a haemolytic streptococcus culture into the skin of the forearm of 153 individuals, some of whom had had scarlet fever and others had not There followed in certain cases a reddening and swelling of the skin about the site of the inoculation, which appeared in four to six hours and lasted often for thirty six hours, this they refer to as a positive reaction In other cases no such reaction followed the intradermal injection of the streptococcus filtrate, these they refer to as negative They found that all of the convalescent scarlet fever patients tested showed negative or only slightly positive reactions, but positive skin tests were obtained in 41 6 per cent who gave no history of scarlet fever The explanation suggested for this is that the filtrate of the streptococcus culture contained toxic substances, which, when injected into the skin of normal persons, caused a local reaction, but was neutralized by the antitoxin present in the blood of convalescents from scarlet fever The fact that certain individuals giving no history of the disease yet showed negative results is explained by an assumption similar to that suggested for the blanching test previously described—namely, that individuals giving no definite history of scarlet fever may yet have had the disease in a mild and unrecognized form A highly important confirmation of this hypothesis was obtained by the following experiment Fresh blood serum from a convalescent scarlet fever patient was mixed with a strongly toxic filtrate, incubated for thirty minutes, and then injected into the skin of an individual who had previously given a positive reaction, the reaction was now entirely negative The action of the filtrate was therefore inhibited by convalescent scarlet fever serum mixed with the filtrate before injection a phenomenon ascribed to the neutralization of toxin by antitoxin This experiment was repeated five times using a different convalescent serum and a different subject with a positive skin test each time In two instances in which it was possible to observe the skin test before and after an attack of scarlet fever it was positive before the attack and negative during convalescence

Two important deductions may be drawn from this work if it can be confirmed by other investigators In the first place, it seems that substances of the nature of toxins play an essential part in the morbid phenomena peculiar to scarlet fever, and that these toxins may be neutralized by antitoxins This intro-

[1] BRITISH MEDICAL JOURNAL, November 10th 1923 p 891.
[2] *Ibid* October 27th 1923 p 772.
[3] *Journ Amer Med Assoc* January 26th 1924 p 301.
[4] *Zeit f Kinderh*, 17 328 1918.
[5] *Lancet* December 29th 1923 p 1390
[6] *Journ Amer Med Assoc* January 26th 1924 p. 264.

duces conceptions with which we are familiar in diphtheria and other diseases, and justifies the hope that one day it will be possible to produce an antitoxic serum for the treatment of scarlet fever In the past many clinicians have reported that great benefit has followed the injection into patients with acute scarlet fever of the serum of patients convalescent from this disease Secondly, the injection of scarlet fever toxin may provide a method for distinguishing between susceptible and insusceptible individuals in the same way in which the Schick test, by the intradermal injection of diphtheria toxin, has been employed to distinguish between the susceptible and the insusceptible to diphtheria We shall then be in possession of a Schick and a Dick test for diphtheria and scarlet fever respectively

EXPERIMENTAL CHOLELITHIASIS

In the January number of the *Journal of Experimental Medicine* Dr Peyton Rous, who now edits this publication with Dr Simon Flexner, begins a series of papers on the experimental production of gall stones These researches follow naturally on those, already noted in our columns, undertaken in conjunction with various collaborators during recent years, to elucidate the etiology of biliary cirrhosis, the function of the gall bladder and bile ducts, and the secretion of the bile [1] Both sets of investigations were carried out at the Rockefeller Institute for Medical Research, New York The experimental method of investigation has the great advantage over the clinical that, as the conditions can be accurately controlled, the influence of a single factor can be determined without the complications prone to supervene in human pathology With regard to the formation of gall stones, the general opinion at the present time is that a single cholesterin calculus is related to disturbances in the general metabolism of the body, causing an increase of cholesterin in the blood, and may form in a gall bladder free of infection, but that infection is responsible for the ordinary multiple or conglomerate calculi of mixed chemical constitution, stagnation of bile in the gall bladder being a disposing influence in both conditions Most of the experimental work in cholelithiasis has been undertaken to show the effect of infection, and has been done on herbivora, for in dogs, which have a low content of cholesterin in the bile the production of calculi has been difficult

The two researches now before us were conducted with McMaster and Drury on dogs permanently intubated for the collection of sterile bile Rous first shows that calculi can be formed in the absence of infection, of stagnation of bile, and without the influence of the gall bladder These stones are found only in the tubes introduced and not in the ducts themselves, thus suggesting that the secretion of the ducts exerts a direct action in cleansing their lumina from organic débris and preventing lithiasis These multiple discrete calculi might be formed in fourteen days and in three instances produced complete biliary obstruction twenty one, twenty-four, and fifty days after intubation These calculi were not the result of alterations in the composition of the bile from grave metabolic changes due to complete loss of bile, for similar calculi were formed in glass tubes interpolated in ducts left in connexion with the intestine The chemical composition of these experimental calculi differs from that of the ordinary human gall stones, for there was no trace of cholesterin, three kinds were found the most frequent consisted of calcium carbonate, another of almost pure calcium bilirubinate, and a mixed form of both these constituents In man calcium carbonate calculi are usually associated with well marked inflammation of the biliary tract, but these experiments lead to the conclusion that the infection so often found in association with carbonate calculi in man does not act, as has been supposed, either by producing changes in the bile favourable to precipitation, or by causing an inflammatory exudate rich in calcium The probability seems to be that it acts merely by setting up and maintaining a pathological condition which tends, by lessening the motility of the ducts, to further the accumulation of organic débris and its retention sufficiently long for certain changes preliminary to carbonate deposition to occur In twelve out of the fourteen dogs with calculi organic débris was in close relation with the stones, a carbonate calculus was almost always associated with organic débris, which was always within it, as if determined by some special condition there, the bilirubinate stones, on the other hand, were often completely free from it, and in other instances only lodged upon the débris, as if their original nuclei of deposition had been caught or retained by it Calcium carbonate was very often deposited on bilirubinate stones, but the reverse process never occurred

All the experimental calculi, but especially those rich in bilirubinate, contained minute rounded pigmented bodies, so different in appearance from the general substance of the calculi as to suggest that they had a special origin, and so situated that they might well have acted as centres of deposition These "nuclei" serve for the deposition of calcium carbonate, and are themselves composed of calcium carbonate, calcium bilirubinate, and some organic débris, they are found in the bile of healthy dogs for only a short time after the operation of intubation of the bile duct, but are commonly present when the liver has been damaged—for example, in delayed chloroform or metatoluylenediamine poisoning It is possible that in human beings, as in experimental dogs, showers of these nuclei are sometimes precipitated out of the bile in pathological conditions, and that thus there are critical periods when a number of calculi are formed at the same time Nuclei markedly similar in their relation to the formation of calculi, but consisting almost entirely of calcium carbonate, were found in the sterile bile from human gall bladders containing large calculi As far as they go these experiments negative Naunyn's suggestion that bile thrombi coming down from the liver act as nuclei for the formation of calculi

[1] BRITISH MEDICAL JOURNAL, 1920, ii, 555, 1921 ii 214

FOOT AND MOUTH DISEASE

We had occasion a few weeks ago to call attention to the action of the Board of Agriculture in discontinuing the scientific research instituted in 1920 into the etiology and pathology of foot-and-mouth disease, and to its attitude towards independent research which has had the effect of strangling inquiry The last Minister of Agriculture consulted Sir William Leishman, and we are glad to learn that the present Minister, Mr Noel Buxton, is taking steps to appoint a scientific committee, and has induced the Chancellor of the Exchequer to recognize the vital importance of research and to find the considerable sum of money which is wanted Mr Noel Buxton added, very truly, that the research must be exhaustive, and that for this time would be required Results, he said, must not be expected for at least two or three years The

Minister has been fortunate in obtaining the services of Sir Charles Sherrington as chairman of the committee, the names of the other members will, he stated, shortly be announced Dr Chapple, in speaking after the Minister in the House of Commons, expressed amazement that this course had not been taken earlier and protested against the way in which the work of the committee under the chairmanship of Professor Muir had been hampered and restricted so that it had been compelled to cease its investigations Members of the medical profession will share Dr Chapple's amazement and will hope that in the course of the inquiry the question whether the disease may not occur in man more frequently than has hitherto been supposed will be cleared up

LABORATORY ASPECTS OF DIPHTHERIA

THE latest publication of the Medical Research Council, issued at the close of the present week, is a large monograph on diphtheria dealing with its bacteriology, pathology, and immunology [1] This subject has been chosen because diphtheria still presents many unsolved problems in medicine and public health, in spite of the fact that research work on this disease has been so brilliant and decisive Diphtheria is one of the infectious diseases of which our knowledge is most extensive, but, as with all other scientific advances, the forward movement has also given us a clearer perception of our ignorance and introduced us to more elemental intricacies With the basic facts which bacteriological research on diphtheria has brought to light all are familiar its diagnosis has been rendered relatively simple, its treatment has been established on scientific principles and invested with an unexampled success, and we have even been provided with a method of determining the susceptibility of an individual to this disease There is, however, a great deal of information about diphtheria which is not widely known, for no comprehensive treatise on this disease has appeared in this country within recent years, and the scientific papers scattered through different journals are not easily accessible Moreover, diphtheria has come to occupy a pivotal position amongst the zymotic diseases, to the sciences of epidemiology and immunology it has become a prototype of other infections There are, therefore, many reasons why this disease should have been selected for an authoritative pronouncement from the Medical Research Council The monograph is written by a group of seven bacteriologists—namely, Sir Frederick Andrewes, Professor William Bulloch, Captain S R Douglas, Professor G Dreyer, Dr Paul Fildes, Professor J C G Ledingham, and Dr C G L Wolf There must be very few books in which so many authors admit collective responsibility for every word written Books are often compiled by different authors, each responsible for a special subject, but the preface to the Medical Research Council's report on diphtheria states that every fact and principle involved was debated in detail by the committee as a whole, often with the result that much or even the whole of a chapter had to be rewritten, only to undergo a repetition of the process of criticism It further states that although this procedure was sometimes discomposing to the feelings of one author, "each individual loyally adjusted his views to the opinion of the majority" The book was written in this wise A list was made of all references to diphtheria in medical literature, and these references were typed out on slips and distributed to the seven members of the committee according to the branch of the subject for which each had undertaken to be responsible Each member then proceeded to examine the papers allotted to him, those of little or no value were discarded, and those of importance were abstracted and utilized by each writer in the preparation of the first draft of the section assigned to him When this draft had been studied by the remaining members of the committee the work of criticism began, and it was carried out, the preface tells us, with unflinching thoroughness But this book is not only a critical review of previous work on diphtheria; it contains also an account of certain pieces of research, carried out under the auspices of the Medical Research Council, with a view to filling up some of the gaps in knowledge which became apparent as the work proceeded. The compilation of this monograph has been spread out over a period of three years The bibliography is very comprehensive, and occupies more than a hundred pages In order to secure accuracy of detail the original papers were always studied Some of the papers were not accessible in this country, and one member of the committee made two visits to Paris in order to consult references which could not otherwise be obtained In a subsequent issue we intend to give some account of the contents of this book, which seems destined to take its place amongst the medical classics, and will, it is to be hoped, impart a valuable impulse to research

[1] *Diphtheria Its Bacteriology Pathology and Immunology* By Frederick W Andrewes William Bulloch S R Douglas Georges Dreyer and A B Gardner Paul Fildes J C G Ledingham C G L Wolf H M Stationery Office 1923 (Pp 544 Price 12s 6d)

THE SPIRIT OF LEISURE AND THE SPIRIT OF WORK

AN inaugural address given some years ago to the Edinburgh Women's Medical Society by Dr James W Dawson has been published in the *Edinburgh Medical Journal* (January, 1924) It bears the happy title of "The spirit of leisure and the spirit of work," and it would be difficult to imagine thoughts and words better suited to the occasion Growth in character depends very much on our use of leisure, our way of escape from the dusty and weary walk of ordinary life, and so we need to retain in our hours of release from the prison of the external present all that may help us to understand the real significance of life, its mystery and its beauty Three realms await our visit—realms of refreshment and enlargement of mental life which may become part of the fabric of our being These three realms are the realm of Fairyland, of Art, and of Nature The re-entry to fairyland, that land of wonder in which we never grow up out of that heaven which lies about us in our infancy, can be won by cultivating the friendship of children and by the study of the beauty of life in the land of dreams, out of which we may achieve when awake the realization of life's duty The gift of keeping in our lives something of what the fairies stand for will make it possible for us to hold fast to visions of true beauty and faith, though the world seems to be toppling on our heads Dr Dawson limited himself to one branch of art—literature—because it is the most easily accessible Thought and feeling rule the world, and literature is one chief mode of expression of what the noblest have thought and felt When textbooks weary we may for mental refreshment turn to imaginative literature, and by so doing we shall train our powers of thought and imagination, which are the basis of sympathy All literature begins in poetry, which is half the spiritual inheritance of mankind Poets have touched the commonplace strings of life and found "harmonics," those sounds from some mysterious source that take a lodging in that other mysterious place—the soul Shackleton, on his sledge journeys in the Antarctic, carried a pocket Browning, and it stimulated his weary men to fresh efforts Darwin, in his later years, regretted the exclusion of music and poetry from his laborious life, and said that if he could live his life again he would make a rule to read some poetry or listen to some music at least every week Yet the realm of nature remains the most beautiful and perfect

means of escape, in it we must live alone, for no spirit can guide another into her manifold mysteries and unceasing wonders Reverence for beauty, for the hidden things which lie behind all loveliness, dwells at the back of all true effort There can be no work worthy of its name without reverence Other ways of escape are to be found in rest, in amusement, and in friendship—all fundamental needs of human nature, they render us fit instruments for our work, which may be summed up in three words—*Vocatio, Tentatio, Oratio* Poincaré has pointed out that the science and art of medicine combine the search for the beautiful with the achievement of the useful Our vocation is to visit the spirits in the prison of sickness and to set the prisoners free Our love, skill, and sympathy must draw out the subtle harmonies that lie hidden in the perplexities of life Our own life, then, is no child's play, and in it intuition and reverence must dwell Through mean streets and into sordid homes our vocation must guide our steps in order that this land, for which a generation has served and suffered, may be the lovelier for their sacrifice *Tentatio* signifies more than temptation—it includes all that disciplines us Happiness and discipline combined in our training will attune our ears to the undertones of each human body and soul that comes to us for healing Let failure be welcomed as part of discipline, for those who have looked ruin in the face walk thenceforth with other eyes and with tenderer feelings for the weak and downcast So, Dr Dawson tells us, shall our lives become threads of gold upon the drab groundwork of the lives of others *Oratio* both sums up life and is its third essential factor Huxley has spoken of our life as a game of chess in which we feel that the unseen, mysterious Player opposite watches us make our move and wishes us not to fail So, haunted by the mystery of life, we lift our eyes and stretch our hands to the Infinite

THERAPEUTIC INOCULATION OF MALARIA

In a recent essay on "malaria therapy"[1] Drs Bernhard Dattner and Otto Kauders of Vienna state that the inoculation of malaria for therapeutical purposes has been employed not only in general paralysis but in other post-syphilitic diseases of the nervous system, such as tabes, cerebro-spinal syphilis, and optic atrophy, and also in disseminated sclerosis, Parkinsonism following encephalitis, and hebephrenia, especially the katatonic forms The treatment is appropriate for cases in which, apart from diseases of the central nervous system, there is no severe acute or chronic disorder of one or more systems present The patient must be vigorous and in a good state of nutrition Ill nourished and weakly persons are unsuitable, not so much on account of the risk of complications as because they have not sufficient strength to undergo the necessary number of febrile attacks, and the treatment must therefore be interrupted too soon The *method of* inoculation they commonly employ consists in a combination of subcutaneous injection and scarification, 2 to 4 c.cm of blood are withdrawn from the arm vein of the donor and immediately injected subcutaneously into the patient's back, the skin over the site of injection is then scarified, and the remaining drops from the syringe are rubbed into the scarifications Other methods used are intravenous injection, intracutaneous injection, and scarification without injection The incubation period of the inoculated disease varies according to the method of inoculation, being six to ten days after subcutaneous injections, four to seven days after intravenous injection, and ten to eighteen days after intracutaneous injection The inoculated disease differs from malaria caused by infection with anopheles, the febrile attacks being milder, and the parasites in the blood are fewer and in all stages of development The average duration of each febrile attack is seven to eight hours, and most patients are allowed to have eight to ten attacks before the treatment is interrupted In young and vigorous persons the number of attacks may be safely increased to ten or twelve The only complication of the inoculated disease observed by the writers was profuse diarrhoea, occasionally accompanied by vomiting, and less frequently by slight jaundice of the skin and mucous membranes, usually no enlargement of the spleen was detected A close watch should be kept upon the heart during the febrile period Every patient was given ten drops of tincture of strophanthus at the height of the attack, as in about 1 per cent of cases death due to cardiac collapse occurred during treatment On this account antipyretics and similar depressing drugs are avoided as far as possible The malarial infection is brought to an end by administering 0·5 gram of quinine sulphate internally twice daily for three days, and then once daily for another four days, or a total of 5 grams To prevent relapses before discharging the patient a number of provocative methods of activation of any malarial parasites remaining in the system were employed, such as irradiation of the spleen or injection of sodium nucleinate The administration of quinine was accompanied, even in non-syphilitic cases, by intravenous injection of salvarsan at weekly intervals in doses, first of 0·3 and 0·45 gram, followed by four doses of 0·6 gram In weakly individuals, in whom a dose of 0·6 gram was not likely to be well tolerated, six doses of 0·45 gram were given In cases of non-syphilitic disease of the central nervous system, such as disseminated sclerosis and Parkinsonism, two to three injections of salvarsan were found to be sufficient The value of salvarsan in these cases is thought to be due mainly to its antimalarial action How far it acts on the nervous lesion is a matter of contention

[1] *Klinische und experimentelle Studien zur therapeutischen Impf Malaria* By Dr Bernhard Dattner and Dr Otto Kauders. Leipzig and Vienna: Franz Deuticke. 1924. (Pp. 39.)

ANTE NATAL ENVIRONMENT

In 1917 the Medical Research Committee (now Council) published a report (No. 10) in which were indicated some of the medical problems of child life requiring investigation, with suggestions for future lines of research The Council has now issued a further report of this series, entitled "The Effect of Maternal Social Conditions and Nutrition upon Birth-Weight and Birth-Length," by Miss M. Bruce Murray[1] There is an introduction by Dr J. S. Fairbairn, in which he refers to the physiological conditions during intrauterine growth He says that although the famous physician Paul Bar has described pregnancy as an example of "an harmonious homogeneous living together (symbiosis)," the evidence given in this report shows that in malnutrition of the mother the effect of child-bearing is that the mother must pay to the limit of her capacity for the sake of her child The natural assumption is often made that the effect of malnutrition of the mother will be shown by the birth of puny and ill nourished babies, but this assumption is not in accord either with the teaching of physiology or such statistics as those collected in this research, or those on a far vaster scale from the undernourished populations of Germany and Austria in the later years of the war As Miss Murray quotes, "the foetus lives, like a true parasite, regardless of the expense to the mother" In the report an attempt has been made to discover, by co-ordinating the medical and social records of past years, whether war conditions had an unfavourable effect upon the birth weight and length of the children In

[1] *Child Life Investigations.* The Effect of Maternal Social Conditions and Nutrition upon Birth Weight and Birth Length. (Special Report Series, No. 81.) By M. Bruce Murray. London: H.M. Stationery Office. 1924. (Pp. 34, 9 tables, 2 charts. 1s. net.)

order to eliminate possible sources of error from other factors only first babies were selected and all cases of illness in the mother that might affect the child excluded The classification of cases was very difficult, but was finally accomplished by grading the mothers according to the net income which she could spend on her own food and necessities The years selected were 1914 as representing pre-war conditions, 1915 as early war, and 1918 as late war As regards the hospital cases, which were collected from St Thomas's Hospital and the General Lying-in Hospital, the averages for the war years showed no significant *falling off in weight*, and even an apparent superiority in length This finding is confirmed by the majority of German and Austrian investigators, who had a "ready-made experiment" to observe The averages of the different classes of hospital patients, arranged in order of resources, showed no significant *inferiority on the part* of the poorer mothers It is interesting to find that the averages remained extraordinarily constant despite varying maternal circumstances, and in no class did they fall below the generally accepted normal birth weight and length for children of primiparae It is often stated that the children of unmarried mothers are inferior to those of married primiparae, but from the data given in this report it is evident that there is no inferiority in such cases The author maintains that the data provided by the hospitals definitely indicate that the normal average birth weight and length are fully maintained despite varying maternal circumstances A further study of the price, if any, paid by the under nourished mother for thus safeguarding the child and maintaining the average would help to determine whether pregnancy does indeed constitute a sacrifice of the individual in favour of the race

A MEMORIAL TO ANIMALS

THAT useful institution, the Royal Society for the Prevention of Cruelty to Animals, appears to be troubled by what may be termed a *left wing*, which consists of those sentimentalists who worship pet dogs, and, like St Aloys in the *Ingoldsby Legends*,

> ' would rescue the rat
> From the claws of the cat
> *And set the poor captive free,*

and might even sympathize with him when

> Though his cassock was swarming
> With all sorts of vermin,
> He'd not take the life of a flea '

They have apparently succeeded in making the society acknowledge in a rather half hearted way the paternity of the "National War Memorial to the Animals who Lost their Lives in the Great War" We are quite sure that those who have subscribed over £2,000 for this purpose are animated by kindness of heart, but we cannot feel much *respect for the clarity of their mental processes* These are the sort of folk who would have the society carry on a campaign against what they call vivisection, and whose pet dogs had their wings of chicken even when the submarines jeopardized our food supply We take it that memorials to the human victims of the war are erected to gratify a widespread desire for a visible and tangible record and reminder of the gratitude of the survivors to the departed, to commend their example to future generations, and to be a source of consolation to bereaved relatives and friends None of these reasons seems to us applicable in the case of the proposed memorial Not all the monuments in the world could conceivably have any effect *in encouraging* "the horses, the mules, *the elephants*, the camels, the dogs, the pigeons" to give their lives in warfare, neither could they have the slightest consolatory effect on their survivors and successors These kindly but queer-minded people talk of the services and sacrifices of the animals as if they had had volition or choice in the matter In the last report of the society a paragraph headed "National War *Memorial*" is included, in which an apologetic note is recognizable, a suggestion that the subscriptions to this fund should be deflected to other purposes is mentioned but rejected as *ultra vires* It may be so, but there could be no such objection to a return of the subscriptions to their donors, with a recommendation to bestow the money more wisely The society announces that a site has been secured at Hyde Park Corner We have been told, but we are loath to believe, that goldfish, white mice, and canary birds, which were used to test the air in submarines and mines, are to be commemorated in the memorial Yet, after all, why not? Why strain at a goldfish and swallow a camel?

INFLUENZA

IN the week ending February 16th the number of deaths attributed to influenza in the great towns reached 615—an increase of 22 7 per cent over the return of the previous week, and about the number to be anticipated on the hypothesis of a regular decline of the rate of increase If the outbreak continues to follow this course it may be anticipated that the maximum will occur in the current week The notifications of primary infectious pneumonia are already declining, there were 2,175 in the week ending February 16th, compared with 2,229 in the previous week Lancashire, however, continues to be comparatively little affected, so that an intelligent prophet will be guarded in his conjectures Clinical reports continue to speak of the general mildness of the type of disease

PUBLIC HEALTH WORK IN CANADA

SOME interesting points of contrast between the public health services of Great Britain and Canada are noted in the annual report for 1922 of the Ontario Provincial Board of Health The scope in Canada is much more restricted, and is still mainly limited to preventive activities, though some clinics for tuberculosis and venereal diseases have been established and biological preparations for the cure of certain communicable diseases, such as diphtheria, are supplied The medical inspection of school children is not included in the work of the public health service in Canada except in the larger cities it is retained by the Department of Education Union of these services, though considered desirable, could, it is said, only be effected by an alteration in the general administration of the whole province of Ontario Only eight of the 904 municipalities have at present a whole-time medical officer of health It is added that preventive measures are often inadequate, and that there is a tendency to wait for the arrival of an epidemic before taking any measures to combat it The Board of Health recommends, therefore, the appointment of full-time medical officers of health for combinations of municipalities, believing that in this way *the pre-natal* care of women, infant welfare, and the prevention and treatment of communicable diseases could be placed on a sounder administrative basis

FRIENDS and admirers of the late W H R Rivers who have not yet subscribed or by inadvertence have not been invited to subscribe to the Rivers Memorial Fund are asked to communicate with the treasurer, Dr L E Shore, of St John's College, Cambridge Subscribers will be invited to attend a meeting which will be held, by kind permission, at the Royal Society's rooms, Burlington House, at 4 p m on Tuesday, March 25th, in order to decide on the form which the memorial should take

We regret to announce the death in Edinburgh on February 24th of Dr Johnson Symington, F R S, late Professor of Anatomy at Queen's University, Belfast We hope to publish an obituary notice in an early issue

At the meeting of the Council of the Royal Society held on February 21st the following were among those recommended for election to the society Dr James Fairlie Gemmill, Professor of Natural History, University College, Dundee, and Dr Melvyn H Gordon, C M G, Consulting Bacteriologist, St Bartholomew's Hospital

Nova et Vetera.

A CHAPTER IN THE HISTORY OF THE GLASGOW MEDICAL SCHOOL

Thanks are due to Mrs Walker Downie for issuing a most interesting volume of medical reminiscences entitled *The Early Physicians and Surgeons of the Western Infirmary, Glasgow*[1] It was completed by her husband just a week before his lamented death in 1921 Besides his contributions to the literature of diseases of the throat and nose, Dr Walker Downie had already, in his *History of the Glasgow Medico-Chirurgical Society*, published in 1908, shown his capacity as a medical historian, and the work now issued adds greatly—though, alas! posthumously—to his reputation

The men about whom he writes were three of them physicians—Sir W T Gairdner, Dr James Finlayson, and Sir T McCall Anderson, and three were surgeons—Dr Alexander Patterson, Sir G H B Macleod, and Dr George Buchanan All of them were the teachers of many hundreds of graduates who are still living and working, and who, if they fortunately become possessed of the volume, will find it of the utmost interest It adds a valuable chapter to the history of the Glasgow medical school, which is now, if we mistake not, the largest in this country, not even excepting its famous senior on the other side of Scotland

Dr Walker Downie by no means confines himself to a biography, but has dealt incidentally with many salient contemporary episodes Nor does he seek to magnify the distinction of any of the individuals Sir William Gairdner was by far the greatest of them—was, indeed, the most outstanding medical figure of the time in Scotland—but the author wisely makes no attempt to appraise the relative standing of the six He was a keen observer, he noted their strong points as well as their foibles, their appearance, their manner of speech, the methods of the physicians as clinical teachers, the ways of the surgeons in the operating theatre and at the bedside —all is told shrewdly and humorously, but never ill naturedly He tells how, in one clinical class, the student was apt to conclude by the end of a session that he had mastered the whole of the medical art, and that it was exceedingly easy and simple in respect both of diagnosis and treatment, so that several cases could be completely dealt with in business fashion by the professor at a single demonstration, each study finishing with an appropriate prescription, the physician being a firm believer in the value of drugs, even for the cure of tuberculosis On the other hand, in a different clinical class, a single case would be the subject of a series of successive meetings, and the student would learn, in a fashion never to be forgotten, how *infinitely the scope and profundities* of medical science would open out under the expositions and guidance of a master In a third clinic, under a physician of great and genuine erudition, the gatherings would be distinguished by a note of impressive and indeed excessive solemnity, in which anything in the nature of a joke would be rigorously barred, while the same teacher at a medical club outing or a doctors' dinner would be the very heart and soul of contagious joviality The surgeons are dealt with in more or less similar fashion, one, short and stout, being depicted as perched on a footstool at the side of the operating table, after which another, exceedingly tall, would send the support away with a well aimed kick into a corner of the theatre when his turn came to operate, one amazingly and hereditarily fluent all through an operation even in its most critical stages, another concentrated on his task and speaking only in whispers

Apart from the men whose professional ways are described, some account is given of the transference of the University clinical school from the Royal to the Western Infirmary *It is told how the Royal Infirmary* showed no special favours to university professors, not even providing Lister with wards until a vacancy occurred nearly two years after his appointment, but how at the Western special rights were conferred on the professoriate, the infirmary being in that respect an integral part of the school The curious manner in which two additional professorships were created, the way in which these chairs were filled, the hearty reception of the new professors by their colleagues, the exclusive claims subsequently made by the incomers—are all touched upon in a fashion at once kindly and frank

Gairdner's services as the first (part-time) medical officer of health of Glasgow are mentioned, and it is pointed out that the hospital established under his advice in 1865 was the first municipal fever hospital in Scotland In referring to various published papers and works, including his admirable *Clinical Medicine*, nothing is said of his remarkable address on the Physician as a Naturalist delivered as President of the British Medical Association when it held its Annual Meeting in Glasgow in 1888 The chapter on Dr James Finlayson tells of his fine work as honorary librarian of the great collection of books belonging to the Royal Faculty, and of his bibliographical demonstrations there Finlayson's own most notable contribution to historical medicine was, as Dr Walker Downie points out, his scholarly and very complete *Account of the Life and Works of Master Peter Lowe*, the founder of the Faculty, a little work that is now much sought after In writing of Dr Alexander Patterson Dr Downie tells of his early days as an Irish boy reared in the neighbourhood of the Saltmarket of Glasgow and attending school in the High Street, of his making a name for himself as an early follower of Lister, of his appointment to be surgeon to the Western Infirmary, of his pioneer work in renal surgery, and of his continuance to the end in his original field of surgical practice in the working-class eastern district of the city His personal traits are lovingly touched on—his strong Orange politics, his Burns enthusiasm, his collecting of curios, and his curious fear of any kind of travel by sea Dr Downie paints a charming picture of "Old Pat" which will bring back tender memories to all who were his pupils either in the Royal or Western Infirmary The other biographies are written with the same sympathetic touch, but space forbids their being descanted on

Apart from the *History* of the Royal Faculty of Physicians and Surgeons, written by its late learned librarian, Alexander Duncan, LL D, and Dr Freeland Fergus's *Origin and Development of the Glasgow School of Medicine*, published in 1911, the story of the Glasgow school has not been told so fully as that of Edinburgh, with its romance of the three Monroes The Edinburgh story occupied the pens of the late Professor John Struthers of Aberdeen, and more recently of Mr Alexander Miles and Dr J D Comrie, and there is also a well known history of the University Dr Walker Downie's work makes a valuable addition to the records of the Glasgow school, not merely by its account of the men who first held office at the Western Infirmary, but by what it tells and refers to of the conditions and circumstances of medical education in which their work was carried on It belongs to the sadness of things that the author did not live to see his volume in print, but Mrs Walker Downie and Mr Walter Hurst, Secretary to the Royal Faculty, are to be thanked and congratulated on the manner in which they have seen to the publication of what is in one sense a memorial volume to its author For Mrs Downie the preparation of the work must have been a labour of love

[1] *The Early Physicians and Surgeons of the Western Infirmary, Glasgow* By J Walker Downie, M B, C M, F R F P S G Privately printed. 1923 (Roy 8vo, pp 147)

THE INCIDENCE OF RHEUMATIC DISEASES

OBSERVATIONS IN INSURANCE PRACTICE

THE Ministry of Health has issued this week an important report embodying studies in the incidence of rheumatic diseases amongst insured persons in England and Wales during the year 1922.[1] This investigation was organized by a special Rheumatism Committee of the medical staff of the Ministry, and the report is based upon information furnished to the Committee by some fifty insurance practitioners in various parts of the country who volunteered their assistance throughout the year. The observations were made among insured persons treated by these practitioners in the ordinary course of their work, and were recorded by them on a uniform plan devised for the purpose of this inquiry. As Sir George Newman picturesquely remarks in his prefatory note to the Minister, this group investigation—the first of its kind—is a "systematic attempt to impound one portion of the vast stream of clinical information pouring through the surgeries of insurance practitioners throughout the country."

The central committee consisted of eight medical officers of the Ministry, under the chairmanship of Sir George Buchanan. The main purpose in view throughout this preliminary survey was to assess the incidence of the various forms of "rheumatic disease" in relation to the age, sex, occupation, and environment of insured persons, and the economic importance of these several diseases as measured by their production of sick absence during a definite period. Another object was to ascertain as far as possible what the term "rheumatism" connotes in the mind of the certifying practitioner.

Classification and System of Records

The Committee's first task was to confine within practical bounds the proposed investigation of a vague and heterogeneous mass of diseases, all certified under the popular term 'rheumatism.' It was therefore necessary to devise a uniform classification and method of recording the conditions found. Having studied the confused and confusing nomenclature and the conflicting views of recognized authorities, the committee decided at length upon the following provisional classification into three main groups:

A. Acute rheumatism (rheumatic fever), together with subacute rheumatism.

B. Non-articular manifestations of so-called "rheumatism" (muscular rheumatism, fibrositis, etc.).

C. Diseases characterized by chronic joint change.

Endocarditis without other symptoms was ruled out, so also were those forms of arthritis of which the specific cause is clear, such as gonorrhoeal arthritis. The three main groups were then subdivided into nine categories or "diseases" as follows:

Group A was divided into acute and subacute rheumatism, Group B into muscular rheumatism, lumbago, and sciatica, with brachial neuritis, lumbago being separated from muscular rheumatism as being a clinical entity easily distinguishable, of occupational interest, and of special incidence upon males. Group C was divided into four: rheumatoid arthritis (including infective periarthritis, osteo-arthritis, gout, and unclassifiable chronic joint change disease). The division between rheumatoid arthritis and osteo-arthritis in Group C was defined on the lines of Hale White's symptomatology as given in French's *Index of Differential Diagnosis*.

This classification, drawn up to provide a convenient working system of nomenclature for the purpose in view, was embodied in a printed inquiry form which each observer could keep always at hand for reference. A form of record card with accompanying instructions was also prepared.

A list of representative towns and districts having been drawn up, invitations to act as observers for the inquiry were sent to insurance practitioners of high standing known to keep careful records and having large lists of insured patients. Of the 89 who accepted, 49 practitioners, with aggregate lists of 90,891 insured persons of both sexes, fulfilled for the whole year the arduous task of recording on this uniform plan every case of rheumatic disease occurring in their several practices. To these clinical observers, whose names are placed on record, the Committee expresses its great obligation. Concurrently with, but independently of, the practitioners' inquiry, the regional medical officers made notes and records on the same plan of every case referred to them in which the incapacity had been medically certified as due to some form of rheumatic disease. Great difficulty was experienced in getting observers in country practices, and the observations from rural districts are accordingly somewhat scanty.

Survey of Results

The sample population under review comprised 0·67 per cent. of the whole number of insured persons of both sexes in England and Wales (estimated at 13,500,000). These 90,891 persons—"the population at risk"—were estimated to comprise 57,998 males and 32,893 females, this being fairly typical of the distribution of the sexes amongst the insured population generally. Records of 2,510 rheumatic cases were sent in by those observers who completed the year—1,771 males and 739 females. In other words, 2·76 per cent. of the total list strength were attended by their insurance practitioner for rheumatic disease (3·05 per cent. males, and 2·25 females).

"Over this dark no man's land of industrial 'rheumatism,'" says Sir George Newman, "the Committee's report sends a beam of light. True, the illumination shows most clearly the extent of the territory still dark and awaiting detailed investigation, but nevertheless some new facts are made manifest. Chief among them is the finding that nearly one sixth of the industrial invalidity of this country is due to diseases classed as rheumatic.' Each year these diseases are costing the Approved Societies nearly £2 000 000 in sick benefit, and the nation over 3,000,000 weeks of work, from the insured population alone. Half this loss, both of money and time, is due to chronic joint diseases."

Among the impressions which emerge from analysis of the returns, the following may be noted in this brief review. The first is of the support given to the view that tonsillar sepsis is an important etiological factor in the incidence of acute rheumatism. The second is that more than 75 per cent. of the rheumatic insured patients over the age of 25 showed dental sepsis in some form or another, in patients with chronic joint diseases the percentage was even higher. The third impression is thus epitomized by Sir George Newman:

> The traditional association of dampness of houses with all varieties of rheumatism, the chronic forms as well as rheumatic fever, probably rests on a substantial basis. So far as this is the case, it may be said that, at the present day, it is universally accepted that serious dampness is one of the worst defects possible in a house.'

In the prophylaxis of the non-articular rheumatic diseases the chief preventable causative factors seem to be dental sepsis and chill. But the etiology of these forms of "rheumatism" is obscure, and even greater uncertainty surrounds the prevention of diseases characterized by chronic joint change.

Meteorologically, the year chosen for this investigation was notable for the continued low temperature from June to November, but the amounts of sunshine and rain were about normal. A sharp epidemic of influenza ushered in the year, but subsequently the record for 1922 improved so much that it became from the mortality standpoint the healthiest year ever known in England. The observers working on this inquiry were generally agreed that after the first three months it was a healthy year, with appreciably less "rheumatic" disease than usual. In particular the rarity of acute rheumatism was noted by many. So far as social conditions went, 1922 was a year of trade depression and unemployment. On the whole it appears to have been a period in which the prevalence of rheumatic diseases in this country would be underestimated rather than overestimated.

Conclusions

The Committee's conclusions are presented in the following paragraphs:

1. This inquiry has been successful in producing material from which a reasonably fair estimate may be made of the

[1] Reports on Public Health and Medical Subjects. No. 23. The Incidence of Rheumatic Diseases. London: H.M. Stationery Office. 1924. 2s. 6d. net.

relative proportions of the various diseases which are classed under the term "rheumatism" in medical certification, and in statistics of insurance and industrial hygiene which depend on this certification It has also enabled approximate attack rates of the various diseases for the several age groups of insured workers to be prepared Findings such as those set out in Tables 4 and 5 [sex and age distribution] will serve in future as a reasonable basis for further clinical, statistical, and economic studies

2 In the insured population under review there were approximately 91,000 insured persons, of these about 58,000 being males and 33,000 females During the year 1922 in this population 2,510 cases of "rheumatism" were recorded, 1,771 cases occurring in male patients and 739 cases in female patients The general attack rate for "rheumatism" for the year was therefore 27 6 per 1,000 insured of both sexes, or 30 5 per 1,000 insured males and 22 5 per 1,000 insured females In every 1,000 insured males of all ages there were approximately one case of rheumatic fever and three cases of subacute rheumatism during the year For the same number of insured males there were six cases of muscular rheumatism, ten cases of lumbago, and three cases of sciatica during the year It will be observed that lumbago alone accounts for one third of the male patients Also, in every 1,000 insured males of all ages there was one case of rheumatoid arthritis, three cases respectively of osteo arthritis and of gout, and one case of unclassifiable joint change, these classifications being made on the lines laid down in the classification given on Form A, page 10 In every 1,000 insured females of all ages (and it must be remembered that insured females have a much younger age distribution than insured males) there were recorded approximately two cases of rheumatic fever and three cases of subacute rheumatism There were also seven cases of muscular rheumatism, but only three of lumbago, and one of sciatica or brachial neuritis In every 1,000 insured females there were three cases of rheumatoid arthritis and two of osteo arthritis The incidence of gout upon female insured workers was extremely small, less than 0 1 case occurring per 1,000 insured females A smaller proportion of the female cases of chronic joint change disease was recorded as unclassifiable than in the case of the males Age distribution has so profound an influence upon the incidence of rheumatism that these general rates for all ages are much less informative than the attack rates for the various diseases by age group which are given in the body of the report

3 As regards the total length of sick absence caused by "rheumatic" diseases, we find that these diseases in insured males cause almost exactly one sixth of the total sick absence due to all diseases, and that the corresponding fraction for female insured workers (far more of whom are in the younger age groups) is one seventh of the total sick absence due to all diseases More than half of this great total of rheumatic sick absence for both sexes is due to chronic joint diseases, principally rheumatoid and osteo arthritis in nearly equal shares Nearly one-third of the male rheumatic sick absence is due to non articular rheumatic disease, only one seventh of the male rheumatic sick absence being due to acute and subacute rheumatism together Of the female rheumatic sick absence, roughly one half is due to chronic joint disease (principally rheumatoid arthritis, which is responsible for 30 per cent of the total female rheumatic sick absence), one quarter to acute and subacute rheumatism together, and one quarter to non articular rheumatic diseases The comparatively small amounts of sick absence shown as due to acute and subacute rheumatism constitute only a fraction of the real amount of sick absence for which, ultimately, these varieties of "rheumatism" are responsible The present inquiry, from its nature, could not take account of the large body of sickness due to valvular disease of the heart unaccompanied by 'rheumatic' symptoms during the year of record Valvular disease of the heart is, of course, frequently the result of acute rheumatism in childhood and adolescence

4 If we assume that our sample be a fair one of the general insured population, then we may estimate that more than one seventh of the total sick benefit, or over £1,800,000, is paid to, and 3,141,000 weeks of work are lost annually by, insured workers on account of 'rheumatic' diseases as studied and classified in this report These estimates take no account of benefit paid or work lost owing to sickness due to organic disease of the heart, which is for the most part rheumatic in origin

5 Chronic joint diseases, mainly rheumatoid arthritis and osteo arthritis cost the approved societies nearly half of the above £1,800,000, or between £800,000 and £1,000,000 annually

6 Female insured workers show a higher incidence than male insured workers of the following diseases acute and subacute rheumatism, muscular rheumatism, rheumatoid arthritis, osteo arthritis, and brachial neuritis Male insured workers show a much higher incidence than female insured workers of lumbago, gout, and sciatica

7 In acute and subacute rheumatism tonsillar sepsis may be an important etiological factor Of patients with acute rheumatism nearly 50 per cent had enlarged or septic tonsils, only 2 per cent of patients with acute rheumatism had had their tonsils removed

8 In acute rheumatism nearly 50 per cent, and in subacute rheumatism nearly 25 per cent, of patients showed signs of recent or old endocarditis

9 Scrutiny of the records of the various forms of fibrositis, of the non articular rheumatic manifestations, and of the chronic joint diseases creates an impression that dental sepsis, whilst by no means the only causal factor, may be a factor of importance, but the data are not sufficiently precise to justify definite conclusions, particularly in the absence of any control series of apparently healthy insured persons Over 75 per cent of the insured patients over the age of 25 exhibited dental sepsis in some degree, whilst in the patients with chronic joint diseases the percentage was even higher

10 There are considerable geographical and occupational variations in the incidence of the "rheumatic" diseases which appear to merit further investigation In the case of gout the local variations in incidence are especially noteworthy

In noting the above as the principal conclusions which the study of the records supplied by the insurance practitioners has enabled it to draw, the Committee observes that the investigation has brought out many considerations which support the demand for further research—bacteriological, pathological, and biochemical—into the causation of these diseases Although questions of treatment of rheumatic diseases have scarcely come within the scope of this part of the Committee's investigation, the large number of cases of chronic joint diseases shown to exist, and the unsatisfactory response to treatment so often recorded, suggest that the newer methods of treatment should be given a trial on a much larger scale in arthritic hospitals or units

Paris.

[FROM OUR OWN CORRESPONDENT]

MEDICAL HYDROLOGY

IT is always with a little smile of surprise that we hear praised abroad institutions with which we ourselves are only very moderately satisfied Nevertheless, the letter about medical hydrology which we had the opportunity of reading in your columns not long ago (January 26th, p 169) has helped us to realize what has in fact been achieved in France by the efforts to organize our thermal and climatic stations, which have extended over a little more than a century

The primary object of a Royal Ordinance issued in 1823 to regulate the exploitation of mineral waters was the protection of the public Hygienic control is in the hands of a special permanent committee of the Academie de Medecine, while technical questions are the province of the Government engineers A certain area round every recognized mineral water spring must be protected from contamination and the supply regulated

The Society of Hydrology, founded in Paris in 1853, was the first group formed to study the subject scientifically, and it has continued to do pioneer work ever since, a syndicate of physicians practising at baths and climatic stations was formed in 1894 to protect their professional interests, and in 1905 the Government appointed a permanent commission under the Minister of the Interior to have general supervision of the various health stations of France Among other methods of propaganda mention should be made of the Voyages d'Études medicales, which every year takes a party of French and foreign doctors to visit the principal French health resorts

All this, of course, costs money, and in 1919 a law was passed imposing a cure tax such as has long been in force at the Central European stations The money thus raised is used in part to help in the treatment of poor patients, and in part to improve the sanitation and amenities of the place An Institute of Hydrology was established in 1913 It has its home in the Collège de France, and this fact alone is sufficient proof that its purpose is scientific research and investigation Its cost is defrayed partly from a percentage

on the profits of the gaming tables, and partly from a special tax supplementary to the cure tax Yet another way in which the French hydrological physicians are seeking to extend scientific acquaintance with the subject is through the establishment of chairs in medical hydrology in the universities In two faculties of medicine, and in two only, are the chairs occupied by professors, in the others they are held by lecturers But we are looking forward to a time when a wider view will be taken, and when questions in hydrology will form a part of the examination in therapeutics Lastly must be noted a proposal to form a Fédération Thermale Française to include all the health resorts It is hoped that through this federation the doctors will be able to speak with a more authoritative voice and get themselves better listened to

Experience has taught us that it would be a mistake to try and set up a barrier between French hydrology and hydrology in other countries Sun and waters are cosmic forces, they belong to the whole world No department of therapeutics is more truly international I do not, then, wish to be understood as saying that our French health resorts are content merely to cater for the needs of foreign visitors, on the contrary, French doctors understand and utilize the resources of other countries In this connexion it is interesting to record that information furnished by British health resorts can be obtained at the Faculty of Medicine in Paris, that an official course is given on the indications for their use, that one of our leading teachers has just published an essay on Harrogate and Bath, and that we now have a French translation of Dr Neville Wood's book on the thermal and climatic resorts of Great Britain Similarly, have we not recently seen a whole page of propaganda for the English resorts published in French in the *Archives internationales d'hydrologie*?

Here, then, is the answer to those who deplore the strong attraction exercised by Continental resorts The true answer is Set to work to establish a current in the opposite direction! On this account the initiative shown in England by the foundation of an International Society of Hydrology has been welcomed in France as the dawn of a new day, when all the countries belonging to the League of Nations will be brought together for this work It is, however, true that for the time being the course of exchange is exerting an influence very difficult to resist It seems almost unbelievable that, as the BRITISH MEDICAL JOURNAL has already announced, Professor Carnot will at Easter be able to take a medical party to the Riviera for a week at a cost of less than 5 guineas Our popularity is a source at once of pride and grief

"DR KNOCK"

Last summer there was an amusing polemic between M Farigoul, a distinguished member of the University, of the one part and the medical profession of the other M Farigoul, having learnt that from the embryological point of view the eye might be regarded as a concentration of epidermis, or conversely the skin as a spread-out eye, asked whether the skin might not be induced to learn to see The idea of seeing with the skin made the doctors smile, and they suggested that, before awaking in the blind the hope that they would be able to see with their skin, it would be advisable to repeat M Farigoul's experiments under scientific conditions The control experiments were conducted at the Sorbonne under the direction of Dr Georges Dumas, professor of experimental psychology Sure enough when newspapers were placed in contact with the skin of the belly the subjects could read the titles with their eyes bandaged Then Dr Dumas had his eyes bandaged and the miracle was repeated, he also could read the words with his umbilical eye Thereupon M Farigoul asked him to describe his sensations and to explain how it was done "I did the same as the others," was Dr Dumas's answer, "I looked under the bandage" This incident was a nasty knock for the theory of skin ocelli, and people laughed a good deal, to the discomfiture of M Farigoul Now Jules Romains, the playwright, and M Farigoul are one and the same person, and the play of which the BRITISH MEDICAL JOURNAL gave an account a few weeks ago is the revenge of Farigoul wreaked by Romains If the doctors had had the laugh on him, he would have the laugh on the doctors The piece is amusing, and, as always happens when caricature is overdone, it is really inoffensive The one half of the house, the lay half, roared at the cunning of the incredible doctor, and the other, composed of le tout Paris medical, at the stupidity of his incredible patients

Scotland

THE GENERAL PRACTITIONER OF THE FUTURE

At the annual dinner of the Royal Medical Society of Edinburgh, held on February 21st in the Hall of the Royal College of Surgeons, Edinburgh, the guest of the evening was Sir George Newman, K.C.B., Chief Medical Officer, Ministry of Health and Board of Education Dr A. B. Williamson, president of the society, occupied the chair, and submitted the toast of "The Guest" Sir George Newman responded, and proposed "The Royal Medical Society" In the course of his remarks he said that though he had seen all the great schools of the Western world on both sides of the Atlantic, with one exception, he came back more confident in Edinburgh than ever before The Edinburgh Medical School was in the heart of a *Universitas* a fellowship of men of all nations in the study of all learning No mere hospital school could ever be a great school of medicine Whatever the future of medicine proved to be, the general practitioner would remain its essential element, and the efficiency of the private practitioner would depend on his love of learning, the unification of his applied science, and the wideness and character of his sympathy Humanism would more deeply than ever impregnate and inspire social medicine Practitioners now had to be trained in insurance work, because health insurance, though it might be modified and improved, had come to stay As a result 60 per cent of 14 million people were now going to the doctor for conditions which previously were neglected They were now going at the first sign and symptom of disease, and that was going to revolutionize medical practice Could they do better than translate public health into better child life, better industrial welfare, and a closer grasp of the effect of all the maladies which were affecting the efficiency and capacity of the race? The Anglo-Saxon race were winning the tropics because of medicine, medicine made it possible to dig the Panama Canal, *medicine would cleanse India*, medicine was going to carry the flag through all the world The Edinburgh Medical School was inspired by the Greek spirit and humanism, and was standing in the vanguard of British medicine at the gate of opportunity The toast of "The Edinburgh Medical School" was proposed by Dr W McKie, and Sir Harold J Stiles, President of the Royal College of Surgeons, replied He considered that the responsibility of the University with regard to the medical profession far exceeded its responsibility in the old days It was now the duty of a great Imperial university like Edinburgh, not merely to teach the best that was known, but to create and add to what was known The endowment of research could not be done without money, and the financial condition of the University was not so satisfactory as they could wish He often wondered whether the City Fathers were taking sufficient interest in the University, which had been the offspring of the town council originally He thought that the citizens of Edinburgh could not get better value for their money than by giving some of it to maintain the efficiency and reputation of the University

THE PURPOSE OF EUGENICS

A public meeting of the Eugenics Education Society, presided over by Sir Byrom Bramwell was held on February 16th in Edinburgh University, when Dr A F Tredgold gave a lecture on "Heredity and eugenics" The lecturer pointed out that in the early days of the human race, when life depended on physical strength, courage, and cunning, those possessed of these qualities were enabled to survive and propagate their kind Many primitive peoples put to death or expelled from the community those who did not come up to the communal standard of

efficiency Another evolutionary factor had been that of disease The basis of civilization lay in the evolution of man's feelings, his aesthetic, religious, moral, and social senses These higher sentiments had brought about an alteration in man's attitude towards the delicate, the deformed, and diseased, who had now become objects of care and solicitude A nation's civilization was judged to-day by the humanity of its laws, but the maintenance of the unfit cost money, and the burden fell on the shoulders of the capable and efficient The result was a tendency towards diminishing the birth rate of the capable and fit, while the unfit were well aware that the burden of any offspring they might produce would be borne by others The question of the nation's degeneracy or not was really the question whether the biologically unfit were multiplying in greater ratio than the biologically fit, and was a question of time and mathematics It was estimated that there were upwards of 50,000 mentally deficient children and no less than 600,000 backward children in this country This was very disquieting Since 1876 there had been a steady decline in the birth rate in the most cultured and capable classes of the community, whereas in the whole parasitic class the decline had been the least incident It had been suggested that the real solution was to give Nature a free hand again, for if the weak were left to shift for themselves they would soon be squeezed out of existence But this would mean a sacrifice of man's altruistic feelings and a retrogression from true civilization The remedy, therefore, was the purpose of eugenics, the principles of which were, first, the prevention of propagation of the biologically unfit, and secondly, the encouragement of propagation of the fit The alternative of some violent social cataclysm was the education of public opinion in the fundamental laws of eugenics, and the lecturer did not hesitate to say that the nation which first grasped and applied them would become the predominant power

GLASGOW WESTERN INFIRMARY

The forty-ninth annual report of the Glasgow Western Infirmary shows that 9,971 patients were treated in the wards during 1923, as compared with 9,814 during 1922 The figures for out-patients were 32,450 in 1923 and 29,546 in 1922 The average daily number of patients in hospital was 554, and the average period of residence of each patient was 20 29 days as compared with 20 81 days in 1922 The cost per occupied bed had been £146, and the average cost per patient per day 8s , as compared with 8s 1d in the previous year The ordinary revenue, despite prevailing business depression, had been £66,778, a decrease of only £1,565 on that for 1922 The extraordinary income from legacies, etc , amounted to £29,678, against this had to be set an ordinary expenditure of £80,817, and an extraordinary expenditure of £5,697 From the whole year's working, therefore, the managers had been able to carry over to capital fund the sum of £9,943

ABERDEEN ROYAL INFIRMARY

The annual report of the Aberdeen Royal Infirmary shows that 4,170 patients were treated in the wards of the hospital, and 15,577 as out-patients during 1923 The ordinary income was £28,404, and the ordinary expenditure £29,962, showing a deficit of £1,558 as compared with a deficit of £2,441 at the end of 1922 A satisfactory point was an increase of £1,274 in the ordinary income for 1923 over that for 1922 A site at Foresthill had been approved by all parties connected with the Joint Hospital Scheme, and it was proposed to purchase the portion of the site required by the Infirmary at a cost of £11,000 out of the residue of a trust estate

TUBERCULOSIS TREATMENT

The annual meeting of contributors to the Royal Victoria Tuberculosis Trust was held on February 19th in Edinburgh, Sir Ralph Anstruther in the chair The chairman submitted the annual report and referred to the success of the work at Southfield Sanatorium Colony Sir Robert Philip, who seconded, said that this institution was meant especially for tuberculous cases of difficulty and complexity Some of these cases required very prolonged treatment—eighteen months or even longer He claimed that if any remedy became known this institution would be the first to use it What had been accomplished in the past was the best encouragement for the future In 1910 New York State had commenced to carry out a new programme in regard to tuberculosis, and there had actually been a fall of 50 1 per cent in the incidence of the disease since that year The report was adopted

INSTITUTE FOR MENTALLY DEFECTIVE CHILDREN

The Sisters of Charity of St Vincent de Paul have purchased the mansion house of Whitehill, near Rosslyn, about eight miles south of Edinburgh, and will convert it into an institution for the education and training of mentally defective Roman Catholic children The mansion is one of the finest in Midlothian, having been built about eighty years ago at a cost of £60,000 It has about sixty rooms, and its large public rooms will be readily converted to school purposes The Board of Control is prepared to grant a license for the house as providing accommodation for one hundred children It is intended that its pupils shall be drawn from the Edinburgh and East of Scotland area The offices round the house will be fitted up for the training of children who are of sufficient age and capacity to learn some industrial occupation The grounds round the house extend to one hundred and fifty acres, of which some eighty consist of arable land It is intended to develop the institution by the formation of a labour colony, so that this ground may be utilized for market gardening and similar purposes by pupils who have passed through the school course of training, but are not sufficiently developed mentally to work in the outside world The Sisters of Charity, who will manage the institution, have already for some years carried on a similar enterprise at Whiteinch, near Glasgow, with great success

Ireland.

THE Charter Day dinner of the Royal College of Surgeons in Ireland will be held to-day (Saturday, March 1st) at 7 30 o'clock, in the College Hall, St Stephen's Green, Dublin The guest of the evening is His Excellency the Governor-General of the Irish Free State, Mr T M Healy

THE IRISH COMMITTEE

A meeting of the Irish Committee of the British Medical Association was held at the Irish Offices, 16, South Frederick Street, Dublin, on February 15th, with Dr Denis Walshe in the chair Dr William Murphy, Dr Joseph Power, and Dr H T Warnock were co-opted members of the Committee, Dr Walshe and Dr John Mills were re-elected Chairman and Vice-Chairman, and Sir James Craig, M D , Dr J S Darling, and Dr R C Peacocke were elected members of the Finance and Executive Sub-committee Sir James Craig gave an interesting account of medical questions in the Dail He believed that in the present year medical reform of a far-reaching character would be undertaken in the Dail, and he desired to keep in close touch with the different medical organizations in the Free State The Committee considered the agenda for the next meeting of the Irish Medical Committee, and decided that the Irish Medical Secretary and the Irish Office should be put, as hitherto, at the disposal of the Irish Medical Committee Votes of condolence were passed by the Committee with Dr T Hennessy, Irish Medical Secretary, on the death of his brother, Dr W Hennessy, and with Mrs Agnew, Lurgan, on the death of her husband, Dr Samuel Agnew

Position of the British Medical Association in Ireland

At the conclusion of the ordinary business of the Committee a conference of a very friendly nature was held between prominent members of the British and Irish Medical Associations, and it was agreed that the best interests of the profession in Ireland would be served by

the two Associations continuing the arrangement that the Irish Medical Committee should act as it has done since its formation, and that the two medical associations should place their staffs at its service

Insanity and Crime

At a recent meeting of the Statistical and Social Inquiry Society of Ireland Lord Chief Justice Moloney read a paper entitled "Insanity and crime" The lecturer indicated generally the state of the law as regards the responsibility of the insane, and then dealt with the question, Who should the law punish? He referred to the opinions of eminent jurists who were asked to consider the procedure relating to criminal trials in which the plea of insanity as a defence had been raised, and quoted several well known authorities on the subject A difference of opinion had arisen between physicians and jurists in reference to the plea of insanity, physicians seemed to have considered that jurists never gave any weight to the doctrine of irresistible impulse, and, on the other hand, the jurists seemed to have considered that doctors did not give due weight to the great difference between impulses which were irresistible and impulses which were in fact unresisted It might be taken as clear that if a person's insane impulse could be restrained by the presence of a policeman, it was impossible to say that such an impulse was irresistible, and consequently not amenable to threat of punishment or responsibility for the act His experience in Ireland was that they acted upon the law as laid down by Sir James Stephen Juries, on questions of insanity, took a very sensible and matter-of-fact view They cared little for the controversies which separated the legal and medical views, while they scrupulously considered the facts of the particular case, and formed their own conclusions as to whether the man knew what he was doing, in the wide sense of the term, and whether, if he did, he knew that the act was wrong A discussion followed in which Mr Kelly, K C, and Dr Donelan took part

Ulster Medical Society

The ninth meeting of this society was held in the Medical Institute, Belfast, on February 21st The President, Professor StClair Symmers occupied the chair, and introduced Professor Charnock Bradley, M D, D Sc, of Edinburgh, who read a paper on 'Veterinary Science A Public Service" He began by giving a short history of the Edinburgh Veterinary College and its connexion with Ulster Veterinary science was a public service both from its ethical and its economic aspects, in its early days it dealt with horses alone, then cattle, sheep, pigs, dogs, and now practically with all domesticated animals, so it was broadsided There were three classes engaged in it—the general practitioner, the official who was concerned with the limited ravages of epidemics, and the official who was concerned with protecting the public from diseases communicable from animals to man The general practitioner was responsible for the life and fitness of the stock, first to the owner and then to the State There were some thirty-three million live-stock in Great Britain suppose, of these, ten million were under the care of the veterinary surgeon, and suppose through his services there was a saving of 1s a head per annum, the economic saving could be realized, and this omitted the humanitarian and ethical side of the question The official who was concerned with epidemics had also his successes, swine fever was reduced one-fifth between 1895 and 1922 a large increase of glanders was expected after the war, but in 1908 there were 2,433 horses affected, and in 1922 only 4 Certain diseases had even ceased to exist, such as rinderpest in 1877, and pleuropneumonia in 1896 In Canada dourine had ceased among horses, anthrax had fallen from 1,496 in 1910 to 515 in 1922 The third class, whose duty it was to prevent the transmission of animal disease to man, formed a veterinarian public health service, whose duties were so important as to be everywhere recognized Dr Bradley here referred to the duties arising from the inspection of meat—the unceasing vigilance required He detailed the statistics of Edinburgh and of Belfast, and compared the incidence of tubercle in cattle in these two areas with the returns from some country districts Rural authorities were notoriously loath to incur expense, there should be a uniform and universal mode of inspection, and all inspection should be in the hands of fully qualified inspectors, the officials under the Contagious Diseases (Animals) Act might be made use of Dr Bradley advocated also a post-graduate diploma in veterinary State medicine

Captain Barry (City Veterinarian), Dr Patrick (Local Government Inspector), Colonel Dawson (Medical Adviser to the Northern Government) spoke in high appreciation of the paper Professor Wilson, in proposing the hearty thanks of the society to Dr Bradley for his suggestive and illuminating address, pointed out the close relationship between medical and veterinary sciences, one was complementary to the other Dr Bailey seconded, and bore witness to the invaluable help he had always received from the veterinary service, he gave some statistics of the improved death rate connected with the efforts of the service The President referred to his experience of rinderpest in Egypt, when the deaths among animals in an epidemic had fallen next year from 2,000 a day to two or three a week He conveyed the warm thanks of the society to the lecturer

England and Wales.

University of Leeds

The annual report of the department of pathology and bacteriology of Leeds University for the past year, which has been prepared by Professor Matthew J Stewart, the head of the pathological department, and Professor J W McLeod, the Brotherton professor of bacteriology and city bacteriologist, contains an interesting record of the work of the department during the year In addition to the usual routine activities, a post-graduate course of instruction in *post-mortem* work was given at the General Infirmary during June and July Bacteriology has now been admitted as a principal subject for the ordinary and honours degree of B Sc in pure science, and has also been introduced into the second-year course of study for students who are working for this degree in the chemistry of leather manufacture The report points out that an important step in connexion with the teaching of bacteriology in the University has thus been taken, which will result in the provision of a higher standard of bacteriological instruction, for which in future there will probably be an increasing demand In the account of the routine pathological and bacteriological work it is noticeable that there has been a considerable reduction in the number of specimens examined under the venereal diseases regulations and a large increase in the amount of work performed for the Leeds General Infirmary The latter is partly due to a great increase in the number of blood sugar estimations required in connexion with the insulin treatment of diabetes A gratifying amount of research work is in progress, and every available part of the department is in full use During the autumn Professor McLeod was able to take advantage of one of the exchanges of medical personnel arranged by the League of Nations, and spent five weeks in the State Serum Laboratory of Denmark

Post-Graduate Courses in London

As already announced the Fellowship of Medicine and Post-Graduate Medical Association has arranged special courses during the coming two months The intensive course organized by the Royal Northern Hospital, including all the general and special departments of medicine and surgery from March 3rd to 15th, will include two afternoon sessions at the Central London Ophthalmic Hospital, one at the Royal Chest Hospital and one morning session at the North-Eastern Fever Hospital, apart from these demonstrations at other hospitals, all the work will be undertaken by the members of the staff at the Royal Northern Hospital from 10 30 a m to 5 30 p m each day, and the fee for this course is three guineas, or two guineas for either week The special course in gynaecology at the Chelsea Hospital for Women, from March 3rd to 28th will include clinical demonstrations and lectures

in the wards and out-patient department, followed by lectures or operations in the theatre Dr Porter Phillips and Dr Thomas Beaton will give a series of lecture demonstrations in psychological medicine at Bethlem Royal Hospital from March 8th to April 5th, on Thursdays and Saturdays, at 11 a m, dealing with the diagnosis and symptomatology of mental diseases, the psycho-neuroses, and the medico-legal aspects of insanity, fee, one guinea Six lecture demonstrations on recent advances in medical electrical treatment will be given by Dr C B Heald at the Royal Free Hospital on Wednesdays at 5 30 p m, from March 5th to April 9th, the fee for this course is one guinea The course on diseases of children arranged at the Royal Waterloo Hospital for Children and Women from March 17th to April 5th will include lecture demonstrations, ward work, and out-patient clinics each day from 2 o'clock onwards, the fee is three guineas Copies of the syllabus with full particulars of the above courses can be had from the Secretary to the Fellowship of Medicine at No 1, Wimpole Street, W 1

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Royal Commission on Health Insurance

SIR KINGSLEY WOOD asked, on February 20th, whether the Government proposed to advise the setting up of a Royal Commission to investigate the medical services under the National Insurance Act and kindred services Lieutenant Colonel Fremantle inquired whether, seeing that a Court of Inquiry had recently estimated the value of the medical service under the National Health Insurance system, the Minister of Health would advise the appointment of a Royal Commission, as promised by his predecessor, to investigate the administration of National Health Insurance Mr Wheatley replied that the Government proposed to advise the setting up of a Royal Commission as soon as arrangements could conveniently be made to inquire into and make recommendations as to the whole system of National Health Insurance Sir Kingsley Wood suggested the advisability of making the reference as wide as possible, and the desirability of putting people upon the Commission who already had some knowledge of the subject Mr Wheatley answered that this would be done

Lord Henry Cavendish-Bentinck asked, on February 26th, whether the Prime Minister was prepared to extend the terms of reference of the proposed Royal Commission on National Health Insurance to cover the whole field of a general social insurance to provide security to the worker and his dependants in cases of industrial accidents, industrial diseases, non industrial accidents, ill health, maternity, unemployment, old age, blindness, burial, unprovided widowhood, and unprovided orphanhood Mr Clynes, for the Premier, said he did not think it would be desirable to extend the terms of reference of the proposed Royal Commission There was ample material for investigation within the limits proposed Better co-ordination of the various social services was a separate matter which was receiving consideration

Insurance Capitation Fee—Sir Kingsley Wood asked, on February 20th, whether the Minister of Health could state the steps he proposed to take in connexion with the recommendation of the Court of Inquiry as to the remuneration of panel practitioners Mr Wheatley replied that the question of introducing legislation required to give effect to the recommendations of the Court of Inquiry was then under consideration

X ray Operators

Mr Compton asked the Minister of Health, on February 18th, whether he was aware that Mr A Smith, late radiographer and chief dispenser at the Coventry and Warwickshire Hospital, developed *x*-ray dermatitis in 1913, that he had to retire from his work, that his complaint necessitated several operations and the amputation of a leg, that he had two strokes of paralysis and now suffered from failing eyesight, and whether the possibility of making provision for Mr Smith and for similar cases of breakdown from devoted service would be considered Mr Wheatley said he had not received any previous information as to this case nor were there any funds at the disposal of the Ministry from which provision could be made An order had, however, recently been issued by the Home Secretary under Section 8 of the Workmen's Compensation Act, 1906 extending the scope of that Act to certain diseases, including inflammation of the skin due to exposure to *x* rays The order, which came into operation on February 1st did not apply retrospectively

Sir Charles Cayzer asked, on February 20th, how many *x* ray operators worked, directly or indirectly, this institution with, during the war, how many cases of difficulty and [illegible] of dermatitis

and similar complaints, and whether the Department accepted any responsibility for the condition of such sufferers Mr Walsh regretted that the figures sought were not available As regards policy, in the case of soldiers it had been the custom to treat disease resulting from the working of *x* ray apparatus as a disability attributable to service, but in the case of civilians the Department's powers were subject to the statutory restriction that the disease of *x* ray dermatitis is not one of the industrial diseases scheduled under the Workmen's Compensation Act as entitling to compensation He was, however, looking into the question sympathetically It should be noted in regard to this reply of Mr Walsh that on February 18th (as recorded above) Mr Wheatley, Minister of Health, said that an Order had been issued by the Home Secretary extending the scope of the Workmen's Compensation Act to inflammation of the skin due to exposure to *x* rays

Mothers' Pensions

Mr Dukes, on February 20th (a private members' night), moved a resolution asking the House of Commons to affirm that pensions adequate for the proper upbringing and maintenance of children should be paid to all widows with children, or mothers whose family breadwinner was incapacitated, such pensions to be provided by the State and administered by a committee of the municipal or county council wholly unconnected with the Poor Law Mr Dukes estimated the cost at about £20,000 000 a year The Chancellor of the Exchequer (Mr Snowden) at once replied, pointing out that the Government had already committed itself to amend the Old Age Pensions Act at a considerable expenditure, and were committed to a not inexpensive housing programme When these measures had been passed and there had been opportunity for overhauling the national finances the present proposal would, he said, be one of the first to which he would apply the resources available

Mr Somerville Hastings, F R C S, in a maiden speech, supported the motion because he believed that the application of the principle would result in a great saving of the child life of the country He believed that a mother, if she were at home to look after her child, would, other things being equal, bring up a healthier stronger, and better equipped child than would be brought up in a crèche or school For one thing she would be able to feed it as Nature intended In 1909 the medical officer of health for Salford worked out the death rate of babies who were breast fed and those who were fed by hand, and he found that the death rate of hand-fed babies was more than double that of the others Again, a mother who had to go out to work, and look after her family as well, could not give the latter the necessary time When the children were thus left they suffered in many ways In 1914 the medical officer of health for Dewsbury found that in the case of children of one year when the mother had to go to work and leave them at home, the death rate was four and a half times the general death rate of children in that town These figures seemed extraordinary, but the mother was pitted against mothers in a better and more healthy district, who lived in larger houses Therefore the M O H ascertained what happened in some of the mean streets He found that in back to-back houses where the mother had to go to work, the death rate of the babies under one year was nearly four times as great as when a mother could stay at home and look after them The death rate was not the only consideration Many children suffered although they were not killed, they were maimed or their usefulness was impaired for the rest of their lives

Dr Spero also, in a maiden speech, supported the motion on medical grounds He had, he said, seen case after case in working-class districts where young children whose mothers had been left destitute developed consumption through want of adequate food and care and attention The truest civilization, while encouraging the strong, never forgot its duty to the weak

The motion was carried unanimously

Voluntary Hospitals—Mr March asked the Minister of Health, on February 25th, whether his attention had been called to the straitened circumstances of many hospitals and whether he was prepared to introduce a comprehensive health system on a national basis in order to cope with the demand for treatment and to remove the need for charitable support Mr Greenwood replied that the position of voluntary hospitals, though still difficult had greatly improved since the report of Lord Cave's Committee The proposal in the second part of the question was one with which the Minister of Health had some sympathy, but it raised far reaching issues, both medical and financial, and he was not at present prepared to give any undertaking as to it

Infective Jaundice—Mr Davies replying for the Home Office to a question as to the inclusion of spirochætosis icterohæmorrhagica under the industrial diseases clause of the Workmen's Compensation Act said that this disease was not notifiable in England, but as a result of a recent outbreak in East Lothian, had been made notifiable in Scotland by an order of the Scottish Board of Health Before a disease could be scheduled under the Workmen's Compensation Act it must be shown to be due to the nature of some employment and to be so specific to that employment that its origin could be established in individual cases The disease did not appear to come within this category, but the point would be further considered on a fuller report

Medical Inspection and Treatment of Children—Mr Trevelyan has stated that medical inspection of school children should be conducted in private with the utmost regard for the children and their parents In 1908, shortly after the inception of the school medical service, the Board instructed local education authorities that all entries of the results of inspection in each individual case must be regarded as confidential and this instruction still obtained He was

unaware of any complaint, but would inquire into cases in which it was alleged that the practice named had not been followed Mr R Morrison on February 21st raised a question as to the form issued by the Hastings Education Committee to be filled up by parents of scholars with regard to school medical treatment Mr Trevelyan said that the income scale and the charges drawn up by the Hastings authorities were framed as the result of representation from the Board of Education, and had generally been approved by the Board Inquiry forms should be used only in doubtful cases, and should be as simple as possible

Miners Nystagmus—The recommendations made by the Committee of the Medical Research Council for altering the description of miners nystagmus in the schedule has been receiving careful consideration at the Home Office It is proposed to invite the mine owners and miners to appoint representatives to discuss the whole question with the Department in conjunction with the Mines Department

Hashish Addiction—Mr Davies on February 21st dealing with a series of inquiries by Mr Gilbert, said that the Home Office had no information to show that the use of hashish in this country was anything but rare though possibly it was practised to some extent by Oriental seamen visiting our ports Hashish was not one of the drugs to which the Hague Convention of 1912 applied, though the Hague conference recommended investigation as to its use Any proposal to bring hashish within the scope of the Convention would have to be considered from the international standpoint The League of Nations which supervised the traffic in dangerous drugs had not yet considered the question but if it appeared desirable steps would be taken to bring the subject before the Advisory Committee of the League

Pensions Medical Staff—Mr Roberts on February 21st said that owing to the reduction of work in the Pensions Department there was a corresponding decrease in the medical staff required but he was not contemplating any special reductions in the medical staff The number of medical men employed at the Ministry Headquarters on December 31st in all grades was thirty-one of whom three were over 60 years of age twenty nine were officers who had served during the war, and of the o twenty three had served overseas

Infantile Paralysis—Provisional figures of deaths during 1923 of children under 7 years of age registered as due to poliomyelitis and polioencephalitis gave the first named as 46 and the last named at 20 Mr Wheatley negatived a suggestion that this mortality was due to the drinking of impure milk

Nurses Registration—Dr Chapple asked, on February 20th whether the Minister of Health was aware that applicants for registration under the Nurses Registration Act 1919 amended by rule passed in 1923 had been rejected on the ground that their applications should have been lodged before July 14th 1923 and whether he would consult the law officers of the Crown as to the legality of this action by the Nursing Council Mr Wheatley said he was advised that the Council had no power to admit applications for registration as existing nurses after July 14th 1923, and he saw no necessity for consulting the law officers of the Crown There was no evidence that any appreciable number of trained nurses desiring to be registered failed to apply during the two years period allowed for in the Act The Minister saw no necessity for amending legislation

Leprosy in the British Isles—In answer to Mr Becker on February 20th Mr Wheatley stated that the total number of cases of leprosy in this country was very small, and during the past twenty five years official records showed that only twenty four cases had been imported The disease was not compulsorily notifiable, and therefore exact figures were impossible to give Favourable reports were being received from India as to new methods of treatment but it was not yet possible to say what proportion of cases could be cured

Milk Supplies—Asked on February 20th why the Ministry of Health modified and postponed the operation of the Public Health (Dried Milk) Regulations Mr Wheatley explained that representations on points of detail had been made by manufacturers and traders and his predecessor was satisfied it was possible to meet some of them without prejudice to the public but that it would be impracticable to make the Regulations operate on the date originally suggested

The Debate on Poplar—Dr Haden Guest who is unpaid Parliamentary Secretary to the Minister of Health took part in the discussion on February 26th wherein the action of Mr Wheatley in rescinding the Mond Order and remitting the surcharges against the Poplar Guardians was reviewed The debate arose on a motion by Mr F Briant asking the House to express disapproval of the course taken by the Minister, and declaring for an early reform of London government and of the Poor Law system To that an amendment was moved by Sir W Joynson Hicks to lay down the principle that Poor Law relief should be scaled below the local rate of wages Mr Wheatley did not defend what the Poplar Guardians had done but claimed that in clearing the slate from an irrecoverable account, and putting Poplar Guardians on a level with other Boards for control in the future he had acted wisely Dr Haden Guest expressed surprise that the perceptions of members who came in contact with persons relieved by the Poor Law were so blunted on the question of poverty That indifference to poverty on the part of leaders of the nation who so far had failed to solve the problem how the Poor Law should be administered was one of the terrible things in life It could not be settled by merely considering administration They must also reflect on the human question The Prime Minister added assurances as to the future The debate had no other definite result as the closure was refused by a majority of 67, and so neither the motion nor amendment could be divided upon.

Correspondence.

ADDISON'S ANAEMIA

SIR,—One of the chief claims to renown which the Charing Cross Hospital possesses is the fact that it was in its wards and laboratories that William Hunter for thirty years did his work on oral sepsis and carried out the investigations which have resulted in the almost universal acceptance of the haemolytic origin of Addison's anaemia It is therefore a matter of surprise and regret that the present director of the Institute of Pathology at Charing Cross should, in his paper published in your issue of February 16th, rely upon the evidence afforded by his confirmation of Naegeli's morphological observations to throw over the theory of a haemolytic poison of intestinal origin as the primary cause of the anaemia, and revive Ehrlich's discredited theory of a primary disease of the bone marrow

I am unable to follow Dr Piney's excursion into the morphology of blood cells, but some of his other statements are distinctly misleading Referring to a case of Levine and Ladd's, in which free hydrochloric acid was present, he omits to say that this was the only one out of 106 definite cases of Addison's anaemia in which achlorhydria was not discovered These authors rightly regard a single exception in such a long series of cases as of so little importance that they look upon the presence of free hydrochloric acid in the gastric contents in a case of supposed Addison's anaemia as very strong evidence against their diagnosis

Equally little importance can be attached to Dr Piney's case of subacute combined degeneration of the spinal cord, especially in the absence of a detailed clinical and pathological report, in view of my own series of sixteen cases and the series of twenty-nine cases recently reported by Vanderhof, in all of which complete achlorhydria was present—I am, etc,

ARTHUR F HURST

New Lodge Clinic Windsor Forest Feb 18th.

SIR,—In an article on pernicious anaemia in the issue of February 16th (p 271), Dr Piney points out that the changes in the polymorphonuclear leucocyte in that disease differ from the changes in all other toxic conditions, and mentions the polymorphonuclears of large size with hypersegmented nuclei

The nuclear changes in pernicious anaemia certainly differ from those found in any microbic infection, as I pointed out in 1914 [1]

The polynuclear count becomes "right-handed,' the increase being in the cells of Classes IV and V In Class V were placed polymorphonuclears with nuclear divisions of five and more than five In cases of pernicious anaemia the number of such polymorphs reaches as high as 11 per cent The polymorph is often of normal size even with seven or eight divisions in its nucleus

The following table shows the average of the five polynuclear counts mentioned by me in 1914 (loc cit), a "normal" average[2], and Arneth's original figures [3]

Cells of—	Class I.	Class II.	Class III.	Class IV	Class V
	Per cent.	Per cent	Per cent.	Per cent	Per cent.
Average of five counts in 1914	10 0	22 8	42.0	0 0	5 2
Normal average	10 9	25 0	46.7	15 3	2 1
Or if Arneth s original figures are taken*	5 0	35 0	41.0	17 0	2.0

* Here the right-handed appearance is accentuated

If a microbic infection supervene, the polynuclear count assumes the 'left-handed" appearance usually associated with such condition—I am, etc,

W E COOKE

Wigan Feb 18th

[1] *The Arneth Count* 1914 pp 18 and 19

[2] The Nucleus of the Polymorphonuclear Leucocyte in Health and Disease *Journ of Path and Bact* vol xii 1915 p 496.

[3] Arneth Die Neutrophilen leukozyten b Infektionskrankheiten *Deut. med Woch*, 1904, xxx, p 54.

CONTRACTED PELVIC OUTLET

SIR,—Like Dr Blair Bell, I have long been convinced that the question of contraction at the pelvic outlet does not receive the attention it deserves in our British text-books I have read with great interest Dr Fitzgibbon's excellent lectures on contracted pelvis, but have awaited, also with interest, the criticism which his remarks on this subject seemed certain to elicit

While I cannot say that I have experienced anything approaching to the high percentage of cases of outlet contraction that Dr Blair Bell's experiences suggest, I am certain the condition is not rare It has been my regular custom for years to measure the transverse diameter at the outlet before labour in primiparae and patients with a history of previous difficult labour It is a difficult measurement to make accurately, but is of great value as a relative index of future possible difficulties over a series of cases

It will, I think, be admitted that the majority of instances of outlet contraction occur in cases of general contraction of moderate degree Apart from frequent perineal lacerations of the second, and sometimes third, degree, the interest of these cases, so far as the pelvic outlet is concerned, is perhaps more academic than otherwise Excessive flexion and dolichocephalic head moulding (not to mention the attendance of an accoucheur imbued with Fabian principles) saves many a complete tear in this type of pelvis But there are others, in these there is no narrowing at the brim—in fact, the reverse is frequently the case, and subsequent trouble is often due as much apparently to excessive roominess at the brim as to narrowness at the outlet An unduly roomy brim permits the head to enter the pelvis indifferently *flexed, unmoulded, and in unfavourable positions, more* frequently than in normal pelves

Such pelves as the masculine, high assimilation, and kyphotic, while admittedly not common, are, as a group, not so rare as to justify neglect The course of labour, in a pelvis of any of these types, may provide one of the nastiest traps for the unwary head-through-the-brim optimist that can be imagined—for the reason that the physique of women, with pelves of this type, frequently gives no general indication of any such deformity, and the routine measurements usually taken, and the head-brim test before labour, are both liable to induce a false sense of security in the mind of the accoucheur It has been remarkable in my experience that, in the odd cases of this type which have caused serious trouble in delivery, the actual condition present has so frequently failed to suggest itself to the mind of the medical attendant. I can only attribute this to the lack of emphasis of contracted outlet as a cause of occasional dystocia in students' manuals The following case exemplifies my meaning

A fine buxom looking barwoman was attended by three different *doctors in successive labours* All *three were good average* accoucheurs The first, early in labour, rejoiced the patient's friends by saying that it would soon be over as the baby's head was well down, but hours afterwards he failed to complete delivery of a full time child with low forceps and had to perforate The trouble was supposed to be "rigid soft parts" The second attendant had an exactly similar experience two years later even to the telling of the relatives when labour commenced that a few pains would deliver the baby. Strangely enough, the cause of the dystocia was not realized on this occasion either Two years later she was again pregnant The third accoucheur had no *history of the case from his predecessors, but the relatives' story* of failure after promises of speedy success in the two previous confinements struck him as peculiar The usual measurements were taken, and they proved to be more than satisfactory He, however induced labour at about the thirty-fifth week But he had to deliver the premature foetus with low forceps after considerable delay the foetal head was damaged and the foetus only lived a few hours I saw her again with him three years later, and in her fourth pregnancy The pelvis appeared to be of the 'funnel" type, and the brim roomy but the transverse at the outlet was only 3 inches She had a successful Caesarean section at term The foetal head was of average size only A skiagram of the pelvis and lumbar spine taken later, showed what appeared to be a pelvis of the 'high assimilation' type

My general impressions are these Contraction at the pelvic outlet is not a negligible rarity When present in sufficient degree to make delivery *per vias naturales* difficult or impossible, it is often associated with a quite wide brim When, on pre-natal examination, the medical attendant is rejoiced to find a head well down in an apparently roomy pelvis, let him measure the outlet, and note the position of the lower portion of the sacrum It may save an occasional shock later A rather acutely angled pubic arch, and an inter-tuberosity measurement of anything below 3½ inches, should make one anxious, anything below 2¾ inches calls for abdominal delivery

Of pubiotomy I have no experience in these conditions Unfortunately these cases nearly *all come* with at least one sad experience of labour A failure to appreciate the cause of the condition on a first occasion may appear to some to be forgivable on the attendant's part a repetition is not —I am, etc,

Derby, Feb 17th CHARLES D LOCHRANE.

SIR,—I consider that the three following cases illustrate the point emphasized by Dr. Gibbon Fitzgibbon in his lecture on contracted pelvis, published in your columns of February 16th (p 272)—namely, that operative intervention should be postponed as long as possible and the opportunity for spontaneous delivery allowed

The first case was that of a Mohammedan, short in stature and with a contracted pelvis due to osteomalacia A previous labour had been terminated by craniotomy, and when she was admitted into hospital, in a subsequent labour, the foetal head was fixed in the brim of the pelvis, the cervix was fully dilated and taken up, and the outlook was good A healthy child was delivered with the use of high forceps

The second case was that of a Mohammedan primipara, with a very contracted pelvis, due to osteomalacia, the outlet was not much affected. When admitted to hospital six weeks before term an oblique position of the foetus was rectified and the patient kept absolutely at rest and treated with raw bone marrow Eventually, after a very short labour, spontaneous delivery of a small but perfectly healthy and living child occurred.

The third case was that of an American lady, with a contracted pelvis of the following dimensions - intercristal diameter 22 cm., interspinous 20 cm., and external conjugate 15 cm Before a previous confinement she had been told that Caesarean section alone could enable her to bear a living child. However, in that confinement, which lasted fifty-one hours, a healthy child was born Her subsequent labour only lasted about four hours and was terminated by the use of forceps when the head was close to the vulva and the pains were beginning to lessen The child, though small, was healthy.

In each of these cases an emphatic statement had previously been made by doctors that no living child could be born except by Caesarean section —I am, etc,

London S.E, Feb 21st. JANET M C GRAY

SIR,—Writing or delivering a lecture on any subject in obstetrics is like stepping on a wasps' nest, so possibly I am writing this letter too soon; but when a hornet like my friend Dr Blair Bell comes forth, and not a mere wasp, I think I had better reply at once

Dr Bell takes me to task for my amazing statement, "I never take measurements of the outlet," but my clinical experience has convinced me that contraction of the outlet apart from general pelvic contraction is of little importance, except in rare types of distorted pelves During the past four years I have clinically studied over 7,000 confinements in the Rotunda, and I remember no case in *which difficulty in delivery* arose solely from the outlet I have met cases where the foetal head was difficult to extract, and where the infant was born dead with the head excessively moulded, but this was always produced in the effort to get the head down to the plane of greatest contraction of the pelvis the moulding existed while the head was in the pelvic cavity and was *not* appreciably increased by the extraction through the outlet. The cases recorded in my lectures are cases of contraction at the brim, but presumably the cases of contracted *outlet* which I have overlooked by my failure to practise mensuration are included in the other cases treated in the Rotunda; since the outlet is the cause of serious dystocia, these cases will have required forceps at least to complete delivery During four years 423 infants have been delivered with forceps, and 42 were dead or died as the result, this includes all cases of eclampsia, prolapse of cord, abnormal heads, etc, but excludes what I classify as contracted pelvis I do not think this infant mortality is excessive. During the same four years there have been eleven complete lacerations of the perineum, with the exception

of an eclamptic case delivered by myself, and one other delivered by one of my assistants, these lacerations were all the result of delivery of breech cases with extended arms, or in easy forceps cases where students were allowed to perform the delivery

So much for my own personal statistics, from which I have drawn my conclusions Dr Bell refers to Professor Whitridge Williams's typical funnel shaped pelvis, and says the only observation not confirmed is the causal factor It seems to me extraordinary that in Williams's first edition funnel shaped pelvis should only be considered as the result of, or an associated condition of, marked kyphotic pelvis in spite of the enormous prevalence of the condition—6 1 per cent, as stated in the 1920 edition It is also stated that formerly this type of pelvis was looked upon as a masculine or infantile type, but Williams now looks upon it as in the majority of cases due to high assimilation—namely, six sacral vertebrae I wonder if Dr Bell can confirm the enormous frequency of this anatomical fault The shortening is said to be limited to the transverse diameter of the outlet in the majority of cases, ordinarily the reduction is to 7 or 8 centimetres, occasionally less It is also pointed out that with the patient in an exaggerated Sims's position an average increase of 0 75 cm occurs in the posterior sagittal diameter with extremes of 0 to 4 cm, with such pliability of the pelvic bones (which by the way I do not think exists) the shortness of the diameter can be compensated in all but the occasional cases reduced under the ordinary amount If this movement of the pelvic bones occurs, the measurements obtained in the dorsal position do not show the maximum space available, and possibly the relative freedom from laceration which I have experienced is due to the practice of applying forceps in the left lateral position Contraction of the outlet antero posteriorly is said to occur in rare instances, and is usually associated with flattening of the upper strait I admit that, but such a case is one of flat, not funnel shaped, pelvis The most typical examples are said to occur in the kyphotic and spondylolisthetic pelvis, the latter is a special and very rare type of pelvis in practice, and is excluded in the class, in my opinion the former type is also a relatively rare type, and should not be classed as funnel shaped when that is by the far the least feature of the deformity

It is interesting to take Williams's statistics of cases seriously affected in labour, in 135 cases the following operations were necessary forceps 17, Caesarean section 1, pubiotomy 3, craniotomy 1 The incidence of forceps is 12 6 per cent, which compares with a total incidence in Queen Charlotte's Hospital for the year 1920 of 13 8 per cent It would be interesting to know whether the five other cases were of simple funnel shaped pelvis or associated with kyphosis or some other condition Dr Bell considers his patient would not have had a living child if she had been delivered through the pelvis, I should be more disposed to agree if he had himself delivered the first infant, but from my experience of cases described as incapable of pelvic delivery and for that reason sent to hospital, I do not accept the statement as conclusive I would like to suggest to Dr Bell that, in the case of the second patient to whom he refers, he should allow labour to commence and continue till four hours after rupture of the membranes, and then report in what position he found the head This would be quite worth while to prove his contention, and even if the trial ended with a complete laceration of the perineum it could be repaired, and the convalescence would be lighter than after a straightforward Caesarean section —I am, etc,

GIBBON FITZGIBBON

Rotunda Hospital Dublin Feb 23rd.

GARDEN CITY SANITATION

SIR,—May I be permitted to congratulate you upon giving prominence to Dr Lionel J Picton's pithy, scientific, and in every way excellent article on the economic disposal of excreta, in your issue of February 9th? He covers the subject so admirably that one can do little beyond advising attention once again to the views he presents The article should be read and re-read by all your readers It is time our profession woke up on this matter The garden city movement gains impetus partly by the support of members of the medical profession Yet this movement cannot make great headway until we, or someone, through propagating the truths preached so ably by Dr Picton, have found for them a wider acceptance

There is one obstacle in the way of an alteration from present-day methods not mentioned by Dr Picton, and that is the mountains of vested interests which exist The chemical, mechanical, and engineering advice and machinery required to carry through the complicated processes of modern sewage disposal are prodigious As years go by, the cost of these grows rapidly For example, the total cost of disposing of the sewage of Manchester at the Davyhulme works has gone up from 1s 0½d per head of the population served in 1900 to 3s 2½d in 1921 I know a small market town in this county which made preliminary inquiries and had a survey carried out for the introduction of a water-carriage system of sewage disposal, with the result that they incurred a bill of over £1,000, which was 3½ per cent of the estimated cost of the work not proceeded with This for a town with only 4,000 inhabitants, where a penny rate produced £60!

As Dr Picton points out, the piling up of these costs, which include the heavy debt charges incurred, is very important to ratepayers It is a burden upon industry, an obstacle to production, especially as rates are now levied, and this encumbrance is in addition to and apart from the effect on the industry of agriculture of casting £18,000,000 worth of nitrogenous manure into the sea each year (*Journ of Min of Agric*, vol 26, p 502)

Dr Norman Macfadyen (February 16th, p 294) begs the question when he says, "Further progress must come through advance and not retrogression", and he seems to imply satisfaction with "a civilized community" All progress must be based upon obedience to the laws of nature Life in the civilized society of England and similar countries involves over 50 per cent of the population which survives the ravages of preventable famines, pestilences, etc, in dragging out an existence close to a bare subsistence level, this in spite of the discoveries of science and the inventions of the ages A jibe at the olfactory organs of one's opponent is not argument, and does not refute Dr Picton's statements For long it has appeared to me to be a law of nature (see Kropotkin's *Fields, Factories, and Workshops*, etc) that provision is made automatically for a thicker animal population to obtain sustenance if the earth is not robbed of her food Vegetable life is stimulated by the increased excreta and dead bodies of the animal residents, who are in their turn supported Even a big increase in reindeer population in the cold and infertile land of Labrador increased vegetable life correspondingly, as Dr Grenfell has shown in his autobiography Preventable deaths in infants, from accidents, from wars, and other causes, and preventable diseases, are due largely to disobedience of natural laws Until Dr Picton's views are accepted, and combined with the idea contained in the Garden Cities and Town Planning Association's definition of a garden city, to the effect that the land must be held by the community for the community, no serious advance against overcrowding into cities and ineffective housing of the masses can be expected, whatever Government be in power —I am, etc,

S VERE PEARSON

Mundesley Feb 19th

A NEW OUTLOOK IN CARDIOLOGY

SIR,—That the "Mecca" of golf may also become one of the shrines of cardiology, and, indeed, of medicine generally, will appeal to every patriotic Scotsman mindful of the interesting historic memories connected with that breezy little city by the sea in Fifeshire To those who have been more or less associated with or have followed the development of cardiology during the last three decades, it is interesting to note within the recently "new cardiology" a newer still

What is Sir James Mackenzie's "new outlook"? So far as I can gather from the papers appearing in your issues of January 5th, 12th, and 19th, and his elucidatory letter in the JOURNAL of February 2nd, it is concerned with the influence of the nervous system on the excitatory

structures in the heart and the nervous control of the organ generally

We can all remember, when the new cardiology burst upon a benighted world, how many notions entertained by physiologists and clinicians of repute had to seek obscurity It was even asserted that the new originative structures were uninnervated, and that the heart was quite able to take care of itself by properties inherent in its muscularity, without regard to innervation or such mechanical details as its valvulature Is there not also a "law of the heart" in virtue of which even the eviscerated organ finds itself equal to every occasion? (!) We all remember, too, the back seat which the valves had to take at the *beginning* of the late war in the examination of recruits

Conceptions of innervated muscle have not alone prevailed in cardiology They have also influenced physiological thought in the vascular system, notably in the cerebral circulation, and still assert themselves in the matter of an afferent visceral nervous system To Gaskell the conception of uninnervated muscle was an absurdity, and anatomical research has shown it to be such in the sphere with which the new "outlook" deals I myself have demonstrated the innervation of the sino-auricular node and the intracranial vessels It has still to be appreciated that the innervation of the excitatory and general cardiac musculature is the same The "custodians" are controlled by the nervous system and independently of them, also the general cardiac musculature, while both the active influence and suspension of such influence of the *controlling nervous system* account for most irregularities of organic action

In so far as the "outlook" entertained at St Andrews takes this view I can share it, but it is not *new*, and the absence of novelty, in my opinion, adds to its value

The author of the "new outlook" refers to an interesting subject when he considers partial muscular action in the heart and correlates cardiac action with other visceral actions, such as those of the uterus and bowels This I also did in my first course of Morison lectures on the relation of the nervous system to visceral disease and disorder in 1897 and 1898 Dr Samways prefers the conception of a "gentle" general contraction (BRITISH MEDICAL JOURNAL, February 16th, p 293) to the action of a limited number of muscular fibres, but, as I considered more at length in a paper read before the Edinburgh Medico-Chirurgical Society in June, 1923, which was published in the *Edinburgh Medical Journal* in September last year, there is good anatomical evidence of local muscular action and nerve control in the heart, and the size of the systolic wave in various irregularities is quite conceivably due to *a limited amount* of ventricular action—"hemisystolic" or "hyposystolic," as I termed it in my book on cardiac failure which was published in 1897

The limited or segmental action of cardiac muscle under neural or nodo-neural control is best seen in a paradoxical condition of which there is good evidence—namely, the persistence of systole in the lower *auricular* segment during *ventricular* systole (*Edinburgh Medical Journal*, September), which (with other phenomena) gives the *coup de grâce* to the "all or none" theory which once held the field

That hardy annual, "back pressure," again appears in the "new outlook" (BRITISH MEDICAL JOURNAL, January 19th, p 107) Dr Samways considers "the old back-pressure view" as "more logical" In this I agree with him so long as we clearly understand what the term implies The increased back pressure is of necessity associated with diminished front pressure—if one may use the latter term to denote defective systole—and was never supposed to be dissociated from it The hypostatic pulmonary phenomena connected with cardiac failure the author of the "new outlook" would probably regard as due to defective front pressure on the part of the right ventricle, but the power of swinging them from the left to the right lung and vice versa, according as right or left decubitus is assumed by the patient, reveals the passive element in a back pressure which increases *pari passu* with the failure of front pressure, although the initial factor in inducing muscular failure with defective front and increased back pressure may be purely mechanical and valvular In this connexion the absence of anasarca in fatal cases of aortic regurgitant disease is interesting. Front pressure in this case is absolutely lost, but efficient auriculo-ventricular closure by lower auricular systole and valve flap absolutely prevents venous stasis in many cases till death itself takes place

I am not without hope that the recognition which has been given to the influence of cardiac control by the nervous system in the "new outlook" may in time be extended to a perception of the real nature of back pressure in an outlook still newer, which will be none the less true because not new—I am, etc,

London, W, Feb 16th ALEXANDER BLACKHALL-MORISON

THE BRACKENBURY TESTIMONIAL

SIR,—There are, I think, about 15,000 medical practitioners on the panels of the National Insurance Act, and I am convinced that in what I am going to say I am expressing the opinions of at least 14,000 of them

We are all very conscious of the debt we owe to Dr Brackenbury, and we are all only too anxious to be given an opportunity of showing our gratitude to him in some way that shall convey to him our admiration and affection This feeling is, I am sure, centred in Dr Brackenbury himself and not in the official personage who acts in the capacity of Chairman of the Insurance Acts Committee This being so, the profession will not respond in the same whole-hearted and affectionate way to any fund which is to be collected and then divided up between a group of people, including the Chairman of the Conference of Panel and Local Medical Committees, and perhaps some others whose names up to the present have not been mentioned

When we pay our subscriptions to a Brackenbury testimonial let us feel that it is indeed a testimonial to Dr Brackenbury, and if those who are in a position to know consider that there are others who are deserving of our special recognition, it will be found that the profession is not ungrateful—I am, etc,

Newquay, Feb 23rd ARTHUR GADSDEN

SIR,—Drs Burges, Garbutt, and Lydall tender the suggestion that the name of Dr Dain should be associated with the proposed testimonial to Dr Brackenbury This, I hazard, is to misunderstand the reason of the united feeling of the profession The relative merits of the two policies are still *sub judice* But there can be no difference of opinion of the Brackenbury testimonial The decision of the Conference being given, Dr Brackenbury set to work again, took up the burden once more for the profession, and presented the case with an ability, a singleness of heart and mind, and a self-effacement which are amazing It is, above all, an example—a triumph of character which, I venture to think, will long endure—I am, etc,

London, N W, Feb 23rd. RICHARD GILLBARD

RHEUMATIC "GROWING PAINS"

SIR,—Many years ago, when reading Hutchison's book on diseases of children, I was greatly interested in the statement that most cases of so-called "growing pains" in children were due to slight rheumatism

Every year of practice emphasizes in my mind the truth of this statement I have had many cases where growing pains were the only symptom complained of, in which I have found signs either of active endocarditis or of valve damage, the mitral being almost invariably the valve attacked In this connexion also I have again and again observed in such cases, the occurrence often repeated, of various forms of erythema, presumably also rheumatic I have also, in a number of cases of signs of valve damage in grown-ups, where there was no history of rheumatism or other possible cause, eventually elicited a history of frequent growing pains in childhood, which were looked upon as normal by the parents and for which no medical man had been consulted

As regards prophylaxis, it seems to me that we have here a most important and common danger signal in children I have been reminded specially of the above by a particular case during the last few weeks

The patient, a child aged 6 years, had a temperature the first day of observation of 100 2°, the second day of 99 6°, with a history of frequently recurring, recent growing pains Signs of mitral regurgitation were now present, also an erythema, partly resembling German measles and partly very mild scarlet fever, but only lasting about twenty four hours, and accompanied by marked itching, and not followed by any even the slightest sign of desquamation There was no history of any previous ill health The tonsils were slightly enlarged but pale rather than over red and the tongue, coated at the base was rather smooth than over-rough, and quite unlike a scarlatinal tongue The subsequent history quite negatived scarlet fever

It seems to me that one might almost construct a fresh "triped" on the analogy of the famous one of chorea, heart, and rheumatism—namely, one of growing pains, heart, and attacks of erythema —I am, etc ,

Hackwell Heath Bucks Feb 25th. G D PARKER,

THE EXPLOITATION OF NURSES

SIR,—The chairman of the Finance Committee, General Nursing Council, seems satisfied that all is for the best in the best of all possible worlds for the nursing profession and the public He rightly pleads that a fee of five guineas for two examinations is not excessive, but this does not alter the fact that every candidate will have to pay five guineas, and some will have to pay more if they fail to pass either examination on one or more occasions

I am anxious to know what sort of standard the General Nursing Council proposes to adopt Will it be so high as to ensure the failure of a considerable number of candidates and act as a deterrent to girls thinking of becoming nurses? Or will it be so low as to render the pretentious syllabus ludicrous and the examination a farce? Even a moderate percentage of rejections will have a tragical effect, and a very low one will be comical

My suggestion that the General Nursing Council is anxious to obtain better and more expensive accommodation, like my other criticisms, is ignored I note that a paragraph in the *Nursing Times* of February 9th states that the Council recently "turned down the house in Portland Place, evidently an attractive proposition" And there is no attempt to controvert my point that hard work for three years on a minimum salary and heavy fees for examination, with the possibility of rejection, will cause a deficiency in the supply of nurses Certainly the policy of registration has not improved the quantity or quality of the girls entering our hospitals for training

Seeing that registration is not compulsory, and that the passing of a State examination is not essential to becoming a competent nurse, the General Nursing Council is ill advised in creating the impression that its syllabus and examinations will render registration difficult of attainment At present there are many partially trained nurses, some excellent, in private work If those now in training refuse to pay for the risks of examination, and are content with a certificate of three years' full training at a general hospital, it is probable that they would have little difficulty in obtaining work or would be inferior to registered nurses I have heard much grumbling from qualified and unqualified nurses on the lines of my former letter, but those who know the nursing world will understand the reluctance to express their views in print As for their ability to exercise any influence by voting for representatives on the General Nursing Council, most of them know as little about nursing politics as about general politics Even those who voted in favour of registration were generally ignorant of what they were doing, signing because the matron or sister of the ward told them to I do not know whether the General Nursing Council publishes an audited balance sheet Certainly registered nurses do not receive a copy, and are in complete ignorance of the expenditure on this wretched farce, as well as knowing nothing of the general policy of their council —I am, etc ,

London W , Feb 28th. EDMUND CAUTLEY

VARIATIONS IN SUSCEPTIBILITY TO INSULIN

SIR,—In the course of an experimental research upon insulin, on which we have been engaged for some time, we have found that the colour of the animals with which we experimented had a very material influence upon their susceptibility, albino rabbits and mice being able to withstand without apparent harm an amount of the same preparation which proved rapidly fatal to naturally coloured or piebald animals of a similar weight, whereas black rabbits and mice quickly succumbed to a dose from which naturally coloured or piebald animals recovered The reason for this peculiarity is being investigated, and we hope shortly to publish our results in detail

Apart from their theoretical interest these observations are of considerable importance, seeing that the present method of standardizing insulin is based solely upon its physiological effects upon rabbits and mice It is obvious that unless animals of the same colouring, as well as of standard weight and condition, are employed there may be considerable variation in the potency of the unit It seems possible also that the different susceptibility of albino and self-coloured rabbits to insulin may account for the apparent loss of potency of preparations sent from this country to the tropics It has been stated, for instance, that four times the amount of insulin which reduced the blood sugar of a rabbit in England to 0 042 per cent only reduced the blood sugar to 0 062 per cent in India (BRITISH MEDICAL JOURNAL, January 12th, 1924, p 86), but as we understand that the Himalayan rabbit with which the experiments were probably carried out in India is a pink-eyed partial albino, the difference in these results may have been due to that fact —We are, etc ,

P J CAMMIDGE,
H A H HOWARD

London W , Feb 21st.

HOMŒOPATHY AND THE "ERA" CULT

SIR,—With reference to your leading article (*February* 16th), may I state

1 My first report contains the following

'In the 200 potency it is doubtful whether there could be even a single molecule of say, natrum mur (NaCl), or even an *ion of sodium or chlorine* Dr Aston the eminent Cambridge physicist in a letter to me pointed out that in the 100c potency the patient could not get even a molecule of the original drug, and hence the effect if any, is due to some state of matter not *known and immaterial as far as present science goes*

This statement of Dr Aston was a true scientific one, and appears *to me more relevant than the deductions* you make To refute facts by theories seems illogical The fact claimed is that the new methods demonstrate, under suitable conditions of screening, that these potencies register, *as do other substances* Further, the potencies are not made by dilution, but by dilution accompanied *by violent succussion—another* matter altogether

2 Regarding "diagnosis," may I quote from my second report?

'It is therefore clear that the emanometer is not diagnostic but *analytical* *It detects* abnormal activity rather than single diseases, so-called Again, What we are detecting is not the presence of a toxin or infection but the registration of an increased normal energy *In other words disease considered* from the viewpoint of the emanometer is normal energy become *abnormally* active"

This is a totally different thing from modern diagnosis

3 The point *at issue* is not whether homœopathic potencies record, although the physical aspect of this is of very great interest, but whether the method of registration from blood, vaccines or drugs and other substances is a scientific *fact*, or subconscious in origin After prolonged experiment I have come to the conclusion that one cannot *attribute* all the phenomena to the subconscious The methods of registration have already been *submitted to scientific* test by independent non homœopathic investigators, and the results, based on the average of *probability*, support my view that we are dealing with physical phenomena previously unobserved Incidentally, *the effect* in the human detector can be demonstrated electrically, with valve-amplification, as well as by percussion The application of these phenomena to treatment is a secondary matter, and my theories may be

eventually proven wrong At present I find that the application of the facts to treatment, even in the present crude and undeveloped state of the instrument, has enabled me to help my patients more efficiently, and that is my main desire

4 I have never been at San Francisco, nor known Abrams, and all the work is being carried out with as unbiased an outlook as possible, and with due regard to the influence of the subconscious It is a research of many years, with immense and intricate problems ahead — I am, etc,

Glasgow, Feb 21st. WILLIAM E BOYD

Medico-Legal.

A NEW ZEALAND MURDER TRIAL

THE theory that the mind of a youth charged with murder had become dissociated as the result of mental conflict, and that he committed the crime whilst labouring under automatism, was put forward by counsel for the defence at the trial of a youth named Kissel, aged 18, for the murder of a man named Mackenzie, aged 60, which took place before Mr Justice Reed, in the Supreme Court of New Zealand, in August of last year

The accused, in his evidence, said he first met the murdered man when he was 8 years old, and an unnatural intimacy arose between them from that time until the murder During those years Mackenzie exercised a fascination over him, and followed him wherever he went There seemed no escaping him Then he saw a job advertised, but his employer, a Mr Little, refused to allow him to go in the middle of drilling operations There was a scene, after which he remembered leaning against the stable door wishing Mackenzie dead, the last hope of getting away from him having gone There followed a confused account of his movements that night He did not remember murdering Mackenzie, but he dreamt he shot a girl, and when the following morning he found two when there should have been three bullets in the bullet box, he said "Have I really killed him?" He then went to where Mackenzie lived to get the uncertainty over and met a Mr Martin, who said "You've killed Mackenzie" It came upon him at once that it was no dream and that he was a murderer and a criminal He had often been shooting with Mackenzie, and had had several opportunities on those occasions of shooting him and making it appear a pure accident He knew if he had shot Mackenzie his body would be in the bed room, as he could never have shot him if he (Mackenzie) had been awake He had never before told anybody about his relations with Mackenzie because he was too ashamed He admitted he knew Mackenzie was going to leave him money under his will

The defence called Dr Percy Chisholm, medical superintendent, Queen Mary Hospital for Nervous Diseases, Hammer Springs, and Dr F V Bevan Brown, physician to Christchurch Hospital, who had both examined the accused

Dr Chisholm said that, assuming the story of the boy's persecution was true, the boy would undoubtedly resent it It was an offence against his morality The conflict which would arise in the boy's mind might be slight at first, because in children the sex instinct was not so definitely separated as it was in later life As the boy grew older he must realize the wrong, and that increased the conflict Also every failure to get away from Mackenzie increased the conflict It was impossible for the human mind to go on always labouring under conflict, and conflict might result in several ways The bad idea might be repressed and the patient become, in the course of time, neurasthenic He might solve the conflict in an intellectual way, or it might end in dissociation In the present case it caused psychasthenia—an abnormal action of the mind manipulating itself in errors of judgement, in abnormal emotional states, and in abnormal impulse This condition was separated from the insanities in their well recognized form by the absence of hallucinations, continuous excitement, or continuous depression In conflict it was not necessary to have one big shock to cause breaking point Repeated little persecutions would eventually cause the breaking point Psychasthenia was a morbid condition of the mind, and gave rise to morbid impulse Complete states of double personality appeared in the psychasthenic Where dissociation was complete there would be no memory Kissel had conflict and dissociation He had been dominated for years by the idea of escape, and even to the extent of wishing Mackenzie dead The persecution of Kissel had reached its maximum in that he could not escape, and the fact that he could not get away from Little's on that day set up a dissociated state, which was partial, and the possessive thought to escape from Mackenzie took charge of the mind It was in such a state that the act was committed At the time the normal function of the brain was perverted, and his judgement only sufficient to impel him along the automatism under which he was labouring He had not the judgement to know whether the act was a right or a wrong one it was impossible for the personality of the boy to have any control whatever During cross examination Dr Chisholm added that accused should be under observation, but he could not say he was certifiable. If he were acquitted he would go into the world again, but there should be a place for such cases Automatism could be pleaded by any criminal, but it would have to be proved. Mental conflict would have to be proved

Mr Justice Reed Do I understand that once the sexual conflict you speak of is set up the person affected is not responsible for any crime he might commit whilst the conflict is going on?—Under certain conditions when dissociation arises, I think crimes might be found to be due to the disease

Dr Bevan Brown thought there was only partial dissociation, and that Kissel's ordinary mind, his personality, at the time was aware of what the detached part of his mind was making him do, but in a rather vague and hazy way His judgement, reason, power of consideration, and moral sense were in abeyance more or less according to the degree of dissociation—sufficiently so to have no power to control the detached part of his mind which had carried with it the idea of killing Mackenzie When it assumed control it set about putting the idea into execution Kissel's strange manner, and the absence of any attempt to conceal or escape on the morning after the tragedy, supported the view of dissociation, which would continue after the act He continued in dissociation until the afternoon, when somebody said "Mackenzie is dead, you have killed him" That was a sufficient shock to bring about reassociation That emotional storm was known as abreaction, the putting together of the detached parts of the mind and the return to a normal mental state

The prosecution called medical evidence of accused's sanity, and counsel for the prosecution, addressing the jury, said they should hesitate before accepting a theory born of an undeveloped science The doctors had made it clear that Kissel was not certifiable as insane, and the defence of automatism would result in turning loose upon the community people who had committed crime but were not certifiably insane The question of conflict of the mind was not novel or difficult it was the instinct between desire and restraint It would be perilous to place too much value on the theories of psychoanalysts

Mr Justice Reed, in his summing up, said the law as to insanity in cases of murder was 'No person shall be convicted by reason of an act done by him when labouring under natural imbecility or disease of the mind to such an extent as to render such person incapable of understanding the nature and quality of the act and knowing such act was wrong" Pleas of impulsive insanity were not recognized in British law, and the defence of automatism was a startling proposition, and entirely novel so far as New Zealand was concerned The science of psychology was pure theory There had always been a conflict between law and medical science, doctors were not charged with the protection of society The letting in of fanciful theories offered a means of escape to every criminal The main question was the issue set up by the defence that the mental condition of the accused was such that he did not know what he was doing, and if the jury agreed with that defence it was their duty to acquit the accused

To the question whether the accused was insane at the time he committed the murder, the jury answered in the affirmative, the foreman saying "We find the prisoner guilty of murder while temporarily insane, with a strong recommendation that he be detained in a suitable institution" The prisoner was ordered to be detained during the Minister of Justice's pleasure

Universities and Colleges.

UNIVERSITY OF LEEDS

AT the meeting of the Council of the University of Leeds held on February 20th Dr H L Taylor and Dr A J E Cave were appointed demonstrators in pathology and anatomy respectively

SOCIETY OF APOTHECARIES OF LONDON

THE following candidates have passed in the subjects indicated

SURGERY—R D Jones W McLaren H J Powell
MEDICINE—J B Sweet
FORENSIC MEDICINE—R Caplan L K Htoo E G R McMahon M S Mahmud W McLaren I Morgan A M Shawket
MIDWIFERY—R Hare F James R Schofield R D Marett Tims.

The diploma of the Society has been granted to Messrs R Caplan, M S Mahmud, W McLaren, H J Powell, and J B Sweet

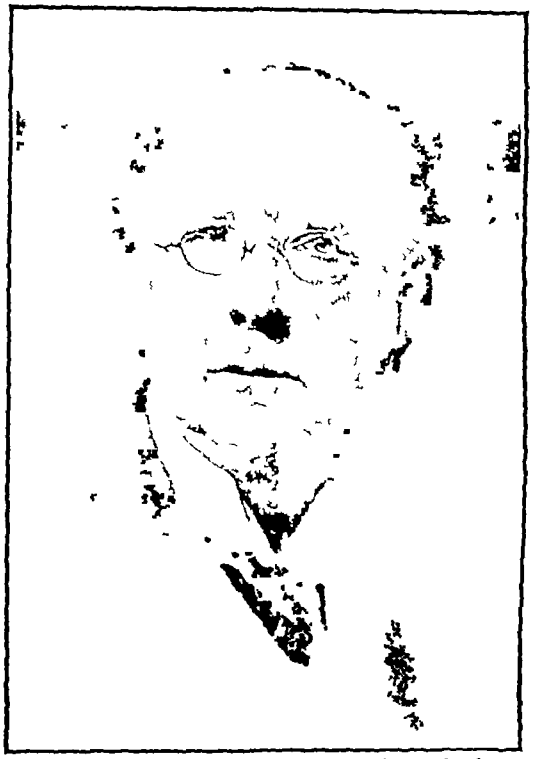
Obituary

SIR MALCOLM MORRIS, K C V O, F R C S Ed,

Consulting Surgeon Skin Department, St Mary's Hospital

SIR MALCOLM MORRIS, who died at Bordighera, Italy, on February 19th, was the youngest of fifteen children, his father being John Carnac Morris, I R S, of the Madras Civil Service. Several of his brothers attained distinction, one was L. E. Morris, professor of English literature in Melbourne University, and another was the well known Jesuit, Father Morris. Of this large family he was the last survivor.

Malcolm Alexander Morris was born in London on August 17th, 1849. He studied medicine at St Mary's Hospital, and obtained the diploma of M R C S Eng in the year 1870. An early and happy marriage, and the necessity of gaining a livelihood, prevented him from taking the higher diploma or spending much time in junior hospital appointments, and he had to betake himself to general practice in Yorkshire. But his instinctive vigour and a worthy ambition brought him back to London, where he took up the study of skin diseases, working chiefly with Jonathan Hutchinson and Warren Tay at the Hospital for Diseases of the Skin in Blackfriars. *In those days* dermatology was only looked on as one of the lesser handmaidens of general medicine. Skins were generally looked after by one of the physicians. At St Mary's this chanced to be Dr Cheadle, a physician chiefly remembered for his work in diseases of children, but a man of wide knowledge, general culture, and a well known traveller. Malcolm Morris was at first joint lecturer with him, and afterwards became the first surgeon *in charge of the skin department*. He lost no time in identifying himself with the specialty in which he was later to become a leader, for, nine years after qualifying (which he did at the early age of 21), he brought out his well known manual of *Skin Diseases*, this was in 1879. *In the following year he obtained the* F R C S Ed. The next chief step in his career was being appointed medical editor to the well known publishing house of Cassell and Co. in the early eighties.



Photograph by] [Russell, London.

SIR MALCOLM MORRIS, K C V O

On these two foundations—dermatology and books—the rest of his career was built. He started well with the house of Cassell, editing and contributing to the *Book of Health*, which appeared in 1883. He had an editorial instinct for securing suitable authors, and a quick flair in spying out rising men who were likely to arrive. In this first book which he edited from Belle Sauvage Yard are to be found such well known names as Savory, Risdon Bennett, Bristowe, Lauder Brunton, Russell Reynolds, Shirley Murphy, Joseph Fayrer, and Hermann Weber. It is difficult to refrain from exclaiming that there were giants in those days! Two of them still remain to us—Crichton Browne and James Cantlie. Malcolm Morris always claimed that he was the first to discover in Frederick Treves a ready writer and a master of English. It was through this discovery that Treves's books were issued by Cassell: the well known manual on surgical anatomy, his works on surgery, and, in recent years, his delightful travel books. Treves and Morris were always close friends. I believe they met at the Reform Club regularly once a week to discuss Morris's two favourite subjects—men and books. His early experience of general practice and his editorial work gave Morris not only an understanding of human nature and a wide view in his profession, but laid the foundation of a knowledge of matters pertaining to the public weal which served him well through a long career. He published *The Nation's Health* in 1917, and his *Story of English Public Health*—the introductory volume to the English Public Health Series—appeared in 1919. As late as 1921 he edited, with Professor Langmead and Dr Gordon Holmes, the *Dictionary of Practical Medicine*. He was appointed a member of the board of directors of Cassell and Co about 1906, and remained associated with the firm up to his death. But between his joining it in 1882 and his last work on this dictionary in 1921 he had been responsible for introducing to Cassell's a long series of medical authors. Amongst these might be mentioned Jonathan Hutchinson, George Savage, Arthur Whitelegge, George Newman, John Bland Sutton, Pearce Gould, Berkeley and Bonney, Mitchell Bruce, Burney Yeo, Robert Hutchison, and Patrick Manson.

In his work as a dermatologist Morris's studies had been widened by frequent visits to Vienna, Berlin, Hamburg, and Paris. He took considerable interest in developing the *British Journal of Dermatology*, he passed through the chair as president of the Section of Dermatology of the Royal Society of Medicine, and he was at the summit of his career when he was made president of the Section of Dermatology at the thirteenth International Congress of Medicine held in London in 1913. It was about this time that he wrote an article in the *Lancet* strongly advocating a Royal Commission on Venereal Disease. This was taken up in the daily press, and was soon followed by the appointment of a Royal Commission and by the formation of the National Council for Combating Venereal Diseases, of which he was a vice-president. There can be little doubt that it was chiefly through Morris's outspoken appeals that the age-long ban on the public discussion of this social curse has been removed. He was quick to examine any new idea pertaining to therapeutics or social hygiene. He was one of the first in the rush to Berlin to investigate the claims made by Koch when tuberculin first came out.

Malcolm Morris had the gift for friendship, and was ever loyal to those who worked with him faithfully. He gladly went out of his way—often at inconvenience or loss to himself—to do any friend a good turn. His own early struggles made him ever sympathetic towards younger men. He was generous in many other ways, he was never tired of helping lame dogs over stiles, and there were some who would never surmount a stile again whom he maintained for many years. On the other hand, he quite lived up to the Polonian advice of how to treat the opposed once being in a quarrel. In spite of Morris's virility and decisiveness there was something feminine in his character which was both amusing, annoying, and attractive. To merely rational acquaintances it made him appear superficial, with more of the mentality of the advocate than of the scientist, to the judicial he might seem one-sided while to his friends this very same feminine trait showed up only

as sensitiveness and affection He did not suffer fools very gladly, he was somewhat impatient of criticism, but in his devotion and loyalty to those to whom he was drawn he, like a woman, nailed his colours to the mast

I came across him first in 1893, and thenceforward, in acknowledgement of a very little help I had been able to give him in Italy, he never spared himself with encouragement, advice, and help in getting me through the early struggling years in London In 1895 he took over the editorship of the *Practitioner*, at a time when its fortunes had been allowed to ebb, and for many years I worked with him as sub-editor At the end of last century medical journalism still retained some of the spice and zest of battle which still lingered on from the period impersonated by Wakley Even now interest and amusement can be gained by turning to the ten pages he regularly supplied under the title of "The Month," and with the very appropriate motto of *Quidquid agunt homines* My own work consisted of writing practical notes, causeries, reviews, abstracts, comparative studies, and what not—always prepared at a moment's notice to make up the necessary number of pages! Morris's brisk journalistic style was evident in many of his writings at that period Not only had he an apt and fluent pen, but he was a very clear and effective speaker, with a happy gift for expounding scientific matters to lay audiences

On returning from a summer holiday in Germany I described to him what I had seen there of open-air sanatoriums—at that time almost unknown in England From my description alone he was quick to see the possibilities of the subject, on which he then knew practically nothing I organized a special number of the *Practitioner* (June, 1898) devoted to the subject, for which, with his nimble wit, Morris had already found the battle-cry of "The Crusade against Consumption" In this special number there were articles by Samuel Wilks, Arthur Ransome, Sims Woodhead, Allan MacFadyen, James Pollock, Hermann Weber, Theodore Williams—all authorities of the time—with reviews on climate and health resorts by Michael G Foster, F M Sandwith, Alfred P Hillier, and Parkes Weber, while the oncoming sanatorium side of the question was discussed by Rufenacht Walters, Burton-Fanning, and Hector Mackenzie Under "The Month," and in ten vivid pages, Morris waved the fiery cross of the crusade Starting from this he organized the National Association for the Prevention of Consumption in 1898 he was its first treasurer, he represented it at the Berlin congress in 1899, and he was secretary-general of the British Congress of Tuberculosis in London in 1901

Morris left the *Practitioner* in 1902, but whenever he gave up one project it was generally to start immediately on two others Of his multifarious other undertakings, are they not written in the *Medical Directory* and *Who's Who*? Let me enumerate a few, which I may have omitted, in the form of a mere catalogue President of the Harveian Society, chairman of the Radium Institute member of the Royal Commission on Venereal Diseases, 1913-15, Fellow of the Royal Sanitary Institute, member of the International Council on Leprosy, Lane lecturer at San Francisco, 1901 He served on the staff of St Mary's Hospital for twenty-five years, and was a member of the staff of the Seamen's Hospital, Greenwich, for twelve years He served on the council of Epsom College from 1881 to 1893

Of the British Medical Association Morris had been a member since 1872 He served as vice-president of the Section of Dermatology in 1890 (Birmingham) and in 1895 (London), and in 1897 he was president of his Section when, for the first time in its annals, the Association met outside these islands at Montreal He was a valued member of the Ministry of Health Committee, 1920-21 and served on the Parliamentary Subcommittee 1919-22

In 1908 his professional services to King Edward VII were acknowledged by the bestowal of the K C V O

This mere catalogue of his undertakings is not sufficient to make a picture of his untiring energy and driving power He carried through all this work with enjoyment and zest, and appeared to find in a committee meeting the delight which other men find in sport He once asked me why on earth I liked going to a theatre where I could only see the feeble representations of imaginary human passions, when by going to a committee meeting I could watch and enjoy the real thing! Outside of his profession and his public work, his chief delight was in books He was a member of the M C C, and used occasionally to watch the cricket at Lord's, but he cared for no exercise beyond a moderate walk. Cards and billiards had no attraction for him He was a great supporter of the concerts at the Queen's Hall He relished anything intellectual He was a very temperate liver, taking no alcohol for many years past, but he clung to his pipe He was an omnivorous reader, and there was little in English literature that he did not know and few quotations from our own classics which he could not place He had the Latin faculty of being able to *flaner*, and no one could wish for a happier companion to stroll with round the bookshops in the Piazza di Spagna, to visit the graves of Shelley and Keats in the Cimitero degli Allori, to go for a motor drive, or to sit outside a café Although no great linguist, he appeared to understand and get on well with foreigners, and he did much to keep up a cosmopolitan fellowship in dermatology

When Morris retired from practice in 1919 he expressed the greatest delight in being free from the petty cares of practice His multifarious interests still kept him more than busy He threw himself with ardour into the working of the Federation of Medical and Allied Services, of which he was chairman of the Executive Council He served on Home Office committees He took an interest in the Botanical Gardens, and was a Fellow of the Zoological Society In the winter of 1922-23 he had a nasty attack of influenza on the Riviera Last summer he had a serious operation, which he appeared to get through unscathed it certainly left his mental activity unabated, although perhaps he was physically feebler He returned to the South of France at the beginning of January, and friends who met him there found him older looking but mentally as bright as ever

Morris seldom looked before or after or sighed for what is not, yet he was very fond of quoting to me the saying of Burke's "What shadows we are and what shadows we pursue" He revelled in a full life of variegated work I never knew anyone who better filled the unforgiving minute with sixty seconds' worth of distance run, and I certainly think he held with Shakespeare that "Things won are done joy's soul lies in the doing" This zest of life remained to the last For Malcolm Morris, happily, there were no dwindling years He died at Bordighera on February 19th, after four days of illness, without suffering In years he had lived threescore and fourteen, but the gods must have loved him, for he died young

STC T

Sir Malcolm Morris is survived by his devoted wife, Fanny, the eldest daughter of Thomas Cox of Dorchester, Oxon They celebrated their golden wedding in July, 1922, when Sir George Newman presided at a luncheon at which they were entertained by a distinguished gathering of friends One son, for many years a solicitor in large practice in the City, now looks after the interests of the Anglo-Persian Oil Company in Paris Another son is Mr Harold Morris, the well known K C and Recorder of Folkestone, and recently M P for East Bristol

A memorial service will be held in St Marylebone Parish Church, York Gate, Marylebone Road, on Tuesday next, March 4th, at 1 p m

We are indebted to Sir ANDERSON CRITCHETT, Bt, for the following personal appreciation of his old friend

The medical profession, and the consulting staff of St Mary's Hospital, are indeed poorer by the unexpected and lamented death of Sir Malcolm Morris To me personally, the blow comes as a very severe one, for we had been colleagues at the hospital for twenty years, and our friendship had extended over more than twice that time The memory of our first meeting is as fresh with me now as though it had happened but yesterday I had called on him with reference to my candidature for the ophthalmic surgeoncy of St Mary's As we met he gave one keen searching glance, and then came a warm grasp of the hand It was a case of friendship at first sight, and

one which, to quote Dick Swiveller's metaphor, "never moulted a feather" throughout the long years which were to follow On one point, however, our tastes were completely divergent, for he revelled in council and committee meetings, making at many of them an excellent and resourceful chairman, whereas I have never regarded them as things to be desired

In our young days we went together to several meetings of the British Medical Association, and when he found himself free if only for a short time, from professional trammels he displayed the same keenness and energetic ardour in the enjoyment of a holiday as that which he always brought to bear upon his work At that time—as, indeed, throughout the whole of his life—he thoroughly appreciated a humorous situation, and I vividly recall the almost boyish glee in which he indulged when he had on one occasion emerged triumphantly from an animated discussion with the landlady of a seaside lodging house, at whose establishment he and I had suffered severely from the onslaughts of the "Pulex britannicus' During the period of his studentship he displayed some prowess as an athlete and he was included in the almost invincible football team which represented St Mary's Hospital in the days of George Field and Edmund Owen He was very successful as a teacher, for he early recognized that as a means of imparting knowledge practical demonstrations have a far greater value than academic lectures, and it was in the out-patient room that his most important work was accomplished

Morris was well equipped as a speaker, for, in addition to an extensive vocabulary, he possessed a fine voice and exceptional elocutionary powers, which he used to the best advantage Had his wish to become a politician been realized he would, I think, have had a very successful career, for he was an excellent administrator, and, as he once laughingly assured me, he was able, given a sufficient knowledge of his subject, to speak without exhaustion for an almost unlimited time Few members of our profession have led a more active or useful life, for he was always in the forefront of any movement which gave promise of benefit to the community, and he was in a large degree cosmopolitan, for he was ready at one and the same time to distribute his best energies in such varied directions as tuberculosis, venereal disease, and cremation

Morris was ever ready to make grateful acknowledgement that his success in life was due in a great measure to his fortunate domestic surroundings, and those of us who were present at their golden wedding in 1922 hoped that for his devoted wife and himself there might be at least another decade of united happiness still on ahead

It was not to be, and we can only tender to her and to her sorrowing children the assurance of our most sincere sympathy

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ROBERT GUTHRIE POOLE LANSDOWN, M D, B S,

Consulting Surgeon to the Bristol General Hospital

We have to record with much regret the death of Mr R G P Lansdown, which occurred suddenly at his residence in Clifton on February 17th, at the age of 60

Robert Guthrie Poole Lansdown was born in Bristol and received his education at Clifton College and Epsom College at University College, Bristol, and at Guy's Hospital and Newcastle-on-Tyne In 1889 he obtained the diplomas of M R C S Eng L R C P Lond and graduated M B, B S at the University of Durham, proceeding M D in 1891 At Guy's he held the resident appointments of house-surgeon and resident obstetric officer He settled to practise in Bristol in 1891, and was shortly afterwards elected assistant surgeon to the Bristol General Hospital, to which institution his father and grandfather had been honorary surgeons In 1896 he was elected full surgeon He held the post of lecturer in practical surgery at University College, Bristol, and later at the University of Bristol, where he was also clinical lecturer in surgery, and had been chairman of the Medical Board He had represented the Bristol General Hospital on the Court of the University

In the autumn of 1923 Mr Lansdown resigned from the active staff of the General Hospital, where he was then senior surgeon and dean, and was elected honorary consulting surgeon In his earlier days he had been surgeon captain in the Gloucestershire Garrison Artillery Volunteers, and during the war he served on the staff of the 2nd Southern General Hospital, Bristol, with the rank of major, R A M C (T F) For twenty four years he had been honorary surgeon to the Clergy Daughters' School, Bristol, and for some years had been medical officer to the Bristol postal staff He was a governor of the Queen Victoria Jubilee Convalescent Home and took a keen interest in that institution In 1883 he received the bronze medal of the Royal Humane Society for the gallant rescue of a lady from drowning at Torquay

Mr Lansdown was an excellent surgeon whose opinion was highly valued by his professional brethren He was a first-rate teacher, as many generations of students in Bristol can testify He worked indefatigably at the 2nd Southern General Hospital during the war, yet always managed to put in his full time at his civil hospital duties He was an active member of the British Medical Association, having been a member of the council of the Bath and Bristol Branch from 1903 to 1906, and president of the Branch from 1915 to 1918 His father, the late Dr Francis Poole Lansdown, had been president of this Branch in 1891 Mr Lansdown was president of the Bristol Medico Chirurgical Society in 1918-19

He was an enthusiastic amateur photographer, and had been president of the Bristol and West of England Amateur Photographic Association Only two days before his death he delivered a lecture on Switzerland, illustrated with lantern slides from his own photographs As an amateur actor he achieved great distinction in character parts, he could recite a dialect story inimitably, and could sing a good song For many years he sang in the choir of St Paul's Church, Clifton Robert Lansdown was a loyal and considerate colleague and an entertaining companion gifted with a rich sense of humour He knew the secret of keeping all his friends and made no enemies He leaves a *widow, a son* (Dr R B P Lansdown, who is in practice at Coulsdon), and a daughter

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ALEXANDER CHARLES O'SULLIVAN, M B, B Ch,

Professor of Pathology Trinity College Dublin

We record with much regret the death, on February 18th, of Dr Alexander Charles O'Sullivan Professor of Pathology in the University of Dublin and Senior Fellow of Trinity College, at his residence, Ailesbury Road, Dublin, after an illness of only a few days He was born in the county of Cork about sixty six years ago, the son of the Rev Denis O'Sullivan, Rector of Macroom From Tipperary Grammar School he went to Trinity College, Dublin, and having studied classics in his freshman years he suddenly turned to mathematics, and obtained a scholarship in that subject in 1879 In 1881 he was first senior moderator in mathematics and also in ethics and logic It is interesting to recall that the first mathematical scholar in 1879 was Dr Bernard, the present Provost of Trinity College, and the senior classical scholar was Professor J B Bury the distinguished historian Dr Bernard obtained his Fellowship in 1884, Dr Bury in 1885, and Dr O'Sullivan in 1886 Having taken his Fellowship, Dr O'Sullivan, under the influence and advice of the late Professor Samuel Haughton, turned to the study of medicine, and took his M B, B Ch, B.A.O degrees in 1894 He went to Vienna for a special course of bacteriology, and returning to Dublin in 1895 was appointed lecturer in pathology in Trinity College When the chair of pathology was founded he was again reappointed as lecturer, and a couple of years ago he was confirmed in that position as professor Dr O'Sullivan may be regarded as the father of the modern school of Dublin physicians In the autumn of 1915 he volunteered for service and went out as a major in the Royal Army Medical Corps to Malta, where his work in malaria and dysentery obtained widespread recognition He was promoted to the rank of lieutenant-colonel, and at the close of the war he was placed in charge of the Central Military Laboratory for Ireland Dr O'Sullivan held examinerships in the Universities of Glasgow, Edinburgh, Manchester, and Belfast and was a member of the Royal Irish Academy, for which he wrote

many papers During the past three years he held the position of registrar of the medical school (dean of the medical faculty), he came into contact with two generations of medical students, and helped to shape the policy of the College Dr O'Sullivan was a fine classical scholar, and always kept in close touch with the progress of modern mathematics, many men holding chairs in that subject to-day would acknowledge him to be their master His interest in the development of mathematical research did not interfere with his devotion to philosophy and the classics, and he probably had few equals in his knowledge of cellular pathology He was an inspiring teacher, his laboratory was a rallying point for medical students and newly qualified physicians in search of advice and guidance In 1903 he was Vice-President of the Pathology Section at the meeting of the British Medical Association at Swansea In his youth he was a fine athlete, and he rowed in the College eights and fours He was a keen yachtsman and golfer, and loved a game of billiards Dr O'Sullivan was a man of the most lovable character with simplicity he combined manly courage, as had frequently been displayed in his mountaineering adventures He was one of the outstanding figures in the life of the College, and it is admitted by his colleagues that it will be hard to find a man to fill his place The cause of his death was blood poisoning contracted on February 13th, whilst performing a *post-mortem* examination He leaves a widow and four children

JOHN McCAW, M D,

Physician, Belfast Hospital for Sick Children

IT is with much regret that the announcement of the death of Dr McCaw has been received in Belfast and Ulster He had an illness about a year ago, and underwent a serious operation, from this he made a wonderful recovery and resumed his work A short illness, however, proved fatal on February 22nd

After studying medicine in Belfast he obtained the diplomas of L R C P and S Ed 1870, [illegible] Sims Woodhead, the Royal Society, Sir [illegible] Pollock, [illegible] Weber, Theodore Williams—all authorities of the time— with reviews on climate and [illegible] graduated M D of the Royal University of Ireland in 1883 Dr McCaw's chief work was in the Queen Street Hospital for Sick Children, where he had been physician for forty-two years, and only a few weeks ago he was appointed a vice-president He was also examiner and clinical lecturer in children's diseases in the Queen's University of Belfast, and he contributed several articles to the BRITISH MEDICAL JOURNAL and other professional journals His little book, *Aids to Diseases of Children*, ran through five editions

He was of a retiring nature, and several times refused the presidency of the local medical societies, but in the session of 1907-08 he held office as President of the Belfast Division of the British Medical Association and President of the Ulster Medical Society

Dr McCaw was much respected by many, both in the profession and among the public, and was beloved by all who had the privilege of his personal friendship He leaves a widow and a son, Dr Ivan McCaw, who was severely wounded in the war but is happily now nearly recovered, and deep sympathy is felt with them

W W BRERETON, M R C P I,

Formerly Professor of Surgery, University College, Galway

WE regret to report the death of Professor William Westropp Brereton, which took place on February 5th, at the age of 80 He was the son of the late W W Brereton, Q C, of Dublin, a county court judge He took the diplomas of L R C P and S I and L M in 1865 and M R C P I in 1890 His first appointment was demonstrator of anatomy in Queen's College, Galway, under Professor Cleveland Later he was appointed district medical officer at Oughterard, a short distance from Galway, where he practised for over twenty years In 1888 he was appointed professor of surgery in the Queen's College, Galway, and surgeon to the County Infirmary, positions he held up to a few years ago, and he had a large practice as a consultant

Dr R L ROE writes My acquaintance with Professor Brereton dates from the early seventies He was then medical officer of a very large district, one boundary of which was formed for about twenty miles by Lough [illegible] and extended as far as the picturesque mountains of Connemara, a happy hunting ground for the tough sportsman Communications were long and difficult, there were repeated outbreaks of typhus and typhoid fever, even occasionally of small-pox and famine He had a field for his energy in emergency operations of medicine and obstetrics, and his services were much appreciated Although, so far as I know, he never sent in a bill, patients seldom forgot him at Christmastide, and on leaving the district to take up his duties as professor of surgery in Galway they presented him with an address and a handsome monetary gift When not engaged in professional work he was always to be found in his workshop well fitted up with lathes and tools for fine work, many being of his own contrivance and design He had a very inventive mind and was the inventor of a device which anticipated the present-day free wheel In the County Infirmary with his life-long friend and colleague, Professor R J Kinkead, he carried on most valuable work which stimulated the generous minded citizens of the ancient city to preserve this institution through times of agitation and grave difficulty His wife predeceased him only a little time ago Many students will remember him as a practical minded and ever willing friend.

Dr JOHN WILLIAM KING MULLEN, medical superintendent of the Salford Corporation hospitals, died on February 17th at his residence in the Ladywell Sanatorium at the age of 67 He was born in Dublin, where his father was resident governor of the municipal hospitals From Bective College he went to the Carmichael School of Medicine in Dublin He took the diplomas of L R C S I in 1877 and L R C P I and L M in 1879, and served for a time as medical officer to the North Dublin Small-pox Hospital Then at the age of 24 he was appointed medical superintendent of the Wilton Fever Hospital, Salford, at that time a makeshift institution lodged in a number of small dwelling houses He remained at Wilton until 1903, when he became medical superintendent of the newly built Ladywell Sanatorium, Pendleton, in the planning and organization of which he had taken a large share His duties included also the administrative charge of the Salford Borough Small-pox Hospital at Drinkwater Park In his earlier life Dr Mullen was an active member of the Manchester Athenaeum Dramatic Society, and played the principal parts in performances of several Savoy operas He leaves a widow and one daughter

We regret to record the death at St Leonards, on January 27th, of Dr CAMPBELL WILLIAM DE MORGAN He was born in 1877 at King William's Town, South Africa, where his father, Dr E L De Morgan, was in practice, he was the grandson of the mathematician and philosopher, Augustus De Morgan, and was named after his uncle, William De Morgan, the artist, potter, and novelist, and his great-uncle, Campbell De Morgan, the surgeon, who gave the name to the "De Morgan spots" sometimes observed on the skin in cases of cancer He was educated at St Mary's Hospital, where he took the diplomas of M R C S, L R C P in 1912 After holding appointments at the London Lock Hospital and the Kensington General Hospital, he settled in general practice in London He acquired a host of friends, especially amongst the poor, but he was never an aspirant for scientific distinction, and his happiest times were spent, undoubtedly, in the musical and literary circles of Hampstead and Chelsea, to which his family connexions gave him a ready entry During the war he suffered greatly from overwork, and some eighteen months ago his health broke down completely He is survived by two sisters

Dr MAXIMO CASTRO, one of the principal surgeons of Buenos Aires, has recently died in Paris, at the age of 54

Dr MAXIMIANO LEMOS, professor in the medical faculty of Oporto, and the author of several works on the history of medicine, including monographs on Amatus Lusitanus, Zacutus Lusitanus, and Ribero Sanchez, has recently died

The Services.

WEST AFRICAN MEDICAL STAFF: LANGLEY PRIZE

THE London School of Tropical Medicine announces that the Langley Prize of about £30 will be awarded this year This is open to competition among officers of the West African Medical Staff, whether on the active or retired list The award will be made in respect of the best paper written on one of the following subjects (*a*) tropical medicine or surgery (*b*) tropical hygiene and sanitation, (*c*) tropical entomology and parasitology Papers should be delivered to the Secretary, Seamen's Hospital Society, Greenwich, London, S E, on or before October 1st, 1924

DEATHS IN THE SERVICES

Major Edward Swan Marder R A M C (retired), lost his life on February 3rd in a fire at his house at Burley, Lyme Regis, where he lived with his sisters, his charred body was found in the cellar after the fire had been extinguished He was born at Lyme on March 31st 1859 educated at Guy's Hospital, and took the M.R C S in 1884 and the L R C P Lond in 1886 He entered the army as surgeon on July 28th, 1886, became major after twelve years service and retired on July 28th 1906 He graduated M D Durh in 1909 He served in the Burma campaign in 1888-90, receiving the Indian frontier medal with two clasps and in the Nile campaign of 1898, when he was present at the battle of the Atbara and gained the medal with a clasp and the Egyptian medal He also held the Royal Humane Society's certificate for saving life

Medical News.

THE Milroy Lectures before the Royal College of Physicians of London will be delivered on March 11th, 13th, and 18th by Lieut Colonel Glen Liston, C I E, M D The subject is plague The Goulstonian Lectures, by Dr Leonard G Parsons, on some wasting disorders of early infancy, will be delivered on March 25th and 27th and April 1st The Lumleian Lectures will be given by Dr Thomas McCrae on April 3rd, 8th and 10th his subject is "The clinical features of foreign bodies in the bronchi" The lectures will be given at the College at 5 p m on each day

AFTER many years as honorary consulting physician to the St John's Foundation School, Leatherhead, for sons of poor clergy, Sir Dyce Duckworth Bt, M D, has resigned, and Dr Hugh Thursfield, assistant physician to St Bartholomew's Hospital, has accepted the honorary appointment

DR F N K MENZIES has been appointed director of medical and hospital services of the Joint Committee of the Order of St John of Jerusalem and the British Red Cross Society, in succession to the late Sir Napier Burnett Dr Menzies, who is a principal assistant medical officer in the public health department of the London County Council, has been appointed to assist the medical officer of health in a consultative capacity with regard to tuberculosis and venereal diseases for a year from April 1st the date on which he takes up his new appointment Dr Menzies will devote an average of two days a week to the work of the London County Council

A MEETING of the International Society of Medical Hydrology will take place at the house of the Royal Society of Medicine, 1, Wimpole Street, W, on Wednesday, March 5th at 4 30 p m, when there will be a discussion on the treatment of tropical diseases by waters and baths The speakers will include Dr Pierret (La Bourboule), Dr Wybauw (Spa), Dr Pringle (Harrogate) Dr Forster (Cheltenham), Sir James Cantlie, and Dr Ferryrolles All medical men are cordially invited

IN connexion with the British Empire Exhibition a committee of medical men has been formed with the object of welcoming their colleagues from the dominions and colonies visiting the metropolis One of the first duties of this committee will be to form an executive body and undertake the organization of hospitality to be extended to medical practitioners from overseas For this purpose it is desired to ascertain beforehand as far as possible the names of the intending visitors and the periods of their visits The Royal Society of Medicine, as has already been announced, will welcome all duly accredited members of the medical profession during their stay in the home country and it is requested that intending visitors will communicate without delay with the Honorary Secretaries of the Hospitality Committee, at 1, Wimpole Street, London, W 1

THE *Neue Freie Presse* of Vienna has recently issued a supplementary number under the title "England and Austria" which is devoted to a consideration of the political and economic condition of England The editor expresses his appreciation of the friendly feeling that this country entertains towards Austria, and his object in publishing the supplement is evidently to render this feeling mutual, so far as it lies in his power to do so A very charming article by Dr K F Wenckebach professor of medicine, describes his personal relations with English medicine Without attempting to define the general position of medical science in this country, he relates with obvious pleasure his friendly intercourse with many of those on whom the progress of the science at present depends—an intercourse interrupted for a time but happily renewed on the old lines The first sign of such renewal came early in 1919, in the shape of a letter from Osler, asking for my personal opinion on the condition of the people and more especially of the patients in the hospitals That was a time of extreme misery, of which the people of England knew nothing Osler took the matter in hand, and from that moment signs of help from England began to reach the unfortunate Viennese" Dr Wenckebach then refers to the efforts of the Society of Friends, to the establishing of the "Save the Children Fund," of the "Fight the Famine Council," and "The British Vienna Emergency Relief Fund," which contributed considerably to the alleviation of the prevailing distress The purely political articles in the supplement are in places disfigured by debatable matter, but it is generally recognized that good taste is not a strong point with politicians, and the manifestly genuine intentions of the editor are not obscured by this detail

THE Hunterian Oration will be delivered before the Hunterian Society of London by Sir Sydney Russell Wells, M D, on Monday, March 3rd at 9 p m, at the Mansion House The subject is "The changing standpoints in cardiac medicine"

AT the meeting of the Röntgen Society to be held on Tuesday, March 4th, at 8 15 p m, a paper will be read by Mr N E Luboshez on hard and soft tubes in the technique of radiography, with practical demonstration The Silvanus Thompson Memorial Lecture will be delivered by Professor C G Barkla, F R S, of Edinburgh University at a general meeting of the society, on Tuesday April 1st Both meetings will be held at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W C 2

THE late Sir Frederick Treves has left estate of the gross value of £102,339 with net personalty of £101,958 His portrait by Sir Luke Fildes he has left to his wife for life, with remainder to the National Portrait Gallery, and failing acceptance thereof to the Royal College of Surgeons of England

THE Institution of Heating and Ventilating Engineers will hold a discussion on 'Heating and ventilation as applied to ferro-concrete buildings" at 7 p m on Wednesday, March 5th, at the Engineers Club, Coventry Street, W 1 The meeting is open to non members

A DEPUTATION from the Anti Vaccination League had an interview with the *Minister of Health* on February 26th Mr Pethick Lawrence, M P who introduced the deputation, said that in his constituency (Leicester, W) 96 per cent of the children born were not vaccinated and in the whole country 60 per cent were unvaccinated Mr Wheatley, in his reply, promised to give consideration to the representations made The figures put into his hands showed that there had been an increase in small pox in recent years It had been stated that the number of deaths from vaccination was in some years greater than those from small pox, but in 1921 the figures supplied to him showed that there were eight deaths from vaccination out of 324,000 vaccinations and five deaths from small pox out of 336 cases

A NEW light representing St Ambrose has been placed in the cloisters of Chester Cathedral by the widow of Dr R B Wright of Chester, who died in 1919, in memory of her husband

IT is proposed considerably to enlarge the Wellcome Museum of Tropical Medicine and Hygiene, which will be closed from March 1st until further notice

DR CLEMENT DUKES chairman of the Rugby Licensing Sessions on February 12th brought forward statistics with regard to the efficacy of liquor control in that town Comparing the two years 1911 and 1921 there were 37 cases per 10 000 in the former compared with 4 60 in the latter year

MARCH 6TH has been chosen as the date for the dedication of the new group of medical buildings erected in Chicago by the Department of Public Welfare of the State of Illinois and the Board of Trustees of the University of Illinois

A DOUBLE number of the *Zentralblatt für Chirurgie* has been issued to commemorate its foundation fifty years ago by Lesser, Tillmanns, and Schede, whose portraits appear on the front page

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W C 2

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CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily *for publication*

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

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FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westrand, London*

MEDICAL SECRETARY, *Medisecra Westrand, London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 4737, Dublin), and of the Scottish Office, 6 Rutland Square, Edinburgh (telegrams *Associate, Edinburgh*, telephone, 4361, Central)

QUERIES AND ANSWERS

KRÖNIG'S ISTHMUS

"H McM" asks for a full list of medical articles, contributions, or other medical literature dealing with (1) the earliest references to or description of the percussion area known as Krönig's isthmus, (2) the clinical value of the variations from normal in the extent of the area, and (3) any descriptive article on the precautions to be observed in making the definition of the area strictly accurate

CHLORODYNE

"M" asks why Collis Browne's chlorodyne may be sold over the counter by chemists in 1 oz bottles without being entered on their poison list

*** The schedule of poisons of the Pharmacy Act consists of two parts, to which different conditions apply Only those poisons belonging to Part I of the schedule require the purchaser's signature as a condition to the purchase Poisons in Part II of the schedule may be sold without any other restriction than those provided for labelling the article Such a preparation as Collis Browne's chlorodyne would belong to Part II, unless the morphine in it exceeds a certain percentage It contains, we believe, less than the limiting percentage, and is therefore outside the restrictions of Part I Should a case occur in which chlorodyne is being used as a drug of addiction it would be proper to place the information at the disposal of the Privy Council

PHENAZONE AND SPIRIT OF NITROUS ETHER

DR E GRAINGER—The reaction which takes place between phenazone and spirit of nitrous ether is chiefly the production of a green nitroso-derivative of phenazone This is formed directly from nitrous acid contained in or liberated from the spirit of nitrous ether Secondary reactions probably take place at the same time, involving some of the other substances present In this connexion reference may be made to the test for phenazone with sodium nitrite and sulphuric acid given in the *British Pharmacopoeia*

TREATMENT OF CYSTITIS

DR F G GARDNER (Oxford) writes in reply to "J P F" I advise your correspondent to try boric acid *internally* I have used it for many years generally with rapid success, in subacute and chronic cases in which the urine was turbid and offensive, and (presumably) swarming with organisms These were cases in which there was no definite lesion due to stone, tubercle, etc , but I have little doubt that it would be useful in such cases where some infection had become superadded—that is to say, it would help to keep the urine "sweet" The drug has the advantage of being cheap and harmless I have usually prescribed 15 grains of boric acid to be dissolved in 1 oz of hot water and taken, added to a small wineglassful of milk, *after meals* Taken in this way it does not irritate the stomach, and it may be prescribed, of course, as a mixture to be taken thrice daily after meals

GAS FUMES POISONING

"CUMBERLAND" writes I am informed by many of my ambulance students that when a man is overcome by poisonous gas fumes at the local works the first-aid practice is to lay him down and embed him in sand As I have never heard of and cannot understand the efficacy of such a custom, I shall be glad if some of your numerous readers will enlighten me Is it a local or a general practice (or fallacy)?

LETTERS NOTES, ETC

INTESTINAL ANTISEPTIC

DR WM J MIDELTON (Bournemouth) writes I have read with much interest the article on an efficient intestinal antiseptic in the BRITISH MEDICAL JOURNAL of February 16th, 1924 (p 270) The question of the irritant action of antiseptics, if raised at all, is generally on the adverse side Up to a certain point I regard it as beneficent and tending not only to promote leucocytosis generally, but also the access of leucocytes to the irritated area. I cannot recall the mention in any literature that I have read of the importance of the carrying of germs by the leucocytes with a view to their expulsion from the human system I do not think it is denied that this is constantly taking *place through* mucous linings in all parts of the body Also it is common knowledge that if ether and iodoform are injected into an abscess cavity there is a rush of polymorphonuclear leucocytes into it within a short time These die, and very soon most of the germs they carry die also The death of the leucocytes is followed by the formation of a tryptic ferment which assists in rendering the contents of the abscess cavity fluid Pustules on the skin surface are, for all practical purposes, abscess cavities and act as lethal chambers

PERNICIOUS ANAEMIA AND ACHOLURIC HAEMOLYTIC JAUNDICE.

DR A. PINEY writes Dr Parkes Weber has very rightly called attention (February 23rd, p 360) to an error in my recent communication on pernicious anaemia (February 16th, p 271) He objects to my statement that there is no resemblance between pernicious anaemia and the known haemolytic anaemias This statement is admittedly too sweeping, I should preferably have said that the resemblances are not marked Dr Weber refers to a case recorded by him which he seems to regard as a transitional form or at least as a very difficult case in which to distinguish between the two diseases His case certainly presents unusual features, but the very fact that the first recorded blood count shows no diminution in the number of hyalines and that there is no note of hypersegmentation of the nuclei of the polymorphs makes a diagnosis of pernicious anaemia very doubtful The diminished resistance of the red corpuscles to hypotonic saline is not known to occur in pernicious anaemia and is an important point Dr Hunter's detailed discussion of the case is somewhat weakened because he started his consideration by referring to "the characters of the haemolytic disease termed pernicious anaemia," and as the main question at issue is whether pernicious anaemia is a haemolytic disease this remark carries one little further forward The fact that Dr Weber's patient showed achlorhydria, glossitis, and nervous signs led Dr Hunter to regard the condition as pernicious anaemia, as all these signs have been recorded in many other conditions by excellent observers they cannot be regarded as conclusive as against the discovery of the less resistant red corpuscles Dr Tidy's reference at the same meeting to the occurrence of the blood picture of pernicious anaemia in other conditions may only imply that, although pernicious anaemia is a clinical and pathological entity, it is not an etiological entity That there are resemblances between haemolytic icterus and pernicious anaemia cannot be denied, but the differences appear to me to be greater than the resemblances, as I hope to demonstrate in a future paper

RELIEF OF PAIN IN HERPES

DR H W JEANS (Portsmouth) writes One of the most difficult symptoms of herpes over large areas is the acute pain, often preventing sleep It is almost impossible for the busy practitioner to be calling three or four times a day to inject morphine, which up to now has been the only relief I could offer But this week I have tried 2 per cent cocaine in flexile collodion with most satisfactory results My instructions were to paint over twice a day, allow to dry, and cover with cotton wool This can be done by any of the patient's friends

THE PHYSICAL BASIS OF EMOTIONAL DISORDER

Correction

DR H CRICHTON MILLER (London, W) writes Referring to the report contained in last week's JOURNAL on the paper I read at the Royal Society of Medicine on "The physical basis of emotional disorder," may I say two things (1) *The term "depressive"* should be "manic-depressive," which has a much narrower denotation (2) I should not like it to be thought that I originated, or even used, the term "psycho conflict"

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 32, 33, 36, and 37 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *123*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

180 Insulin Treatment in Tuberculous Diabetics.

MARCEL LABBÉ, BITH, and BOULIN (*Bull et Mem Soc Méd des Hop de Paris*, January 3rd, 1924 p 1821) refer to the discussion on this subject at the November session of the society, when L Bernard stated that the American authorities regard insulin as contraindicated in tuberculosis Chabrol, Sézary, L Blum, and Schwab agreed with this conclusion Labbé Bith and Boulin point out, however, that this pessimism is not shared by the majority of American physicians Banting Campbell, and Fletcher consider that insulin enables tuberculous diabetics to ingest richer food and thereby to resist the inroads of tuberculosis Joslin, Allen, and Sherrill confirm this opinion, and record two cases of improvement, but in three cases of advanced tuberculosis a rapidly fatal termination occurred Labbé Bith, and Boulin described four cases of treatment by insulin in severe tuberculosis, in two of the patients the pulmonary lesions were very advanced All the patients improved greatly under insulin treatment, and the authors state that in their opinion the presence of pulmonary tuberculosis does not contraindicate insulin treatment

181 Infantile Convulsions and Paternal Lead Poisoning

JOHN THOMSON (*Brit Journ Child Dis*, October–December, 1923, p 193) gives an account of peculiar fatal convulsions in four children whose father suffered from lead poisoning which he had contracted from working as a painter with white lead The mother was healthy There were six children in the family The first two, who were born before the father's lead poisoning began, had always been healthy, but the next three all developed fits at the age of 6 months and died at 13 months, 8 months, and 9 months respectively The sixth child, the only one of the family seen by Thomson, began to have fits when he was 10 weeks old There were no signs of indigestion or rickets, mental dullness, or any mental peculiarity The attacks were very different from ordinary infantile convulsions, they affected the respiratory functions especially, and yet did not resemble those in laryngismus or status lymphaticus. Death took place in a fit at the age of 18 months There was no autopsy Thomson remarks that while those who have written on the transmission of plumbism to children by their parents have all mentioned convulsions as the chief symptom in infants who survived, there is no description of the details of these attacks nor any statement as to whether they had or had not the usual characteristics of infantile convulsions

182. Blood Transfusion in Civil Practice.

A W HOLMES À COURT and G BELL (*Med Journ of Australia*, October 27th, 1923, p 427) discuss blood transfusion in civil practice They consider it applicable in the following conditions (1) traumatic haemorrhage with rapid loss of blood, (2) obstetric haemorrhages, (3) conditions such as post-operative secondary haemorrhage, peptic ulcer, typhoid ulcer, hematemesis, etc. (4) blood diseases as haemophilia, haemorrhagic disease of the newborn, haemolytic anaemia, (5) infective processes, (6) burns and poisoning—for example, with carbon monoxide In the first class of cases it is the best remedy, particularly if more than 1 5 to 3 litres of blood have been lost, since the restorative powers are *almost certain* to have been seriously damaged Moreover, the authors find that the duration and intensity of the accompanying shock can be lessened Extremely satisfactory results were obtained in the obstetrical cases treated In connexion with the third type of lesion they are strongly of opinion that arrest of haemorrhage should precede attempts at transfusion, and they also consider that in addition coagulability may be increased in toxaemic states In haemophilia they claim almost invariable success for transfusion, the added blood supplying substances which are deficient in that of the patient, although sometimes a second administration is necessary Anaemias of the primary type are stated to require early and repeated transfusions to obtain favourable results, but even in the later stages a crisis may be tided over by the addition of fresh blood, and life prolonged, though the disease still continues In septic conditions where the resistance to infection is low there is a possibility that it may be strengthened by reinforcement with healthy blood Except in cases of urgency, when Moss's method of testing may be used, direct testing for compatibility of the recipient against the donor, and vice versa, is strongly advocated as securing the greatest safety, in this connexion it is noted that the blood of patients suffering from malignant disease has sometimes been found to possess strong haemolytic properties The authors regard the transfusion of whole blood by the indirect method with the paraffined tube as the method of election, and consider that the use of citrated blood should be reserved for circumstances where efficient team work is not possible or the operator is single handed The technique of both methods is fully described—the first as carried out by the modified Kimpton Brown tube and the second according to the method of the Mayo Clinic, and, alternatively, by Keynes's apparatus As regards the quantity of blood transfused, from 500 to 1,000 c cm are stated to be the usual amounts employed A note on the practical testing of donors is appended by A H TEBBUTT He urges that these should be free from infective disease, especially malaria and syphilis, and that if possible a precautionary Wassermann test should be performed The direct testing of donor and recipient is advocated as providing the general practitioner with a certain means of finding a compatible donor in an emergency though the author still uses Moss's method in addition He makes his final reading for agglutination ten minutes after mixing, and uses for this a low power microscope Agglutination is generally visible to the naked eye within five minutes

183 Primary Streptococcic Meningitis.

ACCORDING to G TOURNIER (*Thèse de Paris*, 1923, No 236), who records a fatal case, primary streptococcic meningitis is an extremely rare condition, as streptococcic meningitis is almost always secondary to a pre-existent streptococcic infection, such as otitis, bronchopneumonia, or erysipelas. Clinical observation and experimental work alike show that *streptococcic meningitis* has a predilection for the ventricles, which soon become walled off by the inflammatory process When an infant is attacked, ventricular puncture constitutes a valuable method of diagnosis and treatment The clinical appearances of primary streptococcic meningitis do not present any features to differentiate it from meningitis due to other micro-organisms, and the diagnosis of the condition can only be made by laboratory examination The duration of the disease varies, in some cases the course is very rapid, while in others it is very protracted The prognosis is very grave, and the effect of treatment, including serum and vaccine therapy, is very uncertain In Tournier's case, which occurred in an infant aged 3 months the condition developed on the tenth day of life, and was characterized by its prolonged course (four months) and its localization in the ventricles, which accounted for the meningeal symptoms consisting merely in a tense fontanelle and convulsions In spite of the presence of a streptococcus in the blood which was virulent for rabbits and guinea pigs the disease remained absolutely apyrexial almost throughout its course, and cachexia did not ensue until shortly before death. The thesis contains a bibliography

184 Classification of Pulmonary Gangrene

G ROSENTHAL (*Paris méd*, December 8th, 1923, p 467) has drawn up the following classification of pulmonary gangrene with the appropriate treatment (1) *Acute gangrenous* bronchitis of toxi infective origin This often runs a mild course and rapidly yields to active treatment such as intratracheal injections (2) Relapsing bronchiectasis, an obstinate form requiring intensive and prolonged endobronchial treatment The unilateral form is cured by artificial pneumothorax, while the bilateral form requires intratracheal injection and the creation of a tracheal fistula (3) Relapsing fetid pulmonary cavities. In this form treatment by artificial pneumothorax is chiefly indicated Occasional surgical intervention in the form of extrapleural pneumothorax may be required (4) Acute diffuse fetid bronchopneumonia due to the *B perfringens* group This form is cured by Weinberg's antigangrene serum and a tracheal fistula (5) Acute diffuse fetid bronchopneumonia due to *B ramosus*, for which the treatment is the use of endobronchial methods and auto vaccines (6) Gangrenous bronchopneumonia in pneumonoconioses, which is curable by endobronchial treatment (7) Acute lobar or lobular gangrene due to the fuso spirillar symbiosis which is curable by arsenobenzol (8) Acute gangrenous pneumonia, which requires treatment by Rosenthal's needle with multiple holes (9) Acute unilateral inflammation of a lobule, for which artificial pneumothorax is required

also 28 infants born dead or showing some abnormal condition, but in no case could the pituitrin be held responsible Though he admits that his researches have not yet established the complete reliability of this reduced dosage of pituitrin, the author suggests that it will prove to be quite as effective as the larger dose of 0 5 c cm , and by this reduction of dosage there is a prospect of minimizing the risks supposed to be associated with pituitrin in labour—namely, contraction of the internal os, rupture of the uterus during labour, post-partum atony, and asphyxia of the infant.

197 Treatment of Pruritus Vulvae.

S WIENER (*Surg , Gynecol , and Obstet* , December, 1923, p 843) deals with those cases of pruritus vulvae in which no etiological factors or concomitant symptoms indicate the existence of local disease, and which are to be considered, therefore, as due to a vicious circle of irritation of nerve endings and consequent scratching, which must be broken in order to effect a cure Such conditions are usually found in women close to or after the menopause, the vulva being more or less atrophic and the skin infiltrated, greyish red, and somewhat glazed In long standing cases there are the secondary changes induced by scratching and consequent infection He recommends the repeated infiltration of the vulva with a non toxic local anaesthetic such as novocain, in which the curative action depends on the tissue infiltration, which is rendered painless by the novocain, and could be similarly, but painfully, brought about by the use of salt solution He reports encouraging results, and adds that sometimes four or five injections may be necessary He stresses the importance of previously ascertaining that no active etiological factor, such as chronic leucorrhoea, diabetes, or eczema, is present, in which cases treatment must necessarily follow other lines.

Pathology.

198 The Weil-Felix Reaction.

G KAPSENBERG (*Nederl Tijdschr v Geneesk* , September 29th, 1923, p 1314), who records a case of paratyphoid B fever with a positive Weil Felix reaction, remarks that at the present time, when sporadic cases of typhus are occurring in Holland, the Weil Felix reaction, valuable as it is, must be interpreted with caution It is undoubtedly conclusive in very high titres—that is, above 1 in 1,000 Titres of 1 in 100 are very suggestive, while a titre of 1 in 50 only indicates the possibility of typhus A rise of titre during the disease is a strong argument in favour of typhus, so that as a rule one should not be content with a single examination It is very unusual for the Weil Felix reaction to be so pronounced in other diseases than typhus as to be regarded as positive, apart from scarlet fever and small pox, in which it is occasionally positive, the reaction is most likely to be positive in paratyphoid B fever, a disease which may also resemble typhus clinically Kapsenberg recommends that, in combating typhus, serums on which the Widal test has been performed should also be examined by the Weil Felix test and vice versa In sporadic cases of typhus it is also advisable to employ Nicolle's method, of the injection of 2 5 c cm into the peritoneum of a guinea pig or monkey In positive cases, after an incubation period of about ten days, fever sets in and lasts about six to twelve days A negative result has no significance D HEDERSCHÉE (Ibid , October 6th, 1923, p 1466) states that in the last 100 cases of typhoid fever in the Wilhelmina Hospital at Amsterdam the Weil Felix reaction was constantly negative in 69 only, in 12 it was once or more decidedly positive (1 in 100 or over), in 3 cases in a dilution of 1 in 1,000 Of the last 100 cases of paratyphoid B in the hospital 4 were completely negative and 3 were positive in a dilution of 1 in 100 or higher

199. Fat Metabolism in the Lungs

A. GILBERT and J JOMIER (*Paris méd* , January 19th, 1924, p. 62) describe their investigation of the important part played by the lung in the metabolism of fats, first described by H. Roger and L Binet Nearly twenty years ago, when studying hepatic fat metabolism in many animals fed on various diets, they examined the fat content of different organs and noted the presence of collections of fat in various parts of the lungs. The authors found large masses of fat in the walls of the pulmonary alveoli in 18 out of 20 healthy dogs fed on diets ranging from one containing all kinds of food to an exclusive milk or meat diet They found large dense black masses, sometimes more or less circular or elongated, sometimes dumbbell shaped Their average diameter was 30 to 50 μ, and no trace of cell structure could be found These masses of fat often projected into the interior of the alveoli, either free or covered with a fine membrane They appeared sometimes isolated or scattered at random, elsewhere they were heaped up in certain parts of the section These fatty masses were found to be situated in the capillaries of the alveolar wall, having been carried there in the blood stream, eventually they formed a kind of thrombus in the ultimate ramifications of the capillaries Prévost obtained similar results after injecting oil into the lymph sac of the frog, and the authors have produced a similar condition in the lung by injecting milk into a dog's saphenous vein They have succeeded in producing in the normal lung large intra capillary collections of fat comparable to those found in pulmonary fat embolism Further, a considerable quantity of fat is retained in the organ by special cells scattered throughout the parenchyma These cells are rounded or more or less polygonal, their diameter varies from 27 to 41 μ, the single nucleus being 8 to 12 μ, it is often hidden by granular collections of fat There are other cells which collect dust particles, but their black contents are more discrete and angular Again, other cells contain a mixture of dust particles and fat All these cells are found in the alveolar walls, inside or outside the capillaries and even in the lumen of the bronchial tubes Fat is also found elsewhere—in the cellular tissue surrounding the cartilaginous tubes, and even in the cells of the hyaline cartilage The bronchial epithelium also contains many fat granules A portion of this fat returns to the general circulation, a portion undergoes metabolism *in situ*, and the remainder is eliminated by the bronchi Roger and Binet have shown that the venous blood loses 10 per cent of its fat content during its passage through the lungs, indicating that fats are retained or destroyed there The authors claim that the process is analogous to that of hepatic fat metabolism

200. Metallic Salts as Stimulants of Antibody Formation.

MADSEN has already shown that the injection of manganese chloride and other salts has the effect of stimulating the production of antibodies in the serum, and that it was thus possible to prepare diphtheria antitoxin of a greater average strength than by the usual method Working at the Danish Serotherapeutic Institute, L E WALBUM (*C R. Soc de Biologie*, November 17th, 1923, p 1007) has now been able to show that certain metallic salts are able both to increase the yield of antitoxin and of agglutinin, and also to augment the bactericidal power of the plasma In his experiments he took 20 c cm of the citrated plasma of the goat, added to it one drop of a twenty four hour broth culture of *B coli*, and made counts of the number of viable organisms immediately and at various subsequent periods of time He found that for half to one hour after the commencement of the experiment the number of bacteria diminished considerably, they then began to multiply again till, after about two hours from the start, they surpassed their original number The results of injecting a large number of different salts were investigated, and certain conclusions were reached as to the effect of each of them The magnesium and the silver groups appeared to have the greatest action, but the salts of other groups, such as those of iron and platinum, had in many cases a pronounced effect Arranging the salts in the order of their atomic weights in the groups to which they belonged, it was found that there was a relation between the atomic weight and the bactericidal action For the magnesium, calcium, and silver groups the bactericidal action increased as the atomic weight diminished, in the platinum group, and in the case of cobalt, nickel, and manganese the reverse was found By injecting a goat intravenously with manganese chloride, and by making counts on specimens of blood withdrawn five minutes before and five minutes after the injection—each having been inoculated with a drop of *B coli* culture—it was found that the bactericidal power of the blood taken after the injection was considerably greater than that taken previous to it He suggests that the administration of metallic salts will soon be introduced into clinical medicine, with the object of increasing the resisting powers of the individual

201. Vitamin Deficiency and Adrenaline Equilibrium

L GROSS (*Biochem Journ* , vol xvii, 4 and 5, p 569), as the result of experiments on rats, finds that pure vitamin B deficiency causes very little alteration in the adrenaline equilibrium (that is, relationships between adrenaline store, gland weight, and body weight) provided that the rat is not brought to the point of death on the diet He thinks that the striking changes recorded by other observers were probably produced by the accompanying general starvation and unbalanced dietary, and were not due to vitamin deficiency as such He finds, on the contrary, that the adrenaline store in the adrenal gland maintains a strictly constant proportion to the weight of the rat, which indicates apparently that a finely controlled balancing mechanism exists.

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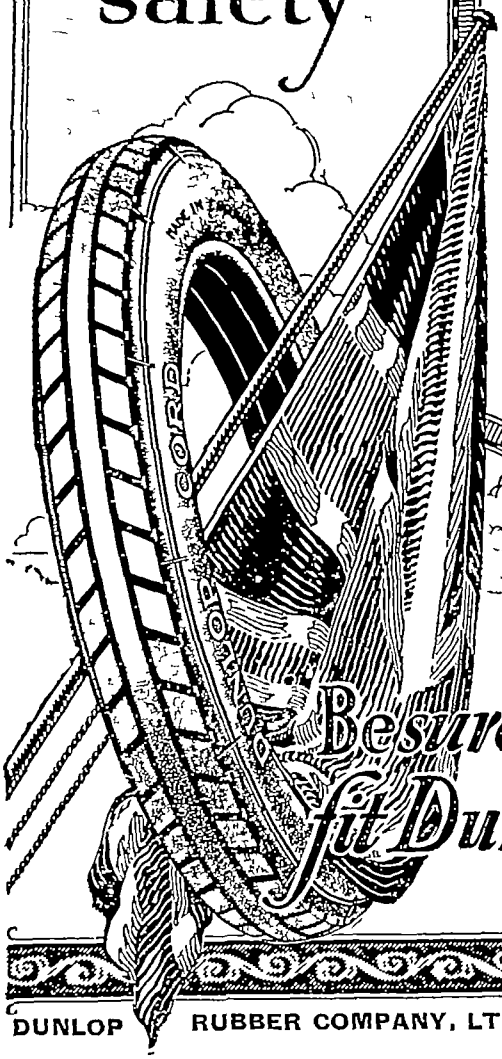


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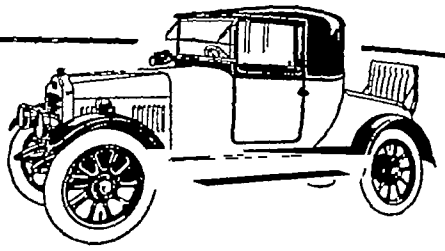
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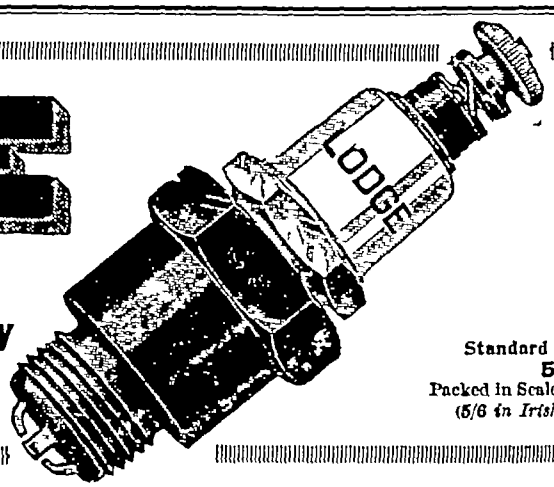
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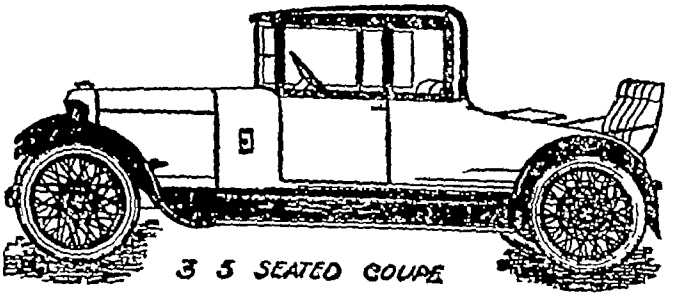
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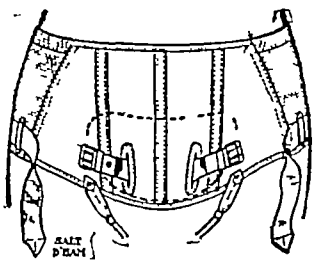
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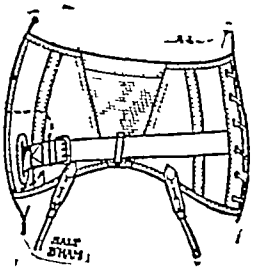
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See Article, *B.M.J.*, May 14th, 1921



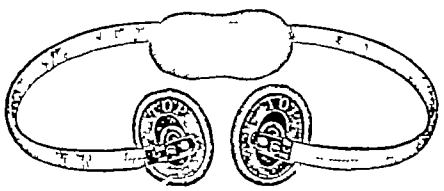
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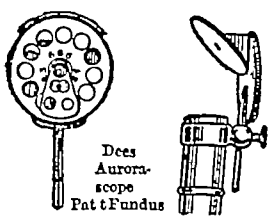


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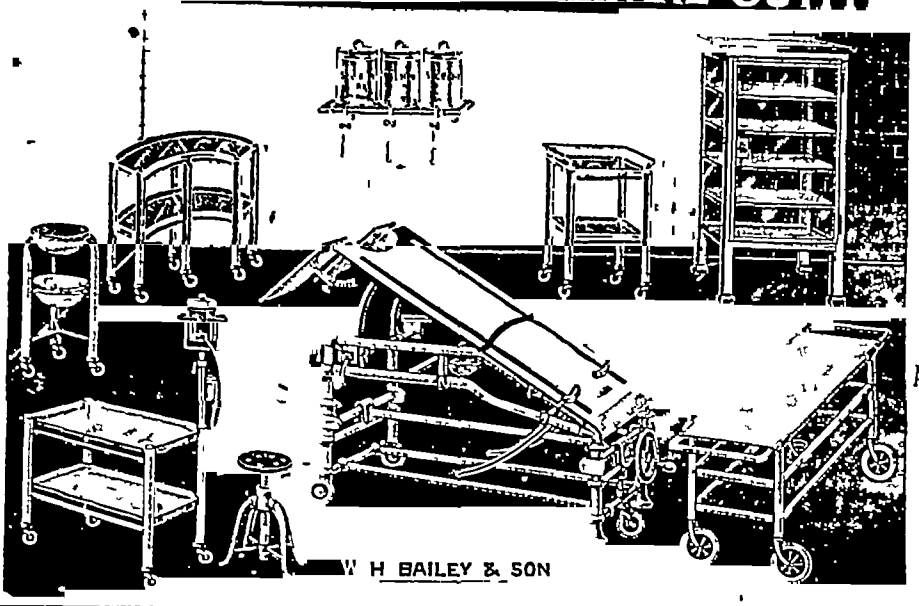
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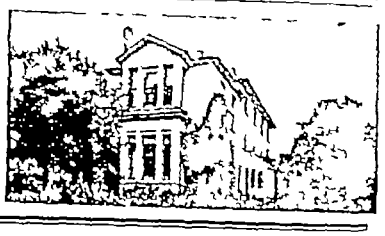
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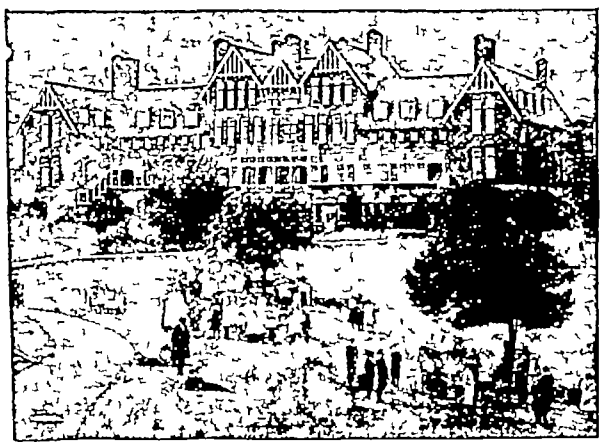
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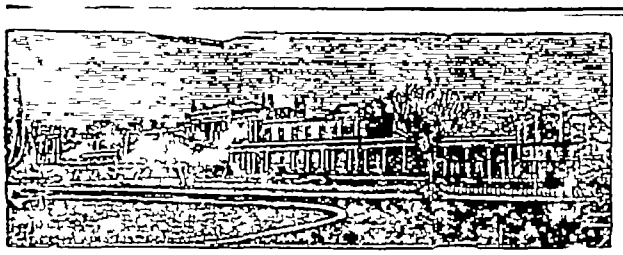
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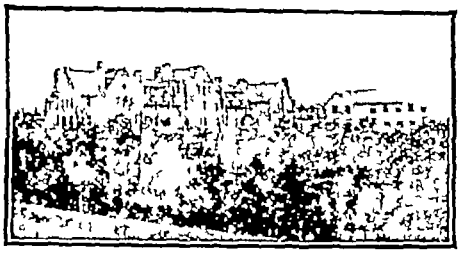
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For the Curative Treatment of moderately early cases of Pulmonary Tuberculosis.

Non pulmonary cases not requiring operative treatment also received including children)

Bracing situation on N shore of Morecambe Bay, beautiful surroundings. Heating in bedrooms, dining halls and recreation rooms, electric light throughout. Terms £2 8s per patient per week, or £120 per bed per year Vacancies for patients of either sex Medical Superintendent: O FERGUSON WALKER, B A M.D B S.Lond D P H Manch

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Specially built for the Open Air Treatment of Tuberculosis and opened in 1901 Bracing mountain air Elevation 860 feet above sea level. Sheltered situation in pine wood. Graduated walks

Electric light throughout building and in shelters. Fully equipped X Ray Plant. Inoculation Treatment available for patients—24 beds Trained Nurse on duty all night **A few rooms are now reserved for Surgical Cases not requiring immediate operation.** Terms 4 to 6 guineas per week. Medical Superintendent FELIX SAVY M B Ch B

For particulars apply to the Secretary

SHROPSHIRE ORTHOPÆDIC HOSPITAL,

OSWESTRY

(Station Gobowen, G.W.R.).

OPEN-AIR WARDS.

PRIVATE WARDS 5 Gns per week, exclusive of Surgeons fees but inclusive of X Rays, splints, plasters, massage and gymnasium.

A limited number of beds are available in the GENERAL WARDS at 2½ Gns per week, inclusive

For particulars apply the Superintendent.

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For the treatment of Ladies and Gentlemen mentally afflicted Voluntary Boarders received Situated 1,200 ft. above sea level facing S ; 14 acres of ground —for terms apply to the Resident Medical Superintendent W W HORTON, M D

Nat. Tel 130

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PRIVATE HOME for MENTALLY AFFLICTED LADIES Ten only received Terms, 6 gns weekly Apply Medical Officer or Mrs PEELE. *Telephone 708.*

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AN IDEAL HOME for infants and small children, highly recommended by local doctors large airy nurseries, central heating Limited number only Trained Sister Inclusive fees from 110 guineas Prospectus Miss DUTTON (Higher Cert N F U)

CITY OF LONDON MENTAL HOSPITAL, Dartford, Kent Under the Management of a Committee of the Corporation of the City of London PRIVATE PATIENTS are received at a weekly charge of TWO GUINEAS and upwards Apply to the MEDICAL SUPERINTENDENT

Coton Hill Mental Hospital,

near STAFFORD —Chairman of the Committee of Management, The RIGHT HONOURABLE THE EARL OF DARTMOUTH —This Hospital which is beautifully situated in a high and healthy position, with extensive grounds, cricket field lawn tennis courts golf links &c is devoted to the care and treatment of the mentally afflicted of the upper and middle classes Terms on application Private rooms with special attendants in the Hospital or semi-detached villas in the grounds can be arranged —For further particulars apply to P W HEWSON Medical Superintendent

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A Private HOME for the care and Treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing

Medical Superintendent Dr McCLINTOCK

Resident Patients (mild

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Every kind of Massage.
Every kind of Electricity
Every kind of Diet.
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Royal College of Surgeons of ENGLAND

LICENCE IN DENTAL SURGERY.

Notice is hereby given that the First Professional Examination will commence on Friday, 2nd May 1924.

Notice is hereby given that the Second Professional Examination will commence on Friday 13th June 1924

Candidates are required to give not less than twenty-one clear days notice in writing of their desire to present themselves for the respective Examinations to the Director of Examinations (Mr F C HALLETT), Examination Hall Queen Square Bloomsbury W C from whom all particulars relating thereto may be obtained.

DIPLOMA OF FELLOW

Notice is hereby given that the next Primary and Final Examinations for the DIPLOMA of FELLOW will commence on Tuesday 10th June, 1924, and Thursday, 22nd May 1924 respectively

Candidates are required to give not less than fourteen days notice of their desire to present themselves for either of these Examinations.

Particulars relating to these Examinations may be obtained from Mr F G HALLETT as above

20th February 1924

Prifysgol Cymru University OF WALES

WELSH NATIONAL SCHOOL OF MEDICINE.

TUBERCULOUS DISEASES DIPLOMA.

An examination for the Tuberculous Diseases Diploma of the University of Wales will be held on June 2nd 3rd and 4th 1924. No examination will be held in July 1924

Applications for admission to the examination should reach the Registrar University Registry Cathays Park Cardiff not later than April 15th 1924.

Particulars relating to the conditions of admission to the examination may be obtained on application to the Registrar

TUBERCULOSIS

The Brompton Hospital for CONSUMPTION

REVISION CLASS FOR THE FINAL EXAMINATIONS IN MEDICINE

17th—22nd March 1924

Case taking and physical examination. Demonstrations in wards general and special out patient departments. X Rays, etc. Fee for the course £1 1s.

For particulars apply to the Dean

Preliminary Examinations

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March June, September and December Fee Regulations apply to the Secretary College of Preceptors Bloomsbury Square London W C 1

Liverpool School of Tropical MEDICINE.

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th —Prospectus from the Hon DEAN School of Tropical Medicine, University of Liverpool

, WELBECK STREET, LONDON, W.1
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Special Preparations for all Surgical Qualifications

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And all other Surgical Degrees and Diplomas.

The remarkable success of Students of the Medical Correspondence College at the higher Surgical Examinations is specially noteworthy.

Both at the Primary and Final F.R.C.S. England the majority of our Students are successful at the first attempt, and Candidates who have failed at these Exams. on several previous occasions get through without difficulty after going through our courses.

The Surgical Tutors of the College all hold either the M.S. Lond. or F.R.C.S. England or both, and are highly experienced teachers.

The Postal Courses are thoroughly clear concise, and up-to-date and the test questions are carefully selected from those set at previous Examinations so as to embrace all parts of the subject. By working systematically through the Course the Student is brought up to the examination standard in the minimum time and much unnecessary reading is saved.

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DIPLOMA IN
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Diploma in OPHTHALMOLOGY

Short Intensive Postal Revision Courses in Preparation for these Diplomas—Apply to the SECRETARY Medical Correspondence College 19 Welbeck Street London W 1

LONDON HOSPITAL MEDICAL COLLEGE.
F.R.C.S.

A COURSE of INSTRUCTION for the FINAL FELLOWSHIP EXAMINATION will begin on Monday March 3rd, as follows:—

Examination of Clinical Cases: Messrs. R. Howard and E. C. Lindsay.
Systematic Tutorial Classes: Messrs R. Milne, A. J. Walton, H. S. Souttar and W. S. Ferrin.
Commentaries: Messrs R. Milne and H. S. Souttar.
Surgical Pathology and Museum Work: Mr R. Howard.
Bacteriology: Dr P. Fildes.
Surgical Anatomy: Professor William Wright.
Operative Surgery: Mr R. Howard.
Ophthalmic Surgery: Messrs. C. B. Goulden and H. R. Jeremy.
Aural Surgery: Messrs. N. Patterson and F. F. Muecke.

Fees: (exclusive of Operative Surgery) 20 gns. Operative Surgery 5 guineas.

A separate entry can be made for all Classes other than those of a strictly Clinical character (Men Students only are eligible for admission)

Further particulars may be obtained from Prof. WILLIAM WRIGHT M.B. D.Sc., F.R.C.S. Dean, London Hospital Medical College Mile End, E.1.

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Headmaster:
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Apply for Prospectus, &c. to the Headmaster Dr. MORGAN-SMITH.

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LONDON SCHOOL of TROPICAL MEDICINE
Endsleigh Gardens, N.W.1.

Sessions will commence 28th April and 29th September 1924 and 12th January 1925, approx.

For Prospectus and further particulars apply to The Secretary London School of Tropical Medicine, Endsleigh Gardens, N.W. or to the Head Office, Seamen's Hospital Greenwich London, S.E.

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Continuous Clinical Work in all Departments—
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For further particulars apply to Mr. H. J. Stiason, Dean, West London Hospital, Hammersmith, W.6.

F.R.C.S. (Edin.)

A TUTORIAL CLASS for the next Examination commences shortly.

Particulars from CHAS. R. WHITTAKER, F.R.C.S. Anatomical Department, Surgeons Hall, Edinburgh.

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Miss Evadne Newsholme

gives Private Lessons. Three for 1 guinea. Foxtrot, Waltz, Blues, Tango. Classes and Dances held.—128, New Bond Street. Tel.: Hornsey 3834.

LONDON HOSPITAL MEDICAL COLLEGE.
PRIMARY FELLOWSHIP EXAMINATION

A COURSE OF INSTRUCTION for the above Examination will begin on Monday March 3rd.

The Fee for the Course is 15 guineas.

Further particulars may be obtained from:—
Professor WILLIAM WRIGHT
M.B., D.Sc. F.R.C.S., Dean
Mile End, E.1.

NORTH EAST LONDON POST GRADUATE COLLEGE,
PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars and Prospectus from J. BRIGHT BANISTER, M.D., Dean.

Cheltenham College

TWELVE SCHOLARSHIPS and EXHIBITIONS (not open to members of College or Junior School) Those include 5 of £80 (increased to £100 for special merit). James of Hereford Scholarship of £35 (or boys born or brought up in Herefordshire). ARMY SCHOLARSHIP OF £50 (PREFERENCE TO SONS OF FALLEN OFFICERS). Awards made for all round excellence, or special proficiency in any main subject.

Preliminary Examination (at Candidates own Schools) Tuesday May 20th 1924. Final Examination at Cheltenham) Wednesday and Thursday May 28th and 29th 1924.

Apply BURSAR, CHELTENHAM COLLEGE.

UNIVERSITY EXAMINATION POSTAL INSTITUTION.
17, RED LION SQUARE, LONDON, W.C.1

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M.D.(Lond.), 1901-23, (8 Gold Medalists during 1918-23)	271
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Primary F.R.C.S. (Eng.), 1906-23	112
Final F.R.C.S. (Eng), 1906-23	79
M.R.C.P.(Lond.), 1914-24	75
D.P.H. (Various) 1906-23 (Completed Exam.)	216
F.R.C.S. (Edin.), 1918-23	21
M.R.C.S., L.R.C.P. *Final* 1910-24 (Completed Exam.)	214
M.D. (Dur.) (Practitioners) 1906-23	32

M.D. Various. By Thesis. Numerous successes.
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For MEDICAL PROSPECTUS (32 pages) List of Tutors and particulars about any Medical Examination apply to the Principal, Mr. E. S. WEYMOUTH.

STAMMERING. Mr. J. HERBERT MILL, the English Public School tutor will welcome enquiries regarding his tuitional treatment which guides the mind to non-obsessional sounds and proves to the nervous closure of the glottis. Medical & Scholastic testimonials. 8 Red Lion Sq., Holborn W.C.

University of Glasgow
FACULTY OF MEDICINE

All students intending to commence the study of Medicine in the University of Glasgow in April, 1924 should apply to the undersigned for a Print of the Conditions of Admission in view of the new regulations of the General Medical Council as to the registration of Medical Students which came into force on 1st January 1923.

University of Glasgow ROBT. BROUGH
January 1924. Registrar

University of Durham

The EXAMINATIONS FOR DEGREES in MEDICINE SURGERY and HYGIENE will be commenced at the University of Durham College of Medicine Newcastle-on-Tyne on March 10th 1924.

Full particulars may be obtained on application to Prof. R. HOWDEN Secretary of Examinations.

Shropshire Orthopædic HOSPITAL, Gobowen near Oswestry

COUNTRY OPEN AIR WARDS. 300 BEDS.

GIRL STUDENTS WANTED to learn Orthopædic Work and prepare for the Conjoint Examination of the C.S.M.M.G. Three years training. Salary first year £16; second year £20 all found, uniform.—Apply Miss HUNT, R.R.C.

Syllabus of a Course of Post-Graduate Lectures to be delivered at the Cancer Hospital, Kensington, S.W. 3, February and March, 1924.

	Wednesday		
„	5th Mar	STANLEY WYARD Esq., M.D.	Cancer of the Stomach
„	12th „	C. E. SHATTOCK, Esq., M.S.	Carcinoma of the Colon
„	19th „	SIR JAMES DUNDAS-GRANT, F.R.C.S.	Cases Illustrating the Diagnosis and Treatment of Cancer of the Throat
„	26th „	SIR THOMAS HORDER, F.R.C.P.	The Nutritional Factor in Malignant Disease, with Special Reference to Treatment

Tea will be served at 4.0 p.m.

Every lecture is free on presentation of his card, to any registered medical practitioner or student all of whom are cordially invited to attend

STANLEY WYARD *Hon. Sec. Med. Committee*

Oxford University.

DIPLOMA IN OPHTHALMOLOGY

The next EXAMINATION for the above begins on July 21st, 1924. The necessary Courses of Instruction are held for two months, beginning on May 5th.

Lectures and demonstrations are given in
Ocular Pathology, | Bacteriology,
Anatomy of Eye and Orbit, | Operations,
General medicine in relation to Ophthalmology
Clinical Ophthalmology

For full particulars apply to The Dean of the Medical School, Oxford University, or to P. H. ADAMS, University Reader in Ophthalmology, 6, Holywell, Oxford.

The fee for this Course is £15 15s. and £2 2s. Attendance Fee at the Oxford Eye Hospital.

Home School for Backward

and DELICATE CHILDREN (estab. 1904). Specialists. Patients received. Modern educational methods and handicraft training. Horticulture, garden games and occupations. Entire charge if desired. Elder girls admitted. Terms moderate.—Apply Principal, Hatherley Brake, Cheltenham.

In consequence of the lease of

ASHDOWN HOUSE, Hampstead having expired, MISS BULLOCK has moved her SCHOOL for Speech and L'spreadin for Dea Children and for the cure of Speech Defects in Hearing Children, to the larger detached residence standing in its own grounds known as KINGSFIELD HOUSE, Oxhey, Watford.

Tutor.—Final Conjoint.—

INDIVIDUAL COACHING & TUITION for the Final Examinations for the M.R.C.S. (Eng.) L.R.C.P. (Lon.). Fees: Half guinea an hour. Residence: Marble Arch.—Address enquiries with phone No. (if any) No. 1125, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2.

Small Private Residential

SCHOOL established 21 yrs. for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS. Special Department Pupils over school age. Under Medical supervision.—Prospectus Mrs. MERIEJON, Principal, St. Paul's House, Upper Maze Hill, St. Leonards-on-Sea.

Pathological Laboratory,

UNIVERSITY OF CAMBRIDGE

THE JOHN LUCAS WALKER STUDENTSHIP

Applications for this Studentship, the holder of which shall devote him self (or herself) to original research in Pathology are invited and should be sent accompanied by copies of papers containing published work, testimonials and references before 1st May 1924 to Professor H. R. DEAN, Pathological Laboratory, Medical School, Cambridge, to whom also applications for further information regarding the Studentship may be addressed. The Studentship is of the annual value of £300 and is tenable, under certain conditions, for three years from 31st May 1924.

15th January 1924.

University of Durham College

OF MEDICINE, Newcastle-upon-Tyne

LECTURESHIP ON MEDICAL JURISPRUDENCE

Applications are invited for this Lectureship, and should be sent with testimonials to the Registrar not later than March 10th, 1924.

Royal Ear Hospital,

Dean Street, Soho, W.1

DEPT. OF UNIVERSITY COLLEGE HOSPITAL

A vacancy occurs for an HON. ANÆSTHETIST to attend on Wednesday afternoons. Applications, accompanied by no more than three testimonials to reach the Secretary, University College Hospital, Gower Street, W.C.1, not later than Wednesday the 12th March, 1924.

Royal Halifax Infirmary

ELECTION OF HONORARY OPHTHALMIC SURGEON.

Notice is hereby given that an election of an Honorary Ophthalmic Surgeon to the Institution will take place at the Infirmary, on March 21st, 1924, at 7.45 p.m. The Staff consists of two Honorary Ophthalmic Surgeons. The appointment is open to duly qualified practitioners who practise in cases of the eye, ear, throat and nose only, and the officer appointed will be required to confine his practice to such cases.

Candidates are eligible whether resident in Halifax or in Leeds, Bradford or other neighbouring towns.

Further information as to conditions and regulations may be obtained on application to the undersigned. It is requested that application in writing with original testimonials (which will be returned in due course) be sent to the undersigned at the Royal Halifax Infirmary on or before March 7th, 1924.

By Order of the Board of Management.

EDMUND SCHOFIELD, } *Honorary*
G. R. J. DUCKWORTH, } Secretaries.

Royal Halifax Infirmary

ELECTION OF HONORARY RADIOLOGIST

Notice is hereby given that the election of an Honorary Radiologist to the Institution will take place at the Infirmary on March 21st, 1924, at 7.45 p.m. The appointment is open to those who hold one of the recognised diplomas in Radiology of the United Kingdom and the officer appointed will be required to confine his practice to Radiology and allied sciences.

Candidates are eligible whether resident in Halifax or in Leeds, Bradford, or other neighbouring towns.

Further information as to conditions and regulations may be obtained on application to the undersigned. It is requested that applications in writing, with originals of testimonials (which will be returned in due course) be sent to the undersigned at the Royal Halifax Infirmary on or before March 7th, 1924.

By Order of the Board of Management,

EDMUND SCHOFIELD, } Honorary
G. R. J. DUCKWORTH, } Secretaries.

ORTHOPÆDIC CENTRE, BIRMINGHAM

Highbury, Ufculme and Sorrento Hospitals

MEDICAL SUPERINTENDENT

The Committee of Management invite applications for the above whole time post which becomes vacant on 31st March next. The Hospitals contain 313 beds and have a large Outpatient Department and Curative Workshops. Orthopædic cases constitute the majority and there are General Medical and Surgical in addition to Limb-fitting cases.

Three Visiting Surgeons, one Visiting Physician, and three Resident Medical Officers are on the staffs of the Hospitals.

Salary £800 with single quarters, fuel and light, or £100 per annum in lieu of these emoluments a charge will be made for all meals taken at the Hospitals. No married quarters are available and the gentleman appointed if married will be required to live near the Hospitals. Preference will be given to Candidates with War Service Overseas and who are Fellows of the Royal College of Surgeons.

The appointment, which will be made subject to the approval of the Ministry of Pensions, will be terminable by one month's notice on either side.

Applications accompanied by copies of three recent testimonials and statement of War Service and experience in Orthopædic Surgery to be received before 8th March next by the Chairman, Hospitals Committee, Highbury Hospital, Moseley, Birmingham.

11th February 1924.

The Gordon Hospital for

RECTAL DISEASES,
Vauxhall Bridge Road, S.W.

An ANÆSTHETIST is required for Thursday afternoons. Honorarium is given. Applications to be forwarded with testimonial, as soon as possible to the Secretary.

Indian Medical Service

The Secretary of State for India announces Vacancies in the Indian Medical Service to be filled by direct appointment.

For EUROPEAN OFFICERS of British nationality to be appointed in the immediate special term are offered including grat... £1,000 after 5 years service together with... re urn pas ages for those who no longer de... remain in the service.

Candidates must be under 32 years of age... time of application and must possess qua... registrable in Great Britain and Ireland under Medical Acts now in force.

Further particulars can be obtained on... to the Secretary, Military Department, India... Whitehall, London, S.W.1. Letters should be marked "Recruitment for I.M.S."

Assistant Medical Superintendent

required for CENTRAL PENANG HOSPITAL, FEDERATED MALAY STATES.

Salary equivalent to £616 rising to £1,120, with special (non-pensionable) allowance of £84 per annum and temporary allowance of 10% (or 20% if married man) to meet high cost of living.

Free passages and free quarters provided.

On probation for three years. If appointment confirmed will be pensionable.

Candidates should have two years experience as Assistant Medical Superintendent in a Mental Hospital.

Application forms and any further particulars may be obtained from the Assistant Private Secretary (Appointments), Colonial Office, Downing Street, London, S.W.1.

City of Leeds.

ASSISTANT MEDICAL OFFICER OF HEALTH.

Applications are invited from qualified registered medical practitioners for the post of Assistant Medical Officer of Health for the City of Leeds. Candidates must not be more than 40 years of age and in addition to previous experience in public health administration, should possess a certain amount of experience in general medicine.

The person selected will be required to devote his whole time to the office and to perform such duties as are allotted to him by the Medical Officer of Health. It will be necessary for him to enter into an agreement of service with the Corporation, terminable by three months' notice on either side, and to undergo a medical examination and contribute to the Superannuation Fund established under the Local Government and Other Officers' Superannuation Act, 1922.

The salary will be £750 per annum. Applications stating age, qualifications and experience, together with copies of three testimonials endorsed, Assistant Medical Officer, must be delivered at my office, 46 Great George Street, Leeds, not later than the 8th March.

Leeds, 2nd February 1924. ROBERT E. FOX, Town Clerk.

City of Leicester Education Committee.

APPOINTMENT OF AN ASSISTANT SCHOOL MEDICAL OFFICER (MALE).

The Education Committee invite applications for the post of Assistant School Medical Officer, whose duties will be to carry out the duties of the Medical Inspection of School Children in the City of Leicester under the direction of the School Medical Officer.

The person appointed will be required to devote his whole time to the duties of the office.

The salary attached to the post will be £600 per year.

Application (by letter, and accompanied by copies of not more than three recent testimonials) should be forwarded to the undersigned not later than Saturday, the 8th March.

Town Hall, Leicester. F. P. ARMITAGE, Director of Education.

16th February, 1924.

Royal Devon and Exeter

HOSPITAL, Exeter. (200 Beds.)

HOUSE PHYSICIAN.

Applications are invited for the post of House Physician (Male) at this Hospital, vacant on the 31st March next. The appointment to be for six month but candidates are eligible for re-election.

The candidate appointed will be in charge of the Medical Wards, assist in the Casualty Department and in giving Anæsthetics.

Salary at the rate of £150 per annum with board, apartments and washing.

Applications giving full particulars as to age, qualifications together with certificates of registration and copies of recent testimonials should be sent to the undersigned on or before Monday, 10th March 1924.

By order of the Committee.

S. S. COLE, Secretary.

Dated 22nd February 1924.

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

CONTRACT PRACTICE.

ENGLAND

Town or District
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs.)*

WALES

Town or District
ABERTRIDWR GLAMORGAN *(Winnor Colliery (Medical Scheme.)*
EBBW VALE MON *(Workmen's Medical Society)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme.)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*

WALES *(continued)*

Town or District
OAKDALE, MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*
OGMORE VALLEY GLAMORGAN *(Llynfiham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*
TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*

PUBLIC HEALTH.

Town or District
BARNSLEY COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer)*
BERKSHIRE EDUCATION COMMITTEE *(Assistant Medical Inspector of Schools)*
CORNWALL EDUCATION COMMITTEE *(Woman Assistant School Medical Officer)*

PUBLIC HEALTH *(continued)*

Town or District
EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*
LINCOLN: CITY AND COUNTY BOROUGH. *(Medical Officer of Health)*
NOTTINGHAMSHIRE *(County Medical Officer of Health)*
PLYMOUTH EDUCATION AUTHORITY *(Woman Assistant School Medical Officer)*
PORTSMOUTH BOROUGH *(Medical Officer to the Portsmouth Child Welfare Centre and Municipal Maternity Hospital)*
ROTHERHAM UNION *(Medical Officer)*
SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer)*

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE—(Grenada with Carriacou St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand London, W C 2.

Town or District	Hon Sec. of Division or Branch
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *(Senior Resident Physician.) (Senior Resident Surgeon.)*	Mr A. RADFORD M.C. F.R.C.S. 5 & 6 4th Floor National Bank Buildings Durban
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr R H TODD (Hon Sec. New South Wales Branch) B M A Building 30-31, Elizabeth Street, Sydney N S W
QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R MARSHALL ALLAN (Hon Sec Queensland Branch) Adelaide Street Brisbane
VICTORIA *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon Sec. Victorian Branch), Medical Society Hall E Melbourne Victoria.
WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon Sec. Western Australian Branch No 6 Bank of New South Wales Chambers, St George's Terrace Perth.

Address 429 Strand, W C 2
February 27th 1924.

By order of the Council of the British Medical Association.
ALFRED COX, Medical Secretary

West London Hospital,
Hammersmith Road, W 6

Required one HOUSE PHYSICIAN and two HOUSE SURGEONS (Males) The appointments are tenable for six months from 1st April next Salary £100 per annum with board lodgings and washing allowance

Candidates are required to be registered under the Medical Act, to send 4 copies of their letters of application and 4 copies of each testimonial submitted so as to reach me not later than Tuesday 18th March Selected candidates will be required to call upon such members of the Medical staff as directed to be in attendance at a meeting of the Medical Council on Friday 8th March at 4 p.m. and the House Committee Meeting at 4.45 p.m. the same day when the appointments will be made

H A. MADGE Secretary

Medical Officer wanted for the Parish of LAIRG salary of £100 per annum and free house provided by the Parish Council in addition to private practise, National Health Insurance emoluments, &c.

Applications to D MACKAY Parish Council Office, Lairg Sutherland not later than 8th March.

The Queen's Hospital for CHILDREN
Hackney Road Bethnal Green, E 2

Vacancies will occur for one HOUSE PHYSICIAN on 1st May and one HOUSE SURGEON on 5th April (open only to men or women who have held appointments at recognised hospitals)

Six months appointments. Salary £100 per annum, with board residence, and washing

Candidates should apply to the Secretary as soon as possible for forms of application which must be duly filled in and returned not later than 12 h March

T GLENTON KERR Secretary

18th Feb 1924 Telephones: Dalston 305 & 534.

St Thomas's Hospital, S E 1

Vacancy The appointment of an OPHTHALMIC SURGEON with Charge of Out patients. Candidates must be registered Medical Practitioners, and Fellows of the Royal College of Surgeons of England

Applications and testimonials should be sent in on or before March 3rd 1924 addressed to the undersigned.

G Q ROBERTS Secretary

National Hospital for Diseases OF THE HEART Westmoreland Street W 1

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) The appointment is for a period of six months but may be renewed for a further period not exceeding six months.

Candidates must be prepared to commence duty on the 20th March 1924. Salary at the rate of £150 a year with board residence, and washing

Candidates must be duly registered medical practitioners will not be expected to call on the Honorary Medical Staff but should sent their applications, with copies of three recent testimonials, to the undersigned, at the Hospital not later than Saturday 8th March, 1924

ROBERT G B WHITNEY Capt. Secretary

Bath Ear, Nose and Throat HOSPITAL Marlborough Buildings, Bath.

Applications are invited for the post of HON PATHOLOGIST. These, accompanied by copies of three recent testimonials should be sent to the Secretary at the Hospital before 28th March.

F M. MILLARD Hon. Secretary

Wanted —A Male Assistant, unmarried Englishman or Scotchman, for country town in Midlands Experienced in general and panel practice Must be keen active and take well with patients Good and rising salary offered — Address No 913, B M J Office 429 Strand, W C 2

Wanted an Assistant in a good-class General PRACTICE Ex H P or H S, one desiring a permanency Must be a gentleman Motor cyclist and good anæsthetist — Address including photograph (to be returned), No 1108 BRIT MED JOUR 429 Strand, W C 2

Wanted — An Indoor ASSISTANT in a Colliery Practice in Glamorganshire Usual bond Salary £300 per annum —Address, stating age references etc, No 1116 BRITISH MEDICAL JOURNAL Office 429 Strand

Wanted at once in Midlands TWO ASSISTANTS (qualified married couple would suit) One assistant must be capable of taking charge of busy practice when required Plainly furnished rooms lighting and heating provided No attendance —Address, No 1135 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted by M B, Ch B (Edin) 27 ASSISTANTSHIP (outdoor), comm in May British ex serv at present holding hosp appt. 6 mths H S H P, 3mths Junr H S and Locum exp good anæsthetist keen conscientious, scope for surg pref Excel testm —Address, No 1028 BRIT MED JOUR Office 429 Strand W C 2

Wanted by M B (Camb), M R C S, ASSISTANTSHIP LOCUM or Part time work London preferred Experienced in General Practice Three years hospital appointments — Address, No 1015 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted —About the beginning of June by an Edinburgh graduate age 32 unmarried ASSISTANTSHIP with view to Partnership in Practice in English Country Town Has held Resid appts in well known Hospitals for the last 2 years Can give references Some capital available —Add No 1101 B M J Office 429, Strand

Wanted — In Midlands, ASSISTANT State age experience, and other essential particulars, Must be single, in or out-door optional —Address No 1119 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted —Part-time Work, London by West-End practitioner Available 11 to 4, also after 8 p m. evenings Small salary accepted Qualifications M B, M R C S Could commence immediately Laboratory experience — Address No 1126 B M J Office 429 Strand W C 2

Wanted —Part-time Work in London Within easy reach of Bank, Free daily 12 till 5 p m; and week ends Saturday 12 till Monday 5 p m Well qualified and experned Spec in Ear Nose and Throat Excellent testmls — Address No 1114 B M J Office, Strand, W C 2

Wanted, in or within easy distance Cardiff PART TIME WORK by M B, Ch B Edin Free most of week. Experienced general practice Excellent testimonials Full details and interview if desirable — Address No 1121 BRIT MED JOUR Office, 429 Strand W C 2

Assistant (Indoor) wanted in Tyneside panel and private (working class) Practice Glasgow graduate preferred age not over 30, unmarried Scotch, protestant and experienced general practice essential Excellent prospects for energetic keen worker Salary £350 p.a.—Add No 1122 B M J

Birmingham —F R C S. Edin, etc. wants AFTERNOON — EVENING WORK, while reading for exam Own car Married —Address No 1104 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Elderly medical man wants ENGAGEMENT e.g Institutional, Secretarial Medical Companion or some light work not entailing night duty Very moderate terms — Address No 1105 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

M.B, Ch B, requires PART TIME work London whilst doing post graduate work. Free April 3 months Moderate fee — Address No 1102 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Radiographer (M S R.) Member Röntgen Society seeks APPOINTMENT Free in May next.—Address No 1111, BRITISH MEDICAL JOURNAL Office, 429, Strand, W C

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Part-time —Doctor in nice part of London within easy reach of all the Hospitals offers Hospitality to Medical Man in return for week ends Thursday afternoon and evening and slight clerical assistance.—Address No 1103 BRIT MED JOUR Office, 429 Strand W C

Scotswoman (M A, M B, Ch B), age 26 desires 4 or 5 weeks WORK from March 15 Excellent General Pract ce and some Hospital experience Any medical work considered and anywhere Moderate remuneration —Address No 1133 B M J Office 429 Strand W C

Dispenser, Lady (Hall) seeks Post with Doctor Good experience in large Practice, bookkeeping &c Quick and energetic Good references young — Address W, Tresco 'The Uplands Loughton Essex

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Wanted by M B, B Ch Camb a Country PRACTICE of about £1 Devonshire or neighbouring County, near some fishing Now free and can pay Apply, BLUNDELL & Co, 22, Craven Strand, W C 2

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Wanted by M.B, age 37, a middle and working-class PRACTICE £1 500 or more with good panel, in London South or Midlands Now free and can pay Apply BLUNDELL & Co, 22, Craven Strand W C 2

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Required —General Practice about £1 000 with scope Equipment not Little if necessary Cash waiting Suburb of Nottingham or other Midland town House with option to rent — Address, No. 1006 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2

Required in London or suburbs General PRACTICE with Panel producing over £1,000 p.a. Send full details in confidence to Mr W S ATKINS, Medical Transfer Agency 43 Bedford Street Strand W C 2

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South-West Coast —An old- established middle and better-class PRACTICE, situated at a sea side town Receipts over £1 000 Fees 5/ upwards. Splendid house in good position with garden etc. Rent £110 per annum Premium 3 years purchase —Apply quoting F No 646 Mr W S ATKINS Medical Transfer Agency 43, Bedford Street, Strand, W C 2

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Applications are invited from duly registered Medical Practitioners (Male) for the following posts:—

(1) FIRST ASSISTANT RESIDENT MEDICAL OFFICER at the SOUTH WALES SANATORIUM Talgarth, Brecon shire Salary £375 per annum, plus maintenance, rising by increments of £25 to £450 per annum

(2) THIRD ASSISTANT RESIDENT MEDICAL OFFICER at the NORTH WALES SANATORIUM Llangwyfan near Denbigh North Wales (pulmonary and non pulmonary tuberculosis) Salary £250 per annum plus maintenance

(3) ASSISTANT RESIDENT MEDICAL OFFICER at the KENSINGTON HOSPITAL St Brides Pembrokeshire (Surgical Tuberculosis in children) Salary £250 per annum, plus maintenance Preference will be given to candidates who have held a post as House Surgeon, particularly in an Orthopædic Hospital

Applications giving qualifications and previous experience, should reach the undersigned by March 5th 1924

Memorial Offices WILLIAM MILES,
Westgate Street, Cardiff. Secretary

Doncaster Royal Infirmary

SENIOR HOUSE SURGEON (male) required March 15th next Candidates must possess previous surgical experience and be legally qualified and registered The appointment is tenable for six months and subject to renewal

The scope of work is wide and valuable experience is afforded Salary £200 per annum with board, residence and laundry

Applications with full particulars and copies only of testimonials must reach me by Wednesday, March 5th 1924

R WILFRED A ELLISTON Secretary

The Metropolitan Ear, Nose
AND THROAT HOSPITAL
(1838) (Incorporated Fitzroy Square W 1

HOUSE SURGEON (non resident) salary at the rate of £150 per annum

Applications are invited for the above appointment and should be forwarded with not more than three recent testimonials to the undersigned from whom all particulars may be obtained

L L PHILLIPS, Secretary

The Metropolitan Ear, Nose
AND THROAT HOSPITAL
(1838) (Incorporated), Fitzroy Square, W 1

CLINICAL ASSISTANTS

Applications are invited for the above appointments and should be forwarded to the undersigned In appointing Assistant Surgeons preference is given to those who have served the Hospital as Clinical Assistants

L L PHILLIPS Secretary

Charing Cross Hospital

ASSISTANT OBSTETRIC PHYSICIAN

Applications are invited for the post of Assistant Obstetric Physician to the above Hospital

Candidates must be graduates of a University and possess the Diploma of M R C P or F R C S

Applications accompanied by copies of 3 recent testimonials should reach the undersigned not later than April 4th 1924

(Signed) PHILIP INMAN
Charing Cross Hospital House Governor
London, W C 2

Royal Hospital, Richmond,
Surrey

ASSISTANT HOUSE SURGEON (male) required Remuneration £100 per annum, with board furnished apartments and washing Candidates must be fully qualified and registered

Applications stating age experience and copies of three recent testimonials, should be forwarded to the undersigned

RICHARD ALLEN Secretary

Royal South Hants and
SOUTHAMPTON HOSPITAL,
Fanshawe Street Southampton

Required a JUNIOR HOUSE SURGEON (Male) and unmarried Candidates must be doubly qualified and be willing to engage for six months Salary £150 per annum, with rooms board and laundry Duties to be taken up on the 15th March

Applications stating age to be sent to the undersigned (with printed copies of testimonials limited to five) not later than Saturday 1st March

T A FISHER HALL
15th February 1924 Secretary

City of Bath
SECOND ASSISTANT MEDICAL OFFICER

Applications are invited for the above post from registered medical practitioners (Ladies or Gentlemen) The salary offered is £600 per annum

The duties will be largely in connection with Maternity and Child Welfare Clinics and the School Medical Department and preference will be given to candidates specially qualified to undertake such work The person appointed will be on the staff of the Medical Officer of Health and School Medical Officer and must also assist in the general health work of the City under his direction

The possession of a Diploma in Public Health is desirable Canvassing either direct or indirect will disqualify

Condition of appointment and form of application may be obtained from me Applications must be received by the 15th March 1924

J BASIL OGDEN, Town Clerk
Guildhall, Bath. 20th February 1924

St Peter's Hospital for
STONE &c Henrietta St, Covent Garden W C

The office of HOUSE SURGEON will become vacant on the 1st April 1924

This office is held for six months at a salary at the rate of £75 a year, with board lodging and washing

The Gentleman appointed will, at the expiration of the period for which appointed and subject to the *approval of the Medical Staff* be eligible for a further six months appointment as Resident Surgical Officer

Applications with copy of testimonials should be sent to the Secretary at the above address on or before the 15th March

BEECHEY ROGERS Secretary

Royal Northern Hospital,
Holloway London, N

Applications are invited for the post of OUT PATIENT MEDICAL OFFICER The appointment is for six months from the 15th April, with eligibility for re election for a further period not exceeding six months Salary at the rate of £150 per annum with luncheon provided

The Officer appointed must be a registered medical practitioner, and will be required to attend at the Hospital each morning from 9 30 and for a short time in the afternoons (mornings only on Saturdays no attendance on Sundays)

Applications with copies of testimonials should be sent to the undersigned by the 22nd March from whom forms of applications and rules for the office can be obtained

GILBERT G PANTER Secretary

Royal National Orthopædic
HOSPITAL

Applications are invited for the post of HOUSE SURGEON The appointment is for six months renewable for a further period of six months on the recommendation of the Medical Board Duties to commence on April 1st next Salary at the rate of £150 per year with quarters board and laundry

Applications, with copies of testimonials to reach the Secretary at 234 Gt Portland Street, W 1, not later than March 15th

The Royal Infirmary,
Sheffield

The Weekly Board of Management invite applications for the post of ASSISTANT CASUALTY OFFICER

The salary attached to the appointment is £60 per annum, with board and residence

Applications with copies of testimonials, to be addressed to the undersigned

Board Room, JNO W BARNES,
23rd February, 1924 Secretary

The Hospital for Sick
CHILDREN Newcastle-upon Tyne (74 beds)

Applications are invited for JUNIOR RESIDENT MEDICAL OFFICER (Male) for a period of six months Salary at the rate of £120 per annum with board, residence and laundry Duties to commence 1st April 1924 Applications stating age and qualifications with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE 18 City Road Newcastle on or before 15th March 1924

The Royal Infirmary and
CHILDREN'S HOSPITAL, Sunderland

Wanted VISITING MEDICAL OFFICER to take charge of the X Ray Electro-Therapeutic and Orthopædic Department who will be restricted to this class of practice Salary £400 per annum

Applications to be received not later than March 14th —*For particulars of appointment apply to* S O FRYERS, Secretary, The Royal Infirmary Sunderland

Salford Royal Hospital
(260 Beds)

Applications are invited for the following vacancies which will occur in the Resident Medical (Male) on the 31st March next:—

RESIDENT MEDICAL OFFICER Salary at the rate of £175 per annum

THREE HOUSE SURGEONS Salary at the rate of £125 per annum each

CASUALTY HOUSE SURGEON Salary at the rate of £125 per annum

The appointments are for a period of six months with board and residence Candidates must be registered under the Medical Acts

Applications stating age and qualifications together with copies of testimonials and certificates of registration, to be addressed to the undersigned without delay

By order of the Board
GEORGE RUDDLE,
General Superintendent & Secretary
Salford Royal Hospital Manchester
23th February 1924.

Cheltenham General and Eye
HOSPITALS

The Board of Management *invite applications* for the post of HONORARY EYE SURGEON at the Hospital.

Candidates whose names must appear in the Medical Register as Graduates in Surgery of a recognised University of Great Britain or Ireland, or as a Fellow or Member of the Royal College of Surgeons of England Ireland or Edinburgh, are invited to forward their applications for the appointment addressed to the undersigned, at the Hospital, on or before March 8th 1924

J CUMMING SMITH
25th February 1924 Secretary

Manchester Victoria
MEMORIAL JEWISH HOSPITAL
(General Hospital—39 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (Male) The appointment is for one year the holder being eligible for re election for a further period of one year The duties include work in the Out patients Department as well as in the Wards Salary at rate of £250 for first year and £300 for second year with board and lodging and laundry Letters of application stating age qualifications and experience with copies of testimonials to be sent to the Secretary at the Hospital not later than 8th March, 1924.

St Mark's Hospital for Cancer,
FISTULA AND OTHER DISEASES OF THE RECTUM, City Road, E C 1

HOUSE SURGEON required Must be fully qualified Salary £200 per annum, board, lodging and washing The appointment is for a minimum of six months. The successful applicant will be required to commence duties on April 1st

Applications with copies of three recent testimonials, to be forwarded to the Secretary at the Hospital, on or before May 10th March.

National Hospital for the
PARALYSED AND EPILEPTIC
Queen Square, W C

The Board of Management invite applications for the post of ASSISTANT PHYSICIAN which will shortly become vacant at the above Hospital

Particulars of the appointment may be obtained from the undersigned to whom applications should be sent on or before Saturday March 8th

Applicants must be Members or Fellows of the Royal College of Physicians

GODFREY H HAMILTON Secretary

Hertford County Hospital,
Hertford

A vacancy has occurred on the Staff of the above-named Hospital for an HONORARY ASSISTANT SURGEON Candidates must possess a Surgical degree of a British University or Membership or Fellowship of one of the Royal Colleges of Surgeons.

Applications must be in the hands of the Secretary on or before the 8th March 1924

PERCY G BROOKS Secretary

Royal Free Hospital,
Gray's Inn Road, W C 1

Applications are invited from duly qualified and registered medical men or women for the post of HOUSE SURGEON vacant 1st April next. Intending candidates should submit applications stating age accompanied by copies of three recent testimonials to the undersigned, on or before the 10th March 1924

REGINALD R GARRATT, Secretary

ondon Homœopathic

HOSPITAL Great Ormond Street and Queen Square Bloomsbury W C 1 172 Beds

The B and of Management are prepared to ceive applications for the post of THIRD NESTHETIST to attend on Wednesday and turday afternoons Honorarium £50 per annum ie appointment is made for one year then subject n election

Candidates must pos ess a registrable qualifica n and produce evi lence of recent training in the iministration of Anæsthetics

Candi lates will be required to attend a Meeting the Medical Committee

Applications s ating age with copies of testi onials (thirty copies of each testimonial) should l ad lre ssd to the Secretary of the Hospital of hom further particulars may be ob taine l

EDWARD A ATWOOD Secretary

Feb ruary 19 4

Queen Charlotte's Lying-in

HOSPITAL, Marylebone Road N W 1

TWO ASSISTANT RESIDENT MEDICAL FFICERS male or female required to commence eir duties on 1st April 19 4 Applicants must be gistered Appointment for four months The lected candidate will take alternate duty in the patient Department and on the District

The post of SENIOR RESIDENT MEDICAL FICER will also become vacant on the 1st Apr l 24 The salary of the Assi tant Resident Medical fficers is at the rate of £80 per annum and of the nior Re sident Medical Officer £100 per annum ith board resi lence and washing allowance (4 - ekly) One of the present Assistant Resident edical Officers is a candidate for the Senior Post Applications with cop es (not original) of not ore than three te timonial will be received by e Secretary up to 6th March 1924

Royal Manchester Children's

HOSPITAL

Pendlebury near Manchester (190 Beds)

Wante l a RESIDENT SURGICAL OFFICER (salary £80 per annum) who will be appointed for six months and be eligible for re-appointment as Resident Medical Officer for a further six months (salary £120 per annum)

Candi lates must be unmarried doubly qualified an l duly registered

Applications stating age and accompanied by copies of not more than four testimonials to be sent to the undersigned not later than 6th March

Duties to commence 1st April

By order W M HUMPHRY

24th Feb ruary 19 4 Secretary

Central London Throat, Nose

AND EAR HOSPITAL, Gray's Inn Road W C

RESIDENT HOUSE SURGEON (Male)

There will be a vacancy for a Second Resident House Surgeon to enter on duty on 14th April next Remuneration at the rate of £75 per annum.

The appointment offers good opportunity of acquiring extended knowledge of the diseases treated

Application with copies of not more than three testimonials should reach the undersigned not later than 10th March

RICHARD KERSHAW Secretary

Bradford Children's Hospital

HOUSE SURGEON wanted, doubly qualified Salary £125 with board residence and laundry Applications stating age, with testimonials to

C V WOODCOCK, Secretary

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W J HICKS *Secretary*

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Superior Male Nurses and Valet Attendants for Mental, Medical, Travelling and all cases

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LONDON S W —Old-established G P Panel over 800 Income £1 000 p a. Small house suit young man Premium £1 800 to include lease

DERBYSHIRE —Old-established G P Panel over 600 Income nearly £800 Premium £1,000 Scope for increase

CHANNEL ISLANDS —NUCLEUS unopposed capable of increase Nice house large garden 10 years lease rent £125 p a Suit semi retired man Premium £200

LONDON N E —Old-established G P Panel nearly 400 Average cash receipts £950 p a. No midwifery scope Premium £3 000 to include freehold house

LANCS —Old-established G P situated in country town Very pretty country Large house (5 beds) garden and garage Panel over 800 2 appointments Income £1,400 Prem to include house £4 000

YORKS —Old-established Country Town G.P Panel 1 500 Income £2 500 3 appointments Detached house with garden and garage to let on lease Premium £3 500

WARWICK —Small Country PRACTICE in pleasant district, suitable only for young bachelor Panel 400 Income £450 Rent £21 p a. Premium £350 for quick sale

SOUTH WALES —Old-established G P in residential district. Panel over 1 400 Average income nearly £2 000 Premium £2 500

Purchasers stating their requirements will be sent particulars of suitable Practices and Partnerships for sale free of charge

Please address all communications to the Manager Medical Transfer and Insurance Department

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Nottinghamshire—About £1 300 p a Old established Unopposed Panel 5 0 Modern house, tennis etc Low Premium—Apply No 7490

Scotland — Seaside Resort. About £3 600 a year Panel 650. Good fees Very few midwifery cases Cottage Hospital. Nice house and garden—Apply, No 7494

Kent—£1,700 a year Very old established PRACTICE Panel 1 400 Good house rent £50 Easily worked—Apply, No 7487

London, S W—About £850 a year Old e tabli hed PRACTICE in near Suburb No panel no midwifery Good house, garage etc—Apply No 7489

Midlands—£800 a year, Industrial Town. Panel 8.0 easily worked no Car House with large garden lawn and orchard Sell or Let Premium for practice £1 000—Apply, No. 7483

Northern Town.—About £1 200 a year Vendor retiring Appointments £ 80 Panel 800 Good house—Apply No. 7449

Midland Town—Practice about £1 400 a year Panel 1 420 Excellent house to rent Appointments about £250 No midwifery—Apply No 7478

Spa Practice—Nearly £3,000 a year Good old-established Practice suitable for an experienced graduate with means—Apply No 7438

Scotland — For disposal small PRACTICE £450 a year Scope Non dispensing Panel 430 About 20 midwifery cases Premium £250—Apply No 7491

North-West County—Over £3 500 a year Old-estab Large town Panel nearly 3 000 Good house on lease Moderate terms Apply, No 7423

Cheshire — £3,500 a year, PARTNER wanted Good Suburb of large Town wit Hospital Good fees. Panel £1 000 a year Good house available Half share for sale—Apply No 7444

Wales Coast—Over £900 a year Good general PRACTICE Small panel Good house and large garden Residential Seaside Resort. Prem. £1000—Apply, No 7419

Eastern County — About £800 a year Unopposed On rail Panel over 500 Detached house on lease. Schools near Personally known Premium 1½ years purchase.—Apply, No 7455

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See Advt of Borril Medical Agency Ltd Page 39

ESTABLISHED 1868

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Residential Suburb in S E. London Old established mill PRACTICE of £1,450 Appointment £ No panel Good house with tennis court to be bought

Lincs — Unopposed Practice of £650 Panel and appointments £ Small house can be rented

London, S.W.—Practice of nearly £800 in pleasant suburb Good scope as vendor has been doing other work Panel 350 House can be rented for £60.

Norfolk—Partnership Half share of £2 600 Country town with cottage hospital Appointments and p £1 400 Schools, society, and all House can be bought freehold.

Midlands — Unopposed PRACTICE of £1,800 in agricultural district Fine house with beautiful garden Rent £80 Premium 1½ years purchase.

Birmingham — Practice of £1,300 with great scope Panel Appointment £50 Very convenient can be bought freehold.

Surrey—Rapidly increasing PRACTICE of £500 in residential suburb House and Practice can be bought for £3 500 Practically no panel.

Liverpool — Suburb, near open country Receipts £1 400. Panel 1 100 Appointment £90 Opportunity Great scope as vendor has been handicapped by illness Rent £50

London, S W—Partnership, Share worth £850 with good prospects of increase in mixed Practice Panel Good house with separate surgery Rent £50 to long lease

North Wales—Partnership, Share worth £800 in beautiful seaside place Cottage hospital and scope

Yorkshire—Partnership, Third share of £5 470 in one town. Panel 3 300 and several appointments. Good house Little midwifery

Inland Spa — Good-class PRACTICE of £2 900 No midwifery or surgery Good house can be bought.

West London—Partnership, Third share of £2 200 in pleasant district Scope for minor surgery Good properties panel Visits 3/6 to 10/6 Living accommodation available

South Coast—Old-established good class PRACTICE of £4 000 in high town Very good fees 10 midwifery 5 gp up Scope for surgery House in good position with garden and garage Rent £100.

X-Rays Practice of £800 in select seaside place Good house can be rented

South Midlands — Partner SHIP Two fifths or one-third share of £3 000 in nice country town with cottage hospital in good hunting district Scope for Surgeon Modern detached house with garage and garden on lease

Peak District — Very old- established PRACTICE in country town Receipts average £1 360 Panel 6 0 Very desirable practice House at reasonable rent

South Devon — Nucleus and RESIDENT PATIENT connection in fashionable seaside place Large house and garden.

East Coast — Practice of £1 140 in beautiful seaside place Panel 800 Appointment £40 Rent £60

South Coast—Practice of £1 300 in favourite resort Panel Appointment £40 Rent £60 Seven years lease Premium 1½ years' purchase

Purchasers stating their requirements can Particulars of other Practices no advertised

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1 DEATH VACANCY.—SHROPSHIRE.—In a very pleasant country town amidst beautiful surrounding a very old-established PRACTICE to which is attached a valuable Licence for six female patients is for immediate disposal. The practice averages for the past three years over £1,000 per annum including appointments worth £40 to £50 and 150 panel patients. Held by late Incumbent over 20 years. Visits 5/- and 7/6. Very little midwifery. Large house and ground. Freehold price £3,500 of which £1,000 can remain on mortgage. Premium for practice and licenses £1,550. Locum in charge.

2 NORFOLK.—UNOPPOSED COUNTRY PRACTICE.—Very old established and situated in a very pretty part of the county [illegible] purchaser is prepared to buy at a reasonable price. Premium £1,800.

3 LANCASHIRE.—Old-established PRACTICE situated in a town of about 4,500 inhabitants, and within 11 miles of a large City is for disposal in consequence of the ill health of the vendor. It is worth between £1,550 and £1,650 per annum of which £1,100 to £1,200 is from panel. Midwifery has been refused. House contains consulting and waiting rooms, 3 reception rooms, 7 bedroom, bathroom etc. Rent £85 a year on lease. Premium 1½ years' purchase. Efficient introduction given.

4. LONDON EAST.—PARTNERSHIP.—A half share is for disposal in an exceptionally sound old-established middle and working class Practice. The average income is well over £5,000 including panel of under 1,000. The panel can be largely increased if desired. Fees 3/6 and 5/-. Midwifery from 3 guineas. About 80 cases. Small very convenient house in quiet road. Price £400. Premium £3,750 payable £2,000 down.

NORTH LONDON.—Old established middle and working class PRACTICE held by Vendor 4 years. Average income for last 2 years [illegible] worth about £320 believed that this can be much increased. Panel 3/6. Visits and medicine [illegible] year at from 2 to 5 guineas. Easily worked with no conveyance. Very large scope. Fourteen roomed house on 61 years' lease, ground rent £20. Fair garden. Garage for 2 cars sub-let for £44 a year. Premium for practice and house £3,250.

6 LARGE NORTHERN TOWN.—Close to a well known School of Medicine and Hospital. PRACTICE producing last year £900 mostly panel. No midwifery. Would suit anyone desiring easy work or tudying for higher qualification. Premium £1,000 for immediate sale. House must be bought for £1,100 of which £800 can remain on mortgage.

7 LANCASHIRE.—LARGE TOWN.—Small PRACTICE of about £200 plus a panel of about 300 patients. Very old established but neglected for the last ten years owing to war service. Fees mainly 2/6 and 3/6. Very good detached house standing well back from the road, on very long lease, ground rent £10. Situated in residential area of the town. Excellent opportunity for young energetic man to make a good practice. Premium for house and practice £1,200 a large portion of which could be obtained on mortgage.

8 PARTNERSHIP.—NORTH WEST OF ENGLAND.—In a large town (population 117,000) the half-share of a very old-established practice worth for the last financial year £3,327 including 1,000 panel patients, is for disposal in consequence of the retirement of the senior partner through advancing age. Good house available containing reception rooms, consulting and waiting room, surgery, 7 or 8 bedrooms etc. It can be either purchased or rented on lease at £80 a year. Premium for share £2,350.

9 BRISTOL.—Very old-established middle and working-class PRACTICE held nearly 25 years by present Incumbent who is compelled to relinquish on account of ill health. Average cash receipts over £1,200 a year including several small appointments and a panel of over 1,000. Visits 3/6 to 10/6. Midwifery £3 3s. 30 cases yearly. Very good house specially built for a doctor contains 2 reception rooms, waiting room, consulting room and surgery with separate entrance; 5 bedrooms, dressing room etc. Garden. Price £2,200. Premium £1,800.

10 CROYDON.—Old-established middle and working class PRACTICE. There is no panel but vendor states that there is a very large scope for this work if desired. Income this year is at the rate of £1,200. Consultations from 2/6 visits from 5/-. Very attractive house, with nice garden. Price £2,000. A large portion of which could be obtained on mortgage. Premium £1,500.

11 LEEDS.—PARTNERSHIP.—A one-third share in an old-established middle and better artisan Practice including panel of over 3,000 and appointments. Average income for the last three years £5,470. Surgery fees from 2/6 cash. Visits from 4/6 to 12/6. Little midwifery from 2 guineas. Suitable house in central [illegible] hospital is essential. [illegible] 00.

12 [illegible] PARTNERSHIP.—A half share in a [illegible] average of over £3,800. Fees 2/- and 2/6; visits 3/-. Night work extremely light. [illegible] rooms, 6 bedrooms, bathroom etc. Small garden. Rent £60. Premium 1½ years' purchase payable by arrangement.

WANTED TO PURCHASE.

1 SOUTH WEST OF ENGLAND.—Preferably between Taunton and Land's End. Country PRACTICE producing about £1,500 a year. House with 2 or 3 reception rooms, 6 bedrooms, and good garden. Capital available and free to negotiate at once.

2 RESIDENTIAL SUBURB OF LONDON. Good cash and panel PRACTICE bringing in upwards of £2,000. Panel of at least 2,000. Convenient medium sized house. Capital available.

3 SOUTH OF LONDON.—Small town preferably on coast. PARTNERSHIP offering scope for Surgery. Small house or rooms sufficient. Capital £1,500.

4 LONDON ANY PART.—Cash and panel PRACTICE of £2,000 upwards. Panel of not less than 2,000. Small house suitable for bachelor. £3,000 cash available and free to buy immediately.

5 GOOD PROVINCIAL TOWN ANY PART OF ENGLAND.—Surgical opening in general PRACTICE. Income from £2,000. Capital £3,000-£4,000.

6 MIDLANDS OR SOUTH.—Unopposed Country PRACTICE producing about £1,200 upwards. Good sized house with garden. Capital £2,000.

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SOUTH OF ENGLAND.—(11) PARTNERSHIP in a good class panel practice of £2 400 per annum in beautifully situated Country Town near the coast. One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate, not over 35, and preferably F.R.C.S. England. Preliminary Assistantship Salary £500 p.a.

EAST ANGLIA.—(12) Nucleus of PRACTICE in small, select Watering Place Income under £200 per annum Small panel Detached corner house (4 bedrooms) with sea view Price for leasehold £1,250 Excellent golf and educational facilities Premium one year's purchase.

NORTH-WEST OF ENGLAND.—(13) PARTNERSHIP in good class practice about £1,500 per annum in popular Seaside Resort. Panel 650 No clubs Modern residence (4 bedrooms, &c.) to rent on lease Premium one-half share two years purchase. Partner must be a north country man and aged 28-40 Great scope

HOME COUNTY.—(14) PARTNERSHIP in old-established and very compact Practice averaging over £3 800 p.a. in Industrial Town under 40 miles from London No Appointments or Panel Rent of house £60 Premium one-half share one and a half years purchase, part by instalments

SOUTH WALES.—(15) PARTNERSHIP in mixed Practice over £2 800 per annum in Country Town Panel 850 One-fourth or one-third share at one and half years purchase. Incoming Partner should be keen on Surgery Hospital

DERBYSHIRE.—(16) Well-established PRACTICE of between £700 and £800 per annum in Manufacturing Town, Panel 850 No Midwifery Nice detached house (4 bedrooms) in acre of ground to let. Great scope for increase Premium one and a half years purchase

EAST COAST.—(17) Old-established PRACTICE £1,700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double fronted house (6 bedrooms) Rent £55 Premium one and a half years purchase.

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SURREY.—(27) Small non-dispensing PRACTICE about £2 / 5 per annum in first rate Residential Town Small panel Excellent detached house (6 bedrooms) in one acre of ground to rent on lease. Premium (to include lease) £500

MIDLAND TOWN.—(28) Old-established PRACTICE about £1,100 per annum in Residential Suburb. Pan 1700 House contains 9 bedrooms Large garden Price £1 900 Premium for Practice £1,500

NORTH-WEST COAST.—(29) Well-established middle-class PRACTICE about £2 400 No appointments. Conveniently situated house to rent. Premium £2 900 part by instalments.

NORTH OF ENGLAND.—(30) Old-established PRACTICE of £1 400 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds, two acres. Premium practice house and grounds £4 000 Mortgage could be had on house.

FAVOURITE HOME COUNTY.—(31) PARTNERSHIP in good-class Country Practice about £3, 00 per annum in delightful residential district Visits up to £2 2s. Excellent modern detached house (8 bed and dressing rooms) in grounds of three and a quarter acres, to let or sold. Cottage Hospital Premium one half share two years purchase

SOUTH OF ENGLAND.—(32) Old-established PRACTICE of £1 7 0 per annum in Residential Town Panel worth £800 per annum. Detached house (4 bedrooms &c.) Rent £50 Prem. one and a half yrs. purchase.

BORDERS OF SURREY AND HANTS.—(33) JUNIOR PARTNER required in Practice in charming residential country District. Panel 737 Share worth about £600 at two years purchase.

EASTERN COUNTIES.—(34) PARTNERSHIP in old established practice £2 213 per annum. in first rate Town. Panel about 2 050 House (9 bed and dressing rooms) standing in own grounds, to be sold. Premium one-half share one and three quarter years purchase.

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SURREY.—(39) PARTNERSHIP in good middle-class compact practice over £2 650 in Residential District easy distance of London Panel 1 200 Premium two-fifths share two years purchase. Practice investigated by Association's Accountant.

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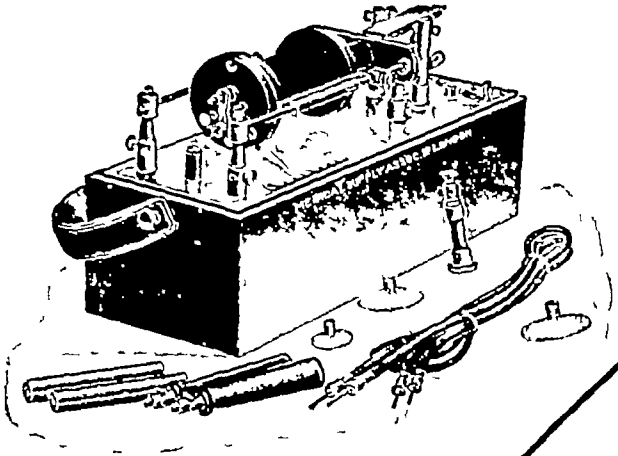
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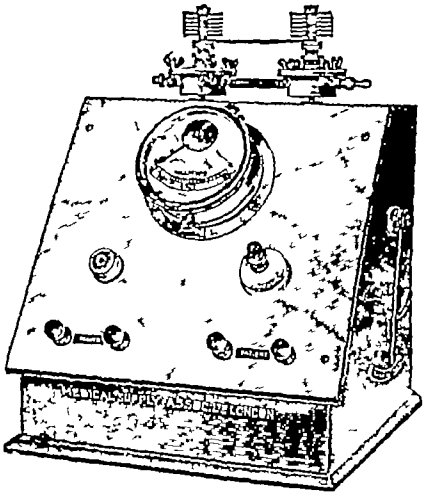


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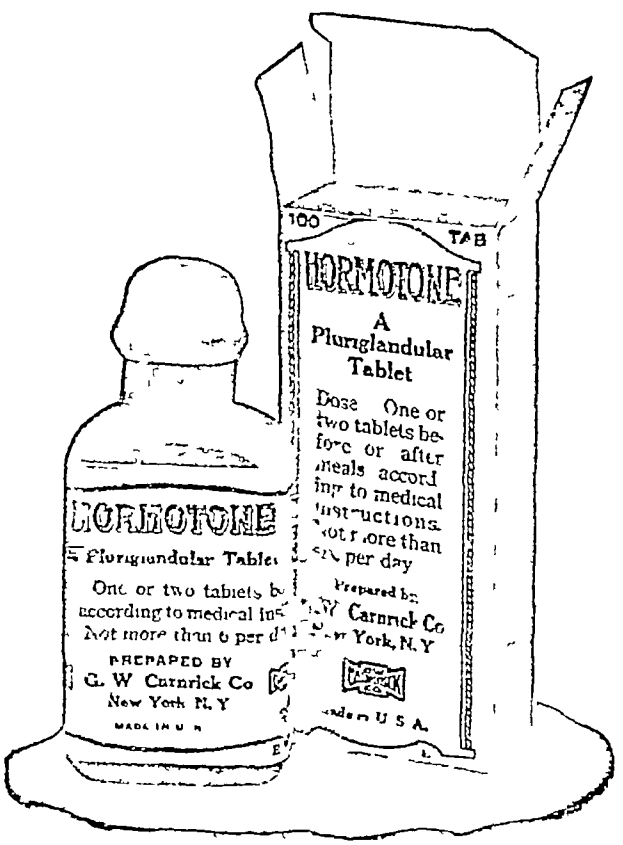
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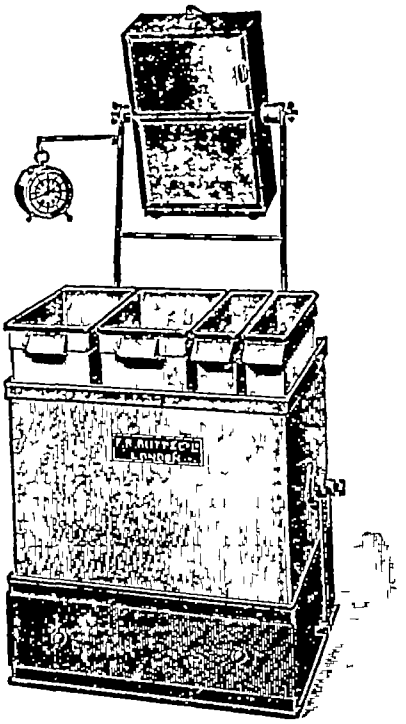
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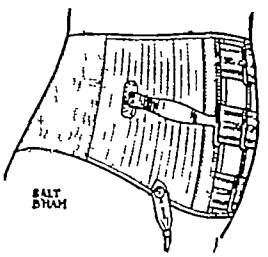
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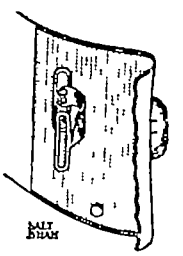
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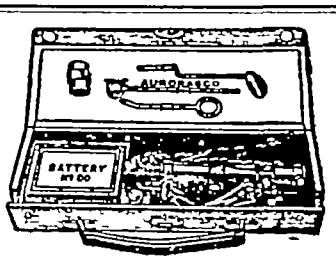
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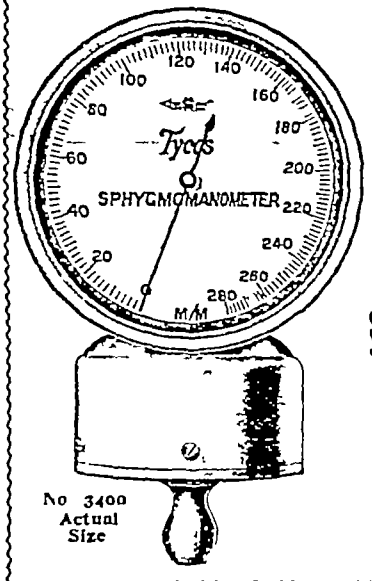
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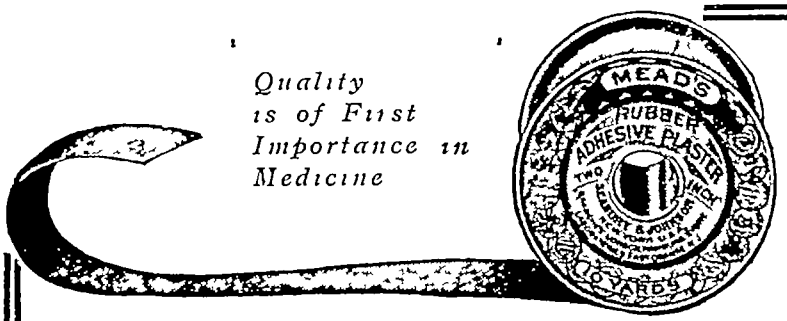
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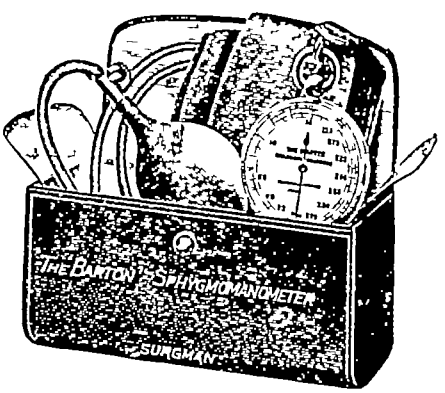
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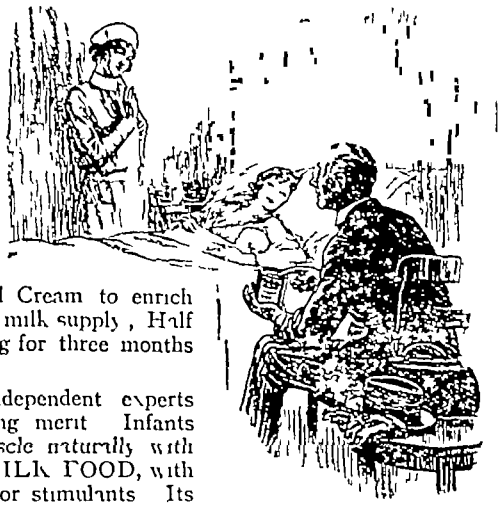
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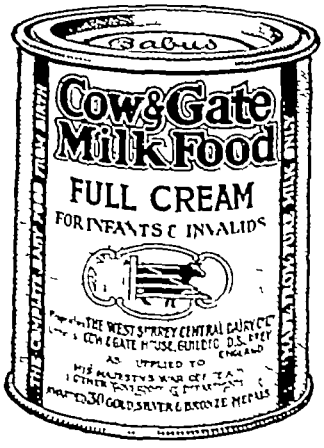
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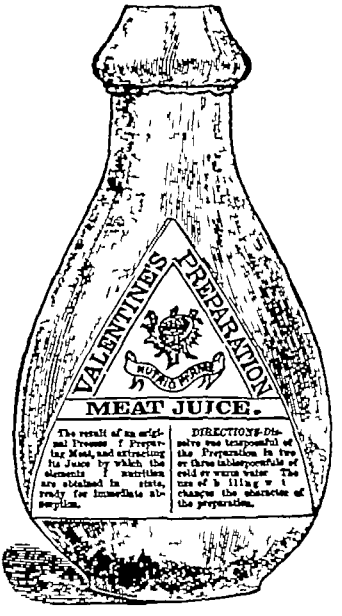
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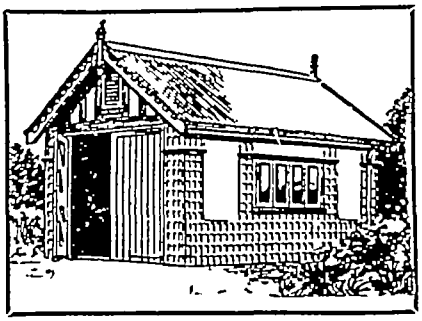
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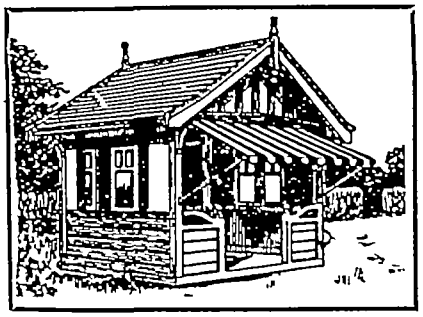
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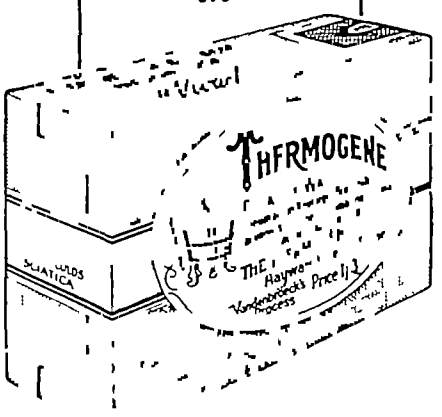
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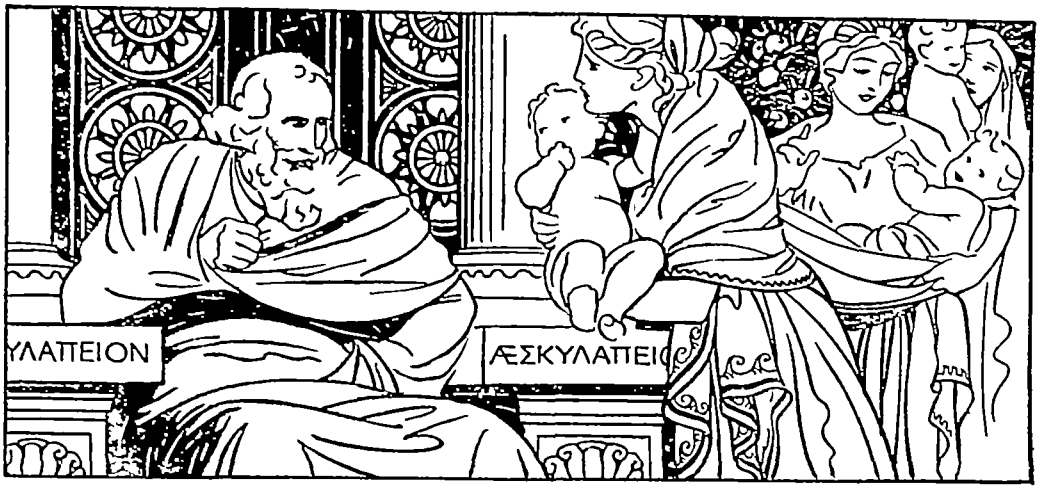
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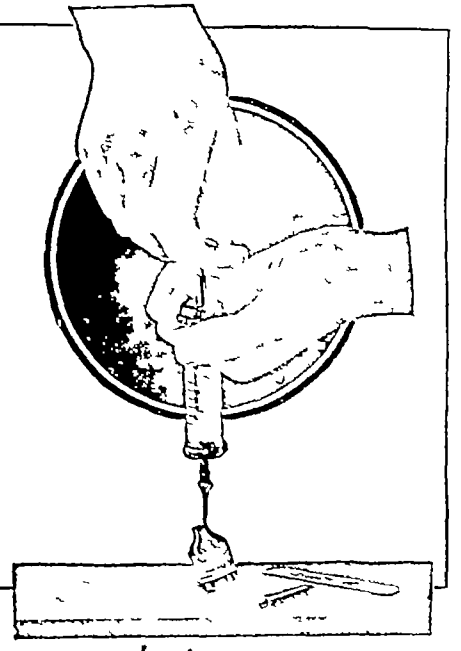
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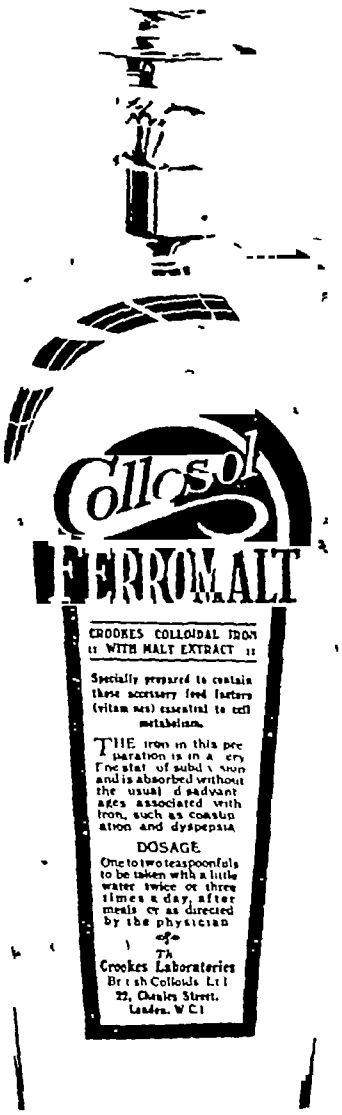
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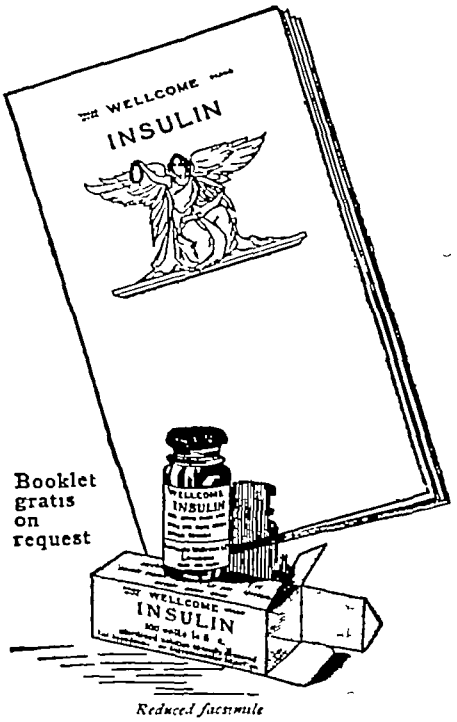
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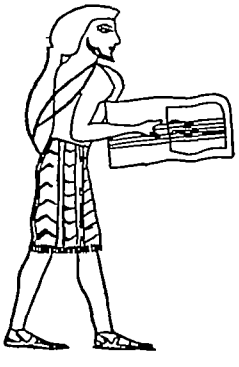
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EGYPTIAN AND ASSYRIAN REPRESENTATIONS OF SEMITES—POSSIBLY HEBREWS—PLAYING THE LYRE.—The ancient Hebrews did pioneer work in the twin arts of poetry and music but they have not left a single picture of the musical instruments they so frequently refer to in their sublime literature We cannot be certain, therefore what these were like The first musical instrument mentioned in the Old Testament is the kinnor Most authorities incline strongly to the opinion that this was a lyre. It was made of wood (David made his of berosh) it could be played while walking it was used on joyous occasions it accompanied prophecy it was the instrument of the wandering women minstrels the sweet sounds rung from it by David drove away the wicked spirit and refreshed the soul of Saul It is considered by competent judges that the two figures here reproduced may well represent Hebrews playing the kinnor That on the left is from an Egyptian tomb painting which depicts a Semitic—very probably Hebrew—chieftain immigrating into Egypt. It may be indeed a representation of the arrival of Joseph s brethren It is certain that the musician is a Semite if it were equally certain that he is a Hebrew his instrument would prove that the kinnor was a lyre. The figure on the right is Assyrian and depicts a Semitic captive If he is a Hebrew the instrument he is playing is the kinnor which the Israelites mournfully hung upon the willows by the waters of Babylon The other *stringed instruments in use among the Hebrews were* the nebel the sabeca, probably varieties of the harp, and the kithros the Greek lyre.





DATE The Egyptian and Assyrian figures c 2000 B C and *c. 680* B C respectively

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THE INITIAL TREATMENT OF DISEASE

FROM times immemorial it has been common medical practice to begin the treatment of acute infective invasion with a measure of depuration Experience has confirmed the wisdom of this course But it is not, perhaps, so generally recognised that a similar practice is no less desirable with many chronic disorders Not only is clogged physiological machinery unable efficiently to carry out its ordinary work, but it is much less responsive to any specific remedial measures that may be applied

In order to bring about that cleansing of the tissues which should be preliminary to all specific therapy, a very simple routine is generally adequate Repeated experiment has shown that an initial fast of from twenty-four to seventy-two hours, broken only by the free drinking of water and the taking, twice or three times daily, of a spoonful of ENO's "Fruit Salt," increases manifold the prospects of relief or cure Fasting alone is found to lead to abnormal fermentation of the intestinal contents Hence the necessity of supplementing the fast by moderate doses of such a substance as ENO's "Fruit Salt," which brings about efficient elimination, with the minimum of functional disturbance

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SYNTHETIC THERAPEUTIC AGENTS.

BY

SIR WILLIAM J. POPE, K.B.E., F.R.S.,
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PROFESSOR OF CHEMISTRY IN THE UNIVERSITY OF CAMBRIDGE.

THE encouraging results which a German medical commission has obtained in the treatment of sleeping sickness in British and Belgian Central Africa by the use of a synthetic drug, the Bayer 205, have recently been discussed. No doubt it is as yet too early to draw final conclusions concerning the efficacy of the new treatment, but certain aspects of the whole large question involved may be profitably reviewed.

Some time ago the *Times* (August 25th, 1922) recorded that at a meeting of the Association of Tropical Diseases held in Hamburg the statement was made that 'Bayer 205" is the key to tropical Africa, and consequently to all the colonies, and that the German Government must "be required to safeguard this discovery for Germany, its value is such that any privilege of a share in it granted to other nations must be made conditional upon the restoration to Germany of her colonial empire." Little of the altruism of pure science is discernible in the sentiments expressed at the Hamburg meeting and, indeed, the fact that the nature of the new remedy is kept a profound secret is sufficient indication that the Bayer Company—one of the chief sections of the great German coal tar trust—proposes to make a commercial profit and to serve German political ends by treating tropical diseases in the territories of Britain and her allies. The complexities of the issues which will arise if this project is allowed to develop are obvious and do not call for exposition at the moment.

The purpose of the present note is to direct attention to one aspect of therapeutic research which seems to have been neglected in this country and to show that this neglect, unless remedied, will continue to hamper the treatment of disease and will constitute an ever rising handicap to British therapeutic science.

During late years it has been increasingly realized that specific pathological organisms are susceptible to attack by particular synthetic chemical substances of generally quite simple chemical constitution. Although certain main types of chemical compound likely to prove of value may in many cases be distinguished, the final choice of the individual substance which should be used has necessarily to be left to the clinician; the selection is, indeed, purely empirical in character. Thus, whilst organic arsenic compounds as a class attack the spirochaete of syphilis in the blood, the most effective curative agent, salvarsan, or Ehrlich's "606," or some closely related substance, was selected by a method of pure trial and error.

For the sake of lucidity we may classify the necessary stages in the search for new synthetic curative agents under three headings. First, the provision by scientifically trained organic chemists of large numbers of related compounds of any particular class which is considered deserving of therapeutic study; secondly, the laboratory study of the effects of these substances on living organisms and physiological fluids, and, thirdly, the clinical study of any compound which the previous laboratory investigation has shown to be worthy of further trial. In Germany these three subdivisions of the problem seem to be very satisfactorily correlated, the investigation of the organo-arsenical drugs, of which the earliest, atoxyl, was a French invention, was taken up by Ehrlich in conjunction with the Hochst Dye Works, vorm. Meister, Lucius, and Brüning, and with the Georg Speyer Hospital in Frankfort, it resulted in the introduction of salvarsan, neosalvarsan, and many other useful aids in the treatment of diseases of protozoal origin.

Apart from the fact that greater facilities exist on the Continent than in England for treating hospital cases as material for research, it is probable that our various great medical research institutions are well able to carry out laboratory and clinical tests on any material submitted to them. There is no doubt, however, that no efficient organization exists in this country for the provision of large numbers of related synthetic products on which laboratory and clinical tests can be made, occasionally an organic chemist submits a chance compound or two for study, but no more than a sporadic interest in the subject has been created. This side of the question has been largely neglected, and yet the preparation of the necessary materials is probably a much more simple matter than is the carrying out of the necessary tests with the materials, whilst, during late years, more work has been done on organic arsenical compounds and organo-metallic compounds by British chemists than by the Germans.

The question under consideration may be illustrated by putting it forward in a rather more concrete form. The synthetic drugs which have proved most serviceable in the modern treatment of protozoal diseases are organic compounds of some element, such as mercury, arsenic, or antimony, which in simpler states of combination is known to be poisonous. Little has, however, been published on the comparative pharmacology of long series of closely related organic compounds of the elements just named, such fundamental knowledge is essential if any logical progress is to be made in establishing a relationship, however roughly, between chemical constitution and physiological action and in selecting further compounds more efficient in their action. A great deal of such correlated knowledge doubtless exists, but it is safely hidden away in the research laboratory records of the German chemical works, it will not be divulged because its publication would undoubtedly increase commercial competition.

The present lack of co-operation between the synthetic organic chemist and the pharmacologist could be met by the establishment of an advisory committee including several of the many competent organic chemists available in this country, it should be the duty of this body to draw up schemes of work on selected subjects involving the preparation of long series of related compounds and the pharmacological and clinical study of such as show promise of useful applications. The preparation of the necessary materials would necessitate the employment of a number of chemists working under the direction of the Committee, the expense thereby incurred would be amply repaid by the results obtained.

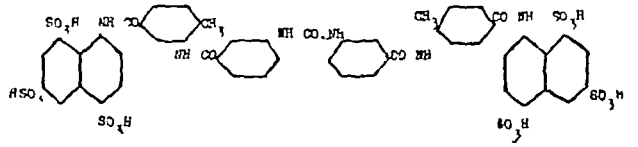
The evils arising from the non existence of official liaison between the synthetic chemist and such a body as the Medical Research Council are well illustrated by the example of Bayer 205. Although the constitution of this substance is being kept secret, a clue thereto is furnished by recent German patent literature, as Dr. King has pointed out (BRITISH MEDICAL JOURNAL, September 23rd, 1922, p. 569), Bayer 205 is pretty certainly a complex derivative of urea and a guess can be made as to which particular class of such compounds should be searched for its identification. Doubtless the substance will be found protected by both Continental and British patents, this, however, provides but little safeguard, because the applications of the material are practically confined to tropical colonies as yet too unsophisticated to possess a system of patent law. If the identity of Bayer 205 were revealed the existence of patents covering its preparation would be little obstacle to its manufacture and use.

The work which led up to the discovery of Bayer 205 has been in progress since 1904, the patents on the subject date from 1913, and the substance has been under pharmacological examination for the last four years, yet the nature of the compound still remains a secret. It is safe to assert that a few competent organic chemists, working under the guidance of the committee suggested above, would make Bayer 205, and perhaps an improvement thereon, in less than twelve months.

As the above short note was being dispatched, the *Comptes rendus* of the Academie des Sciences for the meeting of February 11th came to hand, and by a curious coincidence include a paper by Ernest Fourneau and several collaborators on the subject of Bayer 205. These authors state that a review of the patent literature, followed by a systematic investigation which has lasted more than a year, has enabled them to prepare a compound which they believe to be identical with Bayer 205, both show identical physical properties and trypanocidal effects, and it is impossible to discern the least difference between the two products. The

final proof of identity rests, of course, on the chemical comparison of Bayer 205 and the new preparation, Fourneau 309, this is not yet possible as the authors have not the former in their hands

The constitution of Fourneau 309 is the following



On comparing this with the constitution suggested by Dr King (loc cit) it will be seen that this chemist was remarkably near the truth in his prognostication

RICE IN RELATION TO BERI-BERI IN INDIA.*

BY

ROBERT McCARRISON, C I E, M D, D Sc, F R C P,

LIEUTENANT-COLONEL, INDIAN MEDICAL SERVICE

PRESENT-DAY views as to the association of true tropical beri-beri with the too exclusive use of a rice diet may be summarized as follows

1 When decorticated rice is used as the main staple of diet for any length of time beri-beri appears

2 Outbreaks of the disease disappear when whole or under-milled rice is substituted for decorticated rice

3 Beri-beri never appears when *under-milled* rice is eaten

4 Beri-beri does *not occur* when parboiled rice is eaten

5 A rice which contains over 0·4 per cent of phosphorus pentoxide (P_2O_5) will not cause beri-beri, while one with less than that amount is unsafe if rice forms the principal article of diet

6 The incidence of beri-beri depends on the treatment to which rice is subjected before consumption

7 Beri-beri is directly caused by deficiency of a certain vitamin or vitamins in the diet

I propose in this paper to consider how far these views are applicable to true tropical beri-beri as it occurs endemically in India In that country, as elsewhere, beri-beri—or, more properly, beri-beri-like maladies—may occur not only in endemic but in sporadic and epidemic form, associated with the use of other foods than rice all three would take more time than I shall *confine myself, therefore, to* the disease, and lay before you the s subject during the past few years

* Section of the Royal Society of Medicine,

The first *point* to which I would direct attention is that although rice is widely cultivated in India, and is the staple diet of many millions of her peoples, beri-beri is not widely distributed over the peninsula On the west coast of India, for instance, as much as 60 to 100 per cent of the cropped area is under rice, while on the east coast as much as 40 to 60 per cent is under rice Now the extent to which rice is cultivated in any given locality is a very fair criterion of the extent to which it enters into the dietary of the people of that locality This being so, and having regard to the profusion of modern rice mills in India at the present time, one would expect beri-beri, in the light of modern views, to be endemic throughout a wide extent of the peninsula But it is not The actual distribution of the disease in India and Burma is shown in Fig 1, it will be noted that the distribution of beri-beri as an endemic is limited to a narrow strip of coastal area situated in the north-east coast division of the Madras Presidency, to a few circumscribed areas in Bengal and Assam, to the coast of Burma, and the valleys of the Irrawaddy and Salween rivers in that Province Isolated cases, or even small outbreaks, occur from time to time in other parts of India—the sites of these are indicated by Arabic numerals—but these outbreaks are usually confined to troops (British or Indian), to the crews of ships touching at Indian ports, to prisoners in gaols, to certain Chinese communities, and to former residents of endemic areas who have migrated to other parts of India

In this map I would direct attention to the narrow strip on the west coast which is indicated in black—the Konkan district of the Bombay Presidency It is in the same latitude as the similar strip on the east coast of the Madras Presidency, where beri-beri has its endemic home In the former beri-beri is wholly unknown among the civil population, in it rice cultivation is mainly dependent on rainfall, while in the similar area on the east coast it is dependent on irrigation, in the former the percentage of gross cultivated area under rice is 68, in the latter 38, in the former there are 173 rice mills, producing for the most part *raw, milled, and polished* rice, in the latter 203 rice mills, producing for the most part *parboiled rice* (although they produce also raw, milled, and polished rice for local consumption) The density of the population to the square mile in the strip of coast on the west is 222, in that on the east 345, in proportion to the population there are as many rice mills in the one as in the other It may safely be inferred that the consumption of raw, milled, and polished rice is as great per head of the population on the west coast as on the east, yet beri-beri is unknown in the former, while it prevails extensively in the other In both decorticated rice is the main staple of diet of large sections of the community, and with the exception of pulses is the only grain eaten by the rice-eating classes Clearly, then, if beri beri be so

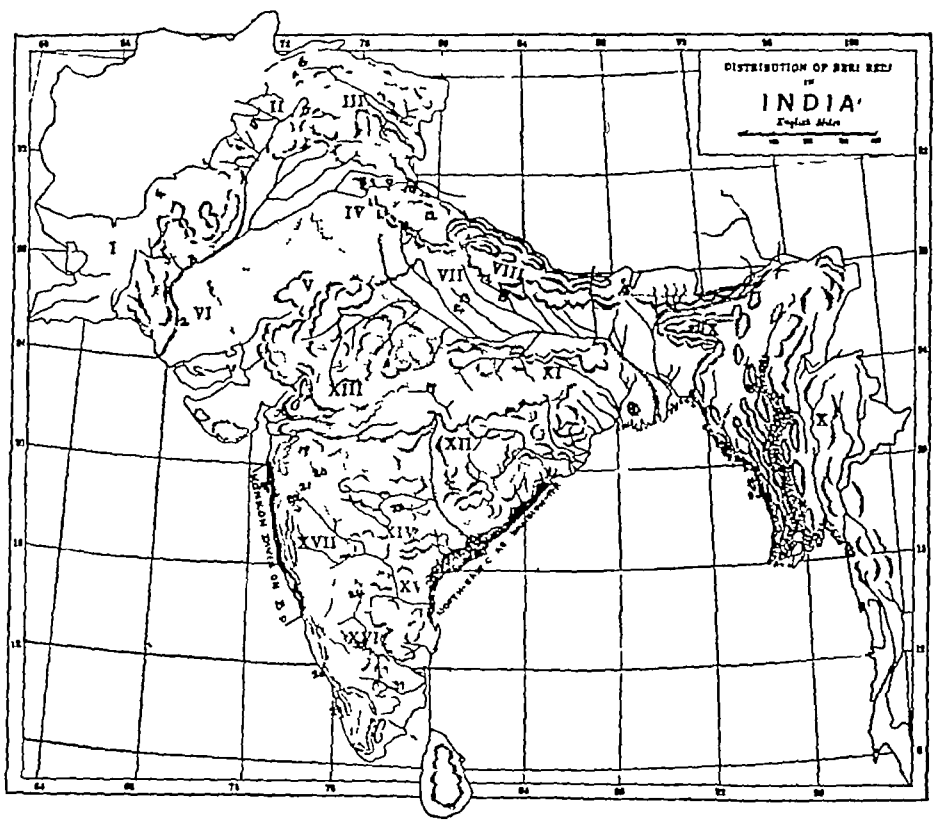


FIG 1—I Baluchistan II N W Frontier Provinces III Kashmir IV Punjab V Rajputana VI Sind VII United Provinces of Agra and Oudh VIII Nepal IX Eastern Bengal and Assam X, Burma XI Bengal XII Central Provinces and Berar XIII Central India XIV Hyderabad XV Madras XVI Mysore XVII Bombay

closely related to the consumption of decorticated rice as to justify the assertion that it "appears when decorticated rice is used as the main staple of diet for any length of time," it should be as common on the west coast of Bombay as it is on the north east coast of Madras Since it is not, it would seem that other factors, apart from the staple diet of decorticated rice, are concerned in its absence in the one locality or in its presence in the other The possibilities which cross the mind are that either the foods used to supplement the staple diet of rice are much more potent in their protective effect in the one district than in the other, or that there is some influence other than rice peculiar to the endemic area on the east coast which is absent from the non-endemic area on the west coast There is considerable evidence in favour of the first of these possibilities, but personally I incline to the second, for however potent the supplementary foods used by the people of the west coast may be, there must be some among so large a population who, from poverty or other reasons, do not avail themselves of them and who would, therefore, be expected to present examples of beri-beri, were its occurrence merely a matter of the too exclusive use of decorticated rice Yet I have the assurance of unquestionable authority that beri beri is unknown among the civil population of the Bombay Presidency I might draw other similar contrasts relating to other parts of India, but the result would be the same, pointing in a conspicuous way to the probability of some peculiarity of endemic areas, apart from the diet of the people on which the endemicity of beri beri is in some way dependent At the same time it is not to be forgotten that the occurrence of beri beri may be related as much to the nutritive and vitamin values of the articles used to supplement the staple diet of rice as to the rice itself and it must be said of the endemic areas of the Madras Presidency that the food grains used for the purpose—usually millet and maize—are not of a quality calculated to afford protection against beri-beri, either when used as supplements to a staple diet of rice or as substitutes for rice

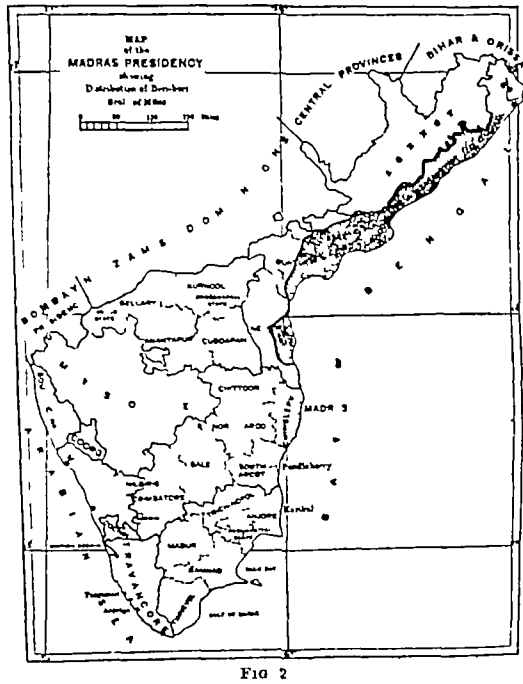


FIG 2

It is generally believed that the occurrence of beri beri amongst those who habitually make use of rice as their staple article of diet depends on the treatment to which the rice grains are subjected before use by the consumers The map of the Madras Presidency (Fig 2) shows the limitation of the endemic to the coastal areas of Ganjam, Vizagapatam, Godavari, Kistna, Guntur, and Nellore, and its almost complete absence from other parts of the Presidency Cases of the disease—chiefly amongst troops and emigrants from endemic zones—have been reported from five places in what one may call "the non-endemic areas" of Madras but the total number of such cases during the past twenty-one years was only 102, as compared with 12,500 cases reported from the endemic area during the past five years In the endemic area most of the rice produced by the mills is parboiled rice, a lesser amount of raw milled, and polished rice is, however, produced for local consumption There is little doubt that in general more raw, milled, and polished rice than parboiled rice is eaten by the people residing in these endemic areas In parts of the Presidency outside endemic areas parboiled rice is mainly used, so that in accordance with present-day views it would seem that the distribution of the malady in this Presidency is associated with the consumption of raw, milled, and polished rice rather than with that of parboiled rice Limiting our area, however, to the endemic localities themselves, we find a number of facts which make it impossible to affirm either that 'beri-beri *never* appears when under-milled rice only is used' or that "beri beri *does not* occur when parboiled rice is eaten"

The first of these is of great interest, it was recorded by Malcolmson so long ago as 1835, and has recently been confirmed by myself, although not until my own observations had been made did I have the opportunity of reading his remarkable book entitled *A Practical Essay on the History and Treatment of Beri beri* The facts relate to the peculiarly limited distribution of the disease Malcolmson found that it "prevailed extensively" a century ago—and probably for long before that—in precisely the same areas in which I have found it to prevail to-day He emphasized that it was rarely met with further inland than fifty miles from the coast and then only amongst emigrants from the endemic area—facts equally true to-day Now, it is only within comparatively recent years that the machine milling of rice has been practised in this district, and during these years the practice has extended rapidly but despite the present profusion of rice mills beri-beri appears to have extended its endemic borders but little, if at all, during the past eighty-nine years, for I have found these borders to be practically the same as in Malcolmson's day

Thus beri beri "prevailed extensively" in its present endemic haunts long before the machine milling of rice was introduced, and at a time when the home pounding of rice and the use of unpolished rice were universal customs But although the machine milling of rice is now so commonly practised in Madras, and especially in those parts of it where beri-beri is endemic, it is still not practised in places distant from the towns where rice mills are located *In country districts* the home pounding of rice is still the common practice, and beri-beri still prevails amongst the users of home-pounded or unpolished rice *in endemic areas*, although it is less common amongst them than amongst the users of raw, milled and polished rice Out of a total of 12,500 cases of the disease occurring in the six districts of the north-east coast of Madras during the past five years, over 2,000 were reported from country districts in which home-pounded (raw or parboiled) unpolished rice was in general use In this respect different districts vary greatly, thus of 5 101 cases in the Kistna district 293, or 5 7 per cent, occurred among users of home-pounded unpolished rice 4 808 among the users of milled and polished rice The percentage was somewhat higher in other districts in this endemic area, but only in Ganjam did the number of cases reported as beri beri among the users of under milled rice exceed those among the users of polished rice and in this case I have reason to believe that epidemic dropsy was included in the returns It is inadvisable to place too much reliance on statistics, but there can be no reasonable doubt that in endemic areas of the Madras Presidency beri beri can and does prevail and has so prevailed for a century at least, among the users of home-pounded or under milled rice Speaking generally it may be said that in these areas the disease is approximately ten times less common among the users of such rice than among those who habitually use polished rice To approximately this extent does the incidence of beri beri depend on the treatment to which rice is subjected before consumption,

but to this extent only But while it is not true of endemic areas of the Madras Presidency that beri-beri *never* appears when under-milled rice only is used, it is true of non-endemic areas In the former I have found *the disease to be nine times more common in towns where* the use of polished rice is fairly general than in country districts where the use of home-pounded rice is general In the latter the disease is very rare or unknown

Similarly, it is not true of the endemic areas of the Madras Presidency that beri beri does not occur when parboiled rice is eaten, although it is true of non-endemic areas It is certainly less common among the users of parboiled rice in the former areas, but it is far from unknown among them Thus, the disease is rife among the users of this rice in such coastal towns in the endemic zone as Cocanada, Masulipatam, and Vizagapatam The same is true of Rangoon In this connexion it may be mentioned that the only rice with which I have succeeded in producing beri-beri in pigeons when used as their exclusive food was of the status of parboiled rice, and was actually taken from the stock in use by a group of sufferers from the disease in Masulipatam

Now, to my mind the chief point of interest in these observations is that while under-milled and parboiled rices may, and apparently do, afford protection against beri-beri outside the endemic zone, they do not always afford protection against it in the endemic zone—a fact which again points to some peculiarity, apart from the rice diet, in the endemic zone on which the endemicity of the disease would appear to depend In this connexion mention may be made of three facts of great interest

1 Contrary to the usually accepted belief, Mohammedans in endemic areas of the Madras Presidency suffer more from beri-beri than Hindus, despite that e food of the former is much re varied, and that the latter strict themselves much more rigidly to a rice dietary When I made this observation a few months ago it seemed to me incredible, and it was not until I found out that Malcolmson, Geddes, Macdonnell, Colhoun, and others had also made it nearly a century ago that I was satisfied as to its truth In regard to this matter of caste, Pariahs, who eat anything, suffer most from beri-beri in endemic areas of the Madras Presidency, native Christians, who have no food scruples, suffer next in order of incidence of the disease, Mohammedans, who eat most things, come next, and Hindus, the greatest rice-eaters of all, last in order of affliction by beri-beri Here also it may be said that the orthodox Hindu does not use parboiled rice, while other castes do

2 The second fact is of equal interest—namely, that although at the present time the diet scale of Indian prisoners is the same in all central and sub-gaols in the Madras Presidency (consisting of millet or maize flour, rice, pulses, vegetables, oil, and condiments), beri-beri *originates* only in those located within the endemic zone Such cases as have been recorded during the past ten years in gaols located outside this zone are stated to have been imported from the endemic zone

3 The third fact is of still greater interest Out of a total of 565 cases of beri-beri which occurred among Indian troops located in the various military stations throughout India during the years 1900 to 1914, 492, or 89 per cent, were in Madrassis, and the majority of these in men recruited from the north-east coast division of Madras where beri-beri is endemic Facts such as these almost force one to the conclusion that there are factors concerned in the causation of beri-beri in endemic areas—apart from the too exclusive use of a rice dietary—which are absent or of feeble potency in non-endemic areas It would seem that residence in an endemic locality imparts to certain individuals a susceptibility to the disease which favours its development under conditions of life—faulty food, imperfect hygiene, over-exertion, hardship, cold, and damp—that do not suffice to cause it in others not rendered susceptible to it by such residence It is always among recruits from endemic localities that the disease is most common in Madrassi regiments Although their scale of rations is the same as that of men of longer service, they succumb more readily to beri-beri in consequence of their conditions of service (drilling and the like) in the army Experimental evidence also supports the view that residence in endemic areas imparts to certain individuals a susceptibility to this malady which they take with them to non-endemic areas My own observations in this regard support those of Malcolmson in 1835

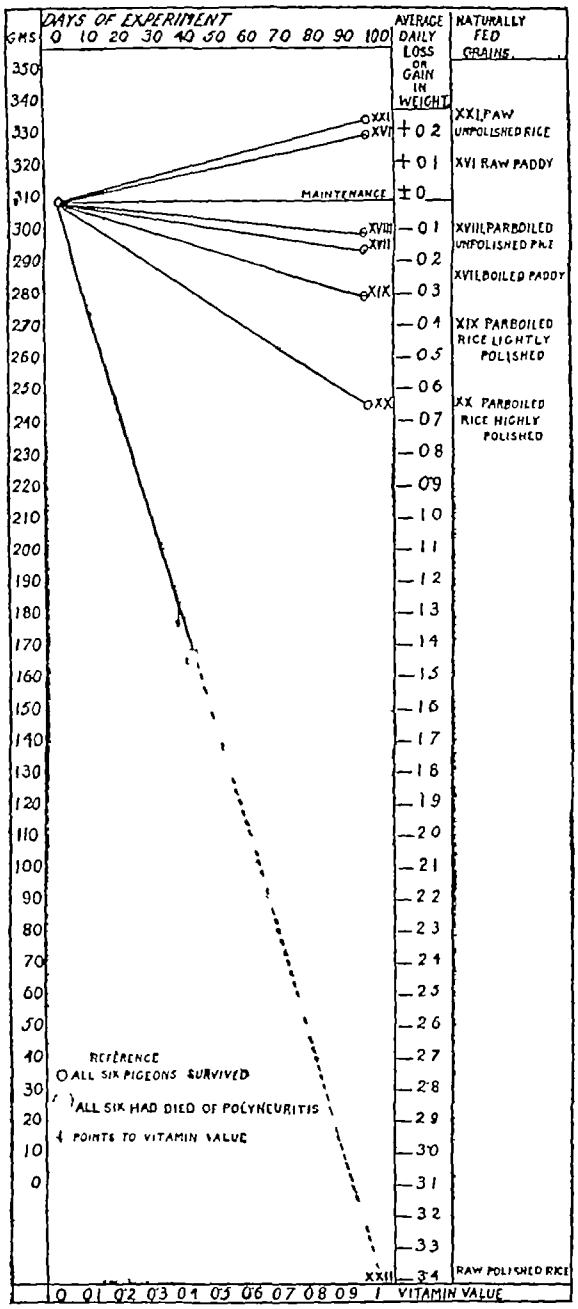


FIG 3—Diagram showing the effect of parboiling milling and polishing on the nutritive and vitamin values of red Samba paddy as determined by feeding groups of six pigeons on the various products

It is said that rice which contains over 0 4 per cent of phosphorus pentoxide (P_2O_5) will not cause beri-beri, while one with less than this amount is unsafe if rice forms the principal article of diet I believe that workers in the Dutch Indies have found this rule to have so many exceptions that it can no longer be regarded as a rule The chemical investigations of Dr Norris, who has been associated with me in the study of the rices in common use in India, confirm the results of workers in the Dutch Indies They show that although rice of low phosphoric acid content is more likely to be associated with beri beri in endemic areas, yet in these areas the malady may occur among the users of rice having a phosphoric acid content as high as 0 45 or even 0 5 per cent On the other hand, in non-endemic areas rice of low phosphoric acid value may form the staple diet of many people, yet the users of it do not suffer from beri beri Thus, one rice in common use in the Tanjore district of the Madras Presidency, where beri-beri does not occur, contains only 0 36 per cent of phosphorus pentoxide A more detailed reference to these chemical investigations would take me too far afield, those who are interested will find a full account of them in the report by Dr Norris and myself recently submitted to the Indian Research Fund Association and presently to appear in the official publications of that body

Two further points may be mentioned before closing this

section of my paper I have found no evidence in Madras that the export of rice from endemic areas of that Presidency is associated with the spread of beri-beri Thus rice is exported from these areas to Ceylon, where beri beri does not originate (Castellani and Chalmers), such cases as there are being imported cases Nor have I found any satisfactory evidence that the malady is associated with the storage and deterioration either of paddy or of rice The limited evidence I was able to collect did not suggest that the generation of a poison in rice was concerned in the causation of the disease There is one point in regard to deteriorated rice which calls for mention—namely, that such rice to be eaten at all must be thoroughly washed, thereby reducing its vitamin value to the status of a highly polished rice (vide infra) It is possible that the suspicions attached to deteriorated rice (which is commonly parboiled rice of comparatively high vitamin value) may be capable of partial explanation in this way

So far, then, it would seem that the generally accepted views in regard to rice and beri-beri summarized at the beginning of this paper require considerable modification so far as India is concerned There remains now to be considered the statement that "beri beri is directly caused by deficiency of a certain vitamin or vitamins" The evidence I have to lay before you in this connexion is based on the experimental study of a large number of rices in common use in India, and of the paddy from which they were prepared The general scheme of the experiments was this Pigeons from the same locality, and as nearly as possible of the same age, weight, and strain, were divided into groups of six in such a way that the average weight of the birds in each group was the same Each group then received as its exclusive food one of the rices or paddy to be tested The effects of the various treatments to which paddy may be subjected before it reaches the consumers from the mills are shown in Fig 3 The paddy used was specially milled for me, both in the raw and in the parboiled state Parboiling consists in the steeping of the raw paddy in tanks for twenty four hours or longer The water is then drained off, and the soaked rice conveyed to metal receptacles through which steam at high pressure is passed for fifteen minutes or so The soaked and steamed rice is then removed and dried in the sun Parboiling causes the pericarp to adhere to the grain, so that it is much more difficult to remove in milling It thus preserves to the rice grain much of its vitamin B, but the process involves a considerable loss of vitamin A, so that pigeons fed exclusively on certain parboiled rices sometimes develop ophthalmia

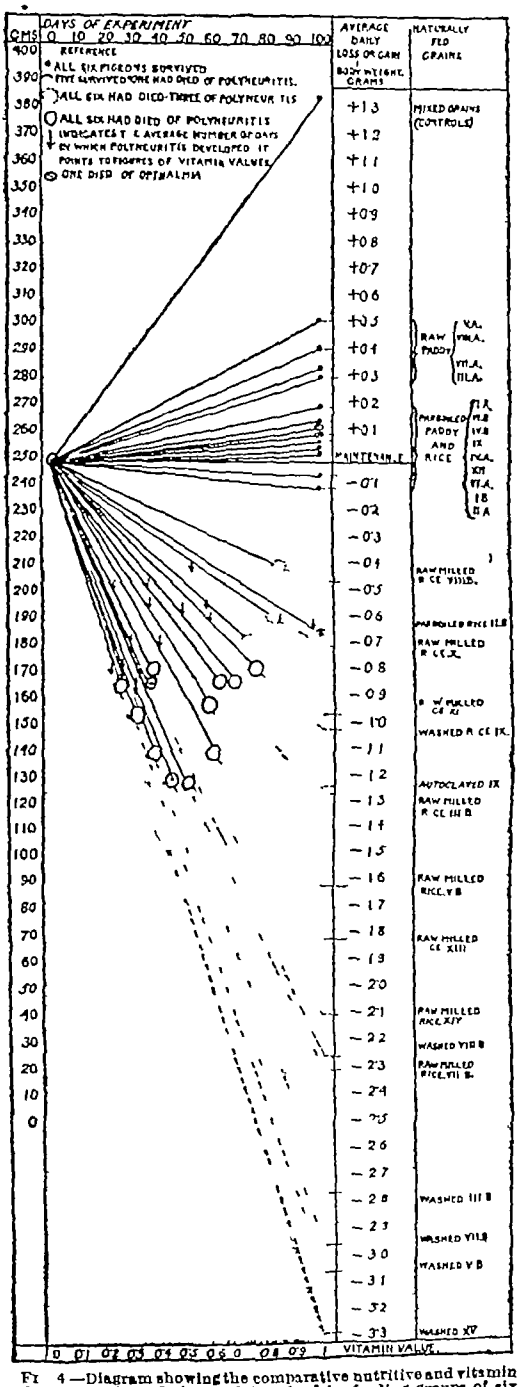


FIG 4.—Diagram showing the comparative nutritive and vitamin values of paddy and rice as determined by feeding groups of six pigeons on the respective grains

In the experiment the same paddy in both the raw and the parboiled state was submitted to various degrees of milling and polishing Adult birds were then fed on the various products, the average weight of the birds in each group was 310 grams Their weight curves are shown for the sake of clearness as straight lines, and represent the average weight of the six birds in each group It will be noted that the various products derived from paddy group themselves in order of nutritive value as follows the raw, unpolished rice is the best, next comes the raw paddy, then follow in a diminishing order the parboiled unpolished rice, the parboiled paddy the parboiled lightly polished rice, the parboiled highly polished rice, and finally, and worst of all, the raw polished rice Amongst other things the chart demonstrates three of the utmost importance the beneficial effect of parboiling, the effect of varying degrees of milling and polishing, and the enormous loss in nutritive and vitamin values entailed by the high milling and polishing of rice These things have been known for long, but it is convenient as well as instructive to see them depicted relatively to one another on the same chart

In Fig 4 the nutritive and vitamin values of thirty samples of paddy and rice in common use in India are compared one with another and with a normal diet of mixed grains The samples were obtained from endemic areas of beri beri as well as from localities where the disease does not prevail Some of them were the actual rices eaten by sufferers from this disease Each sample formed the exclusive food of a group of six young pigeons of approximately the same age and strain, all of which were obtained from the same locality—the last point is most important The weight curve of each group (again shown for the sake of clearness as a straight line) starts at the outset of the experiment from a common point—250 grams—which represents the average weight of the birds in each group All weight lines are shown as extending or as being prolonged by interrupted lines to the 100-day mark At the point where the weight lines, or their prolongations, touch this mark the average daily gain or loss of body weight in grams, caused by the exclusive use of the particular paddy or rice can be read off For the comparative purposes of this investigation the figure thus arrived at may be spoken of as the 'nutritive value" of the paddy or rice It will be observed that the different products group themselves in a diminishing order of nutritive value raw paddy, parboiled paddy, parboiled rice, washed parboiled rice raw milled rice and washed milled rice, with occasionally a raw milled rice

C

interposing itself into a group of higher nutritive value The line at which weight is, on the average, neither lost nor gained is indicated by the word "maintenance"

For the purpose of comparison of the "vitamin values" of the various rices it was necessary to have some "unit of vitamin value" This unit was designated by the figure 1, it is defined as that amount of vitamin B required daily to keep the average pigeon weighing 250 grams at maintenance for one hundred days without the development of polyneuritis (It may be mentioned in passing that it is an amount which varies within fairly wide limits in different individuals) The vitamin value of any particular rice is represented by the average number of days required by it to produce polyneuritis in a group of six young pigeons This average is indicated in the weight lines by an arrow pointing downwards, by following the arrow downwards to the scale at the bottom of the chart the approximate vitamin value of any particular rice can be read off

This chart shows a number of interesting points, which time does not permit me to discuss, among them are the wide variations in nutritive and vitamin values of the rices in common use in India, the fact that the one value does not always run parallel with the other, the superiority of parboiled over raw milled and polished rice, the effect of washing on paddy and rice in lowering their nutritive and vitamin, and, I may add, their phosphoric acid values, the fact that a parboiled rice may be reduced by washing to the status of a raw milled and polished rice, and that few rices in common use in India—and none in the present series—are wholly devoid of vitamin B, all of them containing some which may be extracted by washing The most important point brought out by this chart, however, is that rices known to have been habitually used by sufferers from beri-beri are not by any means always those most deficient in vitamin B Among these rices are two (viiiB and xi) obtained from the stock of rice actually used by sufferers from beri-beri Both of these are of relatively high vitamin value, viiiB being in fact the best raw rice in the series so far as its content of vitamin B is concerned It would seem, indeed, that there is no strict parallelism between the degree of the vitamin deficiency of these rices and their association with the human disease Some of the worst rices in the series are from localities where beri-beri does not occur A rice may be potent to cause polyneuritis columbarum, and yet not be associated with human beri-beri in places where it is known to be the staple article of diet of human beings In this series it is rather those rices that are relatively less deficient in vitamin B than those that are relatively more deficient in this factor that are known to have been associated with the human disease If beri-beri in man is indeed directly caused by deficiency of vitamins, there is matter for reflection in this observation that the malady is as likely to arise, and indeed so far as this series goes more likely to arise, when the deficiency is less than when it is greater

Rice No xi, which was obtained from Masulipatam, the most noted centre of beri-beri in India, is interesting, it was obtained from the stock actually in use by sufferers from the disease, its vitamin value is relatively high, of twenty-eight rices used it was the only one whose exclusive use was associated in pigeons with the occurrence of a malady having the complete pathological characters of true beri beri—enlarged and degenerated heart, enlarged liver, enlarged adrenals, polyneuritis, and hydropericardium with or without other evidence of oedema

Fig 5 shows how variable are the effects of this rice in different birds—a point of the first importance The chart gives the results of an experiment in which this rice was used as the exclusive food of three adult pigeons It will be observed that one bird maintained an almost level weight—little less than the average of three adult controls on a normal diet of mixed grains—and survived for a hundred days, that another began to lose weight on the tenth day, and died of septicaemia on the thirty-eighth day of the experiment, and that the third died of beri-beri on the fiftieth day Some may say that the second bird ought to be excluded because the additional factor of infection was in operation, but the operation of this factor was favoured by the rice diet, and why exclude it any more than the third bird, which died of beri-beri on the fiftieth day—for may not an additional factor have been operative in this also? May not this bird also have been the carrier of some unknown agent capable of causing beri-beri, as the second was the carrier of an agent capable of causing septicaemia? or may not it have been the producer of such an agent? If not, why should it die of beri-beri while the first survived for a hundred days in apparently fair health on the same deficient food? It is constantly being impressed upon one in the course of such experimental work as this that under conditions of faulty food "the 'carrier' may become a patient," to use a happy phrase of Sir Humphry Rolleston's I have from time to time recorded examples of disease arising in this way, the most notable of which is epithelioma contagiosum of birds I desire here to emphasize this point of view in connexion with possible causative agents in true beri-beri The variability of the effects of a notoriously "beri beri producing rice" in different individuals is illustrated by the fact that of 18 birds fed upon this rice in 1923, 2 developed beri-beri, 6 polyneuritis (in from seventy five to ninety-five days), 4 died from other causes, while the remainder survived for a hundred days The incidence of beri-beri in this series was 11 per cent, while treble that percentage escaped obvious clinical signs of the disease other than some loss of weight

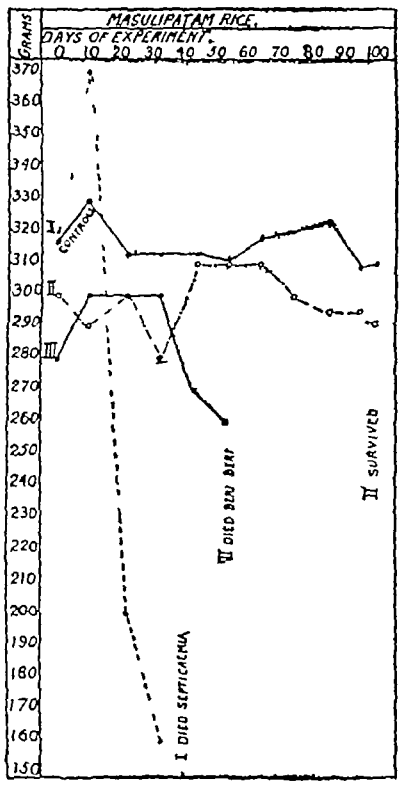


FIG 5.—Showing the varying effects of beri beri producing rice in different pigeons

The well known polyneuritis so readily produced in pigeons by an exclusive diet of polished rice is not the same thing as beri-beri, as the latter disease is seen either in man or in pigeons In pigeons the great difference between them is that in polyneuritis the heart and liver are atrophied, while in beri-beri the heart and liver are enlarged and are the seat of pathological processes These also are the main differences between human beri beri and polyneuritis columbarum—differences to which I drew attention in 1919

It was not until a few months ago that I ever saw a case of beri-beri in pigeons, although I had in previous years fed many hundreds on polished rice and a considerable number on rices credited with beri-beri-producing properties when used by human beings Among the latter there was one that had been actually in use by sufferers from human beri-beri when I procured supplies from their stock in 1919 and again in 1923 Yet in 1923 I find 11 per cent of cases among pigeons fed exclusively upon this rice which failed to cause the disease in pigeons in 1919 Why is this? It would not seem to be because this beri beri producing rice differed in 1923 from the same rice in 1919, for in both years it was associated with beri-beri in man If this be so, it must be concluded that it was because of some difference in the birds used in the two years—a difference in susceptibility, constitution, infection, or what not, and a difference which involved only 11 per cent of them Now, in 1923 the pigeons used were obtained from Bangalore, and although beri-beri can hardly be said to be endemic in Bangalore, yet it is one of the places outside the endemic zone where cases of the disease crop up from time to time In former years I had obtained my birds from places where beri-beri never occurred It seems possible, even probable, that the place of origin of the birds may have been the determining factor in the occurrence of

beri beri columbarum under the *conditions of my experiments* I have already emphasized, as Malcolmson did eighty-nine years ago, that residence in a locality where beri beri occurs imparts to certain individuals a susceptibility to this malady, and I illustrated my point by the high incidence of the disease among Indian troops recruited from the endemic zone in Madras It may be that the occurrence of beri beri in my pigeons was as much a question of individual susceptibility or other variations in the birds themselves as of the vitamin insufficiency to which they were subjected while under experiment Those individuals in which beri-beri appeared may possibly have been the carriers of an agent capable of imparting to polyneuritis columbarum the character of true beri beri, or they may have been of such a constitution that under conditions of vitamin insufficiency a poison was evolved in them capable of so doing—a poison exerting a specific action on the heart Some may say that the rice itself contained such a poison It may be so, but if it be, why in 1923 should 2 birds out of 18 develop beri beri and not the remaining 16? And why in 1919 should none develop it?

But I have further evidence to present in this connexion It was not only amongst Bangalore birds fed on this beri beri-producing rice from Masulipatam that beri-beri occurred, it occurred also amongst Bangalore birds fed on a mixture of millet and freshly milled and polished rice grown in the Tanjore district where beri beri does not occur In the latter diet there was no question of deterioration of the rice or of a contained poison for it was freshly milled for me, and my supplies were stored under conditions which did not cause deterioration Indeed, neither the rice itself nor the millet, *which composed this diet, when* used separately as the exclusive food of pigeons, caused beri-beri The rice, being highly polished, caused polyneuritis in the usual short period of twenty five days or so, the millet maintained the birds fed exclusively upon it in fairly good health yet the two together led to the occurrence of beri-beri in a percentage of the birds fed on the mixture The mixture was productive of beri beri not because of complete want of vitamin B, but because of insufficiency of vitamin B, for the millet provided a sufficiency of this factor for its own metabolism, but not a sufficiency for the vitamin poor polished rice with which it was mixed In the experiment the occurrence of beri-beri columbarum was a question not of complete want of vitamin B, but of insufficiency of this vitamin, and it illustrates further that this insufficiency operated in association with some unknown factor which the afflicted birds themselves provided—a factor capable of superimposing upon polyneuritis columbarum (due solely to vitamin want) the characters of true beri beri

The only difference between the beri beri produced in pigeons by the beri-beri producing rice from Masulipatam and that produced by the mixture of millet and Tanjore polished rice was in case incidence, on the former diet 11 per cent of the birds developed beri-beri, on the latter 2 per cent But this may well have been a matter of chance, due to the presence in the batch of birds fed on the former diet of a larger proportion of "susceptible" birds, although I would not wish to affirm that actually it was so Nevertheless, since a *non-deteriorated* diet of millet and freshly milled rice gave rise to beri beri columbarum, too great significance cannot be attached to deterioration of the "beri beri-producing rice" as the dominant cause of the malady

It is significant that none of my pigeons fed on highly milled and polished rice developed beri beri, although they developed polyneuritis, the reason seems to be that when fed on a rice almost wholly devoid of vitamin B they did not survive long enough for beri beri to develop The latter malady took, in my cases, forty nine days on the average to develop, while birds fed on highly polished rice usually contract polyneuritis within twenty five days Here I may be permitted to point out that, important as it is to know precisely the effect of vitamin want in an otherwise complete diet, it is still more important to know precisely the effect of vitamin insufficiency in association with the other food faults with which it is accompanied in the diets of man and animals For there is no such thing in nature *as a diet* wholly wanting in vitamin B which is not at the same time imperfect in other respects I cannot help feeling that we may neglect, in the profusion of our experiments wherein properly balanced synthetic diets are used to ascertain the effects of lack of a particular vitamin, to study the effects of those *diets in common use, and associated* with disease production, which are not only deficient in vitamins, but ill balanced as well However this may be a synthetic diet wholly devoid of vitamin B will not be as likely to cause true beri beri either in animals or in man as one containing an insufficiency of this vitamin and an excess of starch The fact that beri beri did not arise in pigeons fed exclusively on highly polished rice is significant also, inasmuch as it shows that beri-beri, *in so far as it can* be said to be caused by vitamin want, is caused rather by insufficiency than by complete want of it Paradoxical as it may sound, it needs a little vitamin B—always provided this little be an insufficiency—to enable beri beri to arise that is to say, to enable the birds to live long enough for this disease to develop I doubt whether true beri beri can with truth be said to be directly caused by deficiency of vitamin B, although I have no doubt that insufficiency of this substance is an essential factor in its causation I expressed this doubt in 1919 I then stated that although vitamin B deficiency was the essential pathological factor in beri-beri, it was rarely so complete as to be the sole agent responsible for it With my present experience I would word this conclusion a little differently, yet, worded as it was, it was found "to be in remarkable agreement with the clinical *observations on beri beri* in Mesopotamia" during the late war

I will now contrast the incidence of beri beri in my pigeons with the incidence in man Among 119 Bangalore pigeons which were fed until death or for 120 days either on the beri beri producing rice from Masulipatam, or on raw milled and polished rice and millet, four showed at *post-mortem* examination pathological conditions which entitled the disease from which they had suffered to be regarded as beri-beri—that is to say, the heart was much enlarged and degenerated, and averaged in weight 5 2 grams, the average in 51 control birds from the same locality being 3 1 grams, the maximum 4 1 grams The liver was also much enlarged, as were the adrenal glands, while hydropericardium was present in all cases These features, in addition to polyneuritis are characteristic of the human disease Of the 119 birds, 14 were excluded either *in consequence of death* from accidental causes or from such maladies as epithelioma contagiosum There were thus four cases of beri-beri columbarum among 105 birds fed in the way described—a case incidence of 3 8 per cent Cases of intermediate type bridging the gulf between polyneuritis columbarum and beri beri columbarum also occurred, but in these some one of the characteristics was wanting on which the diagnosis of beri beri was based, of well defined cases there were four, or 3 8 per cent Compare this case incidence with that in man the military medical records of India provide at least one example of an outbreak of this disease in man the circumstances of which are well authenticated The outbreak occurred in a battalion of Gurkhas approximately 800 strong The whole battalion had for several months been subsisting on a diet made up of decorticated rice pulse vegetables, oil and condiments, and for a fortnight before the appearance of the outbreak the rice was of bad quality The *diet was thus* one that contained an insufficiency of vitamin B, but it was not wholly lacking in this vitamin It may be that the outbreak was precipitated by the bad quality of *the rice* during the fortnight preceding its appearance for as I have pointed out, such deteriorated rice to be used at all must be well washed and its vitamin value thereby greatly reduced Among the 800 men there occurred 30 cases of beri beri or a case incidence of 3 7 per cent *The out*break which was of cardiac type, was promptly cut short when a proportion of the rice was replaced by atta (whole wheat flour)

The outbreak in the battalion and that in my pigeons resemble one another both in regard to the case incidence of the disease and in regard to the fact that the malady was associated with the use of a diet which contained an insufficiency of vitamin B, but was *not wholly want ng* in it

The question now arises Why did 770 out of 800 men escape beri-beri when all had been subsisting on the same deficient food for months past, when, in fact, all were subjected to the same degree of vitamin insufficiency? And why did 101 out of 105 pigeons escape beri-beri when all were fed alike? Presumably because there was in operation in the 30 men *who developed it some factor in addition to the vitamin* insufficiency which was absent, or failed to affect in the same degree, the 770 who did not develop it Similarly with the pigeons If we look at the matter from the point of view of the heart condition alone we are at once impressed by the fact that some additional factor must have been in operation in beri-beri birds which exercised a specific effect on the heart, for vitamin deficiency alone does not cause cardiac enlargement in pigeons, but, on the contrary, cardiac atrophy Surmise as to the nature of this factor is permissible, since if it is to be found we must have some line of thought along which to work It is possible that the subjects of beri-beri may have been carriers of some organism whose products exercised this effect on the heart muscle, just as certain of my pigeons were carriers of an invisible virus which exercised a specific effect on epithelial tissue, and the fact that beri-beri arose only in birds obtained from a certain place is presumptive evidence in favour of such a view, or the gastro intestinal flora of the sufferers from beri-beri may have been of such a nature as caused the evolution of a poison which exercised this specific effect on the heart, or it may be that certain birds were of such a constitution that the disturbed metabolism resulting from the vitamin insufficiency caused a poison to be evolved in those who suffered from beri-beri which was not evolved, or not to the same extent, in those who escaped Or was it merely a question of individual idiosyncrasy, and, if so, what do we mean by that? Is not individual idiosyncrasy likely to depend on such things as I have just mentioned? But even if this be so, individual idiosyncrasy to disease resulting from deficiency of vitamin B depends in great measure on the degree of the deficiency, the greater the deficiency the less the variation in individual idiosyncrasy, the less the deficiency—provided there be an insufficiency—the greater the variation in individual idiosyncrasy to disease resulting from it So on a diet such as those used in the experiments I have detailed, and such as that used by the battalion above referred to, the vitamin values of which were in the neighbourhood of 0 6, one would expect many individuals to escape the grosser manifestations of disease (such as polyneuritis) consequent on their use But whether the poison which imparts to polyneuritis columbarum the characteristics of true beri-beri be an *extrinsic or an intrinsic one, I am of opinion that such* a poison exists, that it is one peculiar to certain places or which is evolved in persons residing or who have resided for considerable periods in certain places, and that its operation is rendered possible by the insufficient intake of a certain vitamin or vitamins in an otherwise ill balanced diet excessively rich in starch and deficient in suitable proteins The conclusion which I reached in 1919, that vitamin deficiency is rarely the sole agent responsible for the causation of beri-beri, has been strengthened by my investigations during the past five years

In the course of my work I have produced in pigeons by means of the rices in common use in India no less than four "beri-beri-like" diseases

1 Infective polyneuritis, due to *infection*, but favoured in its genesis by vitamin deficiency

2 Polyneuritis due to vitamin deficiency alone

3 Polyneuritis due to vitamin deficiency, but precipitated in its onset by various infections

4 A malady presenting the characteristics of true beri-beri, and due to an unknown agent acting in association with insufficiency but not complete want of vitamins

All these have many clinical and pathological features in common, although all have their own distinctive characteristics—easily enough recognizable at *post-mortem* examination if not always recognizable clinically, in all, vitamin deficiency, in association with the usual food faults which accompany it, is more or less concerned, directly or indirectly, in their causation If there be this variety of beri-beri-like maladies in pigeons, whose staple diet is rice, there is probably a similar variety of beri beri like maladies in man—a surmise which proved to be correct in Mesopotamia during the late war I am not at all convinced from the literature that when we argue as to the causation of "beri-beri" we are always arguing about the same condition And so much has this been impressed upon me of late that I look for further progress along clinical and pathological lines which will separate these beri-beri-like states into entities recognizable as such by the practising physician Only then will the causal factors in their production be capable of accurate determination

THE USE OF HYPERTONIC SALINE SOLUTIONS IN INCREASED INTRACRANIAL TENSION*

BY

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In 1919 Weed and McKibben[1] showed that the intravenous injection of hypertonic saline solutions in cats markedly lowered the cerebro-spinal fluid pressure, as determined by a water manometer connected with the subarachnoid space, whilst hypotonic solutions produced an opposite effect It was shown later by Foley and Putman[2] that oral or rectal administration of hypertonic saline solutions produced exactly similar experimental results Since that time a few papers have appeared in which are recorded the application of these experimental results to man The value and possibilities of the method have not, however, been generally appreciated, and this paper records further observations on what must be considered a valuable therapeutic method

Relief of Headache in Intracranial Hypertension associated with Tumour and Meningitis

If 20 c cm of a 30 per cent sodium chloride solution be injected intravenously, within five to ten minutes there is, after a preliminary feeling of burning in the head, an *almost complete cessation of* headache Six cases of inoperable cerebral tumour were treated in this way, and in each case relief was obtained This period of freedom lasted from ten hours to two days, but in most cases an intravenous injection every third day kept the patient free from headache Two cases of acute meningo-vascular syphilis showed similar relief for a shorter period (six to twelve hours), although the headache was much less severe for a much longer period than prior to injection The saline solution causes local pain where it comes into contact with the tissues To avoid this the needle of the syringe should be washed with sterile water and a little of this drawn up into the syringe before injection On one occasion it was feared that the saline solution had caused thrombosis at the site of injection (median basilic vein) This, coupled with the fact that in some cases there is difficulty in finding a suitable vein, especially in stout women, led us to investigate the effect of salt given by the mouth Three to six 5-grain tablets of sodium chloride with a keratin coating were given to the patient three times a day Some relief was obtained, but the effect was much less marked than with intravenous injections

In three of the cases the cerebro spinal fluid pressure before and twenty minutes after the saline injection was measured, the patient in each case being in the left lateral position The pressures were as follows

	Before Injection	Twenty Minutes after Injection
I D, cerebral tumour	780 mm water	90 mm
J C, cerebral tumour	940 ,,	100 ,,
E B, cerebellar tumour	840 ,,	70 ,,

It is not claimed that the above pressures are anything but approximate values, but they show the marked effect of hypertonic saline solutions on conditions associated with increased intracranial tension

* Based on a paper read before the Liverpool Medical Institution.

During the course of acute infections, especially influenza, meningeal symptoms may appear, due to "meningismus"—that is to say, an increased formation of cerebro-spinal fluid without infection of the meninges Professor Abram and others have shown that withdrawal of cerebro-spinal fluid by lumbar puncture rapidly relieves this condition Wegeforth and Latham[3] objected to this procedure on the grounds that if a pneumococcal septicaemia be experimentally induced in rabbits, lumbar puncture increased the incidence of meningitis in animals so treated, apparently by drawing organisms towards the choroid plexus Though the clinical opportunity has not yet arisen, it is obvious that hypertonic saline given intravenously would be free from this objection in the meningismus of acute infections, in fact, as Weed's later work[4] shows, there would be a tendency for the organisms to be dragged away from the choroid plexus, for the current would be, not from blood to fluid as in the case of spinal puncture, but from fluid to blood

Cerebral Herniae

The first case on which we tried hypertonic saline was a girl who had been operated on for a tumour of the cerebello-pontine angle, by the subtentorial route Subsequently a hernia as large as a Jaffa orange developed it was associated with headache vomiting vertigo, and marked ataxia Not only did hypertonic salines cause disappearance of the headache, but also marked improvement in the other symptoms, especially the gait, at the same time the size of the hernia decreased and it became much softer This marked amelioration of the patient's condition continued for two months during her stay in hospital an injection being given every third or fourth day On discharge her symptoms recurred despite the fact that she was taking 15 grains of sodium chloride by the mouth thrice daily Four cases of post-operative cerebral herniae have since been treated by intravenous hypertonic salines with gratifying results as far as symptoms are concerned It cannot be too strongly emphasized that the treatment is purely symptomatic in these cases, not curative

Hypertonic Saline prior to Operations for Cerebral Tumour and Allied Conditions

It has been shown that the lowering of cerebro spinal fluid pressure resulting from the intravenous injection of hypertonic saline solutions is accompanied by a diminution in the volume of the brain To those who have seen the bulging of brain substance through the bony cranial defect during a cerebral operation—a bulging which increases the surgeon's difficulties many times and causes unnecessary damage to the brain substance—it is surprising that the pre-operative use of hypertonic salines is not more widely known

Other Uses

Further uses for these solutions readily suggest themselves

A woman aged 28 was first seen eighteen months ago with one year's history of headache occasional vomiting and dystrophia adiposo genitalis There were no signs of local pressure in the neighbourhood of the pituitary fossa and no change in the visual fields or fundus oculi Injections of hypertonic salines failed to relieve her headache During the last eighteen months no further evidence of a cerebral tumour has developed and it can probably be excluded

A girl aged 18 with a similar Fröhlich's syndrome but with secondary optic atrophy and definite evidence of a suprasellar tumour obtained considerable relief from headache when given salt by the mouth

Whether this points to the use of hypertonic salines in differentiating intracranial from extracranial causes of headache there is not yet sufficient evidence to show

In cases of cerebral tumour, when cerebro spinal fluid is desired for diagnostic purposes, but lumbar puncture is feared lest "foraminal crowding" occur, it would seem that hypertonic salines given fifteen minutes before puncture would minimize the risk

Whilst hypertonic salines diminish both the volume of the brain and cerebro-spinal fluid pressure, hypotonic salines produce the opposite effect, they increase the volume of the brain and the cerebro-spinal fluid pressure The practical value of this would seem to lie in the use of hypotonic salines in cases of headache occurring after lumbar puncture In one case the headache completely subsided after the intravenous injection of hypotonic saline

The respiratory effects—shallowness of respiration and partial failure—seen in experimental animals have not been observed in the cases here recorded We have been unable to avail ourselves of the opportunity offered to investigate the rate of chloride excretion, the effect on urine output, alterations in blood volume, etc, following the injection of hypertonic salines The few indications and results here recorded are sufficient to illustrate the uses and great value of this method in rational therapeutics

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SYSTEMIC POISONING BY HAIR DYE

BY

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LITTLE SUTTON, BIRKENHEAD

IT is well known that some phenylenediamine dyes cause irritation and dermatitis when conveyed to the skin of susceptible people by dyed furs, but hitherto I have not seen any reference to the serious consequences which may result to some from absorption of this poison

The proprietor of a hairdressing saloon of middle age looking apparently well and who presented no physical signs of disease came for examination on account of serious and unaccountable illness which as a rule came on suddenly— flooding him with a horrible sensation of sickness weakness and a feeling of impending death He gave his story in a jerky nervous manner and with an air of puzzled mystery saying that he had been subject to these seizures for nearly three years that in the space of a few minutes he would pass from a feeling of good health into a state of pain palpitation and exhaustion he was going to die and on one occasion when he was preparing for bed an attack came so suddenly and with such tumultuous action of the heart that he fell on the bed helpless certain he was dying and lapsed into unconsciousness from which he must have passed into natural sleep for he awoke next morning perfectly well to find himself lying across the bed half dressed He said he had often been diagnosed at sight as a man very ill with influenza and had often been sent home to bed with his temperature up He had had several sojourns of from three to six weeks in bed getting over the flu but as a rule he had been treated for nerves and indigestion

His story was substantiated by a large packet of prescriptions in which valerian bromides bismuth and magnesia had been ordered He had also received two courses of vaccines and once had been threatened with removal to a sanatorium for tuberculous disease As there seemed no reason to suspect alcoholism he was advised to watch whether any article of food might be poisoning him

A week later he telephoned at 9 a m saying he had gone to bed perfectly well the night before and had wakened that morning to find himself in for another attack When seen at 3 p m the same day he at first sight gave the impression of one who might have had several nights drunken debauch but his breath was perfectly healthy His face was grey cyanosed and blotchy His eyes were watery the conjunctivae injected and the eyelids swollen The lips and ears were violet the tongue was swollen and covered with a thick yellow and brown fur The gums were very swollen standing away from the teeth, and purple Some of his fingers were stained apparently with iodine The pulse was 105 regular and fairly strong the temperature was normal

He was nauseated and had taken no food all day He complained of pain chiefly in the epigastric and hypochondriac regions and between the shoulders There was slight palpitation and he looked anxious and strained He described some difficulty in swallowing with a burning sensation in the throat and behind the sternum When he took a deep inspiration he felt severe pain in the chest and a choking sensation As the previous day Sunday had been spent in the house and as all food taken had been prepared at home it was impossible to resist thoughts of secret poisoning by arsenic for he somewhat resembled a series of cases seen here twenty years ago when arsenic accidentally contaminated the beer from several breweries in the North of England

When it was explained that his symptoms resembled some forms of poisoning and when he began to think of the possibility of some chance method of poisoning he supplied the clue himself by asking if hair dye could do it for it was about three years ago when he first used it He often worked in the fumes of it and occasionally applied the dye to his customers without wearing gloves which accounted for the stains on his fingers—the last occasion being about forty-eight hours before this interview

Two bottles of the dye were sent to an analyst with a note that it was under suspicion for causing mixed symptoms of lead and arsenic poisoning in a man who worked with it and the following report was received

In accordance with your instructions we have examined the two solutions of hair dye which you handed to us

'One solution gives the reactions for both metaphenylenediamine and paraphenylenediamine, the other is a solution of hydrogen peroxide

'Paraphenylenediamine is commonly used as a hair dye, and injurious effects on workpeople engaged in the manufacture of this compound are attributed to the diamine itself and to its oxidation products

"Metaphenylenediamine possesses marked poisonous properties its physiological action resembling that of the leucomaines and ptomaines.—An authority states that a dose of 0·1 gram per kilo body weight produced salivation, vomiting, diarrhoea, and abundant excretion of urine in dogs and subsequent death by coma. Symptoms similar to those of intense influenza were also produced in addition to the more severe effects

"Phenylenediamine derivatives are used in the production of dyes for furs and are commonly used in the preparation of brown dyes"

Three months have elapsed since the report was received, and by avoiding exposure to further risk of absorption, the patient has had no return of his illness

The case adds further evidence of the peculiarly selective action of phenylenediamine, and seems to suggest the existence of a class of people who are extremely susceptible to its ill effects and who need not necessarily show any lesions of the skin. This is important, for bottles of this dye are issued in boxes containing notices warning people to test its effect on a small area of skin before using it, and are advised not to use it at all if a reddening of the skin results some hours after the experiment is made.

The action of the dye as a systemic poison may be delayed, for in this case a day and a half intervened between the last exposure and the onset of symptoms, as it was due to this delayed action that he had never associated his symptoms with his occupation, the question arises whether others may not be upsetting their health to a greater or less extent by dyeing their hair and moustaches.

It would appear from recent literature* on the subject of fur dermatitis that the toxic phenylenediamine becomes non-toxic when oxidized by hydrogen peroxide, Bandrowski's base, which is formed, is an insoluble colouring matter which can be eaten by experimental animals without ill effects, but apparently the phenylenediamine is not always completely oxidized, and to prevent the furs remaining toxic they are washed for from seven to eight hours, it is only when the washing has been scamped that the furs are toxic and cause dermatitis.

A similar process is used in hair dyeing, the hydrogen peroxide and the phenylenediamine are mixed, and the resulting solution is applied to the hair, but unfortunately a temptation exists not to wash too thoroughly as the washing may spoil the colour. Worse still, some who dye themselves apply the solutions separately, by which means they obtain a finer and more lasting colour, but attended probably by greater risk of a toxic result.

If careless men dye heavy moustaches in this manner, and women with similarly dyed hair hold tresses of it between their lips whilst dressing, the possibility of poisoning is increased. So long, therefore, as people are willing to use this dye in quantity, elderly-looking people with suspiciously dark brown hair may occasionally be met with whose paroxysmal tachycardia or indigestion, whose palpitation or liverishness, or whose symptoms of gastric influenza will disappear if they will stop dyeing their hair.

But perhaps the most serious aspect of this case is the medico-legal one, for it cannot be doubted that this man was not far from death on the night he fell unconscious, and if *in the* [illegible] found dead, and an inquest had been held, would means of the [illegible] have been ascertained?

four "beri-beri-like" dise

1 Infective polyneu
favoured in its genesis by [illegible]

2 Polyneuritis due to vitamin[illegible]

3 Polyneuritis due to vitamin
[illegible]itated in its onset by various in[illegible]

4 A malady presenting the cha[illegible], D P H,
beri-beri, and due to an unknown[illegible] COUNTY COUNCIL,
association with insufficiency but n[illegible]
of vitamins [illegible] Sc,

All these have many clinical and p[illegible]
in common, although all have their own[illegible]t work on *Tubercu-*
teristics—easily enough recognizable at [illegible]erythema nodosum
mation if not always recognizable clinica[illegible]ouzy and Loederich,
deficiency, in association with the usual [illegible] of erythema nodo-
accompany it, is more or less concerned.

[illegible], January 19th, 1924

sum excised from a living patient succeeded in transmitting tuberculosis to a guinea-pig. This experimental proof was later corroborated by Hildebrandt, who infected a guinea-pig by inoculation with the fluid from a node. Much clinical evidence has accumulated in favour of the same view. Dr H. J. Vetlesen, Christiania, has reviewed and summarized the literature and added a study of the records of his own hospital.[1] H. Ernberg, at the first Northern Congress of Pediatrics in Copenhagen in 1919, reported an investigation into the fate of children who had suffered from erythema nodosum, of 35 who had so suffered between the years 1903 and 1914, he personally examined 31 during the winter of 1916-17. Not one had developed rheumatic fever or any sign of rheumatism, whereas in 13 cases symptoms of tuberculosis had supervened and one had died of miliary tuberculosis. In most the tuberculous symptoms had appeared during the first months or year after the outbreak of erythema nodosum. In a further clinical study of 55 cases he made an *x* ray examination of the chest in 39, and found extensive tuberculous lesions due to active disease in 35. The remaining 4 showed no radiographic changes in the lungs, but 2 had tuberculous glands of the neck and 2 subsequently developed phlyctenular conjunctivitis.

The two cases we report were striking because both occurred in a small mining village in Derbyshire within a few months of each other. Both showed extensive tuberculous infiltration of the lungs, and one has died of tuberculous meningitis. From Calmette's researches we know that tuberculous meningitis is never the result of a primary infection, but is a haematogenous infection nearly always caused by the pouring into the circulation of a quantity of bacilli through the rupture of caseated tubercles in the peribronchial or mediastinal lymph nodes in a subject recently and intensely infected, and who has not acquired any *immunity against tuberculosis*. The boy who died we know to have been in intimate daily personal contact with an aunt living in the adjoining house, who has since died from pulmonary tuberculosis. Both cases, too, had a long febrile illness marked by pallor, which could only be accounted for by an extensive infection.

CASE I.

A boy, aged 9, who previously had had good health was taken ill at the beginning of February, 1923, and was found to be suffering from erythema nodosum. The rash appeared on the extensor aspect of both legs, the nodes being numerous and of moderate size (about a shilling). They underwent the usual changes of colour—red, livid, brownish—and as some faded fresh nodes appeared. The erythema was very persistent and lasted four or five weeks. The urine was free from albumin at this time. On February 24th his temperature was 101·8°, and it did not fall below 99° until March 15th, only becoming normal about April 25th. Early in April his urine was examined and was found to contain a small amount of albumin. A Widal test was found to be negative. About April 22nd he had pain with each breath on the right side of his chest. This lasted for about three days, but no pleural rub was heard. On May 11th he was found to have distinct loss of resonance and defective air entry over the lower half of the right lung. A radiograph showed dense opacities in the lower half of the right lung and mottling of the upper half, radiating out from the hilus. The left base also showed considerable opacity.

From the beginning of his illness and for some time before the patient had complained of persistent headache, and it was feared tuberculous meningitis would develop. There was a temporary improvement during May, but in June his condition got worse. At first he was irritable, then he became drowsy. Vomiting occurred on June 26th. On June 28th he was admitted to the Derbyshire Royal Infirmary under Dr. Barber, who found him drowsy, but irritable when roused. The abdomen was retracted and there was a well marked Kernig sign. The pulse rate during the first week varied between 72 and 96, and during the second week between 112 and 160. There was a remittent temperature up to about 101°. The respirations were between 24 and 28 until the last two days. Lumbar puncture was performed three times, the fluid was clear under pressure, no organisms were found, but there was a fair number of cells present, a few of which were polymorphs. The boy died on July 11th. There was no *post mortem* examination.

CASE II.

A boy, aged 13, residing in the same village as Case I., was seen first on August 10th, 1923, when he was said to have had a rash on his legs for about a fortnight and a cough for five weeks. His temperature was then 101·8°, pulse 96. He had marked erythema nodosum and the rash had the same characters and distribution as in Case I., except that the duration was much shorter. The urine was normal. A faint systolic murmur was heard at the apex. On August 13th he was found to have impaired resonance over the upper half of the left lung, harsh respiratory murmur, but no moist sounds. A radiograph taken on the same date showed diffuse opacity of the upper half of the left lung. By August 18th the

erythema had cleared up but he continued to run a temperature and grow paler He had headache at the onset of his illness He improved but although he said he felt all right he was very easily fatigued He was advised to have sanatorium treatment and was admitted to the Derbyshire County Sanatorium on October 24th Dr Niven Robertson physician superintendent reports his condition as follows

Cheeks flushed pale waxy skin round the mouth thyroid slightly enlarged phlyctenule on the right eye at 9 o clock on the limbus Right Kronig s area 1¼ inches left Kronig 1/2 inch Marked loss of resonance upper part of left lung, no adventitious sounds. X ray examination shows well marked hilus shadows on both sides and dense triangular shadow at the left apex resembling pneumonic triangle

Quantitative von Pirquet Test November 8th 1923 64, 16 4 1 per cent all well marked positive Latterly the scarified areas closely resembled erythema nodosum patches

Arneth Count November 22nd 1923 23, 41, 32 4, 0 left hand drift positive

Spengler s Precipitation Test

Specific precipitation	1 in 100 000 positive
Bovine precipitation	1 in 100 000 positive
Auto-precipitation	1 in 100 000, positive "

REFERENCE

[1] *Tubercle* June 1922.

A CASE OF ERYTHROEDEMA POLYNEURITICA

BY

J V C BRAITHWAITE, M D, M R C P,

ASSISTANT PHYSICIAN

AND

A VERNON PLOCK, M R C S, L R C P,

HOUSE PHYSICIAN

LEICESTER ROYAL INFIRMARY AND CHILDREN S HOSPITAL.

ACCORDING to Drs Donald Paterson and Greenfield,[1] who have recently published an account of five cases of this uncommon disease, the chief characteristics of the malady are (1) the age incidence—it occurs in young children from 4 months to 3 years of age, (2) erythroedema—coldness, redness swelling and irritation of the extremities, (3) sweating, associated with a mouse-like odour (4) alopecia, (5) insomnia and mental depression, (6) muscular hypotonia, (7) partial loss of sensation Two of these cases died and *post-mortem* examination revealed marked degeneration of the peripheral nerves with evidence of inflammatory changes in the spinal cord

Diphtherial neuritis, avitaminosis, and infection have been suggested as causes, Paterson and Greenfield incline to the last view There is some evidence that the cases follow influenzal epidemics

When the paper referred to above was published the following case was under observation in the Children's Hospital of the Leicester Royal Infirmary

M aged 3 was sent to the out patient department by Dr Garrett of Earl Shilton Leicestershire on August 22nd 1923 suffering from sleeplessness sweating and weakness She was a full time infant and the labour had been normal There were four other children all well and the parents were healthy The patient had had no previous illnesses She had walked and talked at 12 months teething had commenced at 10 months The present symptoms had come on gradually during the preceding eight weeks In addition to the sweating sleeplessness and weakness she had gone off her legs and her hands had been cold and red There had been much crying The appetite had considerably decreased Just before the symptoms commenced the patient had suffered from a severe cold on the chest The child had been breast fed until 18 months she was then weaned and put on to cow s milk various foods being added until she was having 1 pint of milk milk puddings egg fish, bread butter, jam, potatoes and gravy



FIG 1.

The patient was quite well nourished and walked fairly well (Fig 1) The arms and legs were red swollen and cold but although they looked oedematous they did not pit on pressure There was extreme muscular atony and the limbs could be placed in all sorts of bizarre positions as is shown in the photographs (Figs 2 3) which remind one of amyotonia congenita No abdominal reflexes or knee-jerks could be obtained but the ankle-jerks were present There was marked alopecia in the temporal regions The urine showed no gross abnormality

The patient was admitted for further investigation While in the ward she was placid but abnormally quiet and still and her hands seemed painful No definite sensory loss was ascertained A fortnight after admission she had for a week irregular pyrexia for which no cause could be found the highest temperature was 100° F otherwise the temperature was subnormal but irregular The systolic blood pressure was 110 mm Hg diastolic 80 The vasomotor paralysis and amyotonia suggested that the chromaffin tissue was affected, but 10 grams of glucose by the mouth produced no glycosuria and 20 grams only a trace of sugar in the urine (The weight of the child was 23 lb) The blood sugar was 0 1 per cent Swabs from the nose and fauces showed on culture the presence of Hoffmann s bacillus in large numbers there were no true diphtheria bacilli The redness and coldness of the extremities was apparently uninfluenced by the temperature of the air



FIG 2.

The treatment given was general massage under which the patient slowly but surely improved By October 23rd both knee-jerks were obtainable and the limbs could not be placed in abnormal positions The child s mental attitude was much brighter and the erythroedema was markedly less She was discharged on October 30th very much improved

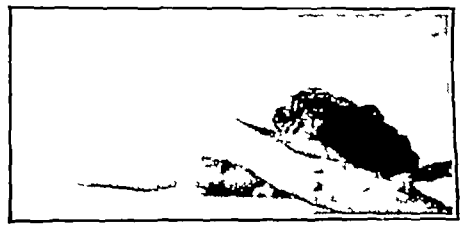


FIG 3

It will be seen that this case corresponds very closely to those described by Paterson and Greenfield The only differences were the absence of any demonstrable sensory loss and of any distinctive odour

REFERENCE.

[1] *Quart Journ of Med* October 1923

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DIATHERMY IN LUPUS OF SOFT PALATE AND FAUCES

THE treatment of lupus by diathermy appears to be more frequently employed in France than in England I have used it in intranasal lupus with very satisfactory results and the following case shows the effects in lupus of the throat

A L a woman aged 26 was first seen in March 1923 She gave a history of stiffness and soreness of the throat for six months with some pain when swallowing She also had a cough The whole of the soft palate and fauces were affected by lupus which spread from there over the pharynx and involved it for 1 to 1½ inches from above downwards Ulceration had taken place on and in the region of the uvula The posterior surface of the soft palate was free from disease and there were no signs of any mischief in the lungs

On March 27th under a general anaesthetic the greater part of the diseased area was treated with the small button electrode A fairly strong current was employed and the electrode moved some what rapidly over the diseased parts so that superficial coagulation was obtained with little injury to the deeper tissues Throughout the application the fact that it was better to do too little than too much was kept in mind On April 17th a further application was made and on healing being completed only one or two small points of disease remained

She was prevented by her work from attending hospital again till November when it was found that the diseased patches which were seen after healing in May had enlarged considerably but no fresh infection had occurred in the healed area On November 20th she was again treated and all the affected area appeared perfectly healthy after healing was completed except one minute patch consisting of five or six apple-jelly nodules on the left posterior faucial pillar These were treated under local anaesthesia

The whole affected area, which was stiff, is now soft and pliable and shows very little scarring—much less than had the curette or cautery been used, and the only deformity that is present is some shortening of the uvula

Newcastle-on-Tyne W J HARRISON, M B, M R C S

RETROPHARYNGEAL LIPOMA

THE case of retropharyngeal lipoma reported by Sir Robert Woods in the JOURNAL of January 26th (p 144) has reminded me of a similar case which occurred in my practice at the Throat Hospital, Golden Square, about twelve years ago This case has, I think, not been fully reported, but it has been mentioned several times at the meetings of the Laryngological Section of the Royal Society of Medicine

The patient was a middle-aged man whose symptoms resembled those described by Sir R Woods—namely, interference with swallowing, phonation, and breathing There was some doubt about the correct diagnosis, and by many the tumour was thought to be a chronic retropharyngeal abscess Partly for that reason I approached it at the operation from behind the sterno-mastoid muscle on the left side The tumour was easily exposed, and was found to be covered by a very well defined layer of fascia, which I took to be prevertebral On incising this fascia a fatty tumour immediately began to escape, and the tumour proved to be an oblong lipoma about seven inches in length The oesophagus and pharynx were not seen, there was no haemorrhage, and no special after treatment was required My patient had no respiratory difficulty in the supine position and no trouble with the anaesthetic

Until Sir Robert Woods reported his case I had not heard of a similar one

London, W T JEFFERSON FAULDER, T D, F R C S

DIABETES TREATED WITH DECREASING DOSAGE OF INSULIN

THE following case may be of interest in that it appears to show that the interval between successive injections of insulin can be increased without causing any retrogression in the condition of the patient I am indebted to Drs A B Slingsby Todd and Basil Browning, in whose hands the treatment has been carried out, for permission to publish this report All the blood sugar estimations have been carried out by the writer by Maclean's method, the patient remaining in her own home throughout the whole course

The patient Mrs M, aged 53 had been ill for four years, losing weight gradually during this time but she began to grow very rapidly worse in June, 1923, suffering from polyuria, incessant backache dimness of sight, continual thirst, and progressive weakness During the month immediately preceding the commencement of treatment she had lost 13 lb

Condition of Patient in August, 1923—The patient was confined to bed extremely weak and emaciated She was passing large quantities of urine at frequent intervals during the day and night (6 pints), and had glycosuria to the extent of 575 grams a day Her diet consisted chiefly of lean meat gluten bread, milk, and a little butter—total, approximately 910 calories Her blood sugar was 0 4 per cent On August 16th she received her first injection, 20 units of insulin, at 12 noon, and her blood sugar, estimated six hours later, had not fallen below 0 36 per cent During the first seven days the blood sugar was estimated daily, and since at the end of that time it had fallen only to 0 22 per cent the dose of insulin was increased to 30 units daily

The glycosuria diminished rapidly, in four weeks from the beginning of the treatment it had completely disappeared, and the quantity of urine had fallen to 2½ pints a day During this time the weight increased steadily at an average rate of 1½ lb a week, and the patient's condition was decidedly better The blood sugar had fallen to 0 16 per cent On September 24th it was decided to increase her diet, 1 oz of white bread and about 4 oz of fresh fruit being added The blood sugar rose immediately to 0 34 per cent, therefore the diet was again reduced, when the blood sugar fell to 0 22 per cent

During October and November the blood sugar fell gradually to 0 16 per cent, and since the patient was steadily gaining in weight and in strength slight additions to the diet, in the form of small quantities of white bread and fresh fruit and green vegetables were made, 30 units of insulin being given daily during this time At the beginning of December the patient's condition was so good that it was decided to give the insulin on alternate days only A few weeks later, the diet having been gradually amplified without any ill effects, the insulin (30 units) was given twice a week and was later reduced to 20 units twice a week, and this dose has been continued down to the present time On October 9th a sudden unaccountable rise in the blood sugar (0 4 per cent) took place, together with a reappearance of glycosuria (240 grams) We had been obliged to use a new brand of insulin, but on notifying the makers of its apparent ill effects they informed us that they had received no complaints from users of the same brand of insulin sent out at the same time, and since the patient assured us that she had added nothing to her prescribed diet the sudden disturbance has had to remain unexplained

The present condition of the patient is most satisfactory She is on a practically normal diet, with the exception of potatoes and exclusively sweet and starchy foods, she has no glycosuria and her blood sugar is 0 13 per cent, her appearance shows a remarkable improvement, her weight being now 10 st 3½ lb, and she has been able to resume all the duties which she had been obliged to abandon through extreme emaciation and loss of strength

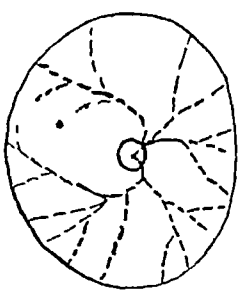
Twickenham. ETHEL BROWNING, M B, Ch B

POST-MORTEM CHANGES IN THE FUNDUS OCULI

ABOUT twelve months ago, when house-physician in the Edinburgh Royal Infirmary, I happened to examine the fundus oculi of a patient who had just died Striking changes were observed to which no reference could be found in the literature, and the investigation so fortuitously begun was systematically continued, unfortunately only ten cases became available, but they are recorded in the hope that some other observers may be tempted to continue an investigation I have no opportunity to pursue

Immediately after death the blood vessels in the fundus begin to undergo a characteristic change, which consists in an appearance of segmentation of the vascular content, the change when fully developed might be aptly likened to the replacement of the uninterrupted lines of the vessels by chains of anthrax bacilli with the interbacillary intervals somewhat increased Later the retina becomes studded with indefinite plaques of a furry appearance

With regard to the time of development of these changes, it is not possible to be dogmatic with so small a series, but the following facts were noted



Schematic diagram It makes no pretence to anatomical accuracy and is intended only to illustrate the nature of the vascular change

In one minute to a minute and a half after death the change was visible in a few of the vessels at the periphery, and throughout it seemed to be more marked in the veins, in five to seven minutes the vessels on the disc had become involved, and in ten minutes the changes were present in nearly all the vessels, in about fifteen minutes the oedematous appearance of the retina had appeared, and the image became gradually more blurred owing to this fact, and to the distortion by cooling of the cornea In about half an hour after death condensation of moisture on the cornea rendered further observation impossible That the change is not *ante mortem* was demonstrated in three comatose cases examined from fifteen to five minutes before death

These changes are not microscopic, they are gross and *obvious even to anyone without any training* in ophthalmoscopy, I demonstrated them to one or two nurses So characteristic are they that in the Edinburgh Royal Infirmary, where the fact of death has to be certified by the houseman before the various nursing duties are begun, I was wont to diagnose death by means of an electric ophthalmoscope, instead of by the usual auscultatory method, and several of my colleagues followed suit and confirmed the findings

An explanation of the changes is difficult, as the time of their development is against the idea of thrombosis with subsequent segmentation of the clot That, however, is the obvious suggestion, and whilst endless conjecture might be made it will suffice The practical application of the method is very limited, it might be used in cases of suspected cataleptic trance, of drowning, and of other instances of apparent death, but it is rarely that death cannot be diagnosed by the simplest of means The method is simpler than those mentioned in textbooks of medical jurisprudence—such as the injection of dyes, etc

Paris. ERNEST BULMER, M B, Ch B Edin

Reports of Societies.

RICE IN RELATION TO BERI BERI IN INDIA

AT the meeting of the Tropical Section of the Royal Society of Medicine on March 3rd, with Professor L S DUDGEON, the President, in the chair, the paper on "Rice in relation to beri beri in India," which appears in full at page 414, was read by its author, Lieut.-Colonel ROBERT MCCARRISON

In a brief discussion which followed Dr H S STANNUS said that he had seen very little beri beri, though he had seen a good deal of the allied conditions One thing about the theory of beri beri had always struck him as peculiar—namely, that the absence of a certain factor should by itself be able to produce something—and he had been interested that evening to hear Colonel McCarrison say that in practically all the cases which figured in his experiments with pigeons the insufficiency of vitamin B was associated with some other unknown factor which the afflicted birds themselves provided He believed that Colonel McCarrison had found this to be true in all the conditions he had noted, except polyneuritis columbarum, and the speaker was of opinion that further investigation would show that it was true of this condition also He had never been able to understand how the absence of a particular dietetic factor could produce a neuritis, it seemed rather a contradiction in terms

Dr ARTHUR POWELL said that he had had no experience of beri beri since the deficiency theory came in, but the resemblance between beri beri as he had seen it formerly and the toxic forms of polyneuritis had always impressed him The symptoms in these forms of polyneuritis were so closely similar to those seen in beri beri that one would expect to find that in beri beri there was some toxic factor at work apart from the food deficiency factor About two years before the war, when he was a consulting surgeon to the P and O in Bombay, both that line and the British India line had a fair number of cases of beri-beri occurring amongst the crews He ordered, quite empirically, rations of marmite to be issued and good results followed, though, needless to say, in addition to this, the men were landed, and were given a more varied diet

Dr H H SCOTT said he had seen a certain number of cases of beri-beri in China and amongst the Chinese in the West Indies The Spanish observer, de Melita, laid considerable stress on the factor of soil in the production of the disease, and stated that, on an outbreak occurring, by removing the cases away from the district to another district not remote the symptoms cleared up, although no change was made in the diet

Colonel WILKINSON said that a point of interest was the occurrence of septicaemia amongst the experimental pigeons Might not the presence of sepsis possibly be an explanation of why some of the pigeons developed beri-beri while others did not? Along the same line of thought, it was well known that in the treatment of diabetes with insulin there were cases in which insulin did not produce any effect on the course of the disease, possibly owing to some obscure infection or constitutional difference It might be that the presence of sepsis was a factor in the occurrence of beri beri

Colonel O'KINEALY said that one striking point about Colonel McCarrison's observations was the prevalence of beri-beri in particular areas of country It seemed to the speaker that perhaps the area might be at fault rather more than the actual diet or the form of rice used as food He had no doubt that a thorough investigator like Colonel McCarrison had not lost sight of that point, but it was possible that more might be discovered about the causation of beri-beri if greater attention were paid to the environment of the individuals who suffered from it in endemic areas, and who apparently were carriers to areas not endemic

Professor DUDGEON asked whether Colonel McCarrison could say anything about the increased weight of the heart in beri-beri, and could affirm it to be due to the condition of oedema Experimentally, if animals were treated with diphtheria toxin, an enlargement of the heart was produced, and the heart showed increased weight This was an oedematous condition, and he believed that the same fatty change was recorded in fatal cases of beri beri He wished also to know whether Colonel McCarrison had any positive knowledge with regard to the infectivity of beri-beri In this connexion he referred to the work of Hamilton Wright, who believed in an infective origin of beri beri, and brought back from the Federated Malay States a bacillus which he had isolated from fatal cases, very largely from the duodenum The speaker remembered the organism quite well, and he showed it at the Society of Tropical Medicine, as it was then called He also carried out such tests as he could with the organism He found it not pathogenic to the lower animals, and it was an organism such as one might meet with in the intestinal tract of normal human beings in this country Hamilton Wright had wanted further experiments to be carried out, but nothing short of the introduction of the organisms into the human subject would, to the speaker's mind, have been of any further use

Colonel MCCARRISON said that his object had been to describe the results of his work up to date, and he really had no more information to impart than was contained within his paper Unfortunately, at the most critical point of the work, the Inchcape axe fell, so that his researches were brought to an untimely end, and he was not able to follow up the investigation of true beri beri in pigeons But when he found his first case of beri beri in a pigeon, he aspirated the blood from the heart of every pigeon which developed polyneuritis thereafter, in the hope that amongst them there would be some that would have true beri-beri it happened that there were three which had true beri beri, and in all the cases he found that the heart's blood was sterile, so that he had nothing to add to the President's remarks about the infectivity of the disease He remembered Hamilton Wright's work very well, and, of course, it was possible that although an organism resident in the gastro-intestinal tract in man was not pathogenic to the lower animals, it might nevertheless be capable of assisting in the production of a toxin when the food was deficient in a certain quality

VERTIGO

AT a combined meeting of the Sections of Medicine, Neurology, Otology, and Ophthalmology of the Royal Society of Medicine on February 26th, Dr R HUTCHISON, President of the Section of Medicine, in the chair, Sir HUMPHRY ROLLESTON opened a discussion on vertigo He said that vertigo had been described as a 'subjective sensation of a disturbed relationship of one's body to surrounding objects in space" (Jones), and also as a "state of consciousness of the effect on motor centres of a want of harmony between afferent impressions" (Scott) Such definitions would include disturbances of the whole vestibular system from its end-organ in the labyrinth to the cerebral cortex The afferent impressions in the order of their importance were vestibular ocular, and kinaesthetic The presence of an aural lesion in a case did not necessarily prove that the disease was wholly due to the ear condition Gowers had referred to cases of pseudo aural vertigo in which with but slight evidence of disease of the labyrinth, functional disturbances of the cortex had been set up and had remained independent and purely central The new vestibular tests had enabled organic diseases of the vestibular apparatus to be diagnosed, so that the points to be discussed by the physician became narrowed to two main questions What evidence was there that vertigo might be caused by the action of toxins, transient vascular changes, or functional disturbances of that part of the cerebral cortex where the sensations concerned in equilibration normally met in harmony? and secondly, In what way could general diseases and visceral disorders affect the vestibular apparatus? From the consideration of epileptic auras and borderland cases of epilepsy it appeared probable that toxic, vascular or functional disturbance arising at the cortical end of the vestibular system might occur Such a possibility was also suggested by the analogy of migraine and by the occasional

alternation of migraine and vertigo Anaphylactic conditions might affect the semicircular canals, and Sargent had grouped vertigo with asthma, epilepsy, and paroxysmal tachycardia Cases had been reported where vertigo had been caused by certain articles of food It had been further suggested that endocrine disorders might induce vertigo by altering the vasomotor conditions in the labyrinth The gastric origin of vertigo had been much discussed, but the more modern view was to regard the gastric manifestations and the vertigo as concomitant effects of the vestibular disturbance instead of being related as cause and effect The association of arterial disease with vertigo could be explained in several ways High blood pressure was associated with increased pressure of the cerebro-spinal fluid and of the fluid in the semicircular canals Arterio-sclerotic vessels appeared to be more prone than healthy vessels to spasm, and vertigo had been explained by spasm of the vestibular branch of the internal carotid artery, or of the cerebellar, pontine, or cerebral arteries Both anaemia and erythraemia could cause vertigo, though here again the exact point of the vestibular apparatus attacked was doubtful A leukaemic infiltration of the semicircular canals had been described In conclusion, he referred to the interesting disease known as paralysing vertigo or Gerhet's disease, which, it appeared, was now extinct

DR GORDON HOLMES discussed the subject of vertigo in disease of the central nervous system When a patient complained of giddiness or dizziness it was difficult to know exactly what his sensations really were, and this difficulty was enhanced by the fact that in any attack of severe vertigo there was nearly always transient mental confusion Again, it was not easy to exclude peripheral factors, especially lesions of the semicircular canals or labyrinth He described a classification of vertigo arising from disease of the central nervous system which he had found useful in practice The first class comprised those cases where the vertigo arose from lesions affecting the central connexions of the vestibular nerve in the medulla, pons, cerebellum, and mid-brain Lesions of the cerebral substance itself were less common than vascular lesions as a cause of vertigo Vascular lesions which affected the cortex only of the cerebellum did not usually produce vertigo, but if they extended to involve the central nuclei or the peduncles then vertigo was usual Tumours of the pons or cerebellum were more commonly the cause The second class was composed of cases where the lesions were in the fore-brain, and especially in the cerebral cortex he knew of no evidence that lesions confined to the great basal ganglia could give rise to vertigo, but any lesions of the cerebral cortex that produced spasmodic symptoms, and especially forcible deviation of the head and eyes, could cause vertigo In the third class the vertigo was only a symptom of a general condition affecting the central nervous system In this class were those cases of epilepsy and migraine where the vertigo occurred as an equivalent of the ordinary attack In epilepsy vertigo was found both as an aura and as a symptom replacing the usual attack In conclusion he asked whether vertigo was ever truly a hysterical symptom, his own opinion was that true vertigo was never due to hysteria

MR J HERBERT FISHER, introducing the subject from the point of view of the ophthalmologist, said that while disorders of objective localization or orientation might cause metamorphopsia, or polyopia, and errors of judgement, he did not think that they were responsible for true vertigo He thought that unperceived movements of the eyes might be the cause of the vertigo caused by gazing at a waterfall, and refraction errors must not be overlooked The sensation of vertigo was not experienced by a man with only one eye Where the ocular muscles were affected abnormal impulses might reach Deiter's nucleus, and by a reflex irritation of the vestibular centres might cause vertigo such a condition might occur in disseminated sclerosis, and if diplopia were present increased confusion of visual judgements would result He considered that vision only affected equilibrium when consciousness was also involved, and he regarded equilibrium, therefore, as a subconscious process, which was maintained by the tactile and muscular sensations (including ocular muscles, acting in conjunction with the semicircular canals, the vestibular nerve, and the cerebellum The highly specialized sense of vision acted as a higher mental perception, and might perhaps be able to control a vertigo caused by an affection of lower centres Unusual visual impulses produced by diseased eyes would not of themselves cause vertigo

MR SYDNEY SCOTT exhibited a large number of slides illustrating the anatomy of the human labyrinth and various inflammatory conditions which were associated with the production of vertigo Other slides illustrated the posture of dogs when one labyrinth had been destroyed, and also the alterations in the position of the iris of dog fish according to their position in space Anatomical diagrams were displayed to explain the connexions between the labyrinth and the ocular movements, and to describe Politzer's experiments with regard to the changes of pressure in the labyrinth in response to changes of pressure in the external ear He emphasized the importance of Eustachian defects, especially when unilateral, as a cause of vertigo, and referred to the frequency of cases where these defects were connected with catarrhal conditions of the post nasal space

SIR JAMES DUNDAS-GRANT mentioned the valuable therapeutic effect of quinine in cases of aural vertigo, and discussed the possibility of compressing the vertebral arteries in the neck in order to alter the pressure in the internal ear He thought that concussion was a common cause of vertigo, and emphasized the value of small doses of mercury perchloride in such cases

EXPERIMENTAL BILIARY CIRRHOSIS

AT a meeting of the Pathological Section of the Royal Society of Medicine held on February 19th, Dr G W MARSHALL FINDLAY read a paper on experimental biliary cirrhosis produced by salts of manganese He said that though cases of chronic manganese poisoning had been described among industrial workers on the Continent, in America, and more recently in this country, comparatively little was yet known about the pathological changes produced by manganese This lack of knowledge might be due to the fact that only one necropsy in chronic manganese poisoning in man had so far been recorded (Casamajor,[1] 1916), while attempts to produce manganese poisoning in animals had not been very satisfactory Experiments were therefore carried out on rabbits, guinea-pigs, and rats

It was found that when manganous chloride was injected subcutaneously into rabbits in doses of 20 to 80 mg the animal usually died in one to two days, microscopically there was found very marked fatty degeneration of the liver parenchyma, and in the kidneys there were haemorrhages into the glomerular capsules and degeneration of the tubular epithelium When smaller doses of from 3 to 5 mg were injected subcutaneously for six to eight weeks there was usually decline in body weight and in some cases rigidity of the hind limbs and neck At the necropsy there was frequently an icteric tint in the subcutaneous tissues but no evidence of ascites The liver was usually enlarged the surface was either smooth or slightly roughened, and the colour yellow or yellowish-red Microscopically in the liver there was found an increase in fibrous tissue accompanied by a small round-cell infiltration and the formation of fresh bile capillaries These changes were at first restricted to the portal spaces, later they extended round the periphery of the lobules, giving rise to a form of cirrhosis which was definitely monolobular in type Subcutaneous injections of manganous chloride in guinea pigs were followed by similar results, the liver showing various stages of biliary cirrhosis Rats, when repeatedly injected with manganous chloride, also developed a cirrhotic condition in the liver, accompanied by jaundice but unassociated with ascites, in some cases they exhibited a rigidity of the legs and neck The fibrosis in the liver was at first confined to the portal spaces and to the periphery of the lobules, but later it extended between the parenchymal cells, dividing them up into little islands Many of the

[1] Kober and Hanson's *Occupational Diseases and Vocational Hygiene*, Philadelphia, 1916

liver cells were hypertrophic, and all showed fatty changes In a number of rats fed on a diet containing manganous chloride for six to ten weeks there developed a cirrhosis of the liver associated with jaundice and in some cases with rigidity of the limbs The microscopical appearances in the liver were similar to those produced by the subcutaneous administration of manganese It was of some interest to note that many medicinal waters contained small though quite appreciable quantities of manganese salts in solution The selective action of manganese on the liver appeared to be due to the fact that it was largely excreted from the body by the bile It was only when large doses were administered parenterally that small amounts might appear in the urine The similarity of chronic manganese poisoning to the syndrome of progressive hepatico lenticular degeneration described by Kinnier Wilson (1912)[3] was extremely striking The nervous lesions occurring in the animals used in these experiments were at present the subject of investigation

Dr S C DYKE recorded observations on six cases of "aleukia" which were all characterized by a leucopenia of varying degree, a relative and absolute diminution of the polymorphs, and a great reduction in the number of platelets Clinically all showed a haemorrhagic tendency, and some had been labelled purpura haemorrhagica Sections of the spleen and bone marrow from some of the cases showed in one instance a streptococcal, in the second a tuberculous infection, and in the last the presence of coliform bacilli Dr Dyke discussed whether the infection was to be regarded as the cause of the anaemia and haemorrhagic manifestations, or whether the infection had merely gained a foothold as a result of the aplastic state of the haematopoietic system His conclusion was that the myelophthisic state was primary and the infection secondary

GALL STONES

AT a meeting of the Devon and Exeter Medico Chirurgical Society, held on February 21st, with the President, Dr VINCENT SMITH, in the chair, Mr A L CANDLER read a paper entitled "A summary of literature concerning gall bladders"

Mr Candler began by remarking that no book on this subject had been published since that of Moynihan in 1904, and so a useful purpose might well be served by collecting and summarizing in a paper the scattered publications on the subject from different standpoints Certain small anatomical details were important the fact that the opening of the common bile duct was narrower than any other portion of the ducts explained how obstruction of it at the ampulla of Vater caused bile to flow into the pancreatic duct, and so set up acute pancreatitis On the other hand, relaxation of Oddi's sphincter at the opening would allow freer pancreatic drainage The retroduodenal portion of the common bile duct, one to one and a half inches in length, lay in a groove at the back of the pancreas in 37 per cent of the cases, and was completely surrounded by pancreatic tissue in 62 per cent Adjacent lymphatic glands might enlarge and obstruct the common duct—as, for example, in Hodgkin's disease—or might be mistaken for calculi during an operation The mucous membrane of the gall bladder was highly specialized for the function of absorption Professor Boyd had demonstrated the presence of cholesterin in the epithelium and subepithelial stroma of the gall bladder, and all available evidence pointed to inflammation as the cause of this Whereas there was about 1 per cent of cholesterin in the normal wall, there was about 50 per cent in the chronically inflamed "strawberry gall bladder", cholesterol filled the villi, their stalks became attenuated, and, finally, the villus broke loose as a free body composed of cholesterol and albuminous material—an ideal nucleus for the formation of further deposits There was evidence that the formation of gall stones was sometimes periodic, suggesting periodicity of the originating factor, which might be a recurrent inflammation or a periodic increase of cholesterol content This content of bile and of blood, rose greatly in pregnancy and typhoid fever, both of which might give rise to gall stones In the latter case there was not only cholesterolaemia, but in addition an infection of the gall bladder typhoid bacilli had often been recovered from the centres of old gall stones, and, as Moynihan had dramatically observed, "Gall stones are the tombstones erected to the memory of the organisms dead within them," though the organisms were not always dead In all cases the wall of the gall bladder rather than the bile was infected In addition to the blood and bile, cholesterol was also present in sebum, white brain matter, medullary nerve sheaths, adrenal cortex and the corpus luteum, whilst cholesterol deposits had been found in arteriosclerotic blood vessels, the white spots of albuminuric retinitis, and xanthoma The blood cholesterol content was raised in pregnancy, typhoid convalescence, chronic nephritis, diabetes, jaundice, and many cases of cholelithiasis, it was lowered in tuberculosis and in acute infections, excepting typhoid fever

Dorree had shown that cholesterol was converted into its ester in the intestine, absorbed into the blood, liberated again as cholesterol by metabolic processes in the body cells, carried by the blood to the liver, and again excreted in the bile Bile which was being continuously secreted by the liver was held back in the gall bladder by the action of the sphincter of Oddi generally, and was most rapidly poured into the duodenum three hours after a meat meal, the liver being stimulated by a secretin set free when acid chyme entered the duodenum Starling had noted that oil had a similar effect on liver stimulation—an interesting point, since olive oil was at one time recommended for the cure of gall stones Removal of the gall bladder caused marked dilatation of the extrahepatic ducts owing to the attempts of the sphincter of Oddi to maintain the difference between the secretion and discharge rates, so that bile accumulated in the extrahepatic ducts, the intrahepatic ducts, being supported by liver tissue, could not expand The pressure continued until either the biliary tract contained as much bile as the gall bladder or until the sphincter became dilated and was no longer able to withstand the normal pressure This duct dilatation with atony of the sphincter explained the benefit derived in cases of pancreatitis from cholecystectomy The weakened sphincter allowed free drainage of the pancreas, probably infected, and prevented bile being forced back into the pancreatic duct With regard to the path of infection to the gall bladder and ducts the old theory that this was by the duodenum and common duct had now been abandoned, and infection from the blood stream had been established by the work of Rosenow, published in the Mayo Reports for 1916 He had suggested that a certain strain of a certain microbe had a definite and specific selective action for one individual organ in the body Should this be proved correct it might be possible in the future to clear up the diagnosis of a case of doubtful cholecystitis by finding a superficial septic focus with an infective organism of the special strain which caused cystitis Such selective properties had been noted elsewhere, as, for instance, in the case of tubercle bacilli, gonococci, and in measles, scarlatina, psoriasis, and mumps This selective action might account for some failures in vaccine therapy, and, since microbes were the oldest living organisms on this planet, it was certainly possible that they might through the ages have become specialized and have developed powers of selection of food and environment, or become limited to special conditions Rosenow had expressed the opinion that the cause of stone formation was an infective pressure furnishing a nucleus for the precipitation of bile salts, combined with a concentrated bile of high cholesterol content Moynihan had recently suggested that infection might reach the liver by way of the splenic vein, it might also reach the gall bladder wall through the lymphatics, since these vessels in the liver and gall bladder were in communication With regard to symptoms and diagnosis more attention should be paid to the gall bladder wall and the earlier symptoms and signs be detected, since gall stones were found only in the later stages of the disease With one exception, he believed gall stones invariably gave rise to symptoms, but in the case of the solitary cholesterol stone embedded in the cystic duct no symptoms appeared until the duct was obstructed, this being its distinguishing feature from other

[3] *Brain* 1912, 34 295.

forms of gall-stone disease In the case of the single stone, the first indication was always a sudden attack of agonizing pain in the epigastrium, which spread across the abdomen and through to the tip of the shoulder-blade, as if due to knife transfixion Spasm of the diaphragm prevented breathing, but vomiting might bring relief Relief, however produced, came instantaneously In the case of multiple stone formation the symptoms were wholly referable to the stomach, and included flatulence and fullness after meals, sensations of nausea, accompanied sometimes by faintness and salivation, feeling of cold, with slight shuddering, often occurring with great regularity, "acidity" and "water brash" None of these symptoms were severe or striking, their importance lay in their persistence and mutual association Sometimes more acute disturbance was noted, such as abdominal pain, local tenderness, and swelling of the liver Courvoisier's law still held good that, in chronic jaundice due to blockage of the common bile duct, contraction of the gall bladder indicated calculus, and dilatation of the gall bladder that the obstruction was due to some other cause, usually cancer Boas's sign for gall stones was tenderness at the level of the twelfth thoracic vertebra two or three fingerbreadths to the right of the spine, and Mayo-Robson laid stress on tenderness similar to that of McBurney, but above the umbilicus instead of below Jaundice due to cancer of the pancreas or common bile ducts commenced without pain, it deepened and persisted until a deep hue with a greenish tinge had developed The speaker concluded with a list of the authorities whose publications were used in the preparation of the paper

Dr W GORDON mentioned two cases illustrating the fact that cancer of the pancreas might be either painless or exceedingly painful He agreed that Rosenow's work was of great importance

Mr B DUDLEY expressed the opinion that papers such as Mr Candler's, which gathered information from many sources and focused it, were very hopeful

BASAL METABOLISM

A MEETING of the Section of Anatomy and Physiology of the Royal Academy of Medicine in Ireland was held on February 1st, the President, Mr A A MCCONNELL, in the chair

Mr J E STOKES read a paper on the clinical estimation of basal metabolism by indirect calorimetry, and demonstrated the apparatus employed He explained that basal metabolism was the minimal rate of combustion within the body necessary to support the life processes, it was determined with the patient at complete rest, and twelve to fourteen hours after food Basal metabolism could be measured directly with the calorimeter, or indirectly from the respiratory exchanges, and the rate—that is, the basal metabolism expressed per square metre of the patient's surface area—could be measured by the indirect method with an accuracy of about *plus* or *minus* 3 per cent The basal metabolic rate was raised in cases of exophthalmic goitre, but frequently fell with rest in bed, and was lowered in cases of myxoedema Clinically the estimation of the rate was of much value in watching the progress of such cases, and was often found useful in distinguishing between cases of hyper- or hypo-thyroidism and neuroses simulating these conditions Mr Stokes gave details of the method he employed in making the estimation, and discussed the various difficulties and sources of error

Dr T G MOORHEAD said that he had watched Mr Stokes using the apparatus on some of his own cases, and it had seemed to him simple to work He considered that the apparatus was in its probationary period, but he was hopeful of its usefulness in the future

Professor HAROLD PRINGLE thought Mr Stokes had exaggerated the chance of errors in using the apparatus, they were in reality few A raised metabolic rate was found in cases of hyperthyroidism, hyperpituitarism, and febrile conditions, but the last of these was excluded by taking the patient's temperature before a test was made In neurotic cases the rate was normal and in myxoedema it was lowered The exact physiological causes underlying the metabolic rate were not clearly known, but there were two definite factors by which it was influenced—activity of the thyroid and to a less extent of the pituitary

Dr R H MICKS, Dr G NESBITT, Dr W M CROTTY, and Dr H F MOORE contributed to the discussion

A Crowing Hen

Professor J BRONTE GATENBY (introduced by the President) then gave a communication on his recent work on sex reversal in birds He first gave a short account of the sex-chromosome hypothesis, and also that of Geddes and Thompson, describing how spermatozoa varied in the size of their heads, one containing the male and the other the female determining chromosome, it might be possible by the centrifuge or some other means to separate the larger from the smaller spermatozoa He then showed a crowing hen, which he had obtained alive, in which the male secondary sexual characteristics were replacing the female, and he described the behaviour of the bird when placed in proximity to other hens it was found to be aggressive and up to a certain point distinctly *masculine in character, but not completely so* This bird was subsequently killed, and its oviduct was found to be normal, but testicular tubules were found in the gonads The bird had been a hen for three years or so and had at one time laid eggs What had occurred was that the ovary had been wiped out by disease, probably adenomatous, new tissues had grown and the bird had become a cock The speaker stated that a female might develop male characteristics, but the converse did not hold good He instanced the case of the free-martin, in which there was a communication between the chorionic vessels, by means of which hormones could pass from the one twin to the other He then showed a somewhat similar bird, which was not, however, in such an advanced stage of masculinity, *its ovaries had been affected by fibromata* He considered that the hypothesis of Geddes and Thompson was correct, and that the hormone hypothesis was not tenable

PROSTATIC SURGERY

AT a meeting of the Lewisham Division of the British Medical Association, held on February 19th at Catford, with Dr JAMES GILCHRIST in the chair, Mr JOHN EVERIDGE read a paper entitled "Prostate surgery, with special regard to the responsibilities of the general practitioner" He remarked on the comparative frequency of enlarged prostate amongst the professional classes, especially the clergy The commonest age was 66 years, but it had been known to occur as early as 31 He divided the symptoms into four groups (1) obstructive symptoms (false incontinence), (2) irritability, (3) haemorrhage, (4) uraemia Cystitis might cause irritability The haemorrhage was more frequent with large prostates than with malignant Treatment of haemorrhage was—first, to give morphine, secondly, to inject haemoplastin 1 c.cm every four hours, and thirdly, to catheterize with a silver nitrate solution 1 in 10,000 In uraemia the bladder should be decompressed in forty-eight hours, 12 oz. to be taken off every three hours Renal function should be tested by blood urea and urea concentration tests Mr Everidge recommended the following measures for the treatment of acute retention (1) hot bath, (2) belladonna suppository, (3) opium and ergot by the mouth, (4) injection of 5 per cent solution of novocain into the urethra When residual urine was four ounces the catheter should be used twice a week, when six ounces twice a day A coude gum-elastic catheter should be used In urinary sepsis hexamine should be administered, and one hour later acid sodium phosphate, the bladder should be washed out with silver nitrate 1 in 10,000, or liq hydrogen peroxide one volume The mouth should be clean before operation, and for relief of post-operative flatulence 1/2 c.cm of pituitrin was often useful Enemata should be avoided The catheter should be kept in for a week, and the stitches removed on the tenth day The vas was ligatured to avoid epididymitis Lastly, Mr Everidge warned his audience that one out of every five enlarged prostates believed to be simple turned out to be malignant

Reviews.

ENDOCRINOLOGY

ENDOCRINOLOGY is such a fascinating field for speculation that the theoretical views evolved have often outrun the established data and encouraged methods of treatment which are sometimes more profitable to the manufacturing chemist than to the patient SIR E SHARPEY SCHAFER'S second edition of *The Endocrine Organs*,[1] which originally came out in 1916 and has been out of print since 1920, is therefore most welcome as giving the reader an authoritative survey of physiological knowledge and providing an outline of the results of pathological changes in the endocrine glands The present edition is practically a new book and contains an immense amount of information, and the numerous references to the works quoted will be most useful to those engaged in research

Of the two parts into which the work is now divided, the first only has been issued It deals with the thyroid, parathyroid, and suprarenals, and about half the volume is devoted to the last named organs The remaining endocrine glands will be considered in Part II, which will appear later, but the thymus will no longer find a place in this monograph, as recent evidence, especially the careful experiments of Park and McClure, show that its removal does not lead to any appreciable result, and therefore that the thymus is in the same category as the other lymphoid structures

The volume opens with some general considerations on the methods of investigating the endocrine functions and on the growth of our knowledge In connexion with intravenous injection of extracts it is pointed out that the extracts of most glandular and lymphoid structures cause a fall of blood pressure, not due, as was at one time supposed, to the contained nucleo-protein, but to organic materials of a specific nature, varying in different organs, and, though not yet isolated, often spoken of as vasodilatins, in some extracts, however, histamine and choline may be the depressor factors In speaking of the grouping of the endocrine organs the author mentions the thyro-parathyroid apparatus, the adrenals, and the pituitary as each made up of two distinct but usually closely associated parts, the functions of which as far as is known, are in no way similar The account of the thyroid, illustrated with thirty-four figures, occupies rather less than a third of the volume, after a full description of the physiological aspects hypo- and hyper thyroidism are dealt with while admitting that many symptoms of exophthalmic goitre resemble those due to hypersecretion of adrenaline, reasons are given why this cannot be the case, they are considered to be due to increased excitability of the sympathetic due to some cause as yet undetermined The various medicinal uses of thyroid extract are summarized and the difficult subject of the interrelations of the thyroid and other endocrine glands is clearly set forth

The section on the parathyroid glands contains a full discussion of the causation of tetany, it is stated that the condition, whether operative or idiopathic, is without doubt due to removal or disease of the parathyroids The full description of the suprarenals reminds the reader that it is thirty years since Oliver and Schafer demonstrated the pressor effect of extracts of the adrenal medulla and thus laid the foundations of so much of our knowledge A chapter is devoted to the evidences of the passage of adrenaline into the blood, and after this moot point has been fully discussed the conclusion is reached that on the whole there is not only a normal and fairly constant passage of adrenaline into the circulation, but that this secretion is under the influence of the nervous system through the splanchnics

[1] *The Endocrine Organs* An Introduction to the Study of Internal Secretions By Sir E Sharpey Schafer LL D D Sc M D F R S Professor of Physiology in Edinburgh University Part I The Thyroid the Parathyroids and the Suprarenal Capsules Second edition London Longmans Green and Co 1924 (Double sup roy 16mo pp ix + 145 86 figures. 15s net)

INTERSTITIAL KERATITIS

THE monograph on *Interstitial Keratitis*[2] by MR HOLMES SPICER incorporates the Gifford Edmonds prize in ophthalmology, and forms the first of a series of monograph supplements which are to be issued by the *British Journal of Ophthalmology* It was a very judicious idea of the management of that journal to issue important papers such as this in the form of a supplement, for as it covers sixty-three pages it was impossible to print it as a whole in any particular number, and it would have been a mistake to spread its publication over two or more numbers, breaking the thread of the work

MR Holmes Spicer's work is based on the notes of nearly 700 cases most of them came under his own observation, and in the later cases the notes are entirely his own, as are the illustrations—forty-one in number In this series, congenital syphilis was responsible for 90 per cent, acquired syphilis for 3 3 per cent, and the cause was not ascertained in 6 per cent The age of onset varied between less than 2 years and over 50 years, the vast preponderance fell between the ages of 5 and 20 years The author is unable to explain the greater prevalence of interstitial keratitis in females, but he offers some suggestive possible reasons

The course of the disease is carefully traced under the headings of corneal haziness, endothelial catarrh, keratic precipitates, the uveal layer, and the vascular invasion, paragraphs are devoted also to questions relating to the teeth and face Other causes, such as tubercle, find mention, and space is given to various diseased or abnormal conditions, ataxy, and relapses and recurrences The question of injury in relation to interstitial keratitis is discussed at some length, as are immunity and re-infection

The remarks on treatment are excellent, in spite of recent advances in the general treatment of syphilis, the treatment of the vast majority of cases of interstitial keratitis is that devised by Hutchinson, the arsenical compounds are occasionally of great value, but most ophthalmic surgeons will, we think, subscribe to the opinion that mercury and chalk is our sheet anchor

The beautiful illustrations are a great feature of the work It is interesting to note that the clinic of Sir Jonathan Hutchinson at the Moorfields Eye Hospital devolved on Mr Nettleship, to whom succeeded Mr Holmes Spicer

This pamphlet forms a worthy successor to the classical memoir published in 1863 by Hutchinson we can give it no greater praise

RADIOGRAPHY

THE fourth edition of *Radiography and Radio-therapeutics*[3] (Part I, Radiography), by DR ROBERT KNOX, has been brought up to date by a revision of the text and by the addition of appendices which describe recent work on the differential diagnosis of renal and gall stones, on the protection of x ray and radium workers, and descriptions of the Lilienfeld tube and the Potter Bucky diaphragm

After touching on the rudiments of physics as applied to the generation of x rays, the author deals at some length with the various pieces of apparatus employed for this purpose Unnecessary elaboration of detail is avoided, the description of these scientific instruments is made in such a way that the radiologist can easily acquire the necessary knowledge of the subject On page 54 the secret of good x ray work is disclosed in a short sentence, it is "to have a good x ray tube under perfect control"

Following the description of the individual pieces of apparatus essential and accessory, schemes of arrangement are suggested to meet the requirements of anyone, from the general practitioner who employs radiography as a

[2] *Parenchymatous Keratitis Interstitial Keratitis Uveitis Anterior* By W T Holmes Spicer London George Pulman and Sons, Ltd 1924 (Sup roy 8vo pp 63 41 figures. 5s. to subscribers to the *British Journal of Ophthalmology* 3s. 6d.)

[3] *Radiography and Radio-therapeutics* Part I Radiography By Robert Knox M D C M Edin. M R C S Eng L R C P Lond. Fourth edition Edinburgh Medical Series. London A. and C Black Ltd 1923 (Sup. roy 8vo pp xxv + 448 334 figures, 88 plates. 40s net Vol. I)

useful adjunct to his other work, to the consulting radiologist with a large private or hospital clinic The chapter on the production of radiographs includes an account of photographic technique and its various allied processes Stereoscopy and the localization of foreign bodies are dealt with in great detail, and all modern methods of localization are carefully described The prominence given to this subject is, of course, a legacy of the great war, and a considerable amount could with advantage be eliminated from any succeeding edition

A detailed account of the technique employed in the radiography of special parts, such as the sinuses of the skull and the sella turcica, is followed by descriptions of the routine examination of the various bony parts of the body, positive and negative plate illustrations of good quality being inserted Several pages are wisely devoted to an account of the development of the bones, with excellent diagrams showing the normal epiphyseal lines in the neighbourhood of the joints A careful study of this section will prevent many lamentable mistakes by the inexperienced or unwary In the chapter on injuries of bones and joints emphasis is laid on the necessity for taking radiographs in at least two planes whenever possible If this is not done fractures may frequently be missed The value of stereoscopic radiography in the diagnosis of injuries to the skull, shoulder, and carpus is perhaps not sufficiently emphasized A representative set of pictures illustrate most of the common fractures It might have been well to include a lateral view of the dorsal or lumbar spine showing a compression fracture of a vertebral body, for this injury is often difficult to demonstrate by any other means Injuries of and about the epiphyseal lines are also worthy of a place here

The examination of the thorax and its contents, and the *x*-ray appearances found in the diseases of these organs, are most admirably dealt with, as is also the differential diagnosis of diseases of the lungs The correlation of *x*-ray appearances with the pathological conditions represented is of paramount importance in dealing with the radiology of the chest, the element of pathology introduced into this chapter is therefore of real help to the reader

In his introduction to the *x*-ray examination of the alimentary system Dr Knox rightly insists that two preliminary conditions are necessary—namely, the hearty collaboration of the physician and surgeon, and a clear knowledge of the normal appearances of the parts under examination and of the variations which may occur within the limits of the normal The fact that radiology is probably the most important diagnostic aid in the investigation of alimentary disorders is becoming more and more firmly established both in hospital and general practice Few cases, excluding of course acute cases, are now operated on without a preliminary *x*-ray examination We cannot speak too highly of the able manner in which the subject has been handled in this volume The text, the radiographic plates, and the diagrammatic illustrations, are all of the highest quality

The book concludes with an account of the *x*-ray examination of the urinary system and gall bladder, with illustrative plates

The aim of the author, as stated in the preface, is more than amply fulfilled As a standard textbook of practical radiography this book stands on a very firm basis

The X-ray Atlas of the Normal in Man, by Professor RUDOLPH GRASHEY of Munich, has reached a fourth edition [4] It has been compiled from a surgical point of view and with special reference to variations from the normal There is an introduction on the apparatus used for the production of *x* rays and the conditions under which the skiagrams in the atlas were made The method of taking radiograms of the various parts of the body is set forth, and the reason for each position adopted demonstrated by diagrams showing the path of the rays and the principles of projection The atlas itself consists of 227 reproductions of prints, all of them of the size of the original plates Each radiogram is accompanied by a diagram showing by means of numbers corresponding to numbers on the radiographic picture the various anatomical structures to be seen in each The position in which each picture was taken is illustrated by other diagrams In many cases the interpretation is amplified by drawings showing the relations of the principal soft parts, or by radiograms taken of the dry skeleton The result is that the meaning of each shadow and line in the normal radiography of the living skeleton is elucidated, and the methods by which each region can be best shown upon an *x*-ray plate demonstrated, with the exception of some plates of the kidneys The atlas is limited to the radiography of the bones Normal appearances which are apt to be mistaken for pathological lesions are emphasized, and numerous pitfalls are in this manner exposed To a beginner in doubt whether any *x* ray appearances he may encounter are or are not abnormal, or as to how best to secure a good picture of any particular part, this atlas should prove of great value The expert radiologist will find in the atlas much that is of interest in technique and many valuable points in the consideration of the normal

In a small book on *X Rays*[5] W E SCHALL deals in successive chapters with the origin of *x* rays, their properties, the electrical apparatus necessary for their production, the management of an *x*-ray tube dosage and its measurement, and the practical application of *x* rays both in diagnosis and therapeutics The general arrangement is excellent, the many—mostly diagrammatic—illustrations just what are required The preface modestly suggests that the book may be of help to beginners and medical students, but it goes much further than this, and should be valuable to all radiologists and particularly to those who have to teach radiology

THE ATOM OF LIFE

THE borderland of biology and metaphysics continues to attract the adventurous In *Theoretische Biologie*[6] Professor EHRENBERG gives us the diary of his own expedition, in which, it were well to confess at once, we find more cause to admire the courage than the discretion of the author

The standard raised is that of an atomistic conception of life "We cannot refrain from an atomistic conception of matter—nor can we refrain from an analysis of the fundamental principles of biological science from an atomistic standpoint" With this apology made the author sheds all compunction Previous attempts at a similar particulate analysis of life have failed, we are told, through neglect to appreciate the significance of the time dimension The argument is directed, therefore, in the first instance to demonstrate that the vital atom can only be of a space-time nature This atom (*Biorheuse*) then becomes essentially a process (*Ablauf*) of a purely physico-chemical nature

With this somewhat nebulous equipment the reader is led through the pages of the book to seek "whether and where in the material substrate of the living organism the *Biorheuse* betrays itself and in what manner it is exhibited" It is impossible briefly to indicate the ground covered, but we may note that enzymes, hormones, and the chief processes of metabolism are capable of analysis on the atomistic basis whilst growth, disease, and age likewise present no difficulties The treatise terminates with a chapter on mind and volition The author draws largely on physiological and biological literature, though a critical choice is not very evident, and there are noteworthy omissions Relying however, as he does on the publications of others, it would have been more satisfactory had Professor Ehrenberg included a bibliography of the references which he so freely draws upon

[4] *Atlas typischer Rontgenbilder* etc Von Dr med R Grashey Vierte verbesserte Auflage München J F Lehmann 1923 (Cr 4to, pp viii+236, 227 figures in plates, 368 figures in text 21s 3d)

[5] *X Rays Their Origin Dosage and Practical Application* By W E Schall B Sc Lond F Inst P Bristol John Wright and Sons Ltd 1923 (Med 8vo pp 119 50 figures 5s net)

[6] *Theoretische Biologie vom Standpunkt der Irreversibilität des Fliessenden Lebensvorganges* Von Professor Dr Rudolf Ehrenberg Berlin Julius Springer 1923 (Roy 8vo, pp vi + 348 8s 4d, bound, 9s 2d.)

NOTES ON BOOKS

THE *General Index* to the first ten volumes of the *British Journal of Surgery*, compiled by Mr ARCHIBALD L CLARKE, includes the forty numbers that appeared between July, 1913, and April, 1923 Sir D ARCY POWER, who undertook the supervision of the index at the request of the editorial committee, contributes a preface and points out the salient features of the series The growth of knowledge of surgery during the war and the changes in the practice of antisepsis are particularly clearly brought out, the *Index* will be of great value to those who wish to consult a periodical in which the evolution of surgery during the last ten years has been very fully recorded

The eighteenth edition of Sir WILLIAM HALE WHITE'S *Materia Medica*[8] contains numerous alterations and additions, the chief of which is an account of insulin In the next edition it would be advisable to describe the use of bismuth in the treatment of syphilis and of diphtheria by toxin antitoxin, some remarks might be added on protein therapy

In *La Goutte*[9] Dr C FINCK of Vittel deals with some disputed or obscure points in the gouty condition generally which have come under his consideration during twenty years of practical experience in a health resort frequented mainly by patients suffering from gout He believes that the acute attack is due to the absorption of gouty deposits and not to their formation He deals with the modifications in the signs and symptoms induced by the coexistence of syphilis, and in a chapter on glycosuria points out that with increased uric acid excretion there occurs diminution or disappearance of the sugar in the urine One chapter is devoted to a brief account of various methods of treatment

Dr A LOUISE MCILROY, professor of obstetrics and gynaecology at the London School of Medicine for Women, has written an account of life in Constantinople during the armistice days of 1919 and 1920 under the title of *From a Balcony on the Bosphorus*[10] She contrives to include in an interesting account elements of history and pictures of the life of the people as well as to convey through the lines of print that Turkish "atmosphere" which is familiar to all who have visited Constantinople, but is not always to be found in books about Turkey The book contains some photographic illustrations and constitutes a pleasant record of a short era in the lifetime of a city that has existed for more than 2,500 years

Dr ERNST JOËL has published in a small volume nine lectures on clinical colloidal chemistry,[11] in which he explains the application of colloidal chemistry to clinical medicine Since the body is composed chiefly of colloidal materials, the greater portion of physiology and biochemistry depends on the laws governing colloidal reactions, and, needless to say, the author has had to condense his material very drastically in order to bring it within the compass of a book of 124 pages He deals particularly with the exchange of water within the body, and shows that the water content of the blood tends to remain very constant, but that the tissues can imbibe or give up water fairly easily He emphasizes the important effects of slight excess of water in the blood in producing diuresis Amongst other subjects dealt with are the metabolism of mineral salts and their adsorption in body tissues, the phenomena of ionic equilibrium, and the distribution coefficient of lipoid soluble anaesthetics The book is of interest, but it leaves the impression that the author has attempted the impossible in trying to compress so large a subject into so small a space The fourth edition of the well known textbook of Professor WO OSTWALD on the manipulations of colloidal chemistry[12] has been translated into French by Professor Edmond Vellinger of Strasbourg Colloidal chemistry is of great and increasing importance in biology physiology, and medicine The technique of the subject is, however, difficult, for even in an elementary experiment a slight and apparently unimportant variation in procedure is often sufficient completely to upset the final result Ostwald's book contains a clear and detailed account of the experimental procedure in 183 typical experiments, which demonstrate all the important fundamental phenomena observed with matter in the colloidal state

The forty third volume of the *Transactions of the Edinburgh Obstetrical Society*[13] contains the proceedings of the society during the session 1922-23 The presidential address on preventive midwifery and gynaecology of the late Dr J LAMOND LACKIE, an abstract of which was published in our columns on December 1st, 1923 is given in full, and there is a paper by Dr B P WATSON on the treatment of puerperal infections Dr W E T HAULTAIN writes on acute oedema of the anterior lip of the cervix, Dr W FORDYCE and Dr R W JOHNSTONE on concealed accidental haemorrhage treated by hysterectomy, Dr D SHANNON on the failed forceps case and its treatment, Dr D LEES on gonococcal infections of the Fallopian tubes and ovaries and Dr J HAIG FERGUSON on operations on the round ligaments Other writers contribute notes on cases of interest

The Spas of Britain, the official handbook of the British Spa Federation,[14] has been issued and a copy of it is being sent to every medical man in the country It has been compiled from the reports of the local medical committees, and deals with Bath, Buxton, Cheltenham, Droitwich Harrogate, Leamington, Llandrindod Wells, Strathpeffer and Woodhall In each case an account is given of the general surroundings of the place and nature of the water and the facilities and indications for treatment At the end of the book is a short account of the New Zealand spas Dr R FORTESCUE FOX contributes an introduction of a general nature dealing with spa treatment in Great Britain and the diseases benefited by it

Icarus or the Future of Science[15] though the publishers call it a companion volume, is to be regarded as a reply to *Daedalus or Science and the Future* It is slight and not quite a success even within the narrow limits that Mr BERTRAND RUSSELL has set himself Science he says, while it has not diminished the part played by private passions has given communities more power to indulge their collective passions *and as these are mainly evil*—hatred and rivalry—science threatens to cause the destruction of our *civilization* But neither Mr Russell nor Dr McVail, who sent us a note written in similar strain a few weeks ago convinces us that he is a genuine pessimist The League of Nations may fail of anything approaching complete success, but would the ideas and aspirations it embodies have been seriously entertained a few centuries ago?

In the second part of *An Outlaw's Diary*[16] Miss CÉCILE TORMAY, the Hungarian novelist, presents a vivid picture of the reign of terror which occurred in Budapest and the rest of Hungary during the brief sway of the Commune from March to August, 1919 An appendix has been written by Dr Oscar Szollosy, councillor in the Royal Hungarian Ministry of Justice on the criminals of the directorship of the proletariat, in which he shows that, with the exception of a few fanatics, the leading spirits of the Soviet Republic in Budapest were common criminals

In *Nutrition of Mother and Child*[17] an addition to Lippincott's Nursing Manuals Dr C ULYSSES MOORE and Dr M JOSEPHINE FERGUSON have compiled a handy volume of dietary information for the general public Calories and vitamins are described in simple terms and the different diets applicable to different ages are clearly set out The appendix contains a number of recipes for simple dishes which are suitable for children The difficulties that most of which are suitable for children The difficulties that may occur during lactation and the earlier years of childhood are discussed and the suitable treatment recommended The book is freely illustrated and there is a useful index

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[7] *The British Journal of Surgery General Index to Volumes I-X.* Compiled by Archibald L Clarke Bristol J Wright and Sons Ltd London Stationers Hall Court and Simpkin Marshall Hamilton Kent and Co Ltd 1923 (Sup roy 8vo pp iv + 170 10s 6d net or to subscribers 5s post free)

[8] *Materia Medica Pharmacy Pharmacology and Therapeutics* By William Hale-White K.B.E M D Lond M A Dub (Hon) Eighteenth edition London J and A Churchill 1924 (Pott 8vo pp viii + 712. 10s. 6d net)

[9] *La Goutte* Par Ch Finck. Paris L Expansion scientifique française 1922 (Demy 8vo pp 79 Fr 4 50)

[10] *From a Balcony on the Bosphorus* By A Louise McIlroy London Country Life Ltd and G Newnes Ltd New York C Scribner's Sons 1924 (Extra post 8vo pp viii + 119 8 plates 5s net)

[11] *Klinische Kolloidchemie* Von Dr Ernst Joël Mit einem geleitwort von Professor Dr L Spiro Dresden and Leipzig Theodor Steinkopff 1923 (Med 8vo pp 124 2s 2d)

[12] *Manipulations de Chimie Colloïdale* By Wo Ostwald Professor at the University of Leipzig in collaboration with P Wolski and E Kuhn Translated from the fourth German edition by Professor E Vellinger Paris Gauthier Villars et Cie 1924 (Demy 8vo pp 207 21 figures Fr 10.)

[13] *The Transactions of the Edinburgh Obstetrical Society* Session 1922-23 Vol xliii Edinburgh Oliver and Boyd 1923 (Med. 8vo pp xx + 140 3 figures)

[14] *The Spas of Britain The Official Handbook of the British Spa Federation* For the use of the medical profession With an introduction by R Fortescue Fox, M D (Cr 8vo pp xv + 170 illustrated.)

[15] *Icarus or the Future of Science* By Bertrand Russell, F R S 1924 London Kegan Paul Trench Trübner and Co Ltd (4½ + 6¼ pp 64 2s 6d net)

[16] *An Outlaw's Diary Part II The Commune* By Cécile Tormay London Philip Allan and Co 1923 (Demy 8vo pp 253 32 plates. 12s 6d net)

[17] *Nutrition of Mother and Child* By C Ulysses Moore M D M Sc (P d Lc Lippincott's Nursing Manuals Philadelphia and London J B Lippincott Company) 1923. (Demy 8vo pp 234 33 figures 8s. 6d. net.)

British Medical Journal.

SATURDAY, MARCH 8TH, 1924

LUNACY CERTIFICATION MEDICAL RESPONSIBILITY

THE result of the case concluded in the Court of King's Bench last week, in which the plaintiff—who had been an inmate of a private mental hospital—was awarded heavy damages against the medical superintendent and one of the Commissioners in Lunacy (now Board of Control), is very disquieting to the medical profession for several reasons, but particularly because a doctrine of what may be called continuing responsibility was accepted by the court The Prime Minister said on Monday last that the Government was fully prepared to consider the setting up of an appropriate body to undertake an inquiry into the difficult and complex issues raised by the case The Board of Control now forms part of the Ministry of Health, and the Parliamentary Secretary to that Ministry stated late on Monday evening that an appeal had been lodged, that it might be heard soon, and that he had no doubt that thereafter the Prime Minister would consider the advisability of having the inquiry started at once The medical profession will, we have no doubt, wish to co operate in any such inquiry, which, it may be hoped, will result in putting lunacy law and administration on a more satisfactory basis The profession will be actuated by two motives In the first place, its members, like all good citizens, will be anxious to make it impossible that a patient who has recovered should continue to be detained as though he were still of unsound mind Had the law in England been assimilated to that in Scotland it seems possible, if not probable, that this distressing case would never have arisen The medical profession has headed a crusade, in the prosecution of which it has not received the general support it had the right to expect, to establish the proposition that in their early stages many forms of mental disorder are curable by suitable treatment, and that the hard and fast legal procedures in force in England should be altered so as to facilitate and not to impede such early treatment

The second reason why the medical profession will be anxious to see the law modified is the doctrine of what we have ventured to call continuing responsibility The judge was very strong on this point, but it seems to have startled the Attorney General, and we have failed to find any clear indication of the jury's view, although the judge in his final statement said that "the chain of causation was not broken," and that it was "quite open to the jury to treat the long detention as the direct consequence of the wrongful acts of defendants"

The report published at page 449 sets out impartially the facts of the case in sufficient detail to enable the points at issue to be understood, but the case has been reported at length in the *Times*, and will, it may be anticipated, be published in the *Times Law Reports* There were two main issues first, the detention of the plaintiff at the offices of the Commissioners in Lunacy and the circumstances of his removal to the private asylum from which he had been liberated on probation a few days earlier and, secondly, the responsibility of the two defendants for the plaintiff's subsequent long detention in various institutions

Dr Bond, in his evidence, said that on the day in 1912 (December 14th) when the plaintiff called at the office of the Commissioners he formed the opinion that the plaintiff was of unsound mind and unfit to be about unattended The jury has now found, on the evidence it heard, that he was not of unsound mind at the time and was fit to be at large The jury's answer to question 5, in which the words "honestly believe" occur, must be taken in connexion with its answers to other questions There was no doubt raised as to Dr Bond's integrity, in which the medical profession and all who know him have the greatest confidence What we understand the jury's answers to mean is that in its view Dr Bond did not take sufficient care to ascertain the facts, and acted on a mistaken belief that the plaintiff had escaped from his brother's charge, and that Dr Adam, the medical director of the private mental hospital, had retained the power to take the patient back Mr Morris, one of the counsel for Dr Bond, in the course of the legal arguments after the verdict had been given, traversed these findings, contending that there was no evidence that Dr Bond did not believe the plaintiff to be of unsound mind at the time or that he did not take reasonable care to ascertain the true facts The essence of the accusation against Dr Bond was that on a certain day in December, 1912, he wrongfully detained the plaintiff for several hours at the offices of the Commissioners in Lunacy and caused him to be sent back on that day to a private asylum he had been allowed to leave on probation, it was contended that Dr Bond was in consequence responsible, jointly with Dr Adam, the medical superintendent of the asylum, for the plaintiff's subsequent detention in that and various other institutions for the following eight or nine years We do not propose to distinguish between the case against Dr Adam and that against Dr Bond under this head, and as we read its answers neither did the jury, although in its assessment of damages it awarded a larger amount against Dr Bond than against Dr Adam Exactly in what respect Dr Adam violated the legal obligations upon him is not at present clear to us, as we read the judge's observations he attached blame to Dr Adam mainly on the ground that he did not have a consultation with Dr Bond before resuming charge of the plaintiff

The Attorney-General, in the course of the remarks he made in opening and again in closing his case for the defence, made it clear that he was concerned from two points of view first, as counsel for Dr Bond, for whom he appeared because Dr Bond was one of the Commissioners in Lunacy, and what he did was as representative of the body of Commissioners, and, secondly, as law officer to the Crown he was concerned anxiously to consider how such a state of things as was disclosed during the hearing could be prevented in future As counsel for Dr Bond he contended that it was impossible to conceive that all the doctors, inspectors, and visitors who saw the plaintiff during the early years of his confinement could be wrong in the opinions they formed, but he did not contend that during the later part of his confinement the plaintiff was of unsound mind It was, we gather, the continued detention of the plaintiff that caused the Attorney-General anxiety as a law officer

This brings us back to the aspect of the case which is of such very serious import for the medical profession A medical certificate or opinion has reference to the condition of the patient at the date on which it

is given The medical profession has assumed that its duties and responsibilities with regard to a person of unsound mind ended there, and that the elaborate safeguards established in law would ensure the discharge of the patient if and when he recovers We seem now to be told that this assumption was mistaken

Regarding the case generally in all its aspects, it is clearly one of great importance to the profession, affecting the interests and peace of mind, not only of those members of the profession specially concerned with the treatment and custody of persons alleged to be of unsound mind, but also the general body, any one of whom may at any time be called upon to express an opinion and to give a certificate as to the state of an individual patient We can say no more at the present time pending the result of the appeal of which notice has been given, but, as will be seen from an announcement elsewhere, the British Medical Association is taking the lead in calling a conference on Friday next, to which other medical bodies have been invited to send representatives

SYNTHETIC DRUGS

THE article on synthetic therapeutic agents by Sir William Pope Professor of Chemistry in the University of Cambridge, published this week (p 413), suggests rather serious considerations regarding the present position of pharmacological research in this country A general review of the advance made in physiology and pharmacology in the past twenty years would show that the British school of physiology has initiated a large proportion of the most important advances made in this science, and that British pharmacologists and chemists have done much important work in analysing the action and isolating the active principles of known drugs Such a position is satisfactory since this country can claim to have done its share, and even more than its share, in the task of advancing these branches of human knowledge Unfortunately our position is very different as regards the production of new synthetic remedies, for whilst numerous important new drugs have been prepared in Germany, France, and America, the British contribution has been very small indeed

The reason for the British failure in this last field is we believe, to be explained in the following way British science has taken a high place in the world in those subjects where advance has depended upon individual brilliancy alone, but where such individual brilliance has required to be supplemented by research organized on a large scale, British science has done relatively little Organization on a large scale is absolutely essential for the discovery of new synthetic drugs of value We have at present only glimmerings as to the relations between chemical constitution and pharmacological action, and hence the only way of finding new drugs is the very laborious method of trial and error This means that to produce a single successful new remedy it is necessary to synthesize hundreds of new compounds, to test each compound biologically, and finally to test a few carefully selected drugs clinically

This means, of course collaboration between organic chemists, pharmacologists, and clinicians, and also it means laboratory work on a large scale Sir William Pope points out that we have *no organization* in England for arranging such work, that this work must be done if we are to hope to produce new synthetic remedies, and that it is absolutely essential that we shall not continue to remain indefinitely in our present position of dependence on Germany and other foreign countries for the discovery and manufacture of these remedies

We have long been accustomed to receiving a stream of new drugs from Germany, and as long as only such remedies as hypnotics, local anaesthetics, etc , were concerned, our position, although not very creditable, was not very serious Ehrlich's discovery of salvarsan proved, however, that new parasiticidal remedies of enormously increased efficiency could be discovered if only a sufficiently long and patient search were made Similar investigations have resulted recently in the discovery of two new important remedies for sleeping sickness — namely, Bayer 205 " in Germany and tryparsamide in America It is no exaggeration to say that the development of tropical countries, and particularly tropical Africa, depends upon the discovery of efficient remedies for the parasitic diseases that afflict the populations of these regions As regards trypanosomiasis, the Germans have claimed that ' Bayer 205 is the key to the development of tropical Africa Moreover in the case of ankylostomiasis, leprosy, and bilharziasis we are still largely dependent for treatment upon drugs occurring naturally, and there is every reason to suppose that organized research would in these cases also yield remedies of increased efficiency

This country is responsible for the welfare of a very large proportion of the human race living in the tropics, and it is deplorable that we should be in the main dependent upon outside sources for the discovery and manufacture of the remedies necessary to maintain this population in health The case of sleeping sickness is particularly glaring We are responsible for about half the total population liable to infection, and only two new remedies of proved efficiency have been discovered—one in Germany and one in the United States, neither of them a country that owns a square foot of Africa

Sir William Pope attributes the present unsatisfactory state of things to a lack of correlation between the organic chemist and the pharmacologist, and suggests as a first step towards remedying this unsatisfactory state of things the appointment of an advisory committee This is an excellent suggestion, and should produce valuable results At the same time we would put forward a plea for the extension of facilities for pharmacological research Searches for new synthetic remedies, if they are to have a reasonable chance of success, must be made on a large scale, for when such a search is undertaken it is probable that hundreds of preparations will have to be made by organic chemists and tested biologically by pharmacologists before a single substance suitable for clinical use is found Extensive biological tests of this nature require a large skilled staff and there are few institutions in this country with an adequate staff for such work The subject of pharmacology has been distinctly neglected in this country and this neglect is largely responsible for the unsatisfactory situation to which Sir William Pope has so opportunely called attention

LISTER MEMORIAL

THE memorial to Lord Lister which has been erected in Portland Place will be unveiled on Thursday, March 13th, at 11 30 a m by the President of the Royal Society, Sir Charles Sherrington, G B E Subscribers to the fund are invited to attend The memorial was executed by the late Sir Thomas Brock, R A , and forms part of the public commemoration of Lister's work decided upon at a

meeting held at the Mansion House in October, 1912 Besides this monument, a tablet with medallion and inscription has been placed in Westminster Abbey, and an international Lister memorial fund has been established for the advancement of surgery In order to carry out the scheme for the establishment of a memorial fund it was resolved, at a meeting held in July, 1920,[1] to award a sum of £500, together with a bronze medal, every three years, in recognition of distinguished contributions to surgical science, the recipient being required to give an address in London under the auspices of the Royal College of Surgeons of England The award will be made by a committee consisting of members nominated by the Royal Society, the Royal College of Surgeons of England, the Royal College of Surgeons in Ireland, the University of Edinburgh, and the University of Glasgow The Lister Memorial Fund still has its offices at the Royal Society (Burlington House, London, W 1), and Mr F A Towle, assistant secretary to the Royal Society, is acting as secretary The honorary secretary of the executive committee is Sir John Rose Bradford But eventually the Royal College of Surgeons of England will become the trustees and administrators of the fund

RADIOLOGICAL STANDARDIZATION

From the National Physical Laboratory there has just reached us a pamphlet[2] setting forth the tests and measurements undertaken in the radiology division, together with the reports of the X-ray and Radium Protection Committee This edition replaces pages 27 to 30 of the Physics Department Test Pamphlet, which was issued in October, 1920 A report of the work carried on by the National Physical Laboratory up to the end of 1923 (p 1106) appeared in our columns of June 30th, radiology division, and included a note on the work in the division The new pamphlet contains the conditions attached to the standardization of radium preparations, and the inspection of *x*-ray and radium departments to determine whether they conform to the regulations laid down by the X-ray and Radium Protection Committee The Committee insists that a primary precaution in all x-ray work, whether with stationary or portable sets, is to surround the *x*-ray bulb itself as completely as possible with protective material equivalent to not less than 2 mm of lead, except for an aperture as small as possible for the work in hand The protective measures recommended are dealt with under the following sections The first deals with *x* rays for diagnostic purposes, including the construction of the diaphragm and fluorescent screen, and the use of protective screens, aprons, gloves, and goggles The second, on *x* rays for superficial (low voltage) therapy, describes sets of apparatus giving a maximum peak voltage of 100,000, and advises that cubicles should not be installed when equipping new *x*-ray departments, but that the precautionary measures for deep therapy should be followed Where the cubicle system already exists instructions are given with regard to light, ventilation, position of controls, height and nature of walls and windows Small cubicles are not recommended for *x* rays for deep (high voltage) therapy, but large, well ventilated rooms The *x*-ray bulb should be enclosed as completely as possible with protective material equivalent to not less than 3 mm of lead, and a separate enclosure, containing all controls, should be provided for the operator as far as possible from the *x*-ray bulb, its walls and windows should be of material equivalent to not less than 3 mm of lead The fourth section—on electrical precautions in x-ray departments—deals with the nature of the floors, conductors, and the insulation and earthing of all wires and metal parts, it is pointed out that arrangements should be made to render the accidental closing of switches impossible It is strongly recommended that an *x*-ray department should not be below the ground level, and not less than 11 ft in height All rooms, including dark-rooms, should be capable of being easily exposed to sunshine and fresh air when not in use, dampness should be avoided and adequate ventilation secured, preferably by artificial means The preceding recommendations apply also in most cases to the use of *x* rays for industrial and research purposes Instructions are given with regard to the manipulation of radium and its storage for therapeutic purposes The Committee advises that wherever possible tests should be made periodically—for example, every three months—of the blood of the personnel, so that any changes might be recognized early The National Physical Laboratory is prepared to engrave or mark otherwise its monogram and the year of testing on all appliances which provide the full measure of protection defined by the Committee Further, it is recommended that in planning radiological departments advantage should be taken of the assistance offered by the laboratory, and its advice obtained with regard to unsatisfactory working conditions in existing *x*-ray departments Manufacturers of apparatus are invited to co-operate with the Committee by arranging for testing of all materials and equipment, and by providing specifications based on certificates or reports issued by the National Laboratory stating the degree of protection in terms of the equivalent thickness of lead Heads of *x* ray departments are urged to insist on complete inspection by the National Physical Laboratory of all imported materials and apparatus

[1] BRITISH MEDICAL JOURNAL July 24th 1920 p 132.

[2] *The National Physical Laboratory Teddington Middlesex Physics Department Radiology Division—Tests and Measurements undertaken together with the Reports of the X ray and Radium Protection Committee* January 1924

MELANURIA IN THE ABSENCE OF MELANOTIC GROWTHS

In our issue of January 26th (p 162) attention was called to a case of hepatic cirrhosis described by Peter, who considered it unique on account of the absence of any melanoma, and explained its appearance on the supposition that from the dark skin of the patient Haden and Orr, in a paper on melanuria in the absence of melanotic tumour, report twelve cases of melanuria, in none of which was there any reason to suspect the presence of a melanoma, and in two of which this causal factor was excluded by a necropsy These cases of pernicious anaemia presented certain chemical features—namely, a low chloride content of the blood and urine, a high excretion of nitrogen, and a raised non-protein nitrogen content of the blood fall in the sodium chloride content of the blood, and, at a certain level there follows a well marked loss of body protein, probably because it is no longer from the action of proteolytic ferments always in the body, the result is the production of oxyphen from which melanin is produced by the action ferment tyrosinase In experimental anaphylaxis in rabbits the same chemical changes are present and melanuria was found by the authors The chemistry of melanin is considered at some length, and a bibliography of cases in which melanuria has been reported in the course of melanotic growths are quoted, but in some of these at least it is doubtful if melanin was really present In the cases examined by Haden and Orr the melanin was precipitated from the urine by Helman's method, and the presence of other pigments, such as alcapton body, indican, and oxidation products of phenols, was eliminated It is therefore obvious that the detection of melanuria does not prove the presence of melanotic tumour, and

[1] Haden R L and Orr, T G *Johns Hopkins Hosp Bull*, Baltimore 1924 xxxv 58-63

further, that the association of an enlarged liver does not make it absolutely certain that it is due to melanosis, for it may be found in non melanotic growths or in cirrhosis Melanuria in the absence of a melanoma is characteristic of a specific type of protein destruction which may occur in very different clinical conditions

A LEICESTERSHIRE HEALTH ASSAY

THE Leicestershire Insurance Committee, taking into consideration the fact that the National Insurance Act not only deals with the treatment of disease, but has also delegated provisions for reducing sickness and disablement by removing their preventable causes, has commenced an inquiry into the incidence of sickness and disablement by issuing a series of questions to insurance practitioners The results of the inquiry have now been published The two points chiefly emphasized are the desirability of continued and increased activity in health propaganda, including spreading in a simple form the elementary rules of health, particularly among school children, and the fact that the rural areas are far more unhappily situated with regard to housing conditions than urban areas, implying that the local councils should give earnest attention in the future to these rural areas All the practitioners were agreed that respiratory diseases were among the most frequent ailments, and they attributed them to damp clay soil and damp, ill ventilated houses with no damp proof courses in the walls Digestive troubles, due to neglected teeth, were also very common, infectious diseases in children were prevalent, and also rheumatoid arthritis Nearly all the replies insisted that more houses were needed, that there was much overcrowding in both villages and towns, and that the housing conditions and sanitation were generally unsatisfactory The factory conditions seemed, however, to be quite good There were not many severe accidents in limestone quarries, and still fewer in granite quarries, but in collieries large numbers of accidents occurred, and considerably increased national insurance work With regard to the maternity benefit, the general trend of opinion was in favour of a considerable strengthening of this provision on the lines of medical benefit, the recommendations included the payment of regulated fees to the medical practitioner and midwife on an approved scale, further development of the ante-natal service, adequate nursing after confinement, and provision for extra nourishment In connexion with tuberculosis the general view of practitioners was that the conditions for domiciliary treatment were most unsatisfactory Insufficiency of money had greatly restricted both the preventive and the curative sides of the work, which, in the case of surgical tuberculosis, was most inadequate It was suggested that, while there was no distinct evidence of the existence of cancer houses, yet this disease seemed to be more prevalent definitely in some villages than in others The Leicestershire Insurance Committee is to be congratulated on the initiative it has shown in carrying out this inquiry and publishing the valuable results, both statistical and otherwise, that have been brought to light

MALARIA AND PLAGUE IN RUSSIA

MALARIA is the most widely distributed disease in Russia at the present time In January to October, 1923, there were 4,887,000 cases, and in the corresponding period in 1922, 2,880,000 only Even these large figures probably represent only the more severe cases Malaria has always been very severe in Russia, the pre-war figures were always over 3,000,000 annually The most severely infected region is on the Volga, where the incidence per 100,000 of the population has risen as high as 44,600 Observations made by the Friends Relief Unit at Buzuluk, near Samara, go to show that the epidemics of severe malignant malaria are of recent origin A Pan-Russian Malaria Conference was held in Moscow in January of this year, and called attention to the fact of the large number of children infected The shortage of quinine is acute, as it is estimated that 300,000 kilograms are required in 1924, and only 50,000 kilograms will be available Under these conditions, and taking into account the increasing severity of the disease and the increasing area of infection, the possibility of an invasion of Western Europe becomes a matter of grave concern With regard to plague in Russia, we understand that a small epidemic of plague has been reported in the Kirghiz Republic and Kalmuck region, to the east of the Volga and north of the Caspian Sea Between October 1st, 1923, and January 15th, 1924, 379 cases of plague were reported, with 324 deaths In 257 cases a bacteriological diagnosis was made, and of these 123 were bubonic, 115 pneumonic, and 19 mixed A concomitant epizootic amongst mice and camels is thought to have been responsible Five suspected cases of plague are reported from the Astrakhan government on the west of the Volga, and the Russian Government during the last month has voted a sum of £10,000 (100,000 gold roubles) for antiplague measures The outbreak is said to be abating For purposes of comparison it may be noted that from November 11th to December 8th, 1923, there were 15,575 cases of plague in British India, and 11,398 deaths

INFANT MORTALITY IN AN INDUSTRIAL TOWN

THE continuous and persistent reduction in the mortality among infants during the present century is a marked feature in the vital statistics not only of the British Isles, but of most parts of the British Empire and of the United States of America The usual method of expressing the rate of infant mortality is to state the deaths under one year of age registered during a particular year in proportion to 1,000 births registered in the same period The accuracy of this method depends upon the completeness of birth and death registration, and also upon an unfluctuating number of births year by year In Great Britain registration is very complete, and there cannot be many births or deaths which escape registration, and we may therefore conclude that the decline in the infant mortality rate in this country is real In his report for 1922 on maternity and child welfare in the county borough of Newport (Monmouthshire) the medical officer of health, Dr J Howard Jones, records the remarkable fall in the rate of infant mortality from 153 per 1,000 births in 1904 to 64 in 1922 This decrease was coincident with the creation of welfare centres and clinics, of which there are now five in various parts of the town, the last two being opened in 1916 The clinics are staffed entirely by the council's officers, the medical officer being Dr Minna A Benner, who has the assistance of five health visitors and one nurse The welfare centres, though under the supervision and direction of Dr Howard-Jones and Dr Benner, are controlled and managed by a committee consisting partly of members of the corporation health committee and partly of non-members, and there is a rota of voluntary helpers at each centre During the year in which the centres were opened the attendance of about 600 mothers, infants, and children was registered This number had increased to over 3 000 in 1922, there has been no falling off but apparently a very considerable increase in their popularity Many instructive tables of statistics are given in the report, covering a series of years They include information as to the causes of death in various groups of diseases, and the relative frequency with which breast milk and artificial food are given There can be little or no doubt that the work of the clinic and of the welfare centres, and of the health visitors generally, is very largely responsible for the diminished mortality among infants, but we should like to have been told to what extent environment should also be taken into account To this end a record of the infant

mortality rate in the various wards of the town, with some indication as to those in which the poorer classes are living, would be of interest Such a record would not diminish the value of the work carried out at the centres, but in all probability would act as a stimulus to still further and more extended activities

THE OLDEST SWEDISH PHARMACOPOEIA

IN a paper read at a meeting of the Upsala Medical Society Dr E Louis Backman[1] entertained his audience with an account of the contents of the oldest Swedish pharmacopoeia, which was published in 1686 at the instance of Charles XI of Sweden, and through the medium of the *Collegium Medicum* Though this institution was collectively responsible for the work, it seems to have fallen chiefly on one of its leading members, Johannes Martius Ziervogel This pharmacopoeia—*Pharmacopaea Holmiensis Galaeno-Chymica*, to give it its full title—served its purpose so well that it was not till 1775 that a new edition, or version, was published, this time at the instigation of the *Collegium Medicum*, which was responsible for the text The list of remedies to be found in the first edition is most imposing Fats figured prominently, not only the fat of man, but the fat of the wild cat, dog, wolf, badger, pig, hen, goose, snake, and pike Another group of remedies consisted of ivory, the horns and hoofs of the elk, fossil horns, bones of man, snakes, and fishes, parts of the wild boar, and the horn of a unicorn Dr Ziervogel's account of the therapeutic virtues of the horn of a unicorn would seem, like his account of most of the other remedies in his pharmacopoeia, to have been cribbed from much older works, and Dr Backman has traced the unicorn as a remedy as far back as the royal physician Ktesias, who was attached to the person of Artaxerxes II (about 400 B C) Another remedy was the cross-shaped bone sometimes to be found in the heart of a deer, it was, of course, used in the treatment of diseases of the heart, and, thanks to its shape, it had spiritual as well as material healing properties Another lot of remedies included frogs and spawn, earthworms, snakes, scorpions, ants, beetles, cobweb, and various kinds of centipede Mention of the generative organs of the deer and wild boar suggests that the value of certain internal secretions was dimly appreciated even in the seventeenth century Yet another category of remedies included nearly all the best known precious stones The famous teriak, which belonged to remote antiquity, was given a place of honour in this pharmacopoeia, which directed sixty-six different ingredients to be used, the most important being the flesh of snakes Still more impressive was the *Tinctura Benoartica ex Herbis*, which contained seventy-nine different ingredients, including twenty-seven different kinds of roots We may be tempted to think slightingly of the conscientious seventeenth century physician who, having prescribed a brown centipede, realized that all the indications were in favour of the exhibition of a yellow millipede, but it is profitable to reflect on what our descendants will in their turn think of the therapeutics of the present time

THE OXFORD UNIVERSITY PRESS

A REMARKABLE tribute to the purpose and enterprise of the Oxford University Press was paid on March 4th, when the Delegates entertained a distinguished party at luncheon in the new house, near Paternoster Row, which they have opened as the London depot of the Press Marquess Curzon of Kedleston, Chancellor of the University, was in the chair, and the speakers were Earl Balfour, Chancellor of the University of Cambridge, the Archbishop of Canterbury, and Mr H H Asquith The new premises will be known as Amen House, after the Corner the London offices have hitherto occupied The main entrance of the new building is in Warwick Square, opening off Warwick Lane, a few paces from the site on which the Royal College of Physicians built its house after the Great Fire in 1666, and where it remained until 1825 Another historical connexion is to be seen in the basement, where a piece of London wall has been left uncovered, showing unmistakable Roman brick embedded in massive rubble The increased space at disposal renders it possible to have two showrooms—the one for Bibles and Prayer Books, and the other a large room in which a representative collection of the secular books published by the Press will be shown On the upper floors in Old Bailey, with which the main building is in communication, are large stock-rooms conveniently arranged The Archbishop sketched at some length the history of printing, its influence on the development of civilization, and the policy, at once wise and disinterested, which the Oxford Press had followed There was not, he said, a man of letters—and, he might have added, few, if any, members of the medical profession within the British Empire—who had not in constant use one at least of the books, and possibly many, which emanated from the Oxford University Press By the judicious conduct of the commercial side of its business it had, during the last half-century, been able to devote large sums to the publication of works, some of them very costly and others appealing only to a small audience, which would not have been published through the enterprise of private firms He referred in particular, as did Mr Asquith and Lord Curzon when they came to speak, to the *New English Dictionary*, the first volume of which, edited by Sir James Murray, was published in 1884 The second part of the ninth volume, bringing the alphabet down to the end of "Th," appeared in 1919, and Lord Curzon said that upon the last volume, which is now approaching completion, £50,000 had been spent The University Press, he went on to say, still had its printing establishment in Oxford, which is the seat of its productive activities, but the new premises in which the company were gathered would be used for distribution, and the work performed in this respect during the past by Mr Henry Frowde, and now by Mr Humphrey Milford, was not the least of the things of which the University had cause to be proud References were also made to the new edition of Liddell and Scott's Greek Lexicon, which is in preparation, and Lord Balfour, in the course of a humorous response to the toast of the University of Cambridge, said that he trusted that that University had shown itself not unworthy of a scholarship which was ministered to by Liddell and Scott He most heartily congratulated all Oxford men upon the immense enterprise of their University in undertakings, some of which were absolutely unrivalled either in this country or any other

LEAGUE OF NATIONS HEALTH TRACTS

IN connexion with the visit to this country of medical officers of health from foreign lands, several pamphlets have been prepared for the Society of Medical Officers of Health Three are by officers of the Ministry of Health, the subjects and authors being English port sanitary administration, by Dr Richard Reece, C B, antituberculosis measures in England, by Dr F J H Coutts, C B, and administrative control of the purity of food in England, by Dr A W J MacFadden, C B The fourth is entitled "Notes on public health organization in England," and its author is Dr Charles Porter, M O H Marylebone This is the longest of the series, and has reached a second edition The pamphlets are neatly produced in uniform style, with firm paper covers, convenient for the pocket, so that our foreign guests can refer to them at any time in relation to the particular subject which may be occupying their attention The text is admirably fitted for the purpose, providing a clear, compact, well arranged, business-like account of the question dealt with, so that

[1] *Upsala Läkareforenings Forhandlingar*, January 15th 1924 p 63

even a reader who supposes himself fairly well acquainted with the subjects will find that he wants to read right through whichever he takes up in order to get an orderly grasp of it, as set forth in each case by an administrative expert. The pamphlets do not appear to be on sale, but they ought to be, and their availability should not be confined to health officers, whether home or foreign. The members of every port and riparian sanitary authority in the country should have a copy of Dr. Reece's pamphlet, those on tuberculosis and on foods should be in the hands of every member of the appropriate committee, and we believe that each member of every public health authority in the country would learn something he has not fully grasped already by perusal of Dr. Porter's excellent account of all the detailed services comprised within local health administration as now carried on. The Ministry of Health itself issues from time to time, in addition to Sir George Newman's annual volumes, many valuable reports on public health subjects, but so far as we have observed it has hardly taken up the particular kind of publication exemplified in these tracts. Why should it not do so? "Always be planting a tree: it will grow whilst you're sleeping" is good advice, and so the Civil Service, which has so often in these days to be educating new masters, should take in hand to some further degree the education of the local authorities throughout the country. Education always pays in the end.

CAMBRIDGE GRADUATES MEDICAL CLUB

THE members of the Cambridge Graduates' Medical Club dine together once a year in the summer. The dinner is usually in London, but last year it was held at Cambridge, in the hall of Caius College. On Saturday, March 1st, the club broke new ground by attending a smoking concert in the Governors' Hall of St. Thomas's Hospital. An exceedingly amusing and artistic programme was provided by Dr. J. B. Maxwell, resident assistant physician to the hospital, who "presented" his versatile troupe of actors and singers in an original revue entitled *Mustard Leaves*, which was first produced at Christmas time. The president of the club, Sir Humphry Rolleston, P.R.C.P., took the chair, and the members were informally welcomed by Sir Arthur Stanley, treasurer of the hospital. At the end of the evening Sir Humphry Rolleston briefly expressed the thanks of the club to all who had taken part in a most finished performance, and congratulated St. Thomas's Hospital Medical School on possessing so much musical and dramatic talent.

CONFERENCE ON LUNACY CERTIFICATION AND MEDICAL RESPONSIBILITY

SOME aspects of the action Harnett *v.* Bond and Adam, a detailed report of which is published at page 449, are briefly mentioned above (p. 432), and, as notice of appeal has been given, any fuller discussion would be undesirable. But having in view the great importance for the profession of the questions raised during the course of the case, a conference to consider the position is being called by the British Medical Association for Friday afternoon next, March 14th. The Association will be represented by its officers, together with the Chairmen of the Medico-Political and Parliamentary and the Central Ethical Committees, and the members of the Parliamentary Subcommittee. Invitations to take part in the conference have been sent to the President of the Royal College of Physicians of London, the President of the Royal Society of Medicine, and the medical members of Parliament, including, of course, Lord Dawson. Invitations to send representatives have also been addressed to the Medical Defence Union and the London and Counties Medical Protection Society, the Medico-Psychological Association, and the Medico-Legal Society. The object of the conference will be to consider not only the effects of this case upon the medical profession, but also what action should be taken by the profession in the public interest in view of the inquiry promised by the Prime Minister.

INFLUENZA

IN the week ending February 23rd the deaths from influenza in the great towns reached the figure of 626. This, failing a considerable extension of influenza in the north-west, is likely to be the maximum of the present recrudescence, the deaths in London ascribed to influenza already show a decline—*from* 178 *to* 148. *After London, Nottingham* (26), Bristol (25), and Sunderland (25) had the largest totals. Notifications of pneumonia are already declining, the maximum was in the week ending February 9th. The figures for the three weeks beginning with that week were *England and Wales*, 2,229, 2,175, 2,089, London, 435, 405, 329. The relative immunity of Lancashire in the present epidemic has been remarkable. In the week ending February 23rd Liverpool was the only city in the geographical county returning more than 10 deaths from influenza, Manchester had only 4.

THE EPITOME

OWING to the great pressure upon our space this week, due mainly to the report of the action Harnett *v.* Bond and Adam, the EPITOME OF CURRENT MEDICAL LITERATURE does not appear.

DOMINIONS HOSPITALITY COMMITTEE

IT was announced last week that a Dominions Hospitality Committee was being formed to welcome members of the medical profession from the Dominions and Colonies who will visit London during the time that the British Empire Exhibition is open at Wembley. The Committee has now been constituted as follows:

Sir WILLIAM HALE WHITE, K.B.E. (President of the Royal Society of Medicine) *President*
Sir BRUCE BRUCE PORTER, K.B.E. (President of the Hunterian Society), *Vice-President*
Sir HUMPHRY ROLLESTON, K.C.B. (President of the Royal College of Physicians)
Mr. H. J. WARING (Vice-Chancellor of the University of London, Vice-President of the Royal College of Surgeons)
Mr. C. P. CHILDE (President of the British Medical Association)
Surgeon Vice-Admiral J. CHAMBERS, C.B. (Director-General Medical Department R.N.)
Sir WILLIAM LEISHMAN, K.C.B., K.C.M.G. (Director-General A.M.S.)
Air Commodore DAVID MUNRO, C.I.E. (R.A.F.)
Dr. HERBERT SPENCER (President of the Medical Society of London)
Sir WILLIAM WILLCOX, K.C.I.E. (President of the West London Medico-Chirurgical Society)
Dr. REGINALD DUDFIELD (President of the Harveian Society)
Dr. CREWDSON THOMAS (President of the Chelsea Clinical Society)
Mr. JOSEPH CUNNING (President of the Australian and New Zealand Medical Society in England)
Mr. DONALD ARMOUR, C.M.G. (Canada)
Dr. H. A. ELLIS (Australia)
Sir JOHN MACALISTER (Secretary, Royal Society of Medicine)
Sir SQUIRE SPRIGGE (Editor of the *Lancet*)
Sir DAWSON WILLIAMS (Editor of the *British Medical Journal*)
Honorary Secretaries: Mr. A. E. MORTIMER WOOLF (Honorary Secretary Hunterian Society) and Mr. E. T. MILLIGAN (Honorary Secretary, Australian and New Zealand Society in England)

It is hoped that representatives of India and South Africa and the Master of the Apothecaries' Company—to whom invitations have been sent—will join the Committee.

The Honorary Secretaries will be glad to hear as early as possible from members of the profession in the Dominions and Colonies who intend to come to the Exhibition, and the probable date of their visits. The address of the Honorary Secretaries for all correspondence is No. 1, Wimpole Street.

THE PRELIMINARY TRAINING OF THE FUTURE MEDICAL MAN

ADDRESS BY THE HEADMASTER OF WESTMINSTER

AT a meeting of the Kensington Division of the British Medical Association on February 25th, the Rev H COSTLEY-WHITE, M A, Headmaster of Westminster School, gave an address entitled "Orbilius and Hippocrates or the school training of the future medical man" Dr W E FRY presided

Mr COSTLEY-WHITE said that the title of his address had a pedantic flavour which was perhaps typical of the schoolmaster Orbilius was a very famous schoolmaster of his day, with at any rate one highly distinguished pupil, the poet Horace, who called him "the flogging (*plagosus*) Orbilius" His purpose in introducing his name in association with that of the father of medicine was simply to open up the subject of how the modern Orbilius could serve the coming Hippocrates It fell to the schoolmaster's lot to inquire of his boys what life-work they had in view, and of those who answered that they wanted to be doctors he would inquire further what particular quality of mind and spirit they thought it most necessary to cultivate The first characteristic which he would like ever to evoke in the boy who was shaping for the profession of medicine was soundness of judgement A sound judgement was very necessary to the medical man if he was to inspire confidence in those with whom he came into professional relationship Judgement was the application of character, knowledge, and skill to a given situation, and each of these three ingredients of judgement must the boy strive after What kind of things should a boy learn at school in order that his character, his knowledge, and his skill might be so developed as to mould him into a man of sound judgement?

The early training of the future medical man (Mr Costley-White continued) must be a wide training He must not begin to specialize too early, otherwise he would lose the opportunity of gaining the material and experience upon which his judgement should be based and by means of which his character should be formed Therefore medical training must be a long and expensive process—longer and more expensive than the training for some of the other learned professions But there was no need for hurry or impatience, because even if the young doctor were fully trained in a shorter period there would be an indisposition on the part of patients to trust the knowledge and skill of a very young man, of, say, under 27 years of age It was the same with the very young barrister and his clients, and perhaps with the curate and his congregation People asked for a certain maturity in the professional man to whom they had in any sense to trust themselves The education of the future medical student up to the age of 16½, then, should be a wide general education, largely literary in its character He should learn the classics, Latin, Greek—particularly Greek—English literature, one modern language, history, mathematics, and certainly some science The speaker would add also some aesthetic studies, such as drawing, and, if the lad had any taste for it, music He had met a medical man holding a position of responsibility in one of the universities who said that in his view special scientific study could be delayed with advantage even to a later age than 16½, but with the average boy one should be careful not to overdo general culture at the expense of scientific Another essential in a scientific profession was that a man should be able to express himself, both in speech and writing, and that he should, in fact, gain as wide a culture and as delicate a balance of mind as possible by the scientific method But the scientific method could be inculcated in the learning of languages and history as well as by science itself In literary studies as in scientific the student worked from the known to the unknown, used his mental faculties, drew inferences, formed judgements, and explored possibilities It was untrue to suggest that in Latin and Greek the mind was not working on scientific lines Moreover, in these studies the faculty of imagination was being developed, and imagination was not, as Mr Robert Lynd had reminded them, a "brilliant faculty of lying," but the power of seeing things which were hid[den] from the casual eye In the medical profession the p[ower] of imagination must be always at work in diagnosis and [in] treatment Imagination also had a moral as well as [an] intellectual quality It immediately preceded action [and] it was imagination which created the martyr and [the] hero, of whom medicine had known not a few

When a boy had reached a sufficient stage to pass [an] examination like the London matriculation or the Oxf[ord] and Cambridge school certificate examination he might [then] be regarded as possessing a certain basis of general cultu[re] (which would develop with his further studies and would not be left to perish), and after that point the speaker would not like to keep the boy intended for medicine any longer on the literary or classical side of the school On the definitely scientific side the boy would now emplo[y] those principles of accuracy which he had already [been] taught not to neglect Here the speaker urged the va[lue] of biology, in which a boy should be allowed to do some original creative work of his own It was probable that in our present system there was too much of what Profe[ssor] Bateson called "dead science" The speaker emphasized biology, but physics and chemistry must not, of course, be neglected With all these studies the boy must keep up his reading of scientific works, not spending too much time on the experimental side of things His general reading was important in the same connexion What could be more delightful as literature or more stimulating to the future doctor than *Rab and His Friends*, by Dr John Brown, or Pepys's *Diary*, with its occasional glimpses at the art of medicine in that time? This quite general reading would suggest some fruitful lines of thought connected with his own profession He did not think that the boy at school should be introduced to the anatomy and physiology of the human body The boy was too young for such studies, and it was necessary to deal very tenderly with the nervous and moral balance of a boy of 16 or even of 18

Then something must be said with regard to manners He had read a delightful article by Sir Dyce Duckworth who pointed out that medicine was not only a science, but also an art, not a thing *in vacuo*, but the application of skill and knowledge in particular circumstances to particular persons Therefore it made all the difference what kind of manner the physician or surgeon possessed Manners were the external expression of an attitude of mind It was one of the advantages of a literary culture that it developed taste, he was not quite sure that the same could be said of lessons which involved dabbling with test tubes To teach taste, as Ruskin said, was to form character, and with taste and character would come manners The true physician and surgeon would recognize also that science itself was not going to explain the world However deeply it probed, science could never explain the meaning of personality The scientific world was a world of phenomena in which certain sequences were found which could be listed, and from which generalizations could be made But beyond those sequences was philosophy, which would suggest the real causes and origins of things, and it was this philosophy which made the boy and the man very humble and very gentle, and would help to furnish that outlook and to form that character which would make him a worthy member of this greatest of professions

DISCUSSION

Sir ALFRED RICE-OXLEY agreed with the headmaster that the education of the future medical man should be on as wide a basis as possible Specialization should not begin too early, and, indeed, after qualification the medical man who desired to become a specialist could not do better than acquire experience as a general practitioner He could not help feeling that there had been some falling off in literary attainment by the medical profession since the eighteenth century, when many medical men of the day were literary men themselves, and were also the chosen friends of the greatest literary men of the time Like the headmaster, he emphasized the importance of manners, the possession of which often made up for lack of conspicuous talent, and the absence of which detracted from the effectiveness even of the highest ability

MR E B TURNER regretted that he had not been a member of the General Medical Council at the time when first Greek and then Latin were lopped off as compulsory subjects, so that he might have raised his voice in protest It was now possible to obtain the Fellowship of the Royal College of Surgeons without knowing any Latin or Greek at all He thought that those concerned for the future of the medical profession looked to the public schools to provide the profession with educated boys in contradistinction from taught boys He held that the boy who could wrestle with the Choruses of Aeschylus would be able to take on the hard work of this exacting profession much better than one who came to it ignorant of the classics His own training in classical literature had been of a very thoroughgoing kind From the age of 9 to 18 he had to learn by heart thirty lines at least of Latin or Greek verse or prose a day, but this labour gave him a memory which was of the greatest service to him in his practice He agreed with the headmaster that the boy should not commence his anatomy and physiology too early, it was time enough for this when he went to the hospital As to what medical men could do in the way of writing, he referred to the pleasure it gave him to take up and re read at any page Sir Thomas Watson's *Lectures*

DR CHARLES BUTTAR congratulated his old school on possessing a headmaster holding such views as Mr Costley White had expressed He agreed with what he had said about not specializing too early He thought that the lad intending to be a medical student should not dabble in science at all while at school He would make such a boy confine himself to classical, mathematical, and historical studies, and so on, and he would leave science almost alone The boys who should have a certain amount of science in their school curriculum were those who intended to enter other walks in life than medicine, because such boys would probably not get any science later on

DR D ROCHEREH held that the educational acquirement which would be of most service to medical men in after life was a familiarity with Greek prose He deplored the absence of literary style on the part of many medical men, and he contrasted to its disadvantage an article on the subject of bronchitis by a medical man in a medical journal with an article by Professor Gilbert Murray No one who read the Oxford professor's article could be in any doubt as to his meaning, but he found it difficult to discover what it was the medical writer wanted to convey Bunsen had declared that the most brilliant students in chemistry from whatever country they came, were those who had been educated in the classics

DR F C MARTLEY was a little doubtful as to the value of the orthodox classical training He was in favour of modern languages and history rather than classical studies, and he put in a word also for the study of logic

DR H H SANGUINETTI thought it extraordinary that medical men should have been against the retention of the classics as compulsory subjects, because the amount of medical literature consisting largely of classical terms was very great, and many medical treatises could hardly be read without reference to a medical dictionary He thought it a good thing that some elementary instruction in biology and kindred subjects was insisted on before students took up medicine

MR COSTLEY-WHITE, replying on the discussion, said that since the war educated opinion in England had been coming round to the view that general culture was more important up to a given age than special culture, and as a schoolmaster he had been encouraged that evening by the evidence that educated medical opinion was, on the whole, decidedly in favour of refusing to specialize a boy at the premature age which was too often demanded of schoolmasters by parents One or two speakers had said that although at school they had received a thorough grounding in classics they were unable at the end of their classical course to follow the argument of a Ciceronian speech or the bearing of a Sophoclean play But that was the fault of Orbilius entirely The classical lesson to-day was a far more human and intelligible thing than it was twenty-five or thirty years ago The task of the schoolmaster was to give his boys that "Something" (with the capital 'S") to which Sir James Barrie had referred in a recent address as characteristic of the culture of the public school, and a training in literature, and especially a training in those ancient languages, seemed better able than any other method or instrument to mould the boy's mind and enable it to get the proper angle for dealing with the hard practical questions it would have to solve He did not think that modern languages, like French, Italian, or German, had the same power, partly because, being spoken languages, they were more mobile, and therefore could not be learned with precisely the same measure of exactitude as the classical Most schoolmasters were of opinion, as a result of their experience, that if a boy had engaged his mind in working from the known to the unknown on the basis of the classical languages he would make far more rapid and intelligent progress in his science when he came to it than if at school he had gone up to the higher reaches of science without the mental exercise derived from classical study The best boys at modern subjects were the boys who had been trained in the classics and in literature of the more old fashioned kind Generally speaking, the boy who was transferred from the classics side to the science side at 16½ was able within one year to beat the boy who had come up from the science side without the classical training

Mr Costley-White was warmly thanked for his address

DIPHTHERIA

MEDICAL RESEARCH COUNCIL'S REPORT *

THE monograph on diphtheria issued by the Medical Research Council has been compiled by a group of seven bacteriologists, all of whom are in a position to speak with authority about this disease In a preliminary note published last week (p 391) we described the manner in which the book has been written, and the assiduity with which medical literature has been searched so that no contribution of merit should be omitted from this volume the aim of which is to present in a compact form all the trustworthy information we possess of the bacteriology, pathology, and immunology of diphtheria

History

The first chapter deals with the history of diphtheria, and it is interesting to notice the different names by which this disease has been known at different times Under the name of "malum Egyptiacum," Aretaeus the Cappadocian in the second century gave a minute description of a disease common in Egypt and Syria which could have been no other than diphtheria In the epidemics which swept over the Spanish peninsula in the sixteenth and seventeenth century the disease was named "morbus suffocans," or "garrotillo," from the suffocation which resembled that brought about in the Spanish method of execution by garrotting From Spain the disease spread to Italy, where, under the name of "male in canna," or "gullet disease," it established itself in an endemic form In New England a great wave of throat distemper occurred in 1735-36, and was christened "a new epidemical eruptive miliary fever" In this country at about the same time, it was known as 'putrid sore throat" but it is probable that other diseases were included under some of these descriptions also Whatever confusion may have existed before was intensified by the introduction of the word "croup" by Francis Home of Edinburgh, who issued his *Enquiry into the Nature, Cause, and Cure of Croup* in 1765 This initiated a controversy which lasted nearly a century it being maintained by some that croup was distinct from the disease described by the ancients as "angina maligna," whereas to others they were identical During this time names multiplied with bewildering profusion, and no accurate account of diphtheria was published and no solid progress made till M Bretonneau of Tours laid his celebrated treatise on the subject before

* *Diphtheria Its Bacteriology Pathology and Immunology* By Frederick W Andrewes William Bulloch S R Douglas Georges Dreyer and A B Gardner Paul Fildes J C G Ledingham C G L Wolf H M Stationery Office 1923 (Pp. 544 Price 12s. 6d.)

the French Academy of Medicine in 1821 By him the term "la diphtherite" was first given to the disease, defined as an infection characterized by the formation of a false membrane or pellicular exudate

It was the occurrence of pellicular exudates in diseases other than diphtheria that was largely responsible for the extraordinary confusion introduced into the whole subject in later years, and which led to the substitution of the word diphtheria in place of diphtherite or diphtheritis The origin of the word diphtheria in place of diphthérite is wrapped in great obscurity, and the historian of this volume, though he has been able to throw some light on the question, confesses that he has not been able to unravel it In England the word diphtheria was introduced by Farr in the Registrar-General's report for 1858 Such, then, is the story of the name a very complete history of the disease is contained in the first chapter of the report, which traces this subject through the period when clinical observation was the only means of study, on through the epoch of pathological histology, to the days of bacteriological discovery, to the development of experimental methods, and to the era of serum therapy

Morphology and Toxin Production

The second chapter of the report deals with the morphology and cultural characteristics of the organism, spoken of colloquially as the "diphtheria bacillus," but whose correct scientific name is now considered to be *Corynebacterium diphtheriae* It contains a review of the different methods of staining and cultivation of the microbe, of which five excellent coloured illustrations are provided, but since it deals chiefly with technical details we need comment on it no further

The toxin of the diphtheria bacillus and the relation of its production to the metabolism of the organism is the theme of the third chapter The bacillus, as is well known, only produces a powerful toxin in an alkaline medium, free from sugar, but though the factors which tend towards the production of a potent toxin have been intensively studied it must be confessed that even now these conditions are imperfectly understood From the standpoint of immunology the principal characteristic of the organism is its capacity to produce this poison, from the point of view of the organism toxin production may be only a subordinate feature of its metabolism Toxin production is therefore a biological problem of great interest and practical importance, and one which demands further study, for, as the report observes, "At the moment it is only by adhering rigidly to certain formulae of technique that one may hope to arrive at a satisfactory product, and even with the most careful work and attention to detail, some batches of toxin do not come up to the standard of potency demanded by the maker of antitoxin Certain factors are still beyond control, and until these are elucidated the problem of making toxin on an entirely satisfactory basis will not be solved" The practical details of the technical manufacture of toxin are outlined by the report, special attention being given to the question of preservation, concentration, and the direct measurement of toxin

Antitoxin and other Antibodies

Antitoxin is the product only of the activity of living cells, its protective and curative properties are dependent upon its power to neutralize toxin either formed by the bacilli living in the body or artificially introduced Of the exact chemical composition of antitoxin we are still in ignorance, but one fact has at least been established—that it is associated with the globulin fraction of the serum Many different methods of producing a powerful antitoxin have been tried, but the most satisfactory still remains the injection of sterile toxin into a large animal, such as a horse, proved to be free from tuberculosis and glanders Recently a method has been adopted at Copenhagen for increasing the antitoxin power of the serum by the intravenous injection of manganic chloride The increase in the antitoxin powers of the blood of immunized animals takes place very rapidly, reaching its maximum within one or two hours of the injection By this means a falling antitoxin curve can be temporarily raised to a height which may sometimes even exceed the previous maximum This procedure, adopted as a routine at Copenhagen since the spring of 1920, has resulted in a valuable increase of the mean antitoxin value of the serum obtained

The methods which are sometimes adopted for the concentration of antitoxin are unfortunately also associated with a concentration of other constituents of the serum, such as the proteins It would be a great advantage if it were possible by purification to rid the serum of its non-antitoxin nitrogenous matter, and particularly of the substances which cause rashes and serum sickness Concentrated antitoxin is certainly a satisfactory fluid for intravenous injection, but when an antitoxin of increased protein concentration is given subcutaneously or intramuscularly the low rate of absorption may tend to counterbalance the other advantages

To explain the phenomenon of the neutralization of toxin by antitoxin several hypotheses have been propounded, but none has met with universal acceptance The reaction does not take place immediately, but requires an appreciable time at ordinary room temperature to reach completion Once united, a compound or association of toxin and antitoxin is formed which can only be dissociated by a combination of physical and chemical agencies, such as is not found in the living organism Possibly an advance in the field of physical chemistry may lead to a better understanding of the phenomenon

The other antibodies which may be present in antitoxin serum, such as antiendotoxin, agglutinins, bacteriolysin, opsonins, and bacteriotropins, are undeniably of little importance compared with the antitoxic property In fact, the existence of many of these is questionable, and it is safe to say that the only antibacterial property possessed by an antitoxin serum with any constancy is that of stimulating phagocytosis, and it is not certain that this is due to substances distinct from the antitoxin

Diagnosis of Diphtheria

"There is good reason for the belief that much of the laboratory work in diphtheria diagnosis at present carried out is not of the high standard which could be desired" So says the preface to the report Chapter VI gives some reasons for this statement, and contains some wholesome advice to the clinician as well as the pathologist The diagnosis of the disease diphtheria is the province of the clinician alone, he cannot transfer the responsibility to the shoulders of the pathologist merely by posting a swab to the laboratory All that the pathologist can do is to state whether or not he has succeeded in detecting the microbe This information may be of the utmost importance to the clinician in making up his mind, but it is only one factor out of many in diagnosis Taken by itself it may be misleading It is obvious that the failure to find diphtheria bacilli does not prove that the patient's throat is free from these organisms it should be remembered also that the presence of these microbes does not prove that the case is one of diphtheria, for the patient may be a carrier of the bacillus suffering from some other disease, such as scarlet fever If the clinical aspect of the case warrants a diagnosis of diphtheria the clinician will rightly persevere in the use of antitoxin treatment in face of a negative laboratory report, he may elect to regard the case as one of scarlet fever even though the diphtheria bacillus is present With such decisions the bacteriologist has nothing whatever to do Undoubtedly cases of diphtheria occur in which diagnosis is impossible apart from bacteriological assistance, but in more than half the cases, it is said, a diagnosis can reasonably be made on purely clinical grounds, as it necessarily had to be before the bacillus was discovered Antitoxin must be administered in any case where reasonable suspicion exists, the only justification for awaiting a laboratory report is where the presumption is on the whole against diphtheria Any harm done by possibly sensitizing with horse serum those who turn out not to be cases of diphtheria is far outweighed by the injury inflicted by withholding antitoxin from those who are truly suffering from the disease

So much for the clinician The bacteriologist now comes in for some advice The positive report, which is

given after twenty four hours' incubation of a culture from a swab, is only a presumptive diagnosis of the organism Based as it is on morphological characters alone, it is not in any sense of the word an identification of the bacillus, and, though likely to be correct in cases of acute sore throat, in all other circumstances it is beset with fallacies When the specimen is taken from a sore throat verification is not necessary as a routine, but in every other case verification is imperative If it is omitted in swabs from the nose, ear, or eye, or in contacts or suspected carriers, grave error is sure to creep in frequently The process of verification consists in isolating the suspected bacillus in pure culture and then submitting it to certain routine tests, amongst which that of virulence is the most important and decisive

Serum Treatment of Diphtheria

The method most commonly used for the therapeutic application of antitoxin is that of subcutaneous injection It is the easiest method, but in all other respects inferior to intravenous and intramuscular injection The absorption of antitoxin into the blood is much slower from the subcutaneous tissues than from muscles, and a smaller proportion of the injected antitoxin reaches the blood than with the intramuscular or intravenous route The disadvantage of the intravenous method is that severe but transient symptoms follow more frequently than after intramuscular or subcutaneous injections more particularly if the patient has been injected with antitoxin at some previous date This complication may best be avoided by slow injection (10 to 20 c cm in twenty minutes), the subject being carefully watched so that the treatment may be stopped immediately should any untoward symptoms manifest themselves The question of the accidents of serum treatment is analysed very minutely in the chapter of the report dealing with treatment

Two very different types of disturbance may follow serum injections These are serum sickness and sudden collapse after an injection In serum sickness the main symptoms appear after an incubation period of eight to twelve days, towards the end of which time there are sometimes prodromal symptoms such as itching and redness at the site of injection, and swelling of the neighbouring lymphatic glands The most constant feature of the disorder is an itching skin rash, most commonly of an urticarial nature, but sometimes scarlatiniform or morbilliform, this is often accompanied by slight fever and aching pains Sudden collapse after an injection is quite another type of disturbance which is fortunately only encountered on rare occasions During eleven years over 50,000 persons in New York City were injected with antitoxic serum, and only two cases of sudden death after the injections were recorded Such collapse, as previously noted, occurs rather more frequently when the intravenous route is used and when the patient has had one or more previous injections Of late years it has been the custom to apply the term "anaphylaxis" to the various accidents which follow the injection of antitoxin The report observes, "It seems quite unjustifiable to include the phenomena of serum sickness under that category, and even the rarer cases of acute collapse fail to conform at all closely with the classical notion of anaphylaxis as experimentally established" It is doubtful whether true anaphylactic shock ever occurs in man, and it is suggested that the accidents of serum treatment should be considered as an instance of "allergy," a form of hypersensitiveness closely allied to but not identical with anaphylaxis There is likely to be but little argumentation about this change of terminology These accidents of serum treatment are so rare that no physician ought ever to be driven by the fear of them to withhold antitoxin in any case of diphtheria

Prevention of Diphtheria

The report devotes a great deal of space to the factors determining the incidence and spread of diphtheria and the prevention of the disease We wish to draw attention in particular to the question of active immunization by the injection of toxin antitoxin mixture The injection of antitoxin alone into the blood only protects for a brief period, antitoxin is not demonstrable in the blood of men for longer than about three weeks after injection, varying, no doubt, to some extent with the size of the dose Antitoxin injection does not prevent infection with *C diphtheriae*, though it prevents intoxication and it has also the disadvantage that it interferes with active immunization The prophylactic injection of antitoxin should therefore be looked upon only as a weapon for use in serious emergencies, and even then as a palliative which may leave the state of emergency to develop again in three weeks' time On the other hand, immunization with toxin-antitoxin mixture confers a much more lasting immunity

The plan practised at present by Park and Zingher, to whose work the present wide interest in toxin antitoxin methods is due, is to give three doses of 1 c cm of toxin-antitoxin at intervals of one week or a fortnight The injections are made subcutaneously into the arm, the second dose being given in the opposite arm The object of the treatment is to immunize such subjects as are not already immune, and it has been the practice to confine the treatment to children who react positively to the Schick test, which is carried out before the injections are given and invariably afterwards to determine whether or not the immunization has been successful Among young children (under 5 years of age) immunes are relatively rare, and thus the Schick test may be regarded as superfluous and dispensed with The injection of the toxin antitoxin mixture produces antitoxin in the blood or increases it if already present in some cases a tenfold increase has been obtained in a fortnight with one dose Numerous authors have shown that the positive Schick test may be rendered negative by this method It would appear that the immunity induced by injections of toxin antitoxin is protracted for there are few records of subjects becoming susceptible again after a successful immunization This does not necessarily imply that the permanence is due to injections alone It is possible that the natural immunizing process has a large share in this effect, and that the primary stimulus of the injection renders the patient more susceptible to natural immunizing action The practical results obtained from the injection of toxin antitoxin have been satisfactory, though it is difficult to estimate the full value of this treatment, because only children likely to contract the disease have been treated in most investigations, and thus no parallel groups of treated and untreated are available Some results recently published by Park on a mass effort carried out in New York showed the number of cases of diphtheria reduced to one-fourth amongst the inoculated, a result which is promising, since most of the immunizations were carried out by methods which have since been superseded by improvements in technique

We have drawn attention only to portions of this report which seemed of outstanding interest, and there are many sections to which we have not had space to refer The book is a mine of information Written by seven authors who have assumed collective responsibility for the whole, the book has lost all individualistic characters In reading it one hears no human voice behind the page It is like an encyclopaedia—a mass of facts stated with relentless precision and indisputable authority Every kind of doctor will read different bits of it with great interest, till, having exhausted his own province and commenced to wander into unexplored territory, he will reflectively replace the report amongst the substantial volumes of books of reference

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DR. DREUW a Berlin specialist, has recently collected the following statistics from various sources dealing with the disadvantages of treatment by salvarsan (1) 84 per cent of 8 000 soldiers who were treated with salvarsan were not cured (Professor Gennerich), (2) ten practitioners reported at least 70 cases of fatal salvarsan poisoning and three practitioners 31 cases in the course of a year, (3) according to official statistics, for every 100,000 persons treated with salvarsan there were 620 with consequent skin complications, 1 3 cases of blindness, 2.6 cases of complete and 4 of partial deafness 62.2 cases of cerebral involvement 224 of paralysis and 16 2 deaths undoubtedly and 14 2 deaths probably due to salvarsan

Ireland.

VITAL STATISTICS OF NORTHERN IRELAND

DURING the quarter ending December 31st, 1923, 7,009 births were registered in Northern Ireland, the equivalent of an annual birth rate of 21 9 per 1,000 of the estimated population This compares with 14,716, the number of births in the Irish Free State, equal to an annual rate of 18 6 per 1,000 The death rate in Northern Ireland for the quarter represented a rate of 14 6 per 1,000, compared with a rate of 12 9 per 1,000 in the Irish Free State In England and Wales during this quarter the birth rate was 18 4 per 1,000 and the death rate 11 9 The deaths registered in Northern Ireland during the quarter numbered 4,678, a slight increase on the corresponding figures for the last quarters of the two previous years, 401 were certified as due to tuberculosis, and 363 to cancer Of the total deaths, 17 5 per cent occurred in public institutions, 11 5 per cent were uncertified, there having been no medical attendant during the last illness The number of successful primary vaccinations reported during the quarter was 6,409 No cases of typhus, small-pox, or cerebro-spinal fever were notified in this period

AMALGAMATION OF POOR LAW UNIONS IN COUNTY CORK

At a recent meeting of the Cork County Council the report of the special committee appointed to examine the scheme of union amalgamation was adopted Amongst the more important recommendations are that the Guardians of the Poor of the several Poor Law Unions in the county be abolished, that three boards of health, or public assistance, be substituted for the sixteen Poor Law Unions—namely, a North Cork County Board, to have charge of the areas in the County of Cork included in the Poor Law Unions of Fermoy, Kanturk, Mallow, and Millstreet, a South Cork County Board, to have charge of the areas included in the Poor Law Unions of Bandon, Cork, Kinsale, Macroom, Midleton, and Youghal, and a West Cork County Board, to have charge of the areas included in the Poor Law Unions of Bantry, Castletown, Clonakilty, Dunmanway, Skibbereen, and Schull

The institutions to be provided under the North Cork County Board are A county home at Mallow for aged and infirm persons chronic invalids idiots and epileptics A county hospital at Fermoy for the treatment of medical surgical and maternity cases and cases of infectious and contagious diseases Cottage hospitals for Charleville Kanturk Mallow Millstreet and Mitchelstown for the treatment of acute surgical, medical and maternity cases and cases of infectious and contagious diseases

The institutions to be provided under the South Cork County Board are A county home at Cork for aged and infirm persons chronic invalids idiots and epileptics A district home at Midleton for aged and infirm persons chronic invalids idiots and epileptics from the districts of Midleton and Youghal and for such other portions of East Cork as the Board may approve of A district hospital at Cork for the treatment of medical surgical and maternity cases and cases of infectious and contagious diseases Cottage hospitals at Cobh Bandon Kinsale Macroom Midleton and Youghal for the treatment of acute medical surgical and maternity cases, and cases of infectious and contagious diseases An auxiliary home at Bessborough, Blackrock, for such unmarried mothers and their children as the Board may select

The institutions to be provided under the West Cork County Board are A county home at Clonakilty for aged and infirm persons chronic invalids, idiots, and epileptics A county home at Skibbereen for the treatment of medical, surgical and maternity cases and cases of infectious and contagious diseases Cottage hospitals at Castletown Bere Clonakilty Bantry, Dunmanway and Schull for the treatment of acute medical surgical and maternity cases, and cases of infectious and contagious diseases

It is recommended that the North Cork County Board should consist of eleven members to be elected by the county council, the West Cork County Board of ten members to be elected by the county council and the South Cork County Board of fifteen members ten of whom shall be elected by the county council and five by the Cork corporation

The County Boards are to come into power on April 1st next, and to hold office until the day next after the annual or quarterly meeting of the appointing bodies held after the next election for county councillors and members of the county borough councils

THE LATE PROFESSOR O'SULLIVAN

At a meeting of the Warden and Fellows of St Columba's College, held on Monday of last week, the following resolution was passed

"The Warden and Fellows of St Columba's College wish to record their sense of the great loss that the College has sustained by the death of Dr Alexander Charles O'Sullivan S F, T C D During the twenty seven years that he has been a member of that body, Dr O'Sullivan had been a regular attendant at its meetings, and his support and advice have, in time of difficulty, been of the highest value to the College, while his brilliant gifts and personal influence have added greatly to its prestige The Fellows desire to convey to Mrs O'Sullivan and her family their profound sympathy in the sorrow which has so unexpectedly fallen upon them."

India.

THE ST JOHN AMBULANCE ASSOCIATION

FOR some years past voluntary societies in India have been endeavouring to teach generally the first principles of general and personal hygiene, and Colonel R J Blackham, M D, writes from Delhi to point out that more than twelve years ago the St John Ambulance Association commenced active work in this field A textbook for teachers was prepared by Sir Pardey Lukis and Colonel Blackham, and the latter also wrote *A Primer of Tropical Hygiene* (the fifth edition of which was reviewed in our columns of August 2nd, 1919, p 139), which is already in its thirteenth edition The results of these and other efforts have been very good, and at the recent Baby Week Exhibition in Delhi many thousands of men and women attended each day There was also a conference of medical officers and health workers in conjunction with the exhibition, and the most active and intelligent interest in health subjects was displayed One of the speakers at the conference, Colonel Graham, the new Director of Public Health in India, called attention to the fact that such a conference could not have taken place a few years ago In other cities of India these baby weeks and conferences are also being held with similar success

INFANTILE MORTALITY IN ALLAHABAD

SIR GRIMWOOD MEARS, Chief Justice of the Allahabad High Court, in the course of his speech during the opening ceremony of the National Baby Week at Allahabad at the beginning of February, pointed out that within the last five years more than 8,000 infant children had perished in the town Approximately one out of every three children born in Allahabad died before reaching the age of 12 months, and in the poorer districts the mortality was approaching 400 deaths per 1 000 The Lady Chelmsford League, which started work in the town last August, had established three centres for visiting women patients in their own home, assisting at confinements, and providing treatment for infants and children In this way to every poor woman in the town free medical attention and nursing in her own home was provided It was hoped later on to erect buildings in which expectant mothers might be lodged, and so both mother and child might receive all necessary attention, good food, and healthy surroundings He went on to say that the causes of the daily mortality were well known, and to a large extent were preventable They were due, in the main, both as regards mother and child, to the ignorance and rough treatment of so-called midwives, to lack of knowledge about simple antiseptics, to uncleanliness of rooms and clothing as well as to lack of proper food and ventilation

LEPROSY IN INDIA

Addressing the Calcutta Rotary Club on the subject of leprosy in India, Dr E Muir, of the Calcutta School of Tropical Medicine, referred to the British Empire Association for the Relief of Leprosy recently started through Sir Leonard Rogers, with the Prince of Wales as patron, and to the special courses in the study of leprosy which were being held in the Tropical Medicine School It was important that the knowledge of the non-infectivity of leprosy in its early

stages should be spread abroad, so that concealment might become less common and early treatment more usual With regard to the curability of leprosy, Dr Muir said that cases had occurred in which all signs of the disease had entirely disappeared for many years, but it was not yet possible to be certain that there would be no recurrence

Active building work is contemplated in India by the Mission to Lepers, at a total estimated cost of between £3 000 and £4,000 Dhamtari Asylum is being reconstructed on a new site, and eight new buildings for men, as well as houses for health workers, are to be erected at an estimated cost of £1,500 The buildings for women are also well advanced Extension and reconstruction work is also planned in the asylums at Chandkuri, Allahabad, Puri, and Vizianagram Favourable reports of the chaulmoogra oil treatment continue to appear

Calcutta Tuberculosis Scheme

The Calcutta municipal authorities have decided to organize a combined treatment and education centre under the control of the district health officers, to deal with the serious tuberculosis problem in that city The mortality from this disease is now over 2,000 each year, or 2 4 per 1,000 of the population, and it is calculated that there must be at least 10,000 people suffering from tuberculosis Provision has been made in the Budget for the endowment of this scheme, which was prepared by the city medical officer

Plague in Lahore

The outbreak of plague in Lahore shows no signs of decrease and even seems to be extending The medical officer of health has recommended the establishment of disinfecting centres for cleansing houses and localities, and for distributing to the public free of cost, rat pills, rat traps and disinfectants, as well as inoculation propaganda There is a growing demand in the city for inoculation

Medical Notes in Parliament

[From our Parliamentary Correspondent]

Lunacy Certification and Medical Responsibility

On March 3rd several questions were addressed to the Prime Minister inquiring whether he would appoint a Royal Commission to inquire into the Lunacy Laws and their administration, and the conditions under which persons alleged to be insane could under existing regulations, be confined in asylums or otherwise placed under detention

The Prime Minister said that the proceedings in the case had closed so recently that the Government had not had time to give proper consideration to the difficult and complex issues raised but prima facie it would appear that there was a case for full inquiry and the Government was fully prepared to consider the setting up of an appropriate body to undertake such inquiry Mr Pethick Lawrence suggested that the Premier should take into account the importance of having some form of body which could take evidence upon oath and in security The Premier replied that this was why he could not commit himself to the form of inquiry It would be a serious and a most effective inquiry

On the usual motion for the adjournment of the House, Mr Turner Samuels recurred to the subject, submitting that there was a condition of affairs which was creating a scandalous menace to personal liberty The facts already revealed in the case and other facts standing to be disclosed for any inquiry proved that many people who were sane were being immured within asylums He proceeded to read certain communications he had received, and his right to do so was challenged by Lord Eustace Percy and Dr Haden Guest, but the Speaker replied that the honourable member who presented them must take his own responsibility for the statements

Mr Greenwood Parliamentary Secretary to the Ministry of Health said that an appeal had been lodged, and that as the matter was *sub judice* it would be improper for him to refer to the case further than to say that he understood that the appeal might be heard at an early date after which the Prime Minister, he was sure would consider the advisability of having the inquiry started at once

Civil Service Estimates.

A White Paper giving estimates for the civil service and revenue departments including pensions, education and other grants for the financial year 1924 25, was issued on March 4th Compared with the figures for the year 1923 24 the statement shows on the aggregate a reduction of about thirty seven millions sterling—the total estimate being for £289 874 727 as against £327 212 872 for the past year The reductions however are not sweeping, and in some cases of interest to our readers the estimates provide for an increase in expenditure The proposed votes, with fall or rise, include the following

	1924 25	1923-24
Class II	£	£
Government Chemist Department	53 900	48 605
Board of Control	516 932	483 370
Registrar-General's Office	87 429	107,385
Scotland		
General Board of Control	71 415	66 474
Registrar General's Office	15,379	19 679
Class III		
Broadmoor Criminal Asylum	78 184	77 108
Class IV		
Scientific Investigations etc	201 450	169 721
Department of Scientific and Industrial Research	328 281	277 343
Universities and Colleges Great Britain and Intermediate Education Wales	1 272 970	1 119 200
Class VI		
Old Age Pensions ..	24 201 000	23 300 000
Ministry of Pensions ..	66 947 810	73,655 246
Class VII		
Ministry of Health	19 486 851	19 504,820
Scottish Board of Health	2 497,832	2,493 740
Friendly Societies Deficiency	6,342	6,254

Grants to voluntary hospitals appear in last year's estimates at £84 000, but do not figure in the coming year's estimates That, however, seems to be a matter of accounting It must also be borne in mind that the figures are in certain cases subject to particular explanations not contained in the paper, such as transfers and accumulated balances

Small pox and Vaccination

Replying to Lieut Colonel Fremantle on February 27th Mr Greenwood said that the average number of cases of small pox notified from 1911 to 1920 (civilians only) was 146.3 per year The number of cases notified since 1920 had been as follows 315 in 1921 973 in 1922 2 486 in 1923 and 478 for the present year (down to February 9th) The proportion of children born during the years 1911 to 1920 who were vaccinated was 45 per cent For 1921 the proportion was 38.3 per cent The figures for 1922 and 1923 were not yet available Mr Black asked on February 27th whether in view of the fact that in Leicester during seventeen years down to the end of 1922 there was not a single death from small pox, while the vaccination rate fell during the same period from 18 3 to 3 4 per cent and that for the whole of England and Wales during the same period the total number of deaths had been 255 with a falling vaccination rate from 73 to 38 3 per cent the Minister would bring in a measure to repeal the 1907 Vaccination Act abolishing all compulsion and leaving the question of vaccination to the discretion of the individual citizen Mr Wheatley said he was considering the present position in regard to vaccination but was unable to give any promise to introduce legislation on this subject

Child Welfare—Mr Somerville Hastings F R C S asked on February 27th whether the Minister of Health would consider the desirability of giving to every mother on registration of childbirth a short simply written book on the care and management of infants Mr Wheatley said the suggestion had been frequently considered but experience had shown that most mothers learnt more readily from the advice given by medical officers at infant welfare centres and by health visitors at the homes of the children than from the information contained in books on the care and management of infants He promised also that in connexion with any proposals to amend the Public Health Acts the question would be considered whether persons suffering from advanced tuberculosis and living in overcrowded quarters should be compulsorily removable

Part time M O H—The Minister of Health stated in reply to a question that he was asking the local council of Enfield to discuss the matter of the appointment of a part time medical officer of health who did not hold a D P H It was suggested that Enfield was the only urban district in England with a population of over 45 000 which had not a full time medical officer of health qualified under the provision of the Order of 1922

Observation Cases in Prisons—Mr Stranger asked on February 28th whether the Home Secretary was aware that there were in prison many inmates mentally and medically unfit confined in observation cells in charge only of the ordinary disciplinary officer and whether he would arrange to have those men placed in charge of a medical prison orderly Mr Davies replied that the number of hospital officers available did not admit of this being done in every case but the resources were being steadily improved Mr Stranger asked whether Mr Davies knew that in one of the London prisons there were twenty-seven of these observation cases in charge of a man who had to walk over twenty miles in the night

Royal Air Force Medical Examinations—Mr Leach informed Lieut-Colonel Rudkin that the possibility of holding the medical examination of candidates for the Air Service prior to the examination conducted by the Civil Service Commissioners was carefully considered recently The conclusion was that the disadvantages outweighed the advantages The regulations recommended that youths should be examined by a medical practitioner or by a Royal Air Service preliminary medical board previous to their becoming

candidates for commissions full details of the medical standards were published in the regulations The same observation referred to candidates for aircraft apprenticeships

Medical Officers for Prisons—Sir M MacDonald asked, on February 28th, if the Under Secretary for the Home Department would state, in view of the opinion of Lord Justice Atkin's Committee on Insanity and Crime, and of the accompanying memorandum of the Council of the British Medical Association whether the similar recommendations made by the Departmental Committee on Prisons in April, 1895, to the effect that candidates for medical appointments in prisons should be required to show that they had given special attention to lunacy, had ever been carried out Mr Davies replied that preference was always given to candidates who had experience of lunacy Of the twenty four whole time medical officers now serving, thirteen had asylum experience and five had attended students courses at asylums Part time medical officerships were filled by practitioners in the locality and preference was given, wherever possible, to those who had had special experience of lunacy

Treatment of Ex Service Mental Cases—In answer to Sir E Hume Williams, on February 28th, Mr Roberts said that special arrangements had been made for a selected number of certified cases likely to progress under special treatment Accommodation for 150 was provided at the Old Manor, Salisbury, and for a further 300 at Kirkburton, a detached block of Stortheshall Asylum, near Huddersfield At the former institution were two medical officers and at the latter three in addition to the medical superintendent of the main asylum In both institutions ample facilities were provided for recreation and games, and at the latter there was a welfare officer As regards those mental cases not certifiable under the Lunacy Law, it had always been the policy of the Department to provide special treatment and accommodation with a view to their complete recovery The Ministry had given special training to a number of medical officers and established throughout the country neurological hospitals and clinics with skilled treatment on the most modern lines These efforts had met with conspicuous success In a recent quarter the percentage of patients discharged recovered or improved was about 70 In one hospital devoted to the most serious cases, out of 134 patients treated in the year, 68 were discharged recovered, and of the remainder a number had shown considerable improvement Full provision for recreation was made by a welfare officer These hospitals numbering nineteen, were Edenhall, Edinburgh, Shotley Bridge, Gateshead, Oulton Hall, Leeds, Mossley Hill, Lancs, Maghull near Liverpool Harrowby Camp, near Grantham, Ashton Court, Bristol Bath Fernbank, near Roehampton Ewell, Surrey, Orpington, Kent Ridgmont Surrey Sidcup Kent Leopardstown, co Dublin, Saltash, near Plymouth Romford Essex, Craigavon, Belfast, Latchmere, Surrey, and Rotherfield Court, Henley-on-Thames The approximate number of beds was 3,024 The number of men under treatment on January 21st was 2,772 The total number of medical officers dealing with the cases was 67

Defective Children—Answering Mr Foot on February 21st Mr Trevelyan said that returns relating to defective children for the year 1922 showed that about 630 blind or partially blind children, about 4 530 crippled children, and about 430 deaf and dumb and partially deaf children were at no school or institution during that year Since May, 1923, the available special school accommodation for blind children and for crippled children had been slightly increased, while similar accommodation for the deaf had remained practically the same The Board had approved schemes in several areas for the orthopaedic treatment of crippled children by which it was hoped greatly to lessen the incidence of crippling disease and the need for special schools for such children Lieut Colonel Fremantle asked what steps were being taken for the supervision of mentally defective children eligible for admission to special schools for whom accommodation was not available Mr Trevelyan said the Board had been in consultation with representative bodies and interested persons, and it was hoped to issue a circular at an early date The care of mentally defective children at the age of 16—as distinct from their training—appeared to be outside the province of the Board or of the local education authorities The number of certified special schools for mentally defective children was 197, and the accommodation was for 16 368 The number of schools for physically defective children was 204 and the accommodation was for 15 730 The Education Board had agreed to the temporary recognition of 472 places for physically defective children and 724 places for mentally defective children in London The Board had recently issued new forms of statistical tables for the use of school medical officers, and hoped shortly to be in possession of much more accurate information than had hitherto been available Meanwhile, a complete examination of the local education authorities' returns for 1922 showed that there were 29 210 mentally defective children who might benefit by admission to special schools Of these, 15 400 were in certified special schools, 10 337 were in public elementary schools and 3 473 were not attending any school There were 97 800 physically defective children who might benefit by admission to special schools Of these 13,306 were in certified special schools, 66 034 were in public elementary schools, 3,827 were in other institutions, and 14,645 were not at school

Notes in Brief

The Charter of Incorporation of the London School of Hygiene, founded through the munificence of the Rockefeller Trustees will, it is expected be granted in the course of the next few weeks

Mr Wheatley on February 27th said that he did not consider that there was sufficient justification for making leprosy notifiable

The arrangements in London for procuring an ambulance in cases of accident are under the consideration of the Ministry of Health

Correspondence.

FIBRILLATION HEART-BLOCK

SIR,—Dr Fenton asked (February 23rd, p 354) how it is that fibrillation of the ventricle does not occur in heart-block It is necessary to point out that we are still profoundly ignorant of the functions of the conducting system and the part it plays in the heart beat in health and disease and the explanation I offer is based upon my present knowledge

There are two main parts in every organ—one part composed of cells concerned in the peculiar function of the organ as the muscle cells in muscular organs, and another part concerned with the stimulation, control, and regulation of these cells, as the motor nerve to the voluntary muscle, and the conducting system to the heart muscle When the connexion is severed between these two parts the muscle cells are uncontrolled, receive impulses from other sources, and contract in that purposeless and ineffective manner which is called fibrillation When the nerve from a voluntary muscle is cut there is complete separation of the muscle from the nerve cells—the nerve cells being situated in the central nervous system, and the nerve itself but consists of fibres connected with these cells When the bundle is cut the ventricular muscle is not separated from cells which stimulate, regulate, and control the muscle The bundle is built up of cell bodies, and these possess the properties and functions of the sino-auricular node Because of the possession of these properties the bundle cells take up the function of the sino-auricular node—that is, they generate impulses which they discharge, and which are conveyed to the muscle cells of the ventricle and result in a contraction which is purposive and effective The only differences between the action of the sino-auricular node and the cells of the auricular bundle are (1) that the latter is not susceptible to the sympathetic and vagus nerves, and therefore do not vary their activity with bodily effort and rest, (2) they are much longer in recovering after they have discharged their energy, so that the rate of the ventricular contractions is much slower

There are certain parts of the body more sensitive than others to the agents of disease These are at the junctions between cells of different kinds, as at the synaptic junctions of the nerve cells and the neuro-muscular junction The suggestion is that there is a junction between the conducting system and the muscle fibres, and that it is here that the disturbance takes place which separates the conducting system from the muscle cells As a consequence of this separation the muscle cells pass into fibrillation, and the ventricle's contraction is so ineffective that there is a total cessation of output of blood from the ventricle and death results—I am, etc,

St Andrews Fife, Feb 27th J MACKENZIE

CANCER—WHAT LOCAL AUTHORITIES CAN DO

SIR,—Now, when the question of cancer research and the cancer problem occupy such an important position in the public eye, is a fitting opportunity to discuss what local health authorities can do, not only to safeguard the public, who are not affected by the disease, but to alleviate the sufferings of those amongst us who have been unfortunate enough to contract cancer

In a circular published by the Ministry of Health (No 426), August 14th, 1923, it is made plain that invaluable propaganda work can be achieved by means of the ordinary agencies of Public Health Departments At the same time, it is pointed out that the establishment of a "public cancer service" is not desirable until medical education in cancer diagnosis and treatment has undergone further development We may, therefore, take it as granted that the Ministry of Health fully recognizes that much good may accrue from concentration of public health authorities upon the subject

Whilst I am in entire agreement that at the present time a "public cancer service" is not desirable, I fail to recognize why we should wait until our knowledge of cancer diagnosis and treatment has undergone further development before taking steps to deal with the matter in the light of present knowledge

After twenty years' experience in dealing with cases of cancer (mostly inoperable) I think it highly inadvisable that the disease should be made compulsorily notifiable, for the following reasons (1) it is next to impossible to draw a line between pre-cancerous conditions and malignant disease of operable type (2) our methods of diagnosis are so uncertain that mistakes are liable to be made, and (3) perhaps the most important reason of all, that a knowledge of the existence of the disease is detrimental to the well being of the patient I have known many persons suffering from cancer who have died within a few days or weeks of their being made cognizant of the fact whilst others have lived on for years under treatment ignorant of their fate

Quite apart from making the disease compulsorily notifiable, it is to the advantage of the State that all known cases should be notified (privately) to the public health authorities As a member of the Public Health Committee for the city of Birmingham I feel most strongly that the only way of doing justice to this most important subject lies in taking immediate steps to deal effectively with the matter to the full extent of our capabilities

I am of opinion that every large city should at once set up a committee to review periodically all questions relating to the disease, and to consider what steps should be taken to meet the requirements of the public and medical profession alike

The first duty of such a committee should be to draw up a report under the following headings

1 The facilities offered by the city or town for the treatment of cancer both operative and remedial

2. A list of the institutions where cases of cancer are treated and the methods available at each institution

3 The number and location of beds available within the area for dealing with both acute and chronic forms of the disease

4 Facilities offered for clinical consultations and pathological examination

5 The facilities for special treatment—(*a*) operative (*b*) x ray therapy (*c*) radium therapy (*d*) electrical methods—diathermy etc (*e*) other methods of treatment not coming under the above headings

Having this report in hand, it should be the duty of the committee to discuss methods whereby the facilities at disposal can be brought into line so that co-ordination of efforts may ensue The committee can, through its welfare workers and inspectors obtain knowledge as to the existence of cases not reported can arrange for the transport of patients from their homes to the hospitals, and can arrange for post-graduate demonstrations, lectures, etc, on the disease for medical men nurses, and welfare workers, and for the education of the public by similar methods, and the distribution of pamphlets

I freely admit that these suggestions cover a very wide area and open up a field for investigation which may be productive of an immense amount of good At the same time I am not unmindful that much harm can be brought about, and much unnecessary alarm produced, unless the greatest care be taken in judiciously handling the subject

Apart from the facilities offered by special hospitals, our provincial cities and large towns are very inefficiently provided with the means of dealing with cases, after a primary operation has failed to bring about a cure, and outside the Poor Law infirmaries there exists an appalling paucity of beds available for inoperable cases

I have frequently had cause to deplore the absence of facilities for the hygienic treatment of advanced inoperable cases, and I cannot help thinking that it should be one of the first duties of public health authorities to provide such treatment without the patients incurring the stigma of pauperism

It will, I think, be generally admitted that quite a number of very advanced inoperable cases can only be properly dealt with in institutions provided with the necessary skilled nurses, and special apparatus for the scientific treatment of such conditions Many cities and large towns possess already accommodation which could be used for this special treatment were the local authorities sufficiently impressed with the necessity and urgency of carrying it into effect

It is quite evident to anyone who has paid attention to the subject that the published statistics as to the death rate from cancer are hopelessly misleading, due primarily to failures in diagnosis, and secondarily to desire on the part of the relations of those who die from the disease to suppress the true cause of death

I am strongly of opinion that a large amount of help and advice can be given by the welfare workers attached to the public health authorities, especially so after some training has been given them as to the points connected with the disease which are likely to increase our knowledge An inquiry into the predisposing causes of the acquisition of cancer, even should it fail to throw light upon this special subject, would supply us with invaluable knowledge as to the manner in which many other diseases are contracted as the result of injudicious and improper feeding deleterious environment, and other preventable causes This opens up a new field for research which covers a very extensive area but it must be obvious that any rules laid down for avoiding the inception of cancer would also apply to many other diseases—as an example, the question of the advisability or otherwise of continuing to bury our dead within the confines of large cities should be considered

Other and important methods of dealing with the cancer problem by local committees are worthy of consideration can in no way influence the disease, that they should be warned against the inadvisability of adopting quack can in no way influence the disease, that they should be warned against the inadvisability of adopting quack remedies which in most instances are only productive of harmful effects and that—what is perhaps of the greatest importance—the public should be advised of the absolute necessity of obtaining the best possible medical advice at the earliest possible moment after the discovery of any symptom which leads them to suspect the possibility of the onset of the disease

In this short note many suggestions which should be brought before a local cancer committee are omitted, but I trust that immediate steps will be taken by all our large public health authorities to seriously consider the advisability of attacking the question —I am, etc,

Birmingham Feb 23rd J HALL-EDWARDS

DICHOTOMY

SIR,—In compliance with a widely felt desire, a meeting of the consultants and specialists of this city was held at the Birmingham Medical Institute on Monday, February 25th for the consideration of the subject of "dichotomy," or fee-sharing The meeting was very largely attended, and letters were received from a few who were absent After full discussion, including reference to the numerous cases in which patients ask what will be the total cost of treatment in a nursing home or private hospital, the following resolutions were passed unanimously

1 It is improper for a consultant to transfer any portion of his consultation—or operation—fee to the practitioner who has called him in The consultant who offers, or agrees to such payment however innocently is open to the suspicion of paying a commission for his own advantage The practitioner who accepts or asks for it cannot maintain the position of a trusted and unbiased adviser as to the need for a consultation and the selection of a consultant

2 No consultant or specialist shall pay to the general practitioner who is associated with him in a case any part of an operation—or consultation—or so called inclusive fee, unless he informs the patient or his representatives of the services for which the payment is made and the amount of such payment

It was further resolved that a report of the meeting should be given to the *British Medical Journal* and the *Lancet* with a request for publication, and that copies of the resolutions should be sent to every consultant and specialist in the Birmingham district for his or her signature as evidence of agreement, and to all members of the medical profession in the district for their information —We are, etc,

PRIESTLEY SMITH
Chairman of the Meeting
LEONARD G PARSONS,
A W NUTHALL,
Secretaries

Birmingham Feb 28th

ARTIFICIAL LIMBS

SIR,—Various articles have appeared in the press written by Captain H H C Baird, D S O, regarding the light metal limb, and the same officer has published a pamphlet containing extracts and comments on the report of the Government Committee of Inquiry on Artificial Limbs (presided over by the Right Hon Sir Archibald Williamson, Bt, M P, now Lord Forres)

I was a member of this Committee of Inquiry, and should like to point out, for the information of legless men who are using or contemplate using a metal limb other than the Desoutter metal limb, that the Committee recommended that the Desoutter and/or other approved light metal limbs should be placed in the Consolidated List and made available for all new cases under specified conditions

Since the Committee sat the construction of light metal limbs has immensely improved, and I know more than one excellent type of light metal limb other than the new Desoutter There are a number of good firms of light metal limb makers, and there are now on the market a great many light metal limbs, including, of course, the new Desoutter, and between these there is, in my opinion, little or nothing to choose

I myself wear a light metal limb, which is not a new Desoutter, which suits me admirably Different types of limbs suit different types of men, and in my opinion if a man is already well suited by a limb maker on any leg, wooden or light metal, he would be well advised to stick to the same maker for any further limb he may require

I should like to add that I am in no way interested in any firm of limb makers—I am, etc,

London, W 1, Feb 28th M P LEAHY

CONTROL OF LEPROSY

SIR,—The formation of the British Empire Leprosy Relief Association has been noted with particular interest in India, and a message has been sent by Lord Reading paying tribute to the work of the association

In no part of the empire is there greater need for the activities of such a body or greater scope for its work Much can be done, and I have no doubt much will be done, but in the telegraphed report of the meeting at the Mansion House, presided over by the Lord Mayor of London, for the formation of the association received in India pronouncements have been made which foreshadow that the main plank in the policy of the association will be the extension on a large scale of the treatment with the derivatives of chaulmoogra and allied oils which are being extensively tried

Sir H Rolleston is reported to have said that there was good reason to believe that Sir Leonard Rogers had found a cure in the fatty acids of certain oils and preparations called sodium morrhuate Another speaker anticipated that the empire would be practically free of leprosy within thirty years

For many years chaulmoogra oil has been known to be a very valuable drug for the treatment of leprosy, leading in some cases to considerable amelioration of symptoms and in a few cases to apparent cure, but its great drawback has been its nauseous taste and the great difficulty patients have had of digesting it in sufficient quantity The same difficulty has been experienced in the use of ipecacuanha for dysentery, and this led to the isolation of emetine Following this attempts have been made to extract the essential curative principle from chaulmoogra oil, and the recent work by Sir Leonard Rogers and others has been the result

The statement that a cure has been found in the fatty acids of certain oils and preparations from them requires very considerable qualification That considerable amelioration of the condition of many lepers can be obtained with such treatment, and apparent cures in some cases, is undoubted Many cases can be rendered uninfective, so far as we can surmise the conditions which mean risk of infectivity and in a large proportion of cases it is possible to bring the disease to a stationary condition I am in full sympathy with extending the benefits of this treatment to as many sufferers as possible, but that these preparations should be announced as a definite cure for leprosy is not only misleading but dangerous, and will raise false hopes in many of the victims of the disease

The position with regard to this treatment is probably very fairly put by Muir in the *Indian Journal of Medical Research* for October, 1923, a reference to which I recommend to those interested in satisfying themselves personally as to the probable value of the treatment Any attempt, however, to control leprosy based mainly on treatment, especially under Indian conditions, is, I am afraid, likely to result in failure and disappointment In India well over 100,000 lepers are known to exist, and the numbers may easily double this When it is considered that a course of treatment may entail injections twice weekly over a period of at least a year, and probably several years, the work involved will be realized To get the Indian or Burman leper to undergo such a course of treatment means that he must be in an institution To attempt to give a prolonged course to the ordinary leper now found at large everywhere in India or Burma without having him in an institution is hopeless He may come for a few injections, but unless a marked improvement results very quickly he will not be seen again If the association's work is to be effective in India it will be of the greatest value if it strengthens the hands of Government in regard to the legislative control of leprosy

Segregation is, in my opinion, the first essential if the disease is to be stamped out, and treatment is only ancillary When segregation is once established treatment will play its part, and enable releases to be made when advisable

I have been interested in leprosy for many years, and have been on the committee of the Rangoon Leper Asylum for nearly twenty years, which is my justification for the expression of the above views—I am, etc,

A R J DOUGLAS, M D Lond, F R C S Eng

Rangoon, Feb 4th

*** The report, no doubt a telegraphic report, our correspondent read cannot have quite correctly expressed what Sir Humphry Rolleston said From the report in our columns (February 9th, 1924, p 246) it will be seen that he said "There was good reason to believe that Sir Leonard Rogers had found in the fatty acids of certain oils a remedy that bade fair to be a real cure" The same words occur in the report in the *Times*

MEMORY SIGHT

SIR,—In your issue of February 23rd Dr David Slight raised the question of colour in connexion with my article on memory sight. Blind patients have told me that they see their gardens and other scenes exactly as they did when they were sighted, and since reading his letter I have been able to make further inquiries The lady I mentioned, who had lost one eye and was totally blind with the other, tells me that she has no difficulty in seeing anything in colour with which she was familiar before she lost her sight, but she cannot conjure up colours in the absence of a direct memory of them The patient who has lost both eyes writes

"Once only I had a very vivid picture, as it were, of a very brightly coloured and very pretty room—carpet, walls, and furniture all very brightly coloured, it only lasted about ten minutes or a quarter of an hour and then was gone I cannot claim that it was in any sense a memory 'picture,' as I have never seen a room like it I have often seen all over the floor black and white squares, which look like linoleum or something of that sort Three or four times, perhaps, I have also seen a dark red I might almost say a blood red ceiling, instead of the white ceiling which I usually see, this has generally been at night when I have been tired or rather drowsy, but it has always gone after about a couple of hours, and the usual white one has returned"

One of the most interesting features of this subject is the great difficulty that the ordinary sighted man has of calling up a real visual image of a face, an object, or a scene, however familiar it may be to him He can remember it, but the moment he tries to visualize it it fades away He cannot really *see* it The only exception I know is a lady with a mathematical brain who, when multiplying one set of figures by another in her head, can actually visualize the figures before her The blind,

in the other hand seem quite frequently to be able to get a distinct and lasting visual image The subject seems to be of considerable psychic interest —I am, etc ,

R H ELLIOT,
London W Feb 29th. Lieut-Colonel I M S (ret)

TUBERCULIN TREATMENT OF DISEASES OF THE EYE

SIR —The use of tuberculin requires knowledge and care, and in no department more than in the treatment of tuberculous diseases of the eye, but if administered judiciously and skilfully it can, in a very large number of cases produce complete and permanent cure In eye lesions associated with active lung disease the best results are obtained by sanatorium treatment rather than by tuberculin This also applies to abdominal cases sometimes observed in children If no obviously active disease is found in the lungs or abdomen the patient's pulse and temperature should be taken night and morning for a week In children with persistently rapid pulse who are markedly below the average weight of their age and height it is wise to have the temperature taken every four or even every two hours as they frequently have odd and irregular pyrexia With a slow pulse, a slightly swinging temperature can be controlled by rest in bed for varying periods, but pyrexia with a rapid pulse almost always requires sanatorium treatment Quite extensive lung disease is no contraindication to tuberculin provided the general condition is reasonably good and there is no marked sign of systemic intoxication If the morning and evening temperatures are under 99° tuberculin treatment may safely be instituted

I believe the best tuberculin to be that of which the operator has most experience, and therefore feels most confidence in using Bacillary emulsion is probably the most generally useful, it is made up in a series of six dilutions each one-tenth of the strength of the one preceding it Thus 0 1 c.cm D i=1 c.cm D ii, 0 1 c.cm D ii=1 c.cm D iii, and so on, or 1 c.cm D vi=0 000001 mg. of dried bacillary emulsion The tuberculin is administered weekly, and the initial dose is usually 0 1 c.cm D vi =0 0000001 mg. bacillary emulsion This is increased by 1/10 c.cm at each dose the eye and the temperature chart being closely watched for focal or general reaction

A general reaction to a very minute dose of tuberculin indicates some active focus which has not been detected and which must be again searched for If there is only a slight focal reaction it is well to suspend the injections for a week and then to begin again, the next dose being one-tenth of the dose which caused the reaction If cases for tuberculin treatment are selected carefully and the dose of the tuberculin cautiously increased, focal reactions are practically unknown To obtain lasting results the tuberculin must be continued for at least six months Many cases clear up completely in ten to twelve weeks, but relapse if the tuberculin is discontinued

It may be said that (1) the most suitable cases are those which show no signs or symptoms of general intoxication, 2) cases with active lesions in lungs and abdomen and those with no signs of activity but with marked emaciation should be given sanatorium treatment followed by tuberculin, (3) patients on tuberculin at home should be instructed to approximate their mode of life as nearly as possible to sanatorium conditions—to sleep under an open window, to have sufficient rest, to avoid crowded stuffy places, and to pay attention to diet —I am, etc ,

C J CAMPBELL FAILL, F R C P Ed ,
Bristol Jan 25th. Tuberculosis Officer, City and County of Bristol.

THE USE OF PETROL FOR CLEANSING THE SKIN PRIOR TO OPERATING

SIR,—May I call attention to the use of petrol as an efficient substitute for ether in cleansing the skin for operation purposes? I have used this substance for over twelve years with entirely satisfactory results While at home recently I visited my old hospital (the London), and found that ether soap was being used for this purpose I have no doubt that it is similarly used in most of the other hospitals in the kingdom

The amount of money which is annually expended in this way unnecessarily must be very great, and, knowing how difficult it is for our hospitals to make ends meet, I venture to bring forward this suggestion My surgical practice is fairly extensive, and my results are quite as good as they were in the days when I used ether soap

I take absorbent cotton-wool as it comes from the manufacturer, wet it with petrol, and scrub the skin with successive swabs until they come off clean I then paint the skin with tincture of iodine made from *methylated* spirit, and cover with a sterilized towel This is done the night before and repeated on the operating table

I find that petrol is quite as efficient as ether in the extraction of fat and dirt from the skin, and, after all, this is the function of both substances—namely, to allow the iodine to penetrate I use ordinary petrol, but "aviation" would perhaps be better if available

If my method be adopted a large annual saving will be effected The methylated spirit in India is made by adding enoutchoucine 1/2 oz and pyridine 1/2 oz to every 100 gallons of rectified spirit, and fumes of iodine do not escape as when wood alcohol is used for this purpose

Even the Indian fisherman's stomach will not tolerate spirit treated in this way, although he can consume a certain amount of spirit treated with wood alcohol I feel sure that the authorities at home would consent to denature alcohol required for hospital purposes in this way, and here again allow of a considerable saving to be effected in hospital finance

The amount of rectified tincture of iodine used annually in a large hospital must be considerable —I am, etc ,

F J W PORTER,
Bombay Feb 12th Major R A M C (ret)

THE PROMOTION AND TEACHING OF MEDICAL HYDROLOGY IN ENGLAND

SIR,—We are glad to see in the BRITISH MEDICAL JOURNAL of January 26th (p 169) a letter signed by Drs Buckley, Edgecombe, Fox, and Gordon, on behalf of a committee advocating certain steps for promoting the teaching of medical hydrology in Great Britain

No one can have practised at a home spa for many years without feeling that the valuable advantages provided by Nature for the relief of many of our human ailments have not been utilized to the extent they should have been The reason of this is in a great measure due to the want of knowledge among our profession of the great value of medical hydrology Such practical suggestions as are made by this committee therefore have our warmest support —We are, etc ,

A FOLJAMBE FORSTER.
JNO POWELL
J RUPERT COLLINS
ROBERT KIRTLAND
S M HEBBLETHWAITE.
Cheltenham Feb 14th.

Obituary

JOHNSON SYMINGTON, M D , F R S ,

F R C S Eng AND Edin

Emeritus Professor of Anatomy Queen's University Belfast

IT IS with the very greatest regret that the news of the death of Professor Johnson Symington has been received in Belfast, among the medical profession generally, and in the academic circle where he was for so long an outstanding figure

Johnson Symington was born in 1851, and educated at Taunton and Edinburgh University He graduated M B , C M Edin with first-class honours, and obtained the diploma of M R C S Eng in 1877 He took the F R C S Edin in 1879, and proceeded M D in 1885, being awarded a gold medal for his thesis In 1915 he was elected a Fellow of the Royal College of Surgeons of England He was president of the Anthropological Section of the British Association at Southport in 1903 in which year he was elected Fellow of the Royal Society, and he served as president of the Anatomical Society of Great Britain and Ireland during the years 1904 to 1906 For some time he was examiner in anatomy in the Universities of London,

Edinburgh, Manchester, Glasgow, and Dublin, and in *applied anatomy and physiology for the Indian Medical Service* He was vice-president of the Anatomical Section at the Annual Meeting of the British Medical Association in Edinburgh in 1898, and president of the Pathological Section at the Oxford meeting in 1904

After distinguishing himself as a teacher of anatomy in Minto House, Edinburgh, and publishing a number of important papers on anatomy in the *Journal of Anatomy*, and a book on the *Topographical Anatomy of the Child*, Johnson Symington was appointed, in 1893, to the chair of anatomy in Queen's College, Belfast, in succession to the late Professor Redfern, and was shortly after elected to the governing body In 1901 he succeeded Professor Purser as registrar, and gave valuable help as one of the honorary secretaries of the Better Equipment Fund, which did so much to bring the college into line with the more advanced teaching centres of the period The splendid new set of buildings for the medical faculty owes much to his initiative, advice, and guidance He became also a Fellow and examiner in the then Royal University of Ireland, with the inauguration of the new Queen's University of Belfast he became professor of anatomy and registrar in it, and was appointed one of the seven commissioners to frame its statutes under the Irish University Act of 1908 Thus, for a long period he was a member of the senate, the academic council, and numerous committees His services were always given ungrudgingly, and his enthusiasm and energy were of the greatest importance and help in the early and difficult days of the new University His work in Belfast will long be remembered, not only for its intrinsic worth, but even more for its stimulating effect on others Professor Symington threw himself heart and soul into the work of the profession, of the college, and even of the city When he went to Belfast he aided the local medical societies with his contributions, and stimulated the younger men to try [illegible] and a message has been received how hold high [illegible] of great work, many of his pupils [illegible] ing tri[illegible] positions In 1916 he was chosen to be the representative of the University on the General Medical Council in succession to Sir William Whitla

Professor Symington's special work in his own department is well known In 1903 he described a plan he had devised to illustrate the relations of the deeper part of the brain to the surface, and he carried out a series of extremely important investigations in cranio-cerebral topography The endocranial, endodural, arachnoid, and cranial casts made by him were of outstanding merit, and he subjected to a thorough analysis the value of endocranial casts in the case of prehistoric skulls In 1908 to 1909 he was joint editor of a large part of *Quain's Anatomy*, especially the volume on the nervous system, and he was also joint author, with Dr Rankin, of an *Atlas of Skiagrams illustrating Development of Teeth* In 1917 he brought out a complete series of plates in the *Atlas of Topographical Anatomy*, illustrating sections of the human body These drawings and reproductions have been in regular use in the *x*-ray room of Queen's University, and during the war in military hospitals They have been of the greatest service to surgeons and radiographers in both civil and military practice

When he retired from his professorship and from active work in 1918, as a result of illness, a most cordial and appreciative resolution was passed by the Senate of the Queen's University, recognizing his magnificent work for the University and for the science of anatomy His loss was deeply felt, not only because of his wise counsel, strong personality and administrative ability, but also by reason of the absence of his cheery and inspiriting *bonhomie*

Mrs Symington predeceased him, and he leaves one daughter, with whom much sympathy is felt

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Dr J R PURDY, who died, at the age of 66 years, on January 15th was one of the best known medical men in New Zealand having practised in The Hutt, Wellington, for the past thirty-three years He was born in Morpeth Northumberland, and was educated at King Edward VI Grammar School in that town, at Edinburgh University and Aberdeen, where he took the M B, C M degrees in 1883 After practising at Oulton, Leeds, he went to New Zealand in 1890, and purchased the practice of Dr Wi[illegible] at The Hutt He was a member of the Council of the N Zealand Branch of the British Medical Association, pr dent in 1910, and president of the Naval and Mili[illegible] Section of the Australasian Medical Congress in Sydn[illegible] 1911 He was a colonel in the New Zealand Medical Co[illegible] and was appointed Director of Medical Services to the N Zealand Forces in 1910 Having retired on the age l[illegible] just before the war, he was asked to resume his du[illegible] when the New Zealand Expeditionary Force left in 19[illegible] and he devoted his whole time to the military servi[illegible] as director during the war, receiving the decoration C B E after the armistice Both his sons served in t[illegible] war, the elder, Major R G Purdy, M C, being kil[illegible] in action in April, 1918 A younger brother, Dr J [illegible] Purdy, D S O, is the metropolitan medical officer [illegible] health in Sydney Dr Purdy, apart from his positi[illegible] as a medical practitioner, was distinguished as an elo[illegible] tionist and amateur actor A collector of old chin[illegible] prints, and first editions of plays, with a phenomenal memory, an inexhaustible fund of anecdote, and a genial disposition, Dr Purdy was a host in himself at the medical congresses at Dunedin and Auckland, and any gather[illegible] where honest good humour was the oil and wine of a merry meeting

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Dr ALFRED DUNCAN MACNAIR, of Winchmore Hill, N, died on February 16th He graduated at Glasgow [illegible] M B, Ch B in 1898, and took the M D degree in 190[illegible] After holding resident appointments at the Glasgow Royal and Western Infirmaries he began practice in Manchester Leaving there in 1908 he went to Winchmore Hill Although handicapped by cardiac disease he gradually built up a large practice, and was held in high esteem by his patients, including those at the Cripp[illegible] Home, where he held the post of physician He was [illegible] was ready to help a brother practitioner, and his energy and cheery disposition often astonished those who knew his disability He took a keen interest in the local medical society, of which he was president a year ago He was a member of the British Medical Association

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Dr HERBERT HOYLE WHAITE of Erdington died in London on February 22nd following an operation He was educated at Birmingham and Durham, and graduated M B, B S Dunelm in 1907, in which year he also took the Scottish triple qualification After serving as casualty surgeon, house-surgeon, and house-physician at the Birmingham General Hospital he practised in Erdington He served throughout the war in the R A M C, and at the time of his death was Deputy Commissioner of Medical Services for the West Midlands Region of the Ministry of Pensions Dr Whaite was a member of the *Birmingham* Central Division of the British Medical Association He took great interest in theatricals, two of his plays—*Peradventure* and *The Super Cranl*—having been often performed locally by amateur companies

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Dr VOISLAV SOUBBOTITCH, professor of clinical surgery in the University of Belgrade, and one of the founders of the Belgrade faculty of medicine, died recently at the age of 64 His principal publications were on abdominal and war surgery While serving as surgeon colonel in the Serbian army he contributed a paper to the BRITISH MEDICAL JOURNAL (May 19th, 1917, p 646) describing an apparatus designed by him for the treatment of fractures of the femur and of the leg in a position of flexion or extension

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Dr LUDWIG UNGER, extraordinary professor of children's diseases in Vienna, and author of a textbook on pediatrics, has recently died at the age of 76

Professor DUPLAY, formerly professor of surgery in the Paris faculty of medicine, and member of the Academy of Medicine, has recently died at the age of 87

Dr LOWENFELD, a well known Munich neurologist and writer, has recently died at the age of 77

Medico-Legal.

LUNACY LAW AND ADMINISTRATION

HARNETT v. BOND AND ADAM

AN action seriously affecting the interests of the medical profession has been brought by Mr William Smart Harnett, a farmer of Springfield Newington, near Sittingbourne Kent, against Dr Charles Hubert Bond, a commissioner in lunacy, and Dr George Henry Adam the manager of a house for the reception of lunatics at Malling Place, West Malling Kent, and the hearing including the argument on the jury's findings and the delivery of the judgement, before Mr Justice Lush, in the King's Bench Division of the High Court of Justice, lasted from February 7th to 29th—seventeen days in all The action was for damages for alleged conspiracy, assault, and false imprisonment and the jury on the fifteenth day returned a verdict in the plaintiff's favour, awarding a sum of £25,000 as damages. In the preparation of the following account we have made much use of the reports published in the *Times*

Case for the Plaintiff

The plaintiff's case was that on November 10th 1912 he was received as a private patient at Malling Place on a reception order made by a justice of the peace on certificates signed by Dr Henry Fisher of Sittingbourne—against whom an action is pending for having so signed—and the late Dr Penfold of Sittingbourne. He was detained there until December 12th 1912 when Dr Adam with the consent of two visiting justices permitted him to be absent on probation for twenty-eight days On December 14th 1912 the plaintiff alleged that while in a room at the offices of the Commissioners in Lunacy Victoria Street Westminster the defendants conspired to cause him to be detained there and afterwards to be removed to Malling Place—Dr Bond causing him to be detained from 11 a m until 2 30 p m and Dr Adam ordering two keepers to go to the offices and bring him back to Malling Place Plaintiff was confined at that place until February 22nd 1913 and thereafter was kept in various reception houses until October 15th 1921 when he escaped He was thus rendered unable personally to carry on his business and manage his property By an order in lunacy made on July 17th, 1913 his wife Mrs Dorothy Isobel Harnett was appointed manager of his property but by another order made on December 12th 1921 it was restored to him

Mr J B Matthews K C in his opening said that Dr Bond as an individual commissioner in lunacy had no more right to give anybody into custody on the ground that the person was a lunatic than any member of the jury had The complaint with regard to him was that on December 14th 1912 with a heartless lack of consideration for the plaintiff and a courageous braving of the law he arranged for the plaintiff to be illegally taken into custody and taken back to Malling Place For eight and a half years Mr Harnett had been incarcerated in asylum after asylum although he was absolutely sane throughout that time

The plaintiff in his evidence said his mind was quite all right up to October 30th 1912 When his first wife died in 1908 he had an idea that he had taken some germ from her which set up a condition of nasal catarrh and his doctor pooh poohing it, he went to a quack in Chatham in October 1912 and received three injections of tuberculin which brought him to death's door—he suffered agonies physically and was in a high state of fever and delirium In fact he was absolutely out of his mind for several days towards the end of October 1912 being placed in the care of male nurses for five days He was an absolutely sane man when he was sent to the asylum When he went to the offices of the Commissioners in Lunacy on December 14th 1912 he told Dr Bond that Dr Adam had said that he was free for twenty-eight days and that he was under the care of his brother Arthur Harnett He remained at the offices for a considerable time as he thought his case was being looked into and about luncheon time he tried to go out for refreshments but a clerk repeatedly blocked the way About 2.30 p m Dr Bond came in with two keepers and seized his wrists saying that the keepers were two of his (Harnett's) friends who were going to take him back to Malling Place When he returned to the asylum he was put under rigorous treatment kept with the worst maniacs at night and threatened with the padded cell He never offered violence to anyone during the whole of the proceedings When on January 13th 1913 he wrote to Dr Adam, The good old dog fox when he is nearly caught turns round and faces the whole pack he wanted the doctor to face the Commissioners and to send him home From Malling Place he was transferred to a home at Croydon where he remained for four and a half years He acted as librarian and for his work of cataloguing over a thousand volumes he was thanked by the authorities He was transferred from asylum to asylum until he reached one at Aylsham Norfolk and while there he wrote to the Lord Chancellor asking why he was being detained the Lord Chancellor replying that he found on inquiry that he (plaintiff) was unfit to be discharged He thereupon wrote to Dr Bond that unless he denied the Lord Chancellor's statement he would consider the doctor had broken faith with him and that therefore it would be within his rights to break faith with the doctor in the matter of his parole He then escaped from Aylsham and for a fortnight evaded the vigilance of the police and his wife and his brother As under the statute the power to recapture must be exercised within fourteen days he became a free man once more He was afterwards examined by eminent doctors from whom he had affidavits as to his complete sanity

The plaintiff called several witnesses who deposed to his sanity Mr A A Norman a solicitor said the plaintiff was perfectly natural when he saw him professionally just before the plaintiff went to see Dr Bond in December 1912, and also when the witness saw him at a Croydon institution in June 1913

The Rev J W Jones said that plaintiff presided at brotherhood meetings at his church at Bournemouth in 1918 read the scriptures, led the prayers and gave addresses and he saw nothing abnormal about him

Dr J S Risien Russell who examined the plaintiff in November 1921 said that as a result of a long interview he certified the plaintiff as capable of looking after himself and his affairs

Dr A C Morton of Aylsham Norfolk who visited the plaintiff at the Aylsham home on the instructions of the Commissioners in Lunacy, said that when Mr Harnett in June 1921, brought one of the Commissioners the Hon John Mansfield (now Lord Sandhurst) to him he (Dr Morton) told Mr Mansfield that if the plaintiff was a free man he would refuse to certify him This witness had made various reports on the plaintiff's condition and these were put to him by the Attorney General (Sir Patrick Hastings K C) who appeared for Dr Bond

May 14th 1920 Talkative and excitable Has some religious mania Says he will give up his farm and devote all his time to the saving of souls.

June 11th 1920 He appears to be under the impression that he is being persecuted

Dr Morton said the above did not amount to a statement that the plaintiff had religious mania but that he was a religious enthusiast— something like the Salvation Army

Dr T B Hyslop said that he examined Mr Harnett in November 1921 and found no reason why he should not be given the administration of his own affairs

Case for the Defendants

The Attorney General in his opening said that Dr Bond was represented by the Crown because he acted in his capacity as a Commissioner in Lunacy and not as a private individual No one could doubt that the case raised questions of importance greatly exceeding that of the issues affecting Mr Harnett He had been considering what if any statutory protection could be introduced now to ensure that no person hereafter should remain in an asylum without independent investigation The best protection one would think would be that at stated intervals an absolutely independent doctor should be called in by the alleged lunatic or his friends and if there was any question of disagreement the patient should have an absolute right to a second independent opinion One of the great difficulties in dealing with mental cases was that nearly every one of them thought that they were wrongfully detained All that one could do was to get the best advice obtainable

Mr A Neilson K C (for Dr Adam), mentioned the fact that Mr Harnett's mother was insane

Dr Bond in his evidence said that on December 14th 1912 he was at the offices of the Commissioners in Lunacy when the secretary informed him that there was an excited lunatic in the waiting room who insisted upon seeing a Commissioner The file of papers relating to the plaintiff's case was brought to him and after he had read them he went and saw Mr Harnett but could not find out from him what was the reason for the visit The plaintiff talked incoherently using scraps of phrases and not finishing his sentences He wildly flourished a bag which jingled as though it contained money and witness gathered that he had obtained money from a bank He did not sit down and put his face close to the plaintiff's nor was Mr Harnett supplied with a cup of tea When the witness had his back to the fireplace the plaintiff put each of his hands on the mantelpiece encircling the witness with his arms He became more and more excited and after half an hour had elapsed the witness formed the opinion that the man was insane and quite unfit to be about unattended He had no fear personally of the plaintiff but he thought the average person would have been afraid Upon referring to the file he found that the plaintiff had been at Malling Place so a telephone message was sent to that address The witness was informed by Dr Adam that the plaintiff had been placed in the care of his brother and given leave of absence but that he had escaped from his brother Witness informed Dr Adam that the man was unfit to be about by himself A motor car was sent for to take the plaintiff back to Malling Place and in the meantime he was made as comfortable as possible and supplied with refreshments The witness had no recollection of taking hold of the plaintiff's wrists

Dr Bond cross-examined said it was not usual for the Commissioners to disclose to a patient the grounds on which he was certified but no one could be confined in an asylum for years without knowing the reason because it was the practice for doctors out knowing the reason because it was the practice for doctors to supply the information in conversation with a patient The plaintiff remained at the offices of the Commissioners in Lunacy of his own free will until the keepers arrived from Malling Place and he went away quietly with them The clerk had no instructions to prevent him going out If the keepers took Mr Harnett by the arms he called that friendly compulsion He did not remember the plaintiff telling him that the post office officials at Newington were religious and that one of them had said to him The Lord bless and keep you to the end The Commissioners in Lunacy tried to get patients out on probation and had no desire to curtail leave One of the reasons why he thought the plaintiff ought not to be at large unattended was that the man was excited and flourished his bag containing money and he (witness) told the plaintiff this on February 1st 1921

Mr Justice Lush Was that the only reason you gave him for sending him back?

Dr Bond I told him he was excited not himself and not in a fit condition to be out on probation, and I spoke of the money in the bag

Mr Justice Lush The strange thing about it is that the note the clerk made in December 1912 did not mention excitement, the bag of money, or that he was not himself

Dr Bond The note was not made by us together as a careful, formal report of all that transpired, neither was it meant to be inclusive of everything that the clerk or I saw

Dr Bond further cross-examined said the plaintiff was in a delusional state in the early part of 1921, and was under certificate and in charge of highly trained nurses

Mr Justice Lush It was only because he escaped and obtained independent opinion that he was found to have recovered?

Mr Matthews The Attorney General has said Mr Harnett was on the brink of release when he escaped

Dr Bond, asked by the judge to give an opinion of Mr Harnett's present state, said Mr Harnett had given his evidence in a perfectly coherent, sensible manner Witness had never personally examined Mr Harnett as to his mental state He did not mean that he thought Mr Harnett had not recovered, but he should like to leave his responsibility for that open

Mr Justice Lush thought it was common ground that the trouble had passed away

Mr Harold Morris, K C (appearing with the Attorney General for Dr Bond) So it has so far as I and the Attorney General are concerned but no medical man would express an opinion until he had satisfied himself by examination, and Dr Bond says that he has not examined the plaintiff

Lay witnesses spoke to interviews with Mr Harnett on November 6th, 1912, to his then going on his hands and knees, and grovelling about on the floor, and to his asking one of them to spell "parallelogram"

Mr Charles Mitchell Moir, a reporter, spoke of an interview with Mr Harnett on November 9th, 1912 He went in response to a telegram from Mr Harnett, and he thought plaintiff who had a wild expression, was not in his right mind The interview lasted nearly an hour, and in the course of it Mr Harnett reclined on his bed and described a vision he said he had had Then Mr Harnett went with the witness into the dining room, where he fell on his hands and knees and bowed his head to show the witness what he did when he had had a vision of the Deity

Cross-examined Mr Moir said Mr Harnett told him he had been ill from an overdose of vaccine but the witness thought he had imagined it He did not know the plaintiff was apprehensive of being sent to an asylum

Mr Arthur Harnett retired civil engineer, London Road Bromley, younger brother of plaintiff, against whom an action is pending on the ground that he was the person who originally caused the plaintiff to be sent to an asylum on November 10th, 1912, spoke to plaintiff's alleged delusions His brother had told him he had seen a bright light 'brighter than the lightness of the day,' and also that he had become suddenly mad, having to be held down Then his brother ordered witness to 'clear out' and Mrs Harnett left with the baby and nurse Witness thought his brother insane and engaged a man to look after him He had also seen his brother addressing groups of men in the village to demonstrate his sanity When the plaintiff was released on probation it was arranged that he should go home, but plaintiff stipulated that the witness should not walk with him in the village street Next day the plaintiff went to see the Commissioners in Lunacy he would not travel with the witness but went into the next compartment When the train reached Victoria the plaintiff gave him the slip

Cross-examined, he did not think the plaintiff was likely to offer violence to his wife at the time she left the house He had never once visited his brother during the eight years of his confinement His brother had sworn vengeance against him, and he understood that he was quite a dangerous lunatic The plaintiff's objection to his mother in law 'struck me as rather irrational His brother had knelt down and prayed for him while tears poured down his cheeks He thought it strange that his brother should begin to call him "Arthur dear Arthur" He did not think he could mention any specific delusions, but he thought his brother had delusions about his wife

The Attorney General Your brother has suggested that in his view his wife used you and Dr Penfold to get him put away Is there any truth in that?—Certainly not

Dr Adam, in his evidence, said in 1907 he joined his father, who owned the mental home at Malling Place and when his father died in 1908 he had complete control of the home In November, 1912 Dr Penfold telephoned asking whether he could receive Mr Harnett and when he examined Mr Harnett on admission he thought that he was maniacal His condition improved however and the witness took steps to let him out on probation for twenty eight days The form of leave of absence order issued in the case of the plaintiff was the same as was used in other cases It bore the proviso that the medical officer "shall at any time before the expiration of the said period have power to take back the said patient into the licensed house if his mental condition requires it The plaintiff left on December 12th with his brother, who had undertaken to take charge of him On December 14th, 1912, the witness received a telephone message from the offices of the Commissioners in Lunacy saying that the plaintiff was interviewing the Commissioners and that he did not appear to be in a fit state to be at large The only thing he could do upon the receipt of such a message was to act under the provision in the order and send for the patient This the witness did, sending two keepers who brought the plaintiff back in a motor car Upon arrival at Malling Place the plaintiff was in a very excited state and much worse than when he went away He had the delusion that he was going to be injected with drugs, and also that people were persecuting him, and that he was suffering from various diseases one being a tuberculous throat The plaintiff finally left Malling Place on February 22nd, 1913, and after that date witness had not[illegible] do with him

Cross examined, Dr Adam said as soon as a patient was [illegible] he tried to ascertain whether the grounds of certification were [illegible] founded He never heard that two men accompanied plaintiff [illegible] the asylum to protest against his incarceration That a man [illegible] address his friends and neighbours asking them to testify to [illegible] sanity was not by itself indicative of insanity That a man had [illegible] had acute mania on October 29th, 1912 caused by an injection [illegible] tuberculin would not of itself show that he was insane on November 10th, 1912 That a man should feel that he had a "call" to pray in the hope of saving souls was not evidence of unsoundness of mind That plaintiff should communicate with the Governor of Borstal Prison asking for leave to address the prisoners was a rather suspicious circumstance it was not a sensible thing to do Nor was it evidence of insanity that plaintiff should collect a harangue villagers in the street He admitted that the certificate giving the above as grounds of insanity were not very strong but added that all the facts taken together would be evidence of insanity The strongest evidence was the letter addressed to 'Dear Postal Officials," and beginning "Jesus has touched my eyes" He was not aware that this was a biblical quotation but thought the whole letter was indicative of insanity When the plaintiff arrived at the home his aspect was wild

Mr Matthews Would a sane man taken into an asylum be tame or wild?—Wild, I should think

Witness said plaintiff talked incoherently and rambling on religious subjects, and that was evidence of insanity In fact he was shouting The plaintiff was probably present at the whist end entertainment following his admission and even if he were incoherent otherwise he might have given a coherent recitation from *Alice in Wonderland* He admitted that a statement made to Mr Arthur Harnett in a letter in November, 1912 that his brother had made no complaints was untrue it was a mistake If the plaintiff still believed that he had a tuberculous throat after a throat specialist had said he had not that would be a delusion Plaintiff also thought that he had cancer of the throat There were many drugs with which people might be injected in such a way as to put them out of their minds Mr Harnett had a delusion that he might be treated in such a way In witness's opinion, it would not have been a breach of the conditions of the plaintiff's leave if he had left his brother and gone to see the Commissioners He did not think the plaintiff's desire to go and live with Lord Wolseley was a delusion as it might have been explained by the fact that Mr Harnett, as a believer in the efficacy of prayer found a kindred spirit in Lord Wolseley Witness did not see the plaintiff's letters to the Lord Chancellor or plaintiff's entries in his diary Counsel read the letter and the witness agreed that it was a fair inference to draw from them that the plaintiff was beating against the bars of his cage and struggling for freedom Although plaintiff's condition varied while he was at Malling Place, he was always inclined to be dangerous and witness had entered in his case book 'Action uncontrolled, jumping from one seat to another, throwing his arms about" His gesticulations were threatening

A former head attendant at Malling Place denied the plaintiff's allegation that he was subjected to rigorous treatment when he was brought back to Malling Place on December 14th, 1912 The plaintiff was not threatened with a padded cell

Dr Henry Fisher of Sittingbourne said he saw the plaintiff in an extremely excitable state haranguing the villagers at Newington on November 9th 1912, about magistrates witness and so forth, so he concluded the plaintiff was of unsound mind, and accordingly certified him as such

Mr Matthews 'Must you not see by questioning whether the man's answers are rational and coherent?—My duty is to make observation

Mr Justice Lush Is it your duty to put questions to the alleged lunatic?—Yes

Mr Matthews What questions did you put to the plaintiff and what answers did he make?—I cannot remember now any questions that I put

The witness denied the suggestion that he had been brought there for the purpose of certifying Mr Harnett and that he was prepared to do so on any flimsy material He went there with a perfectly open mind, and, in his opinion, the evidence was sufficient

This witness was recalled at a later stage of the hearing and admitted that his statement in his earlier evidence that if Mr Harnett had said that he (the witness) had attended Mrs Harnett he would have treated it as a delusion was untrue—counsel having produced a receipt given by him in respect of medical attendance upon the plaintiff's wife The witness in explanation said "The question was thrown upon me suddenly on a mind blank on the subject Naturally, I resented that question because I knew very little of it"

Mr Justice Lush In my opinion your conduct in regard to this evidence you gave is very reprehensible

Dr T Claye Shaw who saw the plaintiff at Malling Place on November 19th 1912 said it struck him as being a case of toxic insanity brought on by blood poisoning

Dr Ludford Cooper who was called in by Dr Penfold to see the plaintiff at Newington towards the end of October, 1912, said he had not the slightest doubt that the man was insane On December 13th 1912 Mr Harnett came into the witness's consulting room and prayed aloud on his knees The witness went to the fireplace and the plaintiff followed him on his knees still praying but beyond the words "Jesus Christ" he was quite incoherent and the witness did not know why the plaintiff wanted to consult him The plaintiff when he got up began to talk about a plot and a conspiracy between Dr Penfold and Mrs Harnett, and the witness was aware that this was not true This

witness happened to be at Malling Place once when the plaintiff came up and shook him warmly by the hand and asked him how to spell parallelogram

Dr Alfred Irby Webster of Rainham near Chatham said the plaintiff called upon him twice on December 13th 1912 and the first thing he said was Dr Webster you are a deeply religious man You believe in the Lord Jesus Christ The man was wild and excited in appearance and manner and the witness formed a very decided opinion that he was of unsound mind His belief was that the plaintiff wanted him to be his family medical adviser

Mr Oswald Dickinson secretary to the Commissioners in Lunacy at Victoria Street in answer to questions by the judge said a memorandum was kept of every visit to the offices

Mr Justice Lush How comes it that there is no reference in the memorandum of the plaintiff's visit to the condition of the plaintiff?—We do not put down the mental condition of a patient

Mr Justice Lush Not where you are sending to have him fetched because he is not fit to be at large?—No

Mr Justice Lush There is not a trace in the memorandum of any justification for sending him back except that he had escaped from his brother Can you account for that?—No

Mr Justice Lush I attach the very greatest possible importance to it

Dr E. S Passmore medical superintendent at the Croydon Mental Hospital said he fetched the plaintiff from Malling Place in February 1913 and during the return drive Mr Harnett explaining why he had been detained, said I was poisoned by tuberculin and it went to my head

Cross-examined the witness said the delusions which he himself detected in the plaintiff were his idea of possessing supernatural power and his ideas of suspicion and persecution He reported the plaintiff after admission to be suffering from mental exaltation He thought the plaintiff was tormented by voices from his general attitude and the manner in which he looked round if one spoke to him He believed it to be true that Mr Harnett offered the Board of Control £30 to send a mental detective to his home to see that he had fair play The plaintiff told him he had told Dr Cooper that he (the plaintiff) had the key to everything and witness regarded that as a delusion The plaintiff was reported on October 25th 1914 to be harbouring vengeance against everyone who had had anything to do with putting him in the asylum, and the plaintiff once said to witness I will do for them Witness thought it meant that plaintiff would do personal injury

Dr Berncastle assistant to Dr Passmore said the plaintiff told him he possessed a mission to save souls and claimed to possess supernatural powers He considered the plaintiff insane, and even now after hearing the plaintiff give evidence he would not certify that he was of sound mind without a special personal examination of him

Lord Sandhurst a visitor in lunacy who saw the plaintiff on July 9th 1913 May 18th 1917 March 20th 1920 and in June or July 1921 said that when he saw him in 1913 plaintiff was in a state of mental exaltation and attributed his illness to administration of toxin dating his religious zeal from the time of his illness The plaintiff was anxious to communicate his peace of mind to others and to preach to Borstal inmates The plaintiff thought his brother had been misled by Dr Penfold who had been actuated by annoyance at his (the plaintiff's) having consulted a quack instead of him Also he thought Dr Bond, in returning him to Malling Place was covering up a scheme for bringing his persecutors to justice The plaintiff was very voluble excitable, and demonstrative Lord Sandhurst added that his own object was to advise the master in lunacy on the appointment of a receiver but he was apprehensive that the plaintiff's condition might lead him to do rash things if he had charge of his own affairs In his opinion, it was in the plaintiff's own interests that he should remain where he was In 1917 Mr Harnett appeared more composed and in 1920 still more composed whilst by 1921 the witness after a long conversation with him could find nothing wrong with him

Sir James Crichton Browne, a visitor in lunacy for forty five years who visited the plaintiff at the Croydon home after Lord Sandhurst's visit in 1913 said that after an interview of three-quarters of an hour he was able to satisfy himself without any doubt as to the state of the plaintiff's mind— that he was of unsound mind and dangerous The witness had not seen the plaintiff before or since The plaintiff told him he had been injected with tuberculin by a quack that he had a special mission to preach to boys and girls about their sensual relations Witness asked him To girls? and Mr Harnett replied Yes God has prepared me Plaintiff also told him he had written a pamphlet entitled *Blood is Life* for circulation among boys and girls and further that a month after his marriage he had made a horrible discovery The plaintiff then became greatly excited beat his head with his hands wrung his hands and sobbed

At his Lordship's request the plaintiff's statement about his wife was written down by the witness his Lordship upon reading it observing I don't see any objection to this

The witness added that he came to the conclusion that plaintiff suffered from a delusion about his wife The plaintiff had said that when he made his discovery he had great difficulty in restraining himself That was one of the reasons why he (Sir James) construed him to be dangerous but without that statement witness would have considered Mr Harnett insane Mr Harnett also disclosed a plot in which five or six persons were concerned Dr Adam being the central figure The witness thought the excitement would subside and that Mr Harnett would obtain control over his delusions but he did not think that he would lose the delusions altogether

Cross-examined Sir James said he regarded the man's statement that his illness was due to the injection as a delusion

The plaintiff was then recalled and examined by Mr S Cope Morgan gave his version of the various interviews with the witnesses called by the defence It was because Dr Penfold did not believe in God that he asked Dr Webster whether he believed in God Dr Cooper called on him on October 31st, 1912 when he was recovering from his delirium and said to him Mr Harnett in my opinion you are perfectly sane It is entirely due to the toxin and you need not be afraid that it will ever occur again The plaintiff denied that when Dr Cooper called at Malling Place to see another patient he asked him to spell parallelogram What actually happened was that when he saw Dr Cooper Dr Adam and a third person seated in a room he went up to Dr Cooper and said Doctor I want to thank you for the true report you gave me on October 31st Now I know you will speak the truth Tell Dr Adam here when you saw me on October 31st, was I mad or sane? Dr Cooper replied Perfectly sane As to Dr Cooper's statement that the witness followed him about on his knees on one occasion in Dr Cooper's consulting room— it was absolutely false What actually happened was that he went down on his knees on a piece of furniture and told the doctor his domestic troubles as he had later told Sir James Crichton Browne

Counsel then addressed the jury

The Attorney General submitted that Dr Bond sent Mr Harnett back to Malling Place so that Dr Adam could see whether he was better or worse If Mr Harnett was sane the duty of Dr Adam was to set him free Nobody could suggest Dr Bond was responsible The only trespass in law which Dr Bond might have committed was the keeping of the plaintiff in the room until the keepers arrived to take him back to Malling Place

Mr Neilson submitted that Dr Adam had acted honestly reasonably and properly in an emergency and that he had done no more than any properly minded person would have done in the circumstances

Mr Matthews said the case showed how a sane man could be kept for years in a lunatic asylum On the jury rested the responsibility of rendering impossible in the future any repetition of the dreadful wrong done to Mr Harnett

Judge's Questions to the Jury

Mr Justice Lush in his summing up said that one sacred legal right that Mr Harnett, as any other citizen enjoyed was that of personal liberty and if the defendants had interfered with it without just cause or excuse they would have to suffer the consequences Dr Bond had no more control over the plaintiff's personal rights than he (his lordship) had Dr Adam's case was different from that of Dr Bond's but still if he had disregarded the plaintiff's rights and had acted in a way contrary to the law he would have to take the consequences of his wrongful act What more tragic thing could the jury conceive than that if the plaintiff was a sane person—he was admittedly a good business man—he should be taken off by keepers to an asylum and kept in asylums for nine long years associated with maniacs and deprived of his liberty? If the plaintiff had not escaped he (his lordship) did not know but that he might have been there now It seemed strange but it was the law that if a man hid himself for fourteen days he was a free man There was a question of law which, so far as he knew had never arisen before—as to the rights and duties of those who were responsible for the charge of the insane when a patient was let out with a restriction in the order that he was liable to be taken back if his condition required it

The judge's questions and the jury's answers were as follows

1 Did Dr Bond cause the plaintiff to be detained at the office until the attendants came for him?—Yes

2 Did he cause him to be sent back for the purpose only of his being examined by Dr Adam or for the purpose of his being detained at Malling Place?—Being detained at Malling Place

3 Did Dr Bond cause the plaintiff to be taken back?—Yes

Did he and Dr Adam agree after consultation that the plaintiff should be sent for and taken back?—No

Was the taking back entirely the act of Dr Adam?—No

4 Was the plaintiff of unsound mind on December 14th 1912?—No

Was he fit to be at large?—Yes

Was he dangerous to himself or to others?—No

5 Did Dr Bond honestly believe that the plaintiff was of unsound mind, not fit to be at large and dangerous to others?—No

6 Did he believe that the plaintiff had escaped from his brother's charge and if so was that his reason for having him sent back?—Yes

7 Did he take reasonable care to ascertain the true facts?—No

8 Did he honestly believe that Dr Adam had retained the power of retaking the plaintiff back during his twenty-eight days leave of absence?—Yes

9 Did Dr Adam when he received the telephone message and sent his car honestly believe that the plaintiff on December 14th 1912 was of unsound mind and unfit to be at large?—Yes

10 Did he honestly believe that it was in the plaintiff's interest that he should be taken back to Malling Place?—Yes

11 Did he take reasonable care in doing what he did?—No

12 Did he make it known to the plaintiff that he was liable to be taken if his mental condition required it?—No

13 Was the detention of the plaintiff at the Commissioners' office the act of Dr Bond alone or was it really the act of both defendants?—Dr Bond's

The jury assessed the damages at £25,000—awarding £5,000 of this sum in respect of the original detention of the plaintiff at Dr Bond's offices and allocating the remainder in the proportion of seven tenths against Dr Bond and three tenths against Dr Adam

Mr Justice Lush thereupon entered judgement against Dr Bond for £5,000 and against Dr Bond and Dr Adam jointly for £20,000, refusing a stay unless £5 000 was paid to the plaintiff by Dr Bond within a week, and £20,000 was paid into court or security given, within three weeks, the usual undertaking to be given as to costs which followed the event

Counsel asked whether security was necessary, as Dr Bond was represented by the Crown, but his lordship replied that his judgement was not given against the Crown but against Dr Bond If he had the assurance from the Government department that the money would be paid he would say no more He adjourned the application for a stay as against Dr Bond for a week, and as against Dr Adam for three weeks

Counsel said he could give an undertaking that if an appeal was brought on behalf of Dr Bond the conditions his lordship had imposed would be carried out

Judgement

Mr Justice Lush, in delivering judgement, alluded first to the important question of remoteness of damage Was it wrong in law for the jury to take into consideration as the damages which followed from the wrongful acts of the defendants the detention to which the plaintiff was subjected during the whole of the period from December 14th 1912, till October 15th 1921, when he escaped from the mental home at Aylsham? It was truly said that where there was a *novus actus interveniens* the chain of causation was broken, and it was contended that there was a *novus actus interveniens* here and that the chain was broken either when Dr Adam, on examining the patient after he returned to Malling Place, found that he was of unsound mind, or when the plaintiff was removed to Croydon in February, 1913, or on November 10th, 1913 when there was a recertification It was immaterial that neither Dr Bond nor Dr Adam would anticipate that the plaintiff would be detained for so long a time The test was not what the parties would have anticipated, but whether the damage was the direct consequence of the wrongful act In his opinion there was no *novus actus interveniens*, and the chain of causation was not broken It was quite open to the jury to treat the long detention as a direct consequence of the wrongful acts of the defendants The evidence showed how an unfavourable symptom might, and probably would, influence the medical superintendents and commissioners and visitors in considering whether the patient ought to be detained or discharged To ascertain whether a person was suffering from mental derangement was a difficult question for doctors to diagnose One of the obvious risks to which a patient in a lunatic asylum was exposed was that he might still be thought insane when, in fact, he was sane The risk of such a consequence [illegible] was directly caused by his being placed in an asylum, brother insane and engaged a man to look after [illegible] case Each following [illegible] addressing [illegible] of [illegible] the village to and the peril was especially great in the plaintiff's case when he received the plaintiff into the fresh medical superintendent when he received the plaintiff into the his home from the previous home would know the reports by the doctors at the previous places at which he had been detained and would know their views and observations with regard to him and would necessarily take into account in considering his mental condition what his previous history had been He could not regard the decisions arrived at by the different doctors commissioners, and visitors, at the various homes and the decisions arrived at by the medical superintendents in the homes from time to time, as a fresh intervention which would break the chain of causation What each doctor did was not to do some act which would injure the plaintiff but to omit to discover that he had recovered It was the failure to do something not the doing of some independent act, that caused the plaintiff's further detention In the view of his lordship the recertification on November 10th 1913, did not constitute an 'intervention What was done was mere machinery for the purpose of avoiding the necessity of having a new reception order drawn up It was quite obvious that the jury treated the plaintiff as of sound mind during the whole period and the evidence to that effect was clear and convincing The alleged delusions were not delusions at all, and the Attorney General did not really dispute in his closing speech that, at all events most of them were probably not delusions at all It had been contended that there was no evidence to support the finding that Dr Adam did not exercise reasonable care and it had also been contended that that finding was not consistent with the finding that he honestly believed the plaintiff was insane, and that it was his interest to be taken back

Dr Adam allowed the plaintiff to go out on December 12th 1912 with the consent of the justices or they had given their licence on his recommendation, and it was said that, as that licence was subject to the power of revocation if the plaintiff's mental condition required it that as Dr Adam had the honest belief at the time when the plaintiff was sent back to Malling Place that he was not fit to be at large, and that as it was his interest to be taken back Dr Adam was entitled to revoke the licence, and that it was immaterial as he had the honest belief what care he had taken to ascertain if his belief was well founded If he were to accede to that he would be laying down this principle—that a medical superintendent at an asylum owed no duty to his patients to take proper care at all events towards a patient who had so far recovered that he had been allowed out Of all others the unfortunate and helpless persons who had been certified as insane required every care from those in authority They were powerless to resist the actions of the officials who administered the Lunacy Law Dr Adam owed the plaintiff the duty to satisfy himself, before sending to have the plaintiff brought back, that he was insane and if he chose to act on some other person's opinion he did so at his own risk, whoever that other person might be He could not look at the matter from Dr Adam's point of view only and forget the rights of the plaintiff Dr Adam owed the plaintiff a duty to take reasonable care and honest belief afforded him no protection if he failed to take it The jury were well warranted in coming to the conclusion that there was nothing to prevent Dr Adam from going to see the plaintiff instead of agreeing that the plaintiff should be imprisoned at Dr Bond's and then put into a car and sent back To say that it made no difference whether Dr Adam examined the plaintiff before he sent for him or whether he sent for him first and examined him afterwards was a most serious misconception, as it was admitted by Dr Adam, if any such evidence was necessary, that to bring the plaintiff back would be very detrimental to his mental condition especially if, as was Dr Adam's view, he had not absolutely and completely recovered at the time when he was allowed to leave Malling Place Moreover, Dr Adam could and ought to have ascertained from Dr Bond before he sent his car what the plaintiff's symptoms were, and why Dr Bond thought he was not fit to be at large The importance to the plaintiff, if he had ascertained the facts was obvious His lordship referred to the findings of the jury against Dr Bond and said if Dr Adam had ascertained the true facts from Dr Bond he might never even have had to see the plaintiff at all If he had gone up he could have cleared the matter up, and would, no doubt, have allowed the plaintiff to remain out of the asylum Also, the jury were entitled to consider the strange indifference which Dr Adam showed afterwards in never ascertaining from Dr Bond what condition the plaintiff was in when Dr Bond sent his telephone message It evidenced his want of care throughout and his lordship was of opinion that there was ample evidence to support the findings of the jury

Finally, his lordship referred to the question of the onus of proof in cases where Section 330 of the Lunacy Act, 1890 applied, though he thought it immaterial in the view he took of the facts in that case Section 330 protected the medical superintendent and others if they acted *bona fide* and with reasonable care but the onus was upon them to prove that they were entitled to that protection It was never intended that the burden of proving a negative should be upon the person who brought his action on the ground that the official had exceeded his jurisdiction, though, as a matter of fact, Dr Adam had exceeded his jurisdiction but had failed to exercise the reasonable care he ought to have exercised to entitle himself to the protection given by Section 330

[Dr Adam's defence was conducted by the London and County Medical Protection Society, *Ltd*.]

An appeal has been lodged On March 5th counsel for the Attorney General for Dr Bond, and Mr Carthew for Dr Adam applied that the hearing might be expedited before Lord Justice Bankes said that he thought it could be arranged, and fixed the case to be taken early in April [illegible] pied [illegible] treatment [illegible] 1919

Universities and Colleges.

UNIVERSITY OF OXFORD

Rolleston Memorial Prize, 1924

THIS prize, which is now of the value of about £100, is awarded every two years, under the conditions stated below, for original research in any subject comprised in the following list Animal and vegetable morphology, physiology and pathology, and anthropology The next award will be made in Trinity Term, 1924

No candidate will be eligible (1) who has not either passed the examinations for the B A degree or the B M degree at Oxford or for the B A degree or the M B degree at Cambridge or been admitted as a candidate for the degree of B Sc at Oxford or as an advanced student for the degree of B A at Cambridge (2) who has exceeded a period of six years from attaining one or other of these qualifications or from his attaining the first of such qualifications if he has attained more than one (3) who has exceeded ten years from his matriculation Candidates wishing to compete must forward their memoirs to the Registrar of the University of Oxford before March 31st 1924 The memoirs may be printed treatises written or in manuscript should be inscribed Rolleston Memorial Essay and should bear the name and address of the author Memoirs already published are admitted to the competition No account will be taken of any research which has not been prosecuted by the candidate subsequent to his matriculation

UNIVERSITY OF CAMBRIDGE

AT a congregation held on March 1st, the following medical degrees were conferred

M B B Ch—R J V Pulvertaft A D Porter D N Seth Smith
M B —Man Wong (admitted by proxy)
B Ch —R J Lythgoe

UNIVERSITY OF LONDON

AT a meeting of the Senate held on February 27th Mr Richard Lake F R C S, was appointed as the first holder of the Geoffrey L Duveen Lectureship in Otology as from January 1st, 1924 Mr F J Steward M S, F R C S, was appointed to represent the University on the Council of the Fellowship of Medicine

UNIVERSITY OF LIVERPOOL

AT a meeting of the Council on March 4th Dr John Hay F R C P, Physician to the Royal Infirmary, was appointed Professor of Medicine as from October 1st, 1924

The Services.

THE WAZIRISTAN OPERATIONS

THE following paragraph appears in the course of a despatch to the Government of India from General Lord Rawlinson Commander-in-Chief in India regarding the Waziristan operations between January 1st, 1922 and April 20th 1923 and published as a supplement to the *London Gazette* of February 27th

> The medical authorities have performed invaluable work and by their preventive measures have ensured an exceedingly low rate of sickness while no epidemics have occurred

DEATHS IN THE SERVICES

Colonel Albert Louis Frederick Bate C M G Army Medical Service (retired) died of pneumonia in Queen Alexandra's Military Hospital Millbank on February 20th, aged 61 He was born on October 6th 1862 and was educated at the Methodist College Belfast Wesley College Dublin and the Ledwich Medical School in Dublin taking the L R C S I in 1884 and the L K Q C P in 1885 Entering the army as surgeon on July 28th 1906 he attained the rank of colonel on March 1st 1915 and retired on July 10th 1919 He served in the South African war from 1899 to 1902 taking part in operations in Natal and in Zululand and later being in command of the stationary hospital at Machadodorp in the Transvaal and received the Queen's and King's medals with two clasps to each During the war of 1914-18 he was twice mentioned in dispatches in the *London Gazette* of April 14th and June 15th, 1916 and received the C M G on June 3rd 1916

Lieut.-Colonel Alfred John Hull R A M C died at Peshawar on February 15th aged 48 He was born on September 2nd 1875 and was educated at Guy's, taking the M R C S the L R C P Lond and the L S A in 1897 and subsequently the F R C S in 1911 After filling the posts of clinical assistant at Guy's Hospital and at the Royal Westminster Ophthalmic Hospital and assistant house-physician at the Hospital for Women Soho Square he entered the R A M C as lieutenant on January 29th 1901 became temporary lieutenant colonel on April 3rd 1916 and was confirmed in that rank on June 1st 1918 He served throughout the recent war and was mentioned in dispatches in the *London Gazette* of June 15th 1916 and May 29th 1917 He was married and had four sons

Medical News.

THE annual report for the year 1922 of the Gordon Memorial College at Khartoum, where there are 751 scholars, has reached us at the time when the new medical school in Khartoum is about to be opened It will soon be possible, therefore for some of the senior scholars to receive a complete medical education, passing directly from one department to another of the College In addition to the general report, there is also an account of the research work proceeding in the Wellcome Tropical Research Laboratories Major Archibald, R A M C, describes the work done in the three sections—bacteriological chemical, and geological—and the papers and reports issued during the year A note on the archaeological work and on the natural history museum associated with the Memorial College illustrates the extent and variety of the education that is now available in Khartoum

THE Dean of the Middlesex Hospital Medical School has issued a statement to the effect that the Finance Committee of the school believes that the price of insulin might be reduced to something under 2s per 100 clinical units by utilizing the method of water extraction devised by Dr Dodds and Dr Dickens in the Biochemical Laboratory of the Bland Sutton Institute of Pathology of the Middlesex Hospital, and described by them in the issue of the *Lancet* for February 16th The method is based upon the recent work of a number of investigators, including Collip, Dudley, Best, Scott, Allen, and others The matter has been under investigation at the National Research Laboratory at Hampstead for some time, and a paper by Dudley, a member of the staff of the Department of Biochemistry and Pharmacology, is, we understand, about to be published in the *Biochemical Journal* The method, we gather, has so far been used only on a laboratory scale although the Finance Committee of the Middlesex Hospital Medical School believes that it is suited to the production of insulin on a large scale

THE Oxford Ophthalmological Congress, 1924, will be held at Keble College, Oxford, on July 2nd, 3rd, 4th, and 5th A discussion on the general principles of the treatment of convergent concomitant strabismus will be opened on July 3rd by Dr E Landolt (Paris) and Dr Ernest Thomson (Glasgow) The Doyne Memorial Lecture will be delivered on July 4th by Mr T Harrison Butler, the subject selected being microscopy of the living eye, with special reference to the Gullstrand slit lamp The official dinner will be held in Keble College on July 3rd

THE second half of the intensive course of post-graduate study at the Royal Northern Hospital will begin on Monday, March 10th, and continue throughout the week At the Royal Free Hospital, on Wednesdays, at 5 30 p m, Dr C B Heald is giving a series of lecture demonstrations on recent advances in medical electrical treatment On successive Tuesdays and Saturdays, beginning on March 8th, at 11 a m, Dr Porter Phillips and Dr Thomas Beaton are giving a series of clinical lectures on the diagnosis and symptomatology of mental diseases, the psychoneuroses, and the medico-legal aspect of insanity At the Royal Waterloo Hospital for Children and Women there will be a course on diseases of children from March 17th to April 5th in the afternoons Particulars regarding any of the above courses may be had from the Secretary, Fellowship of Medicine, 1, Wimpole Street, W 1

A LARGELY attended service in memory of Sir Malcolm Morris, K C V O, was held at St Marylebone Parish Church on Tuesday, March 4th, the vicar the Rev Dr Morrison, officiating The congregation included many leading members of the medical profession and representatives of public bodies with which Sir Malcolm Morris was connected The British Medical Association was represented by Dr Alfred Cox, Medical Secretary

THE annual dinner of the Medical Society of London will be held at the Grand Hotel, Trafalgar Square, W C, on Wednesday next, March 12th, at 7 for 7 30 p m

THE annual meeting of the Mental After Care Association will be held at the Mercers' Hall, Ironmonger Lane E C 2, on Tuesday March 11th The chair will be taken by Sir Charles C Wakefield at 3 45 p m

A MEETING of the Maternity and Child Welfare Group of the Society of Medical Officers of Health will be held at 1, Upper Montague Street, W C 1, on Thursday, March 20th, at 8 p m Dr Robert Hutchison will read a paper on the feeding of children after the period of infancy, to be illustrated by lantern slides The lecture is open to all interested in maternity and child welfare work, and members of the dental and school medical groups are invited to attend

THE annual meeting of the Society for the Study of Inebriety will be held at the house of the Medical Society of London (11, Chandos Street, W 1) on Tuesday, April 8th, at 4 p m, when Dr Bedford Pierce, consulting physician to the Retreat, York, will open a discussion on mental states in alcoholism

A CHADWICK lecture on the small pox and vaccination question to day will be given by Dr C Killick Millard, M O H Leicester, at the old London County Council Hall, Spring Gardens Charing Cross on Monday next, March 10th Sir Arthur Newsholme, K C B, M D, will take the chair at 5 15 p m

BY direction of the Commissioners of H M Works and Public Buildings, Messrs Horne and Co will offer for sale at the Government Instructional Factory, Camden Town N W, on March 17th and following days, a collection of aseptic furniture and medical stores

AT the January matriculation examination of the University of London 74 candidates passed in the first division and 733 were successful in the second division, 64 took the supplementary certificate in Latin

THE Provisional Committee of the American Hospital in London is now ready to receive patients at its temporary headquarters, Manor House, 47, St John's Wood Park, N W 8 near Marlborough Road Station The patients are limited to American citizens, American wives of British subjects and their children Applications for the admission of patients and all communications relative to the hospital must be made to Mr Philip Franklin F R C S Medical Director, 27, Wimpole Street, London, W 1 telephone, Mayfair 868

THE Lady Byng of Vimy Fund for Mental Hygiene was inaugurated at a public meeting held at Montreal in January and has already received generous support throughout Canada It will be utilized for the following purposes (1) Stimulation of mental hygiene activities among children, with a view to the prevention of insanity, the control of feeble mindedness and the treatment of nervous diseases this work will be centred in the primary schools juvenile courts and reformatories of the Dominion (2) Organization of a department of research in mental hygiene for the stimulation of scientific activity in mental hospitals (3) Co-operation with Government and local officials in obtaining better facilities for the treatment of insanity, feeble mindedness, and nervous diseases

SIR JOHN BLAND-SUTTON, F R C S Sir Gow'd May Dr D T Rocyn Jones, and Dr J A H White have been promoted Knights of Grace in the Order of St John of Jerusalem, and Dr A B Howitt has been appointed an Esquire

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the *Financial Secretary and Business Manager, 429, Strand, London,* W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the *Editor,* BRITISH MEDICAL JOURNAL, 429, Strand, W C 2

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W C 2, on receipt of proof

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westrand, London*

MEDICAL SECRETARY, *Mediocra Westrand, London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 4737, Dublin), and of the Scottish Office, 6 Rutland Square, Edinburgh (telegrams *Associate, Edinburgh*, telephone, 4361, Central)

QUERIES AND ANSWERS

"H T" asks whether violet ray treatment has been found beneficial, if so, in what cla s of cases He asks also for references to books dealing with this subject

DOSE OF MALE FERN IN CHILDREN

"J M" asks for information as to the dosage of male fern or other suitable anthelmintic for a case of tapeworm in a child of 16 months It would seem (he writes) that a dose calculated in the usual way for children will fail to be lethal so far as the worm is concerned, and, on the other hand, one fears that a dose large enough for this will probably be too much for the child Male fern in doses calculated for the age has already been given on two occasions in this case but without any apparent result as regards bringing away the head of the parasite

INCOME TAX

"B G" qualified in December, 1922, and earned £75 in the period ending April 6th 1923, during the following year he has earned £200 and is now out of employment doing post graduate work

*** He is not liable to income tax for 1922-23, as regards 1923-24, we presume that the expenses quoted for books and instruments represent original outlay rather than renewa s, in wh ch case his liability would appear to be as follows

		£
Cross earnings		200
Deduct expenses (say)	..	3
		197
Earned income allowance	.. ..	20
		177
Personal allowance	..	135
		42

Tax payable at 2s 3d in the £ = £4 14s 6d

We advise him to write to the collector from whom he has received the 1922-23 demand note, asking to be put into communication with the appropriate inspector of taxes, to whom he should explain that the formal notice of assessment did not reach him, and apply for a discharge of the assessment

'B B A" inquires as to a concern which was taken over by a private limited company in April, 1921 Before that date the then proprietor made profits of *from* £4 000 *to* £6,000 *per annum*, but since the results have been as follows

Year ending April 1922	loss of	£1 400
1923		£450
Six months ending October 1923	profit	£1 400

What is the income tax liability for 1923-24?

*** The rule as to the three years' average is not affected by the change of proprietorship, and the liability is one third of £6,000 – £1,400 – £450 = £4,150—that is, £1,383 But in such a case as this there is a right to have the assessment reduced to the end of the year to the actual profit provided that it can be shown that the falling off in the profit has been due to a specific cause—for example, to the payment of directors' fees which did not operate against the profits of the previous proprietor For instance, the company can, prima facie claim at this date to have the assessment of, say, £5,000 for 1922-23 reduced to *nil*, but it is too late now for a similar claim to be made for 1921-22 Whether such a claim will be worth while for the year 1923-24 depends on the results of the half year's work to April, 1924

LETTERS NOTES, ETC

INTER HOSPITAL RUGBY CUP TIES

THE final match of the London United Hospitals Rugby Football Cup competition, 1924, is fixed for Wednesday next, March 12th when St Bartholomew's will meet King's College Hospital on the Richmond Athletic Ground *In the first* round Bart's beat St Thomas's, and St George's beat Charing Cross, the other drew byes In the second round Guy's beat University College Hospital, King's beat St Mary's, Bart's beat Middlesex, and the London Hospital beat St George's The semi finals were played last week, and each provided a desperate game full of excitement and hard play On February 26th King's College Hospital, whose fifteen includes two or three players of note managed to beat the London Hospital by a narrow margin The critical match of this year's competition was played on February 28th, when the two strongest fifteens—Guy's and St Bartholomew's—met once again, and Bart's at length defeated their formidable opponents, who have held the cup for many years past It will be surprising if the winners of this match lose the final, for they have a very strong and well balanced forward line, several fine three quarter backs, and a tower of strength in their full back Should they fulfil expectations the challenge cup will return to Smithfield after an interval of some forty years Bart's have many times been the runners up, but have not won the cup since the days when, we believe, Sir Anthony Bowlby was a member of the team

FROZEN TOXIN ANTITOXIN REACTIONS

THE *Journal of the American Medical Association* for February 16th contains an editorial note and two letters dealing with the results produced by freezing diphtheria toxin antitoxin mixture. Two batches which had satisfactorily passed all laboratory tests for harmlessness and purity were used in January in two towns in Massachusetts for some forty children, the reactions were slight and of the usual kind During an *intensely cold spell* a number of ampoules of the same batches were frozen, and when this toxin antitoxin was melted and used for further injections severe *local and constitutional reactions developed* This preparation when tested was found to produce in animals the normal reactions, but after freezing became toxic for them. Other preparations, however, similarly tested, failed to show any increase in toxicity after prolonged freezing From the investigation of the circumstances the recommendation made is that these mixtures should not contain more than the minimum practical amount of toxin, and should not be used if they have been frozen It appears likely that, whereas a short period of freezing is harmless, prolonged freezing causes dissociation of the antitoxin from the toxin, so that the former passes more or less out of solution, and the mixture *therefore becomes toxic*

ALPINE TUBERCULOSIS STATIONS

SIR HENRY LUNN, M D , writes My friend, Dr R A. Young, in his interesting lecture, refers to Montana and Leysin as "of the lower places" As a matter of fact there is not much difference between the heights of these places and the heights of Davos and Arosa, Leysin being 4,757 feet above sea level and Montana 4,920 feet

PERFORATED DUODENAL ULCER

DR C J H AITKEN (Kilnhurst, near Rotherham) reports a case of perforated duodenal ulcer Chronic indigestion and pain, unrelieved by medical treatment, raised the question of surgical treatment, especially since there was rigidity in the right iliac fossa, but the patient refused operation A few days later there was a sudden attack of jaundice which gradually disappeared A few weeks later very acute abdominal pain was experienced with general abdominal rigidity An operation was performed and a perforation found in an old standing ulcer situated at the junction of the stomach and duodenum

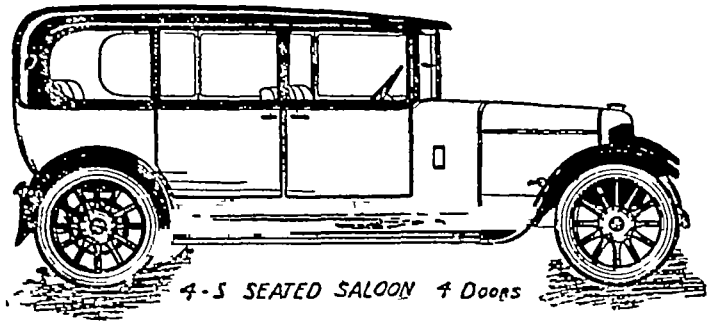
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DR C KILLICK MILLARD (Leicester) writes with reference to a disclaimer from him, published on February 16th, that the firm concerned has agreed to publish an apology and to give fifty guineas to some public institution to be designated by him

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 36, 37, and 38 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *131*



4-5 SEATED SALOON 4 DOORS

De Dion Bouton

This 4 Door Saloon is draught and rattle proof, well lighted, cosy in winter, cool and sun-protecting in summer It seats 4-5 persons comfortably, and the deep, wide, yielding cushions ensure an absence of fatigue on the longest journey The car can be painted and trimmed to choice There are four power grades of chassis and the equipment includes Four Wheel Brakes and O H V Engines

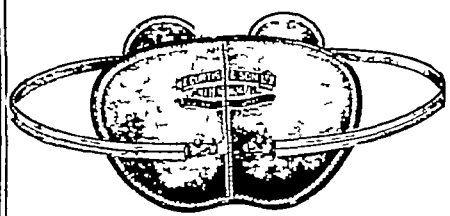
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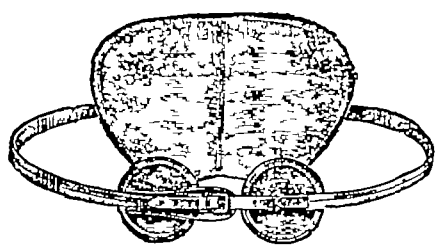
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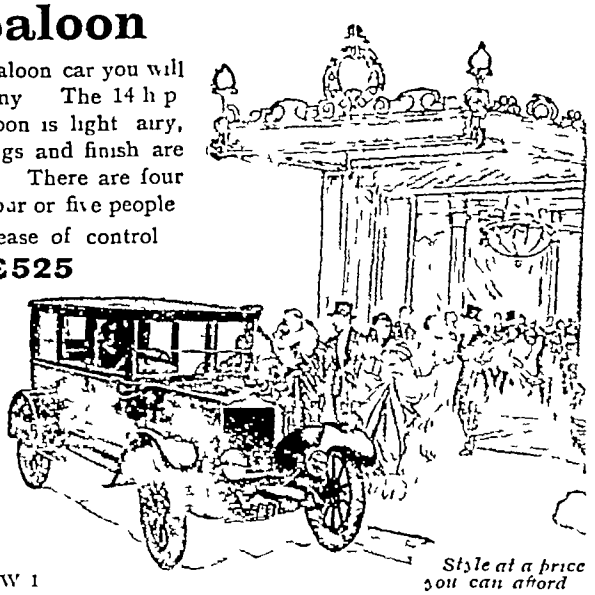
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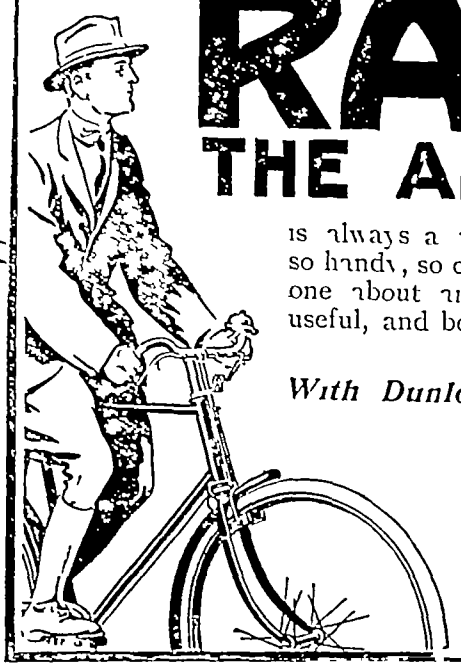
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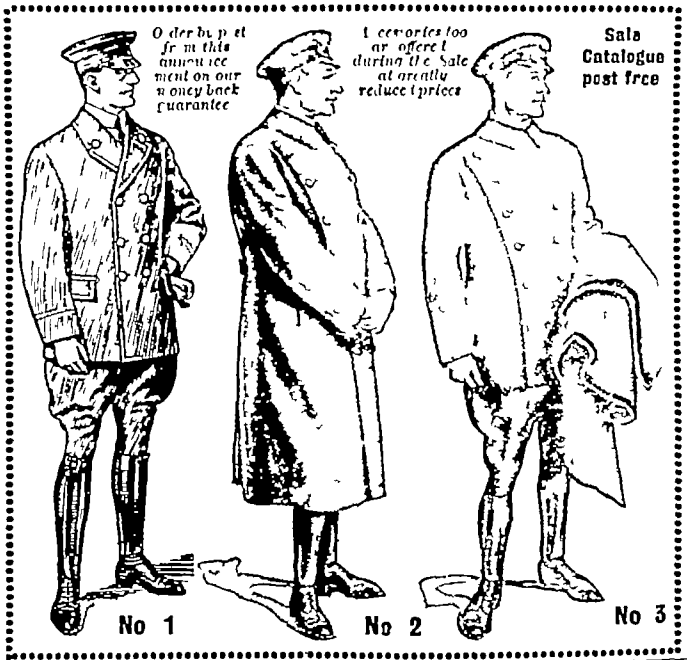
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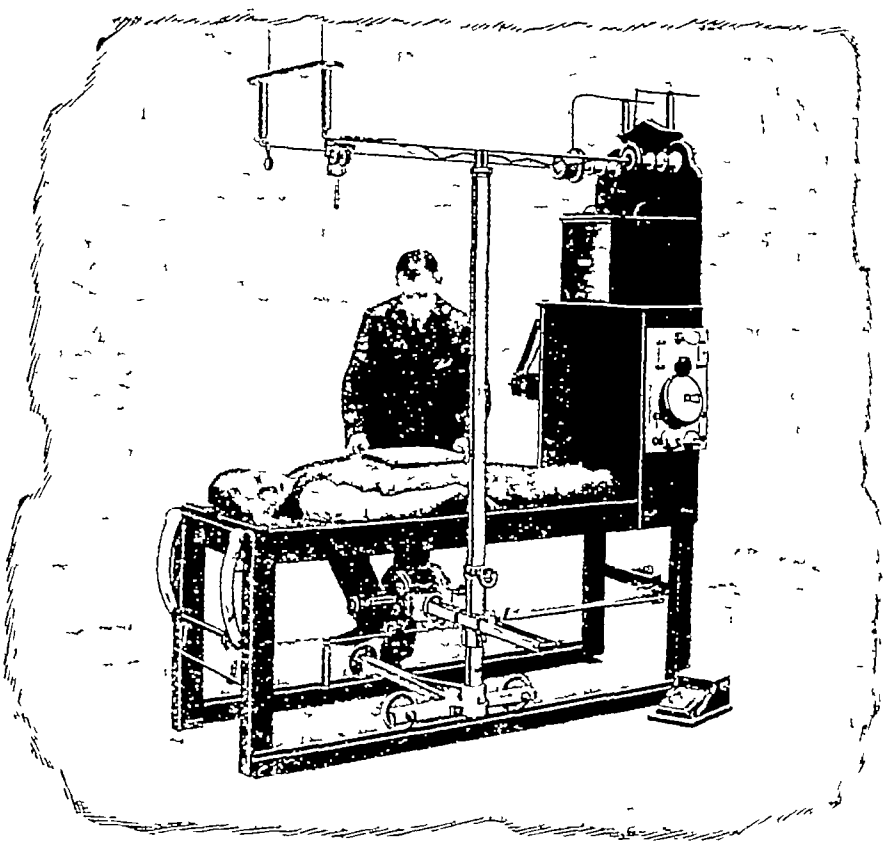
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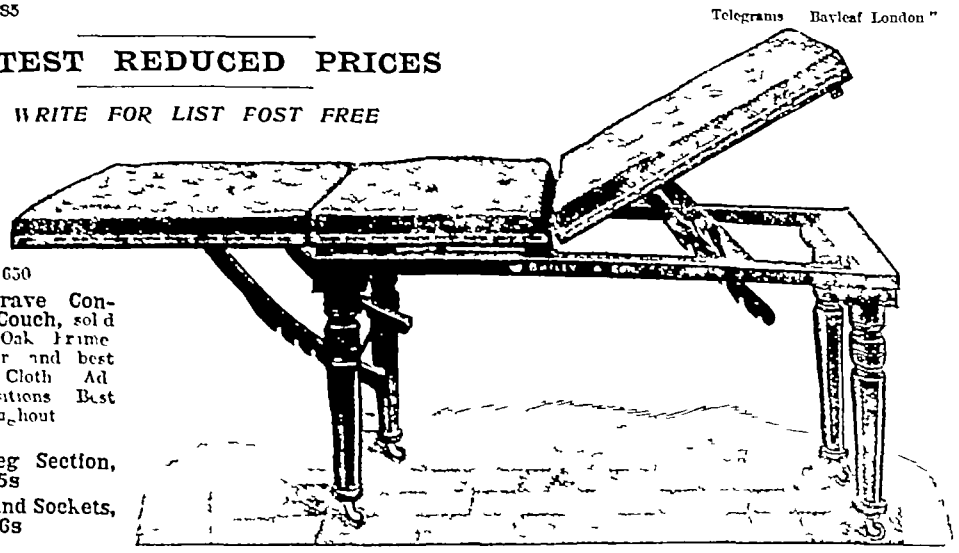


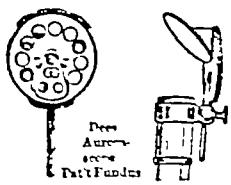
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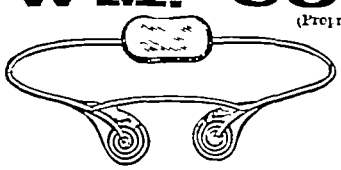
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This Institution is exclusively for the reception of a limited number of **Private Patients** of both sexes of the **Upper and Middle Classes**, at moderate rates of payment It is beautifully situated in its own grounds on an eminence a short distance from Nottingham and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted

For terms &c apply to the Medical Superintendent

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For terms apply MEDICAL SUPERINTENDENT Tel No 8 Formby

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A HOUSE licensed for the reception of a limited number of ladies of unsound mind Both certified and voluntary patients received This is a large country house with beautiful grounds and park 5 miles from Sheffield. Station Grange Lane G C Railway Sheffield Telephone No 31 Rotherham Resident Physician—GILBERT E. MOULD L.R.C.P M R C.S Consulting Physician — OROCHLEY CLAPHAM M.D F R.C.P E.

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University of London

A LECTURE on 'The PATHOGENESIS OF BRITAIN NUTRITIONAL DISORDERS' will be given (in English) by Professor K. GORTER (Professor of Pediatry in the University of Leiden) at the HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1, on WEDNESDAY, MARCH 12th, at 5 p.m. The Chair will be taken by Professor G. F. STILL, M.D., M.A., F.R.C.P.
Admission free without ticket.
EDWIN DELLER, Academic Registrar.

Royal College of Physicians

Lt.-Col. GLEN LISTON, C.I.E., M.D., will deliver the MILROY LECTURES on March 11th, 13th, and 18th, at 5 o'clock, at the College, Pall Mall East, S.W. Subject: "The Plague."
Any member of the Medical Profession admitted on presentation of card.
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H. M. BARLOW, Bedell and Secretary.

London (Royal Free Hospital)

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A CLASS in OPERATIVE SURGERY will be arranged in May, 1924, for Medical Women reading for the Final F.R.C.S. and M.S. Examinations.
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County of London

CORONERSHIP OF THE SOUTHERN DISTRICT.

The London County Council invites applications for the appointment of Coroner for the Southern District of London. The salary attached to the office is £981 18s. a year, and it is probable that the selected candidate will be appointed by the Duchy of Lancaster to the vacant Franchise District of Clapham at a salary of £50 8s. a year, making the combined salary £1,041 0s. a year.
The Coroner will be required to provide the necessary office accommodation and clerical assistance and also to defray all other expenses of the office (including the services of an approved deputy), except the actual disbursement at an inquest, according to the Council's schedule.
The duties of Coroners are regulated by the Coroners Act, 1887, and other Acts, and candidates must be qualified as required by Section 1. of the Act of 1887.
Preference will be given to persons who have served or attempted to serve with the Forces of the Crown. Candidates must possess both a legal and medical qualification.
Applications must be made on forms to be obtained from the Clerk of the London County Council, the County Hall, Westminster Bridge, S.E.1. A stamped addressed foolscap envelope should be enclosed. The latest time for receiving applications is 11 a.m. on Monday, 24th March, 1924. Candidates must not be under 35 or over 55 years of age. Canvassing of members of the Council will disqualify.
JAMES BIRD,
Clerk of the London County Council.
The County Hall,
Westminster Bridge, S.E.1.
6th March, 1924.

County of London

The London County Council has from time to time vacancies for SEVENTH ASSISTANT MEDICAL OFFICERS in the Mental Hospitals under [illegible] ...ale war.
Salary £300 a year, rising by annual increments of £25 to £400 a year, without emoluments (also at present) temporary additions to salary making the total commencing remuneration about £440 a year. Charges made for board, lodging, etc. (at present £2 9 0 weekly) to such officers as are resident.
[illegible]
Mental Hospitals Department, County Hall, West minster Bridge, S.E.1. Canvassing disqualifies.
JAMES BIRD,
Clerk of the London County Council.

The Barbados General HOSPITAL.

Wanted, a duly qualified Medical Practitioner as JUNIOR RESIDENT SURGEON of the Barbados General Hospital. A man who has had experience in administering Anæsthetics preferred.
Salary £250 per annum with furnished quarters, and there is also at present a temporary War Bonus of 20% in addition to the salary.
Applications accompanied by professional and other testimonials stating age and date of graduation will be received by the Steward and Secretary of the General Hospital up to 12 o'clock noon on Wednesday, April 9th, 1924.
Canadian Graduates must be registered in a province registration in which will entitle them to be registered in the United Kingdom.
Candidates holding a United States Diploma must be registered in the State of New York.
By order of the Deputy Chairman of the Court of Trustees and Directors.
General Hospital, Jemmott's Lane, Bridgetown, Barbados, B.W.I.
J. WARD,
Steward & Secretary.
6th February, 1924.

Evelina Hospital for Children, Southwark, S.E.

The Committee of Management requires a HOUSE SURGEON (male) for four months and HOUSE PHYSICIAN (male) for six months both from 17th April. Salaries at £160 per annum, with board, residence and washing. Candidates should send applications stating age and qualifications (with dates) together with copies of four testimonials to the Secretary at the Hospital before 1st March.
Suitable applicants (qualified and registered) will be informed when they must be interviewed by the Medical Committee.
Selected candidates must attend Committee of Management.
Time and place of meeting will be notified by the undersigned from whom rules and other particulars relating to the post may be obtained.
By Order of Committee of Management,
H. C. STANILAND SMITH,
3rd March, 1924. Secretary.

Seamen's Hospital Society, Greenwich, S.E.

[illegible] *the appointment of* HOUSE [illegible] *Hospital* [illegible] male, doubly qualified and registered.
The elected candidates will be required to take up duty on the 1st of April, 1924. Salary at the *rate of £150 per annum and a proportion of fees* with board, residence and washing. The appointment will be for six months.
Applications, stating age, together with copies of not more than three recent testimonials to be sent in on or before the 21st March to the undersigned from whom further particulars can be obtained.
By Order,
Greenwich, 3rd March, 1924.
F. J. MICHELLI,
Secretary.

Seamen's Hospital Society, Greenwich, S.E.

The Committee invite candidates for the appointment of HOUSE SURGEON at the Albert Dock Hospital, Connaught Road, E.16. Candidates must be male, doubly qualified and registered.
The elected candidate will be required to take up duty on 1st April, 1924. Salary at the rate of £150 per annum and a proportion of fees with board, residence and washing. The appointment will be for six months.
Applications, *stating age, together with copies of* not more than three recent testimonials to be sent in on or before the 21st March to the undersigned from whom further particulars can be obtained.
By Order,
Greenwich, 3rd March, 1924.
F. J. MITCHELLI,
Secretary.

Doncaster Royal Infirmary AND DISPENSARY

JUNIOR HOUSE SURGEON (male) required at once. The scope of work is wide and valuable, surgical experience is afforded. Salary £150 per annum with board, residence and laundry.
Applications, with full particulars and copies of testimonials to reach the undersigned by Wednesday, 9th March, 1924.
R. WILFRED A. ELLISTON, Secretary.

Northampton General HOSPITAL.

Wanted for the *31st March* HOUSE SURGEON male unmarried. Salary £150 per annum, board residence washing and attendance provided.
Applications, stating age, qualification, etc., with copies of testimonials, to be sent to the undersigned not later than 14th inst.
O. S. RISBEE,
3rd March, 1924. Secretary, Superintendent.

The Queen's Hospital for CHILDREN, Hackney Road, Bethnal Green, E.2.

The Committee invite applications for the post of ASSISTANT SURGEON to the Ear, Nose and Throat Department.
Attendance required on Thursday morning for about three hours, commencing at 9.30, and during the holidays, or absence from other causes of the two Senior Surgeons, to the Department on Monday and/or Tuesday morning, with charge of beds during these periods. Lunch provided and honorarium to cover travelling expenses.
Candidates must be Fellows, by examination, of the Royal College of Surgeons, England.
Applications, with copies of three recent testimonials which may be printed or typewritten, should be sent on or before 4th April to the undersigned, from whom further particulars may be obtained.
T. GLENTON KERR,
3rd March, 1924. Secretary.

The Queen's Hospital for CHILDREN, Hackney Road, Bethnal Green, E.2.

PATHOLOGIST required. Salary £300 a year with lunch. Twenty-four hours duty during a week at times to be arranged. Appointment will be made for twelve months and the holder will be eligible for re-appointment.
Applications, with copies of testimonials, should be sent on or *before 31st March* to
1st March, 1924. T. GLENTON KERR.
Telephone: Dalston 305 and 531. Secretary.

Lancashire County Mental HOSPITAL, Winwick, Warrington.

ASSISTANT MEDICAL OFFICER required. Salary £300 per annum together with board, furnished apartments, attendance and washing, valued at £150 per annum, for superannuation purposes plus the Civil Service bonus which at present is £140 16s. 8d. Candidates must be registered under the Medical Act.
The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.
Application, stating age, whether married or single, together with copies of testimonials, etc., to be forwarded to the Medical Superintendent *not later than first post on the 18th instant.*

London Lock Hospital, 91 Dean Street, London, W.1.

The Board of Management invite applications for the post of *HOUSE SURGEON* at the Male Lock Hospital. Candidates must be doubly qualified and duly registered. *Salary at the rate of £200 per annum* with furnished flat, full board and laundry.
The appointment to be *for 6 months* duties to commence 21st April, 1924.
Applications, enclosing copies (only) of three *recent testimonials to be sent to the undersigned* at the Male Lock Hospital, 91 *Dean Street*, W.1 on or before 10 a.m. March 24th, 1924.
By order of the Board,
HY. J. EASON, Secretary.

Croydon General Hospital

Wanted JUNIOR HOUSE SURGEON (Male). Salary £150 per annum with residence, board and laundry. Candidates must hold registered qualifications in Medicine and Surgery. The appointment will be terminated by one month's notice. Applications stating age and earliest date upon which duties could be commenced, *accompanied by copies* (which will not be returned) of recent testimonials to be sent to the undersigned.
Croydon, 20th February, 1924.
GEORGE H. DAMS, Secretary.

Charing Cross Hospital

ASSISTANT OBSTETRIC PHYSICIAN.

Applications are invited for the post of Assistant Obstetric Physician to the above Hospital.
Candidates must be graduates of a University, [illegible] R.C.P. or F.R.C.S., [illegible] by copies of 3 recent [illegible] the undersigned not [illegible].
(Signed) H. A. A. INMAN,
Charing Cross Hospital, London, W.C.2. House Governor.

East London Hospital for CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.1.

Applications are invited for the post of MORNING CASUALTY OFFICER (Male), non-resident, at a salary of £120 per annum, with lunch. The post is for six months, subject to reappointment by the Board. Applicants must be duly qualified and registered, and will be expected to attend the Meeting of the Selection Committee.
Applications, with testimonials to be sent to the undersigned not later than Wednesday, 19th March.
W. M. WILCOX, Secretary.

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Wanted an Assistant in a good-class General PRACTICE Ex H P or H S, one desiring a permanency Must be a gentleman Motor cyclist and good anæsthetist — Addre s including photograph (to be returned) *No 1108* BRIT MED JOUR. 429 Strand W C 2

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Wanted, Outdoor Assistant, next week in London middle class and panel practice State age married or single nat onality date qualified positions held since Furnished rooms good increasing salary —Ad lress *giving refs No* 1304 B M J 429 Strand W C 2

Wanted —Outdoor Assistant-SHIP or Charge of Branch M R C S L R C P age 47 mar ied one child Cyclist, abstainer Midlands or London district preferred — Address No 1212 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted, Assistant, outdoor General and Panel Practice Derbyshire — *Address, stating references* and other essential par ticulars to No 1305 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted —Assistantship by M B Ch B Scotch, young single ener getic Experienced General Practice Cyclist motor-cyclist, able to drive car —Address No 1302 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted Assistantship by M B Ch B (Edin) Scotchman single, ex service age 27 Drive car or cycle Excellent reference and testimonials —Address, No 1211. BRITISH MEDICAL JOURNAL Office, 429 Strand W C

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The Royal Earlswood INSTITUTION Redhill, Surrey (Under Mental Deficiency Acts, 1913)

JUNIOR ASSISTANT MEDICAL OFFICER required —

Applicants must be registered Practitioners unmarried and willing to assist in the games amusements

The appointment is tenable for three years if desired Inclusive salary commences £200 per annum with board residence and washing Annual increment £15 per annum up to £250 Special facilities for Post Graduate Studies, Classes Examinations.

Applications stating age religion and qualifications with copies of three testimonials of recent date and two references to be sent on or before 15th March to the Secretary at the Office 10, Lincoln's Inn Hill E C 4. The envelope to be endorsed "Assistant Medical Officer" H HOWARD

27th February 1924 Secretary

Salford Royal Hospital (760 Beds)

Applications are invited for the following vacancies which will occur in the Resident Medical Staff (Male) on the 31st March next—

RESIDENT MEDICAL OFFICER Salary at the rate of £175 per annum.

THREE HOUSE SURGEONS Salary at the rate of £125 per annum each

CASUALTY HOUSE SURGEON Salary at the rate of £125 per annum

The appointments are for a period of six months with board and residence Candidates must be registered under the Medical Acts

Applications stating age and qualifications together with copies of testimonials and certificate of registration to be addressed to the undersigned without delay

By order of the Board GEORGE RUDD F.R.C.S. General Superintendent & Secretary

Salford Royal Hospital Manchester

25th February 1924

Royal National Orthopædic HOSPITAL.

Applications are invited for the post of HOUSE SURGEON The appointment is for six months renewable for a further period of six months on the recommendation of the Medical Board Duties to commence on April 1st next Salary at the rate of £150 per year with quarters board and laundry

Applications with copies of testimonials to be sent to the Secretary at 234 Gt. Portland Street, W.1 not later than March 14th

Dorset Mental Hospital, near Dorchester

THIRD ASSISTANT MEDICAL OFFICER required Commencing salary £350 to £400 with board furnished rooms, laundry and attendance valued for pension at £120 Applicants must be male single not over 5 And either resident appointment in a General or Mental Hospital a recommendation. Apply at once copies of three recent testimonials to the Superintendent

The Sheffield Royal Hospital

Applications are invited for the post of RESIDENT SURGICAL OFFICER which falls vacant on the 31st of March 1924 Salary £200 per annum with board and residence in the Hospital Candidates must be registered medical practitioners unmarried Ladies are not eligible

Applications with copy testimonials to be forwarded to me by Tuesday the 18th of March The gentleman appointed will commence duty on the 1st of April 1924

The Board Room, 5th March 1924 JOE W ROBINSON Secretary

Essex County Hospital, Colchester (120 beds)

Wanted applications for combined post of ASSISTANT HOUSE SURGEON & ANÆSTHETIST (Male) Salary £150 with board washing residence Medical and surgical qualifications required Applications with three recent testimonials to be sent before Saturday the 15th March to

ALFRED G BUCK, Secretary

Liverpool Stanley Hospital.

ONE MALE HOUSE PHYSICIAN and ONE MALE HOUSE SURGEON required for April next Salary £100 per annum with board residence and laundry Applications accompanied by three recent testimonials to be sent to the undersigned by March 11th 1924

FRANK WHITE Hon Secretary

Office, —

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District	Town or District	Town or District.
CONTRACT PRACTICE.		
ENGLAND.	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs)*	OAKDALE MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*
SOUTH BANK, & LSTON *(Medical Aid Associations or Workmen's Clubs)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme)*	LEEDS EDUCATION COMMITTEE *(Assistant School Medical Officer)*
WALES	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme)*	LINCOLN CITY AND COUNTY BOROUGH *(Medical Officer of Health.)*
ABERTRIDWR GLAMORGAN *Windsor Colliery. (Medical Scheme.)*	**PUBLIC HEALTH.**	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
EBBW VALE MON *(Workmen's Medical Society)*	BARNSLEY COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer)*	PLYMOUTH: EDUCATION AUTHORITY *(Woman Assistant School Medical Officer)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	BERKSHIRE EDUCATION COMMITTEE *(Assistant Medical Inspector of Schools)*	PORTSMOUTH: BOROUGH. *(Medical Officer to the Portsmouth Child Welfare Centre and Municipal Maternity Hospital)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	CORNWALL: EDUCATION COMMITTEE *(Woman Assistant School Medical Officer)*	ROTHERHAM UNION *(Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer.)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou St Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District.	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *(Senior Resident Physician.) (Senior Resident Surgeon.)*	Mr A BRADFORD M C F R C S, Alt 6th Floor National Bank Buildings Durban	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute)*	Dr R MARSHALL ALLAN (Hon Sec Queensland Branch) Adelaide Street Brisbane	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon Sec., Victorian Branch) Medical Society Hall E Melbourne Victoria.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr R H TODD (Hon Sec New South Wales Branch) B M A Building 9-31 Elizabeth Street Sydney N S W			WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon Sec Western Australian Branch No 6, Bank of New South Wales Chambers St George's Terrace Perth.

Address 429 Strand, W C 2
March 5th 1924

By order of the Council of the British Medical Association.
ALFRED COX, Medical Secretary

Central London Throat, Nose AND EAR HOSPITAL, Gray's Inn Road W C

RESIDENT HOUSE SURGEON (Male)

There will be a vacancy for a Second Resident House Surgeon to enter on duty on 14th April next Remuneration at the rate of £75 per annum

The appointment offers good opportunity of acquiring extended knowledge of the diseases treated

Application, with copies of not more than three testimonials should reach the undersigned not later than 10th March

RICHARD KERSHAW Secretary

Royal Free Hospital,
Gray's Inn Road W C 1

Applications are invited from duly qualified and registered medical men or women for the post of HOUSE SURGEON vacant 1st April 1924 Intending candidates should submit application stating age, accompanied by copies of three recent testimonials to the undersigned on or before the 10th March 1924

REGINALD R. GARRATT, Secretary

Assistant Medical Superintendent required for CENTRAL MENTAL HOSPITAL FEDERATED MALAY STATES

Salary equivalent to £610 rising to £1,120 with special (non pensionable) allowance of £84 per annum, and *temporary* allowance of 10% (5% to married man) to meet high cost of living

Free passages and free quarters provided

On probation for three years. If appointment confirmed will be pensionable.

Candidates should have two years experience as Assistant Medical Superintendent in a Mental Hospital

Application forms, and any further particulars, may be obtained from the Assistant Private Secretary (Appointments) Colonial Office Downing Street, London S W 1

Bath Ear, Nose and Throat HOSPITAL, Marlborough Buildings Bath

Applications are invited for the post of HON PATHOLOGIST These accompanied by copies of three recent testimonials, should be sent to the Secretary at the Hospital before 25th March.

F M. VILLARD Hon Secretary

Ancoats Hospital,
Manchester

RESIDENT MEDICAL OFFICER (male) required to commence duty on 1st April

Appointment for six months. Salary £175 per annum

Applications, stating age experience last appointments, if any and copies of three recent testimonials to be forwarded to the undersigned on or before Wednesday 19th March.

By order of the Board
HERBERT J DAFFORNE Secretary

Royal Halifax Infirmary

Wanted a THIRD HOUSE SURGEON (male) unmarried Candidates must be doubly qualified and registered Salary £150 per annum with residence board and laundry The appointment will be for six months, commencing April 1st 1924

Particulars of the duties &c may be obtained from the undersigned to whom applications, with copies of testimonials, should be sent not later than March 12th 1924

ALFRED MIDGLEY Secretary

March 3rd, 1924

West Ham Union.

MEDICAL OFFICERS

The Guardians invite applications for the under mentioned appointmen s —

DISTRICT MEDICAL OFFICER for the Nos 6, 10 13 and 18 Relief Districts situate in the Southern area of the West Ham Parish of the Union at the salary of £700 per annum rising by £25 annually to a maximum of £800 per annum (inclusive of bonus) with the house attached to the Relief Station Cumberland Road, Plaistow, light and water, all drugs medicines and appliances, with surgery being provided by the Guardians The salary will be inclusive of any fees payable to the Officer under any Acts of Parliament or Orders of the Local Government Board and any such fees paid to the Officer are to be repaid by him within seven days to the Treasurer of the Guardians

Candidates must be fully qualified medical practi tioners and the gentleman appointed will be required to devote the whole of his time to the duties of his office commencing on the 1st April next Further particulars as to the district and duties can be obtained from the undersigned

RESIDENT ASSISTANT MEDICAL OFFICER at the Central Home, Union Road Leytonstone, E 11 at the salary of £350 per annum rising by £25 annually to a maximum of £400 per annum with a bonus at present of £85 per annum and the usual residential allowances

Candidates must possess qualifications both in medicine and surgery, and preference will be given to those having previous hospital experience. The gentleman appointed will be required should occasion arise to act in any other Institution under the control of the Board Full particulars as to the duties etc , may be obtained from the Medical Officer of the Home

Forms upon which applications must be made, can be obtained from the undersigned or will be forwarded upon receipt of a stamped and addressed foolscap envelope and must be returned not later than 10 a.m on Tue day the 11th Ma ch 1924

Canvassing the Guardians either directly or indirectly is prohibited and will disqualify

By Order of the Board
Board Room, Union Road, Leytonstone E 11 — THOMAS SMITH Clerk
29th February 1924

The Hospital for Sick CHILDREN,

Great Ormond Street London W C 1

The following appointments will shortly be vacant —

HOUSE SURGEON 12th April 1924
HOUSE PHYSICIAN and ASSISTANT CASUALTY OFFICER, 14th April 1924

Gentlemen are invited to send in their applications, addre sed to the Secretary before 12 o'clock on Monday 31st March 1924 with copies of not more than three testimonials given specially for the purpose and also evidence of their having held a *responsible hospital appointment.*

The appointments are made for six months Sa ary £50 laundry allowance £2 10s , and board and *residence in t he Hospital*

Candidates must be unmarried, and possess a *egal qualificat n to practise*

All candidates must appear before the Joint Committee at their meeting on Wednesday, 2nd April 1924 at 5 p m precisely

Forms of application and copies of the rules, may be obtained from the Secretary

By Order of the Board of Management,
JAMES McKAY,
March 1924 Secretary

Kent County Ophthalmic HOSPITAL FOR DISEASES OF THE EYE, EAR NOSE & THROAT

RESIDENT SURGICAL OFFICER required for the Kent County Ophthalmic Hospital Maidstone Candidates must possess a *Degree in Surgery of a* University of Great Britain, or be a Fellow of one of the Royal Colleges of Surgeons of Great Britain, and must produce evidence of having attended the practice of an Ophthalmic and an Aural Hospital for a period of at least six months in each department.

He must be of British nationality and unmarried He shall reside in the Hospital and shall be required to enter into an agreement a copy of which will be forwarded to him on application

The present holder of the appointment is eligible for re-election

Salary £750 for the first year increasing to £850 Applications stating age etc accompanied by three recent testimonials to be sent to the CHAIRMAN Kent County Ophthalmic Hospital Maidstone not later than 12 o clock noon on March 14th 1924

Bootle Borough Hospital

(General Hospital, 100 Beds)

Applications are invited from gentlemen for JUNIOR RESIDENT MEDICAL OFFICER for a period of six months Duties to commence on the 1 t April Salary £125 per annum (inclusive of V D work) with board residence and laundry

Applications s ating age and qualifications with copies of testimonial to be sent to the Secretary Bootle Borough Ho pital Derby Road, nr Liverpool

Royal Victoria Infirmary, Newcastle-upon Tyne

RESIDENT APPOINTMENTS

The following Resident Appointments tenable for six months will become vacant from Thursday, the 1st May 1924:—

4 HOUSE PHYSICIANS
6 HOUSE SURGEONS
2 HOUSE SURGEONS to Accident Depart ment
1 HOUSE SURGEON to Throat Nose Ear and Eye Department
1 HOUSE SURGEON to Gynæcological De partment
1 HOUSE SURGEON to Skin and Veneral Department.
1 HOUSE SURGEON to Out-patient Dressing Department.

Candidates must be registered in Medicine and Surgery

Residents are remunerated at the rate of £50 per annum

Before making application intending candidates are asked to apply to the under mentione d for a copy of the regulations governing the appointments

Applications, stating age, experience, and qualifi cations accompanied by copies of two testimonials should be sent to me not later than Saturday, 22nd March 1924 S DUNSTAN
3rd March, 1924 House Governor & Se retary

Colindale Hospital, Hendon, N W 9

Applications are invited for the appointment of *JUNIOR ASSISTANT MEDICAL OFFICER*, at Colindale Hospital Hendon N W 9 (325 beds), for male adults suff ring from advanced pulmonary *tuberculosis* There are 3 *other medical officers* at the Hospital Previous tuberculosis experience is not essential provided that candidates are otherwise suitable Preference will be given to candidates under 30 years of age Salary £500 per annum The candidate appointed will be required to reside in the institution and pay for board, lodging and washing at the rate fixed from time to time by the Board s Finance Committee. At present the rate is £130 per annum No accommodation for a married officer

Application to be made not later than 10 a m on Wednesday, 19th March, on form obtainable from the Clerk, Metropolitan Asylums Board Victoria Embankment, London, E C 4 by forwarding stamped addressed foolscap envelope

4th March 1924.

City of Liverpool

VENEREAL DISEASES MEDICAL OFFICER.

The Health Committee invite applications for the post of whole time Venereal Diseases Ass's ant Medical Officer for the SHAMEN S DISPENSARY at a salary of £700 per annum, rising by annual increments of £25 to £800 per annum (no bonus)

Applicants must be registered medical practi tioners who have had experience in the modern methods of trea ment of Venereal Diseases

The Officer appointed will be required to devo e his whole time to the service of the Corporation, under the direc ion of the Medical Officer of Health and will not be allowed to undertake private practice and he may be required to contribute to the Corporation Superannuation Fund

Applications s ating age qualifications training and experience, together with copies of not more than 3 recent testimonials and endorsed "V D Medical Officer" must be delivered at the office of the Town Clerk, Municipal Buildings Dale Street, Liverpool on or before the 15th March 1924

Canvassing of Members of the Committee or the City Council will be re arded as a disqualification
WALTER MOON, Town Clerk.
26th February 1924

Gloucestershire Mental HOSPITALS

Wanted, a MATRON to take charge of the Female Staff at the SECOND COUNTY MENTAL HOSPITAL Coney Hill, Barnwood.

Age not to exceed 40

Candidates must hold the Certificate of the Medico-psychological Association and preference will be given to those who have received a general hospital training

Salary £140 per annum toge her with board washing and apartments valued for the purposes of the Asylums Officers Superannuation Act, 1909 at £65 per annum

Applications which should be on forms to be obtained from the undersigned must be received together with three recent testimonials not later than Wednesday the 19th day of March next

County Mental Hospital, Gloucester — By Order EDGAR B KEY
24 h February 1924 — Clerk to the Visitors

Bradford Children's Hospital

HOUSE SURGEON wanted doubly qualified Salary £125 with board residence and laundry Applications, stating age with testimonials to
C V WOODCOCK, Secretary

Royal Devon and Exet HOSPITAL, Exeter (0) Bed

HOUSE PHYSICIAN

Applications are invited for the post of Physician (Male) at this Ho pital vac 31st March next The appointment to be months but candidates are eligible for re e

The candidate appointed will be in charge Medical Wards assist in the Casualty D and in giving Anæsthetics

Salary at the rate of £150 pe an board apartments and washing

Applications giving full particulars as to qualifications together with certificate of tion and copies of recent test monia sent to the undersigned on or before March, 1924.

By order of the Committee.
S S COLE Secretary
Dated 22nd February 1924

West London Hospital Hammersmith Road, W 6.

Required one HOUSE PHYSICIAN and two HOUSE SURGEONS (Males) The appointments are tenable for six months from 1st April re Salary £100 per annum with board, lodging washing allowance

Candidates are required to be registered under Medical Act, to send 4 copies of their letters application and 4 copies of each testimonial mitted so as to reach me not later than Tu 18th March Selected candidates will be re to call upon such members of the Medical directed to be in attendance at a meeting Medical Council on Friday 28th March at 4 and the House Committee Meeting at 4.45 p same day, when the appointments will be mad

H A. MADGE Secretar

St Peter's Hospital for STONE &c. Henrietta St , Covent Garden

The office of HOUSE SURGEON will be vacant on the 1st April 1924.

This office is held for six months at a salary rate of £75 a yr , with board lodging and

The Gentleman appointed will at the expira the period for which appointed and subject approval of the Medical Staff be eligible for furth r six months appointment as Resident Surgical Officer

Applications with copy of testimonials, sho sent to the Secretary at the above address before the 15th March

BEECHEY ROGERS Secretary

National Hospital for the PARALYSED AND EPILEPTIC Queen Square W C

The Board of Management invite applications the post of ASSISTANT PHYSICIAN which shortly become vacant at the above Hospital

Particulars of the appointment may be obtained from the undersigned to whom applications be sent on or before Saturday March 8th

Applicants must be Members or Fellows of the Royal College of Physicians

GODFREY H HAMILTON Secretary

Royal Northern Hospital, Holloway London, N

Applications are invited for the post of OUT PATIENT MEDICAL OFFICER. The appointment is for six months from the 15th April, with eligibility for re-election for a further period exceeding six months Salary at the rate of £150 per annum with luncheon provided.

The Officer appointed must be a registered medical practitioner and will be required to attend at the Hospital each morning from 9 30 and for short time in the afternoons (mornings only on Saturdays no attendance on Sundays)

Applications with copies of testimonials should be sent to the undersigned by the 22nd March, from whom forms of applications and rules for the office can be obtained

GILBERT G PANTER Secretary

Royal Ear Hospital, Dean Street Soho W 1

DEPT OF UNIVERSITY COLLEGE HOSPITAL

A vacancy occurs for an *HON ANÆSTHETIST* to attend on Wednesday afternoons Applications accompanied by not more than three testimonials to reach the Secretary University College Hospital Gower Street W C 1 not later than Wednesday the 12th March 1924

Rotherham Hospital.

Wanted JUNIOR HOUSE SURGEON resident qualified Salary £150 *with board*, lodging washing Applications with copies of recent testimonials to be sent to the Secretary G W ROBERTS, 8 Moorgate Street Rotherham.

G. M. A.

2 Victoria St NOTTINGHAM & 33 Bowling Green St LEICESTER
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YORKSHIRE —Good Industrial PRACTICE for disposal, Income approx £1 150 p.a. All particulars from CECIL R SANDS A C A G M A. Ltd 33 Bowling Green Street Leicester

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)/13, Bedford Street, Strand, W C 2
e Advt of Bovril Medical Agency Ltd Page 40

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THE NURSES' ASSOCIATION

(In conjunction with the MALE NURSES' ASSOCIATION)
29, York Street, Baker Street, London, W 1
(Mrs.) MILLICENT HICKS *Superintendent.*
W J HICKS *Secretary*

ST. LUKE'S HOSPITAL.

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PRIVATE NURSING STAFF DEPARTMENT.
TRAINED NURSES for MENTAL and NERVOUS CASES can be had immediately Apply to LADY SUPERINTENDENT 19 Nottingham Place London W 1 Telephone Mayfair 5429.

NORTHERN BRANCH —Apply LADY SUPERINTENDENT 57 Clarendon Rd Leeds. Phone: Leeds 2616

York Road (General Lying-IN HOSPITAL), Lambeth S E —Established 1 63 Patrons H M THE QUEEN and H M QUEEN ALEXANDRA Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Telephone 791 Central For rules, fees, etc. apply ROSE B. WHYTE, Secretary

MALE NURSES

Temperance Co-operation, Ltd.
Phone Mayfair 3297 Telegrams Assuaged, London.
Superior Male Nurses and Valet Attendants for Mental, Medical, Travelling and all cases.

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Superior Mental Nurses (Male and FEMALE) supplied at a moment's notice day or night for all Nerve and Mental cases.

8, HINDE STREET, MANCHESTER SQUARE, LONDON, W 1.

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NORTHERN TOWN —Old-established non panel PRACTICE producing nearly £4 500 p.a. 3 appointments Premium £5 000 House would be let. Excellent opportunity for one keen on surgery

NURSING HOMES —We have several Nursing and Convalescent Homes situated in London and Provinces

DERBYSHIRE.—Old-established G P Panel over 600 Income nearly £800 Premium £1,000 Scope for increase.

CHANNEL ISLANDS —NUCLEUS unopposed capable of increase Nice house, large garden 10 years lease rent £125 p.a. Suit semi retired man Premium £200

LONDON N E —Old-established G P Panel nearly 400 Average cash receipts £950 p.a. No midwifery scope. Premium £3 000 to include freehold house.

LANCS —Old-established G P situated in country town Very pretty country Large house (6 beds) garden and garage. Panel over 800 2 appointments. Income £1 460 Premium to include house £4 000

YORKS —Old-established Country Town G P Panel 1,500 Income £2,500 3 appointments Detached house with garden and garage to let on lease Premium £3 500

WARWICK.—Small Country PRACTICE in pleasant district suitable only for young bachelor Panel 400 Income £450 Rent £21 p.a Premium £250 for quick sale Excellent opportunity for man straight from hospital

SOUTH WALES.—Old-established G P in residential district. Panel over 1 400 Average income nearly £2 000 Premium £2 500

Purchasers stating their requirements will be sent particulars of suitable Practices and Partnerships for sale free of charge

Please address all communications to the Manager Medical Transfer and Insurance Department

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The commission chargeable in respect of any practice placed exclusively in the hands of the Agency for transfer has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being £50

NO CHARGE IS MADE TO PRINCIPALS FOR THE INTRODUCTION OF LOCUM TENENS OR ASSISTANTS

Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges

PRACTICES AND PARTNERSHIPS FOR SALE

1 BORDERS OF NORFOLK & SUFFOLK.—In a small Market Town and within 20 miles of a Cathedral City amidst pretty country a very old-established unopposed PRACTICE is for immediate disposal in consequence of the ill health of the Vendor Receipts for past three years average £1,500 per annum including appointments and panel about 1 000 Very little midwifery Very nice house with ample accommodation rent £54 Premium to prompt purchaser £1 600 Sport of all kinds tennis club etc Efficient introduction

2 OUTLYING SUBURB OF LONDON (South).—Old-established good middle-class PRACTICE doing at present at the rate of £1 200 a year Vendor has no panel but there is very large scope in this direction Visits 5/ upwards Very little midwifery and nothing under £5 5s Exceptionally attractive residence with good accommodation garden etc It is the Vendor's Freehold Price £2 000 a good part of which can remain on mortgage Premium for Practice £1 500

3 DEATH VACANCY.—Outlying Suburb (North East) Old-established PRACTICE held 15 years by late Incumbent is for immediate disposal Receipts for past three years average nearly £800 per annum including about £180 from panel Suitable house available to rent or purchase Premium £1 000

4 PARTNERSHIP.—Third Share of an old-established Practice about 6 miles North East of London is for disposal in consequence of the ill health of the present Junior Partner In hands of Senior Partner 20 years Receipts average about £1 600 per annum including appointments and 3 000 panel patients Very little midwifery Nice house available Rent £30 a year Premium £1 350 Incoming Partner should be under 30 years of age

5 DEATH VACANCY.—SHROPSHIRE.—In a very pleasant country town amid beautiful surroundings a very old-established PRACTICE to which is attached a valuable Licence for six female patients is for immediate disposal The practice averages for the past three years over £1 000 per annum including appointments worth £40 to £50 and 350 panel patients Held by late Incumbent over 20 years Visits 5/ and 7/6 Very little midwifery Large house and grounds Freehold price £2 500 of which £1 000 can remain on mortgage Premium for practice and license £1 550 Locum in charge

6 LANCASHIRE.—Old-established PRACTICE situated in a town of about 4 500 inhabitants and within 10 miles of a large City is for disposal in consequence of the ill health of the vendor It is worth between £1 550 and £1 650 per annum of which £1 100 to £1 200 is from panel Midwifery has been refused House contains consulting and waiting rooms 3 reception rooms 7 bed rooms bathroom etc Rent £85 a year on lease Premium 1½ years purchase Efficient introduction given

7 WEST RIDING.—Hospital Town with in easy reach of a University City Well-established PRACTICE producing an average of about £2,000 a year Panel of over 1 000 Suitable house available Premium 1½ years purchase

8 LONDON EAST.—PARTNERSHIP.—A half share is for disposal in an exceptionally sound old-established middle and working class Practice The average income is well over £5,000 including panel of under 1 000 The panel can be largely increased if desired Fees 3/6 and 5/ Midwifery from 3 guineas. About £150 Small very convenient house in quiet road. Price £400 Premium £3 750 payable £2 000 down

9 BRISTOL.—Very old established middle and working class PRACTICE held nearly 25 years by present Incumbent who is compelled to relinquish on account of ill health Average net receipts over £1 200 a year including several small appointments and a panel of over 1 000 Visit 3 d to 10 6 Midwifery £3 3s 30 cases yearly Very good house specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance 5 bedrooms dressing room etc Garden Price £2,200 Premium £1 800

10 KENT.—LARGE TOWN (within 50 miles of London) PARTNERSHIP.—A half share in an old established Practice producing an average of over £3 800 No panel and no appointments Surgery fees 2/ and 2 6 visits 3/ and 3/6 Very little midwifery 2½ per Night work extremely light House on lease with 9 reception rooms 6 bedrooms bathroom etc Small garden. Rent £80 Premium 1½ years purchase payable by arrangement

11 LARGE NORTHERN TOWN.—Close to a well known School of Medicine and Hospital PRACTICE producing last year £900 mostly panel No midwifery Would suit anyone desiring easy work or studying for higher qualification Premium £1 000 for immediate sale House must be bought for £1,100 of which £800 can remain on mortgage

12 NORTHERN SUBURB.—Old-established PRACTICE producing an income of about £1 400 a year including appointments worth £320 Small panel of 300 but this can be largely increased if desired Visits and Medicine 3 6 to 7/6 Midwifery from 2 to 5 guineas Practice is very easily worked with no conveyance Nice house in good decorative repair Fair garden Premium for Practice and House £3 250

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1 SOUTH WEST OF ENGLAND.—Preferably between Taunton and the Coast Country PRACTICE producing about £1,500 a year. House with 2 or 3 reception rooms etc and good garden. Ample capital available and free to negotiate at once

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£1,200 a year Vendr retiring Appoint £ 0 Panel 80 Good hous —Apply No

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About £1 400 a year Panel 1 4 0 Ex hou e to rent Appointments about £250 livery —Apply No 7473

a Practice —Nearly £3,000
a year Good old-established Practice suit or an experienced graduate with means — No 7438.

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£3 500 a year Old-estab Large town l nearly 3 000 Good house on lease Mod terms. Apply No 7423

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PARTNER wanted Good Suburb of large n wit Hospital Good fees Panel £1,000 a Good house available Half share for sale.— ly No 7444

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2 NORTH WALES —PARTNER wanted for middle and working class Practice County district Total receipts £3 300 p a mainly from panel and appointments. Good house and garden Rent £40 Opposition slight Premium for a third share £1,700

3 PARTNERSHIP with view to Succession — Sussex Sea-coast Town (suburb) General Practice yielding about £1,150 p.a. Panel 1 000 Scope for material increase Half share for sale Premium £1 000

4 SOUTHERN CATHEDRAL TOWN —Old-estab General PRACTICE Receipts average £1,860 p a Panel 1 600 Good 10-roomed house rent moderate Premium 1½ years purchase

5 YORKS —Large Town General Practice yielding £900 a year Non panel Nine-roomed house electric light and heating Will be Let or Sold Premium £1,300 payable by arrangement

6 SOUTH WALES —Seaside Town Practically an opposition PRACTICE Receipts £1 700 a year Panel 1 400 Good house and garage. Lease (75 years) for sale cheap Premium 1½ years purchase

7 WARWICKSHIRE — Small Country PRACTICE Receipts £430 p.a. including £250 from panel and clubs Small house suitable for bachelor only Rent £21. Any reasonable offer accepted

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Half share of £2 800 including £1 800 from panel Suitable living accommodation Premium 1½ year purchase

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country town Receipts £1 000 £670 from panel and appointments Small house rent £30 Scope for active man Premium one and a quarter years purchase

Lancs —Practice of £1,500
in manufacturing town. Panel 1 1 0 Appointments £120 Rent £60 on lease Reasonable price

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London. Old established middle class PRACTICE of £1 150 Appointment £240 No panel Good house with tennis court can be bought

Lincs — Unopposed Practice
of £950 Panel and appointments £200 Small house can be rented

London, S W —Practice of
nearly £600 in pleasant suburb Great scope as vendor has been doing other work Panel 300 House can be rented for £60

Surrey —Rapidly increasing
PRACTICE of £500 in residential suburb House and Practice can be bought for £1,400 Practically no panel

Liverpool —Suburb, near
open country Receipts £1 400 Panel 1 100 Appointment £90 Opposition slight Great scope as vendor has been handicapped by illness Rent £50

London, S W —Partnership
Share worth £850 with good prospects of increase in mixed Practice Panel 1 300 Good house with separate surgery Rent £56 on long lease

North Wales —Partnership
Share worth £900 in beautiful seaside place Cottage hospital and scope

Yorkshire —Partnership
Third share of £5 470 in fine town Panel 3 200 and several appointments. Good house Little midwifery

Inland Spa — Good-class
PRACTICE of £2,900 No midwifery or surgery Good house can be bought.

South Coast —Old established
good class PRACTICE of £4,000 in large town Very good fees 10 mi wifery 5 an up Scope for surgery House in good position with garden and garage Rent £100

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select seaside place. Good house can be rented

South Midlands — Partner
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Peak District — Very old-
established PRACTICE in country town Receipts average £1,360 Panel 6 0 Very desirable practice House at reasonable rent

South Devon —Nucleus and
RESIDENT PATIENT connexion in beautiful seaside place. Large house and garden

East Coast — Practice of
£1,140 in beautiful seaside place Panel 880 Appointment £40 Rent £60

South Coast —Practice of
£1 300 in favourite resort Panel 2 0 Appointment £40 Rent £60 Seven years lease Premium 1½ years purchase.

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NORTH WALES.—(5) Old-established PRACTICE in small Seaport Town Receipts (1923) £550 Panel 150 No midwifery or night work Rent of house (7 bedrooms, garden half an acre) £50 Premium £650

NEW ZEALAND.—(6) General, Surgical, and Medical PRACTICE, over £1,200 in first rate town Premium half years purchase

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NURSING HOME, WEST LONDON.—(11) Profits at rate of £300 per annum after deducting expenses Pleasantly situated house in quiet neighbourhood Premium for goodwill to include Furniture fixtures & £3 000

DEATH VACANCY.—(12) South Coast Old-established PRACTICE averaging £1 280 p.a. in important Seaport Town Panel 570 Nice house. Rent about £50 per annum

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NORTH OF ENGLAND.—(14) Cathedral City PARTNERSHIP (with view to succession) in old-established Practice about £1 100 per annum (practically all from Panel Clubs and Appointments) One half share at one and a half years purchase. Very considerable scope.

SOUTH OF ENGLAND.—(15) PARTNERSHIP in a good class non-panel practice of £2 400 per annum in beautifully situated Country Town near the coast One third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate not over 30, and preferably F.R.C.S. England Preliminary Assistantship Salary £500 p.a.

EAST ANGLIA.—(16) Nucleus of PRACTICE in small, select Watering Place Income under £200 per annum Small panel. Detached corner house (4 bedrooms), with sea view Price for leasehold £1,250 Excellent golf and educational facilities Premium one year's purchase

NORTH-WEST OF ENGLAND.—(17) PARTNERSHIP in good class practice about £1 500 per annum in popular Seaside Resort Panel 650 No club Modern residence (4 bedrooms &c.) to rent on lease Premium one-half share two years purchase Partner must be a north country man and aged 35–40 Great scope

HOME COUNTY.—(18) PARTNERSHIP in old-established and very compact Practice averaging over £3 800 p.a. in Industrial Town under 40 miles from London No Appointments or Panel. Rent of house £60 Prem. one half share one and a half years purchase, part by instalments

DERBYSHIRE.—(19) Well-established PRACTICE of between £700 and £800 per annum in Manufacturing Town Panel 850 No Midwifery Nice detached house (4 bedrooms) in acre of ground to let Great scope for increase Premium one and a half years purchase

EAST COAST.—(20) Old-established good-class PRACTICE £1 700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double-fronted house (6 bedrooms) Rent £55 Premium one and a half years purchase

NORFOLK.—(21) Old-established Country PRACTICE in beautiful part Receipts £540 Panel 323 Premium £750

MIDLANDS.—(22) PARTNERSHIP in old-established Practice over £3 200 per annum in excellent Country Town. Panel about 1 4 0 Premium one third share one and a half years purchase

SOUTH COAST.—(23) Good class general PRACTICE of £2,000 per annum Excellent house Rent £80 Premium one year's purchase only

MIDLANDS.—(24) PARTNERSHIP in very old established Practice over £3 000 in Market Town Panel 1,400 Detached corner house (4 bedrooms) Rent £65 Cottage Hospital and scope for surgery Premium one-third or five twelfths share two years purchase

NORTH LONDON.—(25) PARTNERSHIP in very old established good middle-class Practice in Residential Suburban District Receipts average about £5 430 per annum No panel clubs or appointments Suitable house obtainable One-third share at first at one and three quarters years purchase

SOUTH-WEST OF ENGLAND.—(26) Very old established middle and better-class PRACTICE over £4,200 in important Seaport Town No Panel or Appointment Commodious house in excellent position Rent £100 Premium one and a half years purchase.

UP-THE-THAMES.—(27) Middle class PRACTICE worth about £500 in Residential District Small Panel. House contains 8 bedrooms Premium £500

SURREY.—(28) Small non-dispensing PRACTICE about £275 per annum in first rate Residential Town Small panel Detached house (6 bedrooms) in one acre of ground to rent on lease. Premium (to include lease) £500

MIDLAND TOWN.—(29) Old-established PRACTICE about £1,100 per annum in Residential Suburb. Panel 700 House contains 8 bedrooms Large garden Price £1,900 Premium for Practice £1,500

NORTH-WEST COAST.—(30) Well-established middle class PRACTICE about £2 400 No appointments. Conveniently situated house to rent. Premium £2 000 part by instalments.

NORTH OF ENGLAND.—(31) Old established PRACTICE of £1 460 per annum in Country District Panel 810 Very good house (6 bedrooms) in charming grounds two acres Premium practice house and grounds, £4 000 Mortgage could be had on house.

FAVOURITE HOME COUNTY.—(32) PARTNERSHIP in good-class Country Practice about £3 000 per annum in delightful residential district Visits up to £2 2s Excellent modern detached house (8 bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

BORDERS OF SURREY AND HANTS.—(33) JUNIOR PARTNER required in Practice in charming residential country District Panel 737 Share worth about £600 at two years purchase

EASTERN COUNTIES.—(34) PARTNERSHIP in old established practice £2 213 per annum in first rate Town Panel about 2 050 House (9 bed and dressing rooms) standing in own grounds to be sold Premium one-half share one and three quarters years purchase

SEASIDE TOWN AND HEALTH RESORT.—(35) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old-established practice Share worth £1,000 p.a., at two years purchase

LONDON, N.W.—(36) Well-established increasing upper middle class PRACTICE in very desirable Residential District Receipts 1922 £556 (1923 to Oct 31st. £602) No panel Appointments or Midwifery Excellent and attractive residence (7 bedrooms) for sale. Great scope Prem. £[illegible]

EAST COAST.—(37) Popular Resort Old established middle and working class PRACTICE of £1 184 Panel 84[illegible] Rent of house (5 bedrooms) £60 Premium £1 500

NURSING HOME.—(38) Fashionable Health Resort Gross receipts over £2,400 Fees £5 5s to £15 15s Exceptionally appointed residence with ample accommodation Premium for Goodwill furniture and fixtures £[illegible]

SURREY.—(39) PARTNERSHIP in good middle class compact practice over £2 650 in Residential District easy distance of London Panel 1 200 Premium two-fifths share two years purchase Practice Investigated by Association's Accountant

CHESHIRE.—(40) PARTNERSHIP in good middle and working-class practice over £3 200 per annum in Manufacturing Town Panel returns about £1 000 per annum Modern detached house (6 bedrooms) for Sale Premium one half share one and a half years purchase. Hospital and plenty of scope for special work.

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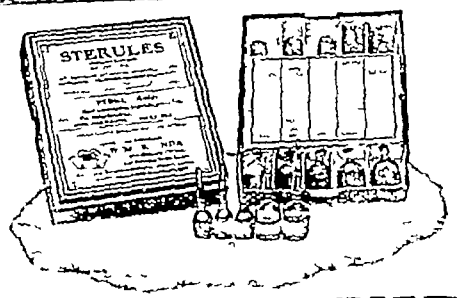
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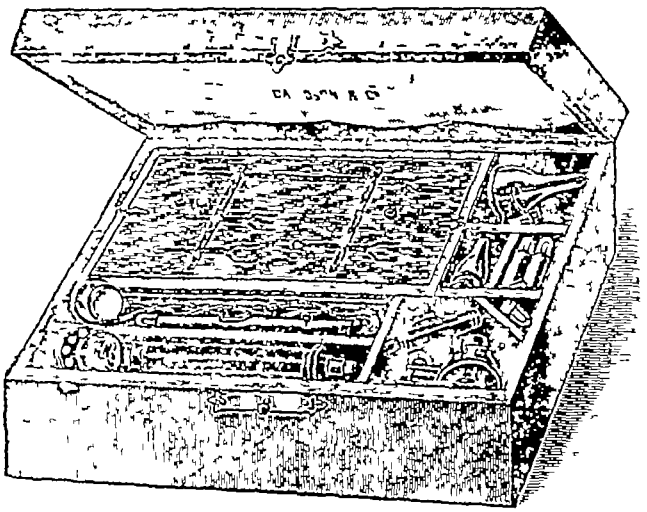
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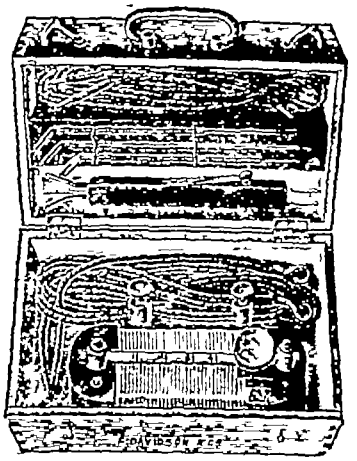
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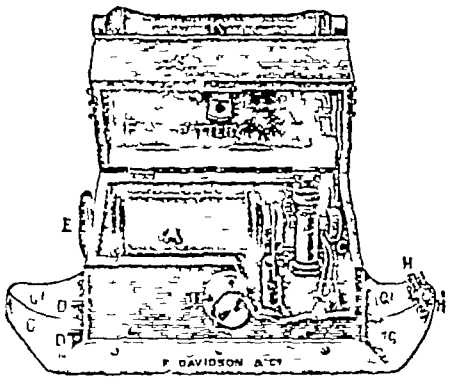
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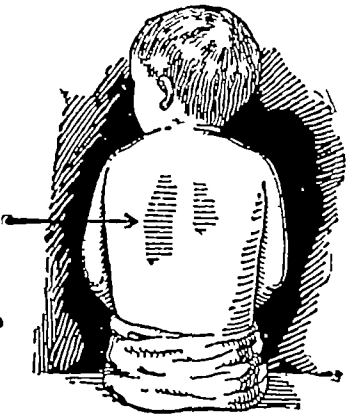
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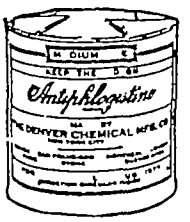
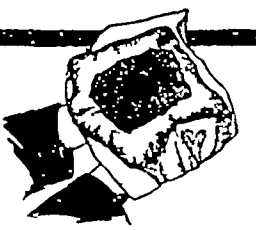




Diagram represents inflamed area In zone "C" blood is flowing freely through underlying vessels This forms a current away from the Antiphlogistine, whose liquid contents, therefore follow the line of least resistance and enter the circulation through the physical process of endosmosis. In zone "A" there is stasis, no current tending to overcome Antiphlogistine's hygroscopic property The line of least resistance for the liquid exudate is therefore, in the direction of the Antiphlogistine. In obedience to the same law exosmosis is going on in this zone, and the excess of moisture is thus accounted for



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Ad No. 9-A

British Medical Journal.

MARCH 15TH, 1924

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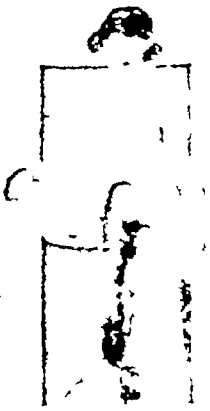
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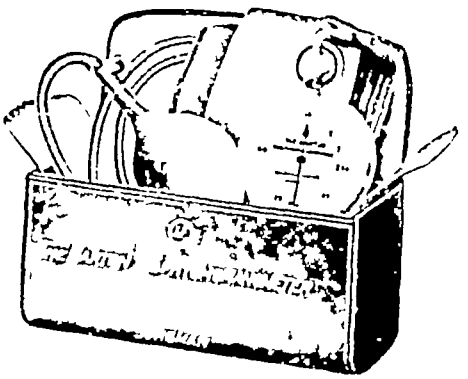
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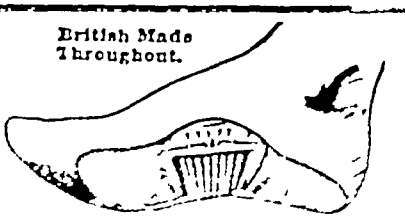
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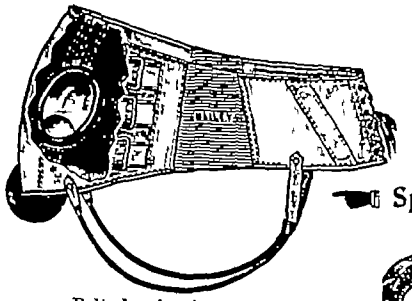
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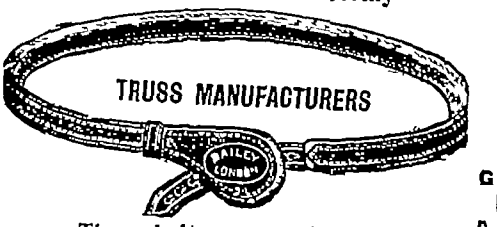
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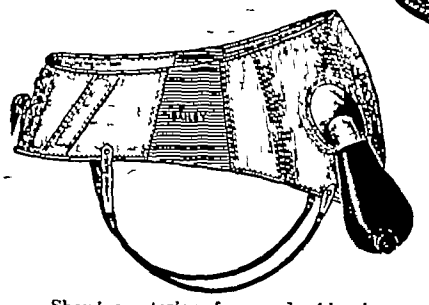
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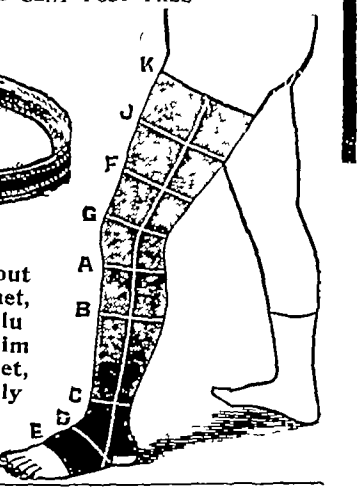




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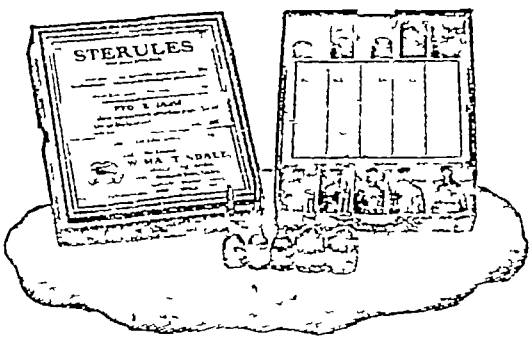
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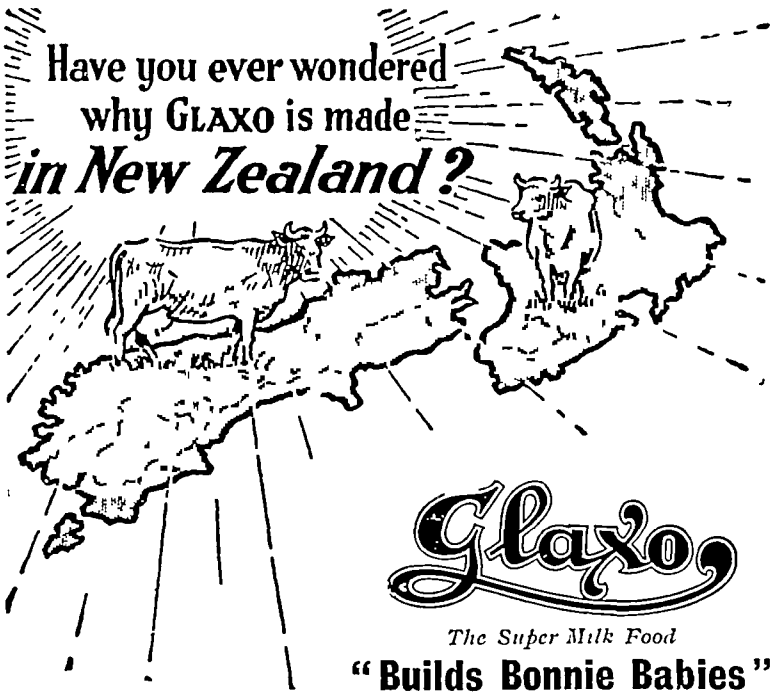
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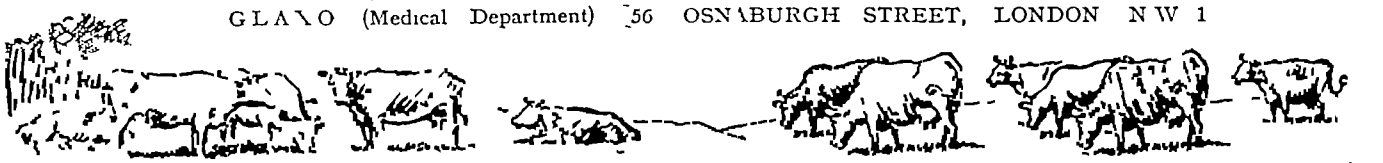
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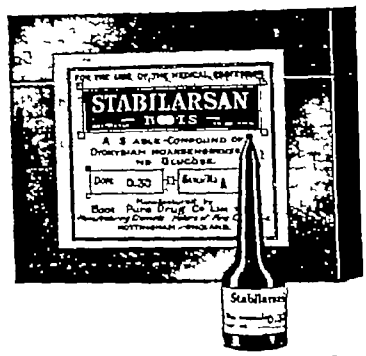
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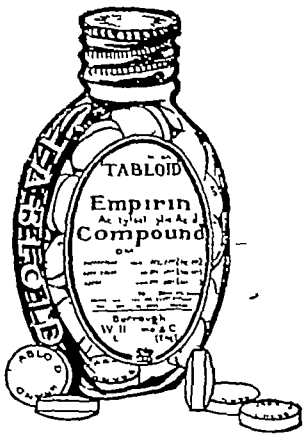
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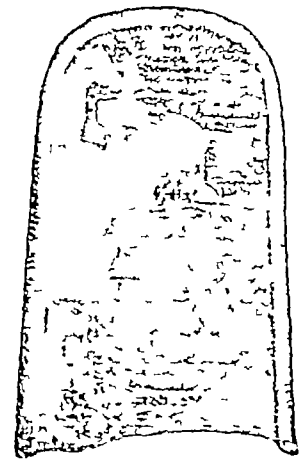
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THE MOABITE STONE ONE OF THE VERY FEW CONTEMPORARY DOCUMENTS OF HEBREW HISTORY—This stele of black basalt was erected by Mesha King of Moab to commemorate his victories over Israel. Moab and Israel were kindred speaking dialects of the same language. They may have migrated together from the Syro Arabian desert but the Moabites manifesting in this a pioneer spirit among the Hebrews abandoned the nomad life much earlier than did the Israelites they settled down to cultivate the sunny uplands south east of the Dead Sea. After the Exodus Israel attacked Moab and reduced it to a state of vassalage. Mesha tells in this stele how he threw off the Israelite yoke
I am Mesha King of Moab My father reigned over Moab 30 years and I reigned after my father Omri King of Israel oppressed Moab many days and his son succeeded him and he also said I will afflict Moab But I saw my desire upon him and Israel perished utterly for ever This monument contains what is probably the oldest dated Semitic inscription. The characters resemble those of the old Phœnician alphabet the language (Moabite) presents only dialectical differences from that of the Old Testament the vocabulary is identical with that of Hebrew As the oldest monument of Hebrew history, the Moabite stone possesses unique interest. No Israelite manuscript exists, the extant MSS of the Old Testament having all been written during our era.



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A Post-Graduate Lecture
ON
ACUTE OBSTRUCTIVE CHOLECYSTITIS.

DELIVERED AT THE MANCHESTER ROYAL INFIRMARY
BY
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HONORARY ASSISTANT SURGEON TO THE INFIRMARY AND LECTURER IN APPLIED ANATOMY MANCHESTER UNIVERSITY

ACUTE obstructive cholecystitis results from the impaction of a gall stone in the neck of the gall bladder or in the cystic duct, and presents a clinical picture which is quite different from the other manifestations of gall stones It deserves attention and study on account of its frequency, and of the catastrophes to which it may give rise

ANALOGY WITH APPENDICITIS

It is a condition which bears a somewhat striking analogy to acute appendicitis Wilkie[1] has drawn attention to the obstructive factor in acute appendicitis, and has differentiated acute appendicular obstruction quite clearly from acute primary non-obstructive appendicitis In acute appendicular obstruction the primary event is occlusion of the lumen of the appendix, and this is most commonly caused by the impaction of a concretion in a stricture left by some previous inflammatory attack There follows a rapid increase of tension distal to the obstruction The outcome of this distension depends upon the number and virulence of the organisms trapped in the appendix Where the appendix at the onset of the obstruction is empty and relatively sterile a chronic mucocele may result, but where, as usually happens, putrefactive organisms and faecal matter are present the tension increases with great rapidity and causes gangrene of the appendix This is undoubtedly the chain of events in the most fulminating cases of acute appendicitis

Most of the cases of acute inflammation of the gall bladder with which we have to deal are associated with gall stones, and in nearly all the worst cases of inflammation obstruction of the outlet by a stone is a mechanical factor as vital as the activity of pathogenic organisms in the gall bladder, which it helps to excite That very acute inflammation of the gall bladder may occasionally occur in the absence of gall stones cannot be denied, and I have reported a case of gangrenous cholecystitis due to *B paratyphosus* B, occurring in the Gallipoli epidemic of jaundice,[2] but such a case is a great rarity as compared with obstructive cholecystitis

Though similar in essentials to obstructive appendicitis, obstructive cholecystitis differs from it in certain particulars The obstructed gall bladder shows less tendency to gangrene and perforation than the obstructed appendix, and perforation, when it occurs, is a rather slower process This is no doubt due in part to the fact that in the upper reaches of the small intestine the bacterial flora are fewer in number and less virulent than in the ileo-caecal region, but other factors are the plentiful blood supply of the gall bladder wall and its exceeding toughness Even after a patch of gangrene has formed, involving the whole thickness of the wall, perforation is delayed for some time by the tenacious tough consistency of the slough and its relatively slow separation from the living vascular wall around it More commonly, however, areas of sloughing mucosa or submucosa are found, without extension of the gangrene through to the serous coat of the gall bladder

FREQUENCY

We may now inquire as to the relative frequency of obstructive cholecystitis, as compared with other manifestations of gall stones For this purpose I have analysed 100 consecutive cases of gall stones on which I have operated, and find that they are grouped as follows

TABLE I.—*Analysis of 100 Consecutive Cases of Gall-Stones*

Stones in gall bladder alone without obstruction	42
Stones in common and hepatic duct (and usually in gall bladder)	20
Impacted stones in gall bladder with obstructive cholecystitis	38

Of the 38 cases in the third group 26 were females and 12 males. Clinically these 38 cases fall into certain groups according to the extent and severity of the inflammatory process. These groups may be tabulated as follows

TABLE II.—*Clinical Classification of 38 Cases of Obstructive Cholecystitis*

	Cases	Died
Acute non perforative obstructive cholecystitis	28	2
Acute cholecystitis with gangrene perforation, and localized subphrenic abscess	2	1
Acute cholecystitis with gangrene perforation and diffuse peritonitis	2	1
Recurrent cases, with operation in intervals of attacks	16	0

In the acute non perforating group 7 showed patches of gangrene involving the whole thickness of the wall usually situated at the fundus Many others showed extensive sloughs in the mucosa, or in the thickness of the wall but without extending through to the serosa Others again showed merely deep purple congestion of the mucosa with distension by muco-pus and infiltration of the walls In the recurrent group an acute attack had usually subsided some weeks before leaving a chronically distended gall bladder in some cases containing pus in others mucus with marked scarring of the mucosa and fibrous thickening of the wall

The type of patient who develops obstructive cholecystitis is usually over 50, and decidedly stout

SYMPTOMS OF AN ACUTE ATTACK

The onset of an attack of obstructive cholecystitis is usually sudden The patient may give a long history of painful flatulent dyspepsia, or may have had previous attacks of obstructive inflammation with intervals of good health, The pain in the first few hours is indistinguishable from biliary colic, caused by the passage of a stone down the duct—in fact, it is biliary colic But instead of passing off after two to eight hours, as does the ordinary attack of gall stone colic, it persists, and the original agonizing deep colicky pain, vaguely felt over the epigastrium and through to the back, takes on a sharp stabbing character, clearly localized in the right hypochondrium and accentuated by deep breathing or coughing At the same time there develops an exquisite tenderness on palpation, and with it rigidity of the muscles overlying the gall bladder—a signal that the inflamed fundus of the gall bladder is now irritating the sensitive parietal peritoneum As the gall bladder grows more distended and enlarges downwards, this area of maximum tenderness creeps down until in some cases it lies almost in the right iliac fossa, while the reflex muscular rigidity makes it exceedingly difficult in some cases to palpate the enlarged gall bladder Shoulder tip pain, in the area supplied by the third and fourth cervical nerves, the phrenic area, is much less common than the textbooks would have us believe and it was only noted twice in these 38 cases Ten years ago I described a case[3] in which on ligaturing the cystic duct under spinal anaesthesia the patient complained of a sharp pain on the tip of the right shoulder I attributed this to an occasional aberrant branch of supply from the right phrenic to the cystic duct and neck of the gall bladder I think this is the only possible explanation but on clinical grounds it would seem to be a very uncommon abnormality and shoulder tip pain is certainly not a symptom to rely on here as we may rely on it in perforation of a gastric or duodenal ulcer In those conditions it is seldom absent

Vomiting is a variable feature It may be repeated and become bilious in character or there may be only one act of vomiting But seldom is vomiting completely absent The bowels are usually constipated during an attack owing to reflex splanchnic inhibition, though diarrhoea occurs in a few cases

The temperature is usually raised to 100° or 102° F I think the degree of pyrexia is a valuable indication of the severity of the inflammatory process in the gall bladder and consequently of the risk of gangrene and perforation In the milder cases there is little or no rise of temperature The pulse is somewhat increased in rate but not as a rule out of proportion to the temperature unless there has been persistent vomiting. The tongue is commonly dry and

brownish There is usually throughout the attack a complete absence of jaundice, or of bile in the urine A stone impacted in the neck of the gall bladder or cystic duct can hardly obstruct the hepatic or common duct, and it is only in those rare cases where obstructive cholecystitis is associated with calculi in the common duct that jaundice may be present I find that students and even qualified medical men tend to rely too much on a history of jaundice in the diagnosis of gall stones, and on this account I should like to emphasize the fact that in the large proportion of all gall stone cases which comprise the group now under discussion jaundice is an event of very considerable rarity The enlarged tender gall bladder may usually be felt on careful palpation, but where a fat abdominal wall is reinforced by tense muscular rigidity palpation of the gall bladder may be difficult or impossible

DIFFERENTIAL DIAGNOSIS

Of the various conditions which may simulate acute obstructive cholecystitis we need only consider three—namely, acute appendicitis, acute haemorrhagic pancreatitis, and acute infections of the right kidney

The differentiation from acute appendicitis is often a matter of some difficulty Both conditions start with a pain referred vaguely to the centre of the epigastrium, and should a patient be seen first when the fundus of the obstructed and inflamed gall bladder has descended, as its distension increases, towards the right iliac fossa, the area of maximum pain, tenderness, and rigidity will be found at or about McBurney's point In such cases I have on more than one occasion only been able to make sure of the diagnosis when the patient was under the anaesthetic and the consequent relaxation of the abdominal muscles allowed the enlarged gall bladder to be palpated Another source of confusion arises in those rare cases in which acute appendicitis is associated with an undescended caecum, and the appendix lies immediately under the liver in close relation with the gall bladder

Acute pancreatitis is even more difficult to differentiate from acute obstructive cholecystitis, particularly in the early hours of an attack In this condition, however, the patient is more collapsed, there is a rapid increase in the pulse rate hour by hour and a striking deterioration in its volume while a slight cyanosis is usually apparent in the lips and tips of the ears In some cases, though by no means invariably, glycosuria is present, and a slight tinge of jaundice in the sclerotics may be observed

An acute pyelo nephritis affecting the right kidney should rarely be confused with acute cholecystitis Pain is felt in the right loin radiating down to the groin, and not at all in the mid-epigastrium there is usually some associated increased frequency of micturition and examination of the urine shows the presence of pus cells and micro-organisms

COURSE OF AN ATTACK PROGNOSIS

Before considering the principles which should guide us in the treatment of obstructive cholecystitis it is necessary that we should be able to form some idea of the probable result if the case is left to the *vis medicatrix naturae* Bearing in mind the relative numbers in the various clinical groups of my series (Table II) it may be stated with confidence that an acute attack is more likely than not to subside Of the 18 acute non-perforated cases, however, 7 revealed patches of gangrene extending through the whole wall of the gall bladder, and were only saved from perforating by a timely operation Adding these 7 cases to the 4 which had already perforated, we find that 11 of the series of 38 cases either had already perforated at the time of operation or would surely have done so if left These figures give us a rather exaggerated notion of the risk of perforation however since about half of the acute cases had suffered from at least one previous attack The difficulty lies in assessing the probability of gangrene and perforation in a given attack My own experience leads me to believe that a considerable degree of distension of the gall bladder and particularly a rapid increase in its size combined with a temperature of over 101° F, afford an imperative warning that delay may involve gangrene and perforation Perforation rarely occurs before the fourth or fifth day of the attack

TREATMENT

The surgical problem that confronts us in dealing with a patient suffering from acute obstructive cholecystitis is in the first place to decide whether to operate during an attack or to temporize in the hope that the attack will subside, and allow us to operate later in more favourable circumstances I need hardly say that where symptoms threaten gangrene of the gall bladder and the general condition of the patient is fairly good, the earlier the operation is undertaken the better will be the prospect of a favourable result Where, however, the patient is very stout, elderly, and suffers from chronic bronchitis or a cardiac lesion, the decision involves as anxious an exercise of surgical judgement as we can be called upon to make In such a case generalization is futile, and the matter can only be decided on the clinical details that confront us

When operation has been decided upon, the next problem is the choice between cholecystectomy and cholecystostomy The thickened, infiltrated walls of the distended gall bladder, with tenacious sloughs extending from the mucosa into its muscular coat, and teeming with pathogenic organisms, provide a very convincing reason for cholecystectomy By mere evacuation of the contents of the gall bladder and drainage, though we shall relieve the tension and avert the risk of gangrene, we shall not secure the immediate and complete relief from septic absorption that removal of the inflamed organ will provide Cholecystectomy then is the operation of choice, but its performance should be subject to one condition The cystic duct and its junction with the hepatic duct must be clearly defined, as must the common bile duct, and it is only after this exposure has been scrupulously carried out that the clamps should be applied and the cystic duct divided The active engorgement of blood vessels in the swollen gall bladder is so great that haemorrhage is often a considerable difficulty It is of the utmost importance that there should be no blind application of clamps in a swamp of blood to an imperfectly revealed cystic duct, for it is in these acutely inflamed cases that the risk of damage to the common or hepatic duct or to the hepatic artery is greatest In certain cases previous acute attacks may have left adhesions of almost cartilaginous density round the neck of the gall bladder, rendering the exposure of the ducts a most difficult and hazardous procedure In these circumstances it is wiser to be content with drainage of the gall bladder though any patches of gangrene at the fundus should be excised

A Remote Danger of Obstructive Cholecystitis

The obstructive agent is not uncommonly a solitary gall stone with the size and shape of a walnut impacted more or less tightly in Hartmann's pouch at the neck of the gall bladder The gall bladder here lies in close relation with the duodenum at the junction of its first and second parts Should recurrent attacks of inflammation occur, they first cause fibrous adhesions which bind the neck of the gall bladder to the duodenum, and then, by a gradual process of ulceration, the slowly enlarging stone may be extruded through the walls of the gall bladder and intestine into the duodenal lumen This is Nature's surgery, and it is crude, slow, and disastrous in its consequences The small intestine, which is only adapted for fluid contents, is unable to propel a solid mass of such considerable size, and its efforts to do so result only in spasm round the stone and acute intestinal obstruction After some hours of griping pain and urgent vomiting, the spasm may relax, and the stone moves on some distance with a remission of symptoms that "flatters only to deceive" For somewhere, it may be in the lower ileum, where the lumen of the bowel grows smaller the impaction is repeated, the signs of acute intestinal obstruction return, and the vomiting grows rapidly stercoraceous This intestinal obstruction due to a solitary gall stone happily not common owes its sinister mortality to the difficulty of early diagnosis It should be the aim of surgery, by timely intervention while the stone is merely obstructing the neck of the gall bladder to render such a catastrophe still more uncommon

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THE CLINICAL USE OF INSULIN *

BY

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THIS paper is based on my personal experience of the treatment of 130 cases of diabetes, in 52 of which I have used insulin, of these 52 cases rather more than one-half had previously received treatment by dieting at my hands.

Selection of a Suitable Patient

The first problem that suggests itself in the clinical use of insulin is the selection of a suitable patient, and here I must stress the importance of a thorough clinical examination. The presence of sugar in the urine is so impressive a fact that not uncommonly after its discovery all the symptoms of which a patient complains are immediately attributed to diabetes. During the past six months I have seen in consultation 5 glycosuric patients in whom death appeared imminent from inevitable causes in no way connected with the loss of sugar tolerance. Three of these have since died. Treatment of this type of case with insulin is obviously undesirable.

In some instances the use of insulin may be said to be imperative—for example, in cases of coma and of extreme wasting, or when the patient has fallen into the hands of the surgeon and must be prepared for an anaesthetic and an operation, or, again, when he has been attacked by an infection like pneumonia or tuberculosis, and finally, it is essential to the treatment of young children. In such cases as these it is bad practice to withhold insulin if it can possibly be obtained.

The time at my disposal will not permit me to discuss the methods appropriate to these emergencies, for I have been asked to devote my attention chiefly to the type of case most frequently met with—that is, to the diabetic of moderate severity.

There is fairly general agreement that patients with mild diabetes, whose condition can be controlled by reasonable restriction of their diet, do not require further treatment, but there is still considerable difference of opinion as to the degree of restriction to which it is proper to ask a patient to submit before help is sought in insulin. Let me say at once that the aim of the clinical treatment of diabetes is neither the solution of a metabolic problem nor the demonstration of the fact that a diabetic can live a long time in a state of semi-starvation, but rather the comfort and efficiency of the patient. In my experience very few people in this country can live comfortably if they are unable to take a little bread daily, and, consequently, as a broad general rule I recommend insulin treatment to every patient who cannot take the appropriate basal diet that I shall describe presently and remain sugar-free with a normal blood sugar while taking it. Patients, I know, may live and work on diets very much more restricted than mine but they do not live happily and they do not work comfortably.

Cases Unsuitable for Insulin

There are certain patients other than those with very mild diabetes for whom insulin is unsuitable. Chief of these are the *fools*. The administration of insulin requires intelligence, not only of the physician but also of the patient. If the latter cannot learn to appreciate the importance of careful dietary or if he lacks the will to restrict himself moderately, elaborate treatment is almost invariably a waste of time and money, though transitory benefit may result from spasmodic control. Similarly, in the vast majority of cases the patient must be capable of giving himself a hypodermic injection and of testing his urine qualitatively for sugar, unless he is wealthy enough to pay for these services for the rest of his life.

Again, there are numerous patients in whom glycosuria is found in the course of routine examination, and who have none of the other symptoms of diabetes—no thirst, no polyuria, no wasting. These are not cases for treatment until thorough investigation has shown it to be necessary. Investigation must never be delayed, for most of them are mild diabetics readily controllable by dieting at this stage. A small *proportion of them have renal glycosuria*—that is, a condition in which the kidney excretes sugar although the percentage in the blood is normal or subnormal.

A certain amount of harm has been done by the constant emphasis in the literature on the possible danger of the administration of insulin to cases of renal glycosuria. Several general practitioners have told me that they would have used insulin for their patients but for this fear, and I may therefore be pardoned for dwelling on the fact that cases of renal glycosuria do not have symptoms of diabetes. In passing I should like to record my opinion that the condition is excessively rare, to my knowledge I have seen only one case—particulars of which will be published shortly—and in the latest report that I have read Joslin mentions only one in his very much wider experience. I suspect that many cases of slight glycosuria that as the result of one blood sugar curve have been labelled renal in type are in reality mild diabetics at an early stage of the disease. A few weeks ago I saw a man very near coma, who was assured in 1920 that his glycosuria might be ignored as his blood sugar curve after 50 grams of glucose by the mouth was almost normal. Tolerance tests by means of blood sugar estimations are no more free from fallacies than other laboratory procedures, and in view of the fact that they have only been performed in any number during the past five years it is obvious that it is as yet quite impossible to attribute to them any final value in prognosis.

For the reason that under-nutrition and restricted activity are valuable adjuncts to the treatment of some cases of high blood pressure, myocardial degeneration, and nephritis, I feel that it is wiser not to use insulin in cases of diabetes complicated in this way if it can possibly be avoided. I am also a little sceptical of its value in the senile.

The treatment of a suitable case of diabetes of moderate severity I will consider in three sections:

(1) The general treatment.
(2) The diet.
(3) Method of control of insulin administration—(*a*) during the preliminary period of standardization, (*b*) *in the later stages*.

THE GENERAL TREATMENT

The most important part of the general treatment is the education of the patient. Let me urge you as far as possible to have no secrets *from your diabetic patients*. In nursing homes it is my practice to discuss fully every detail with the nurse in the presence of the patients. On admission they are taught to test their own urine, and in two or three days assume full responsibility for the simpler qualitative test for sugar and sometimes for diacetic acid. A rack of test tubes, a spirit lamp, bottles of Fehling's solution, and of liquor ferri perchloridi are kept by the bedside for the purpose, and are taken home *on discharge*. I give elementary discourses on diet and on the known pathology of diabetes practically every time I meet them. A few of the patients keep their own charts entirely.

I hope I need not emphasize the importance of the general symptomatic treatment, but I would like to dwell on the *outstanding* necessity of the eradication of focal sepsis wherever it may be. The teeth in diabetics are commonly septic, and occasionally it is necessary to deal with infected tonsils and accessory sinuses of the nose as well. Apart from gross excess of diet nothing hastens the deterioration of a diabetic so much as toxic absorption, and another important point is that insulin is not nearly so effective in its action in the presence of untreated sepsis. Drugs are rarely necessary, except for relief of constipation; in young and nervous patients I sometimes use a little bromide.

THE DIET

PRIOR to the introduction of insulin a suitable diet was the basis of treatment, and it is still so. Insulin enables it to increase and to alter the diet in many ways, but it does not

* A paper read before the Birmingham Branch of the British Medical Association.

make so definite a statement were it not for the fact that several general practitioners who attended my post graduate lecture on this subject some months ago have been good enough to tell me that they have since used the chart method that I have described to you without difficulty and with success Broadly speaking, I only estimate the blood sugar in the moderate cases towards the end of the period of preliminary treatment, in order to be sure that the patients are not completely free from sugar in the urine while a certain degree of hyperglycaemia persists This condition is, however, unusual, it occurs most commonly in patients who are getting on in years and who have had diabetes for a long time

The Initial Dose of Insulin

For two or three days after admission to hospital careful estimations of the total loss of sugar in the urine are made while the patient is on the basal diet that he has been taking previously A convenient method of calculating the first dose of insulin is to divide the average total number of grams of sugar excreted daily by three, the result gives the number of units of insulin that may be employed in the early stages as a daily dose, but at first the total dose should not exceed 20 units, and not more than 10 units should be given at one injection The most convenient times for injections are before breakfast and before lunch if more than a single dose is necessary During this period estimations of the twenty-four hour excretion of sugar are continued, while the diet remains the same The diminution in the amount of sugar excreted in the day can now easily be compared with the amount of insulin administered, and an estimate can be made of the total dose required to render the urine sugar-free Slight increases of the insulin are then made until this result is reached Subsequently the diet can be increased if necessary, the dose of insulin being suitably modified If during this time you chart your results in the way that I have suggested, and take care to obtain specimens of urine every two hours (an easy matter in practice if water or bovril or coffee is given freely), you will now be in a position to observe two other points of importance—first, the time at which insulin becomes effective in your patient after injection, and secondly, the duration of its activity In some patients the time of effective action is delayed, and the period of activity also varies to a considerable degree, but a glance at the chart will usually indicate the most suitable time for injection if any modification is necessary

I find that using this method, the patients are commonly almost entirely sugar-free after eight or ten days, and the question that naturally arises is why it should be necessary to keep them in hospital any longer There are two reasons

The first reason is that it is not rare to find that, after the patient has become sugar-free on a relatively small dose of insulin, while the diet is unaltered glycosuria recurs, and it is necessary to increase the dose of insulin to control it The cause of this is not clear, but I account for it by assuming that the action of insulin is twofold that it stores sugar, and that it aids in the combustion of sugar In a patient with active glycosuria the storage areas are relatively empty, and consequently the storage action of insulin operates to great advantage, when the storage areas are filled insulin acts mainly as an aid to combustion I find that this slight glycosuria occurs so frequently in the second week that I have christened it the period of discouragement," and sometimes warn a patient that it is to be expected

The second reason for the retention of the case in hospital for the full period of three weeks is that after the period of discouragement to which I have referred there often ensues a period of recovery, during which it is necessary to reduce the dose of insulin, this recovery appears to be strictly comparable with the restoration of carbohydrate tolerance which occurred after treatment by under-nutrition It would obviously be dangerous to send a patient out of hospital while there is a possibility of any considerable degree of recovery in this way It is clear that instead of decreasing the dose of insulin in this phase the diet may, in suitable cases, be increased

During the first week of treatment the patients are confined to the hospital or nursing home, but they are allowed to be up Later on they take gradually increasing amounts of exercise

Complications

The chief complication in treatment is the so-called hypoglycaemic crisis, the symptoms of which are now well known, and I do not think that I need describe them in full, in cases that I have seen the commonest early complaint has been occipital headache, a sense of weakness and hunger, and in two cases muscular twitching In none of my patients have the symptoms been severe, and I have steered clear of all of them in my last forty cases Relief from the symptoms can immediately be obtained by the administration of sugar by the mouth, or by glucose intravenously if the condition is serious and the patient is unconscious Before proceeding to intravenous methods a hypodermic injection of a few minims of adrenaline should be tried I am satisfied that these toxic symptoms after insulin are less likely to occur when the general condition of the patient has improved and when he has gained weight In my opinion, the hypoglycaemic crisis is not the result of an absolute hypoglycaemia, but rather a sudden upset of the blood sugar level which has existed previously, at all events I have known the symptoms to occur in patients in whom the blood sugar has been well above normal, and in the course of some experimental work with Dr A F Wright we saw several animals die with the symptoms of hypoglycaemia, in which the level of the sugar in the blood was no lower than it was in control animals who appeared perfectly comfortable

Oedema occasionally occurs after insulin, but usually only in severe cases, it is sometimes very distressing Reasonable limitation of the fluid intake and small doses of caffeine control it satisfactorily

I have seen albuminuria develop in the course of treatment, but the case was complicated by a high blood pressure No casts were found in the urine after repeated examinations Haematuria I have seen three times, always after large doses, two of the cases were my own, the other I saw recently in Professor von Pirquet's clinic in Vienna In my cases the condition lasted only a few hours and there were no signs of kidney damage Diuresis frequently persists even after the urine has become sugar-free, but it seems to have very little clinical importance

Local reactions are sometimes very painful, and I have had to interrupt treatment on account of the distress of the patient, but an immunity to them seems to be gradually acquired

After-Care

I encourage all my patients to keep notebooks, in which they enter their weight and the results of the urine tests that they make I advise them to test for sugar every night and morning if possible, and I find that most of them can do so without inconvenience In the cases of moderate severity it is sufficient to see them weekly for two months after leaving hospital, subsequently I see them once a month

Summary

I have outlined a method of handling a case of moderately severe diabetes, which is simple and which I believe can be used in general practice, I shall count this paper a failure if I have not induced you to treat your patients with insulin, for there is no question that the results are excellent, provided there is suitable control, and, finally, I should like to say this to every general practitioner an emergency in the treatment of diabetes is bound to come in which he may not be able to obtain help of any kind. I have said that to withhold insulin at such a time is bad practice, and I feel sure that medical practitioners will approach a situation of that sort with more confidence if they have previously obtained experience in the treatment of a moderate case

ON THE PRODUCTION OF FORMALDEHYDE BY INTESTINAL BACTERIA

BY

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THE production of formaldehyde by bacteria when grown on suitable media has a significance of very considerable importance both from a bacteriological and from a pathological point of view, and, indeed, this property may in the case of certain organisms normally present in the intestinal canal have a direct influence on orderly metabolism

Formaldehyde is an extremely toxic substance and, in common with all aldehydes, a powerful reducing agent, of its various tests Schryver's is regarded as the most delicate and reliable, and is carried out as follows To 10 c cm of the suspected solution, 2 c cm of a 1 per cent solution of phenylhydrazine hydrochloride are added, then 1 c cm of a 5 per cent solution of potassium ferricyanide, and lastly 2 c cm of concentrated hydrochloric acid, when a pink colour appears if formaldehyde is present

The following table shows the results of this test applied to certain organisms on the sixth day of incubation at 37 5° C on peptone alone, and in combination with lactose, glucose, *mannite*, and *inulin*

	Peptone	Lactose Peptone	Glucose Peptone	Mannite Peptone	Inulin Peptone
Coliform Group I ...	+	+	±	−	+
Group II ..	+	+	±	+	+
Group III	+	++	+	++	+
Group IV ...	−	±	±	−	−
Morgan s bacillus I	+	+	++	++	+
B faecalis alcaligenes	−	−	−	−	−
B proteus vulgaris ..	+	+	−	+	+
B proteus anindol ..	−	−	++	−	− gr
B proteus mirabilis	−	−	−	−	− sl gr
B proteus zenkeri	−	−	+	−	−
B paracoli	−	−	±	+++	−
B enteritidis Gaertner	−	−	±	+++	−
B aertryeke	−	−	++	−	−
B cloacae ...	−	±	− gr	−	−
B lactis aerogenes	−	−	− sl gr	−	−
B pa atyphosus A ...	−	−	−	−	−
B paratyphosus B	−	−	++	+++	−
B paratyphosus C	−	−	+	+	−
B typhosus	−	−	+	−	−
Schmitz s bacillus ..	+	+	+	+	+
B putrificus coli	±	−	−	−	±
Shiga s bacillus ..	−	−	+++	−	−
B of Flexner V	+	+	+	++	+
W	−	−	±	+	−
X	+	+	+++	+++	+
Y	+	+	++	++	+
Z	+	+	±	−	+

+ to +++ denotes increasing strengths of formaldehyde
− denotes no formaldehyde
gr denotes green coloration

The pink colour soon fades, but if a little hydrogen peroxide is added it is brought back and intensified In the case of *B cloacae* the addition of hydrogen peroxide in this manner produces a deep orange colour on lactose peptone, and in the case of *B putrificus coli* a deep red colour on inulin peptone

Using standard solutions of formaldehyde for comparison purposes the amount of formaldehyde manufactured by the various organisms appeared to vary from about 0 0001 to 0 0015 per cent , with certain batches of media the colour was distinctly deeper than with others, possibly owing to inequality of steaming in preparation

As an aid to classification and identification of bacteria this reaction should be of considerable value—for example, a marked distinction will at once be noticed between Schmitz's bacillus and Shiga's bacillus, between paratyphoid A and the other members of the Salmonella group, and the mannite reaction distinguishes between *B aertrycke* and *B enteritidis* Gaertner—the inability of paratyphoid A to form formaldehyde probably explains the fact alluded to by W J Wilson,[1] that of the Salmonella group paratyphoid A alone lacks the power of reducing sulphites to sulphides Considerable variation will be noticed in the Flexner group—W and Z, for example, differ from each other and very markedly from the others, and the bearing of formaldehyde production on pathogenicity is a matter of some interest, as in this group vitality appeared to be more or less proportional to the power of its members to form formaldehyde—for example, when grown on glucose peptone Flexner X survived the longest, followed by Y In this connexion it is a matter of interest that while staphylococci are negative to the formaldehyde test, such members of the streptococcus group as I have examined are slightly positive With reference to this question of pathogenicity, the feeble manner in which glucose is attacked by the coliform group, with formaldehyde formation, as compared with more pathogenic organisms, is rather significant

It is, however, in the very large coliform and *proteus* groups that this reaction will be found most useful from the point of view of identification, as it gives information hitherto unknown—for example, certain organisms belonging to the same group as far as saccharose and dulcite fermentation is concerned react differently In the *proteus* group also there is very great variation, those isolated in this laboratory from the stools of various patients have differed very markedly from the type organisms of the *proteus* group kindly supplied to me by Dr St J Brooks from the National Collection

It will be noticed that of the type specimens of the various coliform groups tabulated Group III is a much stronger producer of formaldehyde than the others, while Group IV is practically unable to manufacture it, and another important point is that certain of the coliform and *proteus* type of organism are able to form formaldehyde from peptone alone without the presence of a carbohydrate as also are the Flexners with the exception of W

It is therefore evident that the amount of formaldehyde present in the alimentary canal will entirely depend on the types of coliform organisms existing in it—for example if organisms similar to Group IV are mainly present the quantity of formaldehyde produced will be minute, but if they are of the Group III type a relatively large amount of this toxic substance may require to be dealt with In a routine examination of the stools of patients in this hospital for members of the *proteus* group it has been very noticeable that they were especially prevalent in cases of what is clinically known as exhaustion psychosis and that the various organisms of this type isolated were all formaldehyde producers

Bacteria do not appear capable of producing formaldehyde when free oxygen is excluded, and the question arises, Is free oxygen present in the alimentary canal? As far as I can ascertain it is not known to be but I am informed by Professor Wace Carlier that sufficient O exists in the lymph circulating in the intestinal villi in which the epithelial cells are bathed and by attacking these cells organisms might easily obtain all they require, also they are capable of supplying themselves with free oxygen from various foodstuffs which contain atoms of O_2 in their molecules Certainly it would seem that there can be little lack of free oxygen when such an intensely aerobic organism as the spirillum of Asiatic cholera can flourish in the alimentary canal

I have been unable to find any reference in literature to the power of formaldehyde formation by bacteria, but that it may be normally present in the alimentary canal in degrees varying with the conditions obtaining, the kind of

food taken, and the nature of the bacterial flora, must now be recognized, and the possible effects of this compound on cellular metabolism deserve consideration in view of its extreme toxicity and immense range of chemical interaction

Moore[2] states "It is only in the minutest traces, the upper limit being about 0 001 per cent, that formaldehyde, which is one of the most intense of protoplasmic poisons, can be borne by living cells", and "plants subjected in presence of light to solutions containing 0 001 per cent of formaldehyde do not form as much starch as in its absence" A point of much interest and importance is that when any organic substance of biological origin is exposed to the short wave-lengths of ultra-violet light formaldehyde is formed and the same is true, though more slowly, when exposed to sunlight, this fact, taken in conjunction with the known lethal effects of ultra-violet rays and sunlight on micro-organisms, is very suggestive

A circular issued by the Local Government Board in 1906 stated [3]

"The Board are advised that the presence in milk of formaldehyde to an amount which is ascertained within three days of collecting the sample to exceed 1 part in 100,000 raises a strong presumption that the article has been rendered injurious to health"

This statement was based largely on animal feeding experiments In milk the formaldehyde is mostly gone in three days, and it is always greatly reduced in forty-eight hours

At the instance of the United States Department of Agriculture, Dr Wiley investigated the effect of formaldehyde on digestion and health A daily dose of 100 to 200 mg was given in milk to twelve healthy young men

"No marked symptoms were noticed during the first ten days but then headache and pains in the stomach and intestines became general in many cases, producing cramps, and in a few cases nausea and vomiting a burning sensation in the throat was reported in the majority of cases, and in four of the subjects a well marked itching rash appeared, the metabolic functions were disturbed in a notable way"[3]

Mathews states that formaldehyde unites with free amino groups to form water and methylene addition products, and

"these methylene substitution products go over readily into methyl amino derivatives This substitution of methylene for the positive element hydrogen in the amino group reduces the basicity of the amino group so that the acid character of the carboxyl comes clearly into evidence This is an important reaction because such methyl substitution products, which are quite common in plants and animals, are probably produced in this way"[4]

The fact that adrenaline is a methylated amine and that the powerful poisons choline, neurine, and muscarine are methyl derivatives shows the great importance attaching to any evidence bearing on the production of formaldehyde in animal tissues

"It has not been shown that formaldehyde is an intermediary product of metabolism but in the decomposition of the carbohydrates it is not impossible that small quantities may arise and that this formaldehyde is the source of the methylation"[4]

All aldehydes are active reducing agents, taking up oxygen and forming acids, the aldehyde group being converted into what is known as the carboxyl group HOCO formaldehyde is thus converted into formic acid, HCOOH Formic acid and the formates are also strong reducing agents owing to the presence of the aldehyde group, and the former represents the final stage before complete decomposition into CO_2 and water is reached Methyl alcohol is formed by the action of nascent hydrogen on formaldehyde, and the latter is partially transformed into formic acid and methyl alcohol by dilute solutions of the alkali hydroxides *The fact that formic acid* is present in perspiration, from which it can be obtained by distillation,[5] is a matter of some interest Now methyl alcohol combines directly with calcium chloride, forming the compound $CaCl_2 4CH_4O$, and if a 0 002 per cent solution of formaldehyde containing some milk of lime be incubated overnight at 37 5° C the amount of formaldehyde present will be found to be reduced to about 0 0004 *per cent* as compared with a control solution similarly treated without the lime A similar solution containing magnesia instead of lime was found to retain the full percentage of formaldehyde That is to say, calcium hydrate neutralizes about four-fifths of the formaldehyde in twelve hours or so Loew[6] in 1885 prepared a synthetic sugar, formose, by means of formaldehyde and milk of lime, and later[7] the fermentable sugar methose by the use of magnesia

Again, calcium forms saccharates of varying solubility with dextrose, sucrose, and laevulose, the compound with the last named being very insoluble Since laevulose exists in all sweet fruits and is produced together with an equal amount of dextrose by the action of ferments on sucrose, the influence of calcium in preventing formaldehyde formation by directly entering into combination with the various sugars may be considerable

It will be noted that in Wiley's experiments already alluded to four subjects to whom formaldehyde was given daily developed, in addition to headache and disordered metabolism, a "well marked itching rash" This is of considerable interest in view of the well known action of calcium lactate or chloride in such cases, in angioneurotic oedema, and in certain forms of headache Wright held that this beneficial action of calcium was connected with increased coagulability of the blood Professor Wild,[8] however, states that clinically the effect of calcium in skin disorder is not due to increased coagulability of the blood, that the soluble salts have no particular value, mistura cretae being as useful as calcium lactate

Presumably, therefore, calcium may exercise a beneficial effect on metabolism by interfering with the formation or by neutralizing excess of formaldehyde resulting from bacterial activity, and bearing on this Ransom's[9] discovery, that in glycosuria the greater the amount of sugar the larger the excretion of calcium, is of much interest in view of the fact that adrenaline excess causes hyperglycaemia, and therefore the more adrenaline thrown out the greater will be the loss of calcium Now, adrenaline being a methylated amine, its excessive formation is very possibly brought about by abnormal production of formaldehyde in the intestines, and a vicious circle thereby set up, leading to increased disorder of metabolism

The part played by the liver as regards destruction of formaldehyde is of very great importance Richter[10] states that it is capable of forming glycogen from formaldehyde, if this is so it is highly probable that its cells can only deal with minute amounts, since, as already referred to, plants do not form as much starch in presence of light when subjected to solutions containing 0 001 per cent of formaldehyde as in its absence However, should excessive amounts of formaldehyde reach the liver over a considerable period of time, cellular deterioration must undoubtedly ensue It is noteworthy that in Wiley's cases symptoms did not become evident for ten days, and that the metabolism was disturbed in a notable manner This would fit in with a gradual failure of the liver owing to cellular degeneration

Gustafson[11] has shown that the respiratory activity of *Aspergillus niger* is decreased when subjected to the action of acetone or formaldehyde, and Hopkins[12] has isolated a substance to which he has given the name of "glutathione,' a compound of cysteine and glutamic acid, which is essential to the oxidation mechanism of the living cell We have already seen how formaldehyde, by effecting the substitution of the carboxyl group for hydrogen in amino compounds, may aid in causing acidosis and thereby cellular anoxaemia, since the most favourable concentration of hydrogen ions for the oxidation of cysteine is the same as that of protoplasm Glutathione is a sulphur compound, and in the reduced or cysteine form is recognized by giving the same colour reaction as acetone and other reducing agents with Rothera's nitroprusside test, it is present in an intense degree in animal cells and to a lesser degree in plants Now formaldehyde has a strong affinity for sulphur, especially in presence of hydrochloric acid, with formation of thioaldehydes, etc, and of all elements sulphur is the most easily split off from the proteins, it would appear, therefore, probable that formaldehyde might directly interfere with metabolism by uniting with the protein sulphur needed for cellular oxidation

It has been ascertained that hydrogen cyanide, which is the nitrile of formic acid, when given to animals exercises its poisonous effects by uniting with the unoxidized sulphur in the cell which it causes to be detached

Protein sulphur is also attacked by the coli-typhoid group of organisms[13] in the alimentary canal with the production of hydrogen sulphide, which, when absorbed in quantities, dissolves erythrocytes and contributes to anaemia, "some cystine is absorbed as such, taurine is produced from cysteine, and a portion of the cysteine probably passes the liver and is picked up by the tissue cells"[14] From Hopkins's feeding experiments it appears that animals are unable to make sufficient tryptophane, tyrosine, lysine, or cystine for their needs, and that these amino-acids must be present in their diet, but if owing to an intrinsic or acquired abnormal condition of the upper intestine excessive invasion of this viscus by coliform organisms takes place, and such powerful substances as formaldehyde and its derivatives with strong affinities for sulphur are present to an abnormal extent, a serious reduction in the amount of cysteine available for the tissue cells seems inevitable It is possible also that formaldehyde in low dilution may have a deleterious effect locally on the intestinal mucosa if its action is kept up for a prolonged period One has in mind, too, in this connexion arterio-sclerotic changes with deposition of calcium

There are, then, various ways in which formaldehyde arising from bacterial action may interfere with cellular respiration which, arguing from the constantly observed association of confusional mental states with profound destruction of erythrocytes in cases of malignant malaria, and certain other facts bearing on states of acidosis, is, as I have pointed out elsewhere,[15] of the utmost importance to the maintenance of mental health

As far as treatment is concerned, obviously an attempt to replace the offending organisms by an innocuous type is very desirable This is, however, a matter of considerable difficulty It is probable that certain conditions exist in some individuals which favour a certain type of organism, and although the latter may be by artificial means supplanted by another, such as the *B acidophilus*, a very short time after discontinuing treatment—which, to be effective, is by no means a simple matter and decidedly unpleasant to the patient—the offending organism returns again as actively as ever A more practical method of dealing with the condition would appear to be the regular administration of liquid paraffin combined with occasional doses of salts and treatment directed to restoring general tone to the system It is possible that liquid paraffin would mechanically tend to prevent formaldehyde production The use of calcium salts might also be borne in mind

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THE TREATMENT OF COLDS IN TUBERCULOUS SUBJECTS

BY

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COLDS in the tuberculous cannot be regarded lightly, and any remedy which will lessen their incidence is obviously of importance Some time ago it was suggested to me that I should try the effect of a vaccine for colds (Parke Davis) on certain selected cases of tuberculosis of the lung suffering from constant colds, who were attending Margaret Street Hospital for Consumption as out-patients

Before treatment every case was tested by the "multiple cutaneous tuberculin test" of Ellis For the purposes of this paper, those who reacted to dilutions of 1 in 500 old tuberculin are referred to as "hypersensitive," to dilutions of 1 in 100 as "sensitive," and to dilutions of 1 in 10 as "subsensitive" In addition a skiagram of the chest was made, the sputum examined for tubercle bacilli, and the blood pressure taken, every case was provided with a four-hourly temperature chart, and only afebrile cases were dealt with In each case the initial dose of the cold vaccine was 0 1 c.cm., with rapid weekly increments till 1 c cm was reached

The results were disappointing Out of 28 cases treated 16 did well, but in 12 the colds became distinctly worse and the condition of the patient was certainly not improved I then tried a detoxicated vaccine (Genatosan, Ltd), commencing with a smaller dose, 0 01 c cm , with gradually increasing doses It was administered twice weekly, and some twelve doses were given in each case The results were better, but even with the lessened dose 2 out of 6 cases had severe reactions I am now using a sensitized vaccine, commencing with 0 01 c cm The results, in that no ill effects have been produced, are satisfactory, but I have not employed it sufficiently long to form a definite opinion as to whether its curative effect is better than that of the "vaccine for colds"

Being impressed with the poor results I obtained from the administration of the "vaccine for colds," I have made an attempt to ascertain the cause It must be either (*a*) in the patient, or (*b*) in the vaccine and the dose used

Under the first heading we may consider (1) the presence or absence of tubercle bacilli in the sputum, (2) the sensitiveness to tuberculin and the blood pressure

Presence of Tubercle Bacilli in the Sputum

This seems to be immaterial Of 8 cases with tubercle bacilli in the sputum 4 did well and 4 badly

Sensitiveness to Tuberculin and the Blood Pressure

I have grouped the cases into two large classes (*a*) those with a blood pressure of 125 and under, and (*b*) those with a blood pressure of 130 and over I have also divided the cases into subgroups according to sensitiveness to tuberculin I have also tabulated cases of tuberculosis treated with tuberculin, and have subdivided these into those who were and those who were not suffering from colds The tuberculin-treated cases were all afebrile, and the sputum was free from tubercle bacilli I have placed in the columns marked "good" cases in which the colds disappeared and in which there was obvious general improvement The remainder I have placed in the columns marked "bad" *The cases recorded are too few to justify* percentages as anything more than a means of memorizing results, but *they perhaps* make the position clearer I have recorded these percentages to the nearest whole numbers

TABLE I.—*Blood Pressure 125 and under*

	Colds Treated with Vaccine for Colds (11 cases)		Treated with Tuberculin			
			Colds (17 cases).		No Colds (24 cases).	
	Good	Bad	Good	Bad	Good	Bad
Hypersensitive, 1 in 500	1	2=66%	11	0=0%	11	0=0%
Sensitive 1 in 100	3	3=50%	4	0=0%	7	0=0%
Subsensitive 1 in 10 ..	2	0=0%	2	0=0%	6	0=0%

TABLE II.—*Blood Pressure 130 and over*

	Colds Treated with Vaccine for Colds (17 cases)		Treated with Tuberculin			
			Colds (11 cases).		No Colds (19 cases)	
	Good	Bad	Good	Bad	Good	Bad
Hypersensitive 1 in 500	6	2=28%	3	1=25%	5	2=28%
Sensitive 1 in 100 ..	4	5=55%	3	1=25%	4	1=20%
Subsensitive 1 in 10	1	0=0%	3	0=0%	6	1=14%

These figures, though meagre are significant They seem to show that sensitiveness to tuberculin not blood pressure, is the important factor in treatment with vaccines for colds In treatment with tuberculin the converse holds

—blood pressure is the important factor This is what one would expect In cases of tuberculosis, in which the blood pressure is low, indicating poor power of resistance, we may presume that sufficient antibodies are not being formed, and the patient demands and responds to the stimulating action of the tuberculin When the blood pressure is higher probably sufficient antibodies are being formed, and therefore there is less need for, and consequently less response to, tuberculin

On the other hand, we would not expect the vaccine for colds to influence tuberculin antibodies, but we can suppose that a patient who is intolerant to a small dose of tuberculin will be also intolerant to a much larger dose of another vaccine It seems unlikely that the brand of vaccine has much influence It is probably a question of dose Since I have reduced the initial dose of the vaccine and proceeded more cautiously the results have been much better But this takes time Instead of completing the course in three or four doses I now take eight to twelve or more If time permits I prefer to treat these cases with tuberculin, as it appears to me that in cases thus treated immunity to colds is more lasting

Conclusions

Vaccines for colds should be used with caution in the tuberculous if there be a tendency to sensitiveness to tuberculin The initial dose should be smaller than that usually given, and rapid increment of dose should be avoided

A STRIKING CASE OF CHICKEN-POX SIMULATING SMALL-POX

CHARACTERISTICS WHICH DISTINGUISHED IT

BY

W McCONNEL WANKLYN, B A CANTAB, M R C S, L R C P, D P H

A CORRECT decision in a case of this nature is so vitally important to the public, to the patient, and to the practitioner, that a note may be convenient to repeat the pathognomonic criteria which pointed with complete certainty to the true nature of the disease

E L, aged 19½ years, was seen in consultation with DR ALEXANDER and DUNLOP, to whose courtesy I am indebted for these notes An initial point of interest always lies in the answer to the question, "What aroused the suspicion of small-pox?" It was the facial appearance in this case About 80 lesions on the face, some papular, some vesicular, some becoming pustular—many of them hard and "shotty" as felt against a bony background—strongly suggested small-pox, a suspicion which was heightened by abundant raised hard lesions felt in the hairy scalp, which, of course, were also palpated against a hard background And certainly, regarded from a short distance, the lad's appearance instantly brought small-pox to mind, strongly simulating as it did some of the milder cases seen in October, 1922, in that same neighbourhood (Poplar) How, then, could the grave suspicion of small-pox be confirmed or dismissed?

It is seldom that such a case cannot be completely and easily cleared up by the use of the following four heads of cross-examination, after a general inspection of the patient has been made

1 *What was the local and general distribution of the rash?* A rapid approximate count of the spots was made and noted within five minutes, the patient sitting up (*a*) stripped to the waist, (*b*) in a good light Ridicule has been poured on this method of observation, apparently on the ground that clinicians should not reach their results by rule-of-thumb addition and subtraction What such a count does, however, is to compel close observation, heighten accuracy, quicken and shorten record, and save a deal of talk This patient's spots showed as follows

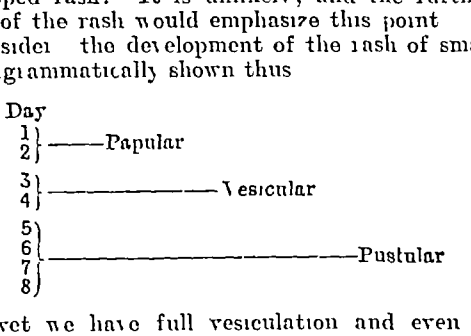
Right hand 1 left hand 0
Right forearm 25 left forearm 21
Right arm 45 to 50 left arm 45
Right axilla 3 left axilla 8
Pharynx 8 including 2 on the posterior pharyngeal mucosa, and 2 on the right anterior pillar
Face about 80
Front of chest and abdomen about 120
Lower extremities Spots not counted, but they were remarkably numerous on both shins, about 20 to 25 spots on each and it was observed that this area was the seat of lesions of chronic eczema As is well known, the rash of chicken pox occasionally favours irritated surfaces of the skin, but to a much less extent than that of small pox

2 *What was the character of the lesions of the rash, regarded generally?* In these last words lies the corrective observation to that of the facial lesions Chicken-pox spots on the comparatively coarse skin of the face of an adult, judging from hundreds of cases, often give rise to difficulty and are apt to mislead On the contrary, on the fine skin of the thorax and abdomen the truth is usually displayed to demonstration It was so in this case In the folds of the flank there lay lesions elongated, having crinkled outlines, with flaccid envelopes, containing scanty fluid, measuring about 8 mm by 4 mm Rolled in a fold of the skin picked up between the finger and thumb they were palpably superficial, their long axes were seen to lie parallel with the direction of the natural creases of the skin A noteworthy observation was that on the left shin were two frank vesicles, freshly distended, and faintly yet unmistakably umbilicated, this was verified with a powerful electric torch and magnifying lens No hair was visible at the centre of these slight umbilicated vesicles as sometimes happens, nor was the phenomenon due, as is also sometimes the case, to a pseudo-umbilication arising from the pellicle of a burst pustule falling in Such umbilication as was present was occurring during the height of vesiculation as in variola, and was apparently due to the same cause—namely, the incomplete severance of strands of connective tissue crossing the cavity of the vesicle and tying it across interiorly

3 *What constitutional signs and symptoms were present?* especially what had been the degree of prostration before the rash came out? *Nil*, was the answer to all of this

4 *To what extent and at what rate had maturation progressed?* This is a most useful point of cross-examination, especially apt to be helpful to diffident and inexperienced clinicians This rash came on a Monday, it was observed on Wednesday and Thursday By that time it was fully vesicular on the legs—unusual, but not entirely unknown, in small-pox, and in various localities of the skin development had progressed to the point of pustulation Could that have happened in a case of small-pox with a well developed rash? It is unlikely, and the further development of the rash would emphasize this point

Consider the development of the rash of small-pox may be diagrammatically shown thus



And yet we have full vesiculation and even pustulation on the third and fourth days of this case A well developed rash of small-pox very rarely develops to this extent in this period of time

The Diagnosis

How, then, do we stand in respect of the evidence derived under these four heads? No 1 points strongly in favour of chicken-pox, so do Nos 2, 3, and 4 There is hardly any evidence against it Verdict for chicken-pox that diagnosis, indeed, being unquestionable and undeniable

It happened that in this case there was still further evidence, if any had been needed But it was evidence that it is unwise to be in the habit of relying on It is very strong if present, and gives, as it were, the help of a crutch to weak muscles, but if it be habitually relied on, woe betide the clinician who finds himself completely deprived of it He is then at a great loss This lad, as was testified by his mother and himself, had undergone primary vaccination at the age of 15, four years previously, and the four scars on his arm testified to his variolous immunity

In these days, when lay criticism of, and intrusion into, delicate medical findings is apt to be pronounced and overwhelming, it may be well to be reinforced, as regards the critical public duty of small pox diagnosis, with clinical methods which have stood the test of experience, which are simple to remember, simple and quick to apply, simple in interpretation, yielding results which are correct, easily recorded, convincing, and permanent for subsequent reference by means of observations, every repetition of which materially fortifies and heightens a sound and correct judgement

FRACTURE OF THE ODONTOID PROCESS AND PARTIAL DISLOCATION OF THE ATLAS WITHOUT COMPRESSION OF THE CORD

BY

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CASES like that described below are so unusual that, when they occur, it is desirable to place them on record

R W, a labourer, aged 50, during a gale last autumn was struck by a falling tree The force of the blow was sufficient to knock him off his feet, but he did not lose consciousness

On my arrival at the scene of the accident he was standing supported between two of his mates and was able to give a lucid account of the occurrence

A wound 9 inches long stretched across the frontal eminence and extended from one temporal region to the other The scalp was hanging loose, leaving bare a considerable portion of the vertex, which was contaminated with mud There were also small cuts on the nose and occiput

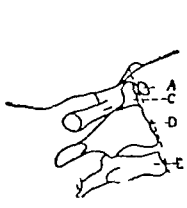


FIG 1.



FIG 2.

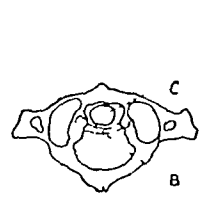


FIG 3.

FIG 1.—Normal outline The anterior surface of the odontoid process body of axis and third cervical vertebra lie in a slightly curved line the anterior arch of the atlas lies entirely in front of this line

FIG 2.—Radiographic tracing from R. W The anterior arch of the atlas and odontoid process are displaced backwards

FIG 3.—Outline of atlas odontoid process and transverse ligament the non rupture of which preserved the cord from injury

A Anterior arch of atlas B Transverse ligament C Odontoid process D Body of axis E, Third cervical vertebra

He was removed to the local hospital, where his wounds were cleaned and sutured under an anaesthetic As he complained of pain and stiffness in the region of the neck, he was kept lying perfectly flat with the head fixed between sandbags

His wounds healed without suppuration, but the pain and stiffness in the neck persisted Six weeks later, however, he was so far recovered that he could be moved for x ray examination This showed the anterior arch of the atlas and the axis to be displaced backward No line of fracture could be made out, but there was abundant formation of callus and union was apparently satisfactory

At present, ten weeks after the accident, the patient is able to get about without any retentive apparatus The movement of rotation is very limited and is accompanied by pain and a clicking sound, due to alteration in the line of pressure of the articular facets of the atlas on those of the axis

I have to thank Mr B Dyball F R C S, for his kindness in allowing me to use his report on the x-ray examination

A NOTE ON RECURRENT LARYNGEAL PARALYSIS

BY

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PARALYSIS of the vocal cord following operations on the thyroid gland occurs, I think, much more commonly than is supposed The reason why it is so often overlooked is that in many cases it causes no symptoms or disability, and I have frequently seen cases in which nothing whatever was suspected either by the patient or the surgeon, and yet examination showed a vocal cord either quite motionless in the cadaveric position, or with the power of abduction entirely absent

This lack of symptoms (alteration of voice, etc) is to be accounted for by the rapidity with which compensation by the other vocal cord is achieved In some cases it is almost instantaneous, in others it may be delayed for a varying period Often in this latter group, if careful inquiry is made, there is evidence of slight huskiness, but this is often put down to the anaesthetic or a cold, and in most cases usually passes off within a week

When we come to inquire into the reason why the vocal cord is so often affected after operations on the thyroid (such as hemithyroidectomy or tumours involving the lateral lobe) a possible explanation may be found in the mode of distribution of the recurrent laryngeal nerve About an inch before it enters the larynx it breaks up into a leash of branches, usually two main ones and several smaller filaments, of the latter, two are usually constant and go to the thyroid gland and the beginning of the oesophagus The larger of the main divisions enters the larynx by piercing the inferior constrictor just behind the articulation of the inferior cornu of the thyroid with the cricoid This is the muscular branch It should also be mentioned that branches of the inferior thyroid artery run mainly with the filaments of the nerve When the lateral lobe of the thyroid gland is manipulated by the surgeon it is practically impossible to avoid pulling on the filaments of the recurrent laryngeal nerve, and in some cases the muscular branch must be stretched round the inferior cornu of the thyroid cartilage somewhat like a piece of string across the edge of a door The main trunk of the nerve is, I think, seldom much disturbed

Again, as cut branches of the inferior thyroid are picked up with artery forceps some filaments of the nerve may be damaged and others stretched I believe that this stretching of the muscular branch is often sufficient to put the vocal cord out of action

The recurrent laryngeal nerve is curiously vulnerable I remember one case in which it was held aside with a retractor during an operation, and the vocal cord was paralysed and remained so for nearly a year During the war an officer was shot through the neck by a machine-gun bullet at Kut-el Amara His vocal cord was paralysed by this simple concussion of the nerve and it was more than a year before the mobility of the cord was fully restored These and many similar cases were under my own observation at frequent intervals

In a large majority of cases I have no doubt that the vocal cord completely recovers but there remains a percentage in which the damage is permanent That the nerve may be initially damaged during an operation can be demonstrated by watching the vocal cord with the direct laryngoscope until the moment occurs when it is paralysed, often with dramatic suddenness

It is outside the scope of this note to discuss the technique of operations on the thyroid gland and their respective merits, suffice it to say that it is within my knowledge that alteration in technique designed to avoid stretching the branches of the recurrent nerve has in certain instances produced markedly improved results with regard to the vocal cord

RIGHT-SIDED PHARYNGEAL DIVERTICULUM

BY

J B HORGAN, M B, CH B, D L O R C P AND S ENG,

HONORARY LARYNGOLOGIST TO THE NORTH CHARITABLE INFIRMARY, CORK

THE following case is interesting because of the age of the patient, the usual age incidence in recorded cases being over 40, and because the diverticulum was on the right side

A young man was referred to me by Dr J J Kearney of Cork as a case of oesophageal diverticulum needing surgical treatment He complained of dysphagia which had its origin in a "cold and sore throat" two years previously The dysphagia was worse when swallowing doughy substances, and was accompanied by the sensation that "one bite pressed on another" There was a gurgling sound whilst partaking of food and at frequent intervals between whiles, even during sleep There was a feeling of distension after food, oral flatulence, and constipation Though his appetite continued good, the patient had latterly suffered from marked and increasing inanition and some form of relief had become imperative

Though much emaciated, the patient's general health was good and his vital organs were found to be healthy The nose, mouth, and oro-pharynx were normal Inspection revealed a questionable dilatation of the right side of the neck, below the level of the cricoid cartilage, but the existence of a diverticulum could be definitely determined by palpation owing to the gurgle which could be both heard and felt and to the regurgitation that ensued

X ray Examination

Dr H J Cotter reported as follows "There is a small pouch in the right wall of the oesophagus at a level corresponding with the crest of the first rib, Small mouthfuls of semi liquid food pass easily, but a larger mouthful causes the pouch to fill When full it is about the size of a marble Continued efforts at swallowing cause the food to regurgitate and a little passes down the rest returning to the pouch In time it is gradually emptied Diagnosis Constriction of the oesophagus at the site indicated with small diverticulum in the right wall"

A bougie was found to be held up eight inches from the teeth On using the oesophagoscope the beak of the tube passed readily into the pouch, which appeared to me to be medial in position and full of farinaceous food Upon removing the latter the lining mucosa presented a healthy appearance and was evidently a diverticulum of the hypopharyngeal mucous membrane The communication between the pouch and the oesophageal hiatus was with difficulty discerned and lay apparently behind the left half of the cricoid lamina It was only possible to make the beak of the tube override the lip dividing the diverticulum from the oesophagus by employing a tube of unusually small calibre and using considerable pressure from behind forwards Inspection showed the remainder of the oesophagus to be quite normal

Before withdrawing the oesophagoscope a Hill's feeding tube was passed into the oesophagus through the instrument, its upper end being brought forwards through the nose and secured to the cheek This tube was well tolerated and allowed of the patient's being liberally fed on the days preceding operation

Operation

Operation was undertaken under general anaesthesia administered by laryngeal intubation A bougie was passed into the sac for purposes of orientation, the presence of this tube as well as the Hill's feeding tube in no way interfered with the safe and adequate administration of the anaesthetic used The diverticulum was exposed and isolated without difficulty by an incision running on the right side from the great cornu of the hyoid bone to the sterno-clavicular articulation When rendered tense by the bougie the diverticulum could be aptly compared in size and shape to the ring finger as far as the first interphalangeal articulation The inferior thyroid artery having been ligatured and divided, the recurrent laryngeal nerve was seen and isolated The base of the sac was now clamped in the vertical direction and the sac removed, the opening into the pharynx being subsequently closed by three superimposed layers of chromic gut sutures The wound was packed with gauze round a rubber drainage tube and the upper and lower angles of the wound were apposed by a few deep and superficial interrupted sutures

After History

The patient was kept in the Fowler position Though restless and troubled by insomnia and cough, he did not, in spite of his debilitated condition, suffer an undue amount of shock On the second day the temperature rose to 101·6°F and therewas evidence of surgical emphysema on the right side of the thorax The temperature subsided on changing the dressings, but the emphysema was slower in disappearing I attribute this latter symptom to the persistent cough and excessive expectoration of frothy mucus which was the patient's main cause of discomfort during the week succeeding operation These symptoms were apparently little influenced by a liberal exhibition of atropine and morphine, and I have little doubt that mainly from this cause the pharyngeal wound leaked as early as the day after operation Owing, however, to the clean state of the pharynx and mouth and to our ability to feed the patient early and often through the retained feeding tube, the pharyngeal wound remained clean and at rest and rapidly healed as also did the main wound in the neck without apparent signs of infection The patient suffered from slight and transient hoarseness doubtless due to the unavoidable trauma of his recurrent laryngeal nerve The Hill's tube was not withdrawn until the ninth day after operation, though I am of opinion that it could have been removed with safety some days earlier It was then found that he could swallow without difficulty, and he was able to leave hospital a few days subsequently

The etiology of the condition is obscure, but may probably be ascribed to incoordinate action between the propulsive and the sphincteric elements of the pharyngeal muscles in the presence of a weakness of the pharyngeal wall in the neighbourhood of the pharyngeal dimple, which, according to Wilkie and Hartley, is the commonest cause of this affection [1] The patient was, however, not a "bolter"

I am of opinion that the preliminary insertion and retention of a Hill's tube, brought forward through the nose, is of decided advantage, especially in the case of a small pouch where the one-stage operation is contemplated It permits of a proper amount of nutriment being administered before and immediately subsequent to operation, and, what is perhaps of greater importance, of its being administered without the risk of contaminating the cervical fascial planes through what must, at best, be a leaky oesophageal wound It is, on the whole, well tolerated It has the further advantage that, the sac having been emptied on its insertion, the danger of suffocative regurgitation of food residue during the operation can be definitely excluded That this danger is a very real one is evinced by the fact that in the Mayo Clinic local anaesthesia is now employed, for the purpose of excluding the possibility of its occurrence, in practically all cases operated on for this condition [2] The double intubation method I employed in this case rendered the one-stage operation under general anaesthesia surprisingly easy and safe

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[1] D P D Wilkie and J A J Hartley *British Journal of Surgery* November 1922.

[2] Charles H Mayo *Annals of Surgery* March 1923

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SEVERE ILLNESS FROM GNAT BITE

STINGS and bites from winged pests resulting in serious illness are occasionally reported in the daily press, and not infrequently the report embodies a coroner's verdict Death from wasp sting may be occasioned by swelling of the tissues and interference with respiration, but in some cases the cause may lie in the toxin carried by a winged pest from its previous resting place The history of the following case suggests that apparently simple lesions, such as bites and stings, should be immediately treated with a suitable antiseptic A lady spending a holiday in a forest district in Scotland last summer was stung behind the ear while she was standing In a day or two the swelling which resulted required medical attention Before this swelling from the bite had disappeared she became prostrated, feverish, and had an eruption of herpes facialis on the bitten side While recovering from this she developed facial paralysis, which progressed into auditory nerve deafness The deafness was of high grade and accompanied by a modified Menière's syndrome Dr Lawrence in the BRITISH MEDICAL JOURNAL (November 24th, p 982) reports a somewhat similar condition

To me the sequence of events seems to be as follows (1) a peripheral neuritis from the toxin injected by the bite of a flesh-eating gnat, (2) extension of this neuritis to the motor filaments, (3) its progression to the internal auditory meatus, where, by way of the nerve of Wrisberg, the eighth nerve becomes involved Congestion of the bony labyrinth follows, and a modified Menière's syndrome results Signs of vaso-dilator stimulation of the cervical sympathetic nerve were observed, and indicate the extension of the neuritis to the petrosal nerve

Deafness arising from herpes is said by authorities to be permanent, and certainly this lady has had much treatment from distinguished practitioners, including consultants and medical electricians, without the slightest effect on the hearing In my opinion this case with its sequence of four distinct diseases—a trifling trauma (the bite), then shingles, then facial paralysis, and finally deafness—might have been prevented by the immediate application of tincture of

iodine to the bitten area A streptococcal injection from the winged pest would have been nipped in the bud

HARRY M ROBERTS, L R C P and S

Stevenston Ayrshire

FATAL CASE OF CAMPHOR POISONING

IT appears from the scarcity of literature on camphor poisoning, and the small number of cases recorded, that the following case is worthy of note

A healthy male child of 16 months was taken ill with slight fever and general malaise on December 7th, 1923 and the mother wishing to give him an aperient sent to her sister's house close by for some castor oil The sister, in error sent back camphorated oil in a bottle labelled cough cure The mother gave her child a teaspoonful of the oil (which contained 12 grains of amphor) She immediately realized her mistake partly by the smell and partly by the difficulty the child had in swallowing the oil

A few minutes after the oil had been taken the child became convulsed The mother sent for her doctor who ordered some medicine As the child continued to have repeated convulsive fits the mother brought him to hospital, arriving about half an hour after the oil had been swallowed

Condition on Admission

The child was pale and greyish the skin moist with a few petechial haemorrhages on the body and limbs resembling flea bites The breath smelt strongly of camphor, the respirations were fast and shallow and the alae nasi were working excessively The pulse was 208 but regular the pupils moderately contracted, and the general appearance that of terror

The child had another convulsion a few minutes after admission He was taken to the ward and the stomach was washed out with a dilute solution of magnesium sulphate and half a drachm of the salt left in the stomach The washings smelt strongly of camphor and contained numerous droplets of oil

The usual methods of resuscitation were adopted and potassium bromide was given by the rectum to allay the convulsions but with little effect The convulsions continued at short intervals and the petechial eruption became most profuse all over the body The child never regained consciousness and died seven hours after having the oil

Post mortem Examination

The skin showed a profuse haemorrhagic eruption all over the body and the mucous membrane of the mouth and lips was slightly excoriated

The membranes of the brain were healthy the veins on the surface of the brain were congested but there were no haemorrhages Section of the brain showed no macroscopic lesion

The mucous membrane of the oesophagus was healthy The stomach and intestines showed a few petechial haemorrhages under the peritoneal coat there were also a few similar haemorrhages under the mucous membrane A distinct smell of camphor was noticed but there was no evidence of corrosion or of acute irritation found

The capsule of the kidneys stripped easily There were numerous small haemorrhages in the cortex just under the capsule in both kidneys The other systems were healthy

I am indebted to Dr R L Guthrie, coroner for East London, for permission to record this case

There are several features in the above case worthy of comment One of the most prominent was the profuse haemorrhagic eruption of the skin, there is no mention of it in the report of cases of camphor poisoning As regards subperitoneal haemorrhages of the stomach and bowel, though few necropsies have been reported, none have laid stress on this condition nor on the subcapsular haemorrhages of the kidneys There seems some divergence of opinion as to the lethal dose of camphor Taylor gives the smallest dose to prove fatal in a child of 18 months as 30 grains Glaister quotes a case of 20 grains proving fatal in an adult, Brand records the case of a child of 5 years who swallowed 12 grains and died in eighteen hours, in this case the child of 16 months died in seven hours after having 12 grains

It seems apparent that the actual dose proving fatal depends on whether vomiting has taken place or not But if the camphor were given in a form readily absorbed and there was no vomiting, then 20 grains could well be regarded as a fatal dose

It is interesting to note that on December 10th (three days later) another child was admitted, having been given the same dose of camphorated oil, but it vomited soon after and exhibited no ill effects

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A CASE OF ECTOPY OF THE TESTIS

IMPERFECT descent of the testes is not uncommon, misplacements of the testes are rare

The case illustrated is an example of "ectopia pubopenilis," one of the rarest forms of malposition The left



A case of ectopy of the testis.

testis lay on the dorsum of the penis about 1½ in below the pubes The right testis had fully descended The left half of the scrotum was imperfectly developed, but there was no difficulty in stretching it sufficiently to contain the testis when released

BERKELEY MOYNIHAN

Leeds.

EXTREME HYPOTHYROIDISM WITH COMPLETE RECOVERY

THE following case is, I think, worth recording since it shows the terminal, or nearly terminal, result of the prolonged and complete deprivation of the thyroid secretion in an otherwise healthy person

On July 11th, 1923, I was asked to see a lady, aged 65 who was thought to be dying I found her indeed very ill She was unable to turn over in bed and took little notice of her surroundings Her sight and hearing were dulled she complained of always feeling cold and her body temperature was too low to be recorded by a clinical thermometer She was incontinent and the urine passed though free from albumin, amounted to only about 18 oz in twenty four hours She suffered much from an almost complete prolapse of the rectum and vagina Her legs and thighs were oedematous and the abdomen which measured over 40 inches in circumference was distended with fluid Her skin was coarse harsh and dry—almost scaly She had a few sparse wisps of coarse hair upon her scalp which was otherwise bald Her face was expressionless and puffy and the skin of the cheeks yellowish with injected capillaries over the cheek bones This gave her face the appearance of a long kept streaky yellow apple Her voice was absolutely toneless and quite characteristic of myxoedema

Her history was as follows Up to the age of 45 she had always been healthy She had borne several healthy children Since her climacteric she had never felt well but had gradually got weaker and more apathetic lapsing as time went on into complete invalidism For the last several years she had been more or less confined to her bed She had been treated for pernicious anaemia chronic Bright's disease and various other complaints including change of life But no drugs or treatment (including some time spent at Matlock) had done any good

She was given thyroid extract (dry) ½ grain night and morning beginning on July 12th By July 22nd the temperature had risen steadily to the normal and improvement in her general condition was noticeable The amount of the extract was then increased gradually to 6 grains a day In less than three months all her symptoms had disappeared The oedema and ascites had both cleared up and the abdomen measured 30 inches There was no longer any incontinence and the urine measured 50 oz in twenty four hours The rectum and vagina had become automatically replaced and gave no further trouble The skin became smooth supple and moist and the yellow colour of the cheeks with the injected capillaries had given place to a healthy appearance with return of normal expression The calp was covered by an abundant growth of fine auburn hair The patient was no longer deaf and her voice had regained the tone which it had before her illness She was able to go out for short walks and in fact lead the life of a healthy woman of her age

The following points seem of special interest

1 The patient had reached the extreme limit short of a fatal issue

2 There was no concurrent or complicating illness

3 The immediate reaction to very small doses of dry extract, as shown by the rise of temperature

4 The complete disappearance of all symptoms, even the ascites, without any other treatment beyond the thyroid extract

Nuneaton E N NASON

Reports of Societies.

TREATMENT OF SEVERE GASTRIC AND DUODENAL HAEMORRHAGE

A COMBINED meeting of the Sections of Medicine, Surgery, Therapeutics, and Pharmacology of the Royal Society of Medicine was held in the rooms of the Society on March 5th to discuss the treatment of severe gastric and duodenal haemorrhage, Mr C A R NITCH was in the chair

MR H J PATERSON pointed out that severe haemorrhage from gastric or duodenal ulcers might be considered in reference to two distinct groups of cases—those with acute haemorrhages and those with chronic or recurrent haemorrhages Surgical treatment of acute haematemesis was in his opinion unjustifiable The collapse induced by loss of blood was favourable to the arrest of haemorrhage, but unfavourable for surgical intervention, and if medical treatment failed the operation was unlikely to be successful The mortality rate in cases treated medically was probably about 3 8 per cent He had obtained some statistics with regard to the operation for acute haematemesis, and the mortality rate worked out at 36 8 per cent It was probably correct to say that of the patients who bled severely or repeatedly and were treated medically not more than one in nine would die, whereas of those treated by immediate operation one in three would die In some cases also the patient would have the added risk of an operation without any effective treatment of the bleeding point Up to the end of 1922 the speaker had had under his care or jointly with his colleague, Mr Soltau Fenwick, forty cases in which haematemesis was of such severity that the patients were on the brink of the grave, but all recovered with medical treatment, he had not yet seen a death from haematemesis due to a gastric or duodenal ulcer In all but two of these cases a gastro-jejunostomy was performed at a later date Of the two exceptions one was a nurse who was anxious to avoid an operation and was kept in bed for six months with complete recovery, the other was one of gastro-jejunal ulcer in which the ulcer was excised and a new anastomosis performed In only one of these cases was there any return of the haemorrhage, and that but slight It could not be emphasized too strongly that patients rarely died of a first haemorrhage, it was the repetition of the bleeding that was of such serious import Let them beware of the fallacious argument 'This patient is bleeding He will probably die Something must be done" Even if the premisses were true there was no reason for the conclusion that because death was pending something should be done which would probably make the patient's life shorter still As regarded medical treatment, absolute rest was the most important factor

When the patient had recovered from the resulting anaemia operation should be performed to prevent recurrence The interval between the haemorrhage and the operation should be at least three months, and if the patient were still anaemic transfusion of blood before operation was a valuable adjuvant In chronic or recurrent haematemesis operation should as a rule be deferred for two or three months after the last haemorrhage, according to the condition of the patient In the meantime careful medical treatment, rest in bed, Lenhartz diet, saline and glucose injections per rectum, and gastric lavage, should be employed Since in large excavating ulcers septic processes in the ulcer might play a considerable part in causing the haemorrhage, it was important not only to rest the stomach but to keep it clean Usually these methods prevented recurrence, but even if the haemorrhage were repeated he would persevere with medical treatment If, in spite of absolute rest, there was further recurrence, the question of operation might be considered His experience was that efficient medical treatment did not fail, but if in spite of a thorough trial of medical treatment there were many small losses of blood or more than one haemorrhage of such severity as to cause obvious anaemia, he would not hesitate to operate before the onset of another attack The operation should be preceded by blood transfusion Mr Paterson favoured gastro-jejunostomy, and did not think that haemorrhage was an indication for resection If more than gastro-jejunostomy was considered advisable, infolding the ulcer or cauterizing it by the Donald Balfour method was safer and as efficacious Some had objected to gastro-enterostomy on the ground that it was an indirect method of treating haemorrhage, but dealing with the bleeding point, though ideal, was rarely practicable Gastro-jejunostomy was simple and it had the further advantage that in it the surgeon started with a definite plan in view and was not tempted to do an extensive exploration which might turn the scale against the recovery of the patient In 84 patients under his care or seen jointly with his colleagues, Dr Fenwick and Dr Porter Parkinson, and in which there were recurrent attacks of severe haematemesis, 2 5 per cent died as a result of the operation (all the operations were gastro-jejunostomies save two excisions done for gastro-jejunal ulcer) In 4 2 per cent there was a recurrent haemorrhage of a trivial character, and in 90 per cent no further haemorrhage occurred these figures justified the treatment adopted In treating cases of haematemesis inaction was often the wisest and only safe course, although it was always the more difficult

SIR WILLIAM WILLCOX said that severe gastric and duodenal haemorrhage arose from so many different causes that no routine method of treatment could safely be laid down It was quite unsafe to assume in a severe case of haemorrhage that the treatment to be adopted should be that of a bleeding peptic ulcer some of the most severe cases were due to such causes as cirrhosis of the liver, splenic anaemia, gastric erosions, gastrostaxis, and chronic toxaemic conditions The most important general principle of treatment was to rest the stomach and duodenum Nothing should be given by the mouth during the first two or three days following the haemorrhage, and after severe bleeding it was advisable to stop mouth feeding for four or five days and to give 15 oz of normal saline with 4 per cent glucose every six hours He doubted the value of any local applications to the epigastrium Morphine and its derivatives was undoubtedly of use in controlling peristalsis, but should be used with caution Patients suffering from cirrhosis of the liver, alcoholic or syphilitic, were particularly susceptible to the toxic effects of the drug, and the same held good with chronic nephritis The giving of morphine hypodermically in cases of gastric and duodenal haemorrhages as a routine practice should be discouraged There were certain methods of promoting the coagulation of the blood The best method of giving calcium salts was as advocated by Vines and Grove 1 gram of calcium chloride dissolved in 100 minims of distilled water was injected intramuscularly *into the buttock* This dose should be repeated in three or four days if required There was no local pain when the strength of the solution did not exceed 1 per cent Parathyroid gland gr 1/10 twice daily might be given by the mouth Serum injections such as 20 c cm of horse serum or other serum preparation on the market given subcutaneously appeared to have some power in increasing the coagulation power of the blood Blood transfusion of about 500 c cm of blood from a suitably tested donor was of great value Inhalations of washed carbon dioxide gas had been recommended It was doubtful if local haemostatics were of any value in the acute stage of gastric and duodenal haemorrhage The administration of drugs such as tannic acid, iron perchloride, lead acetate, alum, and turpentine simply coagulated and hardened the effused blood in the stomach and made the gastric contents more irritating to the bleeding surface adrenaline chloride by mouth without first washing out the sanguineous contents was useless Where a first haemorrhage from a gastric or duodenal ulcer had been diagnosed, with a short history of symptoms, careful medical treatment should be adopted Where there was a history of symptoms extending over many months or years it was inadvisable to attempt

medical treatment as a cure of the condition The patient should be carefully treated for the haemorrhage, then put on a course of *Lenhartz diet* and operative treatment carried out when the general condition permitted In some cases of severe haemorrhage where the haemoglobin was under 40 per cent there was a tendency for the bleeding to recur In these cases it was often an advantage to accelerate the recovery of the patient by operating after the shock of the haemorrhage had been recovered from, a transfusion of one pint of blood from a suitable donor being given before the operation

Mr A H BURGESS considered that in post-operative haemorrhage which followed operations upon the stomach or duodenum prevention was more satisfactory than cure, and he stressed the importance of two points of technique (1) all large vessels seen to approach the line of incision of the stomach should be under run with a suture and ligatured, (2) the inner *continuous* layer of suture, taking up all the coats, should be closely applied, the needle passing ten times to the inch, and drawn tightly The vomited matter after gastro-enterostomy or partial gastrectomy would always contain blood more or less altered, usually it was already dark brown in colour by the time of the first vomit If haemorrhage continued the vomit would be a brighter red, and should this bright red colour persist, and be associated with a quickening pulse, some treatment should be adopted He had seen only three cases that caused him anxiety on the score of immediate post-operative haemorrhage, and in each of these the haemorrhage had ceased after a method which he thought was first advocated by Rodman—the introduction of very hot water into the stomach The stomach was first washed out with warm water to clear it of any clots Eight ounces of water at a temperature of 130° F (the temperature must be accurately measured) were then introduced through the tube, allowed to remain one minute, then syphoned off, this was repeated thrice, except that the last eight ounces were left in the stomach The only fatal case he had had was after gastro-enterostomy for irremovable carcinoma of the pylorus, where on the fifth day the patient suddenly began to vomit blood profusely and died very shortly afterwards A *post-mortem* showed that the main stem of the pyloric artery had been eroded in the floor of the malignant ulcer Haemorrhage after operations elsewhere than on the stomach or duodenum was rare, but had been met with after operations on almost all of the *abdominal viscera*, and even on other regions of the body The mortality was high—about 55 per cent (Phifer, *Surgery, Gynecology, and Obstetrics*, January, 1923) The etiology was obscure, but Rodman's view of its septic origin was that most generally accepted The treatment of the haemorrhage was *essentially medical*, and surgical measures should be confined to eradication of the septic focus, if possible Haemorrhage from the stomach or duodenum other than post-operative may be grouped according to whether or not it is associated with any gross local lesion of either of these viscera Profuse haemorrhage may occur in the absence of such gross lesion ("gastrostaxis") Severe haemorrhage from the stomach or duodenum should not be treated surgically unless there was some strong presumption, either from one's previous knowledge of the case or from the history of pain having some definite relation to the taking of food, that the cause was some gross *local lesion of one* or other of these viscera usually ulcer Here, again, there was an important difference between haemorrhage from gastric and that from duodenal ulcer Profuse haemorrhage from chronic gastric ulcer was usually either quickly fatal from erosion of a large artery or, if once arrested, did not show that tendency to early and repeated recurrence seen in duodenal ulcer If death did not soon occur there was usually time to improve the condition of the patient by medical treatment, so that the operation, when performed subsequently was really one for the cure of gastric ulcer rather than of haemorrhage He had never had occasion to operate during haemorrhage from chronic gastric ulcer for this reason He was no believer in the so-called "indirect" method of arresting gastric haemorrhage in these cases —that is, by *simply performing* gastro-enterostomy If operation were to be undertaken at all it would have to be a direct and drastic attack on the bleeding ulcer, its separation from *pancreas or liver*, and its destruction either by excision or cautery In haemorrhage from a duodenal ulcer there was a much greater tendency to early and repeated recurrence of the bleeding, and he regarded it as more immediately serious than gastric, and more immediately requiring operation

Dr A F HURST agreed that complete rest was the first line of treatment in cases of severe gastric and duodenal haemorrhage He had only once had occasion to call in a surgeon to save the life of a patient suffering from bleeding from a gastric or duodenal ulcer The following statistical table was of importance in showing the low mortality of the condition,

A *Guy's Hospital Statistics from 1911–1920 inclusive* (collected by Dr J J Conybeare, Medical Registar)

1 Cases admitted for haematemesis or melæna	601.*
2. P Ms excluding 2 with advanced sclerosis ...	22=0.37% of p ms =2.6† a year
3 Of these—	
(i) No previous operation (acute 7 chronic 6) There was a previous history pointing to ulcer in only 3 of these	13=0.24% of p ms.=1.5° a year=7.5%† of cases admitted for haemorrhage
(ii) Previous operation (no previous haemorrhage 7 previous haemorrhage 2)	9=0 13% of p ms =1† a year=1% of operations on ulcers

B *New Lodge Clinic, 1921–1923*

1. 60 patients with proved gastric or duodenal ulcer—		
Previous haemorrhage ...	Gastric 5	duodenal 8
No previous haemorrhage ..	11	36
Of these a subsequent operation was performed—		
Previous haemorrhage ...	1 subsequent haemorrhage 1	
No previous haemorrhage ...	9 subsequent haemorrhage 0	
2. 25 patients admitted with symptoms following operation for duodenal ulcer—		
No haemorrhage before operation	16	of these 4 had haemorrhage from jejunal ulcer after operation
Haemorrhage before operation	9	of these 7 had haemorrhage from jejunal ulcer after operation

Thus out of 25 consecutive cases of ulcers with a history of severe haemorrhage in 11 the haemorrhage occurred from jejunal ulcers after operation for duodenal ulcer and of these 4 had not previously bled.

* Approximate

† Allowing for 12% of deaths in which no p ms. were performed

To the stomach blood was as much a food as any other protein, so that gastric juice was secreted and peristalsis occurred as actively as with an ordinary meal *When the* haemorrhage was severe and continuous after haemorrhage had occurred, or when in spite of its severity it was not sufficiently rapid to cause the sudden distension which resulted in its ejection by mouth, death might result unless steps were taken to empty *the stomach* A *stomach* tube should be passed just far enough to reach beyond the cardia, in this way the bleeding surface could not directly be disturbed, and the stomach emptied This was most easily done by a tube connected with a Senoran's evacuator The stomach was washed out with about 4 oz of ice-cold water, which was repeated until the water came back no longer blood stained instead of water 1 in 1,000 ferric chloride, also iced, might be used When the last traces of water had been evacuated a drachm of 1 in 1,000 adrenaline chloride should be poured into the stomach before withdrawing the tube There need be no fear that the general blood pressure would be raised and the danger of a recurrence of haemorrhage thereby increased, since adrenaline given by the mouth was not absorbed and had no effect on the general blood pressure The complete evacuation of the stomach and the stimulation of the mucous membrane with ice-cold water resulted in firm contraction of the whole organ, and the haemorrhage, if gastric in origin, was almost invariably arrested Duodenal haemorrhage was also generally stopped, because the duodenum had no longer to deal with blood mixed with acid gastric juice, and both the acid ferric chloride solution and the adrenaline might now reach the ulcer Bleeding ceased when a firm clot formed at the bleeding point This clot might be digested by gastric juice It was necessary therefore to neutralize as completely as possible all the free hydrochloric acid present Magnesium oxide, given most conveniently as emulsio magnesiae (B P C), each drachm containing 5 grains of oxide, was the best alkali This did not, like sodium bicarbonate, stimulate

the secretion of gastric juice after neutralizing an equivalent amount of acid and give off large quantities of carbon dioxide, which distended the stomach The blood should be grouped early and a suitable donor selected The haemoglobin percentage should be estimated daily until the patient was obviously out of danger He believed that the only indication for operation in the acute stage was the recurrence of severe and persistent haemorrhage in an elderly individual with a long history pointing to the presence of a chronic ulcer, whose arteries were so degenerated that they were unlikely to contract sufficiently for satisfactory plugging by thrombosis He raised the question Should haemorrhage be regarded as an indication for subsequent operation? Holbaum reported in 1922 that no less than 20 per cent of cases in which gastro-enterostomy had been performed for duodenal ulcer were followed by severe and occasionally fatal haemorrhage, either immediately or months or even years later He thought that an operation of excision should be done

Mr R P ROWLANDS believed that though a few patients died from the first haemorrhage, it was safer to try to tide over the emergency by medical treatment, and then to make an accurate diagnosis and to operate if necessary as soon as the condition of the patient was favourable An expert radiographer rarely failed now to demonstrate the crater or deformity of a chronic ulcer if any existed Recurrence of bleeding, even though the patient was under careful medical treatment, was a very important indication for early operation The bleeding was often of the secondary or septic type, which would almost certainly recur or continue to a fatal end, it was usually wise to seize the first favourable opportunity during the reaction When the bleeding continued in spite of medical treatment an emergency operation was sometimes the only hope of saving life With regard to the operation, a haphazard gastro-jejunostomy was not good enough Balfour found 13 per cent of recurrences in these cases unless the ulcer were excised or destroyed Therefore whenever possible the ulcer was removed with knife or cautery Failing this it was invaginated by sutures and the arteries feeding it tied, for the usual gastric ulcer on the lesser curvature the gastric and pyloric arteries were secured, and the gastro-duodenal and right gastro epiploic arteries for the posterior duodenal ulcer However, a direct attack upon the ulcer was more certain to arrest the bleeding, for it was by no means always possible to be sure of the exact vessel that was leaking, as an instance, the splenic artery might be eroded by a gastric ulcer Bleeding from an anterior duodenal ulcer might be dealt with by performing a Finney's operation, the ulcer being excised at the same time, a small ulcer might be cauterized and sutured A small accessible gastric ulcer was excised and gastro duodenostomy performed Sometimes a partial gastrectomy or sleeve resection had to be performed for large gastric ulcers which caused severe bleeding Only absorbable ligatures and sutures should be used lest secondary haemorrhage occur, a ligature of linen thread, used to tie the gastric artery while excising a gastric ulcer, after some months caused a small ulcer with repeated attacks of severe haemorrhage

Dr T IZOD BENNETT thought that the immediate treatment of these cases should be left entirely to the physicians The diagnosis was often obscure, and statistics showed that patients were more likely to die with surgical intervention than without it A person who had had a severe haemorrhage was in a poor condition to stand the shock of an operation With regard to treatment absolute gastric and duodenal rest should be obtained, this implied strict starvation by mouth, fluid being given entirely by the rectum in the form of saline administered very slowly over long periods Gastric lavage should be avoided Intravenous administration of either blood or saline should also not be used Their dramatic restorative effect might be followed by an equally dramatic collapse due to recurrent haemorrhages following the rise of blood pressure, but morphine, hyoscine, or omnopon was useful Mouth feeding should only be resumed after haemorrhage had stopped for two or three days, and later when all danger from haemorrhage was passed the advisability of surgical treatment should be considered.

Mr GORDON-TAYLOR agreed that haemorrhage from acute ulcers of the stomach never needed operation, but in dealing with chronic ulcers of the stomach and duodenum they were on very different ground As soon as the haemorrhage had stopped in these cases the surgeon should get to work and wherever possible deal with the bleeding point

Dr PHILIP HAMILL said that haemorrhage from a gastric or duodenal ulcer differed from haemorrhage from a cut surface in that one could not tell at any one moment whether the bleeding was still proceeding One could only be aware of the fact that the patient *had* bled Further, the bleeding point was not accessible for simple measures such as pressure The common tendency, however, was for the haemorrhage to cease spontaneously, and the speaker had *never seen an immediately fatal case* The first line of treatment to be adopted was to ensure complete rest in body and mind by the aid of morphine, and omnopon 1/4 gr was useful He was not yet quite certain, but he thought it possible that the drug helped to cause contraction of the musculature of the stomach An ice-bag, and chalk with magnesium were useful He did not consider it necessary to starve the patient for so long as four or five days after a haemorrhage He would specially mention certain cases of old sclerosed gastric ulcer with a chronic history of pain, and with thickened vessels In this class of patient haemorrhage might continue or be repeated after some days The vessels could not contract The treatment in these cases should be operative, a transfusion of blood being performed if necessary

Mr FAGGE said that he excised every gastric and duodenal ulcer possible where there had been a history of haemorrhage He did not believe that large haemorrhages could be stopped by medical means A transfusion of blood up to 500 c.cm did not increase blood pressure sufficiently to cause bleeding

Professor G GASK agreed that the large haemorrhages could not be stopped medically Blood transfusion and the improvement of the technique of gastric surgery were very important

BIRTH INJURIES

A JOINT discussion on birth injuries, with special reference to intracranial injuries with haemorrhage, and to nerve injuries, was held at the Royal Society of Medicine on March 6th The chair was taken by Dr CUTHBERT LOCKYER, President of the Section of Obstetrics and Gynaecology In introducing the speakers he referred to the invaluable publications of Little in 1861, and Herbert Spencer thirty years later

Mr EARDLEY HOLLAND, speaking as a representative of obstetrics and gynaecology, treated the subject more particularly from the point of view of etiology and morbid anatomy He emphasized the frequency with which he and other *observers had found* intracranial injuries and haemorrhage to accompany, and presumably to determine, stillbirth and neo-natal death The conditions were mainly mechanical in origin, and preventable, a real responsibility therefore fell upon the obstetrician The sites of haemorrhage were protean—usually subdural, they were frequently multiple and might be found in the ventricles or in the brain substance itself More commonly traumatic or mechanical in origin, the haemorrhages were occasionally due to foetal asphyxia A tearing of the tentorium cerebelli or falx cerebri was generally associated To understand the mechanism of these injuries it was necessary to appreciate the influence of stresses imposed *on the foetal* head in the course of labour The foetal head was remarkably resistant, its outstanding feature in this respect being an ability to mould The commonest alteration in shape was elongation in a vertical direction, this was accompanied by intracranial changes, which were ordinarily controlled by a protective system provided by the dural septa These latter were reinforced by strengthening fibres beautifully arranged to meet the various strains Failure of this system of stays was usually marked by rupture of the tentorium near its junction with the falx, and by a distortion of the vein of Galen, to which the haemorrhages were often indirectly due Mr Holland's observations were clearly illustrated by diagrams and drawings of actual dissections of the foetal

skull, several of which have been already published in his well known monograph He continued to outline the main circumstances of origin disproportion between the size of the foetal head and the mother's pelvis, premature birth, and rapid delivery The latter factor, which implied a concentrated imposition of alterations in shape, was commonly associated with extractions of the after-coming head in breech presentations It was not necessary to deliver the head with undue rapidity in these cases, in spite of the prevalent practice Many cases of serious intracranial injury had been found to accompany spontaneous and apparently normal labour In precipitating descent and consequent stress, pituitrin might possibly assume a dangerous role It was difficult to believe that all cases of intracranial haemorrhage due to labour were immediately or even remotely fatal, and it was of the utmost interest to speculate as to the ultimate fate of the survivors He had a specimen in which there was definite evidence of healed tears in the tentorium, indicating previous recovery from a considerable birth injury

Dr H C CAMERON, speaking as a student of disease in children, regarded the contributions of the pediatrician as being necessarily speculative compared with the more precise observations of the obstetrician and the neurologist on his either side Unfortunately the pediatrician was generally called to see cases of intracranial birth injury in their earlier stages only when they were on the point of death, it was therefore exceedingly difficult to collect definite evidence with respect to the antecedent conditions of those cases which survived and were presented at a later stage with established spastic diplegia Like Mr Holland, he found it impossible to believe that there were no survivors, although the view had been advanced There was a long latent period between the occurrence of the injury at birth and the time at which its ultimate effects were commonly recognized, not until the child exhibited a failure to walk at the usual age was any serious defect suspected This fact, combined with the possibility of detecting the recent lesions on expert investigation, and the obvious advantages of earlier treatment, prompted him to urge a plea for the routine examination of the newly born infant This was rarely carried out and, although it was often possible to obtain a detailed history of the course of labour and occasional notes referring to the colour of the child's stools and to its diet and weight at an early age, records of any general examination were almost invariably lacking With regard to the ultimate stages he could but admire the accuracy of Little's account of the physical and mental states of these children There was an extraordinary likeness between them superficially idiotic in appearance, they were found on closer inquiry to possess a degree of intelligence which was, in view of their appalling handicaps, truly remarkable and worthy of the utmost encouragement

Dr JAMES COLLIER, speaking as a neurologist, said that unless haemorrhage had occurred actually into the cerebral substance he was able to conceive of complete recovery in all cases He wondered how often symptoms might be expected to ensue from haemorrhages at the sites which Mr Holland had admitted to be the most frequently involved (subdural and intraventricular) He submitted that antenatal arrests in the development of the brain rather than meningeal haemorrhages were responsible for the infantile spastic states which were the subject of so much controversy This contention was supported by *post mortem* findings moreover, the symptoms of definite meningeal haemorrhage in the adult failed to correspond with those under discussion, and presumably this would also apply in children It was true that the convulsions and meningitic symptoms might represent the effects of traumatic lesions, but he could not believe, in view of all the evidence, that the spastic diplegias of infants were due to other than developmental defect

Mr FAIRBANK discussed peripheral nerve injuries of birth from the orthopaedic point of view, and particularly those of the brachial plexus In the vast majority of cases these were the result of stretching, and any forms of traction during delivery that tended to drag the head and shoulder apart rendered the child liable to subsequent paralysis of the arm The lesion commonly occurred at the junction of the fifth and sixth cervical nerves, and it was usual to find a history of difficult labour The "upper arm" type of paralysis was most frequent in his experience he had some cases of the 'whole arm" type, but none of the 'lower arm" The prognosis was generally good The child's arm was splinted in the "danger signal" position, and it was important to apply manipulative treatment Failing recovery in three months, manipulation under an anaesthetic, electrical stimulation, etc, were indicated, and, if these in turn were of no avail, operative exploration Posterior subluxation of the shoulder-joint was not congenital, but resulted from the birth palsy

Dr THOMAS LUMSDEN correlated the symptoms of haemorrhages into the brain stem experimentally produced and localized in animals with those of infants in whom intracranial haemorrhage had occurred He gave a most interesting outline of certain relevant features which had arisen in the course of his researches on the regulation of respiration,[1] and described the various types of defective breathing which corresponded to haemorrhages at different levels Recovery from the effects of small haemorrhages was possible even in cases where the respiration was definitely affected If a recently born infant were breathing normally, it was safe to assume that there was no serious injury to the brain stem

Several other speakers having joined in the discussion, Mr EARDLEY HOLLAND replied He admitted that the researches he had reviewed were mainly concerned with gross lesions but the observations were sufficiently definite, and he had been disappointed to find an apparent lack of interest on the part of the neurologists There was unlimited scope for finer investigations, and none would welcome collaboration more than himself

ANAESTHETIC PROPERTIES OF ETHER

AT a meeting of the Anaesthetic Section of the Royal Society of Medicine on March 7th Professor STORM VAN LEEUWEN of Leyden read a paper on the anaesthetic properties of the purest ether—ether of crystallization He said that he had received with diffidence the invitation to deliver his lecture, and at first felt inclined to refuse, but on second thoughts he had accepted, as he felt that perhaps he would be able, as the results of his investigations, to bring forward a few new facts for discussion He explained how it was that his attention was first directed towards the subject under discussion After the war rumours began to be circulated that the narcotic action of ether was really due to the impurities present in anaesthetic ether, and not to the action of ether itself Manufacturers of the drug had hitherto directed their efforts to the provision of an ether that should be as nearly as possible chemically pure, and these rumours naturally came to them somewhat in the nature of a bombshell In consequence he was approached by a deputation of these manufacturers and asked to experiment with a view to determining the truth of the rumours He accepted the invitation to inquire into the facts and obtained in the open market samples of well known brands of anaesthetic ether These were examined and only slight differences found in the composition of the various brands The results showed, however that no ether examined was absolutely pure chemically Accordingly it was determined to prepare an ether which should as far as possible fulfil the requirements of a pure ether and this was done and an ether prepared which boiled at 34·6° C at 760 mm of mercury and the middle fraction of a distillate so prepared was used for experiment with the result that the non-narcotic action of pure ether was found not to be proved It being felt that perhaps even this apparently pure ether was not really chemically pure it was determined to prepare an ether by a process of crystallization To do this it was necessary to find a solvent which would allow of crystallization of the ether without acting in any way upon it and as the result of experiment such a solvent was found in benzidene In the process of crystal formation the ether was observed to crystallize out in largish crystals which, after collection and purification, were again dissolved, and the ether so obtained used first on animals and

[1] *Journal of Physiology* lviii p 81 1923 and lviii p 111 1923

finally on a human being Normal narcosis and no unusual after-effects resulted from the exhibition of the pure ether Quantitative experiments were then made with this ether and compared with similar experiments made with commercial anaesthetic ethers, with the result that the same effects were produced narcotically by the pure and the commercial ethers Having determined these facts, attention was next directed to the impurities found in the commercial ethers It was found that methyl ethyl ketone, if given alone, is much more toxic than if given with ether, and at the same time less ether was required for narcosis if ketones were present in the ether Many of the impurities found were irritating and quite unsuitable for narcosis In some commercial ethers it was found that peroxides were formed if the ethers were allowed to stand for some time in direct sunlight Cotton-process ether and ethanesal were found to be free from peroxides, as also was the ether prepared by crystallization If pure ether were mixed with benzidene no peroxides were formed It therefore might be suggested that to stabilize ether a small amount of some other substance should be added The speaker illustrated his lecture by a series of lantern slides, which gave in tabular form the work on which his conclusions were based, and he summarized the results as showing that pure ether was a narcotic with an anaesthetic action in every way similar to that of the ordinary commercial ethers already in the market

Dr R L MACKENZIE WALLIS said he was glad that the subject had been brought forward He had himself set out with the idea that pure ether was the ideal anaesthetic, but found that the purer the ether the less was its anaesthetic effect Dr Hewer had found that this was so when given in clinical practice He had been given four different samples of ether without being told which sample was the pure one He returned the sample marked No 1 with the remark that it seemed too weak for use as an anaesthetic, and the one marked No 4 with the remark that it gave results No 1 was pure ether and No 4 was pure ether to which ketones had been added Other experimenters were given No 1, and all found that it gave little result Several samples were submitted to Professor Ramsden, who reported that No 1 was pure and practically non-toxic, No 2 (which was cotton-process ether) was stronger, but little if any more toxic, No 3 (which was pure ether to which methyl ethyl ketone had been added) gave practically the same results as No 2, and No 4 (which was pure ether to which acetylene had been added) gave the same results, but was definitely more toxic The chemical composition of the substance eventually known as ethanesal was investigated by Mr Chaston Chapman from a sample purchased in the open market Only slight traces of peroxides were found in this One of the chief impurities was ketones, which were present to the extent of 1·3 per cent

Dr CHARLES HADFIELD wished to know the exact composition of ethanesal, as he had read three different accounts which gave three different formulae

Professor KINNEMORE stated that in some experiments made seventeen years ago on the purification of ether he found that pure ether was very unstable, but that the addition of a small quantity of alcohol made it very much more stable He observed that it was stated that the addition of ketones added to the price of ethanesal, but this was absurd, as ketones were cheap by-products and available in quantity The whole question of the testing of ether should be gone into, and the society should formulate the standards required, as well as press the Government to allow the manufacture of ether from pure ethyl alcohol without the financial penalties now obtaining

Dr H H DALE observed that while Dr Mackenzie Wallis had heard the extraordinarily complete confirmation of the opinions which many people held as to the anaesthetic properties of pure ether, he still adhered to his own point of view Dr Dale invited him therefore to prepare some pure ether in the way he had already done, and to bring it to Dr Dale's laboratory and let them carry out experiments to settle once and for all the question of the narcotic action of this pure ether, in the presence of each other

Mr H E G BOYLE produced a chart showing the analysis of 10,000 cases of anaesthesia conducted with ethanesal either by itself or with other anaesthetics in addition The results obtained compared favourably with results obtained with other ethers, and he was quite satisfied with ethanesal as an anaesthetic

Dr HEWER recapitulated the experiments carried out at St Bartholomew's Hospital by Dr Hamill and others, and gave an account of the four occasions on which he had vainly endeavoured to procure anaesthesia with pure ether Dr SHIPWAY drew attention to recent American work on anaesthetics in which pure ether was claimed to be a perfect anaesthetic Dr GANDY said that for some fifteen months he had used ethanesal, but in consequence of the extreme variations in the quality of the ethanesal he had given up its use Moreover, he found that his patients were more sick after ethanesal than after ordinary ether

Dr BLOMFIELD declared that the discussion had degenerated into a sort of clinical fog, which contained a mass of vague impressions unsupported by any definite evidence He had himself used ethanesal and found it satisfactory, but he dropped its use, as he found that its advantages were not sufficient to outweigh its definitely increased cost

Professor VAN LEEUWEN then answered some of the points raised, and the meeting closed with a vote of thanks to him, proposed by the PRESIDENT (Dr A L Flemming), and carried with acclamation

SURGICAL TREATMENT OF DISEASE OF THE STOMACH

A MEETING of the Surgical Section of the Royal Academy of Medicine in Ireland was held in the Royal College of Physicians on February 29th, the President, Sir WILLIAM I DE COURCY WHEELER, in the chair

Mr JAMES SHERREN (London), in an address on disease of the stomach and its surgical treatment, laid stress on the need for recognition and thorough medical treatment of acute ulcers in order to prevent the chronic type In only 6 out of 218 cases of perforated duodenal ulcer treated at the London Hospital was there no previous history of indigestion, and similar figures were obtained in 248 cases of perforated gastric ulcer in cases of haemorrhage due to chronic ulcer The majority of these patients had had more than one course of medical treatment, and he felt justified therefore in considering them as failures of that treatment, and the mortality medical rather than surgical He considered a patient cured who had lived two years after the operation without any gastric symptoms whatever In the rare cases of severe symptoms that occurred six, eight, or more years after operation, the first two years had never been uneventful in this respect Mr Sherren referred to a personal experience of 760 cases of chronic duodenal ulcer treated by operation, with 15 deaths He laid emphasis on the remarkable results of partial gastrectomy in cases of chronic gastric ulcer, an operation which he had performed increasingly for the past eleven years, he said he had never known secondary ulceration follow, and the after-history of gastrectomy was singularly uneventful Chronic ulcers of the duodenum, unless adherent to and involving the pancreas, healed after gastro-jejunostomy He was firmly convinced that infection was the cause of gastric and duodenal ulcers As his experience grew larger the more strongly did he hold the view that carcinoma was a frequent complication of chronic ulcer, and he quoted many examples in support of this contention In acute cases with haematemesis he said an operation should never be performed, and he deprecated the use of an ice-bag or the sucking of ice, since patients with haemorrhage should be kept warm He referred to the numerous cases of trouble in the appendix, sometimes only microscopical lesions, which gave rise to haematemesis Carcinoma rarely supervened on "hour-glass" stomach, in 119 cases of this condition there were only four cases of carcinoma the four patients were women, in three of whom the history pointed to the carcinoma having followed on chronic ulcer He thought the great rarity of "hour-glass" stomach in men was striking,

and that chronic ulcer, like acute appendicitis, is becoming a more common disease in women Mr Sherren believed that gastric and duodenal ulcers were often familial, and, speaking loosely, hereditary, and discussed the origin of secondary ulcers following gastro-jejunostomy The damage to the mucous membrane of the jejunum might be brought about by an infection that was not eradicated at the original operation, bruising by clamps might play a part, but the use of unabsorbable sutures was sufficient in itself to produce ulceration

The PRESIDENT said the first question to be settled was that of diagnosis surgeons often hesitated, rightly, unless supported by a positive *x* ray picture He alluded to the manner in which extragastric lesions mimicked ulcer of the stomach, and pointed out that haematemesis was by no means conclusively diagnosis The association of chronic ulcer of the stomach with malignant disease was very definite and close, but it was difficult to determine the percentage of chronic gastric ulcers which became malignant He strongly agreed with the teaching of Mr Sherren, Sir Berkeley Moynihan, and others as to the necessity for partial gastrectomy in many forms of chronic ulcer, and supported the view that convalescence was uneventful and the mortality inconsiderable A healing chronic ulcer produced stricture of the pylorus, "hour-glass" stomach, stenosis of the cardiac end, or became malignant in perhaps 40 per cent of cases—the figure given by Mr Sherren He recommended cauterization by the Balfour method in small easily accessible ulcers, with the addition of gastro-enterostomy, and a sleeve resection in cases where there was a fair amount of healthy stomach surrounding the ulcer An indurated chronic ulcer at the pyloric end was treated by closure of the duodenum, partial gastrectomy, and anastomosis in front of the colon between the jejunum and the proximate segment In one case, in order to get above a chronic ulcer in a woman aged 60, he had been obliged to remove the entire stomach He showed seven specimens of chronic ulcer and malignant disease of the stomach removed recently by partial gastrectomy

Mr A B MITCHELL (Belfast) could not agree with Mr Sherren's statement that gastro-jejunostomy was a cure for gastric ulcer He was of opinion that in many cases of simple non malignant ulcer gastro-jejunostomy would not effect a cure He would never put the operative risk in disease of stomach under 3 per cent , even the simplest operation was sometimes borne badly by the patient The perfect stomach was one that was freely movable, and this condition must be secured by the operation With regard to heredity, he reported the case of a man upon whom he had operated fifteen years previously for duodenal ulcer He now had symptoms which indicated carcinoma of the stomach, which, however, had no connexion with the ulcer Mr Mitchell had also operated on this man's wife for an ulcer of the stomach, and she was now perfectly well Their son, a boy of 16, had had an attack of haematemesis, and chronic appendicitis was found at the operation Then a younger boy, aged 12, developed an ulcer in the stomach, was operated upon, and was also found to have a chronic appendix In this case the whole family had chronic appendices He believed that the ideal place for gastro-jejunostomy was the prepyloric pouch He was always rather afraid of peptic ulcers, as sometimes a patient would remain well for perhaps ten years after operation, and then would come back complaining of stomach symptoms In these cases he always suspected peptic ulcers, and though after medical treatment the patients improved they generally came back for another operation An operation for peptic ulcer gave the surgeon great responsibility The "silent" gastric ulcer occurred in patients who came into hospital with acute perforation, the result of a hard ulcer which must have been present for at least three years, and yet the patients denied having had any symptoms previously

Mr SETON PRINGLE confined his remarks to the various operative measures for hour-glass stomach and referred briefly to the diagnosis of the condition, laying stress on the importance of *x*-ray examination He exhibited slides illustrating the different methods and *x* ray photographs of post-operative results He believed that partial gastrectomy was the most satisfactory operation where possible, but that where this was not feasible owing to adhesions around the distal sac, or to the high position and small size of the upper sac, a posterior gastro-enterostomy into the upper sac was the best procedure Where the distal sac was large, and obstruction of the pylorus or duodenum also existed, he advised that a second stoma be provided from the distal sac into the same or another loop of jejunum In cases of difficulty he had no hesitation in performing an anterior gastro-enterostomy, with or without an entero-anastomosis He classed as unsatisfactory all direct attacks on the constriction, either by means of a single gastro-enterostomy across the constriction (the opening extending into both sacs) or by any plastic operation

Mr R C B MAUNSELL was glad to hear that gastro-enterostomy would cure most gastric ulcers and all duodenal ulcers This belief was widely held some years ago, but had lately become unfashionable He personally only performed gastrectomy in cases of malignant disease, and he thought that ten years hence this operation would not be known at all

GENERAL PARALYSIS

A MEETING of the Liverpool Medical Institution was held on February 28th, the President, Mr G P NEWBOLT, in the chair After the exhibition of a large number of gynaecological specimens, a paper by Dr and Mrs BIGLAND and Dr G A WATSON was read by Dr PHOEBE BIGLAND, which dealt with the relation between general paralysis of the insane and somatic syphilis under various headings (1) An analysis of *post-mortem* findings in 529 cases of general paralysis, particular mention being made of the skull, aorta, cerebral vessels, abdominal organs, and external appearances, such as penile scars, etc (2) A serological study of mental cases with a view to determining the incidence of syphilis in the varying grades of lunacy (3) An analysis of the literature bearing on the subject

In the discussion which followed Professor E GLEYN spoke of the need for further comparisons with general hospital statistics, and dealt with the difficulties in the way of those who sought to establish the existence of a neurotropic strain of *Spirochaeta pallida* since the proof depended so largely on serological or cultural tests Dr BUCHANAN quoted Mott's evidence in favour of certain women being carriers of an organism which always gave rise to the same type of lesions The PRESIDENT and Dr BARENDT also spoke

Dr PHOEBE BIGLAND said that the fibrosis found in the viscera occurred irrespective of age Although she and her fellow workers had set out with a feeling against the theory of a neurotropic strain of organism they had been forced towards accepting it as the work progressed

[We greatly regret to have to record elsewhere the sudden death of Mr Newbolt on March 9th]

ULSTER MEDICAL SOCIETY

AT a meeting of the Ulster Medical Society held on March 6th, Professor JOHNSTONE who occupied the chair drew attention to the deaths since the last meeting of two Fellows—Professor Symington and Dr John McCaw—and resolutions of sympathy and condolence were passed by those present standing Case notes were read by Mr W A ANDERSON Mr T S KIRK Professor ANDREW FULLERTON, and Dr J SINGLETON DARLING Mr Anderson described a case of otitis media followed by severe lung symptoms which ended in complete recovery, and Mr Kirk a case of duodenal ileus due to a band, removal of which cured the ileus Professor Fullerton's cases included a cerebral cyst successfully drained, congenital hypertrophic stenosis cured by Rammstedt's operation, hydatid of liver successfully removed, and a bladder tumour removed by partial cystectomy Dr Darling described a case of intestinal obstruction in a diabetic who had made his own bran bread an operation was performed, and the alimentary canal was found to be filled with a doughy mass of cattle feed, of which the bread had been made trayful after trayful was removed but the patient developed enteritis and died the tenth day of sepsis

Reviews.

THE LATE PROFESSOR EHRLICH

A BOOK on Paul Ehrlich as a man and a worker[1] has, by the piety of his friends, been published this week to celebrate the seventieth anniversary of his birth on March 14th, 1854. It will be read with great pleasure by all who are interested in the personality and work of the founder of specific chemotherapy. The authoress was Ehrlich's private secretary for thirteen years (1902 to 1915), and she has given a very pleasant and intimate picture of Ehrlich's everyday life and his method of work. The book, which is written in a pleasant unforced style, is skilfully compiled, and by the aid of anecdotes and simple descriptions the authoress gives a very clear picture of Ehrlich's personality.

Probably we are still too near to appreciate the full significance of Ehrlich's work. It is true that the actual discovery of salvarsan stands out as the greatest therapeutic advance made in the present century, but Ehrlich's greatest achievement was really the directing of therapeutic research along a new line—the line of organized search for new synthetic parasiticidal remedies. The discovery of salvarsan is the most brilliant success hitherto attained in this field, but we have every right to hope that the same lines of research will yield other equally brilliant results in the future, and we may regard Ehrlich's work as representing an important advance in man's strife to control the inimical forces of nature.



PROFESSOR EHRLICH IN HIS STUDY

The book reveals very clearly that Ehrlich was a true genius. He conformed to very few or no rules and performed his experimental work with the very simplest of apparatus. His laboratory contained a large table covered with endless bottles of reagents, with a Bunsen burner and a few test tubes in one corner, this constituted practically the whole of the apparatus which he used. Ehrlich had apparently a special kind of intuition which enabled him to divine from simple experiments the most profitable lines of further research. It must not be supposed, however, that his methods in any way resembled guesswork. He read enormously and very rapidly, and possessed the power of extracting with great speed from any new book those points which were of real importance to him. It is interesting to note that he considered the acquiring of unnecessary knowledge as actually undesirable. He experimented continuously, and tested and retested every result with the most scrupulous care. "Much work, little publication and no preliminary communications" was his motto, and he followed it exactly. For example, salvarsan was discovered in 1907 but the discovery was followed by two years of careful animal experimentation before the drug was tried on man and, as is well known, Ehrlich first gave it out to hospitals for testing clinically under carefully controlled conditions. It is interesting to note that 65,000 samples were distributed gratis by Ehrlich in this way. It was not until 1910 that the clinical results of his work were published, and it was only after these years of trial that the drug was put on the market. The whole procedure may well serve as a model for future workers.

The discovery of salvarsan was a result of immeasurable practical importance, and it is very instructive to learn that Ehrlich insisted that the discovery came as a mere by-product of a research started with purely theoretical aims.

Many characteristic anecdotes regarding Ehrlich are told in this book. One of the most amusing is the account of how he was asked to give the Herter Lectures in America in 1904, and for many months previous to the voyage he refused to see visitors on the ground that he must prepare his lectures. Professor Reid Hunt told him one day that he was certain that the lectures would actually be written on the steamer, later, in America. Professor Reid Hunt happened to visit Ehrlich an hour before the first lecture was to be given. Ehrlich turned to him and said, "You did me a great wrong when you said that I should write my lectures on the steamer, I did not do so, I have only started to write them now."

One of the illustrations with which the volume is embellished, showing Ehrlich in his study, perhaps tells us more of the man than almost anything else in it. Ehrlich is seen sitting in a kind of well, whilst all around him tower pile upon pile of books and papers. He and he alone knew the key to the arrangement of these papers. He protected their sanctity by the ingenious method of telling the charwoman that he had strewn poison throughout the leaves, a poison of which he alone had the antidote!

As we have said, the authoress, by means of anecdote and description, presents a very clear picture of Ehrlich's personality. It was a very pleasant personality generous to a fault, impatient but kindly, conforming to no ordinary rules of order or method, but always pressing forward eagerly towards the goal of scientific research.

We desire to give this work a particularly warm welcome, for while details about the lives of public personages such as monarchs, statesmen, and cinema stars are always abundant, it is seldom that we have an opportunity of learning much of the personality of great scientists. The characters of these men are known to their contemporaries, and the international wanderings of students carry gossip about them through the laboratories of every continent, but such verbal tradition is very transitory, and hence a written record giving a picture of the personality of such an outstanding man as Ehrlich is of great value and interest.

CLEFT LIP AND PALATE

MR BROPHY has written a short book on *Cleft Lip and Palate*[2]. Taking as a basis the material in his book on *Oral Surgery* published in 1915, he has incorporated into the present volume his more recent investigations and inventions and improvements in technique. As the title shows, he has discarded the ambiguous and obsolete term "hare" lip, and it is to be hoped that the writers of future textbooks on this subject will follow his example. Mr Brophy is an apostle of early operation, and in this volume, which is beautifully illustrated, he sets forth his views very clearly. It is a book which should be studied by all surgeons interested in the treatment of this deformity.

[1] *Paul Ehrlich als Mensch und Arbeiter.* Erinnerungen aus dreizehn Jahren seines Lebens (1902-1915). Von Martha Marquardt. Mit einer Einführung von Dr Richard Koch. Stuttgart, Berlin and Leipzig: Deutsche Verlags-Anstalt. 1924. (Med. 8vo, pp. 112, 6 plates. Price not stated.)

[2] *Cleft Lip and Palate.* By Truman W. Brophy. London: H. Kimpton. 1924. (Med. 8vo, pp. xxiv+340, 466 figures, 5 plates. 30s. net.)

chiefly because opinion is divided as to the best time to operate, and on the question whether the lip or palate should be tackled first The most recent pronouncement of the British school is that in the majority of cases the lip should be operated upon at 3 months, and that for the palate Langenbeck's operation between the ages of 18 months and 2 years gives the best results Mr Brophy's views may be summarized as follows He considers that spreading of the tuberosities of the maxillae is the root of the evil By retention of the tuberosities a normal soft palate is ensured, and this means normal articulation He therefore advises, in a case of coexisting cleft lip and palate, first, the retention of the maxillae between the third week and fourth month by means of his special lead plates and wire sutures, secondly, that the operation on the lip should be performed from six weeks to three months subsequently, thirdly, that the soft palate should be closed between the sixteenth and twenty second months—that is, just before the child begins to talk

With regard to the best phonetic result Mr Brophy's operation is the only one to comply with the two essentials—(1) that the soft palate should be long and movable, (2) that the cleft is closed before the child begins to talk The criticism of this method is that the operation is a severe one, and that necrosis of the maxillae and sloughing of the soft parts have followed in some cases This is the reason why it has not been more widely adopted in this country In view, however, of the big improvement in Mr Brophy's statistics and mortality from 1915 to 1921 this view should be modified

MEDICINE AND DENTISTRY

THIS textbook of the borderland of medicine and dentistry, edited by Dr JULIUS MISCH,[3] a dentist of Berlin, forms two bulky tomes It is intended to serve as a book of reference for students, dentists, and medical practitioners in all cases where teeth and medicine interact The medical parts are written by professors and medical men of standing, and dental observations appropriate thereto supplied by Dr Misch are inserted in the text in such a way as to be readily distinguished from the medical descriptions As may be expected from the size of the book, the ground is very thoroughly covered, though in parts the matter is rather of historical than present-day interest The first volume deals with "internal diseases" and comprises most of what we designate "general diseases"—diseases of the mouth, developmental diseases, internal secretion diseases, nutritional and blood diseases, infective diseases, diseases of the circulatory system and of the stomach, diseases of children, diseases of the nervous system, and syphilis The second volume deals with diseases of women, diseases of the skin, nose, throat, ear, and eye, and occupation diseases

With such a range of subjects criticism becomes difficult, but we may make one general criticism—that the importance of dental sepsis seems to be underrated both by the dental and medical authors If we turn to appendicitis we find the dental author emphasizing the danger of loss of molar teeth as leading to imperfect mastication, and when we look at diseases of the lungs we can find no reference to the dangers of a septic mouth It may be noted that there seems to be no mention of intestinal stasis

Of particular interest at the present moment is the article on foot and mouth disease Immediate attendants on the affected animals or persons drinking the milk from them are those affected After five to ten days a febrile attack, with red spots in the mouth, ushers in the disease, and blisters and ulceration ensue In weakly people it may be fatal, in slight cases it resembles aphthous stomatitis

The illustrations are numerous and good and some of the coloured figures—for example, of the lead line on the gums—demonstrate well the value of coloured as compared with black and white illustrations This is the third edition—a fact which speaks well for the popularity of the work in Germany It would be a useful book for libraries in this country

[3] *Lehrbuch der Grenzgebiete der Medizin und Zahnheilkunde* By Dr Julius Misch (Dentist Berlin) and many Medical Authors Third edition Leipzig F C W Vogel 1923. (Imp 8vo vol i, pp xviii + 700 237 figures vol ii, pp x + 682 359 figures.)

DIAGNOSIS AND TREATMENT OF SYPHILIS

DR M J HORGAN, late resident medical officer of the General Dispensary, Nottingham, is to be congratulated on his *Modern Aspects of Syphilis*[4] Few of the works that have recently appeared on the subject of venereal disease can justify their existence in the way that this little book can do, for it is written with the definite object of bringing to the notice of English practitioners the more recent methods of diagnosis and treatment employed in such celebrated clinics as those of Professor E Finger, and of Dr Kyrle of Vienna The author, indeed, admits in his preface that the source of most of his information has been the lectures and writings of the latter authority Armed with this information he has succeeded in writing a work which is interesting, instructive, and concise He lays special stress on the importance of lumbar puncture as the only means by which a decision as to the condition of the central nervous system can be reached A chapter of great interest is that which deals with the "non specific," "irritation," or "protein body" method of treatment in syphilis In an appendix are found descriptions of various methods of diagnostic reaction, such as the colloidal gold test, Meinicke's reaction, and the luetin test

We can recommend the book as an excellent guide to the more recent departures in the diagnosis and treatment of this protean disease

DARIER'S "DERMATOLOGIE"

WE have received a copy of the third edition of Dr DARIER'S well known *Précis de Dermatologie*,[5] which is certainly one of the best textbooks on the subject in any language, and well worthy of the author's position as a leading authority on the subject It has grown considerably since he published the first edition in 1909, but its main characteristics are unchanged He practically divides all affections of the skin into two groups those of which the cause is known and those of which we are only able to describe the clinical characteristics but of the etiology of which we are still ignorant—a class which notwithstanding the many researches still remains regrettably large One of the most important and puzzling groups of dermatoses is that numerous and heterogeneous mass of cutaneous inflammations lumped together under the name of eczema All those who deal with skin diseases must be dissatisfied with the state of our knowledge as regards this subject Under this head are included numbers of indefinite conditions which it is far from easy to differentiate one from another, and about which it is extremely difficult to decide what part sepsis and what part other factors play in their production Dr Darier has attempted to help us to differentiate between them by classifying them under the names of secondary eczematizations, eczematoses, acute disseminated eczema and eczematids of various kinds Possibly by working out the etiology of these various groups some progress may ultimately be made in the solution of the vast problem of eczema

There is also at the end a short section where the very important matter of treatment is discussed in general terms special treatment for the different diseases is considered separately in the appropriate places The whole volume falls but a little short of 1 000 pages but it is remarkable how little redundant verbiage it contains Looking through it fairly carefully, we can hardly find a single paragraph which might be advantageously omitted, this is testimony to the skill with which it has been put together The clinical descriptions are clear and brief Due attention is given to the work of other authors and

[4] *Modern Aspects of Syphilis* By M J Horgan B.A M B B Ch B.A.O N U I Oxford Medical Publications *London* H Frowde and Hodder and Stoughton 1923 (Cr 8vo pp xii+125 20 charts net)

[5] *Précis de Dermatologie* By J Darier Third edition Paris Masson et Cie 1923. (Cr 8vo pp xviii + 936 211 figures Broché fr 59 relié fr 65.)

Dr Darier, in discussing the many debatable points of dermatology, sums up his conclusions in a manner quite worthy of a wise judge directing an intelligent jury

There are over two hundred illustrations, mostly derived from photographs Coloured pictures have been avoided, for though they attract many, they are difficult to produce successfully at a price which would leave the volume within the reach of modest purses We do not think that their absence detracts materially from the value of a textbook on dermatology An interesting appendix contains a bibliography of Dr Darier's own work since he first began his career Apparently, his first paper was published in 1889, and dealt with the flat warts occurring on children's faces Only a year afterwards he began the description of the disease now known to all dermatologists by his own name Since then there has been an increasing flow of papers from his pen, altogether they number about two hundred, and afford a fair index of his interest in all branches of the art and science of dermatology That he is still as active and able as ever is well shown by the appearance of the present volume, which we heartily commend to all interested in the study of skin diseases

INJURIES OF THE WRIST

THE late Dr ETIENNE DESTOT of Lyons spent twenty-one years in investigating the etiology, mechanism, pathology, and treatment of injuries of the wrist He unfortunately did not live to publish the outcome of his industry and skill, but four of his pupils and friends have now done so[6]

Dr Destot had a probably unrivalled experience of these injuries, and made the most of it In this monograph he goes fully into the anatomy and physiology of the part, and then proceeds to describe the various fractures and dislocations, including some of those of the lower ends of the bones of the forearm He appears to have seen instances of nearly every possible combination of injury to the joints and bones of the wrist, he duly discusses the diagnosis of each both clinically and as illustrated by x rays The treatment which he found most efficacious is distinctly set forth, and the considerations which should guide the surgeon in his decision as to the advisability of open operation are stated definitely

It is impossible to give in this notice an account of the mass of details of which the work treats It must suffice to say that the student will find in this book all the information which he seeks As the title suggests, the illustrations are outlines or reproductions from radiograms The former leave little to be desired, but many of the latter are not so clear as x-ray pictures of such an accessible region as the wrist ought to be This is probably due to faulty reproduction on paper and not to the original plates Dr Destot properly insists on the necessity of an exact knowledge of the normal anatomy, but he does not mention the advisability of taking a picture of the sound wrist for purposes of comparison We think that this should always be done, and the less experienced in x rays the surgeon may be the more necessary is this precaution There is no table of contents and no index

DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS

DR JOHN GUY, deputy medical officer of health and tuberculosis officer for the city of Edinburgh, has published a book on the diagnosis and treatment of *Pulmonary Tuberculosis*,[7] designed for the use of medical students, though he hopes that it may also prove of value to the practitioner A perusal of the book leads to the opinion that both objects will be attained

Dr Guy may be congratulated on his selection and on the general plan of his book The early chapters, dealing with the gradual growth of knowledge, and the notes on the various phases through which the recognized modes of treatment have passed cannot fail to interest the practitioner In the chapters on diagnosis the latest physical means of investigation are set out, and the interpretation of the various abnormal physical signs is discussed He attaches high value to the assistance given by x-ray examination, but it is probable that in time to come, whenever examinations are made by skilled radiologists, a still higher tribute will be paid to their assistance Indeed, it is probable that even now fewer diagnostic mistakes are made by radiology than by the usual means of physical examination This section is illustrated by several excellent radiographs of the normal and of abnormal lungs

The author has added an important chapter on the epidemiology of the disease, based upon his experience in public work Numerous instructive charts of the age and sex distribution in various towns are given, others showing the fall in the death rate during the last sixty years are striking and encouraging, and the explanations suggested for the continuous fall in each decade are worthy of careful consideration

The chapters on treatment are evidently based on the author's long personal experience He gives a considered and unbiased account of the treatment by various forms of tuberculin during the last thirty years, and the changes in professional opinion during that time, due to the result of treatment in sanatoriums and elsewhere In summing up the value of tuberculin he states that "my own work several years ago has led me to a verdict of 'not proven' in connexion with the claims made for tuberculin, and the present consensus of opinion appears to be against its use" His statements on symptomatic treatment contain many useful hints for the management of the disease, and his remarks on the value of inducing artificial pneumothorax deserve careful study

NOTES ON BOOKS

THE *Medical Register*[8] for 1924 contains 48 140 names, as compared with 46,476 for last year During the year 2,482 names were added by registration, and of these 975 were registered in England, 878 in Scotland, and 385 in Ireland, 238 were Colonial and 6 foreign There is a considerable increase in the numbers registered in the United Kingdom, and both the total of registrations and the amount of increase over the previous year are the highest yet recorded The number of names removed from the *Register* was 923, of these 648 were removed on evidence of death, 270 owing to failure to reply to the inquiries of the Registrar as to cessation of practice or change of address The volume contains also the warning notices issued by the General Medical Council, and a list of the various Medical and Dental Acts, and sections of other Acts which concern the work of the General Medical Council The *Dentists Register*[8] for 1924 contains 13,473 names, representing an increase of 711 on the corresponding figure in the previous volume During the last year 614 dentists were registered with qualifications and 867 without The Dental Board of the United Kingdom is preparing a list of practising dentists indexed under the names of the localities where practice is being carried on The Council has also issued a volume[8] containing the lists of medical and dental students registered during 1923 There were 545 medical students, as compared with 1,833 in the previous year, and 107 dental students, as compared with 424 The *Minutes of the General Medical Council and of its Various Committees*[8] for the year 1923 have been published in a bound volume There is a full report of the two sessions of the General Medical Council and of the meetings of the Executive Committee, Dental Executive Committee, English Branch Council, Scottish Branch Council, and Irish Branch Council The number of days occupied by the General Council's sessions was five in May and four in November The presidential addresses of Sir Donald MacAlister at the opening of the two sessions, which were printed in full in our columns at the time, find a place, and, in addition to the account of various disciplinary inquiries and the general business of the Council, there is included the communication from the Colonial Office with regard to the revised Statutes of the Medical Profession Act for the Province of Saskatchewan At the November meeting of the Executive Committee correspondence relating to medical practice by British practitioners in Greece, Italy, and Turkey under the new conditions was considered, and replies sent to the Privy Council At the

[6] *Traumatismes du poignet et rayons X* Par Etienne Destot de Lyon Paris Masson et Cie. 1923 (Roy 8vo, pp 174 184 figures Fr 15)

[7] *Pulmonary Tuberculosis Its Diagnosis and Treatment* By John Guy M D D P H Camb F R F P and S Glas F R C P Edin Edinburgh Oliver and Boyd. 1923 (Demy 8vo, pp xii + 307, 51 figures 16s net)

[8] London Constable and Co Ltd *Medical Register* £1 1s *Dentists Register* 10s 6d *Students Register* 7s 6d *Minutes* 12s *Index to Minutes* 7s 6d.

end of the volume there are twenty appendixes containing special reports, yearly tables, and the minutes of the English, Scottish, and Irish Branch Councils The *General Index to the Minutes of the General Medical Council, and of its Executive and Dental Committees, and of its Three Branch Councils*,[8] for the years 1903–23 has been published, it relates to volumes XL–LX of the *Minutes* In 1903 an *Index* to the Council's *Minutes* for the previous fifteen years was published In the present *Index* the plan of the previous one has been followed, and volumes are referred to by years and not by the Roman numerals Each subject is indexed in at least two places, and many are under six or more headings, so as to facilitate reference Under each heading the references are grouped so far as possible chronologically, and in some cases subheadings have been inserted The book is of great value to all those who have occasion to refer to the proceedings of the General Medical Council and its committees

Dr G A HARRISON and Dr R D LAWRENCE have now published a second edition of a booklet of *Food Tables*,[9] compiled particularly for use in the treatment of diabetes mellitus The first edition was printed for private circulation, and was found so useful that a general demand arose A list of articles of diet is given in which the quantity containing five grams of carbohydrates is expressed both in drachms and ounces, and the amount of proteins and fat is also noted This list is divided into three sections—carbohydrate foods, protein foods, and fat foods There follows a table showing the percentage of sugar and alcohol in various alcoholic beverages The procedure for the calculation of a diabetic diet is given with examples and useful notes on cooking, forbidden foods, and calorific values are included in what will doubtless prove to be a very helpful booklet for those concerned in the treatment of the diabetic patient

Dr BURNETT HAM has produced an interesting pair of figures which he calls *A Synoptic Chart of Skin Diseases* [10] On this chart, which consists of an anterior and posterior view of the human male, are indicated typical lesions of the principal diseases of the skin in positions where they may reasonably be expected to be found in real life The pictures are supplemented by tables in which are given short accounts of the etiology, common sites, symptoms, and a few characteristics, as well as the treatment of most of the common skin diseases These charts and tables remind us of the book of directions on medical treatment with which captains of merchant ships are provided when the crew is below the number considered by the Board of Trade to make necessary the presence of a qualified practitioner on board The author has attempted to provide a short cut to the knowledge of dermatology—a laudable object, but whether the diagnostic powers of anyone who studies this work will thereby be improved remains somewhat doubtful

The third edition of Baillière's popular atlas of *The Anatomy and Physiology of the Human Body*[11] has appeared, and contains a series of eight plates, some coloured, by Dr G M Dupuy, and an introduction and description by Dr H E J Biss The atlas should prove useful to those needing a simple diagrammatic representation of the main structures of the human body

The Discovery of the Nature of the Air and of its Changes during Breathing,[12] by CLARA M TAYLOR, M A, is one of a series of "classics" of scientific method edited by Mr E R Thomas, M Sc The aim of the series is to help educated people to grasp the scientific interpretation of the external world In the book before us the action and reaction of ideas on the nature of the air from the time of Galen, through that of Fabricius, Harvey, Boyle, Mayow, Hales, Stahl, Black, and Priestley, to its final elucidation by Lavoisier are clearly set forth

The third edition of *Healthy Wedded Life*,[13] by Dr G T WRENCH, covers rather wider ground than its title might perhaps suggest Chapters on ventilation, housekeeping, and other like subjects are, for instance, included It contains almost no statement with which the medical profession at large would not agree, and to this extent it may be regarded as fulfilling its purpose of providing a safe medical guide for wives On the other hand, some of the advice lacks directness of statement, and much greater compression of the contents as a whole would increase the chances of this guide being perused with real advantage by those for whom it is intended

The second edition of *Safe Marriage*,[14] by Miss ETTIE A ROUT, repeats the original preface by Sir William Arbuthnot Lane, and in an introductory note records some correspondence on the subject between the Ministry of Health and the New Generation League The purpose of the book is twofold—to show how the incidence of venereal disease may be lessened, and how the number of births in any given family may be controlled and conjugal happiness safeguarded Some of the information, including that in the appendixes, can be found with difficulty, if at all in medical books strictly so called, so the book may well be commended to the notice of young family practitioners

The revised edition of *Incompatibility in Prescriptions*,[15] by Dr T STEPHENSON, includes certain of the newer remedies which show definite incompatibility with other substances and deals with the whole subject systematically under the headings of chemical incompatibility, physical or pharmaceutical incompatibility, and therapeutic incompatibility In addition to the index there is a useful table of incompatibilities The pamphlet contains much interesting information which should be of considerable value to prescriber and dispenser alike

[8] *Food Tables* By G A. Harrison B A M B B Ch Cantab and R D Lawrence M A M D Aberd Second edition, revised and enlarged London H B Skinner and Co 1924 (Extra post 8vo pp 28 2s post free 2s 2d.)

[9] *A Synoptic Chart of Skin Diseases* By B Burnett Ham M.D D P H London H K. Lewis and Co Ltd 1923. (Roy folio pp 9 2 coloured plates 12s 6d net.)

[10] *The Anatomy and Physiology of the Human Body* By Hubert E J Biss M A M D Cantab D P H Third edition London Baillière Tindall and Cox 1924 (17×9 pp. 27, 8 plates showing 89 figures 6s net.)

[11] *The Discovery of the Nature of the Air and of its Changes during Breathing* By Clara M Taylor M A London G Bell and Sons Ltd 1923. (Cr 8vo pp. ix+84 8 plates 1s 6d net.)

[12] *Healthy Wedded Life A Medical Guide for Wives* By G T Wrench M D B S Lond. Third edition London J and A Churchill 1923 (Cr 8vo pp. viii + 3.0 6s. net.)

[13] *Safe Marriage A Return to Sanity* By Ettie A Rout. Preface by Sir William Arbuthnot Lane Bt. C B M S Second edition London William Heinemann Ltd 1923 (Cr 8vo pp 78 3s 6d net.)

[14] *Incompatibility in Prescriptions and How to Avoid It* By Thos Stephenson D Sc., Ph C F R S Edin F C.S New edition Edinburgh *The Prescriber* Offices 1924 (Demy 8vo pp 32. 1s 6d net.)

TREATMENT OF PULMONARY TUBERCULOSIS

LETTSOMIAN LECTURE

THE second of the three Lettsomian lectures by Dr R A YOUNG on the treatment of pulmonary tuberculosis was delivered on March 5th, in the house of the Medical Society of London, Dr MITCHELL BRUCE taking the chair in the absence of the president

General Considerations

Dr YOUNG said that the basis of the treatment of pulmonary tuberculosis was the old therapeutic triad of air, food, and rest It was important that an early explanation of the treatment should be given to the patients so that they might not think it purely capricious When treatment was to be carried out in the home it was necessary to have a satisfactory room, well ventilated, and allowing the patient to be moved easily into the open air when required Its fittings should be as few as possible to avoid dust and to enable strict cleanliness to be maintained Outdoor shelters were sometimes of value, at other times their disadvantages outweighed their benefit As soon as the patient was allowed up he must have adequately warm clothes and boots of good quality Smoking need not always be forbidden, but should not be allowed in the case of troublesome cough and laryngeal disease, inhaling must always be prohibited Instructions should be given as to the disposal of sputum, it was particularly important to make the patients, and those in charge of them, understand the great risk incurred by infants and young children who were brought into contact with open cases of tuberculosis With regard to the dietary, the hyperalimentation of earlier days had now given place to more rational dieting Fat, if palatable, was usually well tolerated, and very valuable Not more than two or three pints of milk were needed if plenty of other food had been taken Considerable care, patience, and ingenuity must be employed in planning the diet for anorexial and febrile patients In some cases raw meat sandwiches, with a little alcoholic stimulant, were helpful, but, generally speaking, alcohol was inadvisable Grape and milk cures rather came under the heading of "freak" and "fad" treatments The rest treatment had stood the test of time and was essential in febrile or toxaemic cases An absolute "typhoid" rest was necessary at first but should be relaxed as soon as possible in order to encourage the patient other indications of toxaemia such as headache and pulse rate, also rendered rest necessary

The patient should not be allowed up until the temperature was normal or subnormal, and an hour's rest before lunch and dinner was necessary, even when the patient had returned to work the rest before dinner should be continued

Special Treatments

The decision as to the efficacy of any special treatment was extremely difficult The classical experiment of Mathieu and Dobrovici in 1906, in which injections of saline solution, given for this purpose the high-sounding name of "antiphymose," with psychological preparation of the patients beforehand, had produced good results, including gain of weight, illustrated the difficulty of estimating the real value of new treatments Tuberculin treatment, since its introduction by Koch, had suffered more from the zeal of its advocates than from the criticism of sceptics Undoubtedly, the best results had been obtained in surgical forms of the disease, with the simpler preparations such as old tuberculin, "T R," and bacillary emulsion, its value was less in pulmonary cases Over eighty derivatives had been put on the market, many of which had already been discarded It was recognized that immunity, or tolerance, might be secured, and yet coexist with rapid extension of disease, as was shown recently by Sir Almroth Wright When tuberculin was injected into an uninfected person there were no toxic results, but when introduced into a tuberculous patient there were three types of reaction local, at the site of injection, focal, at the site of the lesion, and a general, or systemic, including malaise, headache, and fever The two chief methods of administration were (1) repeated injections of increasing dosage at intervals of from three to ten days, reactions being expected, but kept under control, the aim being the attainment of a high degree of tuberculin tolerance, and (2) starting with a low dose and increasing this slowly and very cautiously The first method was good for surgical cases, the second—in which the tuberculin sensitiveness was maintained—seemed preferable in pulmonary cases The hypodermic method of injection was the only accurate and reliable one, though good results had occurred in gland diseases from inunction with tuberculin

Dr Young dealt next with bacterial "fractionization," with reference to the work of Deycke and Much, and drew attention to Dreyer's treatment of the bacilli with formalin, acetone, grinding, and centrifuging, a thick suspension of defatted bacilli was finally prepared Another "defatting" method employed in Germany made use of trichlorethylene Dr Young felt more convinced of the power for harm of tuberculin generally than of its power for good, but agreed that cautious doses would sometimes result in the drying up of sputum and complete the arrest of the disease in some patients, who, though improved, had not fully recovered At present, however, the omens were not favourable for the future as regards its use in pulmonary tuberculosis With regard to serum treatment, this was less encouraging than vaccine treatment Since the preparation of the first serum (that of Marmghano, introduced in 1895 but now discarded) and that of Marmorek, which appeared in 1903, eighteen different serums had been produced The full details of the Spahlinger method of preparation were still unpublished some encouraging results of its use had been reported, but the data at present were insufficient for judgement There were but few adherents of the Spengler I K therapy now Vaccine treatment with secondary organisms was not much in favour at present since the tubercle bacillus was regarded as the main cause of tuberculous lesions At times autogenous vaccines seemed to do good, and an interesting note had been published last year by R C Wingfield, who found streptococcal vaccines of considerable service Dr Young had been able to confirm Wingfield's observations Graduated labour had recently been adversely criticized by some observers, but Dr Young was convinced that it was of great value in suitable cases the original scheme of Dr Marcus Paterson was still practised at Frimley It required careful watching by the doctor and scrupulous obedience by the patient Slight reactions were not necessarily harmful if the patient was at once put to bed Other forms of graduated exercise, such as golf, horse riding, and games, could be recommended in suitable cases provided that the excitement of competition was avoided Chemotherapy had been unsuccessful so far, probably owing to the fatty coat of the tubercle bacillus and the avascular nature of tubercles Creosote was still in use, and of particular value in fibroid cases of tuberculosis The evidence of its value was purely clinical, it seemed to have no specific action on the tubercle bacillus or on tuberculous guinea pigs It might produce haemoptysis or give rise to a reaction by acting on focal lesions whilst being excreted, so the dosage should be careful and the administration be stopped if discomfort was caused Ichthyol derivatives were similar in their actions and were non-toxic Treatment with iodine deserved more careful consideration no specific action was claimed for it, but the leucocytosis caused seemed to be of value It should not be used as a routine treatment, it was most efficacious in chronic fibroid phthisis, and slight but persistent pyrexia Small doses should be used at first and be gradually increased. The nascent iodine method of treatment seemed to be more likely to disturb the digestion There was no evidence at present in favour of the treatment of tuberculosis by dyes

In connexion with the cod-liver oil treatment, Sir Leonard Rogers had prepared sodium morrhuate for use in tuberculosis on parallel lines to his work with regard to chaulmoogra oil, and good results had been reported It was best given hypodermically in small doses, two or three times a week Dr Young had found benefit result in some cases though reactions occurred in others, and he counselled caution in using this treatment The use of minerals in treatment had come down to us from Greek and Roman times it was probable that the benefit obtained was due to improvement of the general metabolism Salvarsan treatment was not devoid of risk and had no specific value, mercury compounds had produced good results in animals, but further research was necessary Some recent French work had suggested the existence of a demineralization process in tuberculosis, upon which was founded treatment with calcium therapy Silica, and colloidal preparations of silver, gold, copper, and brass had been tried also, but no real evidence of benefit had yet been obtained from these treatments or from organotherapy Inhalations had been recommended from early times and were still in common use, and the intratracheal injection of menthol, olive oil, and guaiacol had also given good results Heliotherapy had been proved to be beneficial in surgical tuberculosis, but less so in pulmonary disease, exposure should be gradual and the skin should pigment in favourable cases The bulk of opinion was adverse to this treatment of phthisis, since pyrexia, haemoptysis, or auto-inoculation might follow, in no case should a pyrexial patient be so treated X-ray therapy had been used with some benefit as an addition to other treatments The tubercle bacillus did not appear to be sensitive to these rays, and the good results were presumably due to tissue reaction, rays directed to the spleen only, the liver being protected, had produced good results

With regard to all these methods it might be said that in many cases of tuberculosis a very little assistance would turn the scale in favour of recovery, and so one or other of these treatments would sometimes be well worth trying, although it was admitted that they were not invariably effective

Symptomatic and Palliative Treatment

Dr Young passed to the consideration of symptomatic and palliative treatment of cough, dyspnoea, and fever In the last case, absolute rest was the first treatment to be employed, when it failed, careful hydrotherapy should be used, if pyrexia persisted in spite of treatment the question of performing an artificial pneumothorax should be seriously considered In regard to haemoptysis in small amounts, rest and treatment by bromides were helpful In the more severe cases rest in bed was necessary, but the present belief was that general movement had little to do with haemorrhage from the lungs, and so morphine was less often given nowadays, except in nervous cases Amyl nitrite was valuable sometimes as an inhalation, also

calcium salts, and sterile horse serum in the case of repeated small haemorrhages, a daily injection of emetine was useful The question of artificial pneumothorax again came up if haemoptysis continued in spite of treatment In conclusion, Dr Young dealt briefly with the treatment of advanced cases the special care and precautionary measures necessary were rarely possible in small homes With regard to the problem of vocational training in tuberculous patients, it was generally necessary to advise town workers to return to their old work, but under better conditions After-care committees, colonies for tuberculous patients, and settlements were being established, and the Minister of Health was at present tackling the very difficult questions involved

TREATMENT OF GENERAL PARALYSIS BY MALARIA

THE Board of Control, after consultation with the Ministry of Health, has issued a circular letter to the medical superintendents of public and private mental hospitals on the treatment of general paralysis by the inoculation of malaria The Board is anxious to secure uniformity of procedure and practice in order to obtain as soon as possible a considered decision on the merits of the method When the trials were begun it was thought that inoculated malaria would differ from the naturally contracted disease, and would be of a very mild type, that no relapses would follow, and that the parasites in the blood would be too scanty to cause infection of mosquitos In some instances, however, the induced malaria in England has been of an unusually severe type No essential difference has been detected between the cases of induced malaria in this country and some severe cases of the naturally contracted disease as it occurs in the tropics It is believed that the severity of the infection by the benign tertian parasite, which has been particularly studied, depends in part on the original tropical source from which it was derived, and in part on the increased activity and virulence resulting from its cultivation by direct passage through many human hosts

It is hoped that a strain of parasites free from objection on grounds of severity will be available shortly, but untoward symptoms and complications can, it is believed, be avoided by arranging that the blood of all inoculated patients shall be examined daily to ascertain when it may be necessary or advisable to cut short or to modify the course of the infection by treating the patient with quinine In patients suffering from general paralysis clinical symptoms and signs are not a sufficient or satisfactory guide In a few cases, which have been studied from the beginning of the malarial attacks, the onset of severe complications was not apparent clinically, but was preceded by a phenomenal increase of parasites and the appearance of other marked pathological changes in the peripheral blood, which indicated that, to ensure timely treatment, expert blood examination at least daily is necessary during the period of the malarial course This procedure is also required in connexion with the risk, to which Professor Muhlens of Hamburg has recently drawn attention, of unwittingly conveying a mixed infection of benign and malignant parasites from donors of blood who contract malaria in the tropics (See *Epitome*, BRITISH MEDICAL JOURNAL, January 26th, 1924, paragraph 82)

The investigation carried out by the Ministry of Health has shown that the common malaria-carrying mosquito of England (*Anopheles maculipennis*), after sucking blood from inoculated patients, readily becomes infected and capable of spreading malaria to other patients and to the general public This mosquito is distributed practically everywhere in England, it is active and to be found in all stages of its life-history from May to October, but during the winter months only the adult female insects remain alive They have been found during those months in a relatively inactive sluggish condition (so-called hibernating condition) in the stables and cowsheds of the farms attached to many mental hospitals situated in rural districts From November until the end of March, on account of the inactivity of the mosquito and the low atmospheric temperature the risk of spreading malaria is negligible, but during the rest of the year adequate measures to prevent the risk are considered to be essential They consist in providing that all inoculated patients shall be kept in a mosquito-proof ward or under satisfactory mosquito curtains, from the onset of the malarial attacks until careful microscopical blood examination shall have proved that the blood is free from the sexual forms of the parasite which are infective to mosquitos This will usually be the case about three days after commencing a proper course of quinine treatment

In both Austria and England the opinion has been published that an entire absence of relapses is a particular feature of inoculated malaria While this may be true as regards the cases hitherto observed in Austria, where the strain of parasite used for the original inoculations was of mild European indigenous type and where quinine dosage is in accordance with tropical practice, the same does not always hold good for cases in England, where the strains of parasite hitherto used were originally derived from the tropics and where in some instances treatment has been with only small doses of quinine In these instances what are technically known as "parasitic relapses" have been detected by examination of the blood of patients some weeks after apparent clinical recovery If patients who are liable to these relapses were discharged to their homes in certain areas of the country, they would provide a potential source of spread of malaria to their families and neighbours For this reason it is strongly recommended that examination of the blood of inoculated patients should continue to be made at intervals until freedom from parasites has lasted at least three weeks It is also considered necessary that, when a patient who has undergone a course of malarial attacks is discharged from the hospital, his name and home address should be notified to the medical officer of health of the district to which he is discharged

It is desired particularly to emphasize the importance of effective quinine treatment and 'after-treatment" in the interests equally of the patients and of the public It is necessary that the patients should be thoroughly treated with quinine, both to ensure their speedy recovery from the induced malaria and to minimize as far as possible the risk that they will suffer subsequently from malarial relapses when discharged to their homes This applies not only to cases in which the clinical course of the malaria is typical, but also to certain cases which have been reported as instances of "spontaneous recovery" for in some of the latter cases parasites have been found in the blood more than a month after observed attacks of fever had ceased It is strongly recommended that the course of quinine treatment and after-treatment should be uniform in all hospitals and that it should be in accordance with usual tropical practice

Rules

The rules which are recommended for adoption in connexion with the new line of treatment may now be summarized as follows

(1) The hospital should be adequately equipped with laboratory facilities for systematic blood examinations which as regards all inoculated patients should be made daily from the date of onset of the first febrile attack

(2) The medical officer or laboratory assistant who makes the microscopic blood examinations should be well qualified in this branch of laboratory work

(3) The patients undergoing the course of treatment should be in charge of a medical officer who is familiar with malaria in all its aspects During the period of the course the patients should be nursed and nourished with special care and the progress of the infection should be modified or controlled from day to day in accordance with the laboratory findings and the clinical signs

(4) From April 1st until October 30th patients undergoing the course of treatment should be kept in a mosquito-proof ward or under satisfactory mosquito curtains during the period when parasites are present in their blood

(5) Treatment by induced malaria should be confined to hospitals in which all the above rules are complied with

(6) Notification of cases of inoculated malaria to the local medical officer of health under the Public Health (Pneumonia Malaria Dysentery etc) Regulations 1919 will not be required until the patient is discharged from the hospital when his name and home address with an intimation that he has undergone a course of inoculated malaria should be notified to the medical officer of health of the district in which he will reside

To assist in providing facilities for compliance with rules (2) and (3), the Ministry of Health is prepared to arrange for a short practical course of instruction which a limited number of medical officers can attend

British Medical Journal.

SATURDAY, MARCH 15TH, 1924

GASTRIC AND DUODENAL ULCER.

A LITTLE over a year ago a lecture on some problems of gastric and duodenal ulcer by Sir Berkeley Moynihan was published in our columns The author has now reprinted it, along with another on the treatment of duodenal ulcer, in a small volume[1] which will be read with interest by general practitioners as well as by surgeons and physicians As "a physician doomed to the practice of surgery," Sir Berkeley Moynihan tells his spiritual brothers in no unmeasured terms what he thinks of the difficulties and dangers of the medical treatment of ulcer He does his best to make out a case for medical treatment, but so faintly does he praise it that no patient in his senses would choose it for himself Good use is made of the records of deaths from haemorrhage or perforation of these ulcers at the Leeds Infirmary during ten years 209 died from these causes, these are placed to the debit account of medical treatment Undoubtedly the physicians will repudiate the debt, for, as everyone knows, many of these cases should more properly be classified as having had no treatment at all, and that is not quite the same thing as medical treatment Sir Berkeley Moynihan is in reality pushing at an open door, for surely the vast majority of physicians recognize the merits of surgical treatment Certainly the general practitioner and the public itself are becoming increasingly enlightened on this point However, no good will ever come from claiming too much for any method, and the ideal can only be reached by co-operation between physician and surgeon

The author trounces those who use the term "juxtapyloric" to designate ulcers about the pylorus He admits, however tacitly, that an ulcer may obliterate the landmarks by which the pylorus is ordinarily recognized We know as a matter of pathological fact that these ulcers are generally duodenal, lying in the duodeno pyloric fornix The use of the term "juxtapyloric," unless further qualified, is certainly indefensible As Sir Berkeley Moynihan says, an ulcer is either gastric or duodenal But to say that an ulcer is "pyloric" may be the result of honest observation, and not always of looseness of thought, as the author implies

Arising out of the *post mortem* records already alluded to comes the fact that the vast majority of duodenal and gastric ulcers which perforate are in reality chronic ulcers It has been very generally taught in the past that the perforating ulcers are acute, but *post mortem* evidence is more likely to be accurate than observation at operations No doubt the infiltration, oedema, and generally sodden condition of the area immediately surrounding a perforation tend to obscure its true nature and make many a chronic ulcer masquerade as an acute Mr Walton, in his book (as was mentioned in these columns when the volume was under review), produced similar evidence Sir Berkeley Moynihan's remarks on the tone of the stomach and on the fractional test meal are wise, and he is sympathetic to the latter His results again bring out the fact that a low acidity often accompanies a gastric ulcer, and, though he does not say so, these patients may none the less complain of what appears to them to be gastric acidity His operative mortality is very low indeed His attitude towards major surgery is well summarized in the following "The last case may yet die, and the next case be a desperate one such as no man can save, but this case must not die whatever happens"

Both lectures are written with that polished phrasing which we have come to expect from their author In a scientific treatise, however, a particularly well turned sentence may trip the reader up, holding his attention too long In speech the danger of this occurrence is small, but in the written word a certain asceticism is most to be sought after

[1] *Two Lectures on Gastric and Duodenal Ulcer* By Sir Berkeley Moynihan Bristol John Wright and Sons Ltd London Simpkin Marshall Hamilton Kent and Co Ltd New York W Wood and Co 1923 (Roy 8vo pp 48 2s 6d net)

MEDICAL AND DENTAL REGISTRATION IN ZANZIBAR

THE Sultan of Zanzibar has issued a decree "to provide for the registration of medical and dental practitioners" The measure is of considerable interest, not merely as a first attempt to regulate medical and dental practice in the protectorate, but for the manner in which it deals with the difficulties attendant on the establishment of adequate professional standards in a community of such mixed race—at once respecting existing custom and paving the way to more adequate provision for the future

The medical and dental register created by the decree is committed to the charge of a Medical Board consisting of the Principal Medical Officer, the Medical Officer of Health, and one private medical practitioner, the last named to be appointed by the British Resident * Of this Board any two members form a quorum, one of the officials acting as chairman and having a casting vote in the event of an equal division of opinion Admission to the medical section of the register is confined to practitioners holding qualifications registrable in the United Kingdom In the case of dentists, the bona fide practice of dentistry in Zanzibar for six months immediately before the commencement of the decree is recognized as constituting a title to registration Otherwise a qualification registrable in the United Kingdom is demanded The Board's power to refuse registration or to delete a name from the register on account of conviction of a serious offence or of conduct judged to be infamous in any professional respect is subject to the right of the person concerned to be heard and to be represented by a pleader, and also to appeal to the judge of His Britannic Majesty's Court for Zanzibar—a safeguard to which it is not easy to take exception where the Board is of necessity predominantly official in character and may well be exclusively European in composition (The British Court has jurisdiction in all cases in which one of the parties is British or foreign as opposed to the Court for subjects of the Sultan)

So much for the standard set up for the future. Meanwhile provision for the immediate needs of the community is made by the creation of a body of licensed medical practitioners The issue of licences to practise is left to the discretion of the Board, which "may, where the public interests require," license as

* Dr Andrew Copland has been appointed unofficial member of the Medical Board.

medical practitioners persons engaged in the bona fide practice of medicine, surgery, and pharmacy for six months immediately preceding the commencement of the decree, any assistant or subassistant surgeon in the service of the Government, and any assistant or sub assistant surgeon who, having retired from Government service and thereby automatically ceased to be licensed, is considered suitable 'for meritorious service and other good reasons" The right to practise medicine, surgery, and dentistry, to recover fees and charges, and to sign certain certificates and documents is exclusively reserved to registered and licensed practitioners An appeal lies to the British Court where a licence is cancelled, as in the case of deletion from the register, disqualification by the body originally granting the qualifying diploma is cause for removal from the register without such appeal The use by any person licensed under the decree of any designation implying medical or dental qualification, the practice or profession to practise or 'publication of his name as practising' medicine or dentistry by any such person, and the use by any licensed practitioner of any professional designation other than 'Licensed Medical Practitioner' are prohibited under a maximum penalty of 1,500 rupees and (or) imprisonment for a period of twelve months for each offence This prohibition of unqualified practice is modified in two directions In the first place the Board "may" permit any person attached to any missionary body or society, who gives satisfactory proof of the requisite knowledge and skill, to practise medicine and surgery "within such local limits and subject to such conditions" as the Board may see fit to prescribe In the second place the Board, in the absence of any good reason to the contrary, "shall' permit any member of an Indian, Asiatic, or other community "recognized thereby to be skilled in the practice of therapeutics peculiar to that community" to practise such a system among such a community This permission is to be granted on the application of the particular community concerned and is subject to the right of the Board to prohibit the practice of any surgical operation and the employment of any appliances or drugs dangerous to life

The recognition of modified standards of medical practice may be deplored, but in some cases it is necessary, and we are inclined to think that this decree as a whole is evidence of sound statesmanship in the administration of the protectorate In the first place, the absolute right to practise is limited to fully qualified persons The issue of licences is entirely in the discretion of the professional Board without reference to the British Court, and the only ground recognized for the issue of such licences is the public interest The question of licensing retired assistant surgeons has proved controversial in other places It is all to the good that in Zanzibar such licences are to be issued "subject to the public interest and 'for other good reasons," in addition to that of meritorious service, and by the Board—not, as elsewhere, by the Principal Medical Officer in his capacity as registrar Further, it would clearly be wrong to seek to deprive the general population, more especially that considerable trading element which enters Zanzibar annually with the north east monsoon and leaves it with the south west, of the solace of their customary systems of therapeutics It was a happy inspiration which left the establishment of the individual right to practise such systems to the communities concerned, and limited it to methods not dangerous to life It is not so easy however, to account for the terms in which permission to conduct a limited form of medical practice is accorded to missionaries Such persons are not, of course, practising for gain, but solely in the interests of the community which they serve That they should serve this community to the best of their ability and should not be penalized for rendering such medical aid as may be in their power in the absence of qualified help is reasonable enough, but why lay it down that permission to practise may, in these cases, be granted on condition that the Board is satisfied of the skill and ability of the person concerned? What evidence of such skill can be given except the title to registration? If the solution of the apparent anomaly is that the clause is meant to cover foreign missionaries holding medical qualifications adequate in themselves though not registrable in the United Kingdom, the position might have been more clearly defined For the rest, the absolute prohibition of any form of medical practice not recognized in one or other of the sections of the decree, and the definite distinction drawn between the registered medical practitioner, the licensed medical practitioner, and the 'permitted" practitioner of native systems of therapeutics, is a valuable safeguard In short, the decree does quite definitely provide for the gradual restriction of the sphere of unqualified medical practice as and when the supply of fully qualified practitioners may become adequate to the needs of the community as a whole

PSYCHOMOTOR RESPONSES IN FLYING

At a meeting of the War Section of the Royal Society of Medicine on March 10th a demonstration of an apparatus for determining flying reaction times was given by its inventor, Flight Lieutenant G H Reid The demonstration was preceded by some remarks on psychomotor responses in relation to flying by Flight Lieutenant H L Burton, who said that the flying man, particularly the pupil learning to fly, based his judgement in the air mainly on perceptions following visual stimuli As experience grew other stimuli were relied upon for the formation of judgement, and eventually the reaction both to visual and other stimuli became to a large degree subconscious Auditory stimuli were of less importance to the pilot, though the note of the bracing wire and of the engine might furnish information which called for some form of muscular adaptation Tactile and olfactory stimuli were still less significant, though the feeling of wind on the side of the face might indicate side-slipping Another class of stimuli which arose within the organism of the pilot himself had not received due attention these were the result of change in any part of his body, but particularly from the present point of view the voluntary muscles, which, by their response in the first instance to an external stimulus, were themselves the source of further stimuli Upon the processes so initiated depended the harmonious functioning of the muscular groups by means of which the pilot exercised control over his machine The greatest objection to the use of any test of reaction times, Flight Lieutenant Burton continued, was that a subject's reactions tended to vary according to his temporary condition of, for example, fatigue or excitement and to his environmental conditions The actual speed of a reaction was not the best criterion of flying aptitude The man with the quickest reaction might be erratic or lacking in endurance, while the slow man might exhibit consistency and prove in the long run the more reliable pilot Moreover, the tests ordinarily carried out did not furnish information usually as to the quickness and precision of the combined effector response The problem was,

therefore, to devise some form of apparatus which, in addition to testing the reaction time of simple movements, would throw light upon the efficiency of the proprioceptive mechanism In flying the external ocular muscles were undoubtedly of chief importance in the initiation of stimuli in the proprioceptive system, and it was upon the satisfactory co-ordination of succeeding reflexes—the quality commonly known as "hands"—that skilful flying and landing depended The testing apparatus, which was then demonstrated, represented the body of an aeroplane around the speed indicator of which four groups of electric lamps, coloured red and green, were arranged, their illumination varying with the supposed position of the machine in space, or, rather, in the case of this testing instrument on the ground, with the position of the control pillar and the rudder The lamps were lighted and extinguished according to whether the machine was on level keel or banked, or was "flying" straight or to port or starboard With the "stick" to one side a certain number of coloured lamps were illuminated, and when the control was centralized these were extinguished and a single white lamp remained The subject was tested for his hand and leg movements with pillar and rudder, and for the combined simultaneous movement of one arm and one leg, corresponding to the position obtained in the manœuvre known as the "spin," in which both controls must be exactly centralized An electrically controlled clock and an automatic recording device were connected in circuit and synchronized with the time taken by the subject to centralize his controls, and curves were plotted from a series of repeated movements by the one individual The most striking results were obtained in the case of certain pilots who had had "crashes," and whose flying had been noted as faulty Flight Lieutenant Burton believed that tests carried out along these lines would furnish a measure of an individual's co-ordinating power, would indicate the degree of his ability to fly and land successfully, would show his rate of progress during training, and would reveal the causes of his faults The apparatus might also be used as a means of training pupils to acquire on the ground the co-ordinations necessary for aeroplane control, and the suitability of a pilot for a particular type of machine might be judged from the results of such tests Air Commodore Munro, who occupied the chair, said that he hoped no one would think that candidates were being rejected for the Royal Air Force because of the results of tests on this apparatus, but the apparatus was very useful in the improvement and classification of pilots

BACTERIOLOGY OF SCARLET FEVER

In our columns on March 1st (p 389) we drew attention to the striking evidence that is being rapidly produced by Drs George and Gladys Dick, and the *Journal of the American Medical Association* has published (February 16th, p 544) a further article by them on scarlet fever toxin They quote five experiments which indicated that when patients giving skin tests showing susceptibility to scarlet fever were injected with suitable quantities of the toxic filtrate of the haemolytic streptococcus, they might develop a rash and other scarlatinal symptoms within a few hours after the injection Within forty-eight hours the symptoms had disappeared, and the skin test was then found to be negative, or only slightly positive They suggest that these results were produced by a soluble toxic substance rather than by a filtrable virus, and indicate the production of some degree of active immunity to scarlet fever In the same number of our contemporary is a contribution by A R Dochez and Lillian Sherman with regard to the significance of the *Streptococcus haemolyticus* in scarlet fever They have been able to produce an antiserum which blanches locally the rash in scarlet fever, and which, when used therapeutically, causes marked abatement of all the symptoms By inoculating guinea-pigs with this specific streptococcus, which was not found in septic conditions or apart from scarlet fever, a disease resembling scarlet fever in its main features was produced

SERUM DISEASE

In a review of recent literature on the clinical aspects of serum disease in the current issue of *Medical Science Abstracts and Reviews*, issued by the Medical Research Council,[1] Dr J D Rolleston states that the incidence of serum phenomena appears to be much the same in the various diseases for which serum is administered, irrespective of the route by which the serum is injected Recent statistics are quoted showing that the proportion of cases with a serum reaction in the four diseases scarlet fever, pneumonia, cerebro spinal fever, and diphtheria, is about 70 per cent Professor R Kraus of Vienna, when in charge of the Butantan Serum Institute, Sao Paulo, found that the use of immune ox serum in the prophylaxis and treatment of diphtheria and tetanus was attended by a much lower rate of serum sickness than was the serum obtained from immunized horses, as was exemplified by the fact that the incidence of the serum disease in the Argentine fell from 45 to 55 per cent among cases treated by horse serum to 3 to 5 per cent among those in whom ox serum was used After alluding to the commoner manifestations of the serum disease, such as rashes, arthritis, and adenitis, the rarer symptoms are noted, such as the return of the sore throat and laryngeal symptoms in diphtheria occasionally associated with the serum eruption, and the "seric meningitis" of cerebro-spinal fever, which has been attributed to a sero-toxic oedema of the meninges Other unusual manifestations of the serum disease are diarrhoea, abdominal pain (which may be sufficiently severe to suggest the possibility of intestinal perforation or haemorrhagic pancreatitis), orchitis, and cardio-vascular disturbance in the form of arrhythmia, tachycardia, and arterial hypotension Undoubtedly the most interesting of the rare sequelae of the serum disease is the occurrence of polyneuritis, to which considerable attention has recently been devoted in French-speaking countries The great majority of these cases occurred after the prophylactic injection of antitetanic serum, but at least four instances have been reported after the therapeutic use of diphtheria antitoxin, so that the nature of the serum cannot be regarded as an important factor Nor can anaphylaxis be held responsible, because most of the patients had not received previous injections of serum Various explanations have been put forward to account for the polyneuritis —for example, that it is a reflex paralysis following serum arthritis, that it is due to inflammation of the connective tissue surrounding the nerve, or that it is of a toxic nature closely allied to the paralysis sometimes observed after typhoid inoculation Whatever may be the explanation of these manifestations, however, it is obvious, in view of their extreme rarity, that the possibility of their occurrence should not be allowed to prevent the use of a serum when it is indicated for prophylactic or therapeutical purposes, especially in such diseases as tetanus and diphtheria

REST PAUSES IN INDUSTRY

The Industrial Fatigue Research Board of the Medical Research Council has issued a report[2] dealing with the effects of introducing short rest pauses of definite duration, and at definite intervals, between the spells of work in occupations which involve light repetitive manipulations

[1] Oxford University Press Price 3s monthly 30s. a year

[2] *Two Studies on Rest Pauses in Industry* Medical Research Council Industrial Fatigue Research Board Report No 25 H M Stationery Office 1924 1s 6d net

The Board has in course of preparation a summary of the scientific investigations already carried out, but pending the completion of this it has published certain of the results obtained, affording a provisional estimate of the results that may be expected under certain conditions and in certain types of work The report is divided into two parts In the first part Dr H M Vernon and Mr T Bedford describe the effect upon factory output of introducing some system of rest pauses Although other influences could not be entirely excluded, it appeared that this was followed by a slight but real improvement of output in some of the cases investigated—only in one instance was there a definite fall of output They note, and emphasize the point, that the effect of introducing rest pauses takes several months to reach its full extent, and is most favourable in work which depends mainly on the human rather than the mechanical element Rest pauses acted most advantageously on slow workers and least on the quick ones The second part of the report contains an account of laboratory experiments carried out by Mr S Wyatt and Mr A D Ogden, in which different types of industrial work, ranging from the purely mental to that involving slight muscular effort, were reproduced and the effect of interpolating rest pauses was determined It was found that a considerable reduction in output occurred in monotonous activities, such as mathematical calculation—easy examples in addition—and was most apparent about the middle of the two and a half hours' spell of work This reduction could be avoided to a certain extent by the introduction of a rest pause of fifteen minutes' duration half-way through the spell Such a pause was rather more effective than two rests of seven and a half minutes each, introduced at intervals of fifty minutes, increase in output occurred not only after the rest, but also before the pause took place—an anticipatory psychological effect The two sections of the report confirm one another in showing that the introduction of an authorized system of rest pauses was almost always followed by a slight, but genuine, improvement in output In the opinion of the Board there seems to be justification for stating that in light repetitive work the judicious introduction of rest pauses will not only tend to reduce monotony, and so increase the contentment of the workers, but will also bring about often an increase in output of 5 to 10 per cent, notwithstanding the diminution in the working time The Board suggests, therefore, that employers should consider favourably the desirability of experimenting along these lines

THE BRITWELL COURT LIBRARY SALE

MESSRS SOTHEBY will dispose at auction from March 31st to April 9th of another large section of the marvellous Christie Miller collection of ancient books, commonly called the Britwell Court library Those portions which have already been dispersed during the past few years have realized some hundreds of thousands of pounds, and this fresh sale will doubtless add materially to the total, for it includes many books of the greatest value and rarity some of them are believed to be unique The medical books in this section, however, are not conspicuously rare, in comparison with the early English poetry, but some of them are of considerable medical and surgical interest The "Gouernayle of Helthe, with the Medecyne of ye Stomacke," is a reprint of Caxton's publication of 1491, not the original itself But Miles Coverdale's pseudonymous volume is of date 1561, it bears the title, "A most excellent and perfecte homish apothecarye or homely physicke booke for all grefes and diseases of the bodye Translated out of the Almaine speche into English by Thon Hollybush" Then we have "A Description of the Body of Man with an Explanation of the Fashion and Use of three and fifty Instruments of Chirurgery," by H Crooke, 1631 There is a copy of D'Urfey's "Tales," 1704, with an armorial bookplate of "Jones, Surgeon and Man Midwife, London" Also "A Discourse of Bathe, and the Hot Waters There," by T Guidott, 1676, and Ulric Hutten's "Of the Wood called Guaiacum, that healeth the Frenche Pockes, and also helpeth the goute in the feete, the stoone, the palsey, lepree, dropsye, fallynge euyll, and other diseases," 1539 Dr Caius, physician to three sovereigns, President of the College of Physicians, and founder of Caius College, Cambridge, is represented by the first edition of his history of Cambridge University, published in 1568 Another lot includes Highmore's "History of Generation, to which is joyned a Discourse of the Cure of Wounds by Sympathy," 1651, Sir K Digby's "Cure of Wounds by the Powder of Sympathy," 1658, and a treatise by Glauber of 1655 Psycho-analysts may be interested in "A Godly Dream Compyled by Elizabeth Melvill, Lady Culross, Younger," 1703 Next one comes to W Piso's "De Indiae utriusque Re Naturali et Medica," published at Amsterdam in 1658, and then to (two copies of) a rare old book published at Paris in 1533, the "De Medicina" of Quintus Serenus Samonicus There is a treatise "On Drinking Water" (or rather, on not drinking this dangerous fluid), published by Richard Short, M D, of Bury in 1656, and one by Sir Robert Talbot entitled, "The English Remedy or Talbot's Wonderful Secret for Curing of Agues and Feavers," 1682 Dr William Turner's "newe booke of spirituall physicke" deals, doubtless, with religion rather than medicine, it is dated from "Rome by the vaticane chuiche," 1555 More strictly of professional interest is "The most excellent workes of Chirurgery, made and set forth by Maister John Vigon, head Chirurgien of our tyme in Italy, traunslated into Englishe" (by B Traheron), and published by Whytchurch in 1550 Another translation is that of Wirtzung's "General Practise of Physicke, conteyning all inward and outward parts of the body, with all the accidents and infirmities," 1617 Lastly, there remains J Woodall's "Surgeon's Mate, or Military and Domestique Surgery, with A Treatise of ye cure of ye Plague" (and a portrait of Charles I), 1655

SMALL POX AND VACCINATION

ON March 10th Dr C Killick Millard, M O H Leicester, delivered a Chadwick Lecture in the old London County Hall on the small pox and vaccination question to-day Dr Millard said misapprehension had arisen owing to a failure to distinguish between the effect of vaccination upon the individual and its effect upon the community The individual could be protected by vaccinating him and revaccinating him as often as necessary It was impracticable to apply this process to the whole community With our present system only a minority of the individuals composing the community were protected at any given time One of the great drawbacks to vaccination was that by modifying the disease it tended to mask it and thus to make it easier for it to escape detection As it was upon prompt detection that modern preventive measures were based, this effect of vaccination tended actually to facilitate the spread of the disease It was quite possible that the present system of infantile vaccination was doing as much harm as good Even though ultimately infantile vaccination were abandoned—and things were certainly moving in that direction—vaccination would always remain of the utmost value in protecting doctors, nurses and others who came into actual contact with the disease It would also always remain as a last resort to fall back upon for the general population in the event—unlikely judging by the experience of the last twenty years—of a serious epidemic of virulent small pox getting out of control The remarkable fall in small pox mortality which had taken place throughout the country during the past twenty

years could not, Dr Millard contended, be attributed to infant vaccination, because it had taken place simultaneously with a great decrease in such vaccination It could more reasonably be attributed to improved "sanitation," using that term in its broadest sense to include notification, isolation, surveillance of contacts, etc In Leicester, where infant vaccination was deliberately abandoned forty years ago, the result of concentration on "sanitation" had been eminently satisfactory There had not been a single death from small-pox in the past eighteen years Though the risks of vaccination were often greatly exaggerated, it was impossible to deny that in the aggregate the injury to health was by no means insignificant Moreover, the risk of vaccination had to be considered relatively to the risk of small-pox The latter had so greatly diminished that during the past eighteen years the total deaths from small pox in England and Wales in unvaccinated persons were, he said, actually less than the deaths due to vaccination It was necessary to preserve a sense of proportion During 1923 scarlet fever caused 971 deaths, diphtheria 2,674 deaths, measles 5,200 deaths, influenza 8,371 deaths, and small-pox only 7 deaths It was true that the number of cases of small-pox last year had substantially increased, but it was of such an ultra-mild type that it could not be regarded as either a fatal or a disfiguring disease Hitherto the disease had bred true to type, showing no tendency to change to the severe form The controversy that had arisen as to vaccination would, in Dr Millard's opinion, only be brought to an end by each side making substantial concessions He suggested that the antivaccinists must cease to deny that vaccination conferred immunity to small-pox on the individual, which for practical purposes was complete for a period of years No fact in the whole field of medicine was more clearly established than this On the other hand, the provaccinists on their side must be prepared to abandon compulsory infant vaccination, on the ground that it could no longer be justified as essential to the effective control of small-pox Dr Millard's views have so recently been set forth by him in our columns and commented upon editorially that it is unnecessary to criticize them again Suffice it to say that in our opinion no medical countenance or support should be given to any project for weakening still further the already far too weak obligatory provisions of the Vaccination Act of 1907

INFLUENZA AND MEASLES

We remarked last week that "failing a considerable extension of influenza in the north-west" the maximum of the epidemic had probably been reached Unfortunately the extension has taken place, with the result that the deaths recorded in the week ending March 1st slightly exceeded those of the previous week (an increase from 626 to 636) Birmingham (25), Liverpool (21), Leeds (48), Manchester (13), Hull (16), and Middlesbrough (26) all reported increases, and in some cities not yet reporting many deaths from influenza the notification rate of pneumonia has risen sharply For England and Wales as a whole the notifications of pneumonia increased from 2,089 to 2,402, most of the increase being in the midland and north-western districts In London the maximum of the epidemic seems to be definitely past The deaths from influenza for the three weeks terminating with that ending on March 1st were 178, 148, and 139 the notifications of pneumonia were 405, 329, and 257 The extension of the epidemic in the north midland and north-western districts makes prophecy more than ever dangerous Perhaps the most likely—or least unlikely—course is that the deaths will continue to reach totals of the order of 600 to 650 for some weeks The general type of the disease continues to be mild, and the age distribution of deaths has not changed Measles, by all accounts, has been very prevalent during the past two months Deaths from measles in the great towns (including London) are increasing, the figures for the six weeks ending March 1st were 78 (72), 65 (73), 68 (71), 89 (84), 108 (79), 130 (95) As will be seen from the figures in brackets, which are the numbers of deaths in the corresponding weeks of 1923, the difference is sharp Of the 92 deaths from measles in London during the week ending March 1st, 14 were of children under 1 year of age, 41 between the ages of 1 and 2, 31 between 2 and 5, and only 6 over 5 years (all under 15 years)

ANTISEPTICS, LEUCOCYTES, AND BACTERIA

A NOTE giving the result of a comparison of the activities of antiseptics on bacteria and on leucocytes, by Mr A Fleming, F R C S, of the inoculation department, St Mary's Hospital, London, was communicated to the Royal Society on March 6th by Sir Almroth Wright, F R S Mr Fleming found, on the one hand, that leucocytes which have been allowed to emigrate from a blood clot on to the walls of a capillary tube, or defibrinated blood containing its full quantum of leucocytes, exercise a powerful bactericidal action on staphylococci On the other hand, he observed that when antiseptic solutions were brought into contact with such leucocytes or blood, the destructive action of the antiseptic on the leucocytes was much more marked than on the bacteria When added to infected blood in certain concentrations most of the antiseptics permit the development of almost all the bacteria implanted, although the blood without any antiseptic will destroy from 90 to 100 per cent of the added cocci

AN IMPROVEMENT IN THE PREPARATION OF INSULIN

H W DUDLEY and W W STARLING,[1] working in the Department of Biochemistry and Pharmacology of the National Institute for Medical Research, have devised a new method of preparing insulin from the pancreas, which appears to be of very considerable value The original method of extracting pancreatic substance with plain alcohol resulted in an average yield of 88 rabbit units of crude insulin per kilogram of pancreas, and the method of extraction with acid alcohol increased the corresponding yield to 257 units The method of Dudley and Starling has given an average yield of 412 units, and in one case 508 units was obtained The authors, recognizing the fact that in acid but not in alkaline solution insulin is readily adsorbed by a great variety of substances, thought that an increased output might be obtained from extracting the minced pancreatic substance in an alkaline medium The fear that this process would favour trypsin action, which destroys insulin, was found to be groundless Fresh or frozen ox pancreas is minced in 95 per cent spirit, to which sodium bicarbonate is added The mixture, after being allowed to stand, is filtered through cloth, more alcohol is added, and another period of standing is allowed It is then filtered through paper, glacial acetic acid added, and the mixture evaporated in a vacuum in a water-bath at 40° to 45° C The fat is removed and alcohol added to the precipitate, which is finally dried in a vacuum desiccator over sulphuric acid One rabbit unit is usually contained in 3 to 5 mg of crude insulin, and the authors describe also a simplified method of purification of the crude product by precipitation with picric acid and conversion of the insulin into a soluble hydrochloride, as a result of which at least 90 per cent of the impurities present are removed, and preparations are obtained in which one rabbit unit is contained in 0 2 mg The term "rabbit unit" represents the original Toronto rabbit unit, which is the amount of insulin that will lower the blood sugar of a 2-kg rabbit from the normal 0 1 per cent to about 0 04 per cent, and will cause typical hypoglycaemic convulsions within four hours

[1] *Biochemical Journal*, vol. xviii, No 1, 1924

MEDICINE AND OLD ETHICKS

(WITH SPECIAL REFERENCE TO ELECTRONIC REACTIONS) *

BY

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PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL

I HOPE that you will not be disappointed with me this evening, in that I am not reading you a paper upon some academic medical subject, nor giving you my experiences in any matters of diagnosis and treatment. There are some larger aspects of our work, and of our relations to the community, upon which it is sometimes useful to reflect. Medical men are citizens as well as doctors, and the medical profession has greater privileges and deeper obligations than are represented by the daily round of visits to sick persons and the discussion in the consulting room. I propose to deal with one of these larger aspects of our professional life and conduct to-day. Not in a spirit of dogmatism, as one qualified to dictate to others, but in a spirit of inquiry. I am hopeful none the less that such a spirit may lead to some concerted view of what our attitude should be towards a question that has been in my own mind and in the minds of many others for some time past, and which has now become of such moment that I believe we are not acting in our own or in the public interest if we leave it longer unconsidered. If to be a law unto himself can scarcely be defended as a rule of conduct by the individual in his private life, it can certainly not be defended when that individual is a member of an honourable profession occupying the position in the public esteem and confidence which we enjoy as medical men. I spoke of our privileges and our obligations. We cannot divorce these two things, they are inseparable. True, there is a section of the public that looks askance at us, does not trust us, thinks of us as a close corporation existing only for our own ends. There are even those who regard the "regular" practitioner as a narrow-minded bigot who obstructs, rather than furthers, those advances in medical science and practice which tend to increase the public welfare. By them we are often accused of jealousy and bias—jealousy of the unqualified practitioner who claims to possess knowledge and skill whereby he can assuage human ills, and bias towards discoveries which emanate from outside the profession or, if emanating from within, are the product of the brains of certain of our colleagues whose methods we dislike or whose honesty we doubt. One of the most distinguished of modern writers, who will be recognized without difficulty by this very incident, recently lectured to the students of my hospital upon the subject "The disadvantages of being qualified." He made it quite clear that, in his opinion, it would be better for suffering humanity if no one was qualified at all. But in spite of these things it remains a fact that the great majority of men and women do trust us with the conduct of their health, do believe that we know more about it than those who have had no training in the schools, and know more about it even than they do themselves. This is our privilege, that they place themselves confidingly and without question in our hands, that they rely upon us to heal them, and those dear to them, to save them from death if this be possible, and, in any case, to free them from pain which is the "worst of ills." In return for this great privilege, we have obligations no less great. These obligations, as it seems to me, are of two kinds. We are under the obligation of employing on our patient's behalf every piece of knowledge that can be of service in the study of pathology and every measure that can assist treatment. And we are under the obligation of being honest.

1. To most of us, seeing that we belong to no particular method or school in our profession, it is the glory of medicine that it strives to read in "Nature's infinite book of secrecy" whatever it can and by whatever branch of science is available. We, like Bacon, have taken all knowledge as our province, both when we seek to elucidate the complex problems of disease and when we strive to adjust the patient's disordered functions by our therapeutic endeavours. Medicine is the child, not of one, but of all the sciences. The lessons of past ages have taught us to attach ourselves to no system and to no sect. If we are governed in our actions by any one principle, I suppose that principle is experience. True it is, as the Father of Medicine has said, that experience is fallacious and judgement difficult, "but this is a part of human frailty, and we have no better guide." "It is my bounden duty," said one of the wisest of the physicians of the last generation, "and I desire nothing more than to increase my knowledge on all hands and thereby to attain the ancient aspiration of our hospital to bring health or ease to my poor patients." I like the tale which Plutarch tells of one that cavilled upon a time with Captaine Iphicrates, and by way of reproach and minding to prove that he was of no reckoning, demanded what he was. For (quoth he) you are not a man at armes, nor archer, nor targetter. I am not indeed, I confesse (quoth Iphicrates), but I am he who commands all these, and employ them as occasion serveth. In like manner the physician says, I am ready to accept help from any source, from physiology and pharmacology, but also from mechanics, optics and similar sciences, from electricity and chemistry, nay very gratefully from cookery, upholstery, ironmongery, and indeed from any source." As I have already observed, I think there is no doubt that in respect of our desire to help our patients most of us are of the same mind as Samuel Gee.

2. The second part of our obligation, and one which is expected no less of us, is that we shall be honest. "My patients like to be humbugged," said a friend to me, and it is, alas! a fact that the temptation to humbug the sick man too often comes from his own inherent desire to be dealt with other than truthfully. But for the sake of our own methods, as well as for the hope of advancing the science and the art of medicine, we dare not yield to the temptation. And as to what kind of honesty is required of us, that gifted and clear sighted member of our profession, Sir Thomas Browne, reminds us in eloquent words that there is only one kind. 'Live by old ethicks," he says, 'and the classical rules of honesty. Put no new names or notions upon authentic virtues and vices. Think not that morality is ambulatory, that vices in one age are not vices in another, or that virtues which are under the everlasting seal of right reason may be stamped by opinion.'

I am quite prepared to be charged with sententiousness this evening, and some will think the charge well merited. But I feel strongly that an occasional reflection given to this double duty imposed upon our profession is not amiss. And I can scarcely deal with any question of our duty in any other spirit than one of seriousness.

From time to time, both of the aspects of our duty to our patients which I have referred to are in danger of being lost sight of. The cause is not infrequently the introduction of some new fashion or theory into medical practice, which tempts us to the belief that at last science has taken a leap and we must hasten to avail ourselves of it. Some of us are urged to exploit the new idea so that we may obtain a pardonable advantage over our competitors, some of us are lured to it by enthusiasm bred in us by those responsible for its inception. Many of us follow our leader because we fear to be left behind. Inasmuch as most of these ideas have some demonstrable truth in them, follow some recognized principle which has been clearly established and are serviceable once we recognize their limitations, the initial excesses we commit in regard to them are excusable, and more or less harmless. Occasionally, however, the idea is introduced without the stamp of scientific control, and makes claims which are of such magnitude that it is absolutely subversive of most of our orthodox tenets and most of our regular practice. We are to-day faced with such an idea and with such claims, and I am interested to learn what you think about it and what our attitude should be towards it. I refer

* An address delivered before the Manchester Medical Society on February 28th, 1924.

to the system of diagnosis and treatment introduced by Dr Albert Abrams of San Francisco, and generally known as the Electronic Reactions of Abrams If you will allow me to approach the subject in this way, I propose to make my first references to the matter follow my own personal experience

Prior to twelve months ago I knew practically nothing about the electronic reactions of Abrams A few patients had spoken about a method of diagnosis and treatment by the use of a wonderful "box," in the way patients not seldom do speak of such things, and I had scarcely listened, as one scarcely does listen at such times On two occasions I remember doctors telling me that patients of theirs whom, after consultation, I had regarded as suffering from incurable diseases, had decided to try "electronic treatment" I had not read Sir James Barr's articles in the English medical journals, or, if I had, they did not leave anything definite in my mind, and certainly they did not interest me as they did when I read them quite recently, after certain other things had happened I am quite ready to plead guilty to this almost complete ignorance of a subject which had evidently attracted a good deal of attention in America, though I would offer in extenuation the fact that so many medical novelties arise like mushrooms in that country, and die before we have time to interest ourselves in them, that one of more permanence is quite likely to go overlooked for a while But the receipt of a letter from a surgical colleague, whom I had been advising on account of his own health, and whose judgement I had every reason to respect, brought the subject once more before me I propose reading this and another letter from the same writer, because they illustrate some important points The first letter reads as follows

"A friend of mine has just returned from America, glowing with zeal for the *Electronic treatment*, and gave me a demonstration which astounded me To be able to diagnose, by means of a drop of blood, cases that puzzle the wisest, is disconcerting—especially as it can be done without seeing the patient Anyhow I wanted to know whether you would think me ridiculous if I went over to Chicago this summer for a few weeks to study the method? My own blood showed the 'usual' congenital syphilitic reaction, which appears to be universal, also a positive *B coli* reaction and streptococcus infection of most of my air sinuses Not a trace of tubercle Although it *looks* like black magic, I can see that it is based upon sound scientific principles Although I had never seen the apparatus before, I was able to determine the presence of an osteoma in a woman's femur, and say definitely that it was on the bone of the right side This was done, not from her blood, but from a letter written by her, which my friend put into the apparatus! 'Yes' or 'No' over the telephone will be quite enough to decide me This thing is said to be on its way over and if it can do all it appears to do, it will knock 75 per cent of my surgery on the head'

I appear to have answered this letter by saying that the receipt of it was the first intimation I had had of the existence of any mental complication in my colleague's own case I merely state this fact to show that the sudden presentation of the electronic claims and terminology produced a kind of shock to my mind, as I suppose it does to everybody not acquainted with them However, my friend quite properly disregarded my disparaging remarks, and went to the States to see things for himself Here is his second letter, written from Chicago

"You see, my 'cerebral complications' have, after all, brought me to this—the dirtiest, noisiest, most depressing place I have ever yet come across But the Electrons of which I told you are worth it I am only at the very threshold, of course, and unfortunately I have to leave in a fortnight for home, but already it is quite evident that this much-criticized method will be of the utmost interest (and possibly value) to me in my work, conjoined with the orthodox methods When I told you that congenital syphilis had been found in me I was merely repeating my friend's diagnosis This was only partly correct I had my blood examined here more for curiosity than for any other reason A syphilitic strain has again been proved—but *bovine*, and I am told that this is almost universal in persons who have been vaccinated with unreliable lymph In my case this may have been so I am just beginning to try my hand at getting reactions from known pathological specimens And I was encouraged yesterday by spotting carcinoma of the uterus and correctly estimating its 'potential' To-day I was less successful, but, of course, I need practice But I won't waste your time over my vagaries, hoping only you will forgive my playing truant in this fashion I came here sorely against my will This work is not at all to my taste, but I feel more certain than ever that it is going to become a force to be reckoned with In order to familiarize myself with the technique, I am undergoing treatment here as well as instruction If it does good, so much the better Dr —— here is very young, but wonderfully well educated, and a born teacher"

This letter arrived whilst I was on my summer holiday, but I think it was more on account of some specially urgent matters that kept me very busy on my return, than on account of this fact, that I deferred giving the matter any particular attention Nor did I do much more than acknowledge a number of letters which I received about this time from doctors, some of them old pupils, asking me about the method Most of these letters asked the same questions, and I will quote one because it is typical of most of them and is couched in very simple terms "If the thing is humbug, why isn't it being shown up, and if there is something in it why is it not being investigated?" Then an incident of quite another kind happened, and I found myself suddenly faced with the real and living thing It looked as though, since I would not go to "E R A," "E R A" insisted upon coming to me One day I received a request for an appointment from a lady who excused herself from putting her doctor into communication with me on the ground that she had, without his knowledge, done something that she could not tell him about until after her visit to me

"Owing to an article I read" (I quote her letter), "and also on the advice of a friend I wrote to a doctor at X, who diagnoses from a blood test which I sent to him, but as his report ignored the pain in the hip which I told him about, and told me I was suffering from a dreadful disease, I want to go through a proper examination to find if this is correct"

I gave the appointment and a very frightened woman came to keep it She was suffering from osteo-arthritis of the left hip-joint, following an old injury I found no other signs of disease during my examination She left the electronic practitioner's letter on my table, being very glad to get rid of it It reads as follows

"Dear Miss F,—I have examined the specimen of your blood, and find a very heavy basic infection, and cancer of the left breast and there are signs that this growth is inclined to spread I am sure I can help you if you care to come down for treatment You would have to stay in the town, and come to my clinic daily, the probable time needed for your treatment would be from four to six weeks My fee is 30 guineas a month, payable in advance Should you decide to come for treatment, will you please let me know, and I will make room for you as soon as possible Yours sincerely, ——"

Miss F was, however, only left for one week to endure the mental agony of this very serious diagnosis—an agony which was not at all assuaged by the doctor's sanguine hopes of help from six weeks' electronic treatment For after this interval she received a second letter, as follows

"Dear Miss F,—There appears to have been an unforgivable mistake I can only say that I regret it deeply You have got the wrong report—one concerning someone else, and I can only ask you to forgive me for not reading your letter over before signing it, and thereby causing you so much worry and trouble You have a big basic infection, and a streptococcus infection of the post nasal sinuses, to a certain extent the teeth, and some bones, especially of the lower part of the spinal column I am telling you this so that you may know that there is nothing dreadful at all, only painful With many apologies, I remain, Yours sincerely, ——"

This personal experience of the actual working of the Abrams school in our midst induced me not only to pay more heed to the things I heard in connexion with it, but also to acquaint myself with the methods, to read the literature, and to attend certain demonstrations I then discovered that the men who possess the Abrams machines in this country are fairly numerous (I speak throughout this paper of registered and qualified medical men only) One or two of the machines are being used solely and entirely for purposes of scientific investigation, with an endeavour to establish definite data, quite apart from the diagnosis and treatment of patients I am in close touch with a small group of men who are using the instruments in this way, the group includes a trained physicist and a wireless expert, and all the work is done in properly equipped laboratories A few of the machines have been purchased or hired by practitioners who, either because they fear the criticism of their colleagues, or because the zeal which originally led them to undertake the venture has waned, keep the apparatus locked up in a cupboard, and speak of it only to their most intimate friends in whispered confidence

If I exclude these two groups of men, there remain two important classes of workers with the Abrams machine

1 The first of these groups, containing certainly half a dozen, but perhaps more men, consists of those who are carrying out their own investigations upon the method in conjunction with their routine clinical work, but who are not substituting the apparatus for the orthodox methods of practice Amongst these is my surgical friend whose letters I have read, and who has his apparatus installed at his hospital, much to the concern (he now tells me) of certain of his colleagues Although his early enthusiasm has been damped, he still believes that great possibilities lie hidden in the acknowledged complexities of the machine In this group I also put another colleague to whom I am much indebted for facilities in the matter of demonstrations to me personally He is a psychiatrist, and he tells me that he finds the apparatus of considerable help in his treatment of patients by suggestion—a significant admission

But in this same group, and deserving special mention, I place a worker who has done much more than anyone else in this country to pioneer "E.R.A." investigations, and to clear away a great deal of the confusing verbiage and wild ideas surrounding the system This worker happens—unfortunately as I think—to be a homoeopathist, a fact which will doubtless prejudice many, and lead them to assume that his efforts in the direction of elucidating physical data are not to be relied upon because of a presumed desire in his mind to link up his findings with his homoeopathic doctrine, and thus extract scientific support for this doctrine Personally, I do not find it difficult to interest myself in his physical experiments and conclusions and to leave any applications he may make of these to homoeopathy alone I refer to Dr W F Boyd of Glasgow, who has published two reports of researches carried out under the auspices of the Bett Research Fund of the British Homoeopathic Association A careful study of these reports convinces me that Dr Boyd has advanced very considerably our knowledge of a few of the many factors concerned in the complex "reactions" crudely described, and certainly too hastily interpreted, by Abrams Boyd has evidently tried to find facts, realizing that until these are established, and are capable of repeated demonstration, we are not likely to distinguish anything of value in the mist of meaningless terms and unwarranted assumptions that at present surrounds the subject This worker has already simplified the unnecessarily complicated electrical contrivances of Abrams, and has reduced the apparatus to a form which can be described in proper technical language This simplified apparatus Boyd calls an "emanometer"

Although it must be for physicists to criticize his work, one cannot but be struck by the scientific spirit in which he approaches the subject and the care taken to avoid false conclusions Boyd considers that his emanometer is accurate so far as methods of recording go, but that the interpretation of the phenomena is subject to a large degree of error He appears to have proved definitely that the coil which Abrams called a "resistance" was in reality acting as an "inductance," and that Abrams's "unknown" energy was of a well recognized character, in other words, Abrams had empirically constructed a form of wireless receiver The inductance, acting together with the human subject as a selective receiver, picks up minute ether waves When these waves are tuned by variation of the inductance and a variable condenser, they produce small areas, dull to percussion, on the abdomen of the subject Boyd considers that this percussion dullness is due to local muscular contraction, and, from my own experience, I am inclined to agree with him At the moment when—as I was informed in the course of my own percussion of the subject—a "reaction is coming through," I was nearly always conscious of an increased tenseness of the rectus abdominis beneath the plexmeter finger Indeed, the increased resistance due to hypertonicity of the muscle was a more obvious change to my tactile sense than was the reputed change in resonance to my auditory sense Some of Boyd's practical conclusions illustrate the cautious and temperate nature of his attitude towards the whole affair

Even if one allows ' he says any definite significance to individual waves the fact remains that the emanometer gives an analytical picture of the abnormal electrical activity at the time of the test and not a picture of pathological conditions The name of a single disease based on the emanometer (test) is therefore in most cases an impossibility Again taken by themselves the waves cannot be said to be significant of disease They are significant of electrical activity what we are detecting is not the presence of a toxin or infection but the registration of an increased normal energy In other words disease considered from the view point of the emanometer is normal energy become abnormally active It is the actual patient we investigate not the infective or causative agent

From these considerations, which seem to me to follow quite reasonably from his ascertained facts, Boyd propounds the following thesis

' a healthy person has a normal condition of electrical activity which produces numerous resultant waves of no great intensity The introduction into the system from without of a substance or infection of which the electronic period is identical with the period of any particular substance cellular or otherwise would tend to enhance the normal activity until it became abnormal, resulting in an increase of intensity as revealed at test and an increased variation on the condenser In other words normal patients [? persons—T.H.] are susceptible to infections which are electrically of such a periodicity as to tend to enhance the activity of one or more of the normal electrical activities of that particular patient [? person—T.H.]

When I compare these moderate and reasoned statements with the immoderate and hopelessly irrational jargon of the earlier disciples of the Abrams school, I find it now as easy to form a definite concept of what may possibly take place as I found it difficult before There is no longer any insult to my mind, but a hypothesis that I can readily assimilate

This question of the existence of a reasonable hypothesis is not so irrelevant as it may at first sight appear We have a right to demand some show of reasonableness in regard to new claims made by any method And the present claims of the "E.R.A." teem with unreasonableness Let me give one instance From a drop of blood taken from the tip of a patient's finger a diagnosis is made of cancer of the *left breast* By what conception can we allow that localization of a disease process to one of two symmetrically situated glands, histologically and functionally identical, is possible, when the only material submitted to examination is a drop of a fluid which bathes both glands alike, and is taken from a remote and neutral point on the surface of the body? Speaking for myself, my mind boggles at the effort of finding such a conception

2 The second, and by far the largest, group consists of those who have made the Abrams instrument the mainstay of their daily practice These are the *electronists par excellence*, a busy and a thriving brotherhood Imbued with all the enthusiasm of the master, from whom or from whose American associates most of them have learned the method direct, they scorn the sceptics' criticisms and find the day too well filled by satisfying the clamour of an increasing throng of patients, to spare time for scientific investigation or control of the method or to render the discovery popular and accredited by giving demonstrations or reading papers before societies which exist for such a purpose Into this group comes the doctor whose diagnosis of carcinoma mammae sinistrae was so unfortunately posted to the wrong patient How many men there are in this group it is not possible to say but they are probably fairly numerous and certainly they are increasing rapidly It is doubtful whether the increase is determined more by a desire not to be behindhand in exploiting a method which makes such a strong appeal to the credulous public and therefore increases practice, or by an honest conviction that the method constitutes a real advance in medical knowledge

But the position raises an ethical question of vital importance to the profession How far is a practitioner justified in using a new method of diagnosis and treatment, and charging his patients fees for it, if the criteria upon which the method is based are entirely new, and are as yet not established? In connexion with this crucial question I want to remind you that the layman is always attracted by any method which claims to substitute mechanical exactness for human judgement based upon a set of data collected, however carefully, yet by orthodox means If,

therefore, the patient is not warned that the new method also has serious fallacies, the limits of which are not yet known, and if he is led to believe that it is an improvement upon the older system, he is almost certain to prefer it, and choose the doctor who is known to follow it But I think the fundamental consideration lies in another direction The patient believes the *criteria* of health and disease underlying the new system, both in regard to diagnosis and treatment, are identical with those underlying the older method When he is told that he has a cancer, as diagnosed by Abrams's instrument, he thinks in terms of a growth having very serious and even lethal possibilities, he does not think of a mere "reaction" the meaning of which remains to be determined by proper investigation And when he is told, six weeks later, that he is cured, he thinks the cancer no longer exists, because that is what "cure" means to him He does not know that the sole evidence of cure is the mere absence of the "reaction" formerly yielded by means of the instrument And if the practitioner explains the matter to him, telling him that this "reaction" is specific for cancer, he assumes that this fundamental fact has been established beyond reasonable doubt

The electronist is often told that the onus rests upon him to prove that his method leads to accuracy of results, by which the critic means that the electronist's results must be shown to be identical with results obtained by present clinical and pathological methods This requirement is entirely justified if the criteria of both systems are the same, but not otherwise It is open to the electronist to explain discordant results by saying that his criteria of disease processes are quite different from the old criteria If he does so, however, the onus rests upon him to state his criteria very definitely, and to advance cogent reasons why these new criteria should be made the current basis both of our nomenclature and of our concepts of disease Let me illustrate By the criteria of combined clinical, histological, and immunological investigation, we find that a certain small percentage of the general population are the subjects of congenital syphilis By the Abrams criteria there are very few persons living who are not the subjects of congenital syphilis If the Abrams conclusion is correct, it is clear that we must change our concept of congenital syphilis, and we must admit that literally millions of persons are infected by *Spirochaeta pallida* who show none of the criteria at present known to us, and whose blood gives a negative complement-fixation reaction with syphilitic antigen But when John Jones is told with complete confidence that he is syphilitic by his electronist doctor, the idea in his mind is quite a different one from the idea which led Abrams to say that syphilis is the primary cause of nearly all human illness, and that most diseases can be traced back to this origin As a matter of interest I may mention that in this country I find patients are not usually told that their blood yields this almost universal syphilitic reaction, and I have wondered why Is it that such information would prejudice the popularity of the "ERA" method, or is it that the exponents of the system have decided not to follow Abrams in his interpretation of this particular reaction? I think we have a right to know which reason obtains, for if the former, then electronists are taking a big responsibility in diagnosing syphilis, and not giving the patients the chance of proper treatment, and if the latter, then the specificity of this reaction is no longer regarded as reliable, and the whole method should be put back into the laboratory for further consideration

This brings me to one of the chief if not *the* chief consideration I wish to put before you this evening Should the "ERA" have left the physical and clinical laboratories at all? Is not the whole thing much too premature? Would not further and more scientifically controlled experiments determine either that it is not calculated to assist pathology and therapeutics, or that help from its use is only to be expected in quite a different direction from the one at present pursued in practice?

If we may assume for a moment that such a step be taken and that my second group of Abrams's disciples decide to forgo for the time being the dubious benefits to their patients and to themselves of a too eager exploitation of "ERA" methods—as to which, not being very optimistic in these matters, I am not very hopeful—what are the lines along which research might be profitably conducted?

1 There are first of all certain questions that concern the pure physicist Does the patient, and do his blood and secretions, give out any form of energy which can be detected and measured by known physical means? If so, can this energy be demonstrated by some objective device such as a photograph or a graphic record, so that we are able to eliminate the subjective element in determining the pitch of a percussion note or the lag of an ebonite rod? Can the human medium be eliminated, or, alternatively, how many facts can be ascertained without the complication introduced by the inclusion of the medium in the circuit?

2 Then there are questions that include both physicist and clinician What relation does any tuned and recorded electronic energy bear to known pathological conditions? What tuned and recorded energy, emanating from patient or secretion or tissue, bears no relation to known pathological conditions, and what light, if any, do such records throw upon our present criteria of disease processes? It may not improbably transpire that, although "reactions" can definitely be established, these possess no values that can be related to known pathological states

Electronic practitioners as such protest, and with reason, that they should not be called upon to explain the physical laws underlying their instruments so long as these instruments give consistent and helpful results The protest is one that must appeal to all of us who are empiricists in the proper sense of that word But the question is, do their instruments give consistent and helpful results? I have no knowledge that they do I have a considerable bulk of evidence that they do not I am of course supposing that consistency and helpfulness are to be judged of by the old criteria, and not by new criteria concerning which we have not been instructed Not seldom, when an electronist is told of a wrong diagnosis, he disclaims the necessary efficiency, and says that So-and-so, who is more proficient, would not have made this mistake But is the patient informed that he is not to rely upon the diagnosis on account of the fact that the electronist who made it is a beginner? The patient regards *his* doctor's "box" as being the same as any other doctor's box—an instrument of precision and incapable of error He is not told of any personal equation being involved, nor of a long educational process, nor of the almost innumerable fallacies that are known to complicate the readings at the seance "Surely the box cannot lie?" a patient said to me recently, when I tried to cheer him by telling him I could not verify the diagnosis of a carcinoma of his stomach diagnosed by the "ERA" methods If it be advanced by the electronist in this connexion that similar difficulties and fallacies attach to most instruments used in our work, I should reply by reminding him that for no other instrument are anything like the same revolutionary claims made Surely the confidence necessary to write to a nervous patient and tell her she has cancer of the breast, without examining her, demands a degree of proved consistency in the working of the diagnostic system which no other set of apparatus at present in use by us need ever be required to possess!

Following my plan of giving you in the main my own experiences, I will cite an instance of a gross error committed by a practitioner working with the "ERA" methods I will do this by reading another letter in my possession from the doctor who so alarmed my patient It was written to the anxious wife of a very sick man who sought the help of the "ERA" diagnostic method on account of the regular practitioner's grave view of the case

"Dear Mrs G,—I have examined your husband's blood and found a very heavy basic infection of the *Bacillus coli* from the large intestine, and a streptococcus infection of the sinuses behind the nose There is nothing in this which we cannot get rid of, and the getting rid of these things should benefit your husband's health considerably My fee for treatment, which would have to be for one hour daily for a month, is 30 guineas, payable in advance and for this examination and report, two guineas If he wishes to have treatment, will you let me know at once and I will try to find a place for him—Yours sincerely, ——"

Three weeks after the receipt of this epistle the patient died as the result of a large sarcoma involving the axis vertebra

[SIR THOMAS HORDER went on to say that he had not had much opportunity of testing the "E R A" system of diagnosis in the other obvious direction—submitting specimens of blood from well marked cases of disease to expert electionists for report A friend who was testing the method, and who was from his belief in its possibilities likely to get the best out of it, had, however, requested him to submit specimens, and he had sent him six The results were very disappointing only one diagnosis out of the six conformed to the diagnoses of the patients' diseases as registered at the hospital This was not more than the law of chance might explain, when one considered that the range of gross and certain diseases was not large, and that either carcinoma or tuberculosis or syphilis was very likely to have at least one representative amongst six selected cases of unequivocal disease But his friend was one of those who disclaimed proficiency, and did not wish this effort to be considered in the light of a scientific investigation into the merits of the method But SIR THOMAS HORDER thought that his friend could not possibly object to his saying that, having watched *him at work, and knowing that he was bent upon hammering* out the truth of the position, his failure must necessarily make a bigger impression on the mind than did the alleged success of certain others who could not be credited with so little bias This particular worker informed SIR THOMAS HORDER that he found a number of confusing difficulties and fallacies in carrying out the diagnostic tests, which made it clear that the conclusions were to be accepted with great caution But SIR THOMAS was not aware that any statement had yet appeared in the medical press dealing with these fallacies, though they must have been met with by other workers previously]

I may say here (SIR THOMAS HORDER continued) that I have purposely confined my remarks to the diagnostic part of the "E R A" problem, partly because time does not admit of my discussing the therapeutic side of the question, and partly because the whole of the evidence in favour of successful treatment turns upon the question of diagnosis

In conclusion, I do earnestly plead for an attitude of forbearance amongst the members of the profession in regard to this matter For the sake of patient and practitioner alike I think this is indicated The patient, as I have said, is suspicious of our conservatism, and inclines towards novelty and a short cut But he is a sick man, he is ignorant, and he must be protected against himself The doctor is keen to outstep his fellows and welcomes a new method if it promises more dramatic results than are yielded by the old But he has great traditions to maintain, and he dare not exploit a pseudo-science I am sure our medical societies would welcome any discussion or paper that tend to settle some of the vexed questions I have mooted, and I feel equally confident that our medical journals would welcome contributions that aim at the same end Let those who are qualified to do so, both physicists and clinicians, continue to explore the whole field in a spirit of impartiality and with strictly scientific methods, publishing their results from time to time Whilst these matters are proceeding I suggest that it is not ethically sound to substitute the "E R A" for the present form of medical practice, since this substitution misleads the public into thinking that, whereas the criteria of disease studied by the two methods are the same, the "E R A" method represents an improvement of acknowledged and established value

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DR LEPINE, professor of nervous and mental diseases in the Lyons faculty of medicine, has been nominated dean of the faculty for the next three years

THE fourth number of the *Bibliography of Industrial Hygiene* has now been published by the International Labour Office at Geneva at the price of 1 franc (Swiss) It contains a list of 409 publications on industrial health issued in all countries since the appearance of the last number of the *Bibliography* A note of seventy new cinematograph films dealing with labour conditions and medical subjects is appended

England and Wales.

VOLUNTARY HOSPITALS COMMITTEES

Somerset

THE second report of the Somerset Voluntary Hospitals Committee is lacking in evidence of actual work undertaken or of advice tendered for the improvement of the hospital system of the county The report restates, however, the difficulties of the financial position of voluntary hospitals, and the reasons for these difficulties an appeal is made for co-ordination, a word far more blessed nowadays than *Mesopotamia*, and a short summary accompanied by tables, is given of the work and finances of the hospitals in Somerset It is noted that at a conference of representatives of all voluntary hospitals in Bristol, Somerset, and Wilts, held in November, 1923, it was resolved to constitute a joint hospitals committee—a first step towards co-ordination The report contains many pessimistic statements such as "The very foundations of the voluntary hospital system have crumbled away", "The attempt to preserve the old conditions is rendering the position of the consultants *alarmingly insecure*", "The isolation of London prevented even the recognition of community of interest", "The unwillingness of the cities to decentralize, and of the voluntary hospitals to co-operate with public bodies" It is satisfactory, however, to note that conferences between representatives of local hospitals are to be held this year at Taunton, Bridgwater, and Bath, under the auspices of the Committee

Lancashire

The report of the chairman of the Lancashire Voluntary Hospitals Committee displays laudable activity on the part of the Committee The Voluntary Hospitals Commission announced that of the balance of the Government grant of £500,000 remaining in the hands of the Commission, the sum of £2,500 was available for the area, and after careful consideration the Committee decided that the best method of distribution would be to take five of the voluntary hospitals in the area which had large accumulated deficits on the ordinary maintenance account, and to invite them to raise £500 each on the understanding that an equivalent sum would be granted out of the £2,500 The plan was approved by the Commission and the hospitals of *Blackpool, Bolton, Rochdale, Warrington and Wigan have* benefited by it In addition to this, the Lancashire Committee considered the question of legacy duty on bequests to hospitals, and forwarded a memorandum on the subject to various authorities The Committee proposed that the duty should be collected by the Treasury as heretofore, but should be transferred to the Voluntary Hospitals Commission for distribution amongst necessitous hospitals In this way it is hoped to meet objections that have been raised to the recommendation in paragraph 55 of the final report of Lord Cave's Committee Under the Committee's scheme it is stated that exemption of legacies to hospitals from legacy duty would not relieve residuary legatees of the burden of providing the duty upon the testator's hospital bequests, and applications of a similar kind from other voluntary philanthropic organizations could be resisted since by the setting up of the Voluntary Hospitals Commission hospitals have already been put in a position different from that of other *charitable organizations* The plan of earmarking a particular source of income for a specific purpose has already been adopted—as, for example, in the appropriation of revenue from customs and excise duties for the purposes of higher education, and of income from taxation of motor vehicles for the construction and maintenance of roads The Lancashire Committee has, so far, received no reply adverse to the proposal contained in its memorandum

SAFEGUARDS AGAINST IMPROPER DETENTION IN MENTAL HOSPITALS

At the meeting of the London County Council on March 11th the Mental Hospitals Committee presented a report on the safeguards which exist to prevent detention of sane persons in the Council's mental hospitals

From this it appears that the bulk of the accommodation in these hospitals is intended for patients whose maintenance is paid for by boards of guardians and who are known as "parish" patients, but there are certain small sections designed primarily to house private patients

A private patient is received usually under an order made by a judicial authority to whom has been presented a petition for such order supported by two independent medical certificates In cases of urgency a patient may be received on an order made by a relative or other interested person and accompanied by one medical certificate, but this holds good only until an order can be obtained on petition, and not for longer than seven days In any case a report on a private patient has to be made to the Board of Control by the medical officer of the institution one month after the patient's admission, and the Board then either arranges for the patient to be seen by a Commissioner or sends a copy of the report to the visiting committee of the institution, in the latter case a member of that committee sees the patient (or more than one member) and reports as to the propriety of his detention This committee or any three of its members may, on consideration of such a report, discharge the patient or give such directions with regard to him as they think fit A 'parish' patient is received on a summary reception order made by a judicial authority, ordinarily on representation made by a relieving officer, and supported in some cases by two medical certificates, but in the great majority of cases by one only

The Mental Hospitals Committee expresses the opinion that there is ground at least for inquiry whether there should be differentiation between a private and a "parish" patient as regards the need for two independent medical certificates before admission and a special report following such admission No such special report has to be made in the case of a "parish" patient, though notice of his admission has to be sent to the Board of Control within seven days The Committee adds that the London County Council has made more than one endeavour to obtain legislation whereby receiving houses might be established to which prospective "parish" cases might be admitted for observation, and where certification, if eventually found necessary, could be carried out by expert practitioners under conditions which would secure uniformity and obviate some of the present objections No such legislation, however, has passed through Parliament

With regard to discharge there is again a distinction between private and "parish" patients

A private patient may be discharged if the person on whose petition a reception order was made or, under some circumstances the person who made the last payment for maintenance gives a written direction to that effect, unless the medical officer of the institution certifies that the patient is dangerous and unfit to be at large No such right to direct the discharge of a 'parish' patient rests with any authority outside the institution In the case of any patient private or "parish" three members of the visiting committee can direct discharge, whether the patient is recovered or not or two members, with the advice of the medical officer may grant leave of absence with a view to discharge or may discharge an unrecovered patient on a satisfactory undertaking as to custody

It is pointed out that patients in county and borough mental hospitals have a material safeguard against improper detention by reason of the management of such institutions by the committee of a publicly elected body, with (in London) subcommittees constantly engaged on the work of inspection In the London mental hospitals private patients are often discharged by the direction of relatives or friends, and "parish" patients on an undertaking given by such responsible persons, but most of the discharges follow a recommendation by a medical officer, and in the majority of cases a period of absence on trial precedes the actual order for discharge The members of the visiting committees do not rely solely and of necessity upon the medical staff to submit recommendations, but may themselves institute inquiry The Committee adds, however that it has the highest respect for the skill and insight which is shown by the medical staffs of the mental hospitals in the care of patients with a view to their recovery and discharge, and it points out that the majority of the officers hold special professional qualifications in the knowledge of mental disease and the practice for which the care of such cases calls

The law provides yet other safeguards against improper detention such as the right of boards of guardians to visit mental hospitals (a right constantly exercised in London), the periodical unannounced visits of Commissioners of the Board of Control, and the necessity for periodical personal review of the reception order of every patient The Lunacy Acts do not make re-examination of patients by an outside authority necessary, but they allow a Commissioner of the Board of Control to give an order at any time for the admission to any patient in the mental hospitals of any medical man whom a relative or friend desires to be admitted to him Further, upon application by any person who satisfies the Board that it is proper for the Board to grant such an order, an order may be made for the examination of a patient by two medical practitioners, and if, after two such examinations, separated by an interval of seven days, the examining practitioners certify their opinion that the patient may be discharged without risk, the Board may itself order discharge

London Rescue and Preventive Institutions

The London County Council has just issued a second edition of the useful handbook of information about rescue and preventive institutions, including homes and hostels for those suffering from venereal disease, which was drawn up by its Medical Officer The voluntary rescue and preventive institutions are arranged according to the London boroughs in which they are situated, and their special purposes are indicated to show, for example, those which provide accommodation and treatment, or are available as hostels, etc A similar list of institutions outside the county, but working in relation with London organizations, is included in the handbook, also a list of the names and addresses of outside workers in connexion with the societies interested, and a classified appendix of institutions dealing with cases of mental deficiency The pamphlet is well indexed, and will, doubtless, be as valuable as was the first edition

Sheffield Practitioners' Association

The Sheffield Practitioners' Mutual Help Association, which has just completed its third year of activity, with an increase of 25 per cent on the previous year's work, is an association of medical practitioners formed with the object of providing facilities for the carrying on of each member's practice during his absence on holiday, in case of illness, or in emergencies The neighbours of the absent member act as his deputies, each patient having thus a considerable choice of doctor this arrangement has been much appreciated and prevents leakage of work The deputies are credited on a fixed scale of fees, chargeable to the absentee, a pool being formed, and a balance struck half-yearly The total number of attendances on patients during last year amounted to 1,813 Under these arrangements it is possible for a member to cover the cost of his holiday The following examples of the charges on individual members are of some interest the highest cost incurred by any member during 1923 was £20 19s 3d, but, owing to special circumstances, this member did no deputizing work for his colleagues The next highest cost was £12 11s 5d, for three weeks' absence, whilst another member who was away for one month was indebted to the pool £1 11s 11d at the end of the year Since the foundation of the Association the committee has never had to deal with a case of infraction of the rules, nor has it discovered a single instance of a member failing to act faithfully and loyally This is strong evidence of the efficiency of the Association in carrying out its main object—mutual help—and also of the good fellowship it is promoting within the profession

Central Midwives Board

A penal meeting and the ordinary monthly meeting of the Central Midwives Board for England and Wales were held on February 21st, Sir Francis Champneys presiding It was reported that the Royal College of Surgeons, the Incorporated Midwives Institute, and the Society of Apothecaries had re-elected Sir Francis Champneys, Dr Fairbairn, and Mr Charles Sangster, respectively as their representatives on the Board The business dealt with by the Standing Committee included a letter from the London County Council reporting two cases in which strong nitric acid had been put into the eyes of newly born infants in

mistake for a weak solution of silver nitrate, and expressing the Council's opinion that the use of nitric acid by practising midwives should be prohibited It was agreed that teaching institutions be asked to consider whether there was any advantage to be gained in teaching the use of nitric acid for testing urine, inasmuch as acetic acid served the purpose equally well and was neither so caustic nor so liable to be confused with silver nitrate It was reported that the Midwives Institute had forwarded, among other resolutions, the following

> 'That the general meeting of the Midwives Institute requests the Council to promote in every way in their power, an amendment to the Midwives Act of 1902 as follows
> To omit from Clause 1 (2) the words *habitually* and for gain, and to insert under the personal direction and in the presence of a registered medical practitioner'

It was stated that the Board had already communicated with the Ministry of Health in the manner suggested

Scotland.

MORISON LECTURES, ON MENTAL DEFECT

THE Morison Lectures for the year 1924 were delivered by Dr John Thomson in the hall of the Royal College of Physicians, Edinburgh, on March 3rd, 5th, and 7th The subject of the course was the symptoms, diagnosis, and treatment of mental defect during infancy and early childhood The first lecture included the classification of mental defect, and a description of the bodily and mental characteristics of the healthy as contrasted with those of the abnormal child There were two ways of classifying mental defect (1) that represented by the scheme laid down in the Mental Deficiency Act, which was simply devised for the purpose of certification, and the grading of children for special classes, or training and custodiary institutions, (2) that which had as its basis the pathological lesions which were the cause of the amentia A good example of the latter was Tredgold's classification, in which cases were divided into two groups (1) those in which there was an original incapacity of the cerebral neurone to develop properly, and (2) those in which some extraneous cause brought about arrest of development The diagnosis of mental defect in children depended upon the recognition of certain bodily and mental peculiarities Thus in cretinism, mongolism, and spastic paraplegia, the physical conformation was characteristic The periodic occurrence of convulsions was also often associated with mental defect, while an abnormal state of intellect might be betrayed by abnormal gestures and actions When these grosser indications of mental defect were absent the diagnosis might depend upon the discovery of delay in the development of bodily and mental powers The largest group of mental defectives was that included under the heading "simple primary amentia," in which group some cases were provisionally placed which could not be otherwise allocated at present In these cases there was no abnormality of bodily conformation, but the presence of the disease was indicated by failure of speech and voluntary movements to develop at the proper time, and the weakness became more obvious as the child grew older In the second lecture, the features of microcephalus, mongolism, and sporadic cretinism were described and illustrated by a series of lantern slides In the case of cretinism a number of striking photographs demonstrating the effects of treatment with thyroid extract were shown, many of the cases had been followed for a number of years In one instance a patient had been under observation for over twenty years, and she had grown up, married, and borne a healthy child In the third lecture Dr Thomson went on to describe the results of birth injury, and concluded with an illuminating account of the treatment of mental defect In a case of mental deficiency in a child, the question arose Should the parents be informed? Unless direct questions had been asked it was better not to tell the whole truth at once but to allow it to dawn slowly The reasons for this were (1) a large number of imbecile babies die at an early age, (2) parents, unless they have themselves observed the deficiency, either do not accept the facts or become unduly discouraged owing to their ignorance of the matter The main lines of treatment were attention to the general health, the encouragement of the voluntary use of the child's muscles, teaching observation, encouragement in using his awakened faculties in giving himself pleasure, promotion of self-control, cultivation of the moral character, and stimulation of the child's natural affections In certain cases, where the home conditions were unsatisfactory, institutional care became necessary Sir Byrom Bramwell moved a vote of thanks at the conclusion of the lecture

TREATMENT OF INSANITY IN SCOTLAND

Some interesting observations are made in the one hundred and eleventh annual report of the Royal Edinburgh Asylum, which was submitted by Professor George M Robertson, physician superintendent of the institution, at the annual meeting The report showed that the average number of patients resident in the institution during 1923 had been 842, while in all 1,237 patients had been treated Of these 67 had been discharged recovered, 66 had died, and 300 had been removed elsewhere unrecovered It was stated that four guineas weekly was the standard rate of board, though patients were received in the West House at lower rates, varying from £1 2s 6d to £2 The death rate had never been lower during the last half century A large proportion of the persons now entering asylums are aged, nearly one-quarter now admitted being over 60 years of age and the removal of such cases to mental hospitals for treatment in many cases prevents the mental breakdown of a younger relative upon whom the strain of nursing would otherwise be thrown Scotland, as the report points out has also developed a system of family care by boarding out the wreckage from its mental hospitals which is the admiration of the civilized world

Several important points of contact between this institution and others have been established in the past year The managers of the Royal Infirmary appointed the physician superintendent at Morningside to be consultant in psychiatry to the Infirmary, and the managers of the Royal Asylum had in consequence offered to subsidize an out-patient clinic for psychiatric cases at the Royal Infirmary for a period of three years The details have not yet been completely arranged, but when instituted this clinic will mark the first step in Edinburgh to introduce the modern system for the early recognition and treatment of mental disorder The managers have also strengthened the connexion between the Mental Hospital and the University by granting a sum of £300 a year for five years towards the establishment of a lectureship on neuropathology in return for which the professor of pathology and a special assistant from his department will direct the work of the laboratory Thus the institution will be able to undertake combined clinical and research work The managers have also expressed their willingness to finance a psychopathic hospital of twenty four or thirty beds for the voluntary reception of early cases which for one reason or another cannot be treated at home They have found however that there are meantime legal difficulties in Scotland which do not exist in England, to prevent the carrying out of this intention The report refers to several new phases of insanity and recent methods of treatment Several cases are mentioned in which insanity was clearly due to spiritualism Practical inquiries of a spiritualistic nature had awakened a dormant proclivity to hallucinations and the unfortunate mediums had fallen victims to a monomania of unseen agency The report on the Ministry of Healing by the Archbishops Committee is commended as having a steadying effect on tendencies which in some localities were becoming hysteric in character The Committee had laid it down that no sick person must look to the clergyman to do the duties of the physician or surgeon although nevertheless he has a very definite and responsible place of his own in the sick room Good results have been obtained in general paralysis with the malarial treatment twelve patients were selected for inoculation with blood containing the parasites of tertian malaria all developed malaria which was allowed to run its course for a certain number of attacks and then arrested Nine of these patients

showed improvement, the benefit being most marked in those still at an early stage. Tryparsamide is also being tried in another series of cases of general paralysis. The decline in the number of deaths due to general paralysis that has been manifest since the year 1919 is attributed to the introduction of effective treatment of syphilis by salvarsan injections in 1910 and to the greater publicity directed towards syphilitic infection, with resulting earlier and more efficient treatment since that time. In the course of a discussion on insanity in its relation to criminal responsibility, it is observed that the report of Lord Justice Atkin's Committee on Insanity and Crime still adheres to the M'Naghten formula, that knowledge of the nature of the act or of its wrongness is a gauge of responsibility, but that this is supplemented by the suggestion to make statutory the defence of uncontrollable impulse due to mental disease. Professor Robertson considers this position is still too conservative, and that in any case "all the evidence indicating insanity should be freely presented, and it should then be the duty of the jury to decide whether the accused was responsible or not, in the light of reason and common sense and unhampered by any rigid formula, just as they decide questions of guilt or responsibility in other matters."

INSULIN

The Scottish Board of Health has issued to clerks and local authorities a circular letter stating that it has received a number of representations with regard to persons suffering from diabetes to whom the cost of insulin is prohibitive. Though their number was not large, the circumstances of some such cases were distressing. Certain classes of patients are already provided for out of public funds, they include—

(*a*) insured persons under the National Insurance Acts,
(*b*) poor persons, who may receive Poor Law medical relief from parish councils, and
(*c*) expectant mothers, nursing mothers, and children under 5 years of age, under Maternity Service and Child Welfare Schemes in areas where such schemes have been adopted by local authorities.

There remain, however, other diabetics of limited means for whose assistance it appears imperative that some provision should be made. The Board proposes to present to Parliament at an early date a short bill providing that the powers of a local authority under the Public Health (Scotland) Act, 1897, should be extended to providing medicine and treatment to persons suffering from diabetes who, in the opinion of the authority, require such assistance. The authority would be required to submit a scheme to the Board providing for the issue of insulin at prices varying with the circumstances of the patient, it would be free only in cases where the patient could not afford to pay any part of the price. The Board has also issued a circular to parish councils pointing out that where a diabetic patient is in the possession of means sufficient for his ordinary maintenance, according to normal Poor Law standards, but insufficient to enable him to purchase the insulin necessary for treatment at its present cost, the parish councils may give sympathetic consideration to any application for help. The Board will raise no objection to reasonable expenditure incurred in consequence of this recommendation. The parish councils provide whatever medical treatment is considered necessary for persons actually on the Roll of Poor, and the Board does not anticipate that any councils will raise difficulties in cases in which insulin treatment is advised.

CATHOLIC MEDICAL GUILD FOR EDINBURGH

The inaugural meeting of the Edinburgh Branch of the Catholic Medical Guild of St Luke, Cosmas, and Damian was held at the Lauriston Hall on February 21st. Dr G. M. Cullen was appointed Master, the Rev. T. J. Agius, S.J., M.D. spiritual director, and Miss Isabel M. A. Doeg, M.B., honorary secretary. An address was given by Dr Thomas J. Colvin of the Glasgow branch of the Guild. He dwelt on the widespread influence of the Catholic Medical Guild, not only in the British Isles, but on the Continent and wherever the Catholic faith was spread. Its importance as a means of adjusting medico-ethical relations and of spreading sound scientific and moral principles might be gauged by the activities of the various branches. After a vote of thanks to the speaker, the meeting held a discussion on birth control, examining it in relation to the natural law, to the marriage contract, the duties towards society and the Supreme Lawgiver, as well as its relation towards the Christian code. On each of these grounds the meeting rejected and condemned artificial interference with the physiological and psychological laws of reproduction. It was announced that the official organ of the Guild was the *Catholic Medical Guardian*, edited by Lieut.-Colonel P. W. O'Gorman, C.M.G., M.D., and published by Burns, Oates, and Washbourne, 28, Orchard Street, London, S.W.1.

DR MORTON PRINCE'S LECTURES, EDINBURGH UNIVERSITY

The first of a series of six lectures on the experimental investigation of subconscious phenomena was delivered by Dr Morton Prince of Boston, U.S.A., on February 25th in the psychology classroom of Edinburgh University. He defined the subconscious as a mental process, or processes, which had all the characters of mental processes, but of which the ordinary consciousness was not aware. He approached the subject by the consideration of automatic writing, which he said was a very common phenomenon, though it could not be performed by everyone. It simply consisted of fixing the attention and leaving the hand alone to write. Of course, suggestion played an important part—the suggestion that the hand would produce writing. The ordinary way was to use a pencil, the older way was by a planchette.

In his second lecture he continued the subject of automatic writing and discussed visions, which were methods of tapping the subconscious. In several of the examples he gave where conversations had been registered or persons recognized subconsciously, the knowledge of the person seemed mysterious till it was explained in the hypnotic state, when it became quite simple. The subconscious might be very useful. He knew a banker in America who, when he had to solve a problem, put it to his mind and then went off to play polo, perhaps while playing the game the solution came up into his mind. There were various interpretations of the phenomena. One was that a rapid oscillation of consciousness took place from the subject engaging the attention to the subject of, for example, the automatic writing. The lecturer stated objections to this view. It seemed to him that the phenomena could only be produced by intelligence acting through a process that was split off or dissociated from personal consciousness.

In the third lecture of the series Dr Morton Prince described the results of "conflict." Conflicts of will in the conscious state had been known from time immemorial, but that one of the opposing factors might be entirely subconscious was a discovery of modern dynamic psychology. The presence of such a conflict might result in resistance to the acceptance of ideas, blocking of thought, inhibition of movement, sensory disturbances, loss of memory, and finally disruption of the personality. Dr Prince described a case where, under hypnosis, the subconscious personality had resisted a line of thought or a course of action against the views of the conscious personality, with the result that the patient wakened out of the condition of hypnosis. He also cited an instance in which, when the subconscious personality was endeavouring to give some information which the conscious personality wished to withhold and for that purpose attempted automatic writing, the left hand reached over and took the pencil from the right hand, broke it and flung it across the room. The lecturer then gave details of a case of multiple personality and its origin out of emotional conflict. The two new alternating personalities which were evolved had opposite characteristics, and one had no memory of the other. The synthesis of the two was effected by producing under hypnosis a modification of each personality having the memories and traits of the alternate one. The result was the normal personality. In a succeeding lecture Dr Prince described how he had employed hypnosis in investigating phobias, fixed ideas, etc., suggesting new points of view and resynthesizing experience through the revival of lost memories. An

account was given of a case in which a lady had had a fear of steeples and towers, the meaning of which was not such as Freud might have suggested By means of automatic writing carried out under hypnosis it turned out that the phobia related to an early childhood experience connected with her mother being taken to Britain and dying after an operation She had been in the habit of going to church every day to pray for her mother, and in her anxious condition the bells got on her nerves and she hated them She also got it into her head that if she failed to go to church and her mother died, it would be her fault In consequence of this she had felt herself to blame for her mother's death When the real facts were explained cure resulted In the last lecture the question of subconscious imagery and hallucinations was dealt with Light was thrown upon this by the study of hallucinations occurring while automatic writing was in progress The visions seen were a dramatization of the events described in the automatic script, and followed in point of time the writing of the narrative Similarly, dream imagery corresponded to the normal imagery of subconscious thought

SCOTTISH PUBLIC HEALTH SERVICE

The Scottish Board of Health has addressed to local authorities a circular indicating the decision of the Government to withdraw the restrictions imposed by the Board's circular of February 28th, 1921, on the development of the grant aided public health services, including maternity and child welfare, tuberculosis, venereal diseases, welfare of the blind, and port sanitation The circular states that the Board is now prepared to make grants for approved expenditure on the development of these services, and we may hope that the need for economy will no longer "dominate" (in the phrase of the annual report for 1921), though it must still modify, public health policy in Scotland In this connexion the Scottish Board of Health will do well to bear in mind that the development of these services will necessitate increase of personnel, and that success can hardly be expected whilst the policy of the Board remains such that no experienced practitioner can afford to enter the service This is obviously the case when the Board considers salaries of £450 adequate for assistant medical officers in the school and maternity and child welfare departments

Ireland.

MENTAL DEFECTIVES

DR DAWSON, chief medical adviser to the Ministry of Home Affairs, Northern Ireland, delivered a lecture on the care and education of mentally defective children in the Queen's University, Belfast, under the auspices of the Belfast Medical Students' Association, on the evening of March 4th. Professor MacIlwaine, president, was in the chair Dr Dawson classified the mentally defective into idiots, imbeciles, and weak-minded, illustrations of the brains of these defectives, side by side with those of healthy children, and of the patients themselves, were thrown upon the screen The object of their education was to develop all the latent powers of mind and body, to repress vicious tendencies and correct faulty modes of action, and to impart such instruction as would fit the child for the performance of useful work Industrial and moral training were the two most important factors, and some illustrations of the work done and of the methods used at the Darenth Industrial Colony were shown The report of the Royal Commission of 1906 estimated the number of congenitally defective persons in Ireland outside the ordinary asylums at 14,136 Asylums for the insane were unsuited for these cases, and the only institution in Ireland was the Stewart Home near Dublin, which accommodated little over a hundred Special legal enactments and special institutions were urgently needed Mentally defective persons were now left to drift into crime and disease and to hand on their defects to their progeny, who became an ever increasing burden of expense to the community He had found that 12 21 per cent of the prison population were mentally defective, and of these only 14 per cent were first committals He estimated that in Northern Ireland there were 1,100 mentally defective children requiring provision and that 275 would require residential treatment The Education Act provided the machinery for dealing with these defectives up to 16 years of age, but for the ineducable and for older persons special enactments were necessary

DEATHS OF BOARDED-OUT INFANTS

Mrs Ella G A Webb, M D , and Miss Winifred Alcock, in the course of a contribution to the press with regard to inquests on infants in the borough of Dublin, have written as follows

After a recent inquest the coroner is quoted as saying that this was the twelfth inquest on nurse-children during the year If this meant the current year it meant eight weeks and would indicate a terrible mortality among nurse-children In any case the coroner is quoted as having expressed the opinion that there must be something wrong May we suggest that the something wrong may partly be found in the system by which foster mothers, taking nurse-children for payment must notify the supervising authority within forty-eight hours after taking the child instead of being unable to take in a nurse-child for payment unless they already held a certificate from the supervising authority? Possession is still nine-tenths of the law and it is most difficult for the supervising authority to insist on an immediate change of foster mother, except in most glaring cases of extreme neglect, but it would be comparatively easy to refuse a certificate to unsuitable persons or to persons occupying unsuitable premises It is also worth considering that very few persons boarding out infants can afford a weekly sum for their maintenance which would include a reasonable profit to a suitable foster mother Milk alone for a child up to 3 months old will cost, roughly, 3s 6d a week and few mothers pay more than 8s in all thus leaving 4s 6d to pay for the time and care required to rear a baby—even if payments are punctual—and all clothing medical, and other expenses are extra Payments are not always punctual and sufficient suitable clothing etc , are not always provided Women of the more educated type most suitable for foster mothers, do not care to take children unless they can do right by them Therefore the babies go to the rough and ready type in homes so crowded that one more or less makes little difference In addition we suggest that 'convulsions' from which this baby is said to have died having been subject to them from birth, ought not to be accepted as a diagnosis or primary cause of death, but only as a symptom or secondary cause and that no evidence was given or at least none was reported of the careful and continuous medical attention essential in cases with convulsions as a persistent symptom and no opinion was given (at least reported) at the inquest as to the primary cause of death—that is the cause of the convulsions The most frequent cause of convulsions in artificially fed children—improper feeding—opens up the wide question of the lack of provision in Dublin for assisting mothers of illegitimate children to remain with their babies for the first year except in the workhouse Dublin has already reduced its infantile mortality rate from 160 in 1915 to 116 in 1923—figures which, while showing the need of great effort also show that such effort is being successfully made. The success is almost as striking as the Lambeth figures of 97 in 1918 and 58 in 1923 or the Battersea figures of 89 and 48 for the same years There is therefore, no need for discouragement but every need for exertion and the more widely attention is drawn to the question the more will the civic conscience be awakened and the more voluntary helpers come forward

MEETING OF THE CORK MEDICAL PROFESSION

At a large and representative meeting of the Cork medical profession when Professor P T O Sullivan was in the chair, Dr T Hennessy, Irish Medical Secretary, made a statement as to the present position of medical organization in Ireland with regard to the prospects of pending medical reform and legislation especially in the area of the Free State The following resolutions were unanimously passed

1 That this meeting of the Cork medical profession recognizing the Irish Medical Committee as the governing body of the profession in Ireland is prepared to recommend every member to support any policy the delegates meeting may decide upon and asks the Irish Medical Committee to submit its pledge at the earliest possible date and furthermore requests the Committee to send its organizer to Cork

2. That we protest against the reduction of the salary paid to the late medical officer of Cork dispensary district for the new appointment

3 That for the efficient treatment of the sick poor the average county Cork dispensary district is already too large and we therefore feel it is a very serious proposition that they should be further enlarged by amalgamation

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Lunacy Law Administration Harnett v Bond and Adam

On March 5th Mr Penny asked whether the whole or any part of the damages awarded against the defendants in a case of wrongful detention in an asylum, tried recently in the King's Bench Division of the High Court of Justice is to be paid by the Crown Mr Wheatley said An appeal is being entered against the judgement in this case Under the judgement, the sum of £5,000 is to be paid to the plaintiff by the defendant, Dr Bond, on or before Friday next In accordance with the principle always observed when a public servant is sued in respect of actions taken in performance of his duty and the Crown undertakes his defence, this sum will be paid from public funds An advance of £5,000 is accordingly being made from the Civil Contingencies Fund, and the House will be asked to vote this sum and any further sum that may be found necessary by a Supplementary Vote on the Board of Control Estimates As the appeal case is *sub judice* it would not, I think, be possible to debate the case in the House pending the result In reply to other questions the Minister of Health said that there would be no unnecessary delay in the consideration of the desirability of instituting an inquiry into the lunacy laws and their administration, the preliminaries for setting up a Commission were being proceeded with

Royal Commission on Health Insurance.

The Prime Minister informed Sir Kingsley Wood on March 10th that the terms of reference to a Royal Commission on National Insurance had been drafted provisionally but were not yet finally settled A promise was given that before they were settled they should be shown to representatives of the medical profession and of the approved societies The reference would be entirely confined to National Health Insurance The names of those who were to serve on the Royal Commission could not be given at present

Encephalitis Lethargica.

The Minister of Health has stated that notification returns showed that there had been an increase in the prevalence of encephalitis lethargica, and that it had occurred almost entirely in Lancashire The disease was one which showed notable seasonal and local variations, the cause of which was at present obscure

Salary of M O H—Major McLean asked, on March 4th, if the Minister of Health would explain why he refused to sanction a reduction in the salary of the medical officer of health for the rural district council of Mitford and Launditch in view of the fact that the reduction of salaries was being generally made by the council Mr Wheatley said the reason was that efficient service could not reasonably be expected from the medical officer of health of this extensive rural district at less than the existing salary

Hospital Accommodation—Mr Somerville Hastings asked, on March 6th whether in view of the present serious shortage of hospital accommodation for the civil population, the Minister of Pensions would consider the advisability of transferring to the civil authorities those hospitals under his charge which were no longer needed for pension cases Mr Roberts replied that the hospitals controlled by his department were ordinarily either leased from public bodies or were in the nature of temporary buildings on land held on lease When one of these was no longer required by the department its future use was a matter for the landlord to whom the land was surrendered During the past year two hospitals had been released by the Ministry to their original purposes for use by the civil authorities

Neurological Services—Mr Roberts stated on March 6th, that owing to the reduction in work it had been necessary to effect a corresponding reduction in the part time medical staff employed at the neurological clinic Bulinga Street, S W In selecting the officers to be retained full regard had been paid, not only to their war services but also to their qualifications for providing the most effective treatment The employment of eleven neurologists (of whom nine served in the war and two did not) was being terminated of the twenty-six now giving treatment at the clinic twenty three served in the war

Criminal Responsibility—Mr Dixey asked, on March 6th, whether having regard to the unsatisfactory nature of the criminal law with regard to the question of insanity and the somewhat contradictory decisions of the courts, the Government would consider the introduction of legislation at an early date The Home Secretary replied that he did not at present contemplate proposing any legislation on this subject

Military Families Hospital—Mr Ammon stated on March 10th, that for many years the dependants of Royal Marines were admitted to military families hospitals by the War Office at the nominal fees charged to dependants of soldiers of the garrison but that Department had recently intimated that as the wives and families of Royal Marines were not entitled to medical treatment at the expense of army funds it would be necessary in future to make a charge of 10s a day for each case Under the King's Regulations the wives and families of the Royal Marines in common with dependants of naval ratings were not entitled to medical treatment at the public expense The Admiralty, therefore, could not refund such cost to patients

Naval and Military Hospitals—Dealing with an appeal, on March 6th, by Commander Bellairs for the amalgamation of naval and military hospitals, Mr Snowden said that the War Office had assumed responsibility for the treatment of all naval sick at Gibraltar, and the Admiralty had taken over the treatment of military sick at Chatham As regards Hong Kong, negotiations were proceeding between the War Office and the Colonial Government for an exchange of property, including the military hospital If and when that question was settled the hospital accommodation required by the navy and army would be reconsidered

Small-pox Statistics—At the instance of Mr Broad, on March 6th, Mr Wheatley gave such figures as are available of the cases of and deaths from small pox in Germany, Japan, and England and Wales during the last three years

	1921		1922.		1923.	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Germany	688	?	215	?	17*	?
Japan ..	889	212	?	?	?	?
England and Wales	336	5	973	27	2,500*	7*

* Provisional figures

Venereal Diseases—Mr Guinness inquired on March 6th, whether in view of the fact that the Society for the Prevention of Venereal Disease and the National Council for Combating Venereal Diseases had both unconditionally accepted the Treves'm report, and had in conference determined on joint action for giving effect to its recommendations, the Minister of Health would cause the maximum grant which was to be made by the Government to be divided in an equitable proportion between the two organizations—assuming that the Government would continue to give financial assistance to voluntary organizations Mr Wheatley replied that he had the report under consideration but was not yet in a position to say how any Government grant for this purpose would be allocated

Mortuary Accommodation at Ipswich—Mr R. F Jackson, on February 29th asked the Under Secretary of State for the Home Department whether his attention had been drawn to the statement of a coroner that he had been compelled to ask the proprietor of an hotel to allow a body to remain in the hotel until after an inquest on account of the very unsatisfactory mortuary accommodation provided for the borough of Ipswich, whether he was aware that some witnesses, giving evidence before a Departmental Committee on Coroners' Law in 1908, drew attention to the very unsatisfactory conditions under which bodies were kept awaiting inquests, and for the performance of *post mortem* examinations what mortuary accommodation was provided for the borough of Ipswich and what was the condition of it what mortuary accommodation was as a rule available in small towns and rural districts and what steps had been taken to improve it since this evidence was given before the Commission in 1908, what steps were proposed to be taken to effect the necessary improvements and whether consideration had been given to the possibility of improving these conditions if the necessity for the coroner and the jury viewing the body were abolished, so that arrangements could be made for it to be removed to the pathological department of an institution in a neighbouring area not necessarily within the coroner's jurisdiction, in order that it might be treated with respect and proper means provided for the performance of a *post mortem* examination by skilled pathologists and other experts connected with the institution or otherwise Mr Rhys Davies replied My attention has not been drawn to this particular case, but I am aware that there is sometimes considerable difficulty in finding a suitable place for keeping a dead body pending the coroner's inquest The provision of mortuaries which can be used for this purpose is a matter for the local sanitary authorities, and I have no authority in respect of it

National Insurance—A bill has been introduced in the House of Lords by Lord Muir Mackenzie for the purpose of reproducing, without alteration, the provisions of the National Insurance Acts 1911 to 1922, and certain other enactments relating to National Health Insurance It contains 150 pages, and is priced at 6s

Lead Poisoning—Mr Henderson on March 6th, advised Mr E Harvey that he must not take the number of fatal cases from lead poisoning in 1922 as affording any indication of present conditions In almost every instance the deceased had been employed for a long period in the industry—with few exceptions the period was not less than twenty years Since a new code of regulations was brought into operation there had been a great reduction in the number of cases

Notes in Brief

The President of the Board of Education has stated that the restrictions imposed on the amount of grant payable to managers of voluntary sanatorium schools in receipt of grants from the Board will not be maintained

The Health Advisory Committee of the Mines Department is engaged in a renewed investigation into the effects of dust on the health of miners

Correspondence.

CONTRACTED PELVIC OUTLET

SIR,—May I congratulate my friend the Master of the Rotunda on his significantly gentle method of dealing with hornets? One can now believe the tradition that St Patrick received *from the ophidia concerned* a vote of thanks for the courteous manner in which he secured their *conviction* and deportation from the Emerald Isle Possibly St Patrick also reversed the declaration of Canute and ordained that in respect of the pelvis of the Hiberman mother there should never be any question of "so far and no farther," to lacerate the feelings of the obstetrician, the perineum of the parturient, and the falx of the foetus So be it!

In America and in long-suffering England there are not only snakes but also female pelves with contracted outlets Indeed, in the museum attached to my department in the University of Liverpool may be seen pelves exhibiting not only high assimilation with no contraction at the outlet, and high assimulation with contracted outlet, but also contracted outlet with no assimulation or other deformity There are, moreover, many women in Liverpool still using pelves in which the outlets alone are contracted I exclude from consideration, of course, the kyphotic and other grossly deformed and contracted pelves

With regard to the mensuration of the pelvic outlet, I hope shortly to disentangle myself to some extent from other commitments and to publish some information on this point, much as I regret the necessity of discussing what should be a routine procedure

It only remains for me, now, to add that the second patient to whom I referred in my letter, and about whom Dr Fitzgibbon kindly offered advice, consulted me after her one and only confinement in regard to extensive vaginal lacerations, which I have since repaired, and about her future prospects Her obstetrical history is as follows The "*usual measurements*" *of the pelvis had been made*—that is, those which are related to the diameter of the brim—and a normal confinement was prophesied After the patient had been in labour for twenty-four hours "it was found that there was disproportion between the size of the head and the pelvis (obviously meaning the outlet) Attempts were made to deliver with forceps, these failed, craniotomy was next proposed," but this the husband, himself a doctor, refused to sanction Caesarean section was then performed, a dead child was delivered The patient, as might have been anticipated, barely escaped with her life In all these circumstances it seems to me that it would have been well had the pelvic outlet been properly measured, for I found the transverse measurement to be 2½ in , the measurements of the upper pelvis are normal St Patrick having failed, I should like to know what treatment Dr Fitzgibbon now he is in possession of the facts, would feel disposed to give I have suggested a Caesarean section in proper circumstances, if the patient can pluck up her courage—and this at the moment seems doubtful—and if she is able, in view of the sepsis that supervened on the performance of Caesarean section, to have another child —I am, etc ,

Liverpool March 8th. W BLAIR BELL

SYNTHETIC DRUGS

SIR,—Sir William Pope's article and your leader on *synthetic drugs* are timely and informative, but neither seems to lay stress on the relation between the production of synthetic drugs and the *maintenance and the development* of the dyestuffs industry in this country

If this industry should again lapse or succumb to adverse criticism expressed in public policy, the prospect of producing native synthetic drugs would go with it Synthetic drugs may be regarded as by-products of the successful commercial development of the dyestuffs industry in Germany, and now apparently also in the United States of America

Without the successful development of the dyestuffs industry there would be no training or opportunity for a large number of organic chemists here, and the "laboratory work on a large scale," which you say is necessary for the discovery of useful drugs would be impossible

The British public as a whole are apathetic on this matter, and those who clamour for cheap foreign dyes are *indifferent* and even hostile, so that it remains for the medical and chemical professions to keep the scientific aspect of the dyestuffs question before the public in the hope that its interest will be aroused sufficiently to support and take a pride in the achievements of their scientific *men* This pride is not uncommon in Continental democracies —I am, etc ,

Warrington March 9th. J S MANSON

SIR,—The subject of synthetic therapeutic agents dealt with in Sir William Pope's article in your issue of March 8th (p 413) is one in which we are profoundly interested and of which we have had considerable practical experience We agree with him that there is no difficulty in preparing such substances, and in fact the British output of new products of this kind is already far in advance of this country's resources for pharmacological and clinical research on them Within the last four years we have had occasion to seek clinical help for a number of synthetic products and our experience shows that it is extremely difficult to find medical men who are in a position to make these investigations and to report promptly and in such a way as to facilitate further research

From time to time we have had reports from clinicians in England which were exceedingly valuable as an aid to further research, but such cases are exceptional, and we regretfully admit that it is far easier to get work of this kind done in the United States than in England

In these cases, moreover, we had asked for trials of materials which we had every reason to believe were final or very nearly final products, the preliminary pharmacological work having eliminated the others Obviously, for more elaborate clinical investigations, such as that leading to "Bayer 205," this country is quite unprepared, though such a piece of medical research would be dealt with as a routine matter in Germany

In view of our experience we feel certain that, as you point out in your comments on Sir William Pope's article, *the root of the trouble is the neglect of pharmacology* since if greater attention were devoted both in teaching and research, to this subject the medical profession in this country would in course of time begin to take a scientific interest in the drugs they use and in the *possibilities of* their improvement

The question whether "Bayer 205" can be produced in England is simple enough on the chemical side as Sir William Pope points out, and the various guesses already published as to its constitution are probably not very far from the truth, even if Fourneau's '309' proves not to be the same thing We think, however that he brushes aside too lightly the protection afforded to the Bayer Co by their patents, assuming that they have patented the new drug which quite possibly they have not High handed action with regard to patent rights held by foreigners in this country might lead to retaliation and though this would not be important so far as the British fine chemical industry is concerned such action would probably not be regarded with equanimity by other British industries such as engineering —We are etc

BURROUGHS WELLCOME AND CO

London E C 1 March 10th

ON THE INTERPRETATION OF VENOUS TRACINGS

SIR —The question as to the interpretation of *venous* tracings which Dr Samways raises in his letter in the BRITISH MEDICAL JOURNAL of January 26th can be answered satisfactorily by any observer who is able and willing to make the necessary observations and who uses the right form of cardiograph The interpretation of the waves in the venous tracing necessitates the use of a cardiograph such as "Galabin's" (made on the principle of the Marey

sphygmograph) and adapted for use with Sir James Mackenzie's excellent polygraph With such an instrument two auricular waves can often be demonstrated in ventricular tracings taken from slightly dilated hearts, the first wave being presumably due to the contraction of the body of the auricle, and the second to the contraction of the appendix The correlation of a venous tracing with such a cardiogram demonstrates unmistakably that the summit of the so-called auricular wave in the vein does exactly coincide with the wave in the cardiogram due to the contraction of the auricular appendix

The tracings taken with this form of cardiograph also demonstrate a point of importance in cardiac physiology which is not generally recognized—namely, that when the auricles contract regurgitation is not prevented by any sphincter-like contraction of the great veins, but only by the first set of valves which occur in them Of these valves one set is within reach of the finger and of the recorder of a polygraph—namely, that at the lower end of the external jugular vein which constitutes what Sir James Mackenzie has aptly named the "jugular bulb" Abundant cardiograph evidence is obtainable that the great veins and the auricle constitute one chamber, which may be called the "auriculo-venous reservoir," in which, owing to the tonicity of its walls, a uniform pressure is maintained and therefore the conduction of the impulses through it is practically instantaneous

As the valve at the lower end of the external jugular vein is an important part of the main cardiac mechanism which prevents venous regurgitation, a finger placed upon the "jugular bulb" receives a true indication of the vigour of the right side of the heart, and can discover the presence or absence of slight degrees of tricuspid regurgitation which could be recognized in no other way

This tonic contraction of the great veins gives the explanation of the systolic wave in the venous tracing which at the present time is called—I believe incorrectly—the carotid wave

Effect of Aortic Distension upon the Superior Vena Cava

The distension of a heart with hard paraffin in the *post-mortem* room, before its removal from the body, demonstrates the fact that the aorta and superior vena cava are in close proximity, and if the left side of the heart be first filled and the aorta fully distended it will be found that it encroaches upon the space that would have been occupied by the superior cava if it had been distended prior to the aorta

Therefore the first part of the aorta, when fully distended (shortly after the commencement of systole) will compress the adjacent superior cava and give rise to a wave in it

Effect of Aortic Distension upon the Ventricle

Now as soon as the first part of the aorta is fully distended the elastic resistance of its wall will to some extent check the outflow of blood from the ventricle, and this check shows in the cardiogram as a wave which breaks the regularity of the fall in the tracing due to the emptying of the ventricle

On correlating a venous tracing with a ventricular one which shows this wave due to the recoil of blood from the fully distended aorta, it will be found that the so-called carotid wave exactly coincides with this "first aortic recoil wave," and that when the heart is acting irregularly there is a correspondence in the size of these two waves

There is therefore good reason to believe that this early systolic wave in the venous tracing is due to the compression of the superior cava by the first part of the aorta rather than to the compression of the subclavian vein by the carotid artery

A tracing illustrating this point is given in my book *The Early Diagnosis of Heart Failure* (London J Murray), page 512 and the physiology of the great veins and auricle is discussed in pages 500 to 509, and pages 528 to 532 —I am etc ,

Birmingham Feb 27th. T STACEY WILSON.

TREATMENT OF UTERINE HAEMORRHAGE BY RADIUM

SIR,—The paper by Dr Heaford Varley on the treatment of uterine haemorrhage not due to pregnancy or new growth (February 23rd, p 317) recalls to my mind a short series of cases of chronic metritis with intractable haemorrhage, under my care at St George's Hospital during the years 1921 and 1922 I invited Dr Varley to allow the use of his radium for the treatment of these patients, and I take this opportunity of expressing my gratitude for his assistance in so doing

The cases were all carefully selected by me and had all been curetted either by me or by other gynaecologists on one or more occasions without permanent relief of the bleeding The only alternative method of procuring haemostasis in the absence of radium treatment would have been by hysterectomy In all the cases the patients were either near the normal time of the menopause or long past it They were all multiparae and nearly all had had large families In every case I again made a careful bimanual examination, both before and under the anaesthetic, to exclude as far as possible inflammatory or other appendage disease, and I explored the uterus digitally and curetted again in order to exclude malignant disease of the body or submucous fibroid The necessity for this will be illustrated by the subsequent history of one case

The object of the treatment in all my cases was to cause the complete cessation of menstruation or irregular bleeding A tube containing 100 mg of radium bromide, with the screening described by Dr Varley in his article, was inserted by me into the uterine cavity at the time of the dilatation and curettage, and was left there for eighteen hours In all cases but one where this was done the arrest of bleeding was complete and has lasted till the present date In the exceptional case, in which double salpingectomy had previously been performed by me, amenorrhoea lasted eight months, but bleeding then recurred In my unavoidable absence, Dr Darwall Smith again explored the uterus and removed a small submucous fibroid which had evaded discovery at the previous examination, and had perhaps become submucous and increased in size since This patient is still not quite free from symptoms, and possibly other small fibroids have appeared In another case in which, owing to the radium not being available at the time of the curettage, it was inserted subsequently only into the cervical canal, haemorrhage recurred in a month, but after a further insertion into the uterine cavity, amenorrhoea has continued to the present date

It is obviously important that where this treatment is suggested for uterine conditions it should be carried out either under the direction or with the collaboration of an experienced gynaecologist whose knowledge renders him the best person to diagnose the condition or conditions underlying the haemorrhage and to assess the value of the alternative methods for its treatment The gynaecologist can generally exclude at once, or at the time of dilatation, conditions that may render radium therapy relatively useless or even dangerous to the patient Such conditions are malignant disease, septic complications in the neighbourhood especially of the appendages, and probably submucous fibroids, and of course ovarian new growths

My own small series of cases had been under my observation and treatment for some time before radium was used The results agreed with those since reported by Sir George Blacker and others in being most satisfactory in cases of uncomplicated chronic metritis

I am convinced that in radium therapy we have a most valuable weapon, and probably the best method at present available, for treating the haemorrhage which is the cardinal symptom in these cases I should not now perform hysterectomy primarily for this condition if radium were available, unless the patient after discussion preferred it Since with proper precautions radium treatment appears to be practically free from danger, its use can be extended to the type of metritic case where the haemorrhage is not of a gravity to be directly dangerous to life or to call

for hysterectomy, but in which delay in the establishment of the menopause, with occasional considerable losses, causes a degree of anaemia and ill health and considerable inconvenience and anxiety to the patient and her family

In my later cases I have used 100 mg of radium bromide, or its equivalent of emanation, for twenty-four hours in order to be more certain of producing a permanent effect and to avoid the possibility of having to use a second dose

In my opinion all fibroids causing haemorrhage at this period of life, and especially submucous fibroids, are best treated by *operation* In the case of large submucous fibroids radium treatment and the necessary intrauterine manipulation required for it are not free from the danger of causing infection and subsequent sloughing of the tumour Small submucous fibroids, if discovered in the course of dilatation, should be removed by the vagina Large fibroids causing haemorrhage at this period of life should be diagnosed beforehand and treated by abdominal operation, generally by hysterectomy —I am, etc,

London W 1, March 5th. DONALD W ROY

POST-MORTEM CHANGES IN THE FUNDUS OCULI

SIR,—In the note on the above subject by Dr Ernest Bulmer (BRITISH MEDICAL JOURNAL, March 8th, p 424) no mention is made of the fact that shortly after death, *in some cases, it is possible to see* the divided column of blood in the retinal veins moving forwards and backwards, if one presses on the chest, as in artificial respiration Any beginner with the ophthalmoscope could in such cases convince himself that the patient is really dead My attention was directed to the subject by chance when I was a house-physician, in January, 1892, by a case in which the heart stopped beating whilst I was examining the optic discs with an ophthalmoscope In March, 1892, when I was called to a patient just after death had occurred, I found the columns of blood in the retinal veins broken up by small spaces, which could be moved forwards and backwards by pressure on the chest In one case at that time the ophthalmoscopic phenomenon of segmentation of the venous blood columns in the retina indicated the patient's death before spontaneous breathing had quite ceased (one spontaneous inspiration took place after the phenomenon was observed) I have a note, however, that in certain cases I failed to find the venous blood column segmented In regard to literature on the subject, see M H Kahn, "Postmortale ophthalmoskopische Untersuchung Segmentare intravasculare Gerinnung," *Berliner klin Wochenschrift*, 1916, liii, p 1237 (with good illustrations), Gayet's article on the subject in Norris and Oliver's *System of Diseases of the Eye*, many years ago, and Wurdemann's paper in the *American Journal of Ophthalmology* for May, 1920 —I am, etc,

F PARKES WEBER, M D, F R C P

London, W 1, March 8th.

SIR,—Your contributor under this heading (March 8th, p 424) records "striking changes to which no reference could be found in the literature" He notes segmentation of the contents of the blood vessels (of which phenomenon he gives a "schematic diagram"), and "indefinite plaques of a furry appearance" studding the retina He "hopes that other observers may be tempted to continue the investigation"

Other observers, however, will save time by a study of the literature, which is extensive, and is summarized in the article on the ocular signs of death by Professor Gayet in Norris and Oliver's *System of Diseases of the Eye* (1899) The appearance of segmentation of the vascular contents of the retinal vessels is there discussed, and reference made to various observers who, from 1869 onwards, have noted its presence or recorded its absence They will also find discussed there *many other* ophthalmoscopic signs which may or may not be present at and after death

So long ago as 1876 was published in Buchat's *Atlas* of medical ophthalmoscopy and cerebroscopy a coloured plate (Plate XIII, Fig 3) which shows this segmentation, the presence of which is also specially noted in the text As recently as 1920 Würdemann, in a review of the ocular *signs of death* (*Amer Journ Ophthal*, vol iii, p 321), mentions its occurrence *and publishes* two coloured plates of fundi—one thirty minutes after death, another four hours after death—in neither of which is segmentation seen

We may say that the investigation of this subject has not materially progressed since 1899, when Gayet (loc cit) remarked of the segmentation sign and of all the opthalmoscopic signs of death that "invested with positive value by those who first noticed them, the signs have lost their importance in proportion as they have been studied"— We are, etc,

EDGAR STEVENSON
Liverpool March 8th. BERNARD CHAVASSE

TREATMENT OF COUGH FOLLOWING INFLUENZA

SIR,—From patients and friends I hear frequently of cough following influenza which causes a considerable amount of discomfort and often interferes with the night's rest I referred to this cough in my presidential address to the Section of Laryngology of the Royal Society of Medicine, and mentioned that it, as well as the cough of whooping-cough, is caused by enlargement of the lingual tonsil, and that it can be easily cured, sometimes by only one application of a strong astringent to the swollen tissue *It is necessary to use a wool holder, with the last inch bent* at a right angle, and for the tongue to be protruded as far as possible whilst the application is made The wool-holder must be kept close to the outer wall of the pharynx, and carried below the fold connecting the base of the epiglottis with the lateral wall If too much wool is put on the wool holder spasm of the larynx may be caused by a little of the solution getting into it This spasm is of no real consequence, and disappears as soon as phonation is re-established Suitable wool-holders are stocked by Messrs Maver and Phelps, New Cavendish Street, W 1

The solution I use is perchloride of iron 240 grains, water sufficient to dissolve it, made up to 1 oz with glycerin I mention the amount of iron in grains to prevent the liquor being dispensed by mistake —I am, etc,

London W 1 March 10th. MARK HOVELL

MEMORY SIGHT

SIR,—I venture to send you one or two observations upon the interesting article entitled 'Memory sight" contributed by Lieut-Colonel R H Elliot, M D, F R C S, to your issue of February 9th (p 235)

I have frequently compared notes upon the various forms of mental or memory vision to which Colonel Elliot refers, with other officers and men blinded in the war I have found fairly general agreement that those who are dark-blind do not 'see" black, but some other happier colour Generally speaking, a background which might be described as rosy was seen, somewhat similar, I should imagine to that which I used to see when I closed my eyelids and looked at the sun on a moderately bright day This, too, is my own experience—I lost both eyes from a bullet wound in 1916—though in my case the centre of the field of mental vision is almost opalescent, a certain amount of pleasant greeny blue colour, and a bright shimmer like that which might be produced by the reflection of moonlight upon water, is mixed with the rosy background, while towards the edges the brightness disappears and an orange shade takes its place When I refer to the centre of the field of mental vision I mean that point upon which my imaginary eyes are focused for if I effect a movement of the muscles of the eye-socket, as if to focus upon something to my right or left, or above or below the location of my head, the bright area moves too and appears at this imaginary focal point

Some of my friends used to speak of irregular flashes balls of light, etc, which would appear to float across the rosy background This occurred both amongst men who had blind eyes and with those where the eyeballs had been removed As a layman I hesitate to suggest a reason, but think perhaps these were only temporary phenomena, caused by the contraction or settling down of tissues or nerves which had recently been damaged or cut

I think Colonel Elliot has confused cause and effect when he says, "It would be difficult to believe that anyone who was surrounded by thick darkness could by any possibility be mentally cheerful" It was my own experience that for the first few weeks after I had realized that my sight had definitely been destroyed I saw black all the time, and this depressing condition did not change until I found occupation and had adjusted my mental and philosophical outlook upon life to new and inevitable conditions

I do not think the reticence which Colonel Elliot has noticed amongst blind people to discuss "mental vision" or "memory vision," as he terms it, is due to a fear that it may excite scepticism or ridicule At any rate, so far as young blinded soldiers are concerned I am sure he is wrong, for I have always found them willing and interested to talk over these matters, not merely with their comrades, but with anyone who has sufficient imagination to open up a conversation upon such lines

I cannot help challenging his assertion that mental vision is a "pitiable delusion" It is not a delusion at all, but a real thing, as I think he tries to prove in other passages in his article, and far from being pitiable it is a most enviable faculty, and one the development and encouragement of which I have most strenuously advocated amongst those who possess it to only a limited degree Sir Arthur Pearson wrote frequently about it in the blinded soldiers' magazine, and took every possible step to encourage blinded officers and men to cultivate what he called "visualization" Personally I cannot visualize scenes and images so vividly as could those to whom Colonel Elliot refers, but when I am in surroundings which I have seen—for example, when I look out over a garden in which I spent many years of my life—I can and do, if I so desire, conjure up images of this garden which, though possibly the passage of time may have made them inaccurate, are nevertheless very pleasing

There is no space to deal adequately with the subject of blind men's dreams—the study of which is most fascinating—but I might remark that though the power of visualization appears not to diminish as the years lengthen between the present time and the war, dreams certainly become less frequent and less vivid—I am, etc,

JAN FRASER (*Captain*),
Chairman, St. Dunstan's

London N W 1 Feb 26th

THE BRACKENBURY TESTIMONIAL

SIR,—Referring to our letter in your issue of February 23rd (p 351), suggesting that Dr Dain was equally deserving of professional recognition with Dr Brackenbury, we cannot altogether accept the views advanced by your correspondents on this subject

Dr Dain has, however, himself expressed the wish that the proposed testimonial should be confined to Dr Brackenbury, and in these circumstances we have no option but to withdraw our proposal

It is, we hope, needless to add that the idea of joining the two names was not intended to convey any slight to Dr Brackenbury, for whose work and brilliant advocacy we have nothing but the highest admiration—We are, etc,

F L'E BURGES
W J GARBUTT
W T LYDALL

Birmingham March 9th

The Services.

HEALTH OF THE ARMY, 1923

THE Army Estimates for 1924-25 together with a memorandum by the Secretary of State for War have been issued The latter contains the following passages with regard to the health of the army

"There has been little change in the number of patients in military hospitals in the United Kingdom during the year, which remained in the neighbourhood of 2 000 The number of equipped hospital beds at home and abroad has been further reduced by a total of 2 770 This has been effected mainly by a further extension of the principle of centralization of treatment at home, saving 500 beds and by the evacuation of Turkey (1,606 beds in that country in addition to 200 in Malta and 166 in Egypt) A reduction of 227 beds was also effected in the Rhine area The present strength of the nursing staffs employed in military and military families hospitals is 365 as compared with 500 in January 1923 a reduction of 135 That hospital accommodation has now been reduced to a minimum is emphasized by the fact that during January last a small outbreak of influenza amongst the troops in the south-east of England necessitated an immediate temporary increase of a total of some 400 beds in various hospitals in the affected area

"The health of the troops at home and abroad continues to be satisfactory, particularly as regards venereal disease, the incidence of which shows a marked decrease during the year Notwithstanding the continued incidence of small pox amongst the civil population in certain areas of the United Kingdom, there have been no cases amongst the troops In this connexion special instructions were issued regarding the annual training camps of Territorial Army units, which proved satisfactory, no cases arising The health of the troops and their families on transports shows a marked improvement on pre war standards This is clearly attributable to improved hygienic conditions, chief among which were increased spacing out of hammocks, augmented berth accommodation for women and children, and increase of inter-deck space

"The medical aspect of recruiting and physical training has received special attention and committees have been formed to deal with the outstanding medical disabilities affecting enlistment and discharge of recruits Research work is continuously carried out in the hygiene department of the Royal Army Medical College and the Army School of Hygiene The problems receiving particular attention during the year under review have been the iron ration individual water sterilization in the field, improved methods of chlorinating water, field disinfection by means of portable apparatus, and improving the methods of field cooking by the use of oil as fuel The Army Hygiene Advisory Committee have given particular attention to the feeding of the boys in army schools and the accommodation and the sanitary condition of barracks in the United Kingdom Mother and child welfare in soldiers' families, almost entirely supported by voluntary contributions, is proving of marked benefit to the health and well being of the families

"As a result of the work of the Directorates of Hygiene and Pathology the Army of Occupation in Turkey, although exposed to grave risk of infection by enteric fever, cholera, dysentery, and malaria, was almost entirely free from these diseases The only trouble at Kilia and Chanak was a mild form of bacillary dysentery Research is at present proceeding at the Royal Army Medical College with a view to perfecting a method of prevention of this disease"

In another part of the memorandum it is stated that the peace establishment of the Territorial Army, exclusive of the permanent staff, is to be raised from 180,213 in 1923-24 to 185,554 in 1924-25 Practically the whole increase is due to the growth of the Air Defence Force Recruiting has not been so good as was anticipated, but it is hoped that the conditions of the coming year will be more favourable Progress has been made in the scheme for the organization of Voluntary Aid Detachments, and the requirements of the medical services will be co-ordinated by the Central Joint V A D Council

DEATHS IN THE SERVICES

Inspector General Walter Reid R N (retired) died at Oko hampton on February 27th, aged 83 He was educated at Edinburgh where he graduated M.D in 1863 also taking the L R C S Ed in the same year He then joined the navy and reached the rank of deputy inspector general in 1891, he retired with an honorary step as I G, in May, 1895 He served in the Ashanti campaign of 1873 74 as health officer attached to the transport service, was mentioned in dispatches, and received the medal In 1882 he was specially promoted to fleet surgeon on account of conspicuous professional merit, and less than a year ago he was granted a Greenwich Hospital pension

Lieut Colonel William Alexander Gardiner, R A M C (retired) died at the White Lodge Cheltenham, on February 25th, aged 87 He was the son of the late Rev Alexander Stokes Gardiner of Dublin, and was educated in that city He took the L R C S I in 1857 and the L K Q C P in 1859 He entered the army as assistant surgeon in 1858, attained the rank of brigade surgeon in 1884, and retired with the honorary rank of deputy surgeon general in April 1887 As a regimental officer he served in the 16th Foot (the "Peacemakers"), now the 1st Battalion Bedfordshire Regiment, and in the Royal Artillery and saw active service in operations on the West Coast of Africa in 1863-64

Lieut Colonel Joseph Ridge Greenhill R A M C (retired), died at Stone House, Dorking, on February 17th, aged 86 He was born on February 16th, 1838, and educated at Bart's, taking the M R C S in 1860 and the F R C S Eng in 1863 Entering the army as assistant surgeon on September 30th 1863, he attained the rank of brigade surgeon on September 4th, 1888, and retired on February 16th 1893 Under the regimental system he served in the 72nd Foot, now the first battalion of the Seaforth Highlanders or Ross shire Buffs, and also for a time in the Royal Artillery He served in the Abyssinian campaign of 1867-68, was present at the capture of Magdala and received the medal

Lieut Colonel Edward William Young Bombay Medical Service (retired), died suddenly in London on February 25th aged 71 He was the son of Mr Edward Young, surgeon, of Henley-on Thames, and was educated at St George's, taking the M R C S in 1874 and the L R C P Ed in 1875 He entered the I M S as surgeon in 1876 attained the rank of surgeon lieutenant-colonel at twenty years' service and retired a few months later He served on the North West frontier of India in the Zhob Valley campaign of 1884, and was present in the skirmish at Daulatzai He rejoined for service in the recent war on December 5th 1914, and served in York Place Hospital for Indian troops in Brighton till the hospital was closed on December 31st 1915 and afterwards in Queen Alexandra's Military Hospital Millbank Out of a staff of ten retired officers of the I M S who served in York Place Hospital, Lieut Colonel Young is the fifth who has died since the war

Obituary

HENRY ALLXIS THOMSON, C.M.G., M.D., F.R.C.S.ENG. AND EDIN.

Emeritus Professor of Systematic Surgery University of Edinburgh

By the death of Emeritus Professor Alexis Thomson the medical profession loses one of its well known figures His loss will be mourned by many in all ranks of society, but by none more deeply than by his colleagues and former students His active career as a surgeon was brought to a close in March of last year, and in the following October his resignation of the chair of systematic surgery at Edinburgh University was intimated Although making in many ways a good recovery from the hemiplegia which had incapacitated him, his strength and energy were much reduced, and it was recognized by himself that his work was done A few weeks ago he left Edinburgh for the south of Spain, where on more than one occasion he had spent an early Easter holiday It was soon apparent on this occasion that he was not to benefit as was hoped from the change, and the serious news received of his health prepared his friends for the announcement of his death at Algeciras on March 5th

In the sixty years of his life Alexis Thomson accomplished much, both for his own reputation and for that of his medical school Even before he entered the medical faculty of his university he had established his position as one of the most successful teachers in the extra mural school, at that period particularly well endowed with lecturers on surgery For the chair of surgery in a large university special qualities are necessary, not easily combined in one individual, but Alexis Thomson was eminently equipped both by nature and by training for such an onerous post His early education was received at the Edinburgh Royal High School, but in addition two valuable years of study were spent abroad before his medical studies were begun at Edinburgh University He thus acquired an intimate knowledge of French and German, which was of the utmost value to him in later years in his study of medical literature, and which facilitated the many visits paid to Continental clinics His knowledge of these languages was such that it was little trouble to him to make an impromptu and effective speech in either tongue He had a successful career as a medical student, and graduated M.B., C.M. with honours in 1885 In the same year he became a Member of the Royal College of Surgeons of England, and it is interesting to note that many years later, as a distinguished member, he was elected a Fellow of the same College He commenced practice as a surgeon in the year 1888, and in the same year became a Fellow of the Royal College of Surgeons of Edinburgh From the outset of his surgical career Alexis Thomson was an indefatigable worker, devoting much time and energy, of which he had more than the average man, to original research, in addition to his clinical work He was always keenly interested in surgical pathology, and was generally recognized as a leading authority on the subject His interest in this branch of surgery dated from the period when, for a year, he acted as assistant to Professor Greenfield, in whose laboratory he received his initial training and commenced his first research work All through his career this interest was maintained, and many original contributions to the subject were made He impressed on his students the value of a sound knowledge of pathology, and his teaching of this part of surgery was a feature of his university class Five years after graduation he received a gold medal for his M.D. thesis on tuberculosis of the bones and joints, and was appointed joint holder of the Freeland Barbour Fellowship by the Royal College of Physicians of Edinburgh By his publications on this subject and by other original work his reputation was soon established, and his name became familiar to surgeons outside Edinburgh, so that later, in 1892, when he was appointed to the staff of the Royal Infirmary, his application was supported by such eminent authorities as Sir James Paget and Lord Lister Two years later he received the appointment of surgeon to the newly opened Deaconess Hospital, and this position, together with his infirmary work, gave him an opportunity, which he successfully took, of establishing his reputation as an operator



Photograph by [*A. Swan Watson, Edinburgh*

ALEXIS THOMSON

When Professor Chiene retired in 1909 it was felt that none of the candidates for the chair had more claim on the appointment than Alexis Thomson Generally recognized as one of the leading surgeons in the country, his personal qualifications were equally outstanding With great natural ability, success seemed to come to him with less effort than to most men, and it was felt that the reputation of the medical school and the dignity of the chair occupied by Spence and Chiene would be maintained He occupied the chair of surgery for a period of fourteen years, till the spring of 1923 In that period many hundreds of students attended his lectures and on all he made a deep and lasting impression His voice naturally was attractive, and with its large compass no effort was needed to make his words clearly audible in the gallery of his classroom Never at a loss for a word or for the right word, he presented his subject in an easy, natural style, rendered picturesque and arresting by many pregnant phrases and apt illustrations Witty and humorous, he constantly enlivened his lectures by lighter touches, but rarely descended to the cruder methods of the raconteur Although his lectures were usually the first class in the winter session few students failed to attend and few failed to remember much of what they had heard His lectures were always brought up to date and carefully prepared, but if circumstances made it necessary, he had the ready faculty of lecturing at a moment's notice as thoroughly and as fluently as when there had been time for the usual preparation He had the happy faculty of impressing the salient points of the subject on the student's mind, and dull and hackneyed subjects were made interesting His lectures were entertaining but his power of controlling the class and of maintaining their attention was complete In addition to the spoken word, he made a point of illustrating his lectures by demonstrations he was one of the first to introduce the epidiascope, and later was probably the first surgeon in this country to employ the cinematograph for teaching purposes In this way rare cases and exceptional

operations could be demonstrated to his lecture class by films made under his own supervision

With maturing years his lecturing, if anything, gained in force and effectiveness, and his last course of lectures in 1922-23, delivered to a class of over 300 students, was in many ways the best he had given Professor Thomson was always popular with his students His figure was known to men of all years, and to many of other faculties Rarely a year passed but his photograph appeared in the *Student*, with a description of his personality in prose or verse He appealed to the students as a big personality who understood their point of view and was interested in them outside their work Nothing pleased him more than to entertain a number of students, or of residents from the Infirmary, at his country home near Gilmerton Many will remember his well known figure on these occasions, playing tennis or croquet, sawing logs, or felling trees, and stimulating all to emulate his zeal and energy

Alexis Thomson had a wide reputation as a brilliant and successful operator, and many surgeons visiting Edinburgh were attracted to his theatre in the Royal Infirmary His qualities as an operator were based on wide knowledge and sound judgement, and were always specially evident in difficult and exceptional cases when courage and initiative were necessary for success His clinics in the Royal Infirmary were attended by large numbers of students and graduates For many years his practice was one of the largest in Edinburgh, and his services were in demand in all parts of the country

In August, 1914, Professor Thomson joined the staff of the 2nd Scottish General Hospital, but early in 1915 he obtained leave of absence from his chair and proceeded to France, where, after a short time at a base hospital, he was appointed consulting surgeon to the Third Army of the British Expeditionary Force In this capacity he rendered eminent services, for which he received later the C M G After an absence of over a year he was invalided home suffering from the effects of trench fever His health was indifferent for some time after his return, and there is little doubt that his strength and energy were diminished by his experiences and illness in France

Much of Alexis Thomson's reputation was due to the valuable contributions he made to medical literature Many of his early papers were on unusual conditions of the skeleton, and on diseases of the bones and joints, of which he had made a special study, but his original writings covered a wide part of the field of modern surgery One of his best known contributions was a monograph on neuroma and neuro-fibromatosis, which was published in 1900, and later was translated into French He also contributed notable articles on the diagnosis and treatment of chronic ulcers of the stomach and duodenum, and on fibromatosis of the stomach and its relation to ulcer and to cancer He wrote frequently for the medical journals, and especially for the *Edinburgh Medical Journal*, of which he was joint editor for several years With his colleague Mr Alexander Miles he published in 1904 a *Manual of Surgery*, in two volumes Since then the manual has passed through numerous editions, and has been extended to four volumes As a textbook it has been recognized as one of the best in the English language, and has been widely used both in this country and in the United States

Nowadays it is essential for a surgeon to become familiar with the teaching and practice of other schools, and familiarity with methods at home and abroad is necessary if progress is to be maintained Frequent tours to the Continent and visits to the clinics in London and the provinces kept him abreast of the latest work, and his own skill reflected much that he had adopted from this wide experience Perhaps no visits had so much influence as those which he paid to America, both before and after he had become professor He was well known to all the best surgeons in the United States, and was regarded there as one of the representative surgeons of the British Empire He was one of the first to value the immense progress in organization and technique which has developed in America, and did much by his practice and teaching to incorporate the improvements and methods which he had observed there, and to introduce them into the Edinburgh Medical School He was a member of Council of the Royal College of Surgeons of Edinburgh, and frequently represented the College at medical congresses abroad But for his health he would have succeeded to the presidency of the College in the year of his retirement

Professor Thomson took little share in medical politics, but was keenly interested in the scientific aspect of his profession He contributed many papers to the Medico-Chirurgical Society of Edinburgh His contributions to medical discussions were always interesting and entertaining, and usually much to the point One of the last honorary appointments he held was that of President of the Section of Surgery at the Annual Meeting of the British Medical Association in Glasgow in 1922 He had previously acted as secretary of the same Section in 1902 at Manchester, and was one of the vice-presidents at the meeting in London in 1910 Professor Thomson received many honours in his time He was consulting surgeon to the Edinburgh Royal Infirmary and to the Deaconess Hospital He was an honorary member of the French Association of Surgeons and of the American Society of Clinical Surgery, and an honorary Fellow of the American Surgical Association No distinction, however, touched him more than the formal reception and presentation which he received from his last university class shortly after his retirement was announced On that occasion, the last on which he appeared in his lecture theatre, there was such an obvious and spontaneous expression of affection and sympathy for him as must have moved him deeply and comforted him in bidding his students farewell

Professor Thomson, who had no family, is survived by his widow, formerly Miss Ethel K Wotherspoon, daughter of the late Mr Charles Wotherspoon, of Hillside, Aberdour, and to her our sympathy is extended

ALEXIS THOMSON AN APPRECIATION

BY

SIR HAROLD STILES

Alexis Thomson and the writer were fellow students and graduates of the same year, we were house-surgeons together in the Edinburgh Royal Infirmary, we embarked on the same life work, we took almost parallel routes, both of which were equally steep, we had the same ambitions and much the same objective During the race he was always a hurdle in front of me, and had he retained his health he would have outstripped all his rivals and there would have been almost no limit to his achievements All through our lifetime of healthy rivalry not a single cloud ever collected to shut out even temporarily the brightness which illuminated our friendship, which was of the most intimate nature, and which will ever remain a priceless memory of my whole professional career Small wonder, therefore, that I am grateful for the privilege which has been accorded me of paying tribute to his memory, difficult as it is to do justice to such a brilliant and complex personality

Alexis Thomson was an Edinburgh man born and bred, and I was fortunate as a student in being admitted to his home circle He was one of seven sons, and his mother, who was highly cultured, a good linguist, and a great reader, knew full well the value of education, and did not hesitate to make the necessary sacrifices to enable her family to benefit from it Young Alexis was accordingly sent for a year to Germany and a year to Switzerland to complete his preliminary education As a student he was universally popular, and the esteem in which he was held is evidenced by the fact that he was elected one of the presidents of the Royal Medical Society Rowing was his chief outdoor hobby, an exercise for which his splendid physique was well suited

After graduating (in 1885) we both became house-surgeons—Thomson to the late Mr John Duncan, and I to the late Professor Chiene Thomson—or Alexis, as he was always called—was the life and soul of the mess and the ringleader in many revelries Even then he showed evidence of that brilliant wit and repartee for which he subsequently became so famous, and which made his lectures so attractive

On leaving the Royal Infirmary he became resident

physician to the Royal Edinburgh Hospital for Sick Children, which in those days was next door to the Infirmary After our resident appointments we were anxious to remain in Edinburgh, and both of us decided to go in for surgery The bread and butter problem, however, faced us both in an acute form Thomson became a junior assistant in the Pathological Department under the late Professor Greenfield, and I a demonstrator of anatomy under the late Sir William Turner In those days junior assistantships in the University did not mean a living wage—far from it To eke out a bare existence, therefore, we went into partnership in conducting a coaching class for the second professional examination Thanks to Alexis's popularity and gifts as a teacher we established a record class, at any rate in point of numbers

It was shortly after this that Thomson did his splendid work on tuberculous affections of the bones and joints, and it was then that he derived so much benefit from his mother's foresight in sending him to school on the Continent I well remember the delight and keenness with which he read the voluminous work of Konig (then professor of surgery in Gottingen) on this subject The Infirmary provided him with a rich supply of material for his investigations, with the result that he was able to add to Konig's clinical observations a more thorough knowledge of the pathology and morbid histology of these conditions His researches were embodied in a thesis for which he was awarded a gold medal

Early in his career he became assistant surgeon to the Royal Edinburgh Hospital for Sick Children, and while he was assistant surgeon to the Edinburgh Royal Infirmary he was also surgeon to the Deaconess Hospital He was fortunate, therefore, in gaining experience in operative work at a comparatively early age During this time he had the advantage of working in succession in the wards and operating theatres of Mr John Duncan, Professor Annandale, and Professor Chiene His great ability and tireless industry enabled him to take full advantage of his opportunities From John Duncan he acquired the habit of painstaking clinical investigation, logical reasoning, and accurate induction His association with Professor Annandale as his assistant surgeon gave him a unique opportunity of witnessing and assisting a man who was universally recognized as one of the most dexterous and resourceful, as well as one of the most daring, operators of the early antiseptic era His subsequent assistant surgeonship with Professor Chiene, whom he succeeded, gave him the opportunity of tempering boldness in operating with prudence, and of acquiring from him the art of utilizing clinical material to illustrate surgical principles Chiene, along with Sir Halliday Croom, was famed for his systematic teaching Thomson deserves to be classed with them Although his style of lecturing was very different it was equally effective He presented his subject in admirable perspective and with great lucidity, his diction was at once precise, concise, penetrating, and illuminating, his ripe and varied experience, his profound knowledge of his subject and of human nature, combined with his ready wit and wisdom, made his lectures unusually attractive His sympathies were always on the side of youth He loved to draw his breath in a student atmosphere, whether in or outside the class room He took a personal interest in every member of his class, knew their capabilities, had a smile for their foibles, and a sigh for their difficulties He had great experience as an examiner, and woe betide the man who tried to hoodwink him He had a genius for making friends, especially among the younger generation The students' esteem and love for him amounted to hero worship They spoke of him as "Our Alexis," and it is safe to say that it will be a long time, if ever ere a successor be found to fill his place in the hearts of the students

During the war, when he served as consulting surgeon to the Third Army, he fell a victim to trench fever, and was never the same man again Fortunately his intellect remained as clear as ever, and he continued to take the same interest in his teaching, but his old friends saw less and less of him, and when he was struck down and unable to continue the work he loved and did so well, it was not to be wondered that he lost heart It was hoped that a trip to Algeciras would be beneficial, but alas! this was not to be, and the end came suddenly Had it not been for his untimely illness he would have occupied my place as President of the Royal College of Surgeons of Edinburgh, and that ancient corporation would not have been deprived of the services of a man who was so beloved and whose brilliant gifts and attainments were so universally recognized His eminence as a surgeon was so outstanding and so universally recognized that it would be superfluous for me to dwell upon it Always a student, a good linguist, and a great reader, he had an exceptionally wide knowledge of the literature of surgery His own contributions which were original and of great value served to enlarge the boundaries of our knowledge of scientific surgery in several directions Of the *Manual of Surgery*, of which he was joint author, it is no disparagement to others to say that as a textbook for students and practitioners there is no better in any language

Alexis Thomson had a keen appreciation of the joys of play as well as of work He was an ideal holiday companion Among the happiest days of my life are those I shared with him in the residency of the Royal Infirmary, on the mountain peaks of the Isle of Arran, on the golf courses of East Lothian, especially Old Luffness, and on the continents of Europe and America, both alone and with our many mutual American friends, especially with the members of the Society of Clinical Surgeons and with the Fellows of the American Surgical Association

Those of us who were intimate with him knew that behind his caustic wit and occasional cynicism lay a warm heart a sensitive nature, and a tender sympathy which he would sometimes attempt to disguise by an outward semblance of casualness and nonchalance In conclusion I cannot do better than quote from an appreciation by Dr J Harley Williams (one of Professor Thomson's own students) which appeared in the October number of the *Student* last year

> 'he is the restless observer of every phase of human life the profound scholar in all departments of surgery the artist of intimate knowledge of many branches of literature and above all there is that sympathetic understanding of human efforts which is attributed to so many but possessed by so few In Professor Thomson the great surgeon is dissolved in the greater man'

G A WYON M D EDIN, B Sc LOND AND LEEDS,

Lecturer in Pathology University of Leeds

By the death of Dr Guy Alfred Wyon, on March 2nd the medical faculty of the University of Leeds loses a distinguished member, and her corporate life is the poorer for an attractive and lovable personality The son of Allan Wyon, F S A, of London, Dr Wyon belonged to a family which has produced a long line of distinguished sculptors and medallists, no fewer than eight are mentioned in the *Dictionary of National Biography*, many of them being connected with the Royal Mint

After graduation at Edinburgh, Dr Wyon was house physician and house-surgeon at the East Suffolk and Ipswich Hospital, and then spent several years in general practice in Bow, E He joined the R A M C in 1915 and spent his first period of service at Salonica On his return to England in 1916 he became a member of the staff of the Department of Applied Physiology and Hygiene of the Medical Research Council, and was engaged in association with the late Professor Benjamin Moore F R S in the study of the causation and prevention of trinitro toluene poisoning By a series of experiments including many on their own persons, they were able to show the mode of entrance of the poison and to evolve means for protection which proved highly successful Rejoining the army in 1917 Wyon saw service in France, first with No 13 Casualty Clearing Station and latterly as officer in charge of a mobile bacteriological laboratory He joined the staff of Leeds University at the beginning of 1920 as demonstrator in the department of pathology and bacteriology and some two years later was promoted to the post of lecturer in pathology During those years in Leeds Dr Wyon carried out important research work in connexion with the chemistry of bacterial growth and in the application of chemical methods to the investigation of disease He was interested in many university

activities outside his own work, and was a keen student of psychology in relation to medicine He was a member of the Pathological Society of Great Britain and Ireland, and of the Biochemical Society

By his death from influenza, at the early age of 40, a career of the highest promise has been cut short in a most tragic fashion He leaves a wife and three little boys

M J S

ANN E CLARK, M D, M K Q C P I,

Consulting Physician, Children's Hospital and Hospital for Women, Birmingham

DR ANN ELIZABETH CLARK, who was for many years the doyen of the medical women in Birmingham, died at Street, Somerset, on February 26th, in her 80th year She retired from active practice over ten years ago, and for the last few years had been in slowly failing health It was with great sorrow that her old colleagues and friends learned that she had passed away She was born in September, 1844, the fifth daughter of the late James Clark of Street She was educated at a private school in Bath, kept by two Quaker ladies named Richards She did not begin to study medicine until late in her twenties, when she went to Edinburgh (the only medical school open to women at that time) There she joined a small band of women students, conspicuous among whom was the late Miss Jex-Blake In spite of many difficulties created by the violent hostility on the part of the men students, these women made good progress and more than held their own in examinations In 1874, however, the teaching authorities—yielding to male jealousy—decided to close their doors to them Accordingly, with most of her fellow students, she migrated to London, and was amongst the first pupils of the new school of medicine for women which had just been started



DR ANN E CLARK

But, whilst it was then possible for her to receive a medical education, she could not obtain a qualification in this country from any college or university She therefore went abroad, studied for two years in Switzerland, and in 1877 obtained the degree of M D Berne In the following year she was able to obtain the licence of the College of Physicians, Ireland, that body having just opened its doors to women She took the M K Q C P I in 1883

In 1878 she was appointed resident medical officer, first to the Women's Hospital, Birmingham, and subsequently to the Children's Hospital After her terms of service were over she started in general practice in Edgbaston Later on she was appointed honorary physician to both the Women's and Children's Hospitals For many years she worked with Mr Lawson Tait as his private assistant and anæsthetist, and later as his colleague on the staff of the Women's Hospital, and I know he had the greatest admiration for her character and ability In many respects Lawson Tait and she were as wide as the poles apart but there was between them a great bond of mutual esteem which nothing could break

The experience she gained as physician to the Children's Hospital led her to be looked upon as one of the leading authorities on children's diseases in Birmingham She built up an extensive private practice, making a specialty of the diseases of women and children, and was not only trusted, but beloved by all her patients On the staff of the Women's Hospital she and I were colleagues from the year of my appointment (1890) to the year when she retired (1913), and I saw a great deal of her I can therefore speak from intimate personal knowledge, and I know what a tower of moral strength she was to all of us Outwardly she was quiet, shy, self-effacing, almost timid in manner, but withal she was a woman of great moral courage

I have already referred to the difficulties she had to overcome before she could gain a footing in the profession Later, when she started practice, there were all sorts of obstacles to be surmounted and prejudices to be conquered, not only on the part of the profession but also of the general public *But she overcame evil with good* By her unselfishness, her modesty, her gentleness, and her staunch loyalty to the highest ideals of professional honour, she did a great deal to remove the early hostility to medical women

The outstanding features of her character were her absolute truthfulness, her straightforwardness, her unfaltering support of all movements calculated to raise women physically, intellectually, and morally, and her devotion to every cause that makes for individual or national righteousness No one could work with her without realizing that she was a woman of ripe wisdom and sound common sense Dr Annie Clark's old friends and colleagues will ever revere her memory and be thankful for the example of her life—CHRISTOPHER MARTIN

We are indebted to SIR THOMAS BARLOW, Bt, for the following note

I have been asked to say a few words about Dr Ann Clark of Birmingham, whose death at a ripe old age has just been recorded During the eighties I saw her many times, chiefly in consultation on sick and delicate children I thought then that she belonged to the best type of conscientious family practitioner — an accurate observer, practical in treatment, exact in detailed instructions, and a staunch and faithful friend to both parents and children Years afterwards the chances of life and foreign travel brought us once more in touch, and I learned how much she stood for in her circle of the Society of Friends in the Midlands A quiet, unassuming, high-principled woman, keen to learn, and helpful to young and old Would that there were more like her!

MR J FURNEAUX JORDAN, surgeon to the Women's Hospital, Birmingham, writes

I have been a colleague of the late Dr Ann Clark for over thirty years, for the greater number of which I was closely associated with her and her work As a pioneer of women doctors she set a standard of work, of devotion to her patients, and of character, that will not be surpassed and seldom attained She always thought of others, never of herself, and no one that I know or have known was ever more loved by her patients At our medical board I was always struck by her great fund of common sense She leaves happy memories behind her

DR MARY STURGE, physician to the Birmingham and Midland Hospital for Women, writes

Success does not come without a reason, and it is worth noting, in the case of Dr Ann E Clark and the medical

women of her generation who made their mark, that they possessed some experience of life even before they became qualified Youth, with its emotions, its eagerness for games and mere enjoyment, was over, and instead these mature adults were dominated by an enthusiasm for medicine as a science, and by a keen desire to excel in the great art of handling and healing sick human beings No wonder they succeeded Dr Clark could not qualify until she was 34, and even then she went off to America to study homœopathy first-hand, and to Vienna for parallel reasons Can we wonder that, when given a chance of resident posts at the hospitals, this cultured, gentle-spirited, and helpful woman won golden opinions from committees and senior staff, taking this good will after her into private practice?

She was 39 when she started this work, and kept it up early and late for thirty years Her recreation was gardening, summer after summer she brought back from the Swiss Alps tiny plants which she husbanded in her rock garden until it became a blaze of beauty Her clinical observations were careful and good Thus it was she who discovered those curious and sometimes fleeting conditions of the influenza lung, in which air entry is deficient on auscultation and the resonance on percussion slightly impaired It was confirmed by others, among whom the late Dr Foxwell was urgent that this observation should be sent for publication, but this was not done Like Professor Kocher of Berne, at whose feet she had sat in admiration of his methods, his ability, and his character, Dr Clark believed in total abstinence for both doctor and patient She was absolutely convinced that to give alcohol, which is a depressant, to persons seriously ill lessened their chances of recovery, and she fought this battle all her life Truth and accuracy of statement and of thought, were at the roots of her mental equipment, and during the seventeen years in which I was privileged to work in close touch with this noble woman I never ceased to admire these and the many other characteristics which made her both friend and doctor to her patients, who, when she left, raised over £800, which was largely used to endow a bed in her name in the local Cancer Home

ROBERT ALEXANDER BICKERSTETH,

M.A. M.B. B.Ch. CANTAB. F.R.C.S.

Consulting Surgeon Royal Infirmary Liverpool

It is with regret that we record the death of Mr R. A. Bickersteth, which took place suddenly at Bournemouth on February 28th He had retired from active practice in 1921 to reside in Outgate, Ambleside Latterly his health had begun to fail, and it was hoped that the change of residence would restore it The end came as he could have wished, but was a shock to his numerous friends and former colleagues The name Bickersteth has been associated with the Royal Infirmary over a century His grandfather and father were surgeons to it and intimately associated with the surgical practice of the city The family originally belonged to Westmorland, and Mr Bickersteth's great-grandfather practised at Kirkby Lonsdale Descendants bearing the name have furnished not only famous medical men but eminent dignitaries in the Church Mr Bickersteth was born in Liverpool, and was educated at Eton and King's College, Cambridge He completed his medical studies at St Bartholomew's Hospital and took the diplomas of the Conjoint Board in 1890 The following year he became F.R.C.S. and graduated in medicine at the University of Cambridge He was afterwards house-surgeon at St Bartholomew's Hospital, and by holding the appointment of clinical assistant at the Throat Hospital, Golden Square, and at the Royal Ophthalmic Hospital, Moorfields, equipped himself with a practical knowledge of these subjects Returning to Liverpool he was, after a keenly contested election, appointed assistant surgeon to the Royal Infirmary, and thus represented the third generation on the staff In due course he was promoted to the full surgeoncy, which he held until 1921 He had been a member of the Medical Institution since 1892, and had held the posts of treasurer and vice-president His surgical attainments were recognized in his election to the vice presidency of the Section of Surgery at the meeting of the British Medical Association at Liverpool in 1912 Mr Bickersteth paid considerable attention to surgical diseases of the urinary passages In 1904 a paper by him was published in the BRITISH MEDICAL JOURNAL, entitled "The intravesical separation of the urines coming from the two kidneys as a means of diagnosis in surgical diseases of these organs" His work in this branch of surgery was recognized by French specialists, and he was chosen to be corresponding member of the Association Française d'Urologie When war broke out Mr Bickersteth was made a major R.A.M.C.(T.), and was attached to the military hospital at Fazakerley Subsequently he served in France with the 57th General Hospital He threw himself heart and soul into his work, and there is little doubt that he felt the strain of the duties he so conscientiously performed In 1921 he resigned his post as surgeon before he had reached his 60th year At a farewell dinner attended by professional and lay friends, Mr Bickersteth received ample proof of the high esteem in which he was held The chairman of the Royal Infirmary, Mr Wade Deacon, testified to his sound judgement in all matters that concerned the medical staff and the managing committee of a large hospital.

Mr Bickersteth was a man of fine presence quiet and, to those who knew him only slightly, seemed somewhat reserved But he was a stanch friend and in his actions straightforward and sincere As an operator he was methodical, eschewed brilliancy, if such may be still regarded as one of the characteristics of modern surgery, and took great pains in solving surgically any urinary affection that came under his care As a clinical lecturer he was essentially a practical teacher, and ever kept before the mind of the student the importance of painstaking observation and of avoiding the fault of omission

A memorial service was held in the Chapel of the Royal Infirmary on March 5th, at the same time that the funeral took place at Kirkby Lonsdale There was a representative gathering of the medical, surgical, and nursing staffs, as well as members of the Infirmary Committee and many other medical men The chaplain paid an eloquent tribute to the services rendered to the institution by Mr Bickersteth and to his personal character Mr Bickersteth leaves a widow, three sons, and two daughters In Liverpool he will long be remembered as the bearer of a name worthily associated with medicine for so lengthy a period

G. P. NEWBOLT, C.B.E., F.R.C.S.

Liverpool

We have to announce with great regret that Mr G. P. Newbolt died suddenly on March 9th at the age of 61 He was surgeon to the Royal Southern Hospital and lecturer in clinical surgery in the University of Liverpool We hope to print an obituary notice in our next issue but meanwhile we are glad to publish the following tribute from Sir ROBERT JONES, so long his colleague at the Royal Southern Hospital

The sudden death of Mr George Palmerston Newbolt will be deeply felt by all who knew him for he had not only a great kindly heart but a sense of truth and justice which gained for him deep and universal respect As a surgeon he possessed all the qualities which make a man great, for not only did he excel in manual dexterity—a common attribute—but he displayed rare judgement, which made his opinion of great weight Every case was to him a problem to be solved, often under the strain of great responsibility I never met a surgeon more self-sacrificing in his efforts to save a life This was noticeable to us all especially in relation to his hospital work Despite his own indifferent health, he would cheerfully visit his wards several times during the day or night in order that nothing should be left undone in a struggle between life and death The humble and the poor have lost a real friend, who gave them of his best His sense of duty had no limitations

The Southern Hospital, which he loved and to which he gave such priceless service, will feel an aching void His colleagues will miss him sadly, for he was in the true meaning of the word, loyal If we asked him for advice and

help he gave ungrudgingly of both His spoken word was his bond He never displayed anything but a high moral courage in any attitude he took He was fearless in advocating an unpopular cause, but defeat never made him bitter, neither did success exalt him He was a man of sterling character and of spotless integrity

THE LATE SIR MALCOLM MORRIS

DR BERTRAM WATSON Harrogate, writes May I add my humble tribute to the beautiful appreciations of the late Sir Malcolm Morris contained in your issue of March 1st? It was my privilege to be a student at St Mary's Hospital in the nineties, when Sir Malcolm was in the heyday of his fame as a teacher of dermatology in London, and his reputation, work, and writings were well known in all the dermatological clinics throughout the world His Mondays and Thursdays in the out patients' room will always live in my memory There was no one who more quickly put the patient at his ease, this notwithstanding a gallery of students, in those days a very large one being drawn from many other London hospitals and visitors from overseas He took a deep personal interest in the patients, not merely as clinical material for teaching purposes, and the patients quickly sensed the atmosphere and left the building feeling that he was their friend as well as their doctor This trait in his character—the keen regard for the welfare of the individual—can be vouched for by all his old students He had no use for the slacker, but provided a man was keen on his work, and had high ideals of the dignity of the profession to which he belonged, there was nothing which he would not do for him The result was his post bag was full of letters, and much of his time devoted to personal interviews with men in difficulties, professional or private, and he never sent them "empty away" His love for humanity in the mass is shown by his public work and record of public service Sir Malcolm was a keen archaeologist He loved a Saturday afternoon in an old City church, and there was not a cathedral or an abbey in this country which he had not visited His favourite was Fountains Abbey and there was nothing he loved more than—in congenial company—exploring and expounding the history of these wonderful ruins

DR DENY, honorary physician to La Salpêtrière, died recently at the age of 77

Universities and Colleges

UNIVERSITY OF OXFORD

AT a congregation held on March 6th the degree of Doctor of Medicine (D M) was conferred on J J Conybeare

UNIVERSITY OF CAMBRIDGE

Part III (Pharmacology and General Pathology) of the Second Examination for medical and surgical degrees will be held in the medical schools from April 22nd to 25th inclusive

UNIVERSITY OF LONDON

IN connexion with a scheme which the Senate has under consideration the Vice Chancellor announced that the Chancellor (the Right Hon the Earl of Rosebery and Midlothian K G , K.T) had handed to the principal officer a cheque for £5,000 in contribution towards the sum needed for the acquisition of an athletic ground for the use of the students of the University A resolution was adopted conveying the warmest thanks of the Senate to the Chancellor for his generous gift

UNIVERSITY OF DUBLIN

TRINITY COLLEGE

AT the spring commencements in Hilary Term, held on Shrove Tuesday March 4th the degrees of M B , B Ch , and B A O were conferred on C W J Ingham

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Council Election A New Arrangement for Election Day

THE Secretary of the College of Surgeons, *in the usual annual* announcement notes an alteration from the arrangement previously customary The meeting of the Fellows will be held at the College (on Thursday July 3rd) at 10 a m Three Fellows will be elected into the Council in the vacancies occasioned by the retirement in rotation of Mr William F Haslam (re elected 1916) Mr F H Openshaw C B C M G (elected 1916), and Mr. Raymond Johnson O B E (elected 1916) The Secretary adds that *a reception which Fellows are invited to attend will be held by* the President and Council *from* 4 to 6 p m on the same day, and the annual exhibition of additions to the Museum will be *open for inspection at that time* Tea and light refreshments will be served Cards of invitation will not be required by Fellows. Blank forms of the requisite notice from a candidate and of his nomination may be obtained on application to the Secretary, and must be received by him duly filled up not later than on Monday, March 17th A voting paper will be sent by post to each Fellow whose address is registered at the College, on Tuesday, April 1st next Fellows are requested to give notice, without delay, of any change of address, so that their voting papers may not be mis sent

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

AT the monthly meeting of the Faculty on March 3rd Dr James Duncan Maclaren of Elie, Fife, was admitted as an Honorary Fellow At the same meeting Dattatrava Ganesh Kotibhaskar, M B , B S , was admitted (after examination) a Fellow

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

AT the monthly meeting of the College held on Friday, March 7th, the licence in Midwifery was conferred on J Ruggier M.D

Medical News.

BY an Order of the Privy Council, dated March 3rd, the Right Hon Edward F L Wood, M P , and Mr A G Church, D S O , M C , M P , have been appointed members of the Medical Research Council Mr Wood succeeds Viscount Goschen, Chairman of the Council, who has resigned owing to his appointment as Governor of Madras, while Mr Church takes the place of Mr William Graham, M P , who has resigned his membership of the Council on becoming Financial Secretary to the Treasury Mr Wood was President of the Board of Education in the last Government Mr Church, who is a member of the Labour party, represents Leyton (East) in the House of Commons

SIR ANTHONY BOWLBY, Bt , K C B , F R C S , has, with the approval of the King, been elected Chairman of the Radium Institute, London, in succession to the late Sir Malcolm Morris Sir George Blacker has been elected a member of *the committee*

THE seventy fifth annual session of the American Medical Association will be held in Chicago from June 9th to 13th The Scientific Exhibits Committee is arranging a large exhibition on the promenade floor of the Chicago municipal pier, where all the main activities of the conference are being centred

IN July last, soon after the publication of Professor Dreyer's researches on diaplyte vaccines and antigens (BRITISH MEDICAL JOURNAL, June 23rd, pp 1065 and 1069), the London County Council adopted a scheme under which fifty beds—twenty for men, twenty for women, and ten for children—were set apart for a trial of the treatment at the Hampstead Hospital (New End Infirmary) The patients were to occupy a separate part of the building and were to be under the treatment of Captain R S Douglas, F R S , Director of the Bacteriological Department of the National Institute for Medical Research, Hampstead The twenty beds allotted for female patients have not been used, as investigations on the effect of the treatment in women are being carried out in other institutions It is now proposed that the male patients shall be removed to the Colindale Hospital of the Metropolitan Asylums Board, where the conditions, it is considered, will be more favourable The total cost for the next financial year is estimated at £2,500, which represents a saving of £1,000 on the original estimate

HOSPITALS in the County of London or within nine miles of Charing Cross desiring to participate in the grants made by King Edward's Hospital Fund for London for 1924 must make application before March 31st to the Honorary Secretaries of the Fund, at 7, Walbrook, E C 4 Applications will also be considered from convalescent homes situated within the above boundaries or which, being situated outside, take a large proportion of patients from London

THE annual dinner of the Manchester University Rugby Football Club (which has always had a large medical membership) will be held in the University Union, Burlington Street, Manchester, on Wednesday, March 26th, at 7 30 p m , following the annual match with the Old Owensians Tickets, price 5s , may be obtained from the Honorary Secretary, R F C , University Union, Manchester Professor W E Fothergill, M D , will be in the chair, and it is hoped that as many old members as possible will be able to be present

WE are glad to learn from our Paris correspondent that Sir StClair Thomson, who was in the Riviera express train which met with the disaster near Lyons on Sunday night, was not seriously injured He was able to extricate himself from the wreckage unaided, and continued his journey on Thursday

THE late Sir John Tweedy left estate of the gross value of £61,511, with net personalty £60 806 He bequeathed to the Royal College of Surgeons of England such of his medical and surgical books and instruments as that body should select, and to University College Hospital Medical School any other of his medical and surgical books and instruments After other bequests the ultimate residue is left as to one-half to the Royal College of Surgeons of England and one half to University College Hospital Medical School

AMONG the Fellows recently elected into the Royal Society of Edinburgh are Dr W E Elliot, Dr D M Lyon, lecturer in clinical medicine in the University of Edinburgh, Dr J B Orr, director of the Rowett Institute for Research in Animal Nutrition, Aberdeen, Mr A A Scot Skirving, C M G, F R C S, lecturer in clinical surgery in the University of Edinburgh, and surgeon to the Royal Infirmary, and Sir Harold J Stiles, Regius professor of clinical surgery in the University of Edinburgh

THE annual festival dinner of the Irish Medical Schools' and Graduates' Association will take place on St Patrick's Day (Monday, March 17th), at 7 30 p m, at the Hotel Cecil, after the annual general meeting, the president, Mr William J Corbett, F R C S I, in the chair Tickets for the dinner (10s each) may be obtained from Dr Holmes Meyrick, 48, Ennismore Gardens, S W 7

THE second part of the seventh course of lectures and demonstrations for the diploma in psychological medicine will commence at the Maudsley Hospital, Denmark Hill, on March 31st under the directorship of Sir Frederick W Mott Eight lectures on the psychoneuroses will be given by Dr Bernard Hart, on Mondays, at 3 30 and 5 30 p m, commencing May 5th and eight lectures on morbid psychology, by Dr Edward Mapother, on Tuesdays at 2 30 and 4 30 p m, commencing April 1st Sir F W Mott will deliver six lectures on the pathology of mental diseases, on Tuesdays, at 4 30 p m, commencing May 6th, and three lectures on the legal relationships of insanity and treatment will be given by Dr Hubert Bond, on Monday, March 31st, Friday, April 4th, and Monday, April 7th, at 4 30 p m On Wednesdays, at 2 30 p m, commencing April 2nd, eight lectures will be given by Dr F C Shrubsall on the practical aspect of mental deficiency, and on the same days, at 4 30 p m., six lectures on crime and insanity, by Dr W C Sullivan On Wednesdays, at 2 30 p m, commencing May 7th, six lectures in clinical psychology will be delivered by Dr E Mapother, and twelve clinical demonstrations in neurology will be given by Sir F W Mott and Dr. Golla the first six on Thursdays, at 2 30 p m, commencing April 3rd, will be given by Dr Golla at the Hospital for Paralysis and Epilepsy, Maida Vale The second six demonstrations to be given by Sir F W Mott at Camberwell Infirmary will be announced later The fee for the whole of part II of the course is ten guineas and for a single series of lectures two guineas Inquiries should be addressed to the director of the pathological laboratory, Maudsley Hospital, Denmark Hill, S E 5 In addition to these special lectures and demonstrations there are facilities for clinical experience and instruction at the hospital, and a limited number of appointments as clinical assistant are available Service in this capacity, either whole time or part-time, is recognized by the various examining bodies as constituting the clinical experience required by the regulation for the Diploma

AN extensive epidemic of influenza is prevalent in Switzerland, especially in the northern and eastern cantons The epidemic is mild in character and only a few fatal cases have occurred Influenza is also epidemic in Berlin

THE annual meeting of the German Surgical Society will be held at Breslau, under the presidency of Professor Braun of Zwickau, from April 22nd to 26th The principal subjects for discussion will be surgery of the lung, transfusion of blood, and open treatment of fractures

DR ROBERT HUNTER STEEN, F R C P, Medical Superintendent of the City of London Mental Hospital, has resigned the posts of professor of psychological medicine and out-patient physician for mental diseases at King's College Hospital, Denmark Hill The Council of King's College (University of London) has conferred upon him the title of Emeritus Professor of Psychological Medicine

THE three weeks' course on diseases of children at the Royal Waterloo Hospital for Children and Women, March 17th to April 5th will include lecture demonstrations, ward work and out patient clinics At the Royal Westminster Ophthalmic Hospital there will be a course on ophthalmology from March 31st to April 17th, this includes clinical instruction every afternoon from 2 o clock and special demonstrations twice a week on medical ophthalmology and methods of examination At the London Temperance Hospital Hampstead Road, there will be an intensive course from March 31st to April 12th, practical demonstrations will be given each morning from 10 15 to 12 15, the afternoons, from 2 to 4, will be devoted to ward rounds and out-patient clinics In addition special demonstrations will be given on Saturdays at Bethlem Royal Hospital on mental diseases and at the Royal Westminster Ophthalmic Hospital on ophthalmology There will also be a lecture each day at 4 30 p m, to which all members of the medical profession are invited, the opening one will be given by Sir Humphry Rolleston on Monday, March 31st The fee for each of the above courses is three guineas, a syllabus with full particulars can be had from the Secretary, Fellowship of Medicine Wimpole Street, W 1

THE late Dr H J W Martin of Bexhill who formerly practised at Mill Hill, has left estate valued at £13 814 He bequeathed to the Society of Apothecaries two silver salvers presented to him by the governors of Mill Hill School and his father in law respectively After making other bequests he left all his other property to his wife, and on her decease one half of the residue is to go to the Society of Apothecaries for the general purposes of the society, but more especially for the furtherance of the hospitality and good fellowship for which the ancient society, of which I am proud to be a member, has been so well known for many years '

DR E GORTER, professor of pediatrics in the University of Leyden, will give a lecture in English at the Hospital for Sick Children, Great Ormond Street W C 1 on the pathogenesis of certain nutritional disorders on Wednesday next, March 19th There will be a reception at 4 30 p m, and Dr G F Still will take the chair for the lecture at 5

ON the occasion of his departure from Milborne Port, where he had resided for nearly forty years Dr John Empson was presented by his friends and patients with a cheque for £125, accompanied with an address expressing their high esteem and regard for his skill and kindness during his many years' residence in the district

PROFESSOR JOHN HILL ABRAM on the occasion of his retirement from the chair of medicine in the University of Liverpool has been presented by the students with a water colour drawing by Fisch, as a token of their appreciation, admiration, and affection

A STAINED-GLASS window erected in the chapel of the Cardiff Royal Infirmary by Mrs J Shaw Lyttle in memory of her husband, the late Dr J Shaw Lyttle was unveiled and dedicated by the Bishop of Llandaff on March 6th At the foot of the window is inscribed To the glory of God and in loving memory of James Shaw Lyttle, M D, who entered his rest August 19th, 1922. '

DR EDWIN SMITH, coroner for the north eastern district of London, has appointed Dr W H L McCarthy, D S O, M C, barrister at-law, to act as his deputy as from March 1st

THE fifteenth Congress of the Italian Society of Hydrology, Climatology, and Physical Therapy will be held at Abbazia in June 1924

AT a meeting on March 3rd of the board of management of the West Bromwich District Hospital the fact was recorded that Dr T Sansome had been an honorary surgeon to the institution for more than twenty one years and that his father had been connected with it for forty six years—as honorary surgeon for thirty seven years and consulting surgeon for nine years

THE ninth congress of French speaking medical jurists will be held in Paris under the presidency of Dr Charles Vallon from May 26th to 28th, when the following subjects will be discussed (1) treatment of criminals in the penitentiary system, introduced by Dr Vervaeck of Brussels (2) tubes and industrial accidents introduced by Dr Verger and Lande of Bordeaux (3) medico legal study of rare or abnormal forms of the hymen, introduced by Drs Parisot and Lucien of Nancy

A PRACTICAL course in dermatology and venereal diseases will be held at Strasbourg under the direction of Profes or L M Pautrier from September 22nd to November 8th The whole of each day will be occupied by various classes lectures, clinical and laboratory demonstrations there will be individual instruction in the different methods of treatment including electrolysis radiotherapy and carbon dioxide snow also in urethroscopy At the end of the course a certificate will be awarded to those who have attended

PROFESSORS VINCENT and WIDAL of Paris have been nominated Grand Officers of the Italian Order of St Maurice and St Lazarus

THE twelfth congress of the Italian Society for the Progress of Science will be held at Naples from April 29th to May 3rd, immediately before the celebration of the seventh centenary of the University on May 9th

PROFESSOR OSWALD BUMKE of Leipzig has been nominated successor to Professor Emil Kraepelin in the chair of psychiatry and neurology at Munich

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W C 2

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THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

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MEDICAL SECRETARY, *Mediocra Westrand, London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin*, telephone 4737, Dublin), and of the Scottish Office 6 Rutland Square, Edinburgh (telegrams *Associate, Edinburgh*, telephone, 4361, Central)

QUERIES AND ANSWERS

DOSE OF MALE FERN IN CHILDREN

DR A CAMPBELL (Uley, near Dursley, Glos) writes, in reply to "J M," to recommend daily doses of liquid medicinal paraffin for the infant, it is safe, he says, and usually effective

GAS FUMES POISONING

MISS M L SPACKMAN (Clitheroe) writes In reply to "Cumberland's" letter (March 1st, p 412), forty or forty five years ago, in Kent when a cement worker was overcome by gas fumes from the kilns a hole was scooped in the ground and the patient laid face downwards, his face in the hole He would, she says be about half conscious, and able only to stagger about as though he were drunk Patients treated thus always recovered

RECURRENT ANGIONEUROTIC OEDEMA OF TONGUE

DR S A MONTGOMERY (Cleethorpes) asks for advice in the treatment of a case of sudden swelling (non inflammatory) of the tongue and accessory structures in a woman aged 60, which comes on periodically causing her great distress and mental anxiety The oedema is painless and passes off after longer or shorter intervals, though usually lasting several hours, during which speaking or swallowing is quite impossible, and the salivary secretion is arrested It is not uncommon for the swelling of the tongue to be followed by a similar sort of swelling of one or both hands and wrists, which quickly subsides and causes no pain, but the irritation is excessive Our correspondent adds I take it to be a form of angioneurotic oedema and allied to urticaria and asthma (there are usually some râles present in the lungs during an attack) The patient volunteers the information that the attacks have followed the ingestion of rabbit and the first attack was about eighteen months ago, after the death of her husband She also gives a family history of bronchial asthma I have thought of trying peptone injections as a preventive, but have no experience of this line of treatment, and would appreciate any information regarding either treatment or prevention

INCOME TAX

Expenses

"A M O" has been refused allowances for (*a*) medical subscriptions, (*b*) purchase and replacement of books, and (*c*) upkeep of professional instruments He is assessed under Schedule E as a salaried employee

*** (*a*) We have nothing to add to our reply to "A M O H" in our issue of February 23rd, (*b*) and (*c*) replacements are allowable and also any out of pocket expenses incurred in repairs, but not the cost of the original equipment or of any improvements or outright additions thereto

LETTERS NOTES ETC

LONGEVITY

DR W H VICKERY (Weston super Mare) writes As a sign of the present longevity and as an interesting coincidence I noted that the ages of the first three patients whose death certificates I signed a year ago were as follows 87, 88, and 87 years, and the last three entries, from December 20th to January 31st, 90, 90 and 97 years I am wondering whether the last three consecutive entries constitute a record

LOCAL VACCINE TREATMENT OF PYORRHOEA ALVEOLARIS

DR A ANNESLEY GOMES (Burnley) writes In his article published in your issue of February 23rd (p 316), Dr H Fielden Briggs has not been sufficiently clear in some points Dr Goldenberg is quoted as having said that "it is necessary that the vaccine shall operate along the route it will have to follow This route shall be that which the virus itself takes through the tissues during the process of infection" This statement suggests that the injection has to be in the neighbourhood of each tooth, and the dosage allowed is from one drop increasing gradually to six drops One wishes to know whether an injection on one spot "above the apices of the canines or bicuspids," as specified by Dr Briggs, is sufficient only for that particular tooth or is efficacious enough for a condition of more or less general and extensive pyorrhoea Has each tooth to be treated separately or have the six drops (when that stage is reached) to be distributed between all thirty two teeth—if thirty two there be? In other words, is Dr Goldenberg's treatment intended for one tooth at a time or is it for general pyorrhoea? If twenty two days is the course of treatment for one tooth, a case of general pyorrhoea will take anything up to 704 days If this course of twenty two days be intended for general pyorrhoea, does he then suggest that the regions of the canine and bicuspid are the routes of infection and hence the seats of operation? Dr Briggs will oblige those interested in this subject if he will give them a little more detail

MAH JONGG

ALTHOUGH it is not necessary to take too seriously the rumours that bridge is to be replaced by Mah Jongg, there is evidently a probability that the Western world is in for a Mah Jongg craze It is very possible that the demand has been greater than the supply, and that sets are being put together hastily, it may, therefore, be worth while to mention two papers published in the *Journal of the American Medical Association* for February 9th In the first Dr O L Levin reports that he has observed several cases of dermatitis venenata—a cutaneous inflammation due to chemical irritation—which appeared to be due to the Japanese lacquered boxes in which Mah Jongg sets are packed The Rhus family of plants includes several members which, like the *Rhus toxicodendron* (poison ivy), can bring about the skin inflammation The Chinese and Japanese use an extract of *Rhus vernicifera* (Japanese lacquer tree), which contains an acid glucoside, urushiol, as a varnish in their lacquer work This substance has been shown by Toyama to be capable of producing dermatitis in degrees ranging from an erythema to severe oedema, and the production of vesicles and bullae, according to the degree of individual susceptibility After a few days the erythema diminishes, and the vesicles either rupture or dry up and form crusts Desquamation occurs subsequently, and at the end of two or three weeks the inflammation has disappeared After each contact with the lacquer recurrences of the dermatitis take place, and no immunity is obtained. Similar dermatitis has been reported as resulting from felling the lacquer trees, repotting young lacquer plants, and the application to the skin of lacquer dissolved in alcohol or petrol In the second paper, by Dr E P Zeisler, there is a report of an interesting case of this dermatitis, in which the diagnosis was further clinched by experimental application of lacquer to the skin of the leg—a typical outbreak of vesicular dermatitis resulting within twenty four hours of the application In all such cases the removal of the irritant from the skin by alkaline lotions and wet dressings is followed by recovery It would appear, therefore, that the beautiful imported Mah Jongg boxes covered with Japanese lacquer should be regarded with some suspicion at present

HYPOGLYCAEMIA AND EPILEPSY

DR SMITH ELY JELLIFFE of New York, who has read Dr J W. Mackay's letter on hypoglycaemia and epilepsy in the JOURNAL of December 15th, 1923 (p 1184), sends the following note on the chief points in a paper described as a careful and exhaustive study, with a full bibliography, published by R Holström on blood sugar determinations in epileptics (*Upsala Läkare Förhand*, 1924, vol 29, 17) It shows, Dr Jelliffe says

(1) In attack free intervals the blood sugar is normal, (2) the blood sugar content is not markedly influenced by adrenaline, (3) the carbohydrate tolerance is normal, (4) the blood sugar volume shows often a wave like variation up and down which varies from day to day, the depressions more closely correspond with an attack or group of attacks, (5) single attacks produce a rise and a group of attacks sharp oscillations in the curve; (6) at the close of an attack there is no change in the reactability to adrenaline or to carbohydrates, (7) intravenous injections of cocaine only occasionally cause attacks in which a definite variation in the sugar curve occurs, (8) subcutaneous injections of cocaine only caused abortive attacks in two cases, no attacks could be induced by adrenaline nor faradization of the neck, (9) the observed blood sugar variations have no primary significance, they are the expression rather of the increased tension of the attack in its relation to the vegetative nervous system

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 31, 34, 35, and 36 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 32 and 33

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *139*

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine.

202. Pneumococcal Meningitis in Pneumonia

PAISSEAU and ALAJOUANINE (*Bull et Mém Soc Méd des Hôp de Paris*, December 6th, 1923, p 1625) refer to this well known complication in lobar pneumonia It is usually of the purulent type, but in a few cases the cerebro-spinal fluid is clear or only very slightly turbid the absence of leucocytosis being due to the small number or feeble virulence of the pneumococci He describes the case of a robust man, aged 21, admitted with a temperature of 104° F and the typical physical signs of consolidation in the centre of the right lung The onset had been very sudden and on the fifth day the temperature rose to 105 8° F, with weak compressible pulse, profuse sweating, and prostration, but no delirium The temperature fell by lysis on the seventh day, but was not normal on the ninth day The patient became more dyspnoeic and cyanosed, with very marked prostration, and an area of consolidation was found in the left lung Next evening the temperature rose to 103 5° the patient was noisily delirious, but without cervical rigidity, Kernig s sign was absent On the eleventh day he was semi comatose and Kernig s sign was positive, lumbar puncture yielded clear fluid containing a few unaltered lymphocytes and polynuclears and a few pneumococci Antipneumococcal serum was injected (60 c cm intramuscularly) night and morning, spinal injections being considered too dangerous Within twenty four hours the temperature fell to 101 8°, the delirium disappeared, and the reflexes became normal By the next day he was conscious but dazed with severe headache and pain and paraesthesia of the lower limbs, a sacral bedsore persisted for a week, while an abscess of the thigh developed at the site of the serum injections The patient made a rapid and complete recovery The authors remark that the etiology of pneumococcal meningitis is still obscure, the study of the virulence of the various types of pneumococci has not given reliable results They observe that in this case the symptoms—delirium passing into coma, together with evidence of neuronic lesions—suggest a transient encephalitis, they do not think that the intramuscular injections of antipneumococcal serum can have assisted recovery, but they suggest that the abscess of the thigh may have been a kind of spontaneous fixation abscess.

203. Gall Stones and their Medical Treatment.

SCHÜPFER (*Ref Méd*, November 5th 1923, p 1070) says that if we do not know the primary cause of the formation of gall stones we know something about the accessory causes, the physical or physico-chemical laws governing their formation, the influence of anaphylaxis, and the individual constitution, the nervous disturbances and bacillary infectious especially *B coli* Duodenal sounding may give useful information as to the state of the bile, the presence of pus corpuscles and albumin clearly indicates infection The presence of cholesterin or calcium bilirubinate does not necessarily indicate gall stones The free flow of bile which follows instillation of peptone or magnesium sulphate (provided there is no obstruction) enables one to detect the infecting organism, but the bacteriological report is of more value where the cholelithiasis is associated with hyperchlorhydria The symptoms associated with cholelithiasis arise almost entirely from the concomitant infection of the biliary tract The presence of biliary sand or of saponaceous masses in the faeces has little diagnostic value Reflex pyloric spasm is not uncommon and a purely nervous biliary colic may occur either before or after a cholecystectomy Radiography may occasionally be useful Cholecystitis may clear up spontaneously, but it more often leads to thickening and retraction of the gall bladder Associated pulmonary congestion at the right base is not uncommon Cancer is not common in cholelithiasis, but a secondary affection of the head of the pancreas is fairly frequently seen, especially in chronic cases The qualitative and quantitative analysis of fats or pancreatic ferments in the faeces is helpful in the diagnosis of chronic pancreatitis Glycosuria is very rare in these cases No known solvent of calculi has been discovered duodenal sounding and instillation of magnesium sulphate have been found useful in some cases A swollen gall bladder which shows no sign of infection may be left alone unless there is reason to fear infection A first attack of biliary colic should usually be treated medically, but the author describes cases where operative measures are advisable Relapses of pain after operation may be due to unrecognized or secondary formation of calculi but more often are due to nervous cramp of the stomach and duodenum to adhesions, or to associated gastric or duodenal ulcer Gastric achylia after the operation is not due to it

204 Serum Treatment of Typhoid Fever

OPPERT (*Bull Soc de Thér*, November 14th 1923, p 259) records two cases of severe typhoid fever in his own sons, aged 13 and 9½ years respectively, who were treated by subcutaneous injections of antityphoid serum in doses of 20 c cm daily for four days The serum had no effect on the course of the typhoid fever, but gave rise to severe serum sickness In each case the rash lasted eight days and was accompanied by intense itching and a further rise of temperature The eldest boy presented signs of a myocardial reaction, shown by an intermittent pulse and weakness of the heart sounds requiring the use of cardiac tonics On the thirteenth day the younger boy developed extremely severe abdominal pain followed by collapse and cyanosis The possibility of intestinal perforation and haemorrhagic pancreatitis was discussed, but the condition proved to be a serum phenomenon The younger child s liver remained enlarged for nearly four weeks, and the temperature did not become normal till the seventh week The supervention of a severe illness such as serum sickness in the course of typhoid fever has an unfavourable effect upon the natural defences of the organism, though the risk of a transient aggravation of the patient s condition would be justifiable if the serum was efficacious It is probable that the children had an idiosyncrasy for horse serum, or at least for the particular horse serum with which they were injected It is, therefore, advisable not to employ serum therapy for typhoid patients whose reactions to serum are unknown, especially as the value of this method in typhoid is still uncertain.

205. Vagaries of Small pox.

H A SPENCER (*South African Med Record*, December 8th, 1923, p 540) points out that in every outbreak of small pox there is evidence of an immunity, arising from the vaccination and revaccination of parents which is comparable with the immunity transmitted to their young children by parents who have suffered from small pox A previous insufficient or ineffective vaccination only gives partial protection in small pox and not the full immunity which a later revaccination affords, so that mild cases occur which are often wrongly diagnosed Such partial immunity, congenital or acquired, modifies the disease by causing the initial outbreak to be milder with less toxaemia and eruption pustulation never occurs in those previously vaccinated Moreover, these abortive cases due to such vaccination immunity, in which the eruption does not pass beyond the stage of papules or vesicles, are less easily communicable and less dangerous than those in which pustules occur These contentions are supported by observations of a recent outbreak in the Eastern Transvaal, where the Europeans are imperfectly protected by vaccination

206 Tuberculosis in Asylums

O LIE (*Tidsskrift f d Norske Laegeforening* December 1st, 1923, p 1321) has found that apart from catarrhal epidemics, pulmonary tuberculosis is the most frequent incidental disease in an asylum At the Rönvik Asylum in the north of Norway 2 144 patients were treated in the period 1903-22 and among the 478 deaths there were 192 from tuberculosis In other words, more than 40 per cent of all the deaths were due to tuberculosis The influenza epidemic of 1918 did not appreciably influence the tuberculosis mortality in the asylum, and among the 34 deaths of patients suffering from general paralysis only 2 were due to tuberculosis Among the cases of dementia there were 229 deaths 121 of which were due to tuberculosis Of the 192 tuberculosis deaths 100 occurred within three years of admission, and if the average duration of the disease is three years the tuberculosis in these cases would appear to have been contracted before admission to the asylum But the author is of the opinion that much of the tuberculosis of asylums is contracted within their walls and he pleads for reforms which will banish overcrowding and enable asylum superintendents, not only to isolate infectious patients, but also to give all patients plenty of fresh air

Surgery.

207 Acute and Chronic Intussusception

X DUFORE and POLLOSSON (*Lyon Médical*, January 6th, 1924, p 31) in recording two cases of intussusception, draw attention to the following points In one patient, a male aged 47, symptoms had been present for nearly three months He had been under careful observation for a month and repeated x ray examinations proved negative The authors emphasize the difficulty of arriving at a correct diagnosis in this patient, though laparotomy showed that the condition was one of chronic intussusception of the colon Mansell's operation of incising the ensheathing layer and resecting the intussusceptum was performed, the simplicity and rapidity of this procedure render it, in their opinion, the best, and it obviates the difficulties of reducing the intussusception by traction and expression, or by a resection of the affected portion of intestine In spite of statements to the contrary, they do not think there is any risk of recurrence after this operation The second case was an acute intussusception, involving the caecum, in a patient 19 years of age Here again the diagnosis was difficult and was only made by deep palpation of the abdomen under the anaesthetic when the tumour was felt In this patient there was an ectopic right testis, and they suggest that this perhaps caused some anomaly in the development of the caecal peritoneum The caecum was found to be unduly mobile, so the appendix was removed and caecoplication performed In both cases recovery was satisfactory

208 Renal and Splenic Lesions

R B GRAHAM (*Canadian Med Assoc Journ*, January, 1924, p 20), dealing with renal and splenic lesions as factors in upper abdominal disease, points out that splenic lesions which present surgical problems are always associated with splenomegaly, and splenectomy is indicated in familial jaundice and Banti's disease The diagnosis of familial jaundice rests entirely on the demonstration of increased fragility of the red blood cells, whereas the diagnosis of Banti's disease depends upon the elimination of any other cause of the splenomegaly Splenic tumours almost invariably cause a depression of the splenic flexure of the colon, and cross the middle line of the abdomen if enlarged appreciably, the direction of the enlargement being downwards and to the right, they are dull to percussion, whereas a renal tumour is usually resonant in front, but may press upon the colon so as to render its demonstration impossible, except after inflation with air Depression of the splenic flexure does not usually occur with renal tumours The author draws attention to the great importance in diagnosis of frequency of micturition, which should always give rise to suspicion of a renal lesion, and haematuria should be considered to be due to renal new growth until some other cause is clearly demonstrated Both renal tumours and renal tuberculosis may occur without modifying the normal urinary findings and renal function Before any operation on the kidney ureteral catheterization should always be performed

209 Rupture of the Spleen

J C MCCRACKEN (*Annals of Surgery*, January, 1924, p 80) shows that rupture of the spleen in China has been greatly increased by the incoming of modern civilization Twenty cases are recorded, and all of them followed injury The average age of incidence was 24 years, the age most exposed to hazardous occupations, 50 per cent of the cases became unconscious at the time of the accident—an important diagnostic point, pain in the left shoulder had never been noticed In all cases the spleen was enlarged, and in two malarial parasites were discovered, a history of malaria was given in many cases Great shock is a counter indication to immediate operation, which is not always necessary or advisable He considers splenectomy, as a rule, to be the best operation, but bleeding may be successfully stopped by packing when adhesions prevent removal of the organ The incision through the left rectus muscle gives good exposure and is usually all that is necessary Great care is necessary to avoid injury to the tail of the pancreas In a country where enlarged spleen is common rupture should be thought of in all cases of abdominal injury followed by shock and evidence of haemorrhage

210 Urinary Calculi of Children

L CHRISTENSEN (*Hospitalstidende*, December 19th, 1923, p 935) draws some general conclusions from a study of calculi in the urinary tract of 16 children treated at his hospital There were only 3 females to 13 males in this series and in 10 cases the children were under the age of 4 The first sign was in many cases pyuria, and in 5 cases there was rectal prolapse It was found that the lower the calculi had descended in the urinary tract the easier it was to make a correct diagnosis, when the calculi had reached the bladder the symptoms were sometimes quite characteristic, the child screaming before and after micturition and plucking at the genitals But in most cases it is very difficult to recognize this condition in childhood, the younger the child the more difficult being the diagnosis A common mistake is to diagnose the condition as chronic haemorrhagic nephritis, and in one of the author's cases, that of a boy aged 8 years, six months had been spent in treatment for chronic nephritis There had been no serious pain, only a sense of constant pressure and discomfort under the right costal arch, due, as it was ascertained later, to a stone impacted in the ureter Many such a mistake could be averted by a careful chemical, microscopic, and bacteriological examination of the urine

211 Skin Grafting

E HOLMAN (*Surg, Gynecol, and Obstet*, January, 1924, p 100) considers the question of using skin grafts from the patient rather than from another individual, and doubts whether the latter procedure is ever to be recommended He reports cases where the application of such grafts from another individual brought about the signs and symptoms of the condition of protein sensitization This occurred even when the blood of both donor and recipient belonged to the same group in Moss's classification He points out the inadvisability of reporting success in skin grafting until twenty four to thirty six days have elapsed, since grafts which at first appear likely to do well may subsequently fail entirely He describes experiments which seem to show that the process of disintegration is specific, involving a specific antibody for each set of grafts when taken from more than one donor

212 Late Ulnar Nerve Paralysis

E M MILLER (*Surg, Gynecol, and Obstet*, January, 1924, p 37) deals with that class of ulnar nerve paralysis which occurs some years after the associated fracture The original cause seems to be nearly always a fracture at the elbow in childhood, usually between the ages of 3 and 5, the line of fracture beginning most commonly just below the epicondyle and passing obliquely downwards and inwards into the joint There is thus brought about a complete separation of the external condyle, which, being displaced laterally and forwards, fails to reunite, and a cubitus valgus gradually develops The ulnar nerve becomes displaced from its groove and is subjected to stretching and repeated slight trauma, which in the end leads to partial or complete paralysis as early as three, or as late as forty, years after the original accident In about 40 per cent of the cases it is noticed between twenty and thirty years after the original injury The author describes the various methods of treatment that have been recommended, and records twelve illustrative cases

Neurology and Psychology.

213 Diagnosis of Pre-paralytic Poliomyelitis.

S A LEVINE (*Med Clin, North America*, November, 1923, p 33), of the Peter Bent Brigham Hospital, Boston, maintains that it is not difficult to make a presumptive diagnosis of pre paralytic poliomyelitis with a fair degree of accuracy in many cases, especially during the late summer and early autumn when the disease is most prevalent Any patient with unexplained fever should be examined for stiffness of the neck, as this symptom is present in nearly every case of pre paralytic poliomyelitis Kernig's sign should also be looked for, though its presence is not so constant If either or both of these signs are present lumbar puncture should be performed It is true that these two signs may be present in other forms of meningitis, whether due to meningococci, tuberculosis, syphilis, mumps, etc, as well as in toxic meningism from severe infections such as pneumonia, typhoid fever, otitis media, occurring in children, but most of these diseases can be ruled out by other findings A normal cerebro spinal fluid practically excludes poliomyelitis, but a diagnosis can be established by an increase in the cell count and a positive globulin reaction in the fluid in conjunction with the other clinical features In most cases of poliomyelitis the pressure of the fluid is normal, but in a fair proportion it is greatly increased The cell count in poliomyelitis ranges from ten to several hundreds per cubic millimetre, in most cases it will be from thirty to a hundred or two hundred If the case is not poliomyelitis the cell count will be normal—that is, below 5 per cubic millimetre The type of cells varies according to the stage of the illness

Not infrequently the polymorphonuclears predominate in the very early stage, but very soon the mononuclears become most numerous, and during the paralytic stage lymphocytes only may be present. The globulin reaction is always positive in poliomyelitis, and may persist for a few weeks after apparent recovery and return of the cell count to normal.

214. Malarial Treatment of General Paralysis.

A. R. GRANT (*Journ. of Mental Science*, January, 1924, p. 81) reports on the treatment of fifty cases of general paralysis by malaria. All stages of the diseases were dealt with and the clinical diagnosis was confirmed by blood and spinal fluid examinations. Details of the procedure adopted are given, and the following conclusions were reached. Treatment of general paralysis by malaria is justifiable, simple and safe; one attack does not confer immunity against a second inoculation. Early cases afford the most hopeful prognosis, but in all the clinical types of the disease complete remissions occur, and these are more pronounced and frequent than in untreated cases. The treatment usually arrests the progress of the disease and prolongs life, but recovery does not always occur promptly at the end of the malarial infection, it may progress slowly for an indefinite time subsequently. No patient with an initial complete recovery has had a relapse. Good results have followed malarial treatment alone without additional arsenical medication. In late cases there was definite physical improvement, and some patients recovered their mental balance sufficiently to enable them to return home.

215. Combined Syringomyelia and Haematomyelia.

NAZARI (*Riv. Ospedal.*, November 15th, 1923, p. 575) reports the case of a man, aged 55, admitted into hospital with a history of sudden severe pains in the lumbar region during coitus, inability to move the lower limbs or to pass water, and persistent erection of the penis. The bladder was tapped and 1,800 c.cm. of urine drawn off. It contained some albumin, triple phosphate crystals, and pus corpuscles. There was complete flaccid paralysis of the lower limbs, abolition of all forms of sensation below the umbilical level, and the patient complained of hot and cold feelings in the anaesthetic area. There was retention of urine and faeces. Lumbar puncture gave a clear yellow fluid under normal pressure. The patient died of septicaemia. At the necropsy an extensive haemorrhage of the spinal cord was found, and also clear evidence of a previous syringomyelia cavity with well defined limits, extending from the third thoracic segment to the lower lumbar. In one of Gowers's cases of haemorrhage into a syringomyelic cord this accident also occurred during coitus. The previous history in the author's case included gonorrhoea in youth when 26 years of age the patient suffered for two months with pains in the leg and cramp and again ten years later. At 50 and 52 he suffered from sudden attacks of nocturnal pains in the lumbar region which were diagnosed as renal colic at this time he also had sciatica and joint pains. The author gives photographs of twenty-eight sections of the spinal cord at various levels.

216. Psychotic Sequels of Epidemic Encephalitis.

R. D. GILLESPIE (*Journ. of Mental Science*, January, 1924, p. 1) records a series of ten cases in which the after effects of epidemic encephalitis were of psychiatric interest, and discusses the subject generally. He found that the most common psychic residuum was an emotional condition, usually apathy, which might be combined with either depression or contentment. Little or no spontaneous activity or volition was evident, and there was generally pronounced hypersomnia, or more rarely hyposomnia. A Parkinsonian syndrome was a frequent physical residuum. The prognosis in chronic cases appeared to be poor, especially in those with marked physical signs, mental and physical deterioration seemed to increase as time went on, and extension of the disease might occur up to fifteen months from the onset.

217. Active Therapy in Psychoanalysis.

I. H. CORIAT (*Psychoanalytic Review*, January, 1924, p. 28) considers the new departure in psychoanalytic technique which Ferenczi has termed "active therapy." This active interference of the physician at a certain stage in the analysis involves the ability to recognize the right time and the right method. The whole subject is considered in detail and illustrative cases are cited. Active interference must be cautiously employed lest the patient's resistance be increased, but in some cases it is actually to the patient's interest that the tension and discomfort due to the neurosis should be increased so that he may be stimulated to overcome resistances which act as barriers to an outlet for repressed material. The neurosis then ceases to be a source of pleasure and a means of escape from unbearable reality. The purpose of active therapy is the stirring up of unconscious material, and it must not go beyond prohibiting something which gives the patient comfort or pleasure.

Obstetrics and Gynaecology

218. Pituitary Extract in Labour.

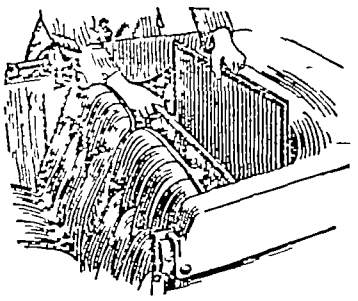
B. STEINBERG (*Amer. Journ. of Gyn. and Obstet.*, January, 1924, p. 82) has tried pituitary extract at various times during labour, and comes to the following conclusions. The drug acts on the uterus within five minutes of injection and produces contractions which are of shorter duration than normal contractions, but occur at more frequent intervals, their strength being almost double that of normal contractions. (This was shown by a Voorhees bag introduced into the cervix being connected with a mercury manometer.) In primiparae the contractions were stronger but were of shorter duration than in multiparae. The author points out that cervical lacerations are common if the extract be given in the first stage and on this account he thinks it should not be given until the os is nearly fully dilated. No untoward happenings occurred in his series to either mother or child, and the perineum was torn in only one case. If forty minutes' elapsed after the injection before birth it was noted that the third stage was appreciably delayed. The author advises the use of pituitary extract for (1) prolonged labour, (2) exhaustion, (3) weakening contractions, (4) uterine stasis with head in perineum, and (5) foetal complications, provided that the pelvis is normal, the presenting part is engaged, the os is fully dilated, the membranes are ruptured and the patient has not had too many children, since in women who have had many children the uterus is liable to rupture, and pituitary extract will increase this liability. He prefers this treatment to forceps because an anaesthetic is not required, tears are uncommon, no manipulations which may give rise to infection are necessary, and there is less chance of foetal compression. The labour also is less likely to cause a cystocele or rectocele at a later date since the time of pressure is markedly curtailed.

219. Aortic Compression in Post partum Haemorrhage.

B. NYSTRÖM (*Finska Läkaresällskapets Handlingar*, November–December, 1923, p. 679) has used at his hospital in Helsingfors since April, 1923, a modification of the instrument devised by Sellheim for the compression of the abdominal aorta. It was used in fifteen cases in which less radical measures, such as massage, pituitary extract and ergot, had failed and it invariably proved successful. There was indeed one case in which haemorrhage from a severe laceration of the vagina persisted for some time, but in all the other cases the haemorrhage was arrested at once. By padding the limb of the instrument going round the patient's back, and also the prominence compressing the aorta through the abdominal wall at the level of the umbilicus the author was able to save the patient much discomfort and only a few seconds were needed to apply the instrument. During its application the abdominal aorta should be palpated immediately below the umbilicus, and the screwing tight of the instrument with the right hand should be discontinued when the pulsation of the aorta can no longer be felt with the left hand. Two of the patients were under a general anaesthetic during this process, the remainder were not anaesthetized yet they suffered little discomfort and some of them were able to tolerate the compression for ten to fifteen minutes. Others complained much sooner of various symptoms such as a feeling of suffocation, numbness in the legs etc., and it was found advisable to watch the pulse closely and to discontinue the compression at the slightest sign of cardiac disturbances.

220. Ulcus Vulvae Acutum.

B. LIPSCHÜTZ (*Dermatologische Studien*, Unna und Rille Band 25, Leipzig, 1923) has written a full account of the condition described by him in 1912 under the name of ulcus vulvae acutum, which he defines as a rapidly growing vulval ulcer of non-venereal origin, mild in its course and associated always with an organism which he has named *Bacillus fusiformis*. In the first the ulcer develops rapidly with acute pain in the vulva, pyrexia and shivering; by the end of forty-eight hours it involves the inner surfaces of the labia minora and becomes covered by a pseudo-diphtheritic membrane. In a few days the slough separates, the pyrexia decreases and within two weeks the ulcer has healed. In the second type the onset is more insidious and the ulcer persists for several weeks without pyrexia or constitutional disturbance. In the third type minute multiple ulcers develop on the edges of the labia majora and minora and the perineal skin. He describes *B. fusiformis* as a thick Gram-positive organism, single or in short chains, and possibly a modification of the bacillus of Doederlein (*B. vaginae*). The disease is uncommon. Lipschütz saw seventeen cases only between 1904 and 1919. It occurs as a



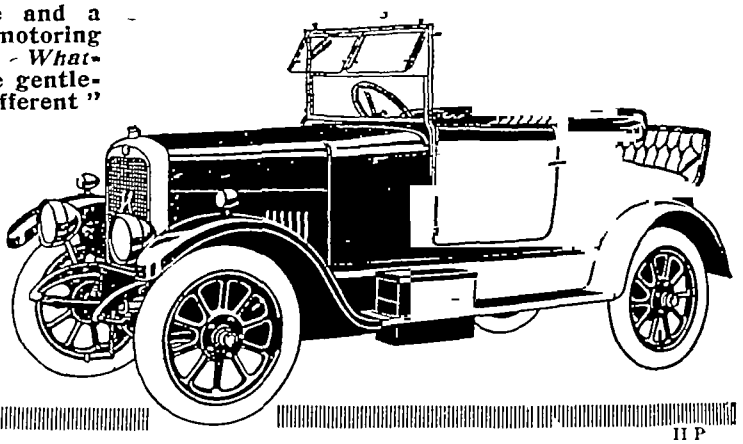
REASONS WHY —No 4
This is the method of storing the rigid side screens Placed side by side in a felt lined locker behind the seats they fit snug and tight and cannot rattle Note also the neat hood cover and separate sliding seats

The Car that is different
and REASONS WHY—

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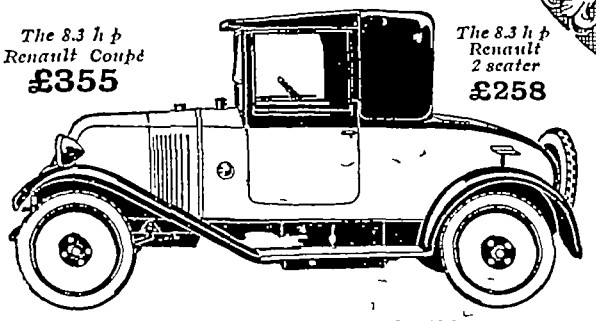
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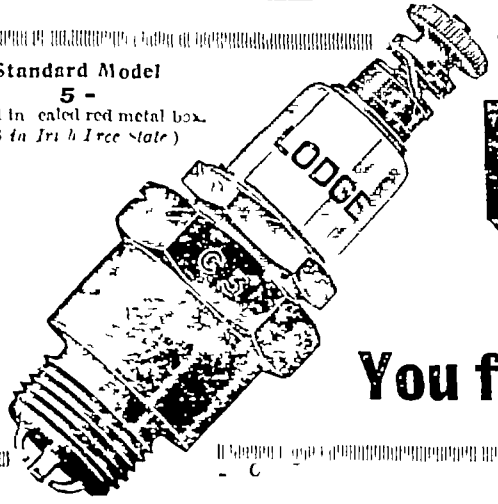
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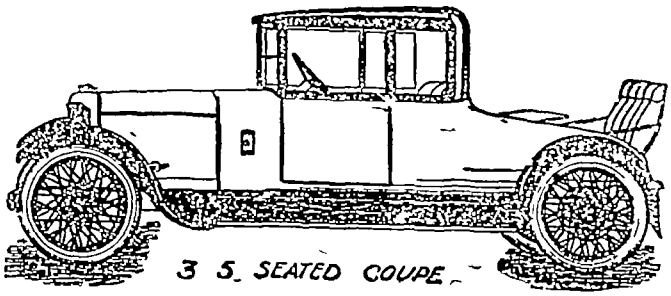
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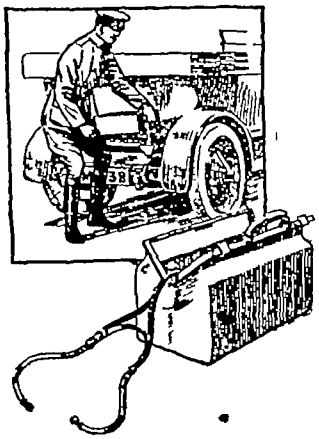
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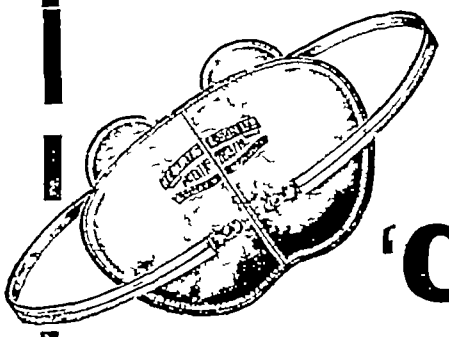
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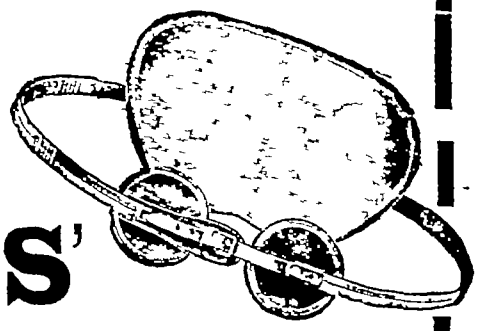
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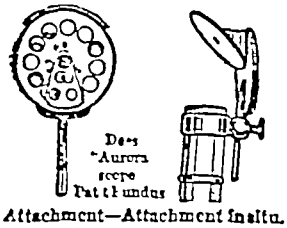
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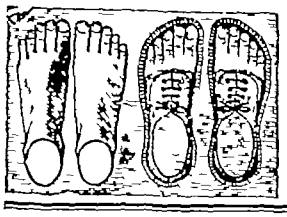
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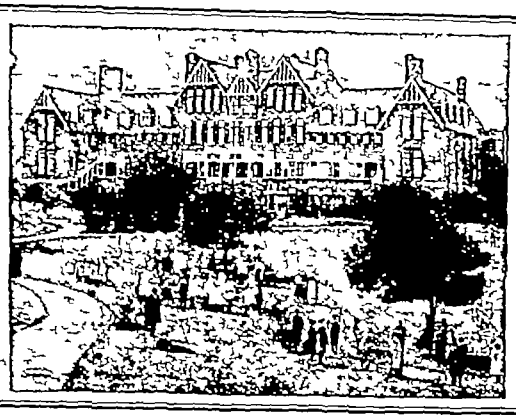
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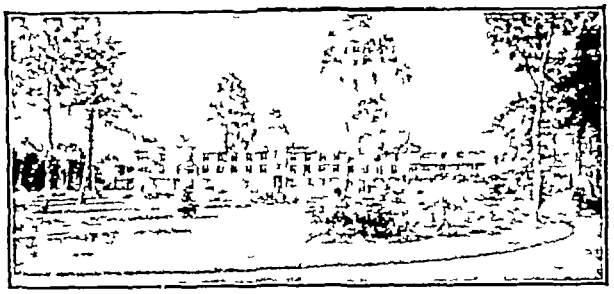
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The Institute comprises the following departments: Anatomy and Embryology, Physiology, Pathology, Chemical Pathology, Clinical Bacteriology, Systematic Bacteriology, and Immunology.

The student, who will receive an *honorarium* at the rate of £200 per annum, may elect to carry out his researches in any one of these departments and would be required to work under the direction of the head of the department concerned. Preference will be given to old St. Mary's Students.

For further particulars apply to the Secretary, Institute of Pathology and Research, to whom applications must be sent not later than first post, March 25th.

Royal College of Physicians
OF LONDON

The next PROFESSIONAL EXAMINATION for the MEMBERSHIP will commence on Tuesday, April 15th.

Candidates are required to give fourteen days' notice *in writing to the Registrar of the College* with whom all certificates and testimonials required by the By-laws are to be left at the same time.

J. A. ORMEROD, Registrar.

Pall Mall East, S.W. 1.

Prifysgol Cymru University
OF WALES

WELSH NATIONAL SCHOOL OF MEDICINE.

TUBERCULOUS DISEASES DIPLOMA.

An examination for the Tuberculous Diseases Diploma of the University of Wales will be held on June 2nd, 3rd and 4th, 1924. *No* examination will be held in July, 1924.

Applications for admission to the examination should reach the Registrar, University Registry, Cathays Park, Cardiff, *not later than* April 15th, 1924.

Particulars relating to the conditions of admission to the examination may be obtained on application to the Registrar.

University of London

A LECTURE on THE PATHOGENESIS OF CERTAIN NUTRITIONAL DISORDERS will be given (in English) by Professor E. GORTER (Professor of Pediatry in the University of Leiden) at THE HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C. 1, on WEDNESDAY, MARCH 19TH, 1924, at 5 p.m. The Chair will be taken by Professor G. F. STILL, M.D., M.A., F.R.C.P.

Admission free, without ticket.

EDWIN DELLER, *Academic Registrar.*

In consequence of the lease of ASHDOWN HOUSE, Hampstead having expired, MISS BULLOCK has moved her SCHOOL for SPEECH and LIP READING for *DEAF CHILDREN and for the cure of* SPEECH DEFECTS in HEARING CHILDREN to the larger detached residence standing in its own grounds, known as KINGSFIELD HOUSE, Oxhey, Watford.

Bradford Royal Infirmary

THREE HOUSE SURGEONS and ONE HOUSE PHYSICIAN wanted for 1st May, 1924.

Candidates must be single and legally qualified.

Salary in each case £150 per annum with board residence and washing. There are 215 Beds and six Resident Officers.

Applications, stating age, qualifications and previous experience (if any), with copies of recent testimonials to be received by the undersigned not later than Friday, 21st March, 1924.

J. J. BARRON, Secretary Supt.

The Barbados General
HOSPITAL.

Wanted, a duly qualified Medical Practitioner as JUNIOR RESIDENT SURGEON of the Barbados General Hospital. A man who has had experience in *administering Anæsthetics preferred.*

Salary £250 per annum, with furnished quarters and there is also at present a temporary War Bonus of 20% in addition to the salary.

Applications, accompanied by professional and *other testimonials stating age and date of graduation*, will be received by the Steward and Secretary of the General Hospital up to 12 o'clock, noon on Wednesday, April 9th, 1924.

Canadian Graduates must be registered in a province, registration in which will entitle them to be registered in the United Kingdom.

Candidates holding a United States Diploma must be registered in the State of New York.

By order of the Deputy Chairman of the Court of Trustees and Directors.

General Hospital, *Jemmott's Lane,* Bridgetown, Barbados, B.W.I.
J. WARD, *Steward & Secretary.*

6th February, 1924.

County Mental Hospital,
Burntwood near Lichfield

The Visiting Committee invite applications for the post of MALE MEDICAL SUPERINTENDENT of the above hospital.

Salary commencing at £1,000 per annum with emoluments, valued for pension purposes at £420 as follows: board (no stimulants), servants (two) and laundry with partly furnished house, rates and taxes, light and fuel.

Appointment made subject to deductions under the Asylums Officers Superannuation Act, 1909.

Candidates must be fully qualified medical practitioners and have had experience in mental hospitals.

Applications, together with copies of not more *than three testimonials, to be sent to the Medical* Superintendent not later than Thursday the 27th day of March, 1924.

10th March, 1924.

Central London Ophthalmic
HOSPITAL,
Judd Street, St. Pancras, W.C. 1.

There is a vacancy for a HOUSE SURGEON, salary at the rate of £100 per annum with board and residence in the Hospital.

There is also a vacancy for JUNIOR HOUSE SURGEON (non-resident) to attend daily at *1 o'clock to assist the ordinary staff until the clinic* is closed and undertake the duties of Senior House Surgeon when required. *Salary at the rate of £50* per annum.

Applications with testimonials from duly qualified candidates must be sent to the undersigned on or before March 24th.

Candidates must attend at the Hospital on March 27th at 4 p.m.

H. R. S. DRUCE, Secretary.

Leicestershire & Rutland
MENTAL HOSPITAL
Narborough near Leicester

Wanted a *SECOND ASSISTANT MEDICAL* OFFICER (Male, unmarried) not exceeding forty years of age, doubly qualified and registered under the Medical Act. Salary £350 per annum with board, furnished apartments, laundry, &c. The appointment is subject to the provisions of the Asylum Officers Superannuation Act, 1909.

Applications with copies of not more than three recent testimonials, to be sent to the Medical Superintendent on or before the 9th March, 1924.

East London Hospital for
CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.1.

Applications are invited for the post of MORNING *CASUALTY OFFICER* (Male), non-resident at a salary of £120 per annum with lunch. The post is for six months, subject to reappointment by the Board. Applicants must be duly qualified and registered, and will be expected to attend the Meeting of the Selection Committee.

Applications with testimonials, to be sent to the undersigned not later than Wednesday, 19th March.

W. M. WILCOX, Secretary.

Royal Waterloo Hospital
FOR *CHILDREN* AND WOMEN
Waterloo Road, S.E. 1.

There is a vacancy for an HONORARY PHYSICIAN in charge of Out-patients.

Candidates must be graduates in Medicine of a University recognised by the General Medical Council and Members of the Royal College of Physicians.

Applications should be sent to the Secretary at the Hospital on or before March 28th, with copies of not more than three recent testimonials.

Manchester Royal Infirmary

Appointment of an *HONORARY ASSISTANT* AURAL SURGEON.

The Board of Management invite applications for the above appointment.

Candidates must be Graduates in Medicine of a British or Irish University or a Fellow of one of the Royal Colleges of Surgeons of the United Kingdom.

Candidates are required to forward Diplomas, original testimonials and a certificate of age with their applications addressed to the Secretary on or before 9 a.m. on Thursday, 20th March, 1924, from whom also a copy of the rules can be obtained.

Candidates are required to furnish 45 copies of their application and dated testimonials, addressed to the Secretary for distribution prior to the meeting of the Committee.

Canvassing directly or indirectly is forbidden and the Committee reserve to themselves the right on proceeding to election, to take into consideration any complaint that canvassing on behalf of any Candidate has taken place.

By order,
FRANK G. HAZELL,
Gen. Supt. and Secretary.

Manchester Royal Infirmary, March 6th, 1924.

The Prince of Wales's
GENERAL HOSPITAL, Tottenham, N. 15.

Applications are invited for the following posts vacant on the 15th April next:—

TWO HOUSE SURGEONS, £150 per annum each.
HOUSE PHYSICIAN, £150 per annum.
JUNIOR HOUSE SURGEON, £110 per annum.
JUNIOR HOUSE PHYSICIAN, £110 per annum with residence board and laundry.

The appointments are held for six months, but the holders are eligible for re-appointment for a further term.

Candidates (male) must be duly qualified and registered and applications, together with copies of 3 recent testimonials, to be sent to me on or before Monday, 30th March, next.

FREDK. W. DREWETT, Director.

10th March, 1924.

The Queen's Hospital for
CHILDREN
Hackney Road, Bethnal Green, E. 2.

The Committee invite applications for the post of ASSISTANT SURGEON to the Ear, Nose and Throat Department.

Attendance required on Thursday morning for about three hours, commencing at 9.30, and during the holidays or absence from other causes, of the two Senior Surgeons to the Department on Monday and/or Tuesday morning with charge of beds during these periods. Lunch provided and *honorarium* to cover travelling expenses.

Candidates must be Fellows, by examination, of the Royal College of Surgeons, England.

Applications with copies of three recent testimonials which may be printed or typewritten should be sent on or before 7th April to the undersigned from whom further particulars may be obtained. T. GLENTON KERR,

3rd March, 1924. *Secretary.*

The Queen's Hospital for
CHILDREN
Hackney Road, Bethnal Green, E.2.

PATHOLOGIST required. Salary £300 a year with lunch. Twenty-four hours duty during a week at times to be arranged. Appointment will be made for twelve months and the holder will be eligible for re-appointment.

Applications with copies of testimonials should be sent on or before 31st March to

1st March, 1924. T. GLENTON KERR,
Telephone: Dalston 305 & 534. *Secretary.*

Chester Royal Infirmary
(201 Beds.)

Wanted *ASSISTANT HOUSE SURGEON* (male) to commence duties 1st April, 1924. Salary £150 per annum, with board, lodging and washing.

Candidates must be doubly qualified and registered. Application stating age and accompanied by copies of testimonials to be sent to the undersigned.

J. ROWSE MITCHELL,
Secretary.

10th March, 1924.

Bermondsey Hospital and
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(Miss) R HOOPER, Secretary

10th March 1924

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The Committee invite applications for this post To commence duties about April 1st 1924 The successful candidate will be engaged for a period of not less than six months. The appointment is not open to ladies. Salary commencing £150 per annum, rising to £175 after three months service with furnished apartments, board (excepting stimulants) and laundry

Applications, with copies of three recent testimonials endorsed "Assistant House Physician," to be sent in at once.

The Medical Staff consists of eight Honorary Physicians and Honorary Surgeon a Bacteriologist a Radiologist, a Biochemist and two Resident House Physicians The Hospital contains a Pathological Laboratory and X Ray Department

Canvassing will disqualify

By Order TOM B HARRISON General Supt and Secretary

Kensington Board of GUARDIANS

TEMPORARY ASSISTANT MEDICAL OFFICER.

The Guardians require the services of a Temporary Assistant Medical Officer for their Hospital in the Marloes Road, for a period of five months at an inclusive salary of £7 7s per week, with apartments board and washing

Candidates must be between 25 and 35 years of age and possess both a medical and surgical qualification and the lady or gentleman appointed will be required to devote the whole of her or his time to the duties of the office

Applications should be addressed to the Medical Superintendent St Mary Abbots Hospital Marloes Road Kensington W 8

Charing Cross Hospital

ASSISTANT OBSTETRIC PHYSICIAN

Applications are invited for the post of Assistant Obstetric Physician to the above Hospital

Candidates must be graduates of a University and possess the Diploma of M R C P or F R C S

Applications accompanied by copies of 3 recent testimonials, should reach the undersigned not later than April 4th 1924

(Signed) PHILIP INMAN House Governor

Charing Cross Hospital, London W C 2

Rochdale Infirmary and DISPENSARY (110 Beds).

Wanted, JUNIOR HOUSE SURGEON (Male) Salary £200 per annum including board residence and laundry Applications, stating age nationality &c. together with three recent testimonials to be sent to the Secretary endorsed House Surgeon Conditions of appointment may be had on application to W WYNNE Secretary

The Liverpool Eye and Ear INFIRMARY Myrtle Street

Applications are invited for the posts of HONORARY PATHOLOGIST & HONORARY ASSISTANT AURAL SURGEON to the above Hospital the latter to attend three days a week. Applications, stating qualifications, age and experience, with copies of testimonials to be sent to the Honorary Secretary (W W HIGGIN) 14 Chapel St., Liverpool.

Brighton —The Royal ALEXANDRA HOSPITAL FOR SICK CHILDREN (80 beds)

A HOUSE SURGEON required. Salary at the rate of £120 a year, with board lodging and washing Good experience. Ample time for study No canvassing allowed. Further particulars may be obtained of A. F GRAVES, Secretary

The Infants Hospital, Vincent Square, Westminster

The Committee of Management invite applications for the post of JUNIOR ANÆSTHETIST

Applications with copies of not more than three testimonials must be sent to the undersigned from whom further information may be obtained

ALFRED J SMALL. Secretary

Radcliffe Infirmary and COUNTY HOSPITAL, Oxford

Applications are invited for the post of HONORARY ASSISTANT SURGEON at the above Hospital Applications together with 20 copies of 3 testimonials to be forwarded to the undersigned not later than Monday 7th April 1924

A G E SANCTUARY Administrator

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District	Town or District	Town or District
CONTRACT PRACTICE.		
ENGLAND.	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	MARDY GLAMORGAN *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE *(Woman Assistant School Medical Officer)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs)*	OAKDALE MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*
WALES	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme)*	LEEDS EDUCATION COMMITTEE *(Assistant School Medical Officer)*
ABERTRIDWR GLAMORGAN *Windsor Colliery (Medical Scheme.)*	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	LINCOLN CITY AND COUNTY BOROUGH *(Medical Officer of Health)*
EBBW VALE MON *(Workmen's Medical Society.)*	**PUBLIC HEALTH.**	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme.)*	BARNSLEY COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer)*	PORTSMOUTH BOROUGH *(Medical Officer to the Portsmouth Child Welfare Centres and Municipal Maternity Hospital)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	BERKSHIRE EDUCATION COMMITTEE. *(Assistant Medical Inspector of Schools)*	SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer)*

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch	Town or District.	Hon. Sec. of Division or Branch
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *(Senior Resident Physician.) (Senior Resident Surgeon.)*	Mr A. RADFORD M.C F.R.C.S., 5 & 6 4th Floor National Bank Buildings, Durban	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R MARSHALL ALLAN (Hon Sec Queensland Branch) Adelaide Street Brisbane	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon Sec., Victorian Branch) Medical Society Hall E Melbourne Victoria.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr R H TODD (Hon Sec. New South Wales Branch) B M A. Building 30-34, Elizabeth Street Sydney N.S.W.			WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec Western Australian Branch No 6 Bank of New South Wales Chambers St George's Terrace Perth

Address 429 Strand W C 2.
March 12th, 1924.

By order of the Council of the British Medical Association.
ALFRED COX, Medical Secretary

The Hospital for Sick CHILDREN

Great Ormond Street London W C 1

The following appointments will shortly be vacant:—
HOUSE SURGEON 12th April, 1924.
HOUSE PHYSICIAN and ASSISTANT CASUALTY OFFICER 14th April 1924

Gentlemen are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday 31st March 1924 with copies of not more than three testimonials given specially for the purpose, and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months Salary £50 laundry allowance £2 10s. and board and residence in the Hospital

Candidates must be unmarried and possess a legal qualification to practise

All candidates must appear before the Joint Committee at their meeting on Wednesday 2nd April 1924, at 5 p m precisely

Forms of application and copies of the rules, may be obtained from the Secretary

By Order of the Board of Management
JAMES McKAY Secretary

March 1924

Western Ophthalmic HOSPITAL, Marylebone Road, N W 1.

Applications are invited for the post of SENIOR and JUNIOR NON RESIDENT HOUSE SURGEONS The salaries are at the rate of £150 and £100 per annum, respectively and the appointments are for six months The selected candidates will be required to take up duty early in April The present holder of the junior office is a candidate for the senior and candidates for the latter post should indicate whether they are prepared to accept the junior position.

Applications accompanied by copies of three testimonials should reach me by March 25th

H W BURLEIGH *Hon Secretary*

The General Hospital, Birmingham

Applications are invited from qualified Medical Practitioners for the post of HONORARY CLINICAL ASSISTANT in the Ear and Throat Out patient Department

Full particulars can be had on application to the House Governor to whom applications should be addressed by March 29th 1924

West London Hospital, Hammersmith Road W 6.

Required, one HOUSE PHYSICIAN and two HOUSE SURGEONS (Males) These appointments are tenable for six months from 1st April next Salary £100 per annum with board lodgings and washing allowance

and dates are required to be registered under the Medical Act, to send 4 copies of their letters of application and 4 copies of each testimonial submitted so as to reach me not later than Tuesday 18th March. Selected candidates will be required to call upon such members of the Medical Staff as directed to be in attendance at a meeting of the Medical Council on Friday 28th March at 4 p.m and the House Committee Meeting at 4.45 p.m. the same day when the appointments will be made

H A. MADGE Secretary

Rotherham Hospital

Wanted JUNIOR HOUSE SURGEON male qualified. Salary £150 with board lodgings and washing Applications, with copies of recent testimonial to be sent to the Secretary G W ROBERTS 8 Moorgate Street, Rotherham.

Seamen's Hospital Society,
Greenwich S E

The Committee invite candidates for the appointments of HOUSE SURGEON and HOUSE PHYSICIAN at the Dreadnought Hospital Greenwich Candidates must be male doubly qualified and registered

The elected candidates will be required to take up duty on the 1st of April 1924 Salary at the rate of £150 per annum and a proportion of fees with board residence and washing The appointment will be for six months

Applications stating age, together with copies of not more than three recent testimonials to be sent in on or before the 21st March to the undersigned, from whom further particulars can be obtained.

By Order
Greenwich P J MICHELLI
3rd March 1924 Secretary

Seamen's Hospital Society,
Greenwich S E.

The Committee invite candidates for the appointment of HOUSE SURGEON at the Albert Dock Hospital Connaught Road E 16 Candidates must be male doubly qualified and registered

The elected candidate will be required to take up duty on 1st April 1924 Salary at the rate of £150 per annum and a proportion of fees with board residence and washing The appointment will be for six months

Applications stating age together with copies of not more than three recent testimonials to be sent in on or before the 21st March to the undersigned, from whom further particulars can be obtained

By Order
Greenwich P J MITCHELLI
3rd March 1924 Secretary

Lancashire County Mental
HOSPITAL, Winwick, Warrington

ASSISTANT MEDICAL OFFICER required Salary £300 per annum together with board, furnished apartments attendance and washing, valued at £150 per annum for superannuation purposes plus the Civil Service bonus which at present is £140 16s 8d Candidates must be registered under the Medical Act

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909

Applications stating age whether married or single together with copies of testimonials etc to be forwarded to the Medical Superintendent not later than first post on the 18th instant

The Royal Earlswood
INSTITUTION Redhill Surrey
(Under Mental Deficiency Act 1913.)

JUNIOR ASSISTANT MEDICAL OFFICER required:—

Applicants must be registered Practitioners Males unmarried and willing to assist in the games and amusements

The appointment is tenable for three years if desired Inclusive salary commences £250 per annum with board residence and washing and increment £15 per annum up to £280 Good facilities for Post Graduate Studies Classes and Examinations.

Applications stating age religion and qualifications with copies of three testimonials of recent date and two references, to be sent on or before the 17th March to the Secretary at the Office, 14 Ludgate Hill E C 4 The envelope to be endorsed Assistant Medical Officer H HOWARD
27th February 1924 Secretary

Assistant Medical Superintendent required for CENTRAL MENTAL HOSPITAL FEDERATED MALAY STATES

Salary equivalent to £616 rising to £1,120 with special (non pensionable) allowance of £84 per annum and temporary allowance of 10% (20% to married man) to meet high cost of living

Free passages and free quarters provided.

On probation for three years If appointment confirmed will be pensionable

Candidates should have two years experience as Assistant Medical Superintendent in a Mental Hospital

Application forms and any further particulars may be obtained from the Assistant Private Secretary (Appointments) Colonial Office Downing Street London S W 1

The Sheffield Royal Hospital

Applications are invited for the post of RESIDENT SURGICAL OFFICER which falls vacant on the 31st of March 1924 Salary £200 per annum with board and residence in the Hospital Candidates must be registered medical practitioners and unmarried Ladies are not eligible

Applications with copy testimonials to be sent to me by Tuesday the 18th of March The gentleman appointed will commence duty on the 1st of April 1924

The Board Room JOE W ROBINSON
5th March 1924 Secretary

London Lock Hospital,
91 Dean Street London W 1

The Board of Management invite applications for the post of HOUSE SURGEON at the Male Lock Hospital Candidates must be doubly qualified and duly registered Salary at the rate of £200 per annum with furnished flat, full board and laundry

The appointment to be for 6 months duties to commence 21st April 1924

Applications, enclosing copies (only) of three recent testimonials to be sent to the undersigned at the Male Lock Hospital 91 Dean Street W 1 on or before 10 a.m March 24th 1924

By order of the Board
HY J EASON Secretary

Telephone —Langham 2728
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(Mrs) MILLICENT HICKS *Superintendent.*
W J HICKS *Secretary*

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Specially trained Nurses for Mental and Nerve cases (All Nurses are insured under the Employers Liability Act 1906) Apply the SUPERINTENDENT
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Superior Mental Nurses (Male and FEMALE) supplied at a moment's notice day or night for all Nerve and Mental cases

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Secretary H H ALSHF
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LONDON, W 1

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FOR SALE.

LONDON N E —DEATH VACANCY Old established Average income nearly £800 p a Panel nearly 500 Small house to rent or purchase Premium £1 000

NORTHERN TOWN —Old established non panel PRACTICE producing nearly £4 500 p a 3 appointments Premium £5 000 House would be let Excellent opportunity for one keen on surgery

NURSING HOMES —We have several Nursing and Convalescent Homes situated in London and Provinces

DERBYSHIRE —Old-established G P Panel over 600 Income nearly £800 Premium £1 000 Scope for increase

CHANNEL ISLANDS —NUCLEUS unopposed capable of increase Nice house large garden 10 years lease rent £125 p a. Suit semi retired man Premium £200

LONDON N W —Old established G P Panel nearly 400 Average cash receipts £950 p a. No midwifery scope Premium £3 000 to include freehold house

LANCS —Old-established G P situated in country town Very pretty country Large house (6 beds) garden and garage. Panel over 800 2 appointments Income £1 460 Prem to include house £4 000

YORKS —Old-established County Town G P Panel 1 500 Income £2 500 3 appointments Detached house with garden and garage to let on lease Premium £3 500

WARWICK.—Small Country PRACTICE in pleasant district suitable only for young bachelor Panel 400 Income £450 Rent £21 p a. Premium £250 for quick sale Excellent opportunity for man a right from hospital

Purchasers stating their requirements will be sent particulars of suitable Practices and Partnerships for sale free of charge

Please address all communications to the Manager Medical Transfer and Insurance Department

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Printed Prospectus of Terms etc. post free on application.

London, South-West — PARTNERSHIP about £2,700 per annum. Half share for disposal. Fees 8/6 to 10/6. Good house to rent. Apply No 7504

London, East — Death Vacancy about £1,000 a year. Panel 00 Fees 5/ up. House with garden to rent £40 Apply No 7509

West County — Partnership About £2,800 a year. Very old-established. Panel 800. Good fees. Quarter or one third share for disposal. Very moderate premium Apply No 7500

Riverside Suburb — Nucleus about £500 a year. Small panel. Fee 5/ to 7/6. Increasing district. Good house and garden. Apply No 7474

Open Air Sanatorium, £6,000 a year. Old-established. Splendid premises on lease. Every investigation. Net profits over £1,500. Premium very modera e. Personally known —Apply No 7426.

Scotland — Seaside Resort About £3,800 a year. Panel 850. Good fees. Very few midwifery cases. Cottage Hospital. Nice house and garden —Apply No 7494.

Kent —£1,700 a year. Very old established PRACTICE. Panel 1 00 Good house rent £00 Family worked —Apply No 7487

Midlands —£800 a year, Industrial Town. Panel 8.0 easily worked no Car. House with large garden lawn and orchard Sell or Let. Premium for practice £1,000 —Apply No 7483

Northern Town —About £1,200 a year. Vendor retiring. Appointments £ 80 Panel 800. Good house —Apply No 7449

Midland Town —Practice about £1,400 a year. Panel 1,400. Excellent house to rent. Appointments about £250 No midwifery —Apply No 7473

Eastern County — Good old-established Family PRACTICE, now returning about £2,000 a year and increasing. Panel work £600. Fees good. Large detached house grounds one acre to be Let. Apply sole Agent No 7495

North-West County —Over £3,500 a year. Old-estab. Large town. Panel *nearly 3,000*. *Good house* on lease. Moderate terms. Apply No 7423.

Cheshire — £3,500 a year, PARTNER wanted. Good Suburb of large Town with Hospital. Good fees. Panel £1,000 a year. Good house available. Half share for sale — Apply No 7444

Wales Coast —Over £900 a year. Good general PRACTICE. Small panel. Good house and large garden. Residential Seaside Resort. Prem. £1000 —Apply No 7419

Eastern County — About £800 a year. Unopposed. On rail. Panel over 500. Detached house on lease. Schools near. Personally known. Premium 1½ years purchase — Apply No 7455

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Home County —Practice of £3,500 suitable for two in industrial place Panel and appointments about £1,500 Nice house rent £53

Cornwall — Unopposed PRACTICE of £900 in village on fine coast Good visitors in summer Excellent golf &c Well built house with good garden Price of house and practice only £1,750

North Wales —Practice in beautiful seaside place Receipts £550 Small panel Cottage hospital Good house and garden rent £50 on long lease Garage Premium £650

NE Coast — Partnership Half share of £2,800 including £1,800 from panel Suitable living accommodation Premium 1½ years purchase

Lancs —Practice of £1,500 in manufacturing town Panel 1,1 0 Appointments £120 Rent £60 on lease Reasonable price

Residential Suburb in S E London Old established middle class PRACTICE of £1,150 Appointment £240 No panel Good house with tennis court can be bought

Lincs — Unopposed Practice of £650 Panel and appointments £200 Small house can be rented

London, S W —Practice of nearly £600 in pleasant suburb Great scope as vendor has been doing other work Panel 350 House can be rented for £60

Surrey —Rapidly increasing PRACTICE of £500 in residential suburb. House and Practice can be bought for £1,400 Practically no panel

Liverpool — Suburb, near open country Receipts £1,400 Panel 1,100. Appointment £90 Opposition slight. Great scope as vendor has been handicapped by illness Rent £50

London, S W —Partnership Share worth £830 with good prospects of increase in mixed Practice Panel 1,300 Good house with separate surgery Rent £56 on long lease

North Wales —Partnership Share worth £800 in beautiful seaside place Cottage hospital and scope

South Coast —Old established good class PRACTICE of £4,000 in large town Very good fees 10 midwifery 5 gp Scope for surgery House in good position with garden and garage Rent £100

X Rays Practice of £800 in select seaside place. Good house can be rented

South Midlands — Partnership Two-fifths or one-third share of £3,000 in nice country town with cottage hospital in good hunting district Superior Surgeon Modernised house with garage and garden on lease

Peak District — Very old-established PRACTICE in country town Receipts average £1,360 Panel 6 0 Very desirable practice House at reasonable rent

South Devon —Nucleus and RESIDENT PATIENT connected with excellent practice Large house and grounds

East Coast — Practice of £1,140 in beautiful seaside place Panel 5 0 Appointment £40 Rent £60

South Coast —Practice of £1,300 in favourite resort Level 2 0 Appointments £40 Rent £60 Seven years lease Premium 1½ years purchase

Purchasers visiting their respective districts are invited to call at our offices for Particulars of other Practices not advertised

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PRACTICES AND PARTNERSHIPS FOR SALE

1 INLAND HEALTH RESORT —£3 000 a year Old-established PRACTICE held 13 years by present incumbent who is relinquishing on account of ill health Cash receipts for the past three years average £3 000 per annum including about £1 500 from panel Visits 3/6 to £1/1/0 about 50 cases of midwifery a year at 2 to 5 guineas Centrally situated house (2 reception rooms consulting and waiting rooms, 4 bedrooms bathroom etc) on lease at £100 a year Premium 1½ years purchase Efficient introduction given Scope for Surgery Cottage Hospital in the place and vendor is on the staff

2 DEATH VACANCY —WEST MIDLANDS —Very old-established PRACTICE averaging for the past three years over £1 000 per annum including £40 to £50 from appointments and 350 panel patients and situated in a very pleasant Country Town with beautiful surrounding country is for immediate disposal Held by late incumbent over 30 years Visits 5 and 7/6 Very little midwifery Large house and grounds Price (freehold) £2 500 £1 600 on mortgage Premium for Practice £1 250 or near offer Locum Tenens in charge

3 DORSET —Country Practice —PARTNERSHIP —A half or possibly two-thirds share is for immediate disposal (owing to the serious ill health of Senior Partner) in a Practice producing about £1 000 per annum with good scope Small house rent 10/- a week or there is a very suitable house for sale in the village Premium 1½ years purchase

4 INLAND HEALTH RESORT —In a very pleasant town (resident population 1 400 which is considerably increased in the season) [illegible] unopposed health of the [illegible] to be worth nearly £1 800 a year including appointments £50 and 500 panel patients Visits up to £1/1/0 Practically no midwifery fees 3 to 5 guineas Excellent residence standing in its own grounds of ¾ of an acre with very ample accommodation Vendor's Freehold Price £3 000 of which £2 500 can remain on mortgage at 4 per cent Premium for Practice £3 000 The Practice offers exceptional future prospects tennis golf hunting shooting etc

SUITABLE FOR TWO LADY DOCTORS —Well established and flourishing middle and working-class PRACTICE situated in populous neighbourhood in East London Income over £1 150, with panel of 1 300 Surgery fee 2/6 visits 3/6 upwards No midwifery Small house will be let or sold Premium £1 750 Large scope for increase

6 BORDERS OF NORFOLK & SUFFOLK —In a small Market Town and within 20 miles of a Cathedral City amidst pretty country a very old-established unopposed PRACTICE is for immediate disposal in consequence of the ill health of the Vendor Receipts for last three years average £1 500 per annum including appointment and panel about 1 000 Very little midwifery Very nice house with ample accommodation rent £54 Premium to prompt purchaser £1 600 Short of all kinds tennis club etc Efficient introduction

7 KENT —LARGE TOWN (within 50 miles of London) PARTNERSHIP —A half share in an old established Practice producing an average of over £3 800 No panel and no appointments Surgery fees 2/ and 2/6 visits 3/ and 3/6 Very little midwifery 2¹ gns Night work extremely light House on lease with 2 reception rooms, 6 bedrooms bathroom etc. Small garden Rent £60 Premium 1½ years purchase payable by arrangement

8 OUTLYING SUBURB OF LONDON (South) —Old-established good middle-class PRACTICE doing at present at the rate of £1 200 a year Vendor has no panel but there is very large scope in this direction Visits 5/- upwards Very little midwifery and nothing under £5 5s Exceptionally attractive residence with good accommodation garden etc It is the Vendor's Freehold Price £2 000 a good part of which can remain on mortgage Premium for Practice £1 500

9 BRISTOL —Very old-established middle and working-class PRACTICE held nearly 25 years by present Incumbent who is compelled to relinquish on account of ill health Average cash receipts over £1 200 a year including several small appointments and a panel of over 1 300 Visit 3/6 to 10/6 Midwifery £3 3s 30 cases yearly Very good house specially built for a doctor contains 2 reception rooms, waiting room consulting room and surgery with separate entrance 5 bedrooms dressing room etc Garden Price £2,200 Premium £1 800

10 LONDON EAST —PARTNERSHIP —A half share is for disposal in an exceptionally sound old-established middle and working class Practice. The average income is well over £5 000 including panel of under 1 000 The panel can be largely increased if desired Fees 3/6 and 5/ Midwifery from 3 guineas About 80 cases Small very convenient house in quiet road. Price £400 Premium £3 750 payable £2,000 down

11 WEST RIDING —Hospital Town with an easy reach of a University City Well-established PRACTICE producing an average of about £2 000 a year Panel of over 1 000 Suitable house available Premium 1½ years purchase

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13 NORTHERN SUBURB —Old-established PRACTICE producing an income of about £1 400 a year including appointments worth £320 Small panel of 150 but this can be largely increased if desired Visits and Medicine 3/6 to 7/6 Midwifery from 2 to 5 guineas Practice is very easily worked with no conveyance Nice house in good decorative repair Fair garden Premium for Practice and House £3 250

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SOUTH MIDLANDS —(2) PARTNERSHIP (with view to Succession) in old-established Country Town Practice £2 000 per annum Small panel Premium one-half share one and a half years purchase

MANCHESTER.—(3) Old established and increasing middle-class PRACTICE over £1 400 per annum in Suburb with Hospital and opportunities for Surgery Small panel Good house (6 bed rooms) in excellent position Rent £90. Premium one and a half years purchase

SCOTLAND NORTHERN HIGHLANDS — (4) PRACTICE averaging over £1,600 per annum in a Town. No panel House (5 bedrooms &c.) in best residential part, for sale. Ample scope for midwifery and panel Premium £1 200

SHROPSHIRE.—(5) PARTNERSHIP in Country Practice, nearly £1,350 per annum Detached house (6 bedrooms) with nice garden for sale Cottage Hospital Premium one-half share £1 000

NURSING HOME, HAMPSTEAD —(6) Old established Net profits last five years over £440 per annum, formerly much larger Fees 8 to 20 guineas. Good house rented on lease Premium for goodwill lease furniture &c. £1 750

DEATH VACANCY, CAMBRIDGESHIRE —(7) Old established unopposed Country PRACTICE averaging £1,680 per annum Panel 700. Good house (6 bed and 2 dressing rooms) with large lawn and garden about an acre.

SOUTH-WEST OF ENGLAND —(8) Health Resort, Well-established PRACTICE between £400 and £500 (neglected through illness) House contains 7 bedrooms etc. Rent £59 Mild climate Schools Premium £600 Hospital

SOUTH-EAST COAST —(9) Favourite Health Resort PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1,750 including appointments £170 (about) No panel. Premium two-fifths share two years purchase and up to one-half in two years. Partner should be 28 to 30 single. Preliminary Assistantship.

NEAR BIRMINGHAM —(10) Lucrative PRACTICE in Town Receipts averaging £2,300 per annum (£1,500 from appointments and panel) Large house with good garden Premium for house and Practice £5 000

NORTH WALES —(11) Old established PRACTICE in small Seaport Town Receipts (1923) £550 Panel 150. No midwifery or night work Rent of house (7 bedrooms garden half an acre) £50 Rem £650

INLAND HEALTH RESORT —(12) Well established PRACTICE of £1,600 in first rate Residential Town Panel 2 000 Large house (7 or 8 bedrooms) Premium Practice and House £3 500

WITHIN 40 MILES OF LONDON —(13) Old-established middle and upper-middle class PRACTICE over £2,100 per annum in one of the most desirable Residential Districts. Panel 700 Good society and excellent educational facilities Premium £2,750

MIDLANDS —(14) PARTNERSHIP in very old established unopposed Country Practice, well over £2 000 per annum near Important Town Not much Midwifery Detached house 4 bedrooms) and field of 2½ acres. Rent £50 on lease Premium one half share £1,500 to include drugs &c.

WEST OF ENGLAND —(15) Fashionable Inland Health Resort Good class non-dispensing NUCLEUS over £200 No panel Good introduction Premium £300

NURSING HOME, WEST LONDON —(16) Profits at rate of £600 per annum after deducting expenses. Pleasantly situated house in quiet neighbourhood Premium for goodwill to include Furniture fixtures, &c £3 000

DEATH VACANCY —(17) South Coast Old established PRACTICE averaging £1 280 p.a, in important Seaport Town. Panel 575 Nice house. Rent about £50 per annum

DEATH VACANCY —(18) Special X-Ray PRACTICE, in Seaport Town, on North East Coast Income last year £933, increasing Hospital Appointments.

NORTH OF ENGLAND —(19) Cathedral City PARTNERSHIP (with view to succession) in old-established Practice about £1,100 per annum (practically all from Panel, Clubs and Appointments) One-half share at one and a half years purchase Very considerable scope.

SOUTH OF ENGLAND —(20) PARTNERSHIP in a good class panel practice of £2 400 per annum in beautifully situated Country Town near the coast. One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate, not over 35 and preferably F R.C.S England Preliminary Assistantship Salary £500 p.a.

EAST ANGLIA.—(21) Nucleus of PRACTICE in small, select Watering Place. Income under £200 per annum Small panel. Detached corner house (4 bedrooms) with sea view Price for leasehold £1,250 Excellent golf and educational facilities Premium one year's purchase.

NORTH-WEST OF ENGLAND —(22) PARTNERSHIP in good class practice about £1,500 per annum in popular Seaside Resort. Panel 850 No clubs Modern residence (4 bedrooms, &c.) to rent on lease Premium one-half share two years purchase. Partner must be a north country man and aged 28-40. Great scope

DERBYSHIRE —(23) Well established PRACTICE of between £700 and £800 per annum in Manufacturing Town, Panel 850 No Midwifery Nice detached house (4 bedrooms) in acre of ground to let Great scope for increase Premium one and a half years purchase

EAST COAST —(24) Old established good class PRACTICE £1,700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double-fronted house (6 bedrooms) Rent £55 Premium one and a half years purchase

NORFOLK.—(25) Old established Country PRACTICE in beautiful part Receipts £540 Panel 328 Premium £750

MIDLANDS —(26) PARTNERSHIP in old established Practice over £3 200 per annum in excellent Country Town Panel about 1 400 Premium one third share one and a half years purchase

SOUTH COAST —(27) Good class general PRACTICE of £2,000 per annum. Excellent house Rent £80 Premium one year's purchase only

MIDLANDS — (28) PARTNERSHIP in very old established Practice over £3 000 in Market Town Panel 1,250 Detached corner house (4 bedrooms) Rent £65 Cottage Hospital and scope for surgery Premium one-third or five-twelfths share two years purchase

NORTH LONDON —(29) PARTNERSHIP in very old-established good middle-class Practice in Resident al Suburban District Receipts average about £5 430 per annum No panel, clubs or appointments Suitable house obtainable. One-third share at first at one and three quarters years purchase.

SOUTH-WEST OF ENGLAND —(30) Very old established middle and better-class PRACTICE over £4,200 in important Seaport Town. No Panel or Appointments Commodious house in excellent position Rent £100 Premium one and a half years purchase.

UP-THE-THAMES —(31) Middle-class PRACTICE worth about £500 in Residential District. Small Panel. House contains 4 bedrooms. Premium £500

SURREY —(32) Small non dispensing PRACTICE about £275 per annum in first-rate Residential Town. Small panel Excellent detached house (6 bedrooms) in one acre of ground to rent on lease. Premium (to include lease) £500

MIDLAND TOWN —(33) Old established PRACTICE about £1,100 per annum in Residential Suburb. Panel 700 House contains 9 bedrooms Large garden Price £1,750 Premium for Practice £1,600

NORTH-WEST COAST —(34) Well-established middle class PRACTICE about £2,400 No appointments. Conveniently situated house to rent. Premium £2,900 part by instalments.

NORTH OF ENGLAND —(35) Old established PRACTICE of £1 460 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds, two acres Premium practice house and grounds £4 000 Mortgage could be had on house.

FAVOURITE HOME COUNTY —(36) PARTNERSHIP in good-class Country Practice about £3,200 per annum in delightful residential district Visits up to £2 2s. Excellent modern detached house (7 bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

BORDERS OF SURREY AND HANTS — (37) JUNIOR PARTNER required in Practice in charming residential country District. Panel 73[illegible] Share worth about £600 at two years purchase.

EASTERN COUNTIES —(38) PARTNERSHIP in old-established practice £2,913 per annum in first rate Town. Panel about 2 050 House (9 bed and dressing room) standing in own grounds, to be sold Premium one-half share one and three quarters years purchase

SEASIDE TOWN AND HEALTH RESORT —(39) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old-established practice Share worth £1 000 p.a. at two years purchase

EAST COAST —(40) Popular Resort. Old-established middle and working-class PRACTICE of £1 184 Panel 847 Rent of house (5 bedrooms) £60 Premium £1 400

NURSING HOME.—(41) Fashionable Health Resort Gross receipts over £[illegible] 400 Fees £5 5s. to £15 15s. Excellently appointed resid. with ample accom Prem for Goodwill, furniture and fixtures £2 500

SURREY — (42) PARTNERSHIP in good middle-class compact practice over £2 650 in Residential District easy distance of London Panel 1 200. Premium two-fifths share two years purchase. Practice investigated by Association's Accountant.

CHESHIRE —(43) PARTNERSHIP in good middle and working-class practice over £3,200 per annum in Manufacturing Town. Panel returns about £1 000 per annum Modern detached house (6 bedrooms) for Sale Premium one half share one and a half years purchase. Hospital and plenty of scope for special work.

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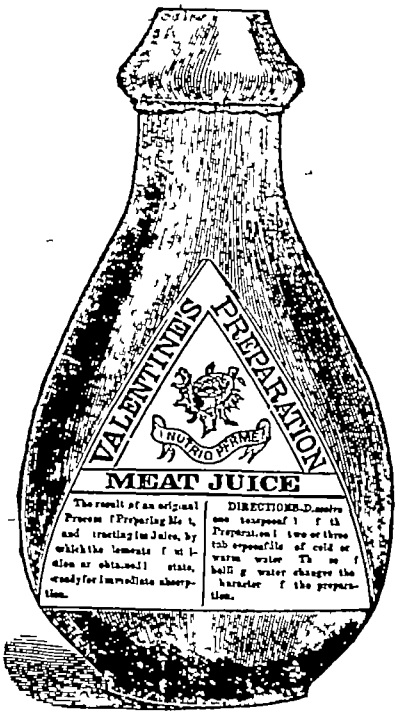
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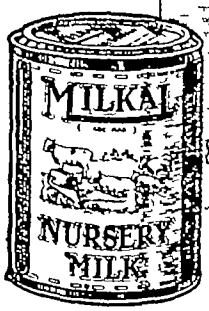
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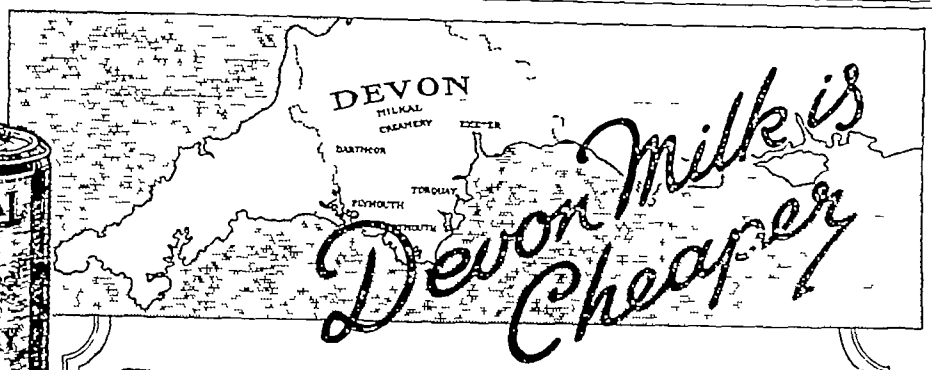
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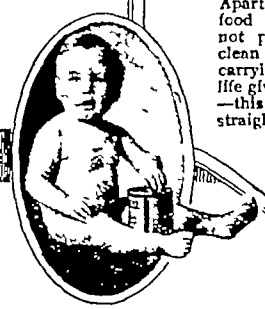
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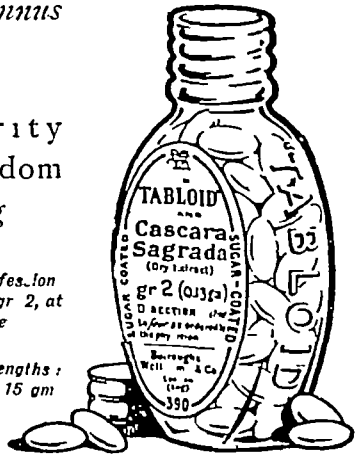
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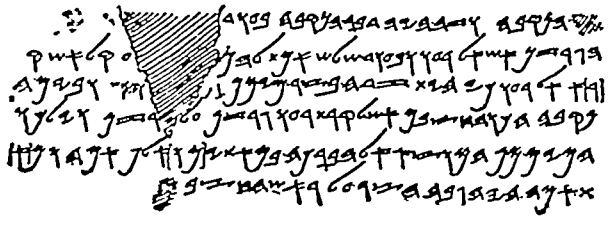
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A VERY ANCIENT—PERHAPS THE MOST ANCIENT—HEBREW INSCRIPTION KNOWN—This inscription is reproduced from a tablet placed in the wall of the Siloam conduit to celebrate its completion The characters are those of the Western Semitic alphabet which are seen also in slightly varied form, in the Moabite stone and in the old Phœnician inscriptions The record reads 'The boring through is completed Now this was the manner of the boring through While yet the miners plied the pick each towards his fellows and whilst there were yet three cubits to be bored through, there was heard the voice of each man calling to his fellow, for there was a fissure in the rock on the right hand And on the day of the boring through the hewers struck so as each to meet his fellow pick against pick And the waters flowed from the source to the pool for 1200 cubits and 100 cubits was the height of the rocks above the heads of the hewers" This conduit formed a link in the chain of the water supply of Jerusalem It was a rock cut tunnel which carried the water from the Virgin's Spring to the tank or reservoir known as the Pool of Siloam While the direct distance between these two points was 388 yards the length of the conduit is 586 yards



The workers began cutting at opposite ends and worked at haphazard towards each other Many false cuttings were made in the attempt to meet! We see from the primitive method employed that during the great pioneering age of the Hebrews, the science of engineering had remained in its infancy among them The work belongs to the time of the Jewish monarchy and, apart from fortifications, appears to be the only piece of engineering construction undertaken during this period

DATE c 700 B C

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British Medical Journal.

MARCH 22ND, 1924

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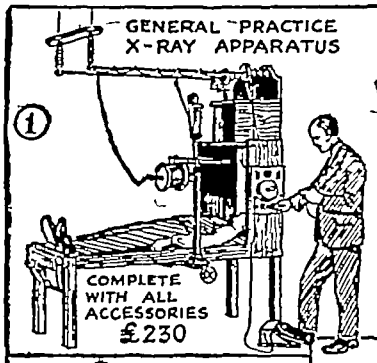
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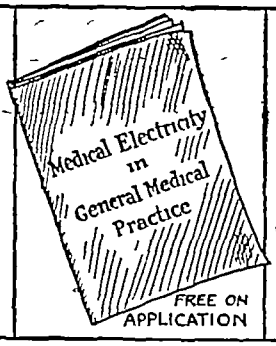
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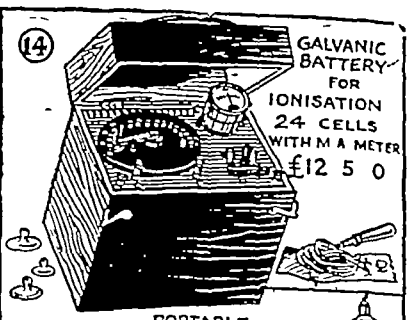


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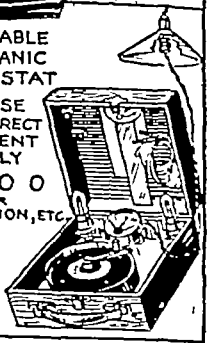
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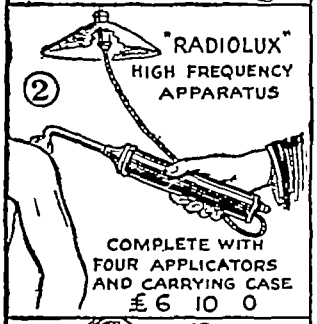
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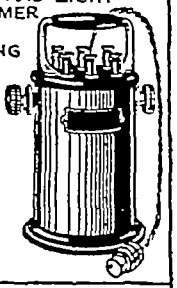
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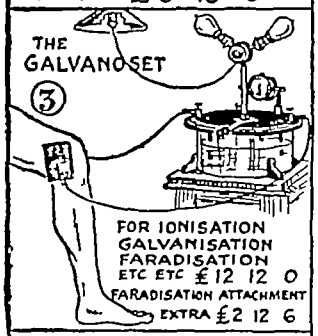
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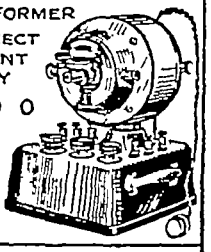
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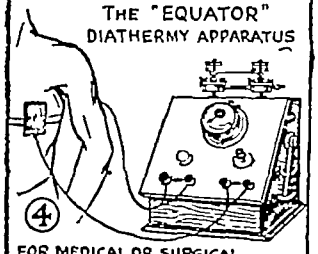


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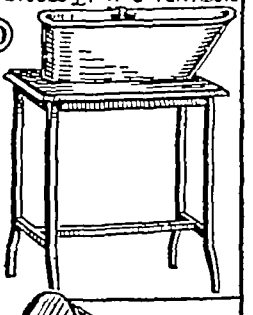
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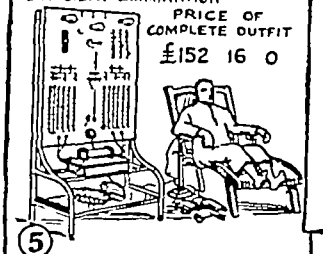
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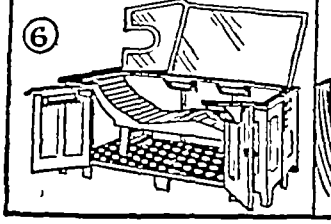
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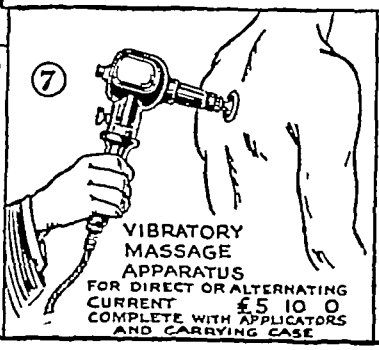


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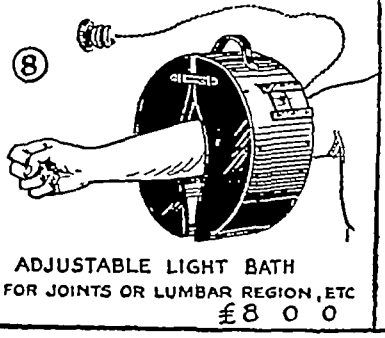
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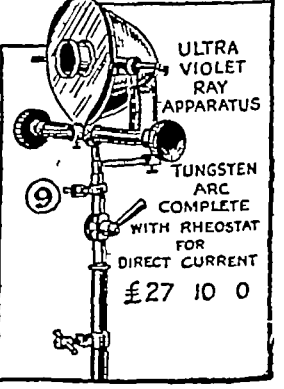
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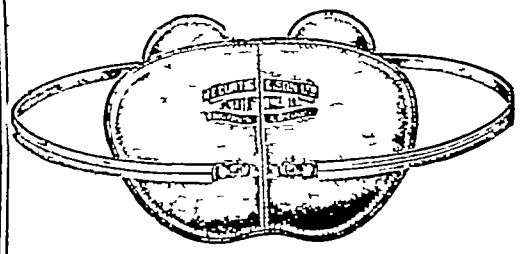
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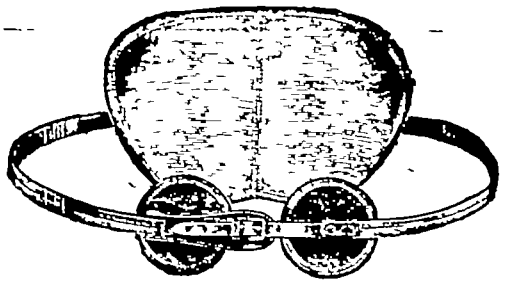
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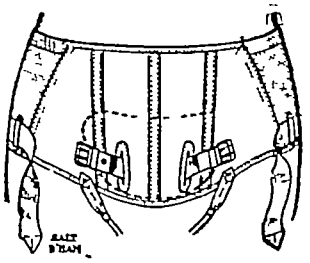
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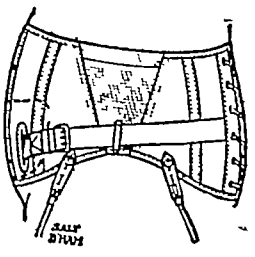
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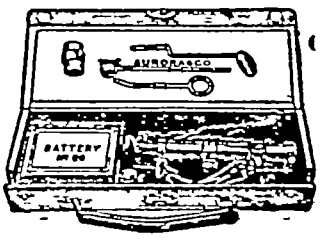
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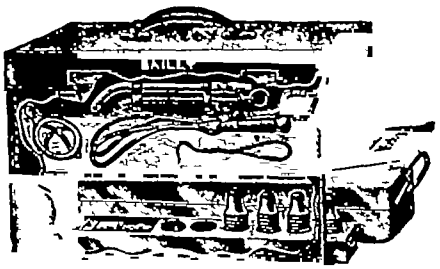
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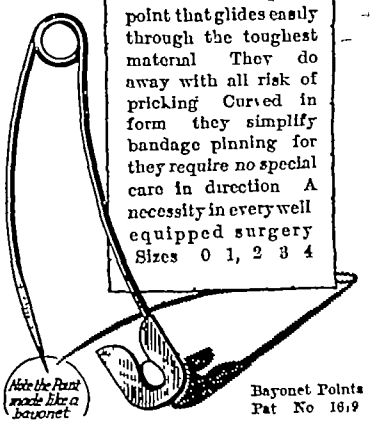
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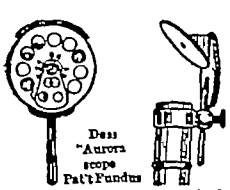
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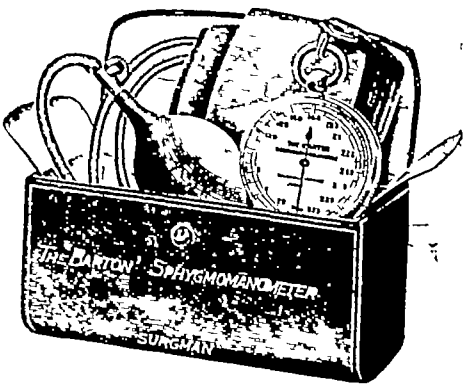
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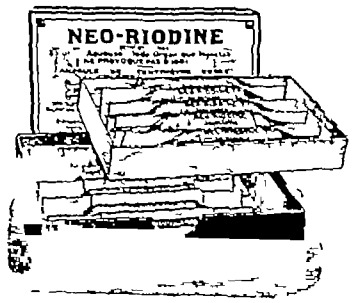
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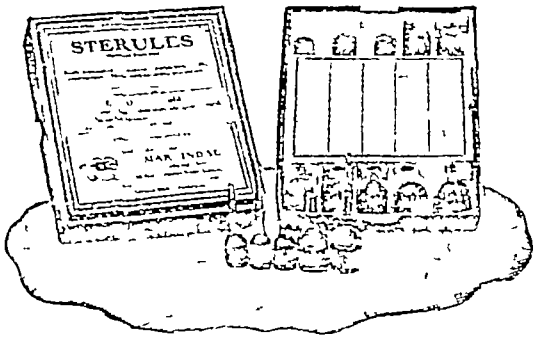
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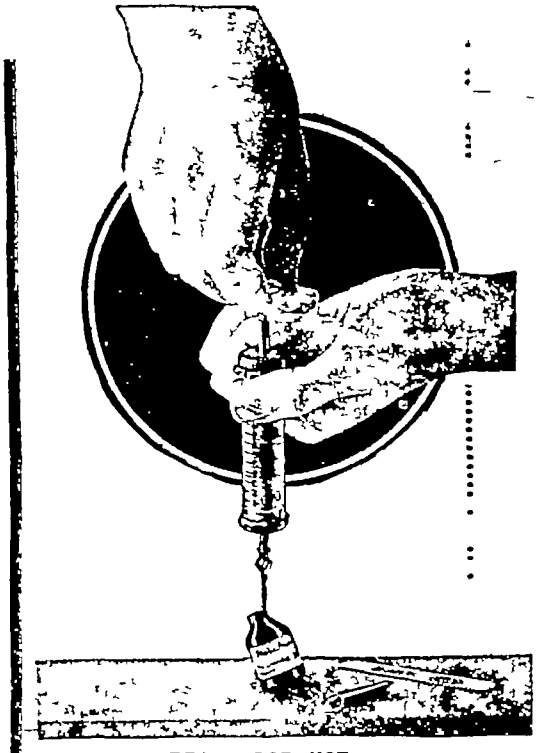
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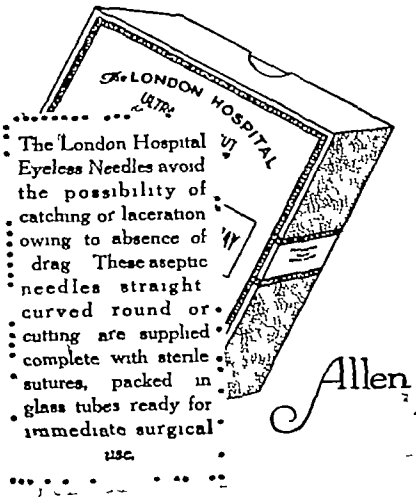
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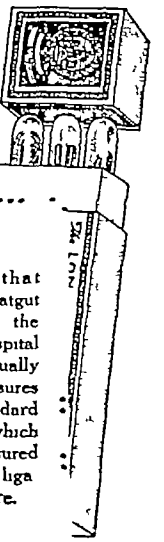
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The Lancet, January 5th, 1924

The main objects aimed at have been to take the weight of the body off the affected limb and produce extension between the articular surfaces in joint disease, while in fractures the intention is to keep the fragments in apposition and to prevent shortening of the limb Mr Hoefftcke produces manifold and mutually confirming examples of cases where these objects have been achieved without confining the patient to bed, and the general well being which is produced by such patients being able to enjoy a natural environment cannot be exaggerated It is not only that the more free circulation of blood to the site of injury promotes local improvement, and this rapidly in many cases, but the system of the patient is more adequately strung up so that any improvements secured get full chance of development while far the greater part of the contents consists of reprints from medical journals or of communications to the author written by practitioners and patients who have had good reason to be pleased with the application of his splints, or with the use of an ingenious extension table to be employed in the manipulation of diseased joints under anaesthesia

And it should be clearly stated that he works only with the medical profession, and not as one who offers a substitute for medical services

The Medical World, October 12th, 1923

We have much pleasure in heartily recommending this book to all who feel that the reception accorded by the medical profession to Pasteur is not a precedent of which we ought to be anything but ashamed

The London Hospital Gazette, October, 1923

Mr Hoefftcke's name is associated, in most minds with a splint, perhaps the fact is not so generally recognized that the splint is really only an aid to a special line of treatment, at least in so far as diseased joints are concerned In tuberculous joints, and indeed in all those which are the seat of chronic inflammation, his first aim is to effect a separation of the opposed joint surfaces, this end having been attained, he asserts that movement becomes not only painless and harmless but even beneficial

The Medical Press, August 22nd, 1923

Not only can the extension appliance be employed with good hope of success for fractures of the long bones of the lower extremities, but also in the treatment of tuberculous, rheumatoidal, and other joint conditions which formerly were rested for prolonged periods, frequently with most unsatisfactory results The validity of the claims made for the extension appliance is vouched for by several leading surgeons, and it is explained clearly why the extension principle efficiently carried out by this appliance is productive of good results

King's College Hospital Gazette, November, 1923

The weight of the body is transmitted to the tuberosity of the ischium and surrounding gluteal muscles, and in this way joint surfaces are kept apart although the actual mobility of the joint is not impaired As a result of this extension, friction of the joint surfaces is prevented, and instead of being obliged to keep the diseased joint at rest, movement can be allowed almost immediately, which not only permits of exercise and prevents stagnation in the blood supply, but in fact increases it

Medical Journal of South Africa, October, 1923

With this apparatus the sufferer is able to lead an active life, free from pain, while the disease is being combated by natural processes In the case of fractures of the femur or tibia, instances are quoted where the patient was able to be up and about within a week of the injury The method appears to be very successful, and aims at complete restoration of function instead of the inevitable stiff joint which the older methods resulted in

An Address
ON
HYPERPIESIA AND ARTERIO-SCLEROSIS

DELIVERED BEFORE THE PLYMOUTH MEDICAL SOCIETY ON FEBRUARY 29TH, 1924,

BY

H BATTY SHAW, M D, F R C P,
PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST

SIR CLIFFORD ALLBUTT says that hyperpiesia is a malady in which at, or towards, middle life the blood pressure rises excessively—a malady having a course of its own and deserving the name of a disease, without any organic association other than cardiac hypertrophy and altered blood vessels, the raised blood pressure or hyperpiesis being a sign of the disease hyperpiesia

It is clear that this disease may be missed by the clinician because raised blood pressure may be undetected by the finger, the cardiac hypertrophy may not be observed because coincident emphysema may obscure the maximum impulse of the heart, and alteration of the arteries in the beginning of the malady may be but slightly developed, or if well advanced may be obscured by the presence of much subcutaneous fat It follows that the only certain way to detect the disease is by the use of the sphygmomanometer as a routine, an isolated observation or two made at any moment is useless, the blood pressure must be found to be raised whenever observation is made for at least four days —not only after a day's work, but, most important, just after a night's rest

Extended pathological studies have shown that Sir Clifford Allbutt's contention that, if hyperpiesis is not transient—that is to say, if it is persistent—though it is a serious menace to decadent structures such as weakened arteries, it does not follow the clinical course of Bright's disease in any of its modes, must be modified There can be no doubt that hyperpiesis, or raised blood pressure, may be shown at the bedside as well as at *post-mortem* examination to be coexistent with all the signs of grave kidney disease, even including hyperuraemia Hyperpiesis has also that other feature possessed by many diseases of being able to cause the death of a patient apparently unaided by any other disease so far as present-day methods of *post-mortem* examination can show Lastly, hyperpiesis may exist in a patient and be accompanied even to fatal issue by manifestations of so-called uraemia, and even retinitis, without the kidneys being diseased at all, or so slightly as to exclude the possibility that renal disease could have been responsible for the uraemia or retinitis

It may be difficult to grasp the bearings of the terms "hyperpiésia" and "hyperpíesis" (that is, high tension) they may be compared with the terms "infection" and "fever" Hyperpiesis is the clinical sign of a diseased condition—hyperpiesia—just as fever is the clinical expression of infections, and in the course of time it may transpire that just as fever is the common clinical expression of different infections caused by different micro organisms, so hyperpiesis may be shown to be the common clinical expression of different hyperpiesias caused by different pressor agencies At the present moment it is not known what is the nature of the agent which causes hyperpiesis, so that medicine is in much the same position with regard to hyperpiesia as it was when the micro-organismal causes of fever were unknown

This discovery of hyperpiesia is most momentous, because there is good reason to believe that several conceptions held by physicians and pathologists in the past must be discarded, or at least considered from quite fresh points of view and be quite differently assessed Already it is clear that the medical student of the near future will be no longer harassed by attempting to fit clinical pictures into the frames of the various forms of anatomically altered kidneys The use of the term "uraemia," long known to be independent of an excess of urea in the blood, will probably give place to the use of the term "hyperuraemia" (*sensu stricto*), which, though unassociated with any clinical manifestations, has become a most invaluable means of detecting whether the kidneys, whatever their anatomical configuration may be, are functionally incapable of discharging the duty of adequately excreting urea Albuminuria and retinitis, so long held to be proofs of disease of the kidneys or of the retinal arteries, are probably rather tokens or signs that there is something circulating in the blood which, if removed or neutralized, would lead to the disappearance of albuminuria and retinitis Hyperpiesis, which is shown to vary so quickly and so markedly and so frequently, can no longer be regarded as being due merely to occlusive intimal disease of the arteries, since such intimal change could not possibly undergo such quick parallel change Hyperpiesis must be due to chemical or chemico-physical agencies circulating in the blood which vary in amount at different times according to the supply, and which are capable of being neutralized for short or long periods by equally variable supplies of other chemical or chemico-physical agencies which are depressor in type There is no need any longer to look upon eclampsia as a disease peculiar to women and pregnancy—it is but a variety of hyperpiesia Puerperal hyperpiesia is peculiar to women in pregnancy, in whom the blood poisons can be got rid of by emptying the womb, so that the hyperpiesis, the albuminuria, the convulsions, and the retinal changes may be entirely cured—only to recur, maybe, during subsequent pregnancies Eclampsia may occur independently of disease of the kidneys and independently of arterio-sclerosis

One of the facts which stamp medicine as an unscientific study is that false theories of the causation of disease when once launched float so long, often as useless hulks—the power of floating being dependent upon the conservatism, so marked in medical studies, which would prefer to hold on to names and theories when their falseness and uselessness have been completely demonstrated Harmful as the retention of the word "uraemia" and all it denotes are to progressive medicine, still more disastrous is the use of the word 'arterio sclerosis" The doom of this term and of all it has been held to mean in the explanation of certain clinical signs has come for already at least one recently published textbook of medicine has, through one of its collaborators, expressed the view that it should be abolished, and medical students will learn this in the future In order to realize that the term should be abolished it is only necessary to take other textbooks in which the term still stands to note how each may contradict another with regard to the pathology and clinical manifestations of arterio-sclerosis and even may contradict itself within its own pages One recent paper dealing with the subject shows such hesitation to get rid of the term that by its partial retention really important results of investigation by the author are rendered confused

It is impossible to define arterio sclerosis—or arterio-capillary fibrosis, as it is also known—and no two authorities agree as to what is the meaning of arterio-sclerosis Included in the term are various pathological conditions of the arteries which are quite distinct from one another and the clinical manifestations which are supposed to be dependent upon arterio sclerosis are found in the same book to be identical with those met with in hyperpiesia and in "uraemia"

The present occasion is not at all suited to a detailed review of what different authors consider to be arterio-sclerosis All that can be said is that it is possible at the bedside to recognize certain states of the arteries which are departures from the normal but it is impossible in most cases to tell what is the pathological anatomy underlying such changes The most manifest changes are few in number It is possible to detect by sight that an artery is more tortuous than it should be, it appears to be longer than it should be, and it is a good clinical guess that such lengthened artery owes its peculiarity to the fact that its walls have become lengthened owing either to increase of the length of the walls from increased pressure from within or to the walls having become weakened and stretched axially by a normal intravascular pressure It is also possible to detect *de visu* that an artery is dilated locally as in the case of an aneurysm and again it is a safe clinical guess to say that such dilatation is

due to local weakening of the vessel wall It is also possible to tell that the walls of an artery have become more rigid, but it is impossible to tell clinically whether such an increased rigidity is due to increase of the muscular tissues of the media or to fibrosis of the media or to proliferation of the intima, or to functional increased action of the tissues of the middle coat—that is, the spasm of the muscle fibres It is possible also to guess that the walls of the arteries may have become rigid from calcareous deposits in the middle coat, and this observation can be confirmed by *x*-ray examination It is possible, finally, to tell that pulsation has ceased to take place in an artery, but it may be difficult to say whether such absence of pulsation in the smaller arteries is due to occlusion locally or at a spot nearer the heart unless it is possible also to demonstrate a tender swelling indicating the lodgement of an embolus In larger arteries, however, it is quite possible to find that the loss of pulsation is directly due to local thrombosis, as is the thrombo-angeitis obliterans of Buerger It is possible by direct and indirect observation to detect that an artery is becoming occluded, as in intermittent claudication and in angina pectoris

There does not appear to be any justification for bunching together all the above changes in the arteries under the title of "arterio-sclerosis," or "arterio-capillary fibrosis," which, strictly speaking, is not a clinical term, but a permissible pathological one to be used to describe particular conditions in which fibrosis affects the walls of an artery *in toto*, or only in part

So valuable is the presence of hyperpiesis as a distinctive feature accompanying evidence of functional renal inadequacy that, during the war, persons showing albumin and hyperpiesis were looked upon as being much less fit to return to any form of military duty than were those in whom renal insufficiency was unaccompanied by hyperpiesis, this knowledge has been made use of by insurance companies, who are not disposed to accept at all cases of hyperpiesis and albuminuria, whereas cases of albuminuria without hyperpiesis are accepted with a load Recent work has shown also that cases of albuminuria and dropsy without hyperpiesis are less likely to be accompanied by hyperuraemia than are cases of less marked albuminuria and dropsy accompanied by hyperpiesis

In the same way tortuous and hardened arteries may be present in some cases without hyperpiesis and in others with this change, the outlook in the two sets of cases is quite different in the former the tortuosity may be simply due to muscular effort, which, oft repeated, has led to temporary oft-repeated rise of blood pressure, whereas in the other the blood pressure is constantly raised and is dependent upon the circulation of pressor agencies—in fact, is due to hyperpiesia It is not to be wondered at that with increasing age, especially in manual workers the arteries are tortuous and thickened, but the prognosis is much more favourable than in hyperpiesia The changes met with histologically in the arteries of the last two groups of cases may be strictly limited to *the media which in the early stages* show a true hypertrophy of the muscle fibres of the middle coat, and in late stages show an increase of fibrous tissue as well—a conservative process which *per se* is no menace to the individual, indeed is an insurance against rupture

But arteries may appear to be tortuous and yet not feel thickened, and if hyperpiesis, temporary or permanent, is absent such tortuosity may be referred to weakening of the middle, and even internal, coat of the artery In such cases rupture is possible It is almost certain that such cases are due to infection, as has been proved in the case of syphilis and typhoid infection but such weakening has been demonstrated to be the result also of other infections, such as streptococci and other pyogenic infections, in which even the inflammatory arterial change may be acute (rarely) or chronic (frequently)

So far, two forms of arterial disease which may be recognized clinically have been discussed (*a*) hyperpiesic and occupational tortuosity and hardening due to hypertrophy of the media, and (*b*) tortuosity and maybe hardening independent of hyperpiesia and occupation, but due to infection which causes formative inflammation of the coats of the artery, as shown by cellular proliferation and by cellular exudation

There remain other forms of arterial changes which may defy clinical detection—these are arterial degeneration affecting the intima (atheroma) and degeneration affecting the media There can be little doubt that such degenerations are toxic in character, maybe from lead, but in many other cases the toxic material is, judging by analogy, due to bacterial infection, which instead of being formative and protective is destructive and menacing

It is not to be wondered at that, in certain cases, histological examination may prove that arteries which show hypertrophy resulting from rise of blood pressure within the vessels—permanently as in hyperpiesia, or occasionally only as in manual workers—also show evidence of inflammation with new formation or degeneration, but these latter changes are not due to the hyperpiesis but to bacterial infection acting directly on the walls of the arteries, or indirectly through their toxins The outlook in such cases is very grave, for the presence of the hyperpiesis is a menace, as Sir Clifford Allbutt says, to decadent structures, and rupture of arteries is very possible if they are degenerated

It is thus clear, I hope, that as clinicians we can get on quite well without the use of the term "arterio-sclerosis", arterio-sclerosis is not the cause of the hyperpiesis of hyperpiesia Hyperpiesis causes hypertrophy of the media, and infection causes the new formations and degenerations of the media and of the intima We do not know how calcification of the media is caused, but the only other infiltrations of arteries—namely, lardaceous and hyaline—are almost certainly micro-organismal in origin

Thus I hope that in trying to make you familiar with a new conception—hyperpiesia—I have also helped you to other views of the significance of arterial changes, and to the relegation of arterio-sclerosis to the background, so that it need no longer cause difficulties

THE TREATMENT OF GENERAL PARALYSIS

BY

SIR JAMES PURVES-STEWART, K.C.M.G., C.B., M.D.,

SENIOR PHYSICIAN TO WESTMINSTER HOSPITAL

THE action of the Board of Control in issuing the circular letter to which attention was called in the BRITISH MEDICAL JOURNAL of March 15th (p. 479) and the rules there printed in full will be welcomed by all medical practitioners who have to deal with this particularly tragic class of mental case The moment seems, therefore, appropriate to call attention to one or two additional points which have become evident to me during the course of observations on this method of treatment during the past few years

The beneficial effects of intercurrent fevers, such as erysipelas or enteric fever, in patients suffering from general paralysis have long been recognized They have led to the introduction, for therapeutical purposes, of innocuous artificial pyrexia This has been achieved by various methods, notably by injections of tuberculin, of sodium nucleinate, etc Malarial inoculation, introduced by von Jauregg in 1917, seems rather more convenient, because not only is pyrexia induced by a single inoculation, but a whole series of resulting febrile reactions can be allowed to recur for days or weeks and then terminated by the exhibition of quinine As a result of such pyrexial treatment remissions in the course of general paralysis have been obtained, sometimes lasting months or years, and in many recorded cases the mental symptoms have cleared up, so that the individual has been able, for a time at least, to resume his normal occupation It is especially noteworthy, however, that in no case treated by von Jauregg or by any of his followers is it stated that the cerebro-spinal fluid has returned to normal On the contrary, its characteristic pleocytosis and positive Wassermann reaction are observed to persist, practically unchanged, despite the improvement in the clinical symptoms So long as this is so, it is evident that the patient is not really cured of his disease,

but is liable to further relapses The aim of the physician must be to obtain a serological as well as a clinical cure Is this possible?

A consideration of the pathology of paralytic dementia makes it obvious that the success of treatment is likely to vary with the promptitude with which the disease is recognized It is now well established as a fundamental fact in cerebral pathology that nerve cells and nerve fibres within the central nervous system (unlike those in the peripheral nervous system), once they have undergone degeneration, are incapable of regeneration The earlier the diagnosis is established, the brighter will be the prospects of improvement The most hopeful cases are those early ones in which the nerve cells of the psychical centres are not yet actually destroyed by irreparable organic degeneration, but are only poisoned by the syphilitic toxin and still capable of disintoxication The first point of importance, therefore, is to recognize paralytic dementia as early as possible, at a stage when its clinical features, physical and mental, are so slight as to be evident only to the expert observer It is to be remembered that, in addition to changes in the personality and behaviour of the patient, the earliest and most constant physical signs are to be found in the cerebro-spinal fluid—namely, marked pleocytosis and a positive Wassermann reaction To secure the maximum benefit in general paralysis, no matter what treatment be employed, the diseased neurones should be attacked in the early toxic stage, before organic degeneration has set in If treatment be not begun until a later stage, organic degenerative changes with a more profound degree of dementia are already present, so that even though the disease be brought to a standstill permanent and irreparable damage has already been done

Another maxim in connexion with the treatment of paralytic dementia—and one to which, in my opinion, sufficient attention has not been paid—is that the disease is essentially syphilitic, and that mere pyrexial treatment, whether by inoculation or otherwise, is not really attacking the cause of the malady How, then, does malarial inoculation produce its beneficial effects? It does so mainly by the pyrexial reaction with its accompanying tissue changes—by a burning up, as it were, of some of the toxins affecting the cerebral cells, a sort of cleansing fire But that the actual cause of the disease—the syphilitic encephalitis—is still uncured is demonstrated by the fact, repeatedly noted by von Jauregg and many other observers, that after malarial treatment, even when reinforced by energetic mercurial and salvarsan treatment, although the mental symptoms may clear up to a remarkable degree, the cerebro-spinal fluid retains its pleocytosis and its positive Wassermann reaction This is a fact of supreme significance, for so long as the cerebro-spinal fluid shows syphilitic reactions it is obvious that the patient is still suffering from cerebro-spinal syphilis, and that his cerebral symptoms may recur

Some physicians have grasped this fact and have therefore followed up the malarial treatment by assiduous anti-syphilitic treatment, by means of salvarsan, mercury, etc But in no recorded case, so far as I can discover, has the cerebro-spinal fluid ever been restored by these methods to anything like its normal conditions As a matter of experience, it has been found that the most energetic anti-syphilitic treatment, whether alone or in combination with malarial inoculation, has hitherto failed to make any serious impression on this most refractory variety of cerebro-spinal syphilis

My object is to call attention to an important modification of the malarial treatment, which I have carried out during the past year or two, whereby not only is a general paralytic patient freed from his mental symptoms, but his cerebro-spinal fluid is restored to a normal condition, so that the pleocytosis disappears, and even the Wassermann reaction, most obstinate of all, may become negative These results, it is submitted, are superior to those hitherto achieved by other methods

Having selected for treatment patients in the earliest possible stage of general paralysis, in whom signs of profound dementia have not yet supervened and who nevertheless show the usual changes in the cerebro-spinal fluid, an intravenous inoculation of benign tertian malaria is given according to von Jauregg's method After a short incubation period, varying from a day or two upwards, the resulting malarial pyrexia comes on and is allowed to run its course, until the patient has had seven, ten or perhaps even twelve successive bouts of benign tertian fever, depending on his general physical condition Quinine treatment is then employed to cut short the malarial infection Thereafter the patient is given a weekly intravenous injection of salvarsan, neosalvarsan, or, perhaps best of all, silver-salvarsan At each alternate salvarsan treatment—that is, once a fortnight—the patient's blood is withdrawn by venepuncture From this an autogenous salvarsanized serum is prepared and injected into the patient's subarachnoid space, after withdrawal of a corresponding amount of cerebro-spinal fluid for purposes of control

Intra-cisternal Injection of Salvarsanized Serum

Hitherto it has been the custom, following the well known technique of Swift and Ellis, to inject salvarsanized serum into the lumbar theca through a lumbar puncture needle It is evident that only a small proportion of serum thus introduced finds its way upwards into the cranial cavity and cerebral cortex, which is the region desired to be reached in cerebral syphilis Some physicians have endeavoured to facilitate upward diffusion by lowering the patient's head and elevating the lower part of his trunk for several hours after a lumbar injection and encouraging results have been recorded by this method

The improved plan I have adopted to supplement malarial inoculation is to introduce the salvarsanized serum directly into the cisterna magna and roof of the fourth ventricle by means of a suboccipital or cistern puncture, according to the technique of Wegeforth, Ayer, and Essick Serum introduced in this situation flows forwards with the current of cerebro-spinal fluid to the basal cistern and thence upwards to the cortical subarachnoid space, directly reaching the diseased cortical areas I need not here recapitulate the technique of the operation of cistern puncture, for which only three requisites are necessary—a knowledge of anatomy, a steady hand, and a stout heart One of my critics, Dr Farquhar Buzzard, at a meeting in which this procedure was discussed, humorously remarked that the stout heart is required by the patient as much as by the physician! But, as a matter of clinical experience I have performed this operation many scores of times without the slightest inconvenience or ill effects to the patient In fact the discomfort is usually considerably less than that which follows a lumbar puncture

Weekly intravenous injections of salvarsan with fortnightly intracisternal injections of salvarsanized serum, are carried out systematically as above described Daily mercurial treatment by the mouth is also given throughout The cerebro-spinal fluid and blood are examined at every injection, and the treatment is continued not only until the clinical symptoms, physical and mental have cleared up but until the cerebro-spinal fluid becomes normal as evidenced by the disappearance of pleocytosis and by a negative Wassermann reaction That this result can be achieved is shown by the following examples

CASE I

A man aged 51 was first seen by me in July 1923 He had had an adventurous career in England and abroad He acquired syphilis at a date which could not be accurately determined but was treated for syphilitic symptoms some seven or eight years ago Six months ago he became mentally peculiar and a week ago he became acutely excited burnt his wife's marriage settlement and wrote a long incoherent birthday letter to his brother most of which was taken up with instructions for making a fruit salad He was quarrelsome and full of unreasonable and exalted religious obsessions. On physical examination I found him voluble and exalted There were no facial or lingual tremors the optic discs pupils and cranial nerves were normal and the sensory motor and reflex functions were all normal save for feebleness of the right ankle-jerk The cerebro-spinal fluid showed marked syphilitic changes containing 157.2 lymphocytes per cubic millimetre and giving a strongly positive (+++) Wassermann reaction as determined by Dr Arthur Davies The Wassermann reaction in the blood was *negative* (- - -)

Within a week the patient developed delusions of suspicion and thought he was being followed by a band of detectives His excitement increased so that he had to be certified and admitted for treatment at Camberwell House private mental hospital, where the diagnosis of early general paralysis of the insane was confirmed by the superintendent Dr F H Edwards, and by Dr H J Norman and Dr R N Nuthall, members of the medical staff of that institution

On July 25th his mental exaltation still persisted On that date I inoculated him intravenously with 5 c cm of blood obtained from another patient suffering from benign tertian malaria Next day pyrexia appeared and he was allowed to have five successive typical attacks of tertian malarial fever This latter was then cut short by quinine, and for four weeks the temperature remained normal he then had a mild pyrexia of between 99° and 100° for nearly three weeks but by the time I saw him again, on September 22nd, the temperature had been normal again for a week Three weeks after his malarial inoculation his mental condition began to improve and within a week he became apparently normal When I re-examined him, on September 22nd he was quiet, coherent, and free from delusions of any sort By this time he had had two intravenous injections of neosalvarsan, each of 30 cg , at intervals of a week, the last of which had been given the day before my examination

So far, then, the medical condition having cleared up, he might have been regarded by an incautious observer as an example of cure by malarial inoculation But examination of the cerebro-spinal fluid on September 22nd showed that the condition was still serious The lymphocytes numbered 168 6 per cubic millimetre, and the Wassermann reaction was still strongly positive (+++)

A series of fortnightly treatments by salvarsanized serum intra isternally was accordingly undertaken, whilst in the intervals green iodide of mercury was given regularly by the mouth, with the following results on the blood and cerebro-spinal fluid

Date	Blood Wasser mann	Treatment Intravenous	Cerebro-spinal Fluid		Treatment Intra cisternal
			Cells	Wasser mann	
1923 July 7	---		157 2	+++	
Sept 14	---	N A B 30 cg.			
Sept 21-22	---	N A B 30 cg	168 6	+++	Salvarsanized serum 40 c c
Sept 28		N A.B 30 cg			
Oct 5-6	---	N A B 45 cg	57 4	+++	Salvarsanized serum 40 c c
Oct 12		N A B 30 cg			
Oct 19 20	---	N A B 45 cg	21 3	+--	Salvarsanized serum 40 c c
Nov 2-3	---	N A B 45 cg	6 3	+--	Do do
Nov 16-17	---	N A B 45 cg	6 2	+--	Do do
1924 Feb 6-7	---	N A B 45 cg	2.8	---	Do do

CASE II

A man aged 53 who had led a strenuous social and political life came under my observation in 1920 in conjunction with Sir Bruce Bruce Porter suffering from a *forme fruste* of tabes, evidenced by loss of pupillary reaction to light, lightning pains absence of the ankle jerks and well marked syphilitic changes in the cerebro-spinal fluid This contained 27 lymphocytes per cubic millimetre and gave a strongly positive (+++) Wassermann reaction as determined by Dr Braxton Hicks The blood at this time gave a negative Wassermann reaction Under treatment by intravenous salvarsan together with intrathecal salvarsanized serum, administered by lumbar injections he steadily improved, and after a couple of months the ankle jerks had returned and the Wassermann reaction in the cerebro-spinal fluid had become negative On repeated occasions in 1920 and 1921 he was seen by Sir Bruce and by myself and the improvement was maintained

In May 1922 the pupils were of Argyll Robertson type as before the left ankle jerk was now absent and he was noticed to have slight dysarthria attributed at that time to alcoholism as there were no facial or lingual tremors nor were there any definite mental symptoms The Wassermann reaction in the blood was now strongly positive Accordingly he was given another assiduous course of salvarsan intravenously with mercury by the mouth In September, 1922 his mental condition had deteriorated He was emotional excitable drinking alcohol in excess and frequently drowsy

In April, 1923 his mental condition further deteriorated He became emotionally more excitable talking incessantly for hours at a stretch, becoming very angry if anyone ventured to interpose a sentence He developed numerous delusions—for example, that he was a qualified medical man with five diplomas, that he knew every existing disease, that people were trying to burn his house down that he had been living in a South American jungle as a wild man with a Zulu [*sic*] as his sole companion, and so on He walked about the grounds of his villa armed with a loaded shot-gun and a large hunting knife This latter he pulled out frequently, explaining how he performed surgical operations with it There was now slight dysarthria and a few facial tremors He was seen in consultation several times by Dr J Chambers, who concurred in the diagnosis of early paralytic dementia

In view of his mental condition the patient had to be certified and placed under careful control Alcohol was at once withdrawn and suitable hypnotics were given The exaltation, delusions of persecution, and dysarthria, however, persisted as before The cerebro-spinal fluid was re-examined and found to contain 40 lymphocytes per cubic millimetre and to give a positive (+++) Wassermann reaction Intra-cisternal treatment by salvarsanized serum was then undertaken, as follows

Date.	Blood Wasser mann	Treatment Intravenous	Cerebro-spinal Fluid		Treatment Intra-cisternal
			Cells	Wasser mann	
1923 May 31			40	+++	
June 12-13	---	N A B 45 cg	28	+++	Salvarsanized serum 40 per cent 40 c.c.
June 26-27	+++	N A B 45 cg	15	+++	Ditto 50 per cent 40 c c.
July 10-11	+++	N A B 45 cg	8	+++	Ditto 50 per cent. 40 c c
July 24-25 ..	+++	N A B 45 cg	12	+++	Ditto 75 per cent. 40 c c.
Aug 7-8	++-	N A B 45 cg	10	+++	Ditto 100 per cent 40 c c.
Sept 27 ..	---				

Daily mercurial inunctions were also carried out in the intervals between the intra-cisternal injections The delusional condition continued between June and July Early in August he lost his delusions, and began to have lucid days in which he wrote coherent letters and was able to read the daily newspapers but tended to relapse occasionally into a state of mild mental confusion

It was accordingly decided to supplement the intra-cisternal treatment by malarial inoculation, and on August 15th 4 c cm of blood was transfused intravenously from another patient suffering from benign tertian malaria Five days later the usual pyrexia appeared and quickly assumed a "double tertian" type of fever, and ten successive daily attacks were allowed to occur until they were cut short by quinine, the temperature thereafter remaining normal By August 29th his mental condition had markedly improved, so that on August 30th he was able to be transferred to his own home on leave, continuing for a short time with moderate doses of quinine, and with intramuscular injection of sulfarsenol twice a week The facial and lingual tremors were now absent, whilst the pupils remained of Argyll Robertson type and the ankle-jerks were absent as before In the middle of September all certificates were withdrawn

The subsequent progress of the case was excellent Sulfarsenol was continued twice a week by intramuscular injections for six weeks On September 28th the blood was re-examined, found free from malarial parasites, and giving a negative Wassermann reaction In October he had for a day slight pyrexia, which promptly subsided after two 7½ grain doses of quinine Since then his improvement has been maintained He leads his ordinary social life, directs his own business affairs, and has given up his former tendency to alcoholism When last examined at the end of January, 1924, his mental condition was apparently normal, his memory was excellent he was calm, coherent, and alert and the only abnormal physical signs were those of the old tabetic lesion, consisting of Argyll Robertson pupils and absence of the ankle-jerks

I submit that the results of the foregoing combination of malarial inoculation with intra-cisternal injections of salvarsanized serum are obviously superior to those induced by either method separately In view of the desperate character of the disease, every additional therapeutic weapon which is proved to be efficient is worthy of trial The technique of intra-cisternal injection is admittedly difficult at first, but it is well worth acquiring for by this means we are enabled to introduce remedies into the cerebral subarachnoid space and to reach the diseased cerebral cortex in a direct manner

THE POSSIBLE SUBSTITUTES FOR COCAINE.

ABSTRACT OF REMARKS INTRODUCING A DISCUSSION AT THE ROYAL SOCIETY OF MEDICINE,*

BY

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IT may seem strange that the question of replacing cocaine by artificial substitutes has excited interest, even in extra medical circles, which is not aroused in the case of other alkaloids, even when these are, like cocaine, dangerous drugs of addiction We must admit, I think, that the case of cocaine is in some respects unique There are other drugs of addiction, but cocaine appears to be the only one in which the therapeutic value depends upon an action of a different type from that which leads to the vicious habit In therapeutics only its local actions have any serious value, whereas the action desired by the addict is one produced, after absorption, upon his central nervous system So far from having a positive value in therapeutics, these effects of cocaine after absorption complicate its use in medicine and surgery by producing undesirable and even dangerous symptoms Theoretically it is not impossible, or even improbable, that a substance might be produced having all the valuable properties of cocaine and none of its harmful or dangerous ones Cocaine, in comparison with many medicinal alkaloids, is a relatively simple substance, and its structure readily lends itself to the formation of artificial derivatives, and of substances departing more or less widely from its constitution, but retaining the structural features which experiment has shown to be definitely associated with its essential anaesthetic action Professor Gibson, who is to speak later, will doubtless have something to say concerning the chemical aspect of the problems involved I take it to be my function rather to indicate some more general points on which discussion may be valuable, and concerning which practical evidence is required If convincing evidence were forthcoming that a substance existed having all those local effects of cocaine which assist the surgeon, a lower immediate general toxicity, and no tendency to produce addiction, I suppose we may take for granted the adoption of such a substitute by the medical profession, and the rapid fall of cocaine into disuse If we knew of such a substance, we should be anxious to bring it to the notice of our colleagues, and to advocate its adoption, if advocacy were needed The purpose of our discussion is to consider the various substances put forward as substitutes for cocaine, and to discover how far any one of them, or all of them together, can thus fulfil its functions and avert its dangers

Properties of Cocaine

It will be convenient to have in mind, during our discussion, a list of the properties of cocaine itself, distinguishing those which are essential for all its applications, those which give it special value for particular purposes, and those which are wholly undesirable I will number them for convenience of reference

1 We begin, of course, with its powerful and long persistent local anaesthetic action, including therewith its power of penetrating the tissues, which enables it to produce anaesthesia of relatively deep structures, when it is superficially applied to the mucous membrane, whether of the conjunctiva or the respiratory passages

2 Next in order of importance we have its property of producing, when locally applied to a mucous membrane, a constriction of the small blood vessels, producing ischaemia and deturgescence, which have great value for certain surgical purposes With this we may mention its mydriatic action

3 Though not entirely free from irritant properties, cocaine shows little tendency to irritate or devitalize the tissues in an area into which it has been injected

We come now to its undesirable properties

4 Cocaine is a somewhat unstable substance, so that its solutions cannot be sterilized by boiling without danger of hydrolysing it into benzoic acid and methyl-ecgonine, with destruction of the local anaesthetic action

5 Cocaine is a dangerously toxic substance when absorbed into the general circulation The danger of such absorption severely limits its use for producing anaesthesia by injection, and is by no means completely absent when the application is made to intact mucous membranes, except when small quantities of dilute solutions are used The symptoms produced comprise a primary stimulation of the brain, with acceleration of cerebral processes, loss of sensation of fatigue, feeling of unwonted efficiency and general euphoria This is succeeded by restlessness and garrulity, accompanied by accelerated respiration, quickening of the heart beat, rise of the arterial blood pressure and of the body temperature If the toxic action progresses further, these stimulant actions are followed by depression, the blood pressure collapses, the heart beat becomes slow and feeble, the skin pale and cold, consciousness is lost, and death may ensue from paralysis of the respiratory centre

6 Lastly we have the fact that the primary stimulant effect of a not immediately dangerous dose, when experienced by a subject whose self control is weak, is apt to leave an urgent desire for its repetition, especially as a relief from the depression which follows the feeling of exalted vitality and general euphoria I need say no more concerning resultant addiction and its deplorable effects

Substitutes in Local Anaesthesia

From the very long list of local anaesthetics which have been put forward as substitutes for cocaine, we may select for consideration only those which have had some measure of success We may further omit the substances of low solubility, such as orthoform and anaesthesin, which are only suitable for use as analgesic dusting powders We are left with the eucaines, of which only beta eucaine has had practical success, tropacocaine, the only natural alkaloid which has had any measure of success in this direction, stovaine and the closely related alypine, and, lastly, novocain and its higher homologue, butyn Of substances having no chemical similarity of any kind to cocaine, it should be mentioned that quinine, in the form of the double salt with urea, has been used for anaesthetizing the deeper layers of the body wall in infiltration anaesthesia But, since cocaine itself would hardly be used in that manner now, we cannot consider quinine as a serious rival I imagine that the same is probably true of benzyl alcohol and phenyl ethyl alcohol Some years ago there was quite a series of publications in American pharmacological and medical journals advocating the use of these simple and relatively cheap substances as local anaesthetics either by local application or for infiltration anaesthesia At the time of the first publications, early in the war I made a number of experiments in the laboratory with very disappointing results I supposed that my technique was somehow at fault, but the fact that with substances available, which are so cheap, so stable and so free from danger as these, new local anaesthetics of the cocaine type are still being sought even in America makes me suspect some excess of enthusiasm in the earlier advocacy

Comparison of Substitutes

Confining our attention therefore to the substances having some, even if remote, similarity to cocaine in chemical structure and a general similarity in their type of action, we have to compare them with cocaine with respect to the desirable and undesirable properties which I mentioned above

(1) In intensity and persistence of local anaesthetic action, it seems to be generally agreed that cocaine stands as yet unrivalled, except, perhaps, by the recently introduced butyn Nor can the admittedly weaker and more

* The discussion which followed the reading of the opening paper is reported at page 520.

evanescent action of such an established substitute as novocain be wholly compensated by using it in stronger solution Novocain appears to be much more rapidly destroyed in contact with the tissues, so that even when a satisfactory superficial action is obtained it does not penetrate deeply Tropacocaine has been said by some to be as active as cocaine with local application, but its effect is more evanescent For butyn an equal anaesthetic efficiency with cocaine has been claimed by American observers, but this claim has not hitherto received consistent support in this country Further evidence as to its efficiency is very desirable, and it may be hoped that this discussion will produce some

(2) I have found no record of even a claim, for any of the suggested substitutes, that it resembles cocaine in constricting the blood vessels and producing shrinkage when applied to a mucous membrane For some surgical purposes this action may be undesirable, there is no doubt that for others it is considered valuable, and even indispensable It is important that a discussion like this should produce evidence as to whether any of the available substitutes has this action of cocaine, and, if not, whether the defect can be compensated by mixing the locally anaesthetic substance with a suitable proportion of adrenaline Similarly, it would be of interest to hear, from our ophthalmological colleagues, what importance attaches to the mydriatic action which cocaine possesses but apparently none of the substitutes

(3) Many of the suggested substitutes for cocaine have the defect that their anaesthetic action on peripheral sensory nerve endings is complicated by a much more seriously harmful action on the surrounding tissue cells than that which cocaine produces Such an effect is, of course, apt to be intensified when the action is localized by the presence of adrenaline The data which I have seen suggest that this irritant and devitalizing action compromises the value of eucaine, tropacocaine, stovaine, and, especially, alypine Novocain appears to be remarkably free from it, and one would expect the higher homologue, butyn, to show a favourable record in this respect

(4) All the suggested substitutes appear to be more stable than cocaine to boiling in watery solution

(5) Most of the substitutes have less general toxicity than cocaine Alypine is probably an exception, and, being practically as toxic as cocaine on absorption, and much more irritant locally, it is not likely to have advantages for many purposes Eucaine, tropacocaine, stovaine, and novocain are all much less liable than cocaine to produce bad symptoms if absorbed into the general circulation The position of butyn is yet uncertain, and it may be hoped that this discussion will make it clearer Animal experiments seem to have indicated that it is even more toxic than cocaine itself, on the other hand, it was claimed that in human therapeutics its use had been singularly free from bad symptoms resulting from accidental absorption

Leaving for the moment the question of danger of the drug habit, we find that, of the available substitutes several are much weaker in general toxicity and therefore safer than cocaine, and that some of these are sufficiently potent and penetrating in anaesthetic action But those which have sufficient potency and penetration appear to have the drawback of irritating and devitalizing the tissues, whilst novocain which is ideal in this respect, is deficient in power, penetration, and persistence of effect None appears to have the vaso-constrictor action of cocaine or to dilate the pupil It is obvious that, for some of the uses of local anaesthetics one or another of these deficiencies may be immaterial and that, by choosing for each separate purpose the appropriate substance, cocaine can be, and to a large extent has been, replaced by safer substitutes I suppose that for infiltration anaesthesia and for nerve blocking novocain meets most needs For producing analgesia by intrathecal injection stovaine and tropacocaine have been largely used, and I suppose that cocaine has been altogether abandoned for this purpose It is obvious that each special branch of practice must speak for itself, and I would suggest that the aim of the discussion should not be merely to discover whether there is any one substance which can replace cocaine for all purposes, but whether for each of the different uses of cocaine there is any less dangerous and perfectly efficient substitute, in other words, whether there is any use of cocaine for which no less dangerous substitute exists which can efficiently produce the desired effect even when associated with adrenaline

In speaking of "less dangerous" substitutes I have in mind not merely the danger of immediate toxicity, but the much more subtle danger of addiction It is common knowledge that the problem created by the cocaine habit has led the Minister of Health to appoint a special committee to discuss this question, the reference to the committee being "to investigate the comparative value, for therapeutic purposes for which cocaine is at present used, of various possible substitutes, and the evidence as to risk, if any, of such substitutes becoming drugs of addiction" As a member of that committee, my duty is simply to ask for information, and not to express any opinion which could even seem to anticipate the committee's conclusions

The Danger of Addiction

On the question of possible addiction to the substitutes, I think I can state, without indiscretion, that inquiries which I have made myself, from those most likely to know, in countries where drug addiction is widely prevalent, have failed to elicit evidence of a case of addiction to any of the local anaesthetics other than cocaine Unfortunately the absence of recorded cases hitherto does not exclude the possibility, and it would be of great interest to know whether any of the substitutes has been found to produce a mental exaltation and euphoria comparable to that produced by cocaine, and providing the basis for its habit-forming property

Another question of importance in this connexion is that of the extent to which the proper use of cocaine in medicine and surgery involves the danger of producing a drug habit This again involves the question as to what is a proper use of cocaine Probably there are those present who can quote cases in which the prescription of cocaine, for application by the patient himself, has resulted in the formation of a vicious habit Such cases may be rare, but I gather that evidence of their existence can be produced On the other hand, it would be of great interest to know whether a single application of cocaine by the medical man himself, to produce a local anaesthesia for operation or to facilitate examination, has ever been known to result in the acquisition of the habit by the patient If not, the question necessarily arises whether cocaine itself is indispensable for any of the other purposes for which it can now be used and prescribed, or whether these other uses could be met by one or another of the substitutes The practical question is, in brief, whether medical practice would in any direction be materially hampered if the use of cocaine, short of its complete abolition, were limited to direct application by the medical man himself, with prohibition of dispensing or prescription for the patient

The title given to me for the discussion was "The possible substitutes for cocaine" I have assumed that the council of the society intended us to limit our discussion to those which are hitherto available The only practical question for us at present is whether any of these, or all of them together, so far fulfil the functions of cocaine that medicine and surgery could do without it It is obvious that no negative answer, given to this question at the present time, could be final The synthesis of cocaine itself has only recently been completed, and has resulted in the production of a series of isomeric cocaines There is still a large field of synthesis unexplored, and at any time the ideal local anaesthetic may appear—potent, penetrating, astringent, and at the same time free from dangerous properties, whether of immediate toxicity or of habit formation Our business is not, however, to speculate on the future, but to decide, on evidence, whether ideal substitutes, or reasonably efficient substitutes, are now available, and, if not, whether the use of cocaine itself can be so restricted as to minimize its dangers without real detriment to practice

A COMPARATIVE STUDY OF ABDOMINAL INCISIONS *

BY

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THE making of an abdominal incision is one of the most important steps in an abdominal operation The development of a post-operative ventral hernia is a not unusual result of a badly planned incision, and many times this condition could be prevented by the careful selection and mode of closing the original incision

Certain incisions appear more liable than others to be followed by ill effects Recent statistics from the Mayo Clinic show that during a period of five years, out of a total of 29,000 abdominal operations, 526, or 2 per cent , were performed for the repair of post-operative abdominal hernia At the Manchester Royal Infirmary during a period of two years just under 2 per cent of abdominal operations were done for the cure of ventral hernia

An abdominal incision when properly made should afford free access to the affected organ and should at the same time inflict the least possible amount of injury on the structures of the abdominal wall For if the incision be so planned that muscle fibres and nerve trunks are cut haphazard, the resulting weak scar and hernial protrusion may be of such a character that the last state of the patient is worse than the first Further, the ideal incision should be easy of execution and, if possible, free from the risk of technical error No detail in the performance of the operation which may lessen the ultimate chance of subsequent complications should be overlooked, and for this reason the surgeon who is about to undertake an abdominal operation should have a clear idea of the anatomy of the abdominal wall It will be advisable therefore to consider shortly the anatomical arrangement of the structures which take part in the formation of the abdominal wall

Anatomical Considerations

The abdominal muscles may be divided into two main groups—an anterior group consisting of the recti abdominis, and a lateral group consisting of the oblique and transverse muscles The three muscles of the lateral group are fleshy at the back and flanks, but end anteriorly in aponeuroses The muscle fibres are obliquely placed in different directions, but the fibres of the aponeuroses are for all practical purposes transverse The three aponeuroses unite at the outer border of the rectus muscle and form the linea semilunaris They then split and, proceeding mesially, form a sheath to enclose the rectus muscle At the inner border of the rectus they join together and fuse with the aponeuroses of the opposite side to form the linea alba The rectus muscles are loosely contained in their sheaths, being attached to them only at the lineæ transversæ In the living subject the rectus muscle extends two thirds of the distance from the umbilicus to the anterior spine of the ilium, a fact which is not always fully recognized

The abdominal wall thus forms an elastic and contractile covering so arranged as to maintain an equable pressure and form a protection for its contents On the tonus of the abdominal musculature depends the maintenance of the positive intra abdominal tension which is of such great importance in retaining the organs in their normal relationship

The nerve supply of the abdominal wall, both motor and sensory, is derived from the lower six dorsal nerves, the ilio hypogastric and the ilio-inguinal nerves These all enter the abdominal wall by piercing the transversalis and internal oblique muscles, and, with the exception of the ilio-inguinal, pass forward to reach the outer border of the rectus sheath After entering the rectus sheath each intercostal nerve divides into two divisions a larger and a smaller The larger branch proceeds inwards behind the muscle and enters the rectus itself when half way across the sheath It then breaks up into a plexiform arrangement and gives off the cutaneous branch which does not appear to cross the mid line The smaller division pierces the outer half of the muscle which it innervates The nerves thus run obliquely to the long axis of the abdomen and are more liable to injury in vertical than oblique incisions The ilio-inguinal passes along the inguinal canal and does not follow the course of the other nerves

The blood supply of the abdominal wall is derived anteriorly from the superior and deep epigastric arteries These vessels anastomose freely with each other and with the lateral group derived from the intercostal, lumbar, and circumflex iliac arteries The deep epigastric artery is clinically the most important, and it ascends obliquely upwards and inwards, and runs on the posterior aspect of the rectus muscle It should be avoided in abdominal incisions and carefully retracted to one side Towards the mid line there is little anastomosis with the vessels of the opposite side and the linea alba is a practically bloodless area

The Incision

We are now in a position to discuss the relative merits of the more common incisions and to offer some suggestions as to their suitability or otherwise

In deciding upon the appropriate incision the surgeon will first be influenced by the position of the particular organ which has to be dealt with Next, the incision should be so planned that it can be made where there are no nerve trunks present, or if this is not possible it should be parallel to the direction of the fibres and be so arranged as to pass between contiguous nerves Further, it should be so constructed that the scar will not be subjected to undue strain and result in its subsequent stretching, but should leave a secure and firm cicatrix with no risk of undesirable after-effects Maylard has emphasized the importance of making the incision through that part of the abdominal wall where there is aponeurotic tissue for satisfactory healing of aponeurosis is the surest preventive against subsequent hernia

The necessity of the primary union of incisions and the avoidance of sepsis hardly needs emphasizing for infection both delays healing and leads to weakness of the scar and is the most common cause of post-operative hernia

Historical Note

The practice of modern abdominal surgery owes its origin largely to the work of the earlier gynæcologists who operated for tumours and obscure conditions of the female pelvis It therefore followed that the lower abdomen was first attacked and the mid line incision was the usual means of approach

The first deliberate operation for ovariotomy was performed by Ephraim McDowell in 1809 upon a woman aged 47 Ovariotomy had no place in surgical procedure before that time, and McDowell placed it on a permanent basis It was later firmly established as a recognized operation in England through the labours of Charles Clay of Manchester (who advocated the long incision from the sternum to the pubes in 1842) and Sir Spencer Wells of London Since that time and the introduction of general anæsthetics in 1842 the history of abdominal surgery shows a continuous story of progress as can be seen from the present-day treatment of diseases of the appendix, gall bladder, stomach and intestines

The Median Incision

Incisions through the mid line have been and still are largely used for pelvic operations The advantages of this incision are the absence of vessels and nerves in this situation, the avoidance of injury to the rectus muscles and the simplicity of execution whilst it gives ready access to both sides of the pelvis If, however, patients are examined

* A paper read before the Manchester Surgical Society February 19th, 1924

some time after operation it is not uncommon to find that in a considerable number of cases stretching of the tissues and the formation of a post-operative hernia have occurred A low median incision is the commonest site of ventral hernia not preceded by infection

The general direction of the aponeurotic fibres in this situation is transverse, and every increase in intra-abdominal pressure and every strong contraction of the lateral muscles tends to draw the edges of the incision apart, leading to a liability to ventral hernia The Mayo operation, which is so successful in the radical cure of umbilical hernia, is based on the principle that the lateral muscles are inserted into the linea alba and when they contract tend to pull it apart If, however, the opening is closed transversely the pull of the muscle draws the edges of the opening together, so helping to close it I think most surgeons will agree that these are sufficient reasons for departing from the use of the mid-line incision

The Transverse Incision

The transverse incision across the lower part of the abdomen is also employed in gynaecological work It is, I believe, popular abroad and found to be generally satisfactory, though I have never seen it used here

In Pfannenstiel's modification the rectus sheath is opened transversely, and the rectus muscles being separated in the mid-line can then be readily retracted laterally The advantages of this incision are the strength of the resulting scar and that no nerves or muscles are damaged Its main disadvantages are the length of time required both to make and close the incision, and that without division of the muscles and ligature of the deep epigastric arteries it gives only limited space It is therefore only applicable in certain cases, and of little use should a general exploration be required A transverse incision has also been advocated by Professor Lanz of Amsterdam as giving good access and inflicting little damage in appendix operations, whilst Rutherford Morison employs a transverse incision for operations on the gall bladder

The Closure of Abdominal Wounds

It will be convenient at this point to say a few words on the different modes of closing abdominal incisions The earliest method, that of the so called through-and-through suture penetrated all structures from the skin to the peritoneum This however, led to faulty approximation of the different layers and the sutures being under considerable tension were apt to cut through or cause atrophy of the tissues underneath The resulting scar was both wide and weak and being in a single line from the surface to the peritoneum was liable to lead to an incisional hernia The suturing in layers was a vast improvement on this method and gave good approximation but left a linear scar continuous throughout all the layers of the abdominal wall This can be obviated by dividing the tissues in different vertical planes so that the scars are covered by a sound layer above and so ensure increased strength Still later came the McBurney muscle-splitting incision, where the tissues are divided in the direction of their fibres and the lines of division and union cross each other, it is anatomically correct Finally, we have the incision which slides to one side the rectus muscle, which is replaced unsutured after the operation, as in the Battle and the paramedian incisions, this modification possesses many undoubted advantages

Appendix Incisions

The first deliberate operation for suppurative appendicitis was performed in 1848 by Hancock He made a four-inch incision extending from above the anterior superior spine downwards and inwards along Poupart's ligament The earlier operators divided all the layers of the abdominal wall in one and the same direction The muscle-splitting incision of McBurney was described in 1894, and Battle in 1895 gave us the incision through the right rectus sheath with displacement of the muscle inwards which has become the rival of the McBurney incision With regard to the merits of these two incisions, the McBurney route lies more directly over the site of the appendix, but only gives a limited exposure, and often cannot be enlarged sufficiently without cutting across muscle fibres and nerves Battle's incision gives better access, and sufficient space can usually be obtained without injury to nerves, whilst it is less destructive

As to the relative frequency of post-operative ventral hernia when drainage is employed, the chances of this complication appear to be greater in the McBurney incision, and I have met with a number of such cases I seldom employ the muscle-splitting incision except when an abscess is localized under this point, and though I have used the Battle incision on three hundred occasions for acute appendicitis I have only known one case develop a post-operative hernia

A further complication of the McBurney incision is the occurrence of a right inguinal hernia after the operation This probably depends on some injury to the nerves supplying the lower fibres of the internal oblique and transversalis muscles, leading to atrophy of the fibres at the internal abdominal ring Three cases of this nature have come under my notice, but I have never seen the complication follow the Battle incision, in that incision the nerves are easily seen and so can be avoided

Gall Bladder Incisions

The first successful operation on the gall bladder in England was performed by Lawson Tait in 1879, and to Tait and Mayo-Robson undoubtedly belongs the credit of having popularized the operation with the profession

Mayo-Robson employed an incision which extended vertically downward through the right rectus muscle, near its outer margin, with an upward and inward prolongation at the upper end, dividing the muscle fibres This incision is not to be recommended as it both disregards nerve trunks and cuts muscle fibres Bevan's incision, which is a modification of the above, is equally harmful and causes serious damage to the parts Kocher used an oblique incision about half an inch below and parallel to the costal margin, the centre lying a little to the outer margin of the rectus muscle The nerves are retracted out of the way, and there is little fear of a hernia developing later This route, however, only gives a poor exposure in many cases, though by carrying it outwards and dividing the seventh nerve more room can be obtained

At the present time two incisions are popular for operations on the biliary tract One is a vertical muscle splitting incision passing through the outer third of the rectus muscle, an incision which gives excellent access, affords satisfactory drainage, but disregards the presence of the nerve trunks in this situation Then there is the paramedian rectus sheath incision with outward retraction of the muscle This route usually gives ample exposure and only rarely requires enlargement by division of the muscle It preserves the nerve trunks intact and drainage may be obtained by a separate stab incision

Exploratory Incisions

The operation of exploratory laparotomy is largely a recent development of surgery, and abdominal operations tend to become more and more of an exploratory nature Surgeons now usually employ one of two incisions for this purpose—either the rectus splitting incision or the rectus slide incision—and an endeavour has been made to consider their relative merits The fact that each type of incision has its special advantages and its own advocates is sufficient reason for further investigation

To form an idea of the results obtained after the use of these incisions Professor Stopford has investigated with me a number of cases after intervals of a few months or a few years had elapsed following operation We first examined the results of the incision passing through the outer third of the rectus muscle, splitting the fibres, and where two or often more nerves had been divided This incision is easily and rapidly made and gives good access to most of the abdominal viscera We found there was a very definite sensory loss, as shown by anaesthesia and analgesia in the strip of skin between the scar and the

linea alba After about fifteen months, however, the sensory loss becomes negligible, as far as ordinary testing can determine, probably owing to regeneration of nerve fibres

In all these cases there was a marked loss of function of that part of the rectus muscle lying between the point where the fibres were split and the mid line This may be fairly extensive or confined to one segment of the muscle, depending on how many nerves have been divided It is present from the outset and persists for a considerable period In a few cases there was a slight bulge on coughing but for the most part the loss of muscle function could only be detected when the patient raised the head and shoulders from the couch The functional results from the patient's point of view were excellent, and after secure suture and healing by first intention no disability was apparent from the abdominal scar As a typical example may be quoted the case of a brewer's drayman who, nine months after such an operation, was lifting barrels of beer daily without difficulty or discomfort It appears that after careful suture of the aponeurosis the risk of hernia is very slight in the absence of sepsis and drainage

We next followed up the results obtained by the paramedian or rectus slide incision with outward displacement of the muscle and its nerves In these cases, for some reason not readily explained, the sensory loss is insignificant from the start We found that in this group the rectus muscle on the side of the scar functions normally throughout and there is no weakness discoverable after this operation

Our inquiries show that in the absence of infection the functional result is so good that no special advantage attaches to either incision but for accessibility the muscle-splitting incision has certain points in its favour In the presence of infection, however, we have seen a number of post-operative herniae after the muscle splitting incision Infection interferes with the healing of the aponeurosis, which has but a poor blood supply, and this is further complicated by the sacrifice of a segment of muscle With the rectus slide incision the muscle itself is uninjured and falls back to its natural position, forming an additional barrier against subsequent weakness Further, when the wound heals without complication it is probable that the regeneration of nerve fibres occurs normally and the muscle function is quickly restored Should infection be incurred this process may fail, owing to the barrier of fibrous tissue, through which the nerve fibres cannot penetrate, causing atrophy of the muscle and thus allowing a hernia to develop

We have also occasionally seen patients who complain of painful areas in the scar after division of nerves, probably owing to involvement of the severed nerve fibres in fibrous tissue Most of us must have met with the somewhat analogous condition where the ilio-inguinal, a highly sensitive nerve, has been damaged in hernia operations, leaving the patient with a painful and tender scar Such unpleasant sequelae are fortunately seldom observed but none the less they are too frequent, and it is important that we should take all possible precautions to avoid their occurrence

In urgent operations on the upper abdomen the quickest and easiest approach is by a muscle splitting incision passing through the inner third of the rectus muscle This affords good access in cases of perforated gastric or duodenal ulcer and in acute cholecystitis, and avoids injury to the nerve trunks at the lateral border of the rectus I recently published[1] a follow up of 41 cases of perforated gastric and duodenal ulcer approached by this route, and when seen subsequently all possessed a satisfactory abdominal wall

I have confined my remarks to those abdominal incisions which are in most general use It is only by a careful study of our results and a more accurate follow-up of cases that reliable conclusions can be obtained, and any discussion of our methods on these lines with a view to their improvement must surely be of value

REFERENCE.
1 BRITISH MEDICAL JOURNAL, 1922 vol i p 556

THE ABDOMINAL INCISION IN PELVIC SURGERY*

BY

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My personal experience of gynaecological surgery dates from the time when all abdominal incisions were made in the middle line and were closed with through and through silkworm gut sutures Incisional hernia must have been fairly common in those days, as it was usual for every patient whose abdomen had been opened to wear a belt for the rest of her life Then we began suture in layers, first with silk, and later with catgut Gradually the use of the belt was found to be unnecessary, and was dropped except in special cases

After suturing in layers had come into use, I omitted silkworm gut stitches altogether for a considerable period uniting the peritoneum, fascia, and skin separately, but putting no stitches through the muscle The results were very good, but in a few cases serum oozed from the wound, wetted the dressing, and kept the skin moist and sodden for a few days This was apt to permit superficial infection, which delayed and impaired perfect healing of the skin edges I therefore sought a means of applying pressure sufficient to keep the wounds dry, and found that this could be done by inserting five or six silkworm-gut sutures through the skin, fat, and fascia after uniting the peritoneum The silkworm gut sutures are left untied until the fascia and the skin have been stitched with catgut A roll of gauze about an inch in diameter is then laid over the sutured wound, and the silkworm sutures are tied over it, compressing gauze, skin, fat, and fascia This anchored dressing gives moderate uniform pressure along the course of the incision It is left untouched for a fortnight, when it is removed to reveal a firmly healed linear scar There is no moisture of the wound no cutting of the skin and no stitch abscess There is no dressing of the wound, no taking out of clips, and no need to use [illegible] to cover the silkworm sutures The method must be distinguished from that in which sutures are tied first over the skin and then again over the gauze giving a form of anchored dressing that has no great advantage over a loose one I have used my own method in every case during some fifteen years It has spared me worry and lessened the work of my nurses while it has saved my patients much discomfort if nothing worse

The mid-line incision sutured in layers leaves the abdominal wall as good as it was before the operation But many of the women treated in a gynaecological ward have before operation, very defective and inefficient abdominal walls In most parous women there is considerable separation of the recti, and in a large proportion of these the injury is considerable and even extreme In other cases the trouble is due to stretching by large tumours

While this parietal defect would not alone justify surgical interference, it seems a pity if the abdomen has to be opened for some other purpose to close it again without taking steps to secure for the patient a better abdominal wall than that she possessed before her operation With this object I have long made it my rule to open the sheaths of the rectus muscles on both sides throughout the whole length of the incision When this has been done the inner edges of the recti come together and lie in direct contact as the wound is closed and this without any injury to their nerve or to their blood supply The union secured is muscle to muscle and the so-called linea alba is done away with This end is gained with very little trouble If the primary incision through the fascia opens one muscle sheath then the fascia must be dissected up until the other muscle is freely exposed If the primary incision goes between the recti and exposes neither of them then the fascia must be lifted on both sides until both muscles are bared freely throughout the length of the incision

* Read before the Manchester Surgical Society February 13 1924

Two details may be mentioned First, the dissection should be done as the incision is made and not at the end of the operation, for some bleeding may be caused, and if this occurs at the beginning of the operation it will have stopped long before the end But if fresh bleeding is brought on just before suturing it may cause delay or even lead to the formation of haematoma in the wound Again, if there is much fat just outside the peritoneum, this should be torn or clipped away If it is not removed this fat may intervene between the edges of the recti when the wound is closed, so preventing direct muscle-to-muscle union

When closing the wound, the spare peritoneum, freed from fat, is bunched together in the mid-line with a continuous catgut suture The silkworm-gut sutures for anchoring the dressing are next put in through skin, fat, and fascia They perforate the fascia outside the redundant portion of the fascia—namely, close to the edge of the exposed rectus muscle These are left untied and the fascia is united with catgut so that its edges do not merely meet, but overlap or are bunched up sufficiently to draw the rectus muscles into contact in the mid-line The skin edges are next drawn together with a subcutaneous catgut suture, the roll of gauze is placed over the incision, and the silkworm-gut sutures are tied over it When this method is used, not only does the abdominal incision do no harm, but the parietes of the average woman are very much improved She leaves hospital, in short, with one central rectus muscle below the umbilicus instead of two lateral ones with a gap between them

The position of the umbilicus varies very considerably, and sometimes an incision below it will not permit the delivery of a fibroid or ovarian growth In these cases, if the abdominal wall is a bad one, the best course is probably to excise the umbilicus completely and unite muscle to muscle throughout the length of the incision required for the extraction of the growth No doubt a certain aesthetic loss is involved when the umbilicus is removed But our mother Eve is presumed to have had no navel, and her daughters can afford to dispense with this adornment in exchange for a sound abdominal wall

The books of the Manchester Royal Infirmary and the St Mary's Hospitals show that out of the last 1,725 patients whose abdomens I have opened only 12 have returned for repair of the incision This shows a percentage of 0 7 defective scars In several of the cases drainage had been used, in a few there was a history of chronic bronchitis but the chief cause of failure was, I think, the intrusion of portions of extraperitoneal fat between the edges of the recti There are two women on whom I have refused to operate for a third time, for no sooner are they up and about than their tissues stretch and give forthwith, in spite of the use of good belts On the other hand, there is one patient whom I have delivered five times by Caesarean section Her abdominal wall, stretched five times by the growth of large children, required considerable trimming and repairing on the last occasion But it remains sound and efficient, for the patient still earns her living as a stage dancer Taking these figures for what they are worth, I believe that less than 1 per cent of the patients are any the worse for the median incision but the point I wish to emphasize is that, since I began opening both muscle sheaths, the majority are not only no worse but are much better, as to the abdominal wall, than they were before operation

Of transverse incisions I have not much experience I used them nineteen times some years ago and found that making the incision and closing it occupied, on the average, seven minutes longer than using the median incision It was generally necessary to tie two arteries Access to the pelvis was fair but it was not good for other parts of the lower abdomen or for the removal of growths of any size Large areas of connective tissue are rawed, and in certain cases might be infected, with serious consequences—as for instance if drainage should be necessary The only obvious advantage is the aesthetic—namely, that the scar is partly concealed by the pubic hair Judging by the number of these scars that I see, the transverse incision is not popular at present in this country On the other hand, I see a very large number of lateral scars In some of these cases the result is good, but in many there is pronounced atrophy of the rectus muscle between the incision and the mid-line of the body It would appear that the lateral wound does not give good access, for I could give a long list of lesions I have found in patients whose abdomens had previously been explored through incisions that must have been either too small or too far from the middle line But the main defect of the lateral incision is that it does not improve the abdominal wall of the woman with separated recti It leaves her with her parietes as bad as before, if no worse

I think the incision in the mid-line below the umbilicus is the best for gynaecological work, and that it might be used with advantage by general surgeons when the diagnosis is not clear—as, for example, in cases of appendicitis and diverticulitis complicated by the results of infection of the pelvic organs—for the median incision cannot injure the muscle or the fascia as the lateral incision may do It gives better access to both sides of the lower abdomen, and it can be extended upward as may be desired Further, it gives the opportunity for improving the patient's abdominal wall in all women whose recti lie far apart

EFFECT OF INSULIN ON THE SUGAR CONTENT OF ARTERIAL AND VENOUS BLOOD IN DIABETES

(Preliminary Communication)

BY

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THIS investigation was undertaken primarily in the hope of gaining more evidence on the precise place of action of insulin in the body A large amount of research has already been done on the subject, and it is known that the action does not take place to any great extent in the blood itself The liver and muscles have been mainly credited with the utilization of sugar and the disappearance caused by insulin It appeared that the part played by the muscles and general tissues might be further investigated by comparing the sugar content of blood going to and coming from these tissues—that is, arterial and venous blood

Recent work by Foster[1] has shown that a difference between arterial and venous blood sugar concentration does exist in normal individuals, but no comparison seems to have been made on diabetics Accordingly it was determined to estimate simultaneously the arterial and venous blood sugar in diabetics to see if the normal difference were present, and to compare this before and after insulin If any variation in difference were found in diabetics after insulin, it could be inferred that this was directly due to the action of insulin on the muscles and general tissues which lay between the arterial and venous blood

Methods Used

As frequent arterial punctures are impracticable, and Foster has shown in the dog that blood from a paw prick and direct from an artery give readings identical within the range of experimental error, capillary blood drawn directly from the ear into a 0 2 c.cm pipette has been used as representing arterial blood throughout this investigation Venous blood was obtained from the arm veins by a fine syringe and transferred to a Wassermann tube containing a trace of oxalate, from which the required amount was immediately measured, the whole process being completed within two minutes of bleeding the ear Cole's method of blood sugar estimation was used, and gave very satisfactory duplicates

Normal Persons

A few control experiments on normal students at King's College Hospital confirmed the results obtained by Foster on the difference between arterial and venous blood sugars in normal individuals He found that the fasting levels of venous and arterial blood were practically identical, but that after the ingestion of 100 or 200 grams of glucose the arterial exceeded the venous on an average by 20 to

50 mg per cent The difference was greatest at the highest point of the curve, and diminished as the blood fell to normal at the end of 90 to 120 minutes The venous was invariably less than the arterial blood sugar, sometimes by as much as 80 mg This shows that the normal tissues extract sugar from the circulating blood during the post-absorptive rise in blood sugar

Diabetics

The results are given in the accompanying table In column 3 is shown the difference between the arterial and venous blood sugar in milligrams per cent, and in column

Experiment		Sugar Percentage			
		Ear	Vein	Difference	Variation
1	R —Fasting blood sugar 1½ hours after 15 units	0.268 0.224	0 280 0 210	+12 −14	26
2	L —Fasting blood sugar 1½ hours after 25 units	0 177 0 146	0 179 0 140	+ 2 − 6	8
3	R D —Fasting blood sugar 1½ hours after 12 units	0.142 0 147	0 148 0 152	+ 6 + 5	1
4	L —Fasting blood sugar 1½ hours after breakfast no insulin 2 hours after lunch and 15 units	0 248 0 218 0.187	0 239 0 234 0 178	−9 +16 −9	25
5	L —Fasting blood sugar 1½ hours after breakfast and 15 units	0 237 0 212	0 233 0 201	−4 −11	7
6	L —1½ hours after breakfast and 20 units	0 20>	0 186	−20	
7	R —5½ hours after breakfast no insulin 2½ hours later after lunch and 12 units	0 223 0 136	0 222 0.124	−1 −12	11
8	R D —7½ hours after 12 units 1 hour later after 30 grams carbohydrate 2½ hours later	0 140 0 170 0 221	0 140 0.163 0 222	0 −7 +1	
9	R D —7½ hours after 12 units 1 hour later afte 20 units and 30 grams carbohydrate 2½ hours later	0 155 0 187 0 165	0 160 0.172 0 165	+5 −15	20

4 the variation caused by insulin The cases are all severe diabetics who could not be rendered sugar-free by the Allen treatment The results lead to the following conclusions

1 Diabetics have a marked hyperglycaemia in venous as well as arterial blood

2 The difference between arterial and venous blood sugar is much less in diabetics than in normal persons As has been said, there is no difference in the fasting blood sugar in normal individuals, and the raised fasting blood levels of diabetics also show little or no arterio-venous difference even at figures of 0 14 and 0 17 per cent —figures at which normals would show a difference of 30 or 40 mg This we might expect, as the fasting level of a diabetic, though raised, is comparable in the metabolic cycle with the normal fasting level But the post absorptive levels in diabetics also show no arterio-venous difference, or much less than the normal difference From this we may conclude that the diabetic tissues have lost the power of using or storing sugar brought to them, and the blood flows through with very little change in blood sugar concentration

3 A venous blood sugar higher than the arterial may occasionally be obtained (experiments 1 and 4 are definite, and 3 and 9 suggestive of this) It would therefore appear that there are times when the tissues are discharging more sugar into the venous blood than they are receiving from the arterial blood, the sugar must have been temporarily retained in excess in the tissues Some experiments of Foster[1] with galactose are interesting in this connexion He found that, unlike other sugars, galactose induced in normal individuals both a prolonged arterial and venous hyperglycaemia and a much smaller difference value between the two than any other sugar Indeed, after ingestion of 100 grams of galactose he got two readings on the decline of the curve in which the venous exceeded the arterial sugar by 18 and 9 mg respectively However, he does not appear to have noticed these figures specially, or at least makes no remarks upon them But he concluded that galactose, unlike glucose, cannot be absorbed or stored as glycogen by the muscles These diabetic cases also suggest that the venous sugar may temporarily exceed the arterial where sugar cannot be stored by the tissues So far this has been observed only in cases being treated by insulin, but at a time when they were not under the effect of insulin, it would suggest that insulin enables the tissues to store more sugar than they can retain when the insulin action has passed off, so that they excrete more sugar into the venous blood than they are receiving from the arterial

4 In the few other cases of milder diabetes so far investigated the arterio venous difference has been less than normal, but greater than in severe diabetes

The Effect of Insulin

The effect of insulin has been to increase the difference between arterial and blood sugar content, making it approximate in all cases towards the normal relation In some cases the variation caused by insulin is slight, just outside the range of experimental error, but the variations are constantly in the same direction Experiments 1 to 3 show effects on fasting blood sugar levels without food Experiment 3 shows no variation, but the blood sugar also remained practically constant Experiments 4 to 6 are all strictly comparable, being carried out on the same patient on a fixed diet within four days of each other Without insulin the venous sugar exceeded the arterial by 16 mg one and a half hours after a standard breakfast, while after insulin it was respectively 11 and 20 mg less Experiments 8 and 9 show after one hour a variation of 20 and 7 mg respectively with and without insulin, but no variation after two and a half hours

It is felt that a very extensive investigation will be required to discover at what time and under what conditions insulin shows its maximum effect on arterio-venous variation, as the questions of dose, rate of absorption of insulin and food, and previous diet and carbohydrate stores in the tissues all have to be taken into account But the results so far obtained seemed to warrant this preliminary communication

Summary

1 The normal post-absorptive difference in arterial and venous blood sugar the venous being usually 20 to 40 mg less, is much reduced in diabetes Higher venous than arterial figures may occasionally be found in severe diabetes

2 Insulin increases the arterio-venous difference and approximates it to the normal From this we may conclude that, whatever part the liver and other organs play insulin acts largely in the muscles or general tissues, or both

Further investigations are being undertaken in the arterio-venous difference to see how it varies in different grades and types of diabetes, in renal glycosuries etc in the hope of obtaining a test of value in the diagnosis prognosis or differentiation of various types of diabetes and hyperglycaemias

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[1] C L. Foster *Journ. f. of Chem.* iv February 1923

MECKEL'S DIVERTICULUM STRANGULATED IN A FEMORAL HERNIA

BY

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MECKEL'S diverticulum when present, as it is in one person in fifty not infrequently causes danger to life by becoming adherent at its tip and forming a band under which the intestine becomes strangulated or it may itself become acutely inflamed and perforated or, thirdly, it may form the starting point of an intussusception, but it is most unusual to find it strangulated in a hernial opening as in the case here recorded, which I consider to be one of great interest and rarity I have consulted the text-books

available to me, and in most of them can find no reference to the possibility of such an incident

On November 16th, Mrs P aged 52, was admitted to the South port Infirmary at 2 p m, with what appeared to be an ordinary strangulated femoral hernia on the right side, the size of a small Tangerine orange, and very tense Acute symptoms had begun the day before a previously existing lump in the right groin had become larger and more painful and she had vomited repeatedly At 11 30 a m on the day of admission she was seen by Dr Martin, who at once ordered her to hospital

A vertical incision was made, and the sac was found to contain a fair quantity of dark fluid with a slightly faecal odour As soon as the tension was relieved, a black elongated mass of an unusual shape presented, which assumed an almost vertical position and looked in size and shape exactly like a black warning little finger, curving forward at the tip



As there was no mesentery visible even at the root, I concluded that I was dealing with a Meckel s diverticulum, and as I found it very difficult to insert the usual hernia director, the incision was carried upward and the abdominal muscles divided transversely

On opening the peritoneal cavity I found a loop of small intestine entering the femoral opening, but it was firmly fixed there, and, as I feared that the damaged bowel might give way, I finally decided to open up completely by dividing Poupart's ligament

A good view was thus obtained of the parts and an area of blackened intestine round the base of the diverticulum about 1½ inches in diameter was seen The proximal end of intestine was not much distended and the lumen of the bowel was not obliterated As the patient's condition was good I removed the damaged portion, including the diverticulum, and joined the ends by lateral anastomosis

The peritoneum was stitched up, and the old sac separated off, the divided ends of Poupart s ligament carefully approximated and united with catgut, and the femoral opening closed as far as possible by suture to the pectineal fascia The wound was then closed and a rubber drain inserted

Recovery was uneventful, with the exception of some suppuration in the upper portion of the wound due to infection from the fluid in the sac The bowels were freely moved the next day

I have much pleasure in acknowledging the help given me during the operation by Dr Robert Watson, our junior house surgeon, and am indebted to Mrs Cronin Lowe for making a coloured drawing from which the print has been reproduced

The specimen was sent to Sir Arthur Keith of the Royal College of Surgeons, who pronounced it to be "a Meckel's diverticulum of moderate size strangulated as a hernial content, and the first specimen of its kind which we have got for the museum"

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Pabst (*Beitrage klin Chirurg* 1910 vol 69) summarizes all known cases (over 120) of Meckel s diverticulum in hernia down to 1910 a large number which were not strangulated are included

Hauf in *Dent med Woch* 1919, reports a case

R Metcalfe (BRITISH MEDICAL JOURNAL 1914 ii p 178) reported a case of gangrenous Littre s hernia (inguinal) where the stump was invaginated

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

LABYRINTH DEAFNESS, WITH A NEW PHYSIOLOGICAL DIVISION OF THE AUDITORY ORGAN

At the time that the discussion on labyrinth deafness was held at Portsmouth, in the Section of Laryngology and Otology, as printed in the BRITISH MEDICAL JOURNAL (November 10th 1923), I presented a similar topic before the Szent Istvan Akademia in Budapest The title of my paper was "A new physiological division of the auditory organ" In it attention was directed to the fact that the diagnosis of non-purulent labyrinthine diseases is very difficult, on account of the complexity in differentiating tuning-fork responses as having originated from the conducting or from the perceptive apparatus This same uncertainty in diagnosing labyrinthine diseases seems to have been emphasized at the British Medical Association discussion held at Portsmouth

A study of the discussion at Portsmouth on this theme made it apparent that the division into conducting and perceptive apparatus caused such uncertainty in the diagnosis that the diagnosis of the labyrinthine diseases would be less perplexing if this division was eliminated To further bring forth the ambiguity mentioned, attention is called to the two following factors

1 The anatomical border-line position of the two windows causes similar questionable border-line response of the tuning-forks, which thus often leaves a question of doubt whether the responses can be interpreted as being the result of an internal (perceptive) or middle (conducting) ear pathological condition

Mr E B Waggett, the president of the Portsmouth Section, called attention to the fact that many cases of so-called internal ear deafness would be proved some day to be due to diseases in the foramen rotundum In an issue of the *Laryngoscope* (St Louis, July, 1920) I brought forth this last mentioned statement I, however, limited the value of the tuning-fork tests The following is a brief summary of this article The shortening of the higher tones, the shortening of bone conduction (Schwabach), and the positive Rinne all can be caused by a disease of the windows as well as by the affected nerve Hitherto we have accepted the shortening of bone conduction or the shortening of the higher tones alone as a sign of a nerve disease, although Panse called attention to the fact that the disease of the round window also causes such phenomena We are only justified in supposing a nerve disease if we have guarantee for the integrity of the windows—that is, if the hearing of the lower tones is good Bearing in mind this limitation we will not be compelled to say that "the tuning-fork tests are open to fallacies" We will not say that "nerve" deafness may be induced by a simple obstruction in the conducting apparatus We will not have to suppose so often the mixed type of deafness I am convinced that we must limit the value of the tuning-fork tests, else we will cause a general dissolution of its worth owing to the scepticism which will arise

2 The second fact is the construction and the physiological importance of the internal ear proper It is but necessary to call attention to these factors to realize that the labyrinth is not perceptive in function Surely the movement of the perilymph and endolymph is conductive rather than perceptive in nature, likewise the vibration of the membrana tectoria is also of this type Finally, Corti's organ itself, rather than an end-station perceiving organ, is a relay station in forwarding the impulse to the true perceptive factor—namely, the brain

Mr W M Mollison's effort to simplify this matter by eliminating the old "physiological division," and indexing these diseases under qualitative and quantitative groups, is but of theoretical importance, as it would be impossible to identify for practical purposes these diseases, under his classification

I propose a new classification, a new physiological division of the auditory organ as follows

I The Conducting Apparatus

A Physical stimuli transmitted—
- (1) through the external and middle ear,
- (2) through the two windows,
- (3) through the labyrinthine fluid

B Physiological stimuli transmitted—
- (1) through Corti s organ,
- (2) through the eighth nerve and its tracts

II The Perceptive Apparatus

Stimuli interpreted in the cortex

Budapest Docent Dr A REJTÖ

HAEMOTHORAX AFTER ACUTE PNEUMONIA

IN the following case haemothorax arose spontaneously during convalescence from acute pneumonia

C J L, aged 32, an athletic man of good physique, after ten days' persistent "cold" in the head with progressive debility, suddenly, while at work was conscious of severe stabbing pain under the right pectoral muscles and in the right side The pain was so severe that he had great difficulty in reaching his home in the suburbs and when seen at 10.30 p m was found crouching forward in his chair afraid to move his body or take a deep breath

The following morning at 9 o'clock all the signs of a typical and severe lobar pneumonia were present Temperature 103° F, pulse 142, respirations 36 per minute Pain was an extremely

marked symptom for which morphine gr 1/4 was given immediately 50 million stock antipneumococcal vaccine were injected at the same time (eighteen hours after the first pain symptom)

The same evening four leeches were applied to the right side—the first one inch below the right nipple and the others at intervals of about two inches outwards and downwards round the chest Morphine gr 1/4 was repeated and the patient passed a much easier night

On the morning of the third day his temperature fell to 99 8° F pulse to 120 respirations to 26 The injection of 50 million antipneumococcal vaccine was repeated Morphine gr 1/6 was given at night and the following morning the patient remarked that he was feeling fine and appeared quite comfortable propped up in bed For four days the temperature was 99° F in the morning and about 101° F at night he continued to improve generally, the pulse rate falling to a steady 96 on the sixth day respirations to a steady 24 on the fifth day of his illness During this period he developed a short dry and persistent cough but no expectoration until some days later

The temperature reached normal on the seventh day without any appreciable crisis and he was in a very good general condition his bowels not having acted from the morning of the day of onset until the morning of the sixth day after a mild vegetable pill administered the night before

He continued to improve and was allowed to sit out of bed for ten minutes night and morning on the fourteenth day by which time the dullness in the right lung area had become definitely resonant and his night temperature normal for three successive readings

For another week his progress was steady and uneventful the short dry cough with scanty expectoration remaining He was allowed up for half an hour night and morning when on the twenty first morning I was called hurriedly, to find him in great dyspnoea pale and cyanosed struggling to breathe sufficient air and obviously in a state of considerable collapse He had not been so well the previous day and thought it was merely indigestion He had slept fairly well though obviously not so comfortably as of late. He had awakened to find his breathing embarrassed through a sense of great weight on his chest and experiencing increasing air hunger had sent for me His right lung area was of board like dullness his apex beat one and a half inches outside the nipple line his pleural cavity obviously full of fluid which had collected since examination forty-eight hours earlier

On exploration with a 10 c.c.m syringe a fluid only slightly thinner than pure blood was obtained two pints of which were removed by aspiration in a nursing home the same afternoon by Dr Laurence Ball who later examined films and made cultures from it The films showed pure blood and the cultures were sterile

The patient stood the loss remarkably well and was greatly relieved by the aspiration His temperature assumed a moderately hectic type gradually abating during the following ten days during which considerably more fluid collected and then gradually became absorbed

After three weeks in the nursing home, and six weeks from the onset of his illness the patient was well enough to return home, where he made a slow and gradual complete recovery

I wish to thank Dr Laurence Ball for his advice and help in the treatment of this case, which we think of sufficient interest and rarity to be put on record

WILLIAM WATSON NEWTON,
M.R.C.S. L.R.C.P.

Hall Green, Birmingham.

GARLIC IN PNEUMONIA

I do not think that it is generally recognized that garlic, if given in a sufficient dose, is an invaluable remedy in the treatment of pneumonia I have used it during a little over two years in every case of lobar pneumonia which has occurred in my practice, and in no instance has it failed to bring the temperature, pulse, and respirations down to normal in about forty-eight hours The only deaths that I have had from pneumonia during these two years have been a woman of 62 and a man of 80 The former was a confirmed and bad diabetic, the latter was a feeble old man crippled by gout, who developed double pneumonia after influenza, even in his case the copious rusty sputum ceased and his temperature fell to normal as with all the successful cases but he collapsed suddenly from heart failure a little later as I quite expected

All the others (and I have had a considerable number of cases) have been rapidly cured by the drug In no case has the crisis been deferred beyond the fifth day of the disease I always feel just as certain of being able to effect a rapid cure by tinctura allii in pneumonia, if the drug is administered reasonably early as I do by antitoxin in diphtheria, and any general practitioner will realize what this means

I have a series of case charts showing the remarkable effect of the drug, in one case the temperature fell from 105° to normal in forty-eight hours, and in another from 104° to normal in a similar period after commencing the drug In neither of these cases had the patient been ill more than five days when the temperature became normal Small doses of the drug are no good, half a drachm of tinctura allii[1] in water every four hours (or even every three hours in some cases) is, however, in my experience sufficient to ensure rapid recovery

The use of garlic in this form and dose I have found equally remarkable in effect in septic bronchitis and bronchiectasis, influenza and I am inclined to think in some cases of early phthisis even At the moment, however, I am only concerned in advocating its use for the quick and certain cure of lobar pneumonia

FRANK W CROSSMAN, M.B., B.S.

Hambrook, nr Bristol.

RUPTURED KIDNEY: NEPHRECTOMY

INJURIES like that recorded below are, fortunately, rare on the football field The case is remarkable in that the patient was able to continue playing till within fifteen minutes of the end of the game

W J C aged 24 was admitted to the North Lonsdale Hospital on March 17th 1923

The history of the case is that while playing as goalkeeper in an Association football match at Ulverston an opponent charged into him This happened ten minutes before half time and apart from a little pain in the left loin where the patient was struck he felt quite well and played in the second half up to the last fifteen minutes when he felt a sudden desire to micturate He at once went behind a fence to do so and found he was passing pure blood He became alarmed, called an ambulance man and a doctor was sent for who ordered him to the North Lonsdale Hospital

On admission to the hospital the same afternoon the patient looked dazed and ill the temperature was 98° pulse 84 he



Posterior view of left kidney

passed bloody urine On examination there was no external bruising and no swelling but there was tenderness over the left kidney He was given morphine gr 1/4 and a cold pack was applied to the left loin He had a fairly good night

Next morning (Sunday) the tenderness was a little more acute and the urine very dark a definite swelling in the region of the left kidney was now palpable Towards evening the kidney condition became rapidly more acute—the swelling and tenderness increased the patient becoming weaker and blanched

At 6 p.m I decided to operate I made a lumbar incision and found a large tear in the left kidney on its inner surface from the position of the tear the kidney appeared to have been crushed against the spinal vertebrae perhaps with the other man's knee—one of the calycea was completely torn through The position of the rupture did not allow sutures to be inserted and nephrectomy was performed

The points of interest are the delay of urgent symptoms and ability to play so long after such a severe accident—probably both as a result of the injury being intracapsular at first and the giving way of the distended capsule coinciding with the rapid aggravation of the symptoms He is now quite well and played cricket all last summer

JOHN ARTHUR REED, O.B.I., M.B., Ch.B.,
Honorary Surgeon North Lonsdale Hospital

Barrow-in-Furness

[1] The preparation I use is a spirituous tincture of the garlic bulb 1 in 5 made by Messrs Ferris and Co of Bristol.

Reports of Societies.

THE POSSIBLE SUBSTITUTES FOR COCAINE

A SPECIAL discussion took place at the Royal Society of Medicine on March 18th, on "The possible substitutes for cocaine." SIR WILLIAM HALE-WHITE presided, and the opener was DR H H DALE, whose paper is published at page 511

Following upon a suggestion by Dr Dale, the PRESIDENT drafted a motion to submit to the meeting

> That this meeting, while regarding the retention of cocaine as essential to medical and surgical practice, is of opinion that its use might with advantage be restricted to application by the physician or surgeon himself, and the prescription or dispensing of it might be abandoned

Professor W E DIXON formally proposed this resolution as a basis for discussion

MR BISHOP HARMAN desired that the words should be added at the end "except when prescribed in such vehicle or with such other drug as would prevent its use for purposes other than that intended." He said that cocaine was a very valuable adjuvant in mydriatics, and if it were not possible to obtain it the efficacy of the mydriatic would be reduced considerably

Professor DIXON accepted the addition, but DR W HILL, MR E WATSON WILLIAMS, and others thought that the society ought not to pass any resolution on the subject without more consideration DR DALE said that if the meeting was in any doubt it would be better to withdraw the motion, it was accordingly withdrawn and the discussion continued

Experiments on Butyn

Professor W E DIXON said that the failure to synthesize in the chemical laboratory alkaloids superior to those produced in nature was remarkable Quinine, morphine, atropine, strychnine, and adrenaline were each the last word on the subject, and better drugs of a like nature had not been produced in the laboratory He hoped that this might not be true also of cocaine, and he was the more hopeful because the characteristic effect of cocaine was a powerful stimulation of the cerebral cortex, and the local anaesthetic action was but a side-effect, which might perhaps be developed by the chemist Any general protoplasmic poison acted after absorption locally as an anaesthetic, but a local anaesthetic to be of any value must have a destructive effect on nerve fibres out of all proportion to its destructive effect on other tissues Beta-eucaine, tropacocaine, and stovaine lost much of their value because their specific selective affinity was not sufficiently pronounced, whilst eucuprinotoxine, which anaesthetized the rabbit's cornea in strengths of 0·05 per cent., and was therefore by far the most powerful local anaesthetic known, was open to the same objection The objections to cocaine as a local anaesthetic were that it was too toxic and that it might lead to addiction It was not suggested that the latter reason presented any objection to the use of cocaine by the surgeon, but a widespread legitimate use of cocaine would the more readily facilitate an illicit traffic in the alkaloid DR Dale had drawn attention to the fact that none of the newer local anaesthetics had so far led to addiction, but this was not surprising It was eighteen years before heroin, in some senses the ideal drug of addiction became a menace, whilst only during the war did cocaine become a serious vice in France, and, later still, in England, and it was entirely a post-war vice in Germany Before local anaesthetics were recommended for general use their action should be carefully studied from the point of view of possible addiction DR A J Copeland, who was prosecuting his investigations on butyn as the Lister Hart memorial scholar of the British Medical Association, had shown that butyn excited the cortex of the brain in much the same way as picrotoxin and cocaine, although less powerfully Injections of butyn into animals caused cerebral convulsions These were not shown when the animal was anaesthetized and could not be obtained in animals in which the crura were divided Perhaps the most characteristic of all the novocain and butyn effects was the rapidity with which they disappeared, and although the cerebral action of butyn rendered it open to suspicion the transient nature of this action was disarming when considered as a drug of addiction The most characteristic systemic action of a subcutaneous injection of butyn was the stimulation of the motor cortex, and associated with this was a general depression of most nerve ganglion cells in the body The vagus nerves became partly or completely paralysed, and the splanchnic nerves and sympathetic nerves in the neck were similarly affected, the block in each case being at the ganglion cells The effects quickly passed off, but they could be reproduced by further injections of butyn One very objectionable effect of butyn was the way in which it increased mucous secretions, and, after absorption, stimulated the salivary, lacrymal, and other glands Another local difficulty was that, when applied to mucous membranes, it sometimes failed to anaesthetize, this was explained by the fact that butyn was precipitated by common salts, proteins, and tissue fluids. Altogether, butyn was a good anaesthetic, and entirely non-irritant, but it was toxic, and had objectionable local effects, vascular and secretory In order to determine the effect of drugs on the nasal mucous membrane Dr Copeland devised a method of trephining into one frontal sinus of an animal and anaesthetizing with some solid anaesthetic, into the trephine hole he screwed a small brass tube, which communicated with a Mariotte's flask filled with saline at body temperature The animal breathed through a tracheotomy tube Fluid was allowed to enter the frontal sinus at a constant pressure, and the rate of flow was measured as it dripped from the nose In this way an idea was obtained of the vascular condition of the mucous membrane All the local anaesthetics with the exception of cocaine were found to cause congestion of the mucous membrane, as shown by increased resistance to the fluid Butyn induced so much swelling that the fluid almost ceased to run after its application Apparently in these cases the sympathetic nerve-endings were paralysed by the local anaesthetic Cocaine produced some constriction of the vessels, as shown by augmented flow, though in strong solutions the constriction might change to mild dilatation, not, however, comparable in degree with that produced by butyn

The Chemical Search for Further Compounds

Professor C S GIBSON (Professor of Chemistry, University of London) pleaded for more chemical research on the whole subject of cocaine and its substitutes A survey of recent literature showed that a certain amount of work had being going on, especially in France, on the synthesizing of local anaesthetics, but what he felt very strongly was that the research, especially in this country, was not commensurate with the importance of the subject It should be possible to synthesize a large number of compounds which certainly ought to be tried as possible substitutes for cocaine Dr Dale had summarized the properties of cocaine, and it remained for the speaker to describe as briefly as he could some of the research problems which should be tackled Chemical investigation *per se*, divorced from the sympathy of the clinician and the pharmacologist, would not achieve the desired results, and therefore he felt that the clinician and the pharmacologist must advise the chemist on the problems concerned The chemist would do the work, but the others must express their sympathy and furnish him with ideas He went on to speak of the local anaesthetics of the novocain type, these were the simplest local anaesthetics known, with the exception of benzyl-alcohol and one or two others Of novocain itself and butyn much had been heard, next in the same series of which he showed the formulae came three compounds which had been synthesized within the last few months, though not yet popularly named, and then the list was completed with stovaine and alypin Looking at the compound butyn, he could not see as a chemist why there should be any special advantage in that compound over novocain, which was a simpler compound There was a considerable gap between novocain and butyn, and there were more complex compounds of butyn which ought to be synthesized and their properties examined by the pharmacologist and possibly by the clinician Apart from the actual synthesis of compounds of that type, there was another problem which was only just being tackled Dr King, at the Medical Research Council's laboratories at

Hampstead, was investigating the compounds from butyn onwards in the series Up to the present time the trial of these compounds was far from complete It seemed to him that the ideal cocaine substitute must be an optically active compound, and supposing they were able to synthesize a compound with which the clinician was satisfied, the clinician would be better able to evaluate the compound he was using if it was optically active for he would then have a ready means of seeing that the preparation was of the right quality First, then they had to get more compounds of this type, then to tackle the chemical investigation of such compounds, and finally to hand over their preparations to the pharmacologist, and possibly to the clinician The next part of the investigation concerned the eucaine group of local anaesthetics The stereo-chemical method was a fundamental part of this investigation Those who had been investigating beta-eucaine and iso-beta-eucaine and the similar compounds had come to the conclusion that the anaesthetic action of these compounds whether they were optically active or not, was approximately equal Although this result was somewhat startling he did not think it invalidated the necessity for a more complete stereo-chemical investigation of all the possible substitutes for cocaine But in his opinion, the most successful line of research would be a synthesis of a compound on the cocaine model The synthesis of cocaine had been achieved by two perfectly well established methods Nobody had succeeded in resolving synthetic cocaine to see whether the dextro-cocaine might be a desirable cocaine substitute One of the difficulties, as he understood, which attached to the use of cocaine was the impossibility of sterilizing it In looking for substitutes for cocaine one could produce substances which would stand sterilization, these compounds of which he showed the formulae included methyl benzoyl ecgonine and others The most useful line was to start from the cocaine model and to build up as many permutations and combinations as possible He also suggested that the Chemical Research Council should establish research centres which would co-operate with the work at Hampstead so as to get as much work done as possible in the shortest time

Local Anaesthetics in Rhinology

Mr T B LAYTON said that the drugs about which they had been speaking that evening raised many interesting problems from the scientific point of view but for his own part as a pure clinician they were of interest to him almost only as a matter of technique They were simply a method whereby one desired to get something which would replace general anaesthesia in a way more efficient more safe and more pleasant His own opinion was that the future of rhinology was absolutely wrapped up in the question of local anaesthesia and that they should at the present day look upon local anaesthesia as the normal method of preparing a patient for operation reserving a general anaesthetic only for those people in whose case it was impossible to do the work under a local anaesthetic He would be inclined to compare the present position in rhinology with the position of wound treatment in general surgery in the nineties of the last century At that time there was an antiseptic technique which was more or less the routine method for wound treatment But there came along the aseptic technique advocated by some of the younger surgeons of that day, and when ten years had passed the aseptic technique absolutely held the field and the antiseptic technique was relegated to the small number of cases for which the former method could not be employed The speaker believed that it would be the same ten years hence with regard to the use of anaesthetics in rhinology and that the surgeon who adopted a general anaesthetic as a routine method for taking out the tonsils or operating on the septum would be considered in the same light as the surgeon who, in the early years of the present century was opening the abdomen under the carbolic spray If this was the case some ideal local anaesthetic was badly wanted He did not suppose they would ever get to their ideal because before that happened the chemist and the pharmacologist would have learned so much more moreover clinicians would have pushed their ideals further ahead and would be calling upon the chemist and the pharmacologist to go still further But how should one describe an ideal local anaesthetic at the present day? There would be certain differences on this matter amongst clinicians All would agree that it should be a substance which with moderate rapidity, would produce anaesthesia without toxicity and should have no addiction power The rhinologist would add to these requirements that it was absolutely essential that the drug should have some shrinkage power Others would say that adrenaline in the proper amount, could be relied upon for the shrinkage power He had been trying to find out whether the addition of adrenaline would take the place of shrinkage power in a drug used for a local anaesthetic and as far as his work had gone he rather thought that adrenaline was not quite so valuable On the other hand the ophthalmologist would say that the most important property in an anaesthetic over and above those named was that it should be non-irritating That did not trouble the rhinologist to the same extent although he had to consider it The dental surgeon on the other hand might say that the most important thing was to have a drug which could be depended on not to produce after pain Something must be found which would satisfy all these various requirements, and he would like to say how he thought the ideal local anaesthetic should be sought after It was necessary for the clinicians definitely to tell the laboratory workers whether they needed them to work out any new drugs at the present time or whether those already available were sufficient for the purpose His personal feeling was that they did need new drugs They could see definitely that cocaine, and all its present substitutes, did not furnish the ideal drug which was desired, and it was in connexion with this point that he had been much interested in what Professor Gibson had just told the society from the chemical point of view As Professor Gibson had shown, there were many gaps in the series which had not yet been filled, and somewhere in these gaps might be found a drug which had all the advantages of cocaine and had not got its disadvantages Therefore they desired that the chemist should go on synthesizing these drugs The only thing he would like to say on that point was that they did not want too many at once, because the personal factor of the clinician came in so markedly He quite agreed with Professor Gibson with regard to the need for stereo-chemical investigation When the chemist had produced his drug he thought the pharmacologist could do a great deal for them He would be able to tell them whether a drug was a local anaesthetic or not he would be able to give them warnings about its irritative properties and its severer toxicities but he was not going to help them very much with regard to its minor degrees of toxicity yet it was these which affected them particularly as clinicians He believed that in the end the question as to whether a drug was going to be an efficient local anaesthetic or not would rest with the experiments made by the clinicians and the observations made by them upon their patient

The Toxicities of Various Drugs

Mr ERIC WATSON WILLIAMS said that in a previous discussion on the subject (BRITISH MEDICAL JOURNAL December 15th 1923 p 1155) he had related his own experiences but there were two points arising in the present discussion which he thought of particular interest The first was the question of addiction They had heard earlier in the discussion from Professor Dixon that he had found no cases of addiction recorded before the war But medical literature about 1890-95 recorded several cases in England of addiction to cocaine It was not then used as a snuff, it was taken by the mouth and some of the recorded doses were as much as a gram of cocaine a day It was interesting also to remember that between 1888 and 1895 cocaine was used quite largely for the treatment of morphine addiction The possibility of cocaine addiction did not then present itself to the mind but cocaine was recommended for the treatment of the morphine addict and quite a number of cases were reported in which it was said to have been successful From the clinical point of view the only really startling objection to cocaine was its toxicity A number of figure were given to them

showing the comparative toxicities of different anaesthetics, but these were mostly obtained from animal experiment, and it must be recognized that animal experiment had its limitations In talking of toxicity they ought to be quite well aware as to the strength of the drug they were giving, and in this connexion he showed a cocaine concentration toxicity curve It was unfortunate that the toxicity curves for different drugs were not of the same shape Butyn, novocain, and cocaine had different toxicities at the same strength He suggested that they might be able to find a drug which although it was toxic —and all anaesthetics must have some effect on the central nervous system—would be absolutely non-toxic in its useful concentration In the case of cocaine, the point at which the solution was incapable of producing animal death represented a very small strength indeed, but in the case of novocain, at somewhere in the neighbourhood of 0 25 per cent, one reached a point where the drug became absolutely non-toxic

Local Anaesthetics in Dentistry

DR F N DOUBLEDAY said that the British Dental Association had issued a questionary to dental surgeons in this country with regard to the necessity of cocaine for dental operations, and the replies were, as to three-fourths of them, that it was necessary, and as to one-fourth, that it was not, but the one-fourth included most of the dental surgeons attached to the hospitals, and these dental surgeons believed that an efficient substitute could be found He himself had been trying over again various anaesthetics of the eucaine group and found many of them exceedingly irritating He had learned to his cost in using local anaesthetics that, in the presence of some factor apparently quite slight, the local anaesthetics were readily precipitated He praised the qualities of novocain, at least for dental purposes He also asked whether anything was known in this country of what was called "procaine"

MR S F STJ STEADMAN had found novocain, in the course of many hundreds of injections, absolutely efficient for dental purposes One drawback to many anaesthetics was after-pain In novocain he had done something towards preventing this sequel by using the novocain in fresh solutions On using butyn he found a much higher degree of after-pain It was often said that a little after-pain did not signify, but with butyn it was apt to be excruciating, and in some cases would last for three or four hours He had given up butyn entirely in consequence If distilled water, freshly made, were used, the after-pain in the case of novocain was lessened

MR FRANK COLEMAN said that, from the dentist's point of view, it was important to have an efficient local anaesthetic apart from cocaine, but he did not know of any anaesthetic which was as efficient as cocaine for the purpose On the question of drugs of addiction, patients and the general public looked upon cocaine as a generic term for local anaesthetics, and frequently after he had injected a patient, the patient had remarked to him that he had not had the pleasurable symptoms he had expected, the impression being that he was employing cocaine when, in fact, he was employing novocain

Opener's Reply

DR DALE, in replying on the discussion, said he believed "procaine" was only an American name for novocain In a recent number of the *Journal of Pharmacology* a paper would be found by someone who had taken the unnecessary trouble to see whether these two differently named but chemically identical preparations had the same local anaesthetic action, and he had come to the expected conclusion that they had With regard to the toxicity curve, he took this to mean that these local anaesthetics had different degrees of instability It was shown some time ago that novocain, for example, in whatever concentration, seemed when administered hypodermically to be less toxic than cocaine, but if the administration were made directly into the blood stream the contrast between the two drugs was less striking Novocain either passed very rapidly through the kidneys, or, what was more probable, it was hydrolysed into inert compounds as it got into the blood stream, therefore, unless it could get in very quickly, it had no chance of exercising its full toxic effect MR Watson-Williams had referred to the desirability of pursuing researches towards a perfect local anaesthetic The speaker had private information of a new local anaesthetic which had been produced in Germany He was hoping to receive a sample of this at the end of the present week, and he proposed to hand it on to Professor Dixon and Dr Copeland for some experimental work if they would undertake it A preliminary report stated that it was seven or eight times as potent as novocain, and only twice as toxic If that was the case it ought to be a very valuable thing With regard to the difficulty of sterilizing, he imagined that the main danger was that cocaine, like all esters, was extraordinarily unstable, and that its solution was to some extent on the alkaline side But he should imagine that a method could be devised whereby cocaine could be sufficiently sterilized without losing more than a trifling amount of its activity

A THEORY OF ASTHMA

AT a meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine on March 11th Professor W STORM VAN LEEUWEN of Leyden propounded a theory of asthma, with special reference to the influence of climate

Professor van Leeuwen began by remarking that one interesting thing with regard to asthmatic persons was that nearly all of them would say that they were very much better in some places than in others In Holland there was an impression that Rotterdam was a bad place for asthmatic persons, while the Hague, only a few miles away, was much better He had observed that patients coming from the west of Holland, particularly from the islands, were always the most difficult cases to treat, but once they were in the clinic at Leyden their asthma quite disappeared, and they had no more attacks until they went back to their homes He undertook an investigation on one of the small islands on the Dutch coast It appeared that among the total population of that island the proportion of asthmatics was 1 or 2 per 1,000, but villages were found in which 1 per cent of the people had asthma, and it was evident that there was much more asthma in some parts of the island than in others Most of the islanders affected had never left the island for any extended period, but, out of the 24 who had done so, 21 declared that they had been much better in another locality A number of Dutch asthmatics had been sent to Switzerland, and there every one of them remained free from asthma In speculating as to the reason for this difference between one locality and another, he and his colleagues had thought of temperature, barometric pressure, and humidity, but after careful observation they had found that all these had to be excluded There remained two other possibilities—one a substance in the air, not borne above a certain height, which produced asthma among the hypersensitive, and the other the maintenance of some substance in the air at higher altitudes which rendered persons immune One interesting discovery on the island he had mentioned was that many of the asthmatic persons lived in close proximity to stores of grain—oats and so forth—which had been infected by mites, and it seemed possible that this grain produced substances which were toxic for these people A box of the infected grain was taken to Switzerland, and on being placed near to a person who had lost his asthma while living at a high altitude he showed at once all the signs of commencing asthma Up to the present all efforts to discover the identity of this substance had proved unavailing Apparently it was not limited to the air of Holland, for the same thing had been noticed in North Germany and elsewhere The infected grain was able to induce asthma in every guinea-pig experimented with, the animals showing violent irritation of the skin and continual sneezing

The lecturer then turned to the significance of these observations in therapeutics Specific treatment was not yet possible, because the causative agent was unknown, but in the clinic at Leyden these people were given tuberculin

—one in 10 million old tuberculin at first, and later on perhaps one in 100,000 In 15 or 20 per cent of the cases so treated the condition was not changed at all and the results were purely negative, these were the patients most sensitive to the climate factor In about 50 or 60 per cent of the cases the cure was quite definite, though he admitted that he included among the "cures" the cases of persons who, having had asthmatic attacks perhaps three times a week, had only one such attack in the course of a few months The other cases were benefited or the results were uncertain For nearly every asthmatic person a place might be found where he was free from asthma, but on coming back into his old locality the asthmatic attacks would return The lecturer knew of cases where a man had gone to California, and had been there for ten years, with never an attack of asthma, but immediately on coming back to the part of Holland where he had formerly lived the asthma returned in a severe form

In the course of a brief discussion, Mr FRANK COKE said that every observer must admit that the present knowledge of sensitization to foreign proteins led to very superficial conclusions For his own part he was loath to give up the strong feeling he had with regard to skin reactions He still considered that the skin test should be done in every single case With regard to the question of infected grain, he thought it possible that the grain was mouldy, and that the moulds gave rise to particles in the air to which certain people were sensitive The influence of the climate factor was undoubted, and all asthmatic persons were better in some places than in others They did best in clean, clear air, and they suffered most in the time of the east wind which was a dry wind and carried a considerable amount of dust

Dr JOHN FREEMAN believed that the question of skin reactions was being pushed too far In only about one asthmatic in twenty could such tests as a routine procedure be usefully made One reason why the skin test failed was because only 1 per cent or less of the possible proteins were available for testing He did not know whether it was generally realized how very large a number of substances there were to which people might be sensitive Dry rot for example, was one small variety of moulds, yet there were sixty or seventy dry rots in England Then again, there were forty or fifty different species of algae which might obstruct the water mains If there was no taste or colour in the water there was no public complaint, yet any person having particular sensitiveness to any of these algae might get asthma From his own studies of hay fever Dr Freeman believed that a good deal depended on the buoyancy of the air which carried the grass pollen A person in this country who was always laid low with hay fever at the time of the haymaking was able in Switzerland to be only a field away from the haymakers without any ill effect

ALCOHOLISM IN RELATION TO INSANITY AND CRIME

A DISCUSSION on alcoholism in relation to insanity and crime took place in the Section of Psychiatry of the Royal Society of Medicine on March 11th Dr T B HYSLOP presided

Dr W C SULLIVAN, in opening, said that the subject of alcoholism had received a certain amount of fresh illustration from the experience of the war years His concern that evening was not with alcohol, but with alcoholism, and here he distinguished between convivial drinking, which was intermittent and did not tend to cause chronic alcoholism, and industrial drinking, which involved the taking of small, frequently repeated doses, in the latter the constant presence in the blood of a noxious quantity of alcohol tended to bring about chronic alcoholism The main determining factor in industrial drinking was to be found in the nature and circumstances of the occupation, and here he showed a table setting out the wide variations of alcoholism among men engaged in certain definite trades—for example, the figure was much higher among metal workers than among agricultural labourers

In a comprehensive psychological view, drunkenness was insanity, but by insanity as indicated in the title of his paper he intended that form of disorder which brought people into the asylum Many years ago it was almost an article of faith to attribute certifiable insanity largely to alcoholism But after Sir Frederick Mott had pointed out that the pathological changes associated with alcoholism were found comparatively rarely in asylums, it seemed reasonable to suppose that alcoholism could hardly be so significant a cause of certifiable insanity as had been believed Further evidence was forthcoming from statistical records of the war period During that period the liquor traffic was regulated by the control originated by Lord D Abernon The speaker showed a table for the years 1913 to 1921, giving in the case of women (the statistics for men had not been included because of the disturbance of the war) the figures of convictions for drunkenness and of deaths from alcoholism and cirrhosis of the liver The statistics brought out the fact that while there had been a reduction in these respects it had not been accompanied by any decrease at all in the number of first cases of women admitted to asylum care It appeared legitimate to suppose that alcoholism did not play any large part in the causation of those mental disorders which made up the mass of certifiable lunacy He might express the position by saying that the only insanities due to alcohol were alcoholic insanities

With regard to crime, Dr Sullivan confined himself to indictable offences, which he classified under the three headings of crimes of acquisitiveness, of violence, and of lust The influence of alcoholism as a cause of crime was practically negligible in the case of crimes of acquisitiveness, but was very important in the other two cases Among the crimes of violence suicide might also be classed, and in this country many abortive attempts to commit suicide were due to chronic alcoholism On comparing the incidence of the various crimes during the years immediately preceding and those immediately following the war, it appeared that crimes of acquisitiveness had returned to their pre war level, attempts to commit suicide had fallen very largely—to only 59 per cent of the pre-war figure, crimes of violence had considerably diminished, and crimes of lust had diminished, though not to the same extent In the absence of any other probable explanation it might be conjectured that the reduction in homicidal and suicidal crime was the result of the coincident reduction of alcoholism, while the absence of any corresponding fall in the crime of acquisitiveness suggested that here alcoholism had no influence In this country the most serious crime of violence, murder, was commonly, apart from child murder, the murder of women by men, generally of the wife or mistress by the husband or the paramour At one end of the series of such crimes were those committed in the dream state, with an inability to assign any conscious motive, and at the other extreme were murders perpetrated deliberately and associated in the conscious ness of the murderer with delusions, almost always of marital infidelity All the cases of this sort were alike in a common toxic origin and in the nature of the homicidal impulse Delusions following upon sexual jealousy were very frequent in the alcoholic subject Another category of grave crimes in which alcoholism played an important part was crimes of lust Here a distinction should be drawn between sexual assault committed upon women and those committed upon children Both these varieties of sexual crime were associated with alcoholism, but rape and indecent assaults on women were commonly connected with what might be called pleasurable drunkenness The violation of children, on the other hand, was usually the result of chronic alcoholism In the former case terrible as was the manifestation, the impulse might be described as of a natural kind in the latter case the underlying impulse was a perversion It was interesting to note that instances were occasionally observed in which, following the development of chronic alcoholism, with characteristic delusions as to marital infidelity the issue was not the murder of the drunkard's wife but the violation and perhaps the murder of his children

Dr Sullivan thought that some broad conclusions might be drawn The pathological changes produced by chronic

poisoning with alcohol were generalized in their distribution All the systems were involved, or were liable to be involved, in some measure, but the most important and most constantly affected were the nervous and the digestive systems and the genital glands In chronic alcoholism, then, there was on the one hand a diseased condition of the nervous system, and on the other a visceral disorder, and the commonest delusions of the alcoholic were poisoning, marital infidelity, and sexual mutilation

Dr JOHN CARSWELL said that Dr Sullivan had confirmed the position which some of them had taken for years as against the other authorities who claimed that a large proportion of admissions to asylums were due to alcoholic excess But in the returns cases of alcoholic insanity were not put down as such Cases of delirium tremens which were admitted to London mental hospitals were often put down as confusional or delusional insanities Alcoholism was an extraordinarily prolific cause of attempted suicide In Glasgow the number of cases of attempted suicide was masked a man who jumped into the Clyde and was rescued was charged, not with attempting to commit suicide, but with disorderly conduct

Dr C F HARFORD commented upon the statistics which Dr Sullivan had given relating to alcoholism in women during the period of years which included the war He had shown that the total admissions to asylums had not diminished during the period that less alcohol was obtainable, but in the speaker's submission this was not at all surprising in view of the stress and strain of the war years, indeed, a considerable increase in insanity, without any relation to alcohol, might have been expected Moreover, when Dr Sullivan produced the figures showing the deaths from alcoholism during this period, surely again the figure was vitiated by the fact that in deaths due to diseases caused by alcoholism the excessive indulgence might have been supposed to have extended over a long term of previous years Not even yet would the effect of control during the war years be discernible in the statistics of alcoholic deaths He thought also that the day had gone by when such stress should be laid on cirrhosis of the liver in relation to alcoholism A passing criticism by Dr Carswell on psychoanalysis led Dr Harford to exclaim that it was a lamentable thing that the study of psychology which was being taken up by all the great professions should be decried in medical circles

Dr T B HYSLOP said that Hughlings Jackson used to hold that there were always two factors to be considered—the positive symptom or group of symptoms, and the negative lesion The positive symptoms had figured in that discussion, but they had to consider also the negative lesion which prevented the individual from controlling his faculties One thing which was definitely known about alcohol was its disruptive effect on the nervous and mental processes Alcoholism meant the disorganization of the seriality of thought All these effects which were set down to alcohol might perhaps be turned round and regarded from a different point of view Alcohol for its elimination required the using up of oxygen, and if the oxygen was being used up at this rate the oxygen taken in could not get rid of the waste products which had accumulated, so that the effects commonly attributed to alcohol might, from another point of view, be put down to these accumulations

BRAIN DISTURBANCES IN HYPERPIESIA

AT a meeting of the Medical Society of London on March 10th, with the President, Dr HERBERT SPENCER, in the chair, a discussion was held on disturbances of the brain in hyperpiesia

Dr H BATTY SHAW, whose paper on a related subject appears at page 507 of this issue, opened the discussion He said that the disturbances in this condition included headaches, giddiness, delirium, convulsions, and coma, the most common being headache and giddiness Some of the manifestations occurred independently of changes in the brain evident to the naked eye Some of the examples met with were cases of encephalitis It must be admitted that in other conditions than hyperpiesia, coma, convulsions, and so forth could occur without coarse brain lesions A remarkable feature in the cases under discussion was their quick recovery without leaving any trace behind, and there was strong reason to suppose the brain to be affected by a circulating toxin Arterio-sclerosis, in view of such happenings, could scarcely be held as a cause One woman who suffered from such attacks, including coma, for months recovered apparently completely In a few cases he had seen hemiplegia occur independently of any vascular lesion in the brain, and some patients had repeated unilateral convulsions, aphasia, and the like, and were quite normal between attacks Was there not likely to be some chemical or chemico-physical cause? Even in some cases which were said to have died of uraemia, the kidneys when examined were found, both naked-eye and microscopically, to be normal The coma, hemiplegia, blindness, etc, met with in these cases had not yet been shown to be due to uraemia *per se* He drew a parallel between this condition and eclampsia, for both could occur with the kidneys remaining normal He related a number of case histories, in practically all of which the blood pressure was 200 mm of Hg or over, sometimes 260 mm Combating the idea that these cases had an organic basis, he said it was difficult to conceive of this when a patient might have several recurrences, sometimes all on the same side of the brain, and enjoy perfect normality in the intervals Hyperpiesia might take on every mould of kidney disease, yet *post-mortem* examination showed these cases to have no renal trouble

SIR HUMPHRY ROLLESTON said there should be a distinction between the nervous manifestations due purely to high blood pressure and the clinical manifestations occurring in those who had high blood pressure The nervous symptoms in patients with hyperpiesia had, in the main, a twofold origin In the first, they were due to the causes producing high blood pressure, in cases in which there were definite manifestations of an underlying toxic cause Secondly, there were definite organic changes secondary to long-continued high blood pressure, the changes being very evident in the arteries

Professor E. H STARLING said his remarks would be based upon what he had gleaned by hearing the particulars of Dr Batty Shaw's excellent series of cases, and he would be uttering pure hypothesis The central nervous system could only act by excitation or by paralysis, and it reacted in many ways to many kinds of toxic agent and varieties of injury Therefore, because one saw a certain number of labelled diseases end with these various brain symptoms, one could not say that they were all of the same origin The terminal brain symptoms could tell one nothing about the disease itself and its cause To him the term "toxic" meant very little What kind of toxin was meant? Was it a diffusible toxin, a protein, or something like the sympathico-mimetic amines, or hormones? Was it always acting, and where did it come from? Many people, feeling quite well, were found to have a blood pressure of 200 mm or over, and if that pressure were brought down they felt ill These people had their blood pressure set at a higher point than the 120 mm of the normal average Destruction of the parenchyma of the kidney or its secreting substance increased the blood pressure, and Cohnheim's explanation of that had not yet been got rid of Blood pressure in the body depended in the first place on the pressure in the circle of Willis, for the brain was the master tissue of the body and insisted on having its blood supply, even when the heart was very bad there was no fall in the arterial pressure in the brain A second cause of high blood pressure was the existence of any mechanical obstruction to the circulation in the vessels of the brain stem Summarizing his remarks, he thought the symptoms of hyperpiesis might be explained as a claudication of the vessels of either the kidney or of the brain stem, and the blood pressure must of necessity be set up at a higher level in these cases

Dr JAMES COLLIER agreed with the line of thought pursued by Dr Batty Shaw, and said the phenomena in these cases could be as varied as the functions of the brain But he had never seen hyperpiesia in true neurasthenia, he did not think the latter occurred except in low-tension subjects, which seemed to show that neurasthenia was essentially a disorder of metabolism What especially attracted attention

in the cases of hyperpiesia was the transient nature of the cerebral phenomena, also their sudden onset, their severity, yet their remarkably rapid recovery Some of the cases bore a strong resemblance to cases of acute metallic poisoning He related a number of cases

Dr GEOFFREY LEWIS agreed that a toxic element was responsible for the manifestations in these cases SIR CLIFFORD ALLBUTT had pointed out that hyperpiesia never, in its future course, had any close kinship with granular kidney or with any form of chronic Bright's disease Sir Clifford Allbutt having described the condition, it was wrong for anyone else to broaden the basis by bringing in cases which included grave forms of kidney disease In all the cases of hyperpiesis on which he, the speaker, had made a necropsy he found arterio sclerosis, and always of the same type—that is, that which had been described by Jovce and others as diffuse hyperplastic sclerosis, some organs being affected by it, some not Hyperpiesis he regarded as a physiological response to a poison

SIR WILLIAM WILLCOX agreed that hyperpiesia and the nervous manifestations of it were due to a common cause, but only a little was known about the toxins causing these symptoms Toxicology furnished counterparts of every manifestation Dr Batty Shaw mentioned, and bismuth poisoning created symptoms closely akin to those of hyperpiesis An illuminating series of symptoms also supervened on acute lead carbonate poisoning, and salvarsan poisoning, with symptoms supervening three days after the injection, gave a remarkable similarity of symptoms When, in association with symptoms of hyperpiesis, there were gross vascular lesions, the condition of the patient was grave

Dr PARKES WEBER said the most valuable drugs for these cases were those of the digitalis class In most of the cases he thought there had been an excessive intake of food, and of substances taken at the same time as food and yet could not be claimed to have much nutritive value He thought ordinary granular kidney was nearly related to hyperpiesia, and he regarded the latter as toxic in origin

SIR JOHN BROADBENT said the cases of hyperpiesia with recurrent hemiplegia, etc, were not associated with kidney disease Besides the temporary hemiplegia, these patients had attacks of air hunger, with dyspnoeic attacks in the night and a triple heart rhythm, and he had found digitalis or opium cured them He criticized the use of the term "uraemia", there might be a large quantity of urea in the blood without its causing the symptoms

Dr P HAMILL said that often in the kind of cases discussed, if the blood pressure fell from its high optimum, albumin would occur in the urine and the patient felt ill Something had upset the patient's capacity for maintaining a blood pressure which would ensure an adequate supply of blood through the medulla Dr GOODHART dealt with the influence of urea in the blood

HYDROTHERAPY IN TROPICAL DISEASE

AT a special meeting of the International Society of Medical Hydrology at the Royal Society of Medicine, on March 5th, the President, DR FORTESCUE FOX, in the chair, a discussion on the treatment of tropical diseases by waters and baths was opened by DR ROBERT PIERRET of La Bourboule, France

Dr Pierret mentioned several categories of these cases some paratropical, or ordinary diseases aggravated by tropical conditions, the tropical liver cases described by Manson, and tropical diseases proper Confining himself chiefly to the treatment of malaria and tropical liver at the French spas, he mentioned that bronchial spirochaetosis (Castellani's disease) was but rarely seen in France A case was cited of haemorrhagic gangrene of one lung in a diabetic subject, due to spirochaetosis and cured at La Bourboule Ferrerolles had shown the spirochaetolytic action of this water on Schaudinn's and Obermeier's parasites These waters were alkaline, arsenical muriated, and radio active and excellent results were obtained from them in chronic malaria, the blood picture becoming normal, and the liver and spleen diminishing in size Intestinal microbic lesions after typhoid, sprue, tropical diarrhoea, bacillary or post amoebic dysentery were in France better treated at Chatel Guyon Plombières was preferable in sensitive and painful cases, which Dr Pierret termed "intestinal asthma" *Large livers and tropical metabolic* diseases generally were mostly indications for the alkaline cure at Vichy, where the hospital for tropical disease accommodated 300 cases The normal blood picture seemed to be restored by these waters, not directly as at La Bourboule, but indirectly through the liver by haemolytic regulation Large livers ought to be treated on the lines of etiological considerations, although in his belief most cases from the tropics were really autopathic, malaria taking little part in them such were well treated at Vichy Individual indications and climate should be considered in every case

DR EDGECOMBE said that a number of cases from the Near and Far East, and India, and from tropical Africa and its colonies, were referred to Harrogate He considered that there was nothing specific in the Harrogate treatment, but that it was applicable rather to the general after-effects of tropical disease Cases fell into two groups (1) those suffering from no specific tropical disease but who were run down and out of health from too prolonged residence in the tropics without a break For these a course of treatment at Harrogate immediately on their return home, before embarking on their leave, was highly beneficial in restoring them to health in a shorter space of time than was possible by any other means (2) those suffering from the after-effects of tropical disease, such as malaria, dysentery, sprue, etc, and the so-called "tropical liver," whether dysenteric, post-malarial, or alcoholic For these, treatment by haematinic waters with carefully prescribed douches and baths to stimulate metabolism, and in the liver cases treatment by sulphur waters, liver packs, etc, combined with judicious exercise in a bracing climate with attractive surroundings, materially accelerated recovery

DR FERRERYOLLES said that in a large number of malarial cases referred to La Bourboule quinine had been given for a long time, but had failed Their experience was that when it was combined with a course of arsenical waters in chronic cases an excellent result was obtained this was difficult to explain, but he was inclined to attribute it to a specific action of the arsenic

DR G L KEER PRINGLE considered that the types of *chronic tropical disease which did best at a spa* like Harrogate were tropical liver, the tropical liver associated with *morning diarrhoea (both* benefited by mild sulphur waters), chronic malaria and especially the anaemia associated with it, for which the large range of iron waters also were valuable The chronic muscular rheumatism so frequently associated with malaria was much benefited by peat baths, followed later on with massage, either wet or dry At the same time he emphasized the necessity of regular doses of quinine, continued for a number of months He had never seen the reactions referred to by Dr Pierret in his *interesting paper*

DR A F FORSTER spoke of two types of hepatic congestion met with at Cheltenham—the gastric and the intestinal Both the saline and the alkaline waters at this spa were of benefit in these cases, and the alkaline waters were also valuable in cases of catarrh of the intestines or bile ducts or after appendix operations Patients with enlargement of the liver after malaria had also done well at Cheltenham

SIR LEONARD *ROGERS said that the action* of arsenic in malaria appeared to be to repair the damage to the blood, and, as Professor Stephens had shown was not antiparasitic Many distinct diseases had been wrongly attributed to malaria The spleen was most enlarged in the benign tertian and quartan types, the liver was rarely affected Most cases of tropical hepatitis were due to amoebic disease of the bowel, sometimes very chronic and often latent without symptoms or even a history of dysentery His own long experience of necropsies in Calcutta showed that in about two-thirds of the fatal liver abscess cases (*amoebic*) there was very little ulceration in the caecum and ascending colon, and there had been no bowel symptoms during life He showed a diagram illustrating this point and temperature charts indicating the fall of temperature two or three days after large doses of

ipecacuanha, even where the fever had persisted for forty or fifty days, liver abscess being thus averted It was a dangerous doctrine that cases of "tropical liver" should not be treated with ipecacuanha or emetine when no history of dysentery was obtainable, since nearly all chronic diarrhoea in India was amoebic The other great cause of chronic hepatitis in India was alcoholism, which was still too common

The PRESIDENT said that both France and England were gravely concerned in the adequate care and treatment of convalescents from tropical disease British writers like Sir James Cantlie had pointed out the good influence of change of locality, short sea voyages, wisely selected waters, and climatic health resorts For many years past very good results had been obtained from the British spas, the choice of water depending upon individual indications It must be borne in mind that patients returning to England were liable to relapses, especially during cold and easterly weather Zagger, treating German soldiers suffering from malaria interned in Switzerland, had reported very good results from warm hydrotherapy with vigorous friction the systematic prevention and treatment of chill by means of baths was very advisable in England in tropical cases

HODGKIN'S DISEASE

A MEETING of the Liverpool Medical Institution was held on March 6th The President, Mr G P NEWBOLT (whose death occurred three days later), was in the chair

Dr S W PATTERSON read a paper on thirty-one cases of Hodgkin's disease, and, having outlined the clinical features and pathological appearances in this disease of the blood-forming organs, he discussed the absence of any significant etiological factor Syphilis and tubercle were related to Hodgkin's disease only as secondary accidental infections Three cases had been attending the skin department for chronic skin lesions, in one instance for six years, before severe symptoms of Hodgkin's disease appeared The pathological changes in the liver and spleen had led to Hodgkin's disease being regarded wrongly as a new growth affecting the blood-forming organs, from consideration of the peculiar disturbances of temperature with remittances and large oscillations, the more or less progressive course ending in death, and the pathological appearances, it might rather be concluded that the causative agent was probably parasitic In the absence of any definite cause of primary diseases of the blood forming organs, these must at present be grouped according to the morbid anatomy A classification of the various disorders of the reticulo-endothelial system on histological lines was offered Twenty-two patients in Dr Patterson's series were male and nine female, and in eighteen the disease commenced between the ages of 30 and 50 The main symptoms observed were malaise, weakness, loss of weight, cough, night-sweats, and in four cases pruritus, no haemorrhages occurred In two-thirds of the total number the cervical glands were first involved, and in one-third the mediastinal glands, four of these progressing to hydrothorax, the spleen was greatly enlarged in four cases and palpable in six others The blood showed secondary anaemia without characteristic changes in the white cells, and eosinophilia, which was noted in several cases, could not be correlated with other features of the disease The course was progressively downhill in fifteen, relapsing in eight, and acute in one The duration of the disease in thirteen patients known to have died varied from four months to four years, with an average of two years The predominant clinical feature might be glandular involvement, symptoms of mediastinal tumour or more rarely splenic enlargement The course of Hodgkin's disease seemed to be more or less rapidly fatal, healing had been reported as the result of various procedures, but the experience of this series of cases was depressing Improvement seemed to be obtained by arsenic given internally, or treatment with x rays and radium but relapse occurred and the patients tended to go downhill more or less quickly

Mr J T MORRISON referred to the uncertain nature of the disease and the question whether it was one specific disease or a group which was called lymphadenoma He emphasized the importance of making the diagnosis as accurate as possible, and declared that no patient with an operable mass of glands in the neck should be diagnosed as lymphadenoma until a gland had been submitted to microscopic examination so as to exclude tuberculosis In regard to treatment, he declared that excision in early cases, followed up by full courses of x-ray treatment and arsenic, was more efficacious than any of these methods separately, and he pleaded for further trial of this system

Dr J C MATTHEWS read a note on two cases of Hodgkin's disease showing the periodic pyrexia usually known as the Pel-Ebstein syndrome In one of them the diagnosis had been confirmed by *post-mortem* examination The condensed temperature chart, prepared on the lines suggested by Hall and Douglas, showed a wave length of about twenty-one days The second case was observed over a much shorter period and showed a wave length of about fourteen days

Mr HUGH REID read a note on an obscure case of calculus in the pelvis of an ectopic kidney situated below the brim of the bony pelvis The patient, a man, had a history of cutting pain in the left lumbo-sacral region shooting towards the groin and pain in the suprapubic region passing down the penis Blood had been passed in the urine and urine examination showed urea 1·97 per cent, a few blood and pus cells, and staphylococci present The x-ray diagnosis was "stone in the bladder" At a cystoscopic examination pus was seen coming from the left ureter, and from this it was decided that the condition was due to a stone in a much dilated ureter, low down At the operation a split muscle incision over the left iliac fossa was made, the ureter was not found and the kidney was placed entirely below the brim of the bony pelvis, the organ could not be brought out of its bed through the wound and the renal vessels were seen arising from the common iliac, the stone in the pelvis of the kidney was removed One month after the first x-ray examination the patient was discharged with the wound healed after a normal convalescence Mr Reid exhibited a lantern slide of the x-ray plate and gave a short review of the literature on the subject, together with an account of the embryology, clinical features, pathological changes, diagnosis, and treatment of ectopic kidneys

Dr M J COHEN added that the presence of pelvic kidney was unsuspected, and the right kidney was shown on the x-ray plates to be in its normal position, the shadow of the pelvic bones would naturally obscure the outline of the left kidney No pyelogram was made He had recently seen a necropsy of a female in whom the left kidney was fixed below the brim of the pelvis In both instances the suprarenal bodies did not descend with the kidneys

USE OF THE BRONCHOSCOPE

AT a meeting of the Medico-Chirurgical Society of Edinburgh on March 5th, Sir DAVID WALLACE, the President, in the chair, Dr G EWART MARTIN read a paper on the application of the bronchoscope in the diagnosis and treatment of certain affections of the chest

Dr Martin drew attention to the relatively infrequent use of this instrument in this country for diagnosis and treatment as compared with foreign countries In the throat and ear department of the Edinburgh Royal Infirmary during fifteen years there were only six cases in which foreign bodies were removed from the lower air passages He then referred to his recent visit to Dr Chevalier Jackson's clinic in America, and the frequency of the occurrence of cases of foreign bodies in the bronchi which had been remarked by others who had visited this clinic Cases of foreign bodies in the bronchi had been reported by Dr Logan Turner and Dr Fraser in 1915 in Great Britain, who had shown that the diagnostic signs were largely clinical Jackson pointed out that the chest signs were usually those of a localized bronchitis, and his new diagnostic sign of asthmoid wheeze was cited, it had no localizing value, but indicated the presence of a foreign body Jackson and Spencer referred to a condition they called "atachidic bronchitis," due to the aspiration of pea-nut

kernels, which are less popular with British children than with American Reference was made to several types of cases seen at Jackson's clinic and the physical signs present in the chest The importance of x ray examination of all chests suspected of harbouring foreign bodies was emphasized, and in all cases of chronic bronchitis or suspected phthisis Many foreign bodies, however, were not opaque, and this led to a careful survey of hundreds of cases at Jackson's clinic with a view to correlating physical signs and x ray examinations Dr Manges had recorded his experiences of x-ray findings in the chest where a foreign body was present, and pointed out that (1) increased transparency of the affected side, (2) depression of the diaphragm on the same side, and (3) displacement of the mediastinal structures from the affected side were commonly present in the early stages To wait for the presence of a bronchiectatic cavity or of a lung abscess forming round a non-opaque foreign body so as to permit x ray diagnosis was too serious for the patient, and reference was made to illustrative cases The question of dental foreign bodies was mentioned, and Hedblom's collection of 52 cases from his own experience and the literature was cited The difficulty of obtaining a history of the aspiration of a foreign body in children was obvious Dr Martin urged the importance of always keeping in mind the possibility of a foreign body being the cause of acute and chronic pulmonary disease when the actual etiological diagnosis was not clear The technique of bronchoscopy was fully explained, and even in children general anaesthesia was not required the importance of correct team work in carrying out the procedure was emphasized Indications for bronchoscopy were detailed as follows (1) When the history, physical examination, and x-ray examination point to the presence of a foreign body, (2) when there is a history and physical signs suggesting a non-opaque foreign body not detected by x rays, (3) cases of bronchiectasis so as to exclude the presence of a foreign body, and also to provide local treatment, (4) in cases suggestive of tuberculosis without tubercle bacilli in the sputum, (5) in cases of dyspnoea without obvious disease of the lungs, (6) tracheal or bronchial stenosis Details of the procedure employed and of the good results of treating bronchiectasis by washing out the cavity through the bronchoscope were given, and lantern slides of x rays of the chest with foreign bodies *in situ*, and others illustrating the mechanism of operating the bronchoscope, were shown

Empyema

Mr JOHN FRASER, in a paper on problems of the treatment of empyema in children, stated that in his hospital practice the incidence of the disease was small, about 10 cases in every 1,000 admitted, and he gave the following statistics of the incidence after acute respiratory diseases

	Cases	Developed Empyema
Acute lobar pneumonia	50	3 = 6 0%
Acute bronchopneumonia	49	7 = 14 0%
Influenzal pneumonia	336	17 = 5 7%

It had been said that the infection was more diffuse and the barriers less complete in the bronchopneumonic type of pneumonia, which accounted for this higher percentage of empyema In 70 cases the causative organism was determined—53 were pneumococcal and 17 streptococcal, Mr Fraser believed that the bacteriology was of great prognostic importance In the 53 pneumococcal cases the mortality percentage was 6 9, while in the streptococcal cases it was 24 7 per cent in streptococcal cases adhesions are few, in pneumococcal cases adhesions are many A routine type of treatment was not advisable, and three factors had to be considered before determining the actual therapeutic procedure—namely, (*a*) general condition of the child, (*b*) type of infecting organism, (*c*) extent or absence of adhesions The extent of intrapleural adhesions could be gauged by x rays to some extent, but better by estimating the condition of the intrapleural tension This was done by connecting a large-bore needle to a water *manometer*—a positive pressure was, of course, recorded—but when adhesions were not present the oscillations were wide, when adhesions were present there was very little movement Treatment of a pneumococcal empyema was then described, the special points being the production of closed drainage from the most dependent part of the cavity, and the complete closing of the original operation wound after disinfecting its edges The operation was performed under gas and oxygen anaesthesia, and the incision made over the centre of the cavity, not over its lowest point, the parietal pleura being separated from the chest wall to allow of its closure later The pleura was then incised and gently swabbed out with pledgets of gauze, when the cavity had been cleared a closed flanged drain was inserted through a fresh opening at the most dependent part of the cavity The original wound was now closed by accurate approximation of the pleural surfaces as the first step in the procedure The free end of the drainage tube was inserted into an antiseptic fluid in a bottle at a lower level, and if it became blocked gentle syringing was carried out with eusol The results had been eminently satisfactory in streptococcal cases aspiration was carried out for four or five days, after this adhesions had probably formed and the procedure for pneumococcal cases might be followed Local application of drugs had proved of little value, but the use of acid sodium phosphate by the mouth had met with success in cases of serous effusions it had the reputation of raising the efficiency of individuals 20 per cent, and was used in certain German "storm" troops

TUBERCULOSIS OF THE SKIN

A MEETING of the Aberdeen Medico-Chirurgical Society was held on March 6th, the President, Dr G M DUNCAN in the chair, when Dr J F CHRISTIE read a paper on tuberculosis of the skin, with special reference to lupus vulgaris

Dr Christie divided the skin affections of tuberculosis into three classes (1) The definitely tuberculous, in which the tubercle bacillus is found, the typical histological appearances are present, the test of inoculation of susceptible animals is positive, and there is a local reaction to tuberculin In this class are lupus vulgaris, scrofuloderma tuberculosis verrucosa cutis, miliary tuberculosis of the skin, acute tuberculous ulcer, and chronic *tuberculous ulcer* (2) The 'tuberculides" found in patients who are "more or less tuberculous" and react to tuberculin Here the histology suggests tuberculosis, but the bacillus is only rarely found, and it has been supposed that the conditions are due to the circulation of toxins of tuberculous origin or to attenuated forms of Koch's bacillus In the light of more recent knowledge, however, it must be admitted that these are forms of true tuberculosis due to the actual presence of the tubercle bacillus, but occurring in those who are putting up a good resistance to tuberculosis The diseases in this class are thus analogous to the secondary syphilides and include lichen scrofulsorum, the papulo-necrotic tuberculides, lupus pernio, and erythema induratum (Bazin) In these the eruptions are bilaterally symmetrical and they tend to spontaneous cure (3) The doubtful toxic "tuberculides," including lupus erythematosus, pityriasis rubra gravis (Hebra), angiokeratoma, and psoriasiform tuberculide

Dr Christie then discussed the differential diagnosis of lupus vulgaris in its different manifestations—simplex exulcerans, fibroid, verrucosus—and mentioned the importance of a searching examination of the mucous *mouth* and nose, since in 75 per cent of these cases mucous membrane lesions were present The diagnosis between lupus vulgaris and syphilis was particularly *dealt with* and its difficulty in cases of these diseases coexisting was noted The complications of lupus vulgaris were next mentioned, and in emphasizing the gravity of lupous carcinoma Dr Christie expressed the opinion that these cases were on the increase and briefly discussed the treatment A full account of the treatment of lupus vulgaris was then given—general treatment by sunlight, fresh air, etc the use of drugs such as iron, arsenic, sodium morrhuate thyroid extract potassium iodide, tuberculin and the arsenobenzol preparations, local treatment by surgical measures such as excision or curetting, freezing, x rays, Finsen light, the

carbon arc lamp, and various chemical agents, such as "Brooke's ointment," acid nitrate of mercury, trichloracetic acid, etc Special emphasis was laid on the necessity of perseverance, long-continued treatment, and watchfulness The lecture was illustrated by a large number of coloured plates and photographs, and by the demonstration of over twenty cases

PUERPERAL SEPSIS AND GLOVE STERILIZATION

At a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, held on February 15th with the President, Dr LOUIS CASSIDY, in the chair, Dr R E TOTTENHAM read a paper on puerperal sepsis, and was followed by Dr G W THEOBALD and Dr J W BIGGER, who described a method of sterilizing gloves without boiling or autoclaving them Surgeons had now recognized the impossibility of sterilizing the skin of the hands, attempts to do so by prolonged washing or the use of antiseptics damaged the skin Dr Theobald advised the simple washing of the hands to remove gross dirt, and then the use of rubber gloves sterilized by antiseptic solution

The PRESIDENT thought it would be difficult to train medical practitioners, nurses, and medical students in the methods described by Dr Theobald, and to work as conscientiously He personally would be disinclined to recommend as a general procedure these methods until they had been longer in use If the rule was laid down that by just dipping the hands into a little spirit they could be perfectly cleaned, he thought it might prove very dangerous and as a method to be taught all over the world, and taken up by all and sundry, he felt that Dr Theobald's doctrine was one which he could not support

Dr PEARSON thought that if the aseptic instinct was not inborn it could not be acquired, and therefore he felt that it would be better to retain the rules now laid down regarding sterilization of hands, etc, than to adopt Dr Theobald's method During the war he had been in charge of a hospital in which there were about 1,000 surgical beds, and he never had his gloves boiled, they were only washed and cleaned, and powder was put inside them, at the end of the day He put them on, after washing his hands thoroughly, at the beginning of the morning, and he kept them on all the morning He agreed with Dr Theobald in condemning the use of a hard nail-brush when washing the hands before operating, and that washing the hands in ordinary soap and water was only for the purpose of removing gross dirt, and need not be prolonged, although he knew that in some hospitals the rule was that students must wash their hands for five minutes before assisting at an operation He thought it unwise to dip the hands in methylated spirit, because this was liable to produce dermatitis He agreed with the President that Dr Theobald's doctrine would be a dangerous one to spread far and wide, and he thought it should always be remembered that the personal element could not be eliminated

Dr BETHEL SOLOMONS said he was not inclined at present to favour the adoption of such sweeping changes The surgeon who did not wear cap and mask might get good results, but apparently small extra precautions made for a better average The cost of dry sterilization had been advanced as an argument for this change in technique, but cost should not interfere with efficiency He was astonished to hear the advice given to go from a *post-mortem* or from a patient affected with *gonorrhoea*, to examine the patient in the labour ward with the same glove The real root of the matter lay in teaching students the principles and practice of asepsis in all detail, and to follow the accepted ritual, which had stood the practical test of many years

Dr QUIN expressed his belief that the crux of the problem of puerperal sepsis was the haemolytic streptococcus When the source of this had been traced and removed, then he felt that puerperal sepsis would cease He knew of a patient who came into hospital infected by the *haemolytic* streptococcus, and was under observation for some days before the exact nature of the trouble was discovered Other patients came into contact with her, many of them developed the infection, and some died The sister of this patient had died some months previously from an acute haemolytic streptococcus infection He felt confident that the man who made vaginal and rectal examinations without gloves would not get such good results from surgery as the man who wore gloves Until it was shown that all possible sources of error had been eliminated he did not think that Dr Theobald's method should be adopted

Sir WILLIAM SMILY said that the question was, Where did the bacteria which caused puerperal fever come from? In Vienna it had been proved that the bacteria certainly came from human bodies He was appointed Master of the Rotunda Hospital in the middle of an epidemic of puerperal sepsis, when there were eight very bad cases, and during most of his first year there he was trying to fight this epidemic He forbade all vaginal examinations, amongst other measures, in endeavouring to stop the epidemic Some months later he found that an assistant who was giving a course of instruction in operative midwifery had preserved foetuses, the method adopted of making these aseptic was altogether inefficient, and he came to the conclusion that the epidemic was due to septic foetuses Some years later, Sir W Smyly added, when there was another epidemic of sepsis in the then new Gynaecological Hospital at the Rotunda, he thought it must have originated in the operating theatre, and he found afterwards that one of the assistants was a very keen pathologist, he attributed the epidemic altogether to his researches in pathology

Dr R J ROWLETTE said that Dr Tottenham's history of puerperal sepsis was of very great interest He thought that there was a great deal to be learned from the history of doctrines which were believed hundreds of years ago In those days it was held that puerperal fever was due to two things (1) suppression of lochia, and (2) perversion of the secretion of milk About 1780 a Dublin surgeon—Diase—discovered at a *post-mortem* examination in the body of a male subject a condition exactly similar to what was recognized as the condition of the peritoneum in a case of puerperal sepsis The organism most to blame was in his opinion the streptococcus, but occasionally the staphylococcus might give rise to sepsis When he was at the Rotunda a very bad outbreak of sepsis occurred during the rebuilding of an old part of the hospital, and it was thought that probably streptococci in the dust were concerned in it He believed, however, that sometimes it might be due to personal infection Some years ago he had studied experimentally the sterilization of hands and gloves, and he was interested to notice that Dr Bigger's method for testing the degree of infectivity of the hand was very similar to the one adopted by himself in the past He personally, however, had found that in the crevices between the nail and the flesh there might be infection whether the hands themselves were generally clean or not and he noticed that Dr Bigger had not mentioned this point He held that a large proportion of post-operative adhesions were due to the *Staphylococcus albus*, which though not very virulent, yet caused much suffering

Dr MADILL said the question to be considered was whether or not the method described by Dr Theobald was an advance in asepsis He thought that a sufficient number of cases had *not* yet been investigated to attach much importance to the results, and he also thought that the method *in present use were highly efficient* He quite agreed with the former speakers that this new method would be *dangerous one to teach* Students were always warned about the dangers of asepsis, and he thought it would be a great mistake and very dangerous to teach them that they did not need to wash their hands before assisting at an operation, or even before examining a patient

THE next meeting of the German Society for Microbiology will be held at Göttingen from June 12th to 14th The subjects for discussion are the variability of micro organisms, introduced by Gotschlieb of Giessen and Doerr of Breslau, the significance of variability in treatment, introduced by Morgenroth of Berlin, the significance of variability in epidemiology, introduced by Neufeld of Berlin

Reviews.

TESTICULAR GRAFTS

SERGE VORONOFF has recently published the results of testicular grafts up to date in a volume entitled *Quarante-trois Greffes du Singe a l'Homme*. In this he gives a full exposition of his ideas and of his work.[1] Dr Voronoff has been the victim of a certain amount of misrepresentation and prejudice, largely owing to the premature interest which the lay press has taken in his work. His work, of course, which must tickle the fancy of laymen, and is in its broad outline easily understandable by them. No doubt the use of monkey tissue for the rejuvenation of men—a return, as it were, to our ancestry for refreshment—has in it certain elements of humour which have not missed unrecognized. Judging Dr Voronoff's work by his paper in London before the Congres International de chirurgie last year, and by this book, one must concede at once his honesty of purpose.[2] We must apologize for having used that point, but we think it well to do so in face of the prejudices which have greeted him.

Dr Voronoff describes in this book how the idea of testicular grafting first came to him through his observations of eunuchs in Cairo twenty-five years ago. He says that they appeared to him to be like old women, obese, flabby-breasted, slow-moving, with atonic musculature, pale gums, and discoloured sclerotics. He found that their intellectual and moral qualities were on a par with their physical—feeble intelligence, bad memories, no courage, and no energy. They aged very rapidly, their hair whitened early, and they only arrived at old age in exceptional cases. Examination of patients who had undergone double orchidectomy for traumatism or disease showed that in the long run their organisms underwent a profound change, the type depending on whether the deprivation was made before or after puberty. If these are the results of loss of testicular secretion, could not this loss, he asked himself, be made good by grafting portions of testis into those males whose general condition approaches in many respects to the eunuchoid type? Whether the effects of castration are due to loss of the internal secretion of the testis alone, or whether they are brought about by the failure of a link in the polyglandular chain, Dr Voronoff does not think it immediately important to decide, if only the results of grafting should be beneficent.

Dr Voronoff describes his early animal experiments. Goats and rams were used instead of the smaller laboratory animals because it was essential that the subjects should have secondary sexual characteristics that were easily recognizable. Aged goats and rams were not easily found, as above the age of 5 or 6 years they are slaughtered. Dr Voronoff had therefore to persuade small holders to part with family pets, the more decrepit the better. Some were almost at the term of their existence, with thin coats, bald in patches, trembling limbs, and urinary incontinence. Their age was presumed to be between 12 and 14 years. They were, he says, miserable beasts, thin, melancholy, timorous, and quite indifferent to the presence of females. By means of testicular grafts some of these were entirely metamorphosed. They became youthful in appearance, bellicose, and partial to the opposite sex. A return to their former senescence followed three to five months after the removal of the grafts. The author found, in extension of these experiences, that if he castrated young goats and grafted them immediately from others of their own age, they did not develop into the eunuchoid type, but remained as if uncastrated. Photographs of some of these animals are printed—one five years, another five and a half years, after the graft. They look very hearty.

The histological examination of the grafts was carried out by Professor Retterer. A eulogy of Retterer on page 26 of a kind usually associated with obituary notices only, is the only passage in doubtful taste that we noticed in the whole book. Retterer and Voronoff after examining the grafts, think that there are signs not only of survival of gland tissue, but sometimes actually of growth. They attribute little importance to the interstitial elements, here being at variance with the majority of workers in this field. There is a considerable quantity of fibrous tissue, but fibrosis is inevitable in grafting and will not impair function unless it is excessive. It is, however, mainly on evident clinical changes that Dr Voronoff bases his claims, both in sheep and men, and in the former they seem to be incontrovertible.

Dr Voronoff gives his reasons for his choice of anthropoid testicle as the material for the graft. He would prefer to use human testis, but the difficulties of obtaining it were, in his case, very great. He had performed fifty-two grafts to the date of this volume, and would have done more had not he experienced great difficulty for a time in obtaining apes. The method of performing the grafts is described in detail, and great stress is rightly laid upon perfection of technique. Both donor and recipient are operated upon in the same theatre and the transplantation made immediately.

Some eighty pages are devoted to the case histories of the forty-four patients grafted. The indications enumerated for grafting are of considerable interest. Operations were carried out twice on castrated individuals, twice for genital infantilism, three times for the results of orchitis following mumps, sixteen times for arterio-sclerosis, and eight times for senescence. Three French, two English, one Italian, and one Spanish doctor submitted themselves to the operation. There was no operative mortality. There were five failures, due, it is considered, in some cases to the donor being too young (pre-pubertal).

Dr Voronoff lays it down strongly that the graft must not be regarded as an aphrodisiac. And to do the patients themselves justice, impotence does not seem to have been their prime reason for desiring operation. A good example is that given by Case 21, a French litterateur, 65 years of age, who complained that his memory, which had been remarkable, was much enfeebled and his power of concentration waning. Desiring to avoid mental dullness, to be able to read, to write, to keep himself *au courant* with the intellectual and social world, he requested operation and underwent a remarkable improvement. These facts need stressing because it is the more erotic side of the matter which has received the greatest notice. An examination of the case histories shows that the general well-being and mental powers were improved more often than was potence.

We must admit after reading this book that the testicular graft is something worthy of serious consideration. It is for this reason that we have given so much space to the notice of the book. Certain opinions of a condemnatory nature are current in medical circles—opinions founded on hearsay without full knowledge of the facts. Dr Voronoff has set forth his views without exaggeration. He is, of course, an enthusiast but he is an enthusiast who honestly admits his failures and more than that we have no right to demand of him. The true place in therapeusis of testicular grafts will be decided not by Dr Voronoff, but by the future experiences of our profession with the method. Mr Kenneth Walker has recently made a valuable contribution on the subject, as noted on February 9th (p. 248).

[1] *Quarante-trois Greffes du Singe à l'Homme*. By Serge Voronoff. Paris: Gaston Doin. 1923. (Pp. 256, 78 plates. Fr. 20.)

[2] See BRITISH MEDICAL JOURNAL, 1923, vol. ii, p. 124, and Dr Leonard Williams's letter, vol. i, p. 130.

THE VEGETABLE PROTEINS

IT is thirteen years since the first edition of Professor T. B. OSBORNE'S monograph *The Vegetable Proteins* appeared. So much of the work in this field emanated from the author's own laboratory and so comprehensive was the survey that the monograph immediately became the standard work on the subject. The decade which has passed has extended very considerably our knowledge of the chemistry of the proteins of seeds, and the reader will find in the new edition[3] careful stock taken of the progress made. The book bears eloquent witness to the continued pre-eminence of the author's laboratory in this field.

The study of the proteins of the kidney bean and of the tomato seed may seem a far cry from the problems of human physiology, but science reeks little of conventional classifications. So much of value to animal physiology has accrued

[3] *The Vegetable Proteins*. By T. B. Osborne, Ph.D., Sc.D. Second edition. Monographs on Biochemistry. London and New York: Longmans, Green and Co. 1924. (Roy. 8vo, pp. xiii + 156, 13 figures. 8s. 6d.)

carbon are lamp, and various chemical agents, such as "Brooke's ointment," acid nitrate of mercury, trichloracetic acid, etc Special emphasis was laid on the necessity of perseverance, long-continued treatment, and watchfulness The lecture was illustrated by a large number of coloured plates and photographs, and by the demonstration of over twenty cases

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The President thought it would be difficult to train medical practitioners, nurses, and medical students in the methods described by Dr Theobald, and to work as conscientiously He personally would be disinclined to recommend as a general procedure these methods until they had been longer in use If the rule was laid down that by just dipping the hands into a little spirit they could be perfectly cleaned, he thought it might prove very dangerous and as a method to be taught all over the world, and taken up by all and sundry, he felt that Dr Theobald's doctrine was one which he could not support

Dr Pearson thought that if the aseptic instinct was not inborn it could not be acquired, and therefore he felt that it would be better to retain the rules now laid down regarding sterilization of hands, etc, than to adopt Dr Theobald's method During the war he had been in charge of a hospital in which there were about 1,000 surgical beds, and he never had his gloves boiled, they were only washed and cleaned, and powder was put inside them, at the end of the day He put them on, after washing his hands thoroughly, at the beginning of the morning, and he kept them on all the morning He agreed with Dr Theobald in condemning the use of a hard nail-brush when washing the hands before operating, and that washing the hands in ordinary soap and water was only for the purpose of removing gross dirt, and need not be prolonged, although he knew that in some hospitals the rule was that students must wash their hands for five minutes before assisting at an operation He thought it unwise to dip the hands in methylated spirit, because this was liable to produce dermatitis He agreed with the President that Dr Theobald's doctrine would be a dangerous one to spread far and wide, and he thought it should always be remembered that the personal element could not be eliminated

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[2] See BRITISH MEDICAL JOURNAL, 1923 vol. ii p. 124 and Dr Leonard Williams's letter vol. i p 130.

THE VEGETABLE PROTEINS

IT is thirteen years since the first edition of Professor T B OSBORNE'S monograph *The Vegetable Proteins* appeared So much of the work in this field emanated from the author's own laboratory and so comprehensive was the survey that the monograph immediately became the standard work on the subject The decade which has passed has extended very considerably our knowledge of the chemistry of the proteins of seeds and the reader will find in the new edition[3] careful stock taken of the progress made The book bears eloquent witness to the continued pre-eminence of the author's laboratory in this field

The study of the proteins of the kidney bean and of the tomato seed may seem a far cry from the problems of human physiology, but science recks little of conventional classifications So much of value to animal physiology has accrued

[3] *The Vegetable Proteins* By T B Osborne Ph.D Sc.D Second edition Monographs on Biochemistry London and New York Longmans, Green and Co 1924 (Roy 8vo pp xiii + 154 13 figures 8s net.)

from research in plant chemistry, particularly in relation to carbohydrate metabolism, that Professor Osborne is more than justified in the faith that diligent study of vegetable proteins will surely bring large gifts to the biochemistry of the animal

Some considerable rearrangement of the subject-matter of the book and several entirely new chapters witness to the progress of research Perhaps the most notable innovation is a discussion on 'The relation of proteins to acids and bases," for which the author—and ourselves—are indebted to the pen of Professor L J Henderson This chapter forms a valuable theoretical contribution to chemistry which, it may be noted, has received real practical confirmation quite recently The chapter on "The nutritive value of vegetable proteins" assembles much of the work which has taught us to consider the qualitative balance of nutrition as a requirement no less rigorous than that of its quantitative sufficiency In conclusion we would mention the report of the attempts now in progress to extend investigation from the more accessible proteins of seeds to those more elusive substances comprising the protoplasm of the green tissues Here labour has hardly begun to explore methods of attack Success will be achieved in so far as animal and plant chemists pool their resources

SURGICAL EMERGENCIES

MR RUSSELL HOWARD is to be congratulated on his new book *Surgical Emergencies*[1] and there is no doubt that it fills a definite want Guided by a wide experience gained [illegible] London and Poplar Hospitals, he writes in a concise and practical way, avoiding all ambiguity It may be [illegible]d that he errs on the side of being too dogmatic, [illegible]ny surgeons will not agree with some of the details [illegible]e advice he gives but his aim—which has been, he [illegible] to make the book useful to his junior colleagues in [illegible]mes of emergency"—may be held to justify his method [illegible]onditions have changed within recent years Owing to the increased number of smaller hospitals and the facilities of transport this type of work, which formerly was the monopoly of the surgeons of the great hospitals, is now becoming more decentralized, and is being performed by general practitioners, emergency officers, and house-surgeons, who will welcome assistance which a book of this kind can give It covers the whole field of surgical emergencies The larger subjects are first of all dealt with in a general way, and then in detail The great importance of making a correct diagnosis is emphasized, and many practical hints as to how this can be done are given Elaborate descriptions and alternative methods have been deliberately avoided, and the author has only given the one method of treatment which he has personally found best suited for each particular case Considering that the volume contains only some two hundred pages, an extraordinary amount of information has been compressed into it This has only been attained by careful classification, and the whole is a model of conciseness To the many who have to perform emergency operations under divers conditions we strongly recommend this handbook as an invaluable guide

In writing a short textbook on *Emergency Operations*[2] as a guide to those who have to perform them under *unfavourable conditions* MR H C ORRIN has chosen a difficult task—difficult because the experience of his readers will be as varied as the surroundings in which they are called upon to operate, and the question is, How much information should be given? He addresses himself in particular to the general practitioner, the recent graduate, the medical man at home and abroad in isolated parts of the country the ship's doctor, and the naval surgeon The author's desire is that the text shall furnish these persons with the help necessary to enable them to undertake emergency operations with assurance and confidence The book does not profess to describe all orthodox hospital practice or routine or to deal fully with diagnosis and with alternative methods of performing any given operation The text, which is well and freely illustrated, is concerned with emergency anaesthetics and technique, emergency operations upon the abdomen, appendix, intestines, gall bladder, for strangulated hernia, on the head, ear, and nose, and the air and food passages, chest, bladder and urethra, and female pelvic organs Amputations, the arrest of haemorrhage, wounds, and suppuration are also considered The account of each operation is preceded by a short explanation of the anatomy involved The chapters which commend themselves to us are those on emergency wounds, on amputations, on the treatment of suppuration, and on the arrest of haemorrhage The author lays stress on the fact that amputations should not follow any set procedure He draws attention also to the importance of local and spinal anaesthesia, and the necessity of being conversant with these methods when working single-handed In the chapter on abdominal surgery we detect gaps we do not, for instance, find mention of acute pancreatitis, internal hernia, or paralytic ileus, and gall bladder surgery is dismissed in about a page It would have been wiser to give more detail especially with regard to the pathological variations which may be encountered, and the steps necessary to meet them An uncomplicated case may not present many difficulties, but it is the small unexpected contingencies which are apt to arise that disturb the equanimity of the unpractised operator In the chapter dealing with emergency operations on the head, the technique of trephining, of ligation of the middle meningeal artery, and of the operation for depressed fracture and bullet wounds are described, but more information might profitably have been given about the arrest of haemorrhage Horsley's wax is probably omitted as a material not likely to be at hand, but a sterile match could be more readily used to plug a foramen than a piece of bone, as recommended by the author, and transplantation of a piece of fascia or muscle to stop haemorrhage might have been mentioned as one of the alternatives In a book of this nature there should be no compromise it ought to deal with every contingency In this respect the present volume is overshadowed by Mr Russell Howard's, because the latter combines diagnosis with operation

OPHTHALMOSCOPY AND REFRACTION

THE ophthalmoscope is no longer the instrument of the few, and the mysterious glamour which must have surrounded the earlier exponents of its use is rapidly passing away The small handbook by DR FREELAND FERGUS, entitled *The Ophthalmoscope*,[6] is an excellent piece of work The author was responsible for a quarter of a century for the teaching of a large class of students, most of whom were destined to pass out into general practice, he found the need of a small work in which the optical principles were described in simple language to be very real, and he set himself the task of providing for this need The work is admirably adapted to the needs of those who desire to master the use of the instrument, without necessarily becoming expert ophthalmic surgeons Nowadays the medical student has so much to get through in the course of the curriculum that he will welcome such a book as this, where the subject is treated in a simple manner, without any formidable mathematical formulae, and where the amount of instruction given is sufficient for his requirements if he wishes to delve into the matter more deeply there are plenty of books on the market for him to consult The chapter on double vision is a masterpiece, making the subject seem quite simple and leading the student to work out the case for himself, without the aid of any "crutches", we like, especially, the author's use of ordinary rectangular co-ordinates in the elucidation of the question of diplopia, a subject which often seems to present almost insuperable difficulties to the ordinary medical student

We have often heard it stated that no one should attempt to work out a case of refraction without a knowledge of the optical principles involved, and in a general way we agree with this dictum There are, of course, degrees of know-

[1] *Surgical Emergencies* By Russell Howard CBE MS FRCS London E Arnold 1923 (Cr 8vo, pp viii + 216 45 figures 7s 6d net)

[2] *Emergency Operations for General Practitioners on Land and Sea* By H C Orrin OBE FRCS(E) London Baillière Tindall and Cox 1923 (Demy 8vo pp vi + 135 67 figures 7s 6d net)

[6] *The Ophthalmoscope and how to Use It with a Chapter on Diplopia* By A Freeland Fergus, LL D Glas, M D Glas F R S E London J and A Churchill 1923 (Demy 8vo, pp 49 17 figures 3s 6d net)

ledge in the matter, for some people can become, by constant practice, very fair refractionists with only hazy notions of the optics involved

The little book on the *Principles of Ophthalmoscopy and Skiascopy* by Mr G F ALEXANDER[1] will be as the breath of life to one whose knowledge of higher mathematics is profound and a perfect nightmare to his less fortunate brother, who "is as the beasts that perish in the matter of sines and cosines" Among the latter class we are sorry to have to place ourselves and we confess that we have not derived that benefit from a perusal of the book which its excellence must afford to those who are competent to understand it thoroughly The subject is divided into two parts, the first dealing with the simple convex refracting system, the correction of hypermetropia and myopia by direct vision, axial ametropia, curvature ametropia, parallactic movements, and area of the fundus visible, the second part deals with skiascopy in the absence of astigmatism and spherical aberration, in the presence of regular astigmatism, in the presence of spherical aberration and skiascopy in the presence of spherical aberration with meridional asymmetry of refraction The author's reputation is sufficient guarantee of the correctness of the statements he makes, and his book will be found most useful to advanced students, especially to those working for one of the higher diplomas in ophthalmology

THE HYGIENE OF RECRUITS

THE title *Quelques Notions d'hygiène pour les hommes de vingt ans*,[2] by Dr COT, head of the bacteriological laboratory of the French army, might suggest that it is concerned with the personal hygiene of the ordinary individual, but it is on slightly different lines, and deals mainly with the duties of army officers in preventive medicine, and apparently, though it is not categorically so stated, was part of a course of lectures to officers In his introduction M GENEBRIER, Prefet du Loiret, pleads for an organization in civil life comparable to that which in the French army kept the troops in a state of health unparalleled in previous wars by discipline and by instilling a knowledge of the elements of personal and social hygiene After giving a definition and sketching the scope and principles of modern hygiene Dr Cot shows that this is due to Pasteur's work, and inquires why France, with this noble heritage of its great son's example, is generally speaking behindhand in hygiene He finds an explanation in certain *defects of the national mentality—its carelessness and want* of altruism, its lack of discipline and of belief in science A tribute is paid to the example set by the French army medical officers in realizing the importance of *preventive medicine*, and reference is made to the labours of Villemin, Kelsch, and Laveran It is the duty of officers supervising the training of recruits to detect the early manifestations of fatigue, *which is described as* being on the border-line of disease, to restrain alcoholic indulgence, and to insist *on* cleanliness Prophylaxis against infection by the isolation of the first cases of disease and the carriers, and the value of preventive inoculation against enteric and smallpox are then passed in review, and finally the struggle against tuberculosis, syphilis, and malaria receives notice

NOTES ON BOOKS

DR E TOBIAS of Berlin has written a small book on the use of hydrotherapy, heat therapy, and diathermy [3] Commencing with a short account of the history of these treatments from the age of Pythagoras to the present time the author discusses their physiological basis generally In the remainder of the book he considers special applications to functional and organic nervous disease, muscles and joints, digestive troubles, disorders of metabolism, blood and circulatory diseases, respiratory troubles, renal and urinary diseases and acute infections An appendix deals with the value of diathermy and its special applications

A small book on ulcers of the stomach and duodenum by Dr E ENRIQUEZ and Dr GASTON DURAND,[10] is a careful study of the problems of diagnosis of these ulcers, with particular reference to their situation and nature The authors emphasize the value of radiography, and eight plates with diagrammatic interpretations add considerably to the usefulness of the book The various points that are useful in enabling an early diagnosis to be made are discussed, and the book has a definitely practical value

What Children should be Told [11] by Dr G P C CLARIDGE is a reprint of a paper read at the Norwich Rotary Club It is an appeal to parents to give their children truthful information on all subjects—sex among the others—as soon as the children's minds are ready for it The readiness is shown by the demand for information In its simplicity and directness this pamphlet is the most helpful we have read on this subject and doctors might well consider suggesting its perusal to parents who are finding it difficult to impart knowledge of sex to their children It contains quite enough simple information to prepare any mother for the questions of her children which are usually styled "awkward" Emphasis is laid on the fact that the parent is pre eminently the person to impart knowledge of birth to her offspring The objections to leaving this to other people frequently mentioned as having that responsibility are stated Upon the education of the children of to day with regard to sex depends how they in their day will tackle the wider issues which are so urgently demanding attention even now

The Process of Diagnosis[12] is a small volume intended for students, it aims at elucidating the logical basis of the process The various steps are described at length and the physical examination of different parts of the body receives exhaustive consideration The two principles of logic, classification and induction, are clearly set out, and the book should help the student in developing the system and methods which will best suit his own requirements

[1] *Principles of Ophthalmoscopy and Skiascopy* By C F Alexander M B C M Edin London J and A Churchill 1923. (Demy 8vo pp 72 50 figures. 5s net)

[2] *Quelques Notions d'hygiene pour les hommes de vingt ans* Par Docteur Cot Avec une introduction de M Genebrier Prefet du Loiret Douxieme édition Paris A Maloine et Fils 1923 (Demy 8vo pp 96 Fr 3 50.)

[3] *Hydro und Thermotherapie von Inneren und Nerven Krankheiten* Von Dr Ernst Tobias Mit einem Vorwort von Geh Med. Rat Prof Dr Ewald Heider Berlin und Wien Urban und Schwarzenberg 1923 (Imp 16mo pp 280.)

[10] *Les Ulcères de l'estomac et du duodenum* Par Ed Enriquez et Gaston Durand Médecine et Chirurgie Pratiques. Paris Masson et Cie 1924 (Post 8vo pp 384 12 figures, 8 plates. Fr 10.)

[11] *What Children should be Told* By G P C Claridge M B, B S Lond London Jarrolds Ltd. 1923. (Cr 8vo pp 20 5d. net)

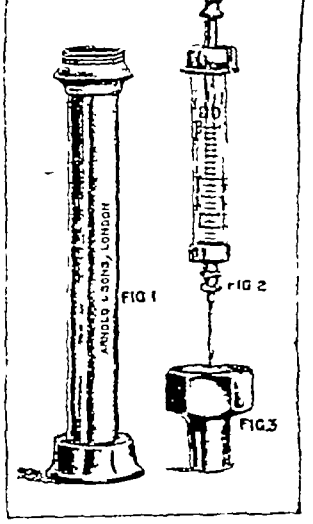
[12] *The Process of Diagnosis* By E Stanley Ryerson M D C M F A C S Toronto University of Toronto Press 1922. (Cr 8vo pp 109)

MEDICAL AND SURGICAL APPLIANCES

An Insulin Syringe

THE repeated injection of insulin with the ordinary Record syringe and needle in many cases produces inflammatory reaction and a hardening of the tissues which causes a marked resistance to the injection of the fluid so there may be a loss of from 3 to 4 minims past the plunger of the syringe When to this is added the necessity of repeated sterilization repeated daily injections may become very irksome

Dr Tilson Dinnick (London) has had devised for him a syringe and holder which he believes overcomes these difficulties The syringe is a 2 c.cm Record armed with a No 19 or 17 needle The plunger is grooved to hold two well *fitting spring* piston rings the gaps in which are so adjusted as not to be in line This syringe will hold a very high degree of compression and will not leak past the plunger The container of the syringe is a metal cylinder with an alcohol tight screw cap The syringe is kept in absolute alcohol within the container and is always sterile The fitting of the cap is so arranged that it is not necessary to have any leather or rubber washers and yet is perfectly spirit tight The metal container (Fig 1) has a wide, flat heavy base and will stand upright The screw cap (Fig 3) has also a flat top carries a spring which holds the syringe immobile in the container and is sufficiently deep to hold a drachm of alcohol The syringe is well adapted for the injection of any fluid against great resistance and the idea has been applied to a series of varying sizes for different uses The syringes are made by Messrs Arnold and Sons (John Bell and Croyden, Ltd.), 50-52 Wigmore Street London W 1



MATERNAL SYPHILIS

In his investigation on "Maternal syphilis as a cause of death of the foetus and of the new-born," Dr J. N. Cruickshank[1] travels over ground that is indeed well beaten, but which remains curiously obstinate in yielding up its secrets. The basis of his study is the result of the Wassermann test in 1,000 pregnant women (including cases of abortion) and in their offspring (abortions dead-born and living children). The main statistical analysis is derived from these 1,000 pregnancies though a grand total of 3,500 Wassermann reactions was collected, "of which 1,881 [specimens of blood] were obtained from women during pregnancy or immediately after delivery, 1,350 were taken at birth from the placental end of the cord of the infant, and the remainder were from infants and their mothers at varying periods after birth." Two principal results were sought for: the extent of syphilis in pregnant women of the "hospital class" in the maternity hospital of a large city (Glasgow), and the effects of that disease upon the offspring, both before and after the natural term of gestation.

In the mothers, the Wassermann reaction was positive in 9·4 per cent., a figure approximating to the average of a number of similar investigations. But the important and extremely difficult question of the effect of maternal syphilis upon the ante-natal and post-natal life of the child has received widely different answers, and Dr Cruickshank, in setting down the results of his own statistics, gives the comparable and often widely varying figures of other observers.

Abortions, Stillbirths, and Premature Births

In the first place, as to abortion, the figures were almost equal in non-syphilitic and in syphilitic women, as judged by the Wassermann reaction—namely, 6·17 and 6·3 per cent. respectively. Stillbirths in the negative and in the positive Wassermann groups were 15·15 and 18·07 per cent. For premature births, however, in the same groups the figures showed a definite divergence, being 19·88 and 32·54 per cent. These results agree with those of Adam [illegible] America) but they sharply differ from those of Vedd[illegible] [illegible]mon and others whose investigations show a definitely [illegible]er percentage of abortions in syphilitic pregnancies. I support the traditional and generally accepted view.

Living Children

In dealing with the living children of syphilitic mothers, Dr Cruickshank has met with the difficulty that many were lost sight of; but the analysis of his available cases shows no wide discrepancy between the death rates of the syphilitic and non-syphilitic groups until the fourth, fifth, and sixth months of life, when the death rate in the syphilitic group was definitely higher. On the other hand, in later months, up to the seventeenth, the death rate in the syphilitic group was actually lower than in the non-syphilitic. Over this whole period from birth to the seventeenth month the death rate in the children of syphilitic mothers was 44 per cent., and in the non-syphilitic group was 34·8 per cent.

Perhaps the most important result of this arduous investigation is that a positive Wassermann reaction obtained at birth from the blood of the cord need not indicate a syphilitic infection of the dead foetus or living child. This was shown by the fact that the great majority of positive reactions so obtained became negative in later months. And it is of importance that further investigation should determine the period of early infancy in which a positive Wassermann reaction is a valid test of syphilitic disease in the infant. Moreover, there will always remain cases, perhaps not numerous, where a clinical condition, say, of mental defect or rickets or other common disease of infancy and childhood is associated with a positive Wassermann reaction, but is yet independent of active syphilitic disease.

Estimate of the Value of the Wassermann Reaction

The Wassermann reaction, in fact, does not distinguish between a latent syphilitic infection and active syphilis, though there is a tendency to exalt it into an infallible sign which dispenses with and explains all clinical phenomena. There seems to be a special danger in the use for statistical purposes of a positive Wassermann reaction obtained in pregnant mothers, where the infection is mild and latent, and yet where every accident of pregnancy is set down to the effects of the syphilitic virus. Dr Cruickshank, indeed, shows with regard to haemorrhage, ante-natal and post-partum, that such accidents are as high and even higher in cases with negative Wassermann reactions as in those with positive. But in the case of abortion with a positive reaction to the Wassermann test, the evidence of syphilis as the cause is only hypothetical until syphilitic disease has been demonstrated in the placenta or in the foetus. No doubt the potential activity of syphilitic disease, where the Wassermann test is positive, is high—much higher, for example, than in the case of a positive tuberculin test, where the potential activity is low, and the test often of no clinical significance. Yet in any attempt to measure accurately the extent of syphilitic disease the use of the Wassermann test as the all-important criterion is a dangerous source of error. Dr Cruickshank is aware of the really serious error of a positive Wassermann reaction in the newborn infant. He expressly admits that his figure of 4·6 per cent. obtained in newborn infants is fallacious, and accepts the clinical estimate of Still and others of less than 1 per cent. as a more accurate figure for the incidence of syphilis in infants of the "hospital class" in Glasgow. But in compiling his figures for abortion, stillbirth, and premature birth, he seems to assume that in all cases of positive Wassermann reaction the abnormal result was due to syphilis.

In the report very little is said of the clinical data in the cases of congenital syphilis, and though Findlay has dealt capably with this question of the correlation of the clinical phenomena of syphilis in the infant with the Wassermann reaction there is still room for further investigation on this important aspect of the subject. But the second part of the report deals fully with pathology, giving a very careful and thorough record and analysis of thirty-nine autopsies on syphilitic foetuses and infants, controlled by a hundred autopsies on non-syphilitic infants.

Conclusions

Dr Cruickshank summarizes his main conclusions as follows:

1. The incidence of a positive Wassermann reaction in both mothers and new-born infants agrees with that in a number of other published investigations which were carried out on similar material.

2. The Wassermann reaction in the child at birth is in close agreement with that of the mother, but during the first few weeks of life the great majority of children born with a positive reaction lose that reaction and not only remain negative to the Wassermann test but fail to develop clinical signs of syphilis during the first two years of life. From this it is concluded that

(*a*) A positive Wassermann reaction in the blood of a new-born infant is due at least in the majority of cases to a transference of reacting substances from the mother.

(*b*) A positive Wassermann reaction in the new-born infant is of no value in diagnosis.

(*c*) The incidence of congenital syphilis is very much less than purely serological data would indicate.

(*d*) The high incidence of syphilis in the adult population of the class under consideration must be due either to acquired syphilis or, less probably, to late congenital syphilis.

3. The effects of syphilis in the mother are seen chiefly in the later months of pregnancy, at which time the disease leads to premature birth and, more particularly, to premature still-birth. As a cause of interruptions of pregnancy in the earlier months syphilis does not appear to be of predominating importance.

4. There is no single macroscopic or microscopic lesion in the foetus upon the presence of which a positive diagnosis of congenital syphilis can be made in all cases. Many of the signs supposed to be characteristic of congenital syphilis in the new-born are quite inconstant in their presence in definitely syphilitic cases and others—namely, splenomegaly—are not confined to syphilitic infants. The diagnosis of syphilis in the new-born can be made definitely only after a careful review of the clinical, serological, and pathological findings.

Dr Cruickshank is to be congratulated on his patience and industry in collecting and analysing this abundant material and in clearing up some of the obscurities of a dark and complicated subject. His investigation will certainly assist in further exploration of the important problem of congenital syphilis.

[1] Medical Research Council. Special Report Series No. 82. Child Life Investigation. Maternal Syphilis, etc. H.M. Stationery Office. Cr. 8vo. Pp. 67. Price 1s. 6d. net.

TREATMENT OF PULMONARY TUBERCULOSIS

LETTSOMIAN LECTURE

THE third of the three Lettsomian lectures by Dr R A YOUNG, on the treatment of pulmonary tuberculosis, was delivered on March 17th, in the house of the Medical Society of London, the President Dr H R SPENCER, in the chair. The first two lectures were reported in our issues of February 23rd (p. 330) and March 15th (p. 477).

Local Limitation of Movement

Dr YOUNG began by remarking that the success achieved by strict local rest in various forms of surgical tuberculosis had led to efforts to secure similarly good results in pulmonary tuberculosis by the use of mechanical and surgical means of treatment. This country had been slow in adopting this procedure, but its value was now more widely recognized and it had already been successful in prolonging life, increasing comfort, and healing lesions where other curative measures had failed. Its wider extension and development was to be expected in the future. In all varieties of this treatment *x*-ray control must be employed, so that the conditions in the lung could be watched. This was particularly important in cases showing poor response to treatment, where the factors preventing recovery might thus be discovered. In early cases belts and strappings over the affected side were sometimes used, sandbags had been employed at Frimley, and an apex belt to limit the extension of the upper part of the chest. Dr R C WINGFIELD'S method of strapping the chest was described in full detail and illustrated by photographs, the lung apex was fixed finally in a position of extreme expiration. Other methods included the lung splint and the control of diaphragmatic breathing, the patient being instructed to breathe slowly and to make increasing use of the diaphragm. All these methods had to be stopped if they led to increased cough or dyspnœa, they produced only a small degree of restriction, and therefore were unsuitable for patients with advanced disease.

Artificial Pneumothorax

In these more advanced cases the treatment by artificial pneumothorax had met with very considerable success. It had been employed as far back as 1821 by Dr Carson of Liverpool, but until 1888 very little use had been made of it anywhere. Since 1910, when it was first employed and advocated in this country by Lillingston, it had come to be recognized as a valuable routine treatment in suitable cases. *Collapse of the lung* due to its own elasticity, was brought about by introducing sterile gas into the pleural cavity. It was important to measure the *amount* introduced, since any alterations of the pleural pressure involved changes in the mediastinal pressure. It was both undesirable and unnecessary to introduce the full amount of gas at the first filling, since excessive pressure might lead to a mediastinal hernia, or bulging over into the sound side. Such might result from an attempt to break down adhesions by increasing the gas pressure, the risk was definite and hence the need to control treatment by repeated *x*-ray examination. The effect of this treatment on lesions in the opposite lung was not uniform. These lesions, if extensive, might get worse and call for discontinuance of the treatment, but sometimes they improved, possibly as the result of the better vascularization or the occurrence of a focal reaction. Artificial pneumothorax was most suitable in the later cases in which the disease was limited to one lung, but even so each case presented an individual problem. In those cases in which *the general conditions* were on the whole satisfactory but the disease was spreading in spite of general treatment artificial pneumothorax should certainly be considered. Dr BURRELL had suggested waiting six months before commencing this treatment, but it might be better to start it earlier in some cases. Other indications were repeated severe haemorrhages or a severe and prolonged haemorrhage, moderate improvement coexisting with cavities and the presence of tubercle bacilli in the sputum, rise of temperature whenever *the patient* left his bed, and also bronchiectasis, if the operation was practicable. Contraindications might be classed under two headings, those due *to the disease*, when it included the involvement of more than one-third of the opposite lung, such complications as enteritis, and the later stages (but not the earlier) of laryngeal tuberculosis. The second heading of contraindications comprised unsuitable temperament or mental instability, rapid and feeble pulse, pyrexia, visceroptosis, diabetes, asthma, emphysema, and age over 60. In early cases this treatment was unnecessary if there was rapid response to other forms of treatment; there was some risk in the operation, and the lung collapse had to be long maintained; therefore the balance of opinion was against using it indiscriminately. Acute bronchopneumonic cases in which the disease was widespread and rapid were not benefited by it, but the localized bronchopneumonic type might be so treated cautiously in some cases. Bilateral pneumothorax as a procedure was still on its trial.

Dr YOUNG then described the operative details and referred to various forms of apparatus. He emphasized the importance of having strychnine and pituitrin ready in a syringe for such an emergency as pleural shock. At the first operation 300 c.cm. of gas might be introduced, equivalent to a pressure of about 2 cm. of water; nothing was gained by rapid collapse either at the beginning or at subsequent refills. The first refill might be carried out on the following day if there had been little reaction, and about 400 c.cm. of gas introduced. The second refill was two days later, with an interval of three or four days before the next. The collapse of the lung should be complete in about a fortnight, after about five or six injections. The judgement as to the optimum degree of collapse was based on *x*-ray examinations and clinical observations. Subsequent refills were given as indicated—usually during the first year at intervals of about fourteen days to three weeks, and during the second year of treatment about six weeks to two months; long intervals between refills were inadvisable since adhesions might develop.

Dr YOUNG then dealt with selective collapse, and pointed out that in partial collapse of a lung the air introduced tended to accumulate over the diseased area if this was localized; on this was based the plea of some authorities for the use of lesser degrees of pressure. The treatment must be kept up usually for three years, some had recommended that it should be terminated in the summer and restarted later in the year, but the adhesions which formed as the lungs expanded might prevent recommencement of the treatment. *Certain risks were mentioned*—in particular gas embolism, which could be avoided by ensuring that the needle had entered the pleural cavity before the gas was introduced. The apparatus should be adjusted so that the gas at first was at atmospheric pressure only, and was drawn into the chest and not pressed in. Pleural shock varied from an attack of faintness to collapse, or even death. *These graver results were* rare, but it was always necessary to have remedies such as pituitrin ready. Perforation of the lung might occur, the haemorrhage was usually not severe but pleural infection might result. Surgical emphysema was another risk, *and pleurisy*, with effusion, occurred as a complication during treatment in 50 per cent. of the cases. This was usually serous in character with a marked lymphocytosis, and might be associated with some pyrexia for a few days, rarely for longer. The fluid might be slowly absorbed or persist for months, but occurrence of a simple effusion had little or no influence *on the final results*. Purulent effusion might lead to pleural thickening and interference with lung expansion.

Many photographs were shown by Dr YOUNG of the different stages and complications in this treatment. The results had been very satisfactory *and included* not only alleviation of symptoms but restoration of the working capacity and the prolongation of life. Over 70 per cent. of early *cases* without adhesions were cured. Some adhesions were band like or string like, and might be treated by tenotomy under *x* ray control by opening the pleura *and dividing them*—a risky procedure—or by the use of the galvano-cautery. The success of this latter method had been very great and the risk was not serious; its dangers included haemorrhage, which was usually very slight if dull red heat was employed. The possibility of opening a cavity was avoided by keeping the instruments as near the chest wall as possible; other dangers were the production

of pleural effusion and the occurrence of surgical emphysema The old treatment of breaking down adhesions by increasing the pressure of air had led to very unpleasant complications and could not be recommended

Other Surgical Methods

Phrenicotomy seemed satisfactory from a theoretical point of view, but opinions differed as to its practical value, it deserved at any rate a more extended trial Pleural stripping or extrapleural pneumolysis had had a vogue since 1910, but it was difficult to maintain the pleural separation brought about, though gas, fluid, human fat, and paraffin had all been used for this purpose Under the name of apicolysis this treatment had been applied to the lung apex On the whole the method was disappointing

Dr Young then dealt with the varieties of indications and contraindications for thoracoplasty, which he regarded as the most effective of all treatments when artificial pneumothorax had failed, it was now receiving a tardy but increasing recognition, and was to be recommended in cases where artificial pneumothorax had failed, in fistulous tuberculous lesions, or severe recurrent haemorrhage The immediate mortality of the operation was small in skilled hands Later mortality was greater in the right-sided than in the left-sided cases, but statistics made it clear that the operation had a useful place in the treatment of tuberculosis, in spite of its severity and the permanence of its mutilating results, which rendered it extremely necessary to be careful in selecting cases

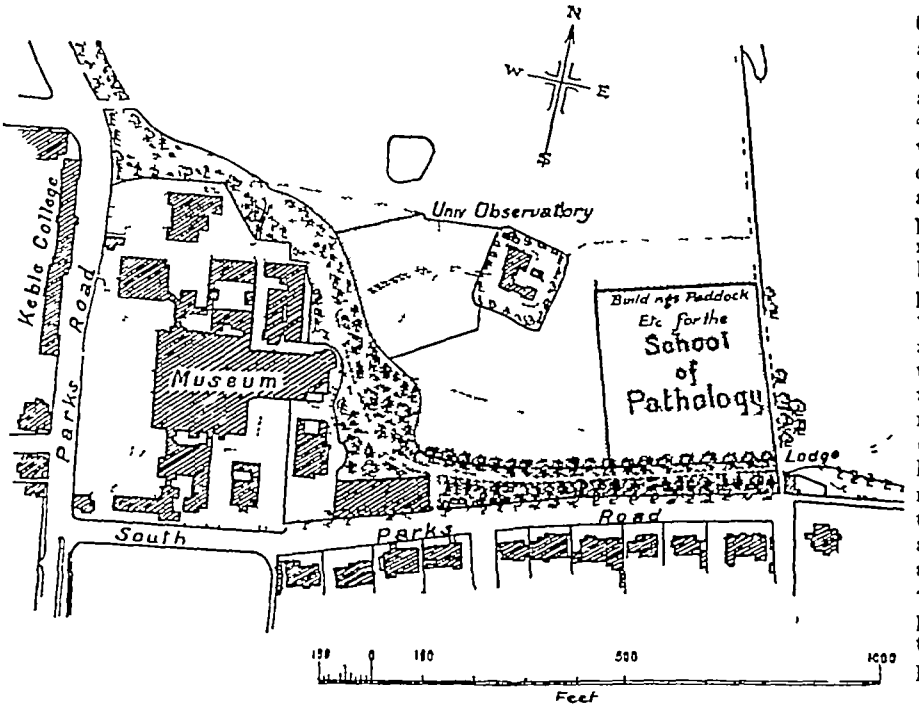
In conclusion, Dr Young remarked that surgery was not, and could not be, a substitute for medical measures in pulmonary tuberculosis, and there must be an understanding between the surgeon and the physician with regard to the various medical conditions which were involved At the conclusion of the lecture Dr J MITCHELL BRUCE proposed a vote of thanks to Dr Young, and this was seconded by Dr WALTER CARR

THE INSTITUTE OF BIOCHEMISTRY AT OXFORD.

THE offer of the trustees of the Rockefeller Foundation to the University of Oxford of a sum of £75,000 towards the building of a laboratory for biochemistry, and the equipment and staffing of a department of biochemistry, was formally accepted on March 11th A decree adopted by the Convocation of the University on that day expressed the warmest thanks of the University to the trustees for their munificent gift, and pledged the University from the date of completion of the new laboratory to allocate, either from the Government grant or from other sources at its disposal, to the purposes of the department of biochemistry a sum of not less than £1,250 a year, in addition to the sums at present provided for such purposes This sum is to include any increase that may subsequently be determined in the emolument of the Whitley Professor of Biochemistry

From the acceptance of the gift will follow certain consequences of great importance to the growth of the Oxford medical school and the future development of the whole department of natural science at Oxford It has been decided to set aside nine acres of the University Parks for the extension of the science departments the nine acres include a site already allotted to the School of Pathology as shown on the map the space is provided mainly by the extension to the east of the present museum site along the whole line of South Parks Road The approximate areas of the various portions of ground in the Parks affected by these proposals are as follows

	Acres
Present museum site	7 00
Observatory enclosure	0 75
Pathology site	2 80
Path and shrubberies in the area to be allotted to the museum	2 70
Open ground in the area to be allotted to the museum	2 50
	15 75
Area to be left in Parks south of the observatory	2 50
	18 25



Map showing the proposed extension of the Museum site for scientific departments.

The area of 2½ acres to the south of the university observatory is to remain part of the Parks and to be kept free from buildings, so that the work of the professor of astronomy shall not be prejudiced

The decision to grant extra ground amounting altogether to about nine acres, will, it is anticipated, provide for the development of natural science during the present generation The great advantage of this is that it will make it possible to draw up a considered scheme for the whole site, hitherto it has been necessary to fight on each occasion to secure the immediately adjoining bit of land for any new building, irrespective of its convenience in relation to the future of other departments The decision does more than this, for through it Oxford gets not only a new department of biochemistry and a fully equipped school of pathology, with stables, paddock etc, but also a department of pharmacology in the modern pathology block for which purpose the Dunn Trustees have assigned £3,000 Moreover, the whole space of the present department of biochemistry (part of the physiology building added in Professor Gotch's time) becomes available for physiology, a very considerable addition to the physiological laboratory will be thus provided

Oxford, however, will not, we hope, rest content, great as are these additions to its resources The Hebdomadal Council, indeed, has itself pointed out that the arrangement does not provide for the establishment of the forestry department in the Parks, nor for the transference to the Parks of the present botanic garden and department, should this eventually be considered desirable

The need for other departments has also to be borne in mind Among the next requirements of the University Medical School will be chairs and departments in hygiene and parasitology it has also to be remembered that the Regius professorship of medicine is only partially endowed In fact the School still needs the pious benefactor It lacks at least another £100,000 for the full development of its various departments

British Medical Journal.

SATURDAY, MARCH 22ND, 1924

COCAINE SUBSTITUTES

LAST December a discussion on the value of cocaine substitutes was held at the Royal Society of Medicine, which the chairman of the meeting stated had been arranged at the suggestion of the Ministry of Health in connexion with the official inquiry it has instituted into the subject That meeting which was reported in our issue for December 15th (p 1154), dealt mainly with the clinical aspects of the matter Last week another discussion took place before the same society upon a somewhat different aspect of the matter —the possible substitutes for cocaine It was introduced by Dr H H Dale, and we are indebted to him for the abstract of his paper published at page 511 The discussion which followed Dr Dale's opening address is reported at page 520 Among those who spoke during its course were Dr W E Dixon, who gave some account of the investigations on butyn (now being conducted by Dr A J Copeland, Ernest Hart memorial scholar of the British Medical Association) and Professor C S Gibson, of Guy's Hospital Medical School, who dealt with the search for further compounds—a matter to which Sir William Pope referred more at large in our columns a fort night ago (p 413)

While the medical profession is prepared to believe that the spread of the cocaine habit may have rendered it desirable to limit the legitimate use of cocaine as far as may be *prudent and politic*—since the smaller the legitimate use of the drug becomes the easier will it be to control its other uses—the proposal to prohibit qualified medical practitioners from using a particular drug is open to serious objections, and it will be seen that the meeting last week was not prepared to pass a resolution affirming that cocaine should only be permitted to be used by the physician or surgeon himself, and its prescription or dispensing abandoned Any proposal to restrict the use of a drug for conditions in which its use is, in medical opinion desirable rather smacks of mediævalism it reminds us of the efforts made in former times to prohibit the employment of drugs not sanctioned by Galen, moreover there is the other wholly modern complication that the chief substitute proposed at present for cocaine is an expensive proprietary compound Medical men naturally regard all such proposals with suspicion, and their feelings have not been tranquillized by the propaganda on this subject in the lay press, which does not appear to be the best medium for discussing a highly complex technical problem

The proposal is based entirely on the assumption that a complete substitute for cocaine is provided by butyn, a proprietary drug chemically related to novocaine which has recently attracted much attention It has been suggested that the local anæsthetic properties of this drug are such as to render the use of cocaine unnecessary but Dr Dale in opening the discussion, showed that comparisons between drugs of this nature are very difficult since it is useless to compare as a whole all the different local anæsthetic actions of two drugs, each particular mode of employment must be considered separately

Dentists and surgeons, for example, have found novocaine a very efficient substitute for cocaine for the production of conduction anæsthesia and of terminal anæsthesia by hypodermic injection, and in these cases cocaine might be considered superfluous, although it must be mentioned that the great majority of dentists still consider it necessary, that they should have the right to use cocaine Ophthalmologists and laryngologists are much more dependent on cocaine, for they require a drug which will produce satisfactory local anæsthesia when painted on to a mucous membrane, and novocaine will not do this satisfactorily The special claim made for butyn is that it will act efficiently under these last conditions

The discussion last week and that which took place in December turned largely on the question whether butyn was an efficient substitute for cocaine for use in the throat, nose, and eye The two discussions taken together bring out certain points One is that butyn has no certain advantage over cocaine as regards toxicity, but it is not known to form a habit, although it is too early to come to any final conclusion on this last point Again, many ophthalmologists prefer cocaine to butyn because they find that the latter is more irritating and does not penetrate so deeply The laryngologists, who are more and more employing local anæsthetics, appear to be practically unanimous in preferring cocaine to butyn The chief reasons advanced for this preference are that butyn is less dependable for producing satisfactory anæsthesia, and, moreover, does not produce ischæmia, the addition of adrenaline is said not to compensate completely for this defect

The general conclusion to be drawn from the two discussions seems to be that a complete substitute for cocaine for local anæsthesia has not yet been found but that cocaine itself is very far from being an ideal local anæsthetic In this connexion Professor C S Gibson pointed out that an adequate search for a satisfactory cocaine substitute has not yet been conducted, and that in this country particularly very little has been done We note that Dr Dale, in his reply, referred to a new German drug of which he was expecting shortly to receive a sample for examination

The discovery of new synthetic local anæsthetics, just like the discovery of new trypanocidal remedies which was discussed in these columns in connexion with Sir William Pope's paper a fortnight ago requires research organized on a large scale with proper co ordination between chemists, pharmacologists and clinicians There is no reason to suppose that cocaine happens to be the best possible compound for the production of local anæsthesia but experience teaches that the finding of any better drug is almost certain to entail a prolonged search on a large scale An additional point is worth mentioning—namely that after a suitable cocaine substitute has been found it will be necessary to persuade medical practitioners to use it The ease with which such changes can be made ultimately depends upon whether the medical curriculum includes instruction in pharmacology adequate to induce a critical interest in the relative value of drugs and in the possibility of their improvement Unless such an interest is present the choice of drugs will be determined chiefly by habit, and all changes will be made slowly and with difficulty

THE CARE OF CRIPPLED CHILDREN

In a leading article in our issue of February 16th we referred to the need of preparation for a possible epidemic of infantile poliomyelitis by means of a proper provision and organization of hospitals and clinics throughout the country. It is not unfortunately, for the treatment of infantile paralysis only that such an organization is needed, for it is estimated that there are probably at least 100,000 crippled children in England, and that every year from 5,000 to 10,000 are added to this number. To cope with these there are, as shown in the *Year book of Hospital Schools and Other Institutions for Cripple Children*,[1] by Miss Hey Groves, only about 5,500 beds not including those set apart for orthopaedic cases in general hospitals. It is estimated that nearly double this number is necessary to cope adequately with the problem.

Much has been done in the last few years, for the late war, which has left so many evil consequences, has also opened the eyes of the public to the possibilities of orthopaedic surgery more widely than would have seemed credible ten years ago. Since the peace a movement in favour of systematic organization and increase of the means for grappling with this great problem has gained ground fast, and at the present time there is more than one district, or county group, in which the means of continuous and adequate treatment have been provided on the lines first laid down for Shropshire by Sir Robert Jones and Miss Hunt in connexion with the open air hospital formerly at Baschurch, and now at Oswestry. Westmorland, North Staffordshire, and Oxford have since developed similar schemes. Such an organization was described in the report of the Wingfield Hospital near Oxford, and the subject has been further elaborated in a small book on *The Care and Cure of Cripple Children*[1] which has recently appeared. In it Mr. G. R. Girdlestone gives a clear description of the national scheme for the welfare of crippled children which is advocated by the Central Committee for the Care of Cripples, acting in association with the Council of Infant and Child Welfare, 117 Piccadilly, W.1. This plan, which is working well in Shropshire and in the associated counties of Oxford, Bucks, and Berks, depends primarily on a central orthopaedic hospital of some 200 beds, working in cordial association with the orthopaedic departments of the county general hospitals and with orthopaedic clinics in the smaller towns, in these clinics not only is the essential after care carried out, but it is possible to get hold of cases in their early stages, and so to prevent the development of deformity and to shorten treatment. These clinics, which were started in Shropshire in 1918, and which are in effect extensions of the orthopaedic hospital's out patient department, are held in whatever premises are available. Often the rooms are used at other times for other purposes and are lent for the day, but the ideal is such a building as was provided in the little town of Wokingham by the enthusiastic labours of the inhabitants, who gave work, money, and materials freely in order to turn a disused chapel into a model clinic, a plan of which is shown in Mr. Girdlestone's book. In most cases a clinic is open once a week, and the cases are seen by an after care sister, and once a month or oftener if necessity arise, by an orthopaedic surgeon. Meanwhile the children's education is not neglected, for it is found that over 94 per cent. of those attending the clinics are able to attend school, while the in-patients in the hospital also are taught by the education authority.

In the case of the Oxford, Bucks, and Berks scheme the central orthopaedic hospital is at Headington, near Oxford, the general hospitals with orthopaedic departments are the Radcliffe Infirmary, Oxford, the Royal Bucks Hospital at Aylesbury, and the Royal Berkshire Hospital at Reading. The local orthopaedic clinics are held at Newport Pagnell, High Wycombe, Wokingham, Henley-on-Thames, Sandhurst, Wallingford, Newbury, Wantage, Witney, Chipping Norton, and Banbury, in many places they have the use of the premises of child welfare centres or baby clinics. Despite the gift of services by many willing workers considerable expense is involved: the report of the Wingfield Hospital at Headington, to which we have already referred, gives the income and expenditure accounts of six clinics, the total annual expenditure was £825 12s. 9d., so that the average cost of a clinic was £137 12s. 1½d. Mr. Girdlestone reckons the annual cost of the Wingfield Hospital at £15,000, of which £13,000 should be covered by patients' fees, paid either by themselves or local authorities. For the remaining £2,000 the hospital must look to local charity. On the above mentioned average the eleven clinics would cost £1,513 a year, which is not a very large sum for the work done. Thus, leaving out of consideration the expenses of the orthopaedic departments of the general hospitals, the cost of this three county group would be about £16,500 per annum. This estimate is, however, a rough one, for in some cases it is not easy to separate charges on capital from annual expenditure.

It is clear that such a scheme requires for its complete success the hearty co-operation of general practitioners, orthopaedic specialists, nursing organizations, and public authorities. Such co-operation seems hitherto to have been given in a most remarkable manner in the districts where the plan has been set to work. Until lately the counties interested have been mainly rural, containing few towns so large and none larger than Reading, with its 92,000 inhabitants. The experiment in North Staffordshire—which includes Stoke-on-Trent, containing 230,000 inhabitants—will be watched with great interest. In such industrial districts and in the great cities the organization will have to be adapted to the circumstances. In London the County Council's schools for physically defective children and the school clinics and the Invalid Children's Aid Association would supply some of the necessary links in the chain, but no one hospital could conceivably be placed in a similar position to that occupied by the Wingfield or Oswestry orthopaedic hospitals in their respective districts. With good will and enthusiasm and the help of the charitable public, however, the problem may be faced and solved.

The population of Oxfordshire, Berkshire, and Buckinghamshire combined amounted at the last census to 720,607, which is little more than one fiftieth of the population of England, excluding Wales. From these figures and the experience already acquired some sort of a rough estimate may be formed of what will be wanted in men, money, and equipment if the whole country is to be properly dealt with on the lines of the schemes at present being worked.

In all that has gone before it will be noted that nothing has been said of the remuneration of the surgeons on whose shoulders the efficiency of the organization so largely rests. Enthusiasm in the good

[1] *The Care and Cure of Cripple Children*. Part I. A description of the National Scheme for the Welfare of Cripple Children. By G. R. Girdlestone, F.R.C.S. Part II. A Year Book of Hospital Schools and Institutions for Cripple Children. Compiled by Mrs. Hey Groves. Information supplied by the institutions mentioned. With a foreword by Sir Robert Jones, K.B.E., C.B., F.R.C.S. Bristol: John Wright & Sons, Ltd. London: Simpkin Marshall, Hamilton, Kent and Co., Ltd. Price 6d.

cause has led to success so far, but orthopaedic specialists must live, and it is not easy to see how they can all do so unless some of them also engage in general practice, in which case difficult questions might easily arise, but will, we may hope, not prove incapable of adjustment

THE LONDON SCHOOL OF HYGIENE

THE draft charter constituting the London School of Hygiene, the establishment of which has been rendered possible by the munificent gift of the Rockefeller Foundation, is now before the Privy Council, and it is anticipated that it will shortly be granted substantially in the form set out in the draft In a letter addressed to the General Medical Council by the Ministry of Health it is stated that the charter proposes that the function of the school shall be primarily instruction, but that facilities shall be afforded for research The school is to include in its scope the maintenance of health and the prevention of disease in their widest applications, "not only in temperate, but in arctic and tropical climates" The school is to have six departments (1) applied physics, physiology, and principles of hygiene, (2) chemistry and biochemistry, (3) immunology and bacteriology, (4) medical zoology, parasitology, and comparative pathology, (5) epidemiology and statistics, (6) the principles and practice of preventive medicine, general sanitation, and administration As we were able to announce some time ago, Dr Andrew Balfour has been appointed to be director of the school, but no other appointments, so far as we are aware, have been made The site in Gower Street upon which the school is to be erected is being cleared, in fact the work is nearly complete, so that the builders may be expected shortly to succeed the housebreakers Negotiations with certain other bodies have been opened, including the London School of Tropical Medicine, but there is not, so far as we are aware, at present any school of arctic medicine in existence There are, however, other schools of hygiene, and in particular those which prepare candidates for the D P H It is hoped that co-operation with such bodies may be ensured and it was we understand, the expectation of the Rockefeller Trustees that the School of Tropical Medicine would be amalgamated with the London School of Hygiene The draft charter of the new school provides for a court of governors and a board of management The court of governors is to consist of representatives of a large number of institutions, including the Ministry of Health, the Ministry of Agriculture, the Senate of the University of London, the Seamen's Hospital Society, the Admiralty, the War Office, the Air Service, the Lister Institute, the British Medical Association, and the Society of Medical Officers of Health, the full list is given in the report of the proceedings of the General Medical Council's Executive Committee published this week in the SUPPLEMENT The actual management and supervision of the school will be vested in a board of management, which at first will be the transitional executive committee which has brought the matter to the present stage The board of management is to consist of nine persons—three appointed by the court of governors, three by the Ministry of Health, two by the Senate of the University of London, and one by the Seamen's Hospital Society This board will make statutes for the regulation and management of the school, and will make an annual report to the court of governors The latter body will have the right of making representations to the board of management in regard to any matter which in their opinion affects the interests, functions, or curriculum of the school The fact that a seat on the executive body of the board of management has been allotted to the Seamen's Hospital Society seems to foreshadow that, as was expected, the London School of Tropical Medicine will be amalgamated with the new School of Hygiene, or at least work in close co-operation with it Further, the large representation accorded to the University of London appears to indicate that the School of Hygiene will be a recognized school of the University, as recommended by the Athlone Committee

OPHTHALMIC BENEFITS FOR INSURED PERSONS

WE are informed that a group of ophthalmologists especially interested in the provision of ophthalmic benefits for insured persons have formed themselves into a committee in order to support the British Medical Association in any action that may be taken to secure a working arrangement for the treatment of insured persons by duly qualified ophthalmic surgeons 'Optical benefit," as it is described in the Insurance Regulations is dealt with in different ways by the various approved societies, but in only one society is any satisfactory arrangement made to provide for the insured the services of competent ophthalmic surgeons This is unfair to insured persons, and most serious for the future of ophthalmology in this country A meeting to receive the report of the above mentioned committee and to consider its proposed programme will be held in the Council Chamber of the British Medical Association 429, Strand, W C 2, on *Thursday, March 27th, at 5 30 p m* The support of ophthalmologists is requested, and any who desire to attend and would like to receive further particulars are asked to address their letters to the Ophthalmic Benefit Committee, 30, Finsbury Square L C 2

TRYPARSAMIDE IN THE TREATMENT OF SYPHILIS

TRYPARSAMIDE, which is a pentavalent arsenic compound and a derivative of atoxyl, was found to be very effective in the treatment of sleeping sickness by Brown and Pearce whose investigations in this respect were discussed in our columns of December 16th 1922 (p 1183) Chesterman's investigations in the Belgian Congo brought out the fact that this remedy was particularly efficacious in reducing to normal the cell content of the cerebro spinal fluid, even in advanced cases and his report to the Royal Society of Medicine was also recorded in our columns (January 27th 1923 p 149) The possibility of this drug being of similar value in general paralysis was quickly perceived, and in July last Sir F W Mott (p 24) discussed the matter in our columns, and drew attention to the work of Lorentz Loevenhart, Blackman and Hodge in America who reported very successful results from its use in cerebro-spinal syphilis and particularly in general paralysis This investigation has been continued and in the *Journal of the American Medical Association* for February 16th there is a preliminary paper by Moore Robinson and Reidel who have endeavoured to define the possible uses of tryparsamide in cerebral syphilis by treating with it a large number of patients with different forms of syphilis It was found that in primary and early secondary syphilis safe doses were without therapeutic value In the tertiary stage again neither cutaneous lesions nor gummata were benefited In early neuro-syphilis the frequent involvement of the optic nerve contraindicated this form of treatment and disease of the auditory nerve required more energetic and rapid treatment than was possible with the comparatively small doses of tryparsamide that were necessarily employed The results in cardio-vascular syphilis have been inconclusive, but have been more successful in late neuro-syphilis Among a series of forty patients in fourteen with advanced disease the cerebro-spinal fluid became completely normal, and in the whole group there

was only one case in w[illegible] benefit at all resulted Of eight previously untreated [illegible]ases, the disease was, from the clinical point of view, completely arrested in five, two were improved, and in only [illegible] was there no benefit Of those who had received antisyphilitic treatment previously, in twenty two the disease was arrested, in three improvement took place, and four were unbenefited Six had remained well for as long as three years after the end of treatment The possibility of visual impairment as the result of treatment with tryparsamide was noted originally by Pearce, and is of considerable importance, since in one or two cases the damage proved to be in some degree permanent It is therefore necessary to select the patients carefully, and to detect by preliminary ophthalmological examination any abnormality of the fundus, visual field, and visual acuity which would contraindicate this form of treatment Further tests of visual acuity should be made during the course of treatment, and the drug should be stopped at once if any ocular symptoms or signs appear With these precautions treatment appears to be quite safe, but Moore considers that its use should be restricted to conditions of neuro-syphilis, and possibly also to cardio-vascular syphilis The appearance of the full reports of the investigations of Lorenz and of Moore and his associates will be awaited with very considerable interest

ASSYRIAN MEDICAL TEXTS

In 1906 Mr R Campbell Thompson, Fellow of Merton College, Oxford, began working on the cuneiform medical tablets from the Royal Library of Ashurbanipal preserved in the British Museum, and read a paper on some of them to the British Association in 1913 The tablets date back to the seventh century B C, and are themselves copies of older texts, as is said to be obvious from the similarity of the medical texts found at Ashur, which are some centuries earlier Mr Thompson notes the interesting fact that one of the tablets reproduced in his book refers to a tradition from "the ancient rulers before the Flood which was in Shurippak" the copy from which this tablet was made was dated in the second year of Enlil-bani, King of Isin, *c* 2201 2177 B C Enlil-Muballit being ruler in Nippur "Let him that knoweth not show him that knoweth, let not him that knoweth show him that knoweth not, (in the name of what is) sacred to Marduk!" The tablets are so broken and scattered that nothing short of a complete publication of all the fragments can be really satisfactory, and it is only by making joins and identifying duplicates that there can be any hope of using the collection to full advantage Some months ago the Oxford University Press published a foolscap volume[1] of 107 plates, reproducing the text of 660 cuneiform medical tablets, excluding 98 old and new joins Mr Thompson recently communicated to the Section of the History of Medicine of the Royal Society of Medicine a paper giving translations of some of the texts in the volume, and he proposes to discuss the texts generally when he has completed the translation of all of them His work was interrupted by the war and when he returned and resumed it he came to the conclusion that the old method of leaving vegetable drugs unidentified or translated haphazard would lead nowhere He gave two years to working on the vegetable drugs known to the Assyrian botanists he intends to publish his results in a volume to be entitled *The Assyrian Herbal*, but he presented to the Royal Society this week a paper on the plants of the Assyrian medical tablets in which he discussed all the plants and trees, with a few unimportant exceptions, of the Assyrian pharmacopoeia, and also many not used in medicine His chief sources of information in cuneiform have been the medical tablets and the botanical lists We gather that he has identified approximately 250 vegetable species and the 4,600 places in which they are mentioned He has also identified 120 minerals, which are mentioned 650 times There remain other and unidentified substances numbering 180, and mentioned 630 times Further, alcohol in various forms is mentioned 490 times, and fats, oils, honey, wax, and milk 660 times He has approached his task by tabulating the relative frequency of each plant in Assyrian medicine and the different medical value attached to each He has made a philological comparison with other Semitic languages, and has been helped by a comparison with and limitation to the drugs of the ancient world He has also made use of the synonyms and comments in the Botanical Lists Among the new plants identified are fir turpentine, rose, mustard, asafoetida, daisy, pomegranate, sumach, hemp, camomile, anemone, medlar, apricot, cherry, and mulberry

[1] *Assyrian Medical Texts from the Originals in the British Museum* Oxford University Press Price 42 2s net

MINE RESCUE APPARATUS

THE Mine Rescue Apparatus Research Committee of the Advisory Council of the Department of Scientific and Industrial Research has now produced its third and final report[1] The members of the Committee are Sir William Walker (the late Chief Inspector of Mines), Dr Henry Briggs, and Dr J S Haldane, F R S The experimental work involved in the research was conducted by Dr Briggs at the Heriot-Watt College, Edinburgh, where facilities were provided by the governors The second report, which was dealt with in our columns of August 21st, 1920 (p 283) proposed certain test methods for compressed oxygen rescue apparatus, and in this third report certain modifications are suggested to make these methods applicable for liquid air apparatus, and includes a description of the improved Blackett aerophor apparatus The relative advantages of liquid air apparatus are discussed, and the difficulty of providing an adequate supply of liquid air at rescue stations is considered The second part of the present report deals with the Dewar metallic vacuum flask or container, its method of construction, and certain physical factors concerned The possibility of explosion of charcoal in vacuum flasks containing liquid oxygen is discussed, and it is pointed out that this accident, which occurred repeatedly in Germany during the war, is much less likely with British-made vessels, for in the latter no use is made of impregnated charcoal, which has a tendency to explode in the presence of oxygen In view of the possible future expansion of the use of liquid oxygen, experiments were made to find out if some non-inflammable substance could be used in place of charcoal, so as to eliminate the danger entirely The most promising of these substances was colloidal silica, but this is expensive, and was found to be inferior to charcoal in its power of dealing with gases under low pressure and creating a vacuum The report contains several illustrations and diagrams of the various forms of apparatus employed, and also drawings of the Red Cross room and motor house at the Brodsworth Main Colliery, near Doncaster, which was constructed in compliance with a regulation based upon a recommendation in the first report

[1] H M Stationery Office Price 1s net

BACTERIOLOGY OF SCARLET FEVER

IN our issue of March 15th (p 482) we mentioned the new horse serum prepared by A R Dochez and Lillian Sherman, which had the power of blanching the rash in scarlet fever In the *Journal of the American Medical Association* for March 1st (p 712) a preliminary report on the therapeutic value of this serum is contributed by I G Blake, J D Trask, and J F Lynch, who have employed it in thirteen patients—nine children and four adults Two cases were mild, five moderately severe, three severely toxic, two extremely toxic, with an almost hopeless prognosis, and one a late septic case, with severe cervical

adenitis, thrombophlebitis, and streptococcal septicaemia With the exception of this last case all were early, and serum treatment was given within twenty-four to sixty hours after the onset In all but the last three cases a single intramuscular injection of from 40 to 60 c.cm of serum was followed by a prompt and complete recovery within twelve to twenty-four hours The most striking effects were a critical fall of temperature to normal within eight to twelve hours, a rapid and complete fading of the rash in twelve to fifteen hours, with complete disappearance in twelve to twenty-four hours, rapid improvement in the surgical condition, and, even in the severer cases, prompt disappearance of all toxic manifestations In the two extremely toxic cases the administration of larger amounts of serum in divided doses was followed by rapid and striking improvement, with complete recovery thirty six hours after the initial injection of serum In the late septic case with grave complications a single intramuscular injection of 40 c.cm of serum was given on the fifth day of the disease Although this had no beneficial effect on the septic complications, the rash had almost disappeared twelve hours after the injection, it remained absent for approximately sixty hours and then returned as before, except in an area on the abdomen where an intracutaneous injection had been previously made, and over the anterior surface of the thigh, which had received the intramuscular injection The patient died on the eighth day It would appear that this serum possesses definite curative properties in cases which are without septic complications

THE ROCKEFELLER FOUNDATION IN 1922

THE annual report for 1922 of the Rockefeller Foundation[1] is divided into four parts In the first we are presented with the review given by the President, Mr George E Vincent, and the reports of the secretary and the treasurer, the second part is the report by Mr Wickliffe Rose, the general director of the International Health Board, and occupies 160 pages, the third is the report by Mr Roger S Greene, director of the China Medical Board and the fourth is the report of Dr Richard M Pearce general director of the Division of Medical Education The world-wide activities of the Rockefeller Foundation in public health are conducted by its International Health Board and on medical education by the Division of Medical Education, except the work in China, which is done by the China Medical Board Although the President states that the Foundation is concentrating its resources upon a comparatively limited range of activities within the closely related spheres of public health and medical education, it would take too long to recite its twenty-one beneficent actions in 1922, among which are the endowment of chairs of medicine and surgery in Hong-Kong University and the gift of two million dollars towards the site, building, and equipment of a School of Hygiene in London The Foundation was incorporated on May 14th, 1913, with an initial endowment of 100,000,000 dollars by Mr John D Rockefeller, and has since received from him 82 000,000 more dollars, it has disbursed 76,800,000 dollars and pledged future income to the extent of 15,600,000 dollars in pursuit of its chartered purpose, which is to promote, not the exclusive prosperity of any one nation but "the well-being of mankind throughout the world" For this end international co-operation is essential, and this has been furthered by the Rockefeller Foundation's distribution of medical literature in Europe, by enabling the health organization of the League of Nations to finance visits of public health officers of various nations to other countries—for example, that now in this country from twenty European and South American nations—and by providing 237 individuals from twenty-three countries with fellowships to enable them to work abroad As for the special work in preventive medicine now promoted by the Foundation, we may recall that the Rockefeller Sanitary Commission for the eradication of hookworm disease was established in 1909, and that in 1913 it was incorporated as the International Health Commission (called after 1916 the International Health Board) of the then recently established Rockefeller Foundation This campaign has remained world wide ever since, and in an appendix new forms of treatment, such as the administration of carbon tetrachloride, are described Carbon tetrachloride has a toxic action on the liver and kidneys producing fatty degeneration like that caused by chloroform, and in order to avoid any such risk smaller doses are employed, and the efficacy is maintained by the addition of ascaridol (the active anthelmintic principle of chenopodium) Further experience has shown the advantage of mass treatment of the population in heavily infected areas, without previous examination of the faeces, as this diagnostic measure often deters the natives from submitting to treatment The campaign against yellow fever was vigorously conducted in Mexico in 1922, and at the end of the year the only infected area in the western hemisphere appeared to be Eastern Mexico and a narrow coastal zone in Eastern Brazil from Ceara to Bahia The investigation of the malaria problem in Italy, Palestine, and South America is being furthered, and assistance continued to the Comite national de Défense contre la Tuberculose in France In 1922 the China Medical Board completed its eighth year of work in China, and initiated systematic improvement of the teaching of natural sciences in the colleges and universities of China as an essential factor in medical education and research In his report on medical education Dr R M Pearce mentions that Dr David L Edsall of Harvard and Dr Evarts A Graham of Washington University, St Louis, made a survey of the unit system in this country The whole report arouses a sense of sincere admiration, and the interest is maintained and heightened by the numerous excellent illustrations

[1] *Rockefeller Foundation Annual Report for 192* The Rockefeller Foundation 61 Broadway New York (Fcap 4to, pp xii + 451 85 figures.)

ANTIVACCINATION APPEAL

MR WHEATLEY the Minister of Health, has now furnished a written reply to the representatives of the recent deputation from the National Anti Vaccination League In answer to the request that legislation should be introduced to amend the provisions of the Vaccination Acts so as to abolish compulsory vaccination and to remove vaccination charges from the public funds he remarks that although he is inclined to think that there are certain directions in which vaccination statutes could with advantage be amended, he sees no prospect of being able to introduce legislation on this subject during the present session of Parliament He is of opinion that the Vaccination Act of 1907 provides every facility for those persons who conscientiously believe that vaccination would be prejudicial to the health of their children With regard to the suggested rescinding of the Vaccination Order of July 20th, 1923 so as to permit the reinsertion of the prescribed form of statutory declaration in the notice of the requirement of vaccination handed to parents when the birth of the child is registered the Minister points out that since the Order only came into force last September it would be well to allow it to remain in operation for twelve months by which time he will have been able to reconsider the position in the light of the experience gained Meanwhile he is in communication with the Postmaster General with a view to ascertaining whether it is possible to arrange for the official form of declaration to be returned to the vaccination officer free of charge for postage by the parent or guardian In reply to the request of the deputation that magistrates

should be warned not to refuse to sign declarations of conscientious objection, Mr Wheatley points out that the matter is not within his jurisdiction, but he would be prepared to bring to the notice of the Home Secretary any case in which sufficient evidence was produced to show that a magistrate had failed in his duty in this respect As regards the suggestion that the appointment of fresh vaccination officers should not be approved, he observes that it is the statutory duty of the guardians of every union or parish to appoint one or more such officers, and that the Minister of Health has no authority to vary the terms of the statute

TREATMENT OF PULMONARY TUBERCULOSIS

In his Lettsomian lectures, the last of which is reported elsewhere this week (p 533), Dr R A Young has given a masterly account of the treatment of pulmonary tuberculosis Dr J Mitchell Bruce, in proposing a vote of thanks to the lecturer, drew attention to the note of optimism that had characterized each of the three lectures, and agreed that this was justifiable, since from the early days when Greek temples received the first sanatorium patients no time had been so full of promise of triumph over tuberculosis as the present Although many forms of treatment had been devised and advocated, only to be discarded later, yet there was definite experimental and statistical evidence that the problem presented by this disease was no longer so gloomy and apparently insoluble as had been thought some fifty years ago We may be allowed to add that the part played by the Brompton Hospital for Consumption in this advance is worthy of note, Dr Young has ably sustained the reputation of his colleagues and predecessors in his exhaustive and stimulating description of the work that has been done and the possibilities that are opening out The subject itself, and the way in which it was treated by this year's Lettsomian lecturer, would have interested and given particular pleasure to the distinguished eighteenth century physician whose name the lectures commemorate

ROYAL MEDICAL BENEVOLENT FUND GUILD

THE fourteenth annual general meeting of the Royal Medical Benevolent Fund Guild was held on March 12th, Lady (Rose) Bradford presiding Lady Tripp read the report of the council for 1923, which recorded increased support of this admirable charity by members of the profession and their friends The festival dinner held last year had brought in £1,336 and had given a great impetus to the work Its indirect effects had been far-reaching, for instance, two new scholarships had been founded—one by the Manchester branch, and the other by Mr Noel Wills in memory of his mother, in each case the sum given was £250, which when invested yields £30 a year for ten years The St Pancras branch had been resuscitated and a North London section of the Guild inaugurated Bournemouth had trebled its subscription, and Cardiff and Glasgow had sent most encouraging statements of increased contributions Edinburgh, Peeblesshire, Kensington, Hampstead, and Westminster had also made extra efforts The Ladies' Medical Golfing Society competition had brought in over £150, and the amount had been invested to found a scholarship of £30 for five years The Medical Insurance Agency continued its generous donation of over £600 Three special efforts from which money came in after the balance sheet had been made up were successful dances at Liverpool and at Reigate and a concert organized by the Stock Exchange male voice choir The loss to the Guild by the death of Sir John Tweedy was very great, and the meeting placed on record its sympathy for Lady Tweedy and her family Dr Mary Scharlieb submitted the financial statement for 1923 The annual subscriptions showed an increase of £120 and the donations an increase of £1,925 The total receipts amounted to £4,704 Mrs Arthur Ormonde read the report of the Visiting and Case Committee During 1923 the committee had apportioned £766 in monthly grants, the recipients numbering 52 Acute poverty, old age, illness, and other causes resulting in inability to work formed the main reason for these grants In addition 54 applicants received special gifts of money during the year, amounting to £312 in all, for sudden emergencies Other forms of aid were the provision of spectacles, the payment of dental costs, and the distribution of coal grants to 63 applicants Holidays had been secured for 18 persons, and this was recognized increasingly as a most valuable part of the Guild's work The committee thanked those who had sent surgical aid letters, and appealed earnestly for more of these The educational branch was a source of both anxiety and pride, as the responsibility for this work was shouldered almost entirely by the Guild, to which all such cases were referred by the Royal Medical Benevolent Fund The anxiety arose from the number of applications for assistance, which naturally increased as this enterprise of the Guild became more generally known Last year £872 had been spent on education and training, against about £700 in the previous year Training had been given for most varied careers, and maintenance paid for several cases where no money was available for food and housing during the period of training Mrs Ormonde described in detail the condition of various recipients of help, and made it clear that the contribution policy of the Guild was to assist to earn, to educate to earn, and to promote self-reliance There had been no instances during the past year of any beneficiaries losing through their own fault the posts obtained for them, and school reports and reports of careers subsequent to school life had been gratifying We would, however, emphasize her reminder that the splendid work done by the Guild can only be carried on if the medical profession maintains the inflow of money

INFLUENZA

THE extension of the epidemic in the north midland and north-western districts is mainly responsible for the increased mortality from influenza which again characterized the returns for the week ending March 8th The total of deaths in the great towns increased from 636 to 730, in London the number decreased again, from 139 to 115 Leeds is experiencing a relatively severe epidemic (the number of deaths increased from 48 to 72), while Hull had as many as 30 (16 in the previous week), and Bradford 22 Three other cities reported 20 or more deaths—Birmingham (41), Manchester (22), and Bristol (20) Notifications of pneumonia showed a relatively smaller increase than in the previous week the figures for the three weeks ending March 8th being 2,089, 2,402, and 2,500 This, together with clinical reports, suggests that the epidemic is really subsiding, but it is not yet certain that Lancashire—so far less affected than industrial Yorkshire—will not be a more serious contributor to the death returns We can hardly, therefore, expect that mortality from influenza will fall to its normal level for some weeks

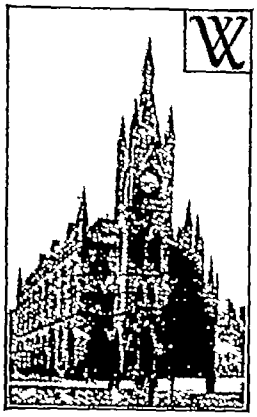
THE customary course of demonstrations of specimens in the Museum of the Royal College of Surgeons of England will begin on Friday, March 28th, when Sir Arthur Keith will show examples of the various maldevelopments of the palate On April 4th he will deal with specimens showing the development and surgical anatomy of the nasal air sinuses, and on April 11th with others illustrating irregularities in the growth of the palate and of the eruption of teeth On Mondays, March 31st, April 7th, and April 14th, Mr C E Shattock will demonstrate specimens of the lymphatic glands, of osteomyelitis, and of tumours of the colon The demonstrations will begin at 5 p m on each day

NINETY-SECOND ANNUAL MEETING

of the

British Medical Association,

BRADFORD, 1924



The Exchange

WE publish below the second of a series of descriptive and historical articles on Bradford, in which city the ninety second Annual Meeting of the British Medical Association is to be held this summer, under the presidency of Mr J Basil Hall, M Ch Cantab, consulting surgeon to the Bradford Royal Infirmary The Annual Representative Meeting, for the transaction of medico political business, will begin on Friday, July 18th and be continued on the three following week days The statutory Annual General Meeting will be held on Tuesday, July 22nd, at 2 p m, and on the evening of the same day the incoming President, Mr Basil Hall, will deliver his address to the Association The sectional meetings for scientific and clinical work will be held, as usual, on the three following days, the mornings being given up to discussions and the reading of papers and the afternoons to clinical and laboratory demonstrations The provisional programme for the work of the twelve scientific Sections is being drawn up by the various sectional officers, whose names were announced in the SUPPLEMENT of February 9th On the last day of the meeting (Saturday July 26th) there will be excursions to places of interest in the neighbourhood Further details of the arrangements for the Bradford Annual Meeting will appear in subsequent issues This will be the first occasion on which the British Medical Association has visited Bradford The Honorary Local General Secretary for the meeting is Dr W N West Watson, Victor Lodge, Manningham, Bradford.

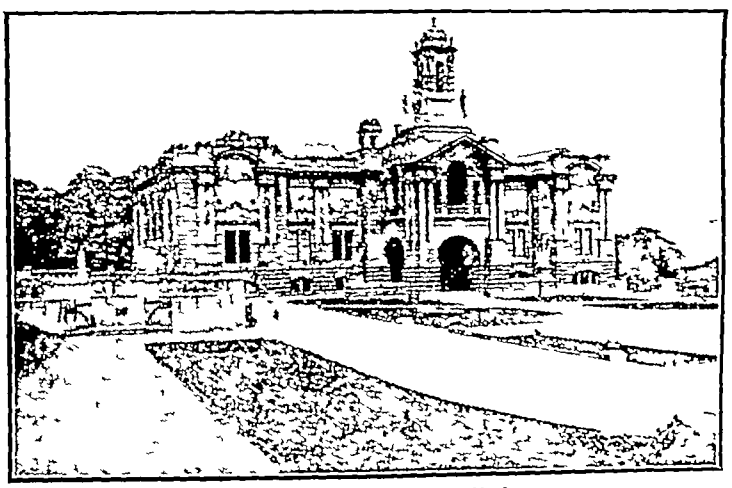
BRADFORD YESTERDAY AND TO-DAY.*

BY

J HAMBLEY ROWE M B, C M.,

FELLOW OF THE SOCIETY OF GENEALOGISTS

THE rapid expansion of Bradford during the Victorian era, when the amenities of life in regard to the working classes received but the scantiest consideration, resulted—as in the case of Manchester, Sheffield, Leeds, Birmingham, and other large towns—in the erection of row after row of most uninteresting streets These were chiefly in the neighbourhood of the older highways that radiate from the centre of the town However, within the last thirty years much of this area has disappeared as the result of road widening and the extension outwards of public and private office buildings Respectable buildings indicative of solid mercantile worth now line the main streets, and the town in respect of slum areas compares very favourably indeed with any town in England



Cartwright Memorial hall Bradford

In the Victorian period large gaunt warehouses and mills were erected, these, with their companion chimneys at once indicate to the stranger that Bradford is essentially a town of workers As one would expect the older mill buildings are to be found along the banks of the main stream of the valley and the larger tributaries for they were originally dependent on natural water supplies The newer, larger, and in some cases almost palatial mills are, thanks to ample water supplies drawn from the Nidd and the Wharfe situated nearer the hill tops and form prominent objects on the sky line

From whatever point of view Bradford is seen the chief idea conveyed is that of a ceaseless, indomitable ever-expanding industrialism In many mills, day and night machinery is at work and hour after hour the whole year through successive relays of men and women work work, work earning for themselves the wherewithal to live and providing for a large part of the world the wherewithal to dress The romance of industry and machinery can nowhere be better realized than in this city

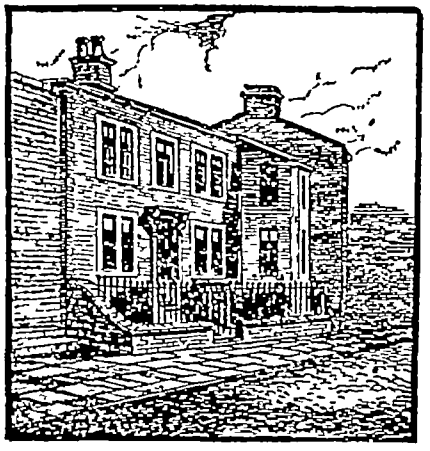
Apart from the natural bent of the West Riding native

* The first article of this series giving a historical sketch of the city was published in the BRITISH MEDICAL JOURNAL of December 6th 1923 (p 1111)

for work, he has had in the past the additional incentive of seeing some energetic kinsman of as lowly birth as himself amass riches beyond the dreams of avarice. Wealth in the past has poured into Bradford, chiefly because it had a highly organized industry in wool and its products and because foreign countries bought largely in the town. Within the last twenty years, however, combing, spinning, and worsted weaving factories have sprung up in the United States, in India, in Japan, and elsewhere in increasing numbers, and that, together with prohibitive tariffs (notably the McKinley tariff in America), has to some extent checked Bradford's rapidity in the art and craft of accumulating wealth.

The Wool Industry

History shows that Bradford does not take a set-back despondently, but that its merchant princes, especially the younger among them, have sufficient enterprise to counter the stroke when fickle Dame Fashion decrees that one class of goods has had a long enough vogue. The manufacturer, having obtained some inkling of her fancies, proceeds to adapt his machinery to serve her purpose and incidentally increases the trade and power of his town. So we get a series of cloths that have been manufactured in Bradford from the earliest times: frieze, worsteds, linseys, russells, woolseys, kerseys, calamancoes, hairateens, amens, shalloons, shags, merinos, tammies, drawboys, Saxony cloths, twills, moreens, serges, damasks, Orleans cloth, says, figured crepes, buntings, plushes, lustres, alpacas, mohairs, coatings, unions (cotton with wool), reps, prunettes, camblets, bombazets or wild boars, gambaroons, plain backs, double twills, dobbies, lastings, and so on. Bradford and its immediate neighbourhood produced practically all the khaki for the Allied Forces during the war.



The Old Parsonage, Thornton. Birthplace of Charlotte Brontë.

These names, however, represent the finished article. Wool has to go through many processes before it emerges into garment condition.

The fleeces, garnered from all parts of the world, and especially Australia, from which the finest come, are brought in bales weighing on an average about 200 to 300 lb. weight and worth roughly to-day from 1s. 6d. to 4s. per lb. In large warehouses the bales on being opened are spread on tables and graded by a skilled class of workers called wool-sorters. The wool is then taken to be scoured—that is, freed from excess of grease and other impurities. The scouring material with the superabundant grease is allowed in most cases to go down the sewers. The grease is eventually extracted by special processes undertaken by the Corporation with much profit to the ratepayers, about £500,000 worth of it having been sold in seven years. Lanoline, now so largely used as a basis for ointment, is produced from wool grease by the Corporation and by many firms who have laid down their own grease-extracting plant. The impurities consist of vegetable matter, spines of prickly plants, and sand, of which latter several hundreds of tons are used for manuring purposes. Seeds brought in this and other ways have resulted in the production of a curious alien flora of much interest to the botanist.

No fewer than 150 alien species have been determined and amongst them may be mentioned *Citrullus vulgaris*, *Xanthium spinosum*, *Centaurea melitensis*, *Ambrosia maritima*, *Ambrosia trifida*, *Coronilla scorpioides*, *Carthamus tinctorius*, *Trigonella coerulea*, *Medicago denticulata*.

Having been brought to the requisite stage of a glossy white sheen, the wool is then carded and combed—that is, all the fibres are brought into a state of parallelism which makes it easier to work in the next stage. The wool-comber then passes on his product known as sliver, a ropelike arrangement of the wool to the spinner, who, by most ingenious mechanical devices contrives to work the wool into a series of thin even threads known as yarn.

Now the wool is in a form which the weaver can use, and the manufacture of cloth is undertaken straightaway, unless the manufacturer has in view the production of a cloth with more than one colour in it. In that case he sends his yarn to the dyers, who immerse it in large vats of aniline dyes or synthetic indigo according to the tint desired. The soft Bradford water is said to be peculiarly suitable for dyeing purposes.

The intricate machinery, the processes involved, and the organization necessary for the production of the fine cloths for which Bradford is famous, have proved of absorbing interest to all visitors to the town. In May, 1913, the King and Queen, and last year the Prince of Wales, made a round of the mills, and were vastly interested in the many ingenious and complicated methods of combing, spinning, and weaving.

All these processes afford work to something like 100,000 people in the city working forty-four hours a week for, say, fifty weeks in the year. It will be realized that the total amount of work done in this one trade alone in twelve months is enormous, entitling it to rank as one of the very great and important industries of England.

The Workers' Recreations

The average Bradfordian has not been content to spend any surplusage of his wages in eating and drinking. He has largely put his savings in the more material commodities, and often enough a weaver's house is his own, and one may see in it modern, quite high grade furniture, not forgetting an £80 piano or a £50 sideboard. His wife is very house proud and devotes her life to keeping the house and its contents spotlessly clean. This idea of cleanliness is so insistent and dominant, and its execution in a smoky town so never-ending, that most women get prematurely old. Moreover, it leaves but little leisure to devote to the acquisition of culture and knowledge. Music is the only one of the arts and graces that is favoured, and, with the characteristic thoroughness of the West Riding person, singing and playing are well performed. Hence it is that good execution by brass, string, pipe, or larynx is thoroughly appreciated and encouraged.

The British National Opera Company, with its high aims and high standard of achievement, chose Bradford for its opening performances in 1922, and packed houses for every day of its fortnight's visit testified to the appeal that good music excellently rendered has for the West Riding native. One of the chief composers of the present day, Frederick Delius, was born and bred in the town. He and others owe much to the musical atmosphere created by high-class music performed in St. George's Hall in a series of concerts every winter, extending over a period of seventy years. It may be said that with the exception of Caruso, every executant of Continental reputation has visited Bradford. The city numbers among its musicians, Fred Sewell, the well known pianist at the Albert Hall, John Coates, the eminent tenor, and Edna Thornton, the contralto. Stage celebrities include Rosie Boot, Gertie Millar, and Marie Studholme.

Fine Art, Literature, and Science

In the matter of art the city has not been behind other towns of equal importance. A brief list of the more notable among the engravers and painters associated with Bradford may prove interesting.

Joseph Clayton Bentley (1809-1851), engraver, was a clever exponent of his art at the time when steel engraving was at its zenith. His services were in great request, especially by Messrs. Virtue, the art publishers, and Messrs. Fisher and Co. Many of his plates decorate the pages of the *Art Journal*. W. O. Geller (1804-1881) as a mezzotinter had few if any equals in his day. Amongst his works are engravings of Sir Astley Cooper, John Hunter, and J. Fletcher, M.D. John Cousen (1804-1880) and Charles Cousen were brothers. The former is regarded as the Turner engraver *par excellence*, as may be seen in delightful examples in Turner's *Rivers of*

France Patrick Branwell Brontë set up as a portrait painter in Bradford, but the venture was not a success Among more recent notable artists were James Lobley (1829 1888) and James Charles, to whose work full recognition of its excellence came, like that of many another genius, after his death To day the city is well represented in art matters by William Rothenstein, William Shackleton, and the cousins Bertram Priestman, R A , and Arnold Priestman

Literature has as its chief representatives the Bronte sisters, all of whom were born within the present city boundaries The Rev Patrick Brontë, himself a writer of poems, religious tracts, and sermons, was a native of Ulster and a graduate of St John s College Cambridge After curacies at Wethersfield in Essex and Wellington in Shropshire he came to Dewsbury in this county Then, following a brief sojourn at Hartshead—close to the scene of Robin Hood s last moments—he became incumbent of Thornton in Bradforddale Here in the old Parsonage—now a shop—in the old main street, the gifted sisters, Charlotte, Emily, and Anne Brontë, and their only brother, first saw the light of their trouble laden days But this is not the place to set forth again the moving story of their lives, it is well described in Mary Gaskell s classic, always well worth reperusal Haworth, part of the ancient parish of Bradford, to the incumbency of which their father succeeded whilst his children were infants, and where he and most of his children lie buried, is a Mecca for the literary pilgrims of several continents

Amongst popular writers from this district was Amelia E Barr, the daughter of a Moravian minister, the Rev William Huddleston Living authors of note of this neighbourhood include Cutcliffe Hyne, the son of a vicar of one of Bradford s many parishes, Halliwell Sutcliffe, born at Bingley, within five or six miles of the town, and Oliver Onions

As for sons of science, Bradford claims Abraham Sharpe (1651 1742) mathematician, who was employed by John Flamsteed at Greenwich Observatory He published in 1717 *Geometry Improved* and erected an observatory of his own at Horton Hall still preserved, where he made many important observations The present Astronomer Royal Sir Frank Dyson, is amongst Bradford s most distinguished scholars Richard Richardson (1663 1741), of Bierley Hall bibliophile and antiquary was an eminent botanist a friend of Linnaeus, and correspondent of the chief Continental botanical scientists of his day Dr John Fothergill (1712 1780) was an apprentice to Benjamin Bartlett, *the Quaker apothecary, in Bradford for some years* before proceeding to London in 1740 Joseph Hume, M D (1777 1855), Thomas Brydges, and Thomas Stephenson have considerable associations with the district

The Rev William Scoresby, F R S (1789 1857) was Vicar of Bradford from 1839 to 1847 Scientist Arctic discoverer, and philosopher, he published many scientific works, dealing chiefly with problems of the Arctic In recent years the Antarctic has claimed the attention of a Bradfordian, Sir Douglas Mawson, whose courageous exploration of inhospitable lands and seas is still fresh in the public memory Sir Ernest Shackleton, Antarctic explorer, though born in the North of Ireland is descended from a family originally resident at Bingley

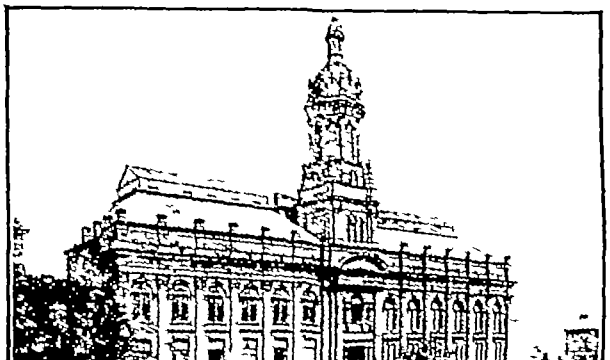
Divines and Politicians

Of divines the district has its fair share John Sharpe (1645 1714), Dean of Norwich, Archbishop of York 1691 1714, Rector of St Giles in the Fields, chaplain to James II was born at Ivegate in the heart of the town Archbishop Benson came of Airedale stock the Rev Thomas Stackhouse (1677 1752) author of a history of the Bible and Bishop Reginald Heber (1783-1826) were of families belonging to the upper reaches of the Wharfe and Aire The Rev John Crosse (1739 1816) the blind Vicar of Bradford, and the Rev William Morgan, Vicar of Christ Church (a choleric cleric who is said to have sent his cook to gaol because she spoilt some white sauce in the cooking) were notable evangelical clergy and friends of the Rev Patrick Bronte The Rev John Fawcett D D (1740 1817), hymn writer was born within half a mile of where these notes are being written

Of politicians connected with the town, Richard Oastler (1789 1861) and W E Forster stand out prominently whilst the first Labour Government in England has amongst its members Philip Snowden, Chancellor of the Exchequer, born at Cowling, Fred W Jowett, and William Leach, both natives of the city The foundation of the Labour party is ascribed to a strike of operatives at Manningham Mills in April, 1891

Buildings and Institutions

And now that we have said something of the main industry of the *hoi polloi* and the notabilities of Bradford, we may pass to the consideration of some of the noteworthy buildings and institutions of the place The Town Hall, built in 1873, has an imposing frontage, but its chief ornamental feature is the very fine tower modelled on Italian lines It is a very *dominant* feature of the centre of the town Much more handsome architecturally is the Exchange, and no less an art critic than Ruskin admired it The Technical College, opened by King Edward in 1882, is also a building of note, and though it has not yet the status of a university, the teaching and training within its walls are well up to university standards The most recent addition to the notable buildings of the town is the Cartwright Hall, the munificent gift of the first Lord Masham, better known perhaps as Samuel Cunliffe Lister *The design of the building* is a type of Italian renaissance architecture, based on coupled Ionic columns and pilasters, with appropriate entablature, standing on a basement of rusticated rock work Designed by J W Simpson it was completed in 1904, and is situated in the extensive Lister Park, also a gift from Lord Masham In the hall is housed a goodly collection of pictures and many natural history exhibits A large site is covered by the Market House, which contains in its upper stories a good free library which is especially strong in books, pamphlets brochures and much ephemeral literature dealing with the county of Yorkshire The claim has been made for it that it has the finest collection of Yorkshire books in the world



Bradford Technical College

The Free Library is not the only place, however, in the district where is housed a fine collection At least two local medical men have very *good assemblages of* books one of works concerning his native county the most representative collection in the world the other of first editions in the choicest state, and valued at many thousands of pounds Nor must the Bradford Library and Literary Society be forgotten Founded in 1774, and one of the oldest proprietorial libraries in the kingdom, it has a wealth of literature at the disposal of its habitues

Of old buildings the town possesses a few within its boundaries, the more notable ones being Bolling Hall Mirashaw, Boldshay Leventhorpe Hall Shuttleworth Hall Royds Hall, Rooley Hall Horton Hall and the Paper Hall With the exception of the first they all date from about the Commonwealth and are typical of the house building of those days, having stone mullioned windows carrying a drip stone, and with gable ends of the house facing the approach Bierley Hall and Tong Hall are of a much later date

Bolling Hall has portions dating from about 1350 and

Robert Bolling and his son Tristram in 1451 fought at the battle of Towton on the Lancastrian side and as a result of defeat was denied enjoyment of his property for fourteen years Tristram had a daughter Rosamond who carried the estates in marriage to Sir Richard Tempest In the new civil wars Bolling Hall s own were again on the losing side and Parliament levied a fine of £1 753 on the estate This necessitated a transference from the Tempest to the Savilles The Hall passed through several families to Francis Lindley Wood ancestor of Sir Charles Wood created Viscount Halifax in 1866 Two views of it were reproduced in the previous article published on December 8th, 1923.

preserves additions of later dates It, with its grounds, was acquired by the Corporation, and is now a beautifully restored mansion and is used as a museum In it is stored a considerable amount of really good old furniture and much material bearing on the history of Bradford It is a much appreciated show place, and, naturally, educated Bradfordians are very proud of it

The Parish Church of St Peter, first mentioned in 1281, once known as the "Chapel i' th' Wood," and now dignified by the name of the Cathedral Church of Bradford, was built on the site of an older structure in the reign of Henry VI, as may be deduced from its style It is built of free-stone, and has a square tower 90 feet in height There are a considerable number of monuments inside, of which, perhaps, the most notable are one by John Flaxman, R A, to a member of the Balme family, and another by Francis Chantry, R A It is interesting to note that John Wesley preached in the church on May 3rd, 1778, the blind Vicar of Bradford, the Rev John Crosse, being one of his greatest friends

The town possesses but few statues One to Richard Oastler (1789-1861) was erected to commemorate his labours and sufferings in the cause of factory legislation He was a stout champion of the oppressed little children workers of his day His fiery and fervent propaganda in favour of the ten hours Factory Act was, perhaps, the most determining factor in the passage of that beneficial piece of legislation, "the mighty boon of the ten hours' law," as Lord Ashley called it Another fine statue was erected to W E Forster (1818-1886), M P for Bradford, the great educationist and pilot of the Education Act of 1870 and of the Ballot Act through the House of Commons In Lister Park are statues of Sir Titus Salt (1803-1876) and Samuel Cunliffe Lister (1815-1906), who may be both styled manufacturing princes of Bradford In Victoria Square is a fine statue of Queen Victoria by Boehms, and in front of it a very modest war memorial

MEDICAL SOCIETY OF LONDON

ANNUAL DINNER

THE 151st anniversary dinner of the Medical Society of London was held at the Grand Hotel on March 12th, with the President, Dr HERBERT R. SPENCER, in the chair Among those present, besides the speakers mentioned below were Lord Knutsford (Chairman of the London Hospital), Mr Charles P Childe (President of the British Medical Association), Sir William Leishman (Director-General, A M S), Air Commodore David Munro (Medical Administrator, R A F), Sir D'Arcy Power, Sir William Wilcox (President of the West London Medico-Chirurgical Society) and the presidents of other metropolitan medical societies

The toast of the Medical Society of London was proposed by Sir HUMPHRY ROLLESTON, President of the Royal College of Physicians He said that, as befitted a remarkable society (the oldest of the kind in London), it owed its origin to a remarkable man, John Lettsom, who founded it when he was 28 years old, and looked after it for forty years being responsible, one way or another, for nearly half the thirty-five papers in its first volume of *Transactions* in 1789 Lettsom was an all-round man, interested and active in many directions, who infused the society with his spirit The society was founded on democratic lines in contrast to the exclusive medical clubs, or societies as they called themselves of that time, the numbers were soon afterwards limited to thirty physicians, thirty surgeons, and thirty apothecaries (general practitioners) one of its rules being that no person might speak more than thrice on the same subject! While ever progressive it had preserved this and other traditions "In spite of all temptations" it remained the Medical Society of London it had never changed its name, though not for want of wooing for in 1907 it might have joined in the amalgamation of medical societies resulting in the formation of the Royal Society of Medicine This, indeed, would have been to sink its identity in that of its own offspring, for in 1805, as a result of the twenty-three years' reign of Dr James Sims, certain of the Fellows, becoming restive, went off and founded the Medical and Chirurgical Society, which became the Royal Medico-Chirurgical Society in 1832 and the Royal Society of Medicine in 1907 The Medical Society continued to take a broad outlook, with all medicine as its province, and avoided rigid specialism, which was amply provided for in the twenty-four sections of the Royal Society of Medicine With its 620 fellows the Medical Society had had a most successful session, among other achievements it had started an investigation into the survival of cases of mammary cancer Its continued prosperity owed much to the infinite variety of its yearly presidents It was nearly fifty years since an obstetric physician sat in the chair, and the selection of another master of this craft was overdue This year the spirit of the widely gifted founder, Lettsom, seemed to be reincarnate in Dr Herbert Spencer—a well informed man knowing "everything about something and something about everything", a bibliophile, medical and natural historian, artist, wit, and good sportsman—in fact, the ideal President

In responding to the toast the PRESIDENT observed that the age of the society had been surpassed by one Englishman, Thomas Parr, who died of a surfeit at the age of 152, nowadays the cause of death would perhaps be described more charitably as hyperpiesia The toast of the Navy, Army, and Air Force was proposed by Dr HAROLD DES VOEUX, and acknowledged by Surgeon Vice-Admiral JOSEPH CHAMBERS, Medical Director-General of the Navy In proposing the health of the visitors, Sir JOHN BLAND-SUTTON (President of the Royal College of Surgeons) contributed entertaining reminiscences of the society and its benefactors, and delivered a quaint little homily on the text *pecunia non olet* Among other good things, he told of a prelate upon whom he had operated for the removal of a tumour, and who afterwards sent him a devotional book with a proverb in Latin on the fly-leaf which might be freely translated, "It is better to be cut by a friend than to receive the embraces of the ungodly"

The Minister of Health, Mr JOHN WHEATLEY, M P, on rising to reply, was very warmly received He remarked that from the rapidity with which his office had changed hands (five Ministers in four and a half years) it must evidently be counted as one of the dangerous trades Among the daily trials of a Cabinet Minister was the making of speeches at short notice, but in the midst of this sumptuous hospitality Mr Wheatley thought it kinder not to deliver the improving remarks which his advisers in the Ministry might deem suitable to the occasion A thing which had struck him very much was the increasing alliance of medicine with other branches of social science, and as the first Labour Minister of Health he welcomed such opportunities as this of getting into touch with leaders of the medical profession

The DEAN OF ST PAUL'S, who also responded, said that he could never praise the medical profession enough for its skill and generosity—though he had to confess it was no good at all for bronchial catarrh! Dean Inge found himself so much in agreement with doctors on general topics that he knew their opinions must be sound The good fare with which he had just been entertained was one more proof that medical advice and practice were not always quite concordant, but this, of course, was a special occasion, and he must not complain

In proposing the President's health Dr V F VOELCKER claimed forty-four years of unbroken friendship with Dr Herbert Spencer, who in his student days was one of the best forwards in the University College Hospital Rugby team and had always remained a fine sportsman Dr Voelcker mentioned also Dr Spencer's love of books and his gifts of books to the society, it was most appropriate that he should be chosen to deliver the second Lloyd Roberts Lecture

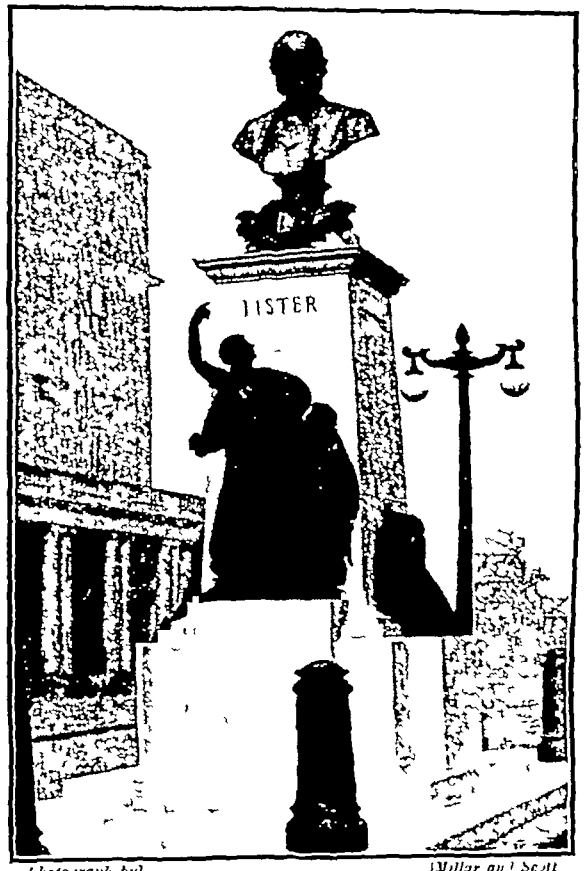
A very successful evening ended with a brief acknowledgement by the PRESIDENT

LISTER MEMORIAL

UNVEILING OF BUST IN PORTLAND PLACE, LONDON

THE memorial to Lord Lister, which has been set up in Portland Place, close to the house in which he lived in Park Crescent, was unveiled on March 13th Viscount Hambleden, deputy chairman of the executive committee of the Lister Memorial Fund, presided over the brief ceremony, and the unveiling was performed by Sir John Bland-Sutton, President of the Royal College of Surgeons of England, in the absence through illness of Sir Charles Sherrington, President of the Royal Society

Viscount HAMBLEDEN recalled the history of the movement which had led to this, the third and final stage of the Lister memorial Very soon after Lord Lister's death a committee was formed at the instance of the Royal Society and of the Royal College of Surgeons, with the object of commemorating the services of Lord Lister to science and in the alleviation of human suffering The committee, after several meetings, suggested that there should be, in the first place, a tablet with medallion and inscription in Westminster Abbey, in the second place, a public monument in London, and in the third place, the establishment of an International Lister Memorial Fund for the advancement of surgery, from which grants in aid of research or awards in recognition of distinguished contributions to surgical science should be made, irrespective of nationality A meeting was held at the London Mansion House, and afterwards an appeal was circulated which met with responses from all quarters of the world, though, of course, most largely from this country Altogether, including interest, a sum of nearly £12,000 became available The tablet had been in its place in Westminster Abbey for some time, a sum of £5,000 had already been handed over to the memorial fund, and was in the care of the Royal College of Surgeons and that day the monument was being unveiled in Portland Place He expressed the great indebtedness of all concerned to Sir John Rose Bradford the honorary secretary, and to Mr F A Towle, assistant secretary of the Royal Society, who had assisted him Out of the large sum contributed less than £400 had been spent on administration, and that spoke volumes for the economy with which the work had been carried out He then called upon Sir John Bland-Sutton to unveil the memorial



[Photograph by] [Millar and Scott

LISTER MEMORIAL PORTLAND PLACE, LONDON

Sir JOHN BLAND-SUTTON said This memorial has been raised to the memory of a great surgeon, Lord Lister, who, by his discoveries in science and his devotion to surgery, united surgery and science raised the art he practised, and launched it on the most wonderful era in its history It is an honour to unveil this monument as a memorial of a genius who did so much to unveil the secrets of nature, and taught surgeons safe methods for relieving men, women, and children from the dread consequences of septic infection Veterinary surgeons apply the same principles when performing operations for the relief of physical suffering on horses, cattle, cats, and dogs Lord Lister had the rare advantage of seeing his principles adopted by surgeons throughout the world His influence will remain as long as surgery is practised as an art, and the principles he discovered will remain as a blessing on every race of mankind He was inflexible in the pursuit of truth, and may be truly described as patience personified

Sir John Bland-Sutton then unveiled the memorial, and the Mayor of Marylebone (Councillor T P BROOKS) accepted it on behalf of the municipality

The monument stands in the middle of the road at the northern end of Portland Place The base and pedestal are of grey Aberdeen granite, and on the summit is a colossal bust in bronze of Lord Lister, with a wreath in front enclosing the first letter of his name Below are life-size figures of a woman, representing Humanity, and a child holding a garland One of the hands of the woman rests on the child's shoulder, and with the other she points upwards to the bust On one side of the pedestal is the word "Surgery," with a device below incorporating the Aesculapian rod and the two-headed serpent, and on the other side the word "Science," and below this the flaming torch On the back of the pedestal are the dates 1827-1912 In front of and behind the monument are two bronze standards, each with two lamps The bronze work on the memorial was carried out by the late Sir Thomas Brock, and was almost entirely completed at the time of his death

Among those present at the ceremony were Mr H J Waring, Vice-Chancellor of the University of London Professor F O Bower, representing the University of Glasgow and the Royal Society of Edinburgh Sir Humphry Rolleston President of the Royal College of Physicians of London, Sir W de C Wheeler, President of the Royal College of Surgeons in Ireland Sir William Hale-White President of the Royal Society of Medicine Dr Herbert Spencer, President of the Medical Society of London Mr W G Spencer Honorary Librarian of the British Medical Association Professor C J Martin Director of the Lister Institute Sir George Makins Sir Anthony Bowlby, Sir John Rose Bradford Sir Anderson Critchett, Sir David Ferrier Sir Rickman Godlee Sir Charles Sir David Ferrier Sir Rickman Godlee Sir Charles Ballance Sir Cuthbert Wallace, Sir G L Cheatle, Sir Arthur Keith, Sir Frederick Mott, and Sir D'Arcy Power The Royal Society was represented by Sir David Prain (treasurer) Mr W B Hardy and Mr J H Jeans (secretaries) and Sir Arthur Schuster (foreign secretary) The Glasgow Lister Memorial Committee was represented by Lord Blythswood Sir John S Samuel, Professor R Kennedy, and Professor Magnus Maclean Mr Henry Jones, a faithful servant of Lord Lister for forty years, was present.

Nova et Vetera.

THE INVENTION OF PHOTOGRAPHY

THE history of the invention of photography resembles the history of many other inventions, in that the root ideas were in the air for some years before any practical results appeared, and that the labours of more than one experimenter reached a climax at about the same time, so that rival claims to priority arose. Ever since Porta invented the camera obscura in 1538, many people must have longed for some means of recording the pictures which it presented to the observer, but no means of so doing were found until three centuries had passed by.

A quarter of a century after Scheele had investigated the action of light on the salts of silver, Thomas Wedgwood, the son of Josiah the renowned potter, obtained images, or to speak more correctly shadows, of superposed objects on paper and leather, sensitized with silver salts. He also attempted to get pictures on similar paper in a camera obscura. His shadow pictures were not permanent because he found no means of removing the superfluous silver nitrate or chloride and so fixing the image. He failed to get any image on the paper in the camera because the lens did not admit light enough to affect the poorly sensitive paper which he used. Although his attempts ended in failure, we have in his and Sir Humphry Davy's paper, presented to the Royal Institution in 1802, the first appreciation of the problem of photography and the first recorded attempt to solve it along the right lines.

In France J.-N. Niepce of Châlon-sur-Saone made many experiments with sensitized paper and silver plates, exposing them in a small camera, but his attempts to fix the silver images also failed.

At last in 1814, having given up the use of silver salts, he obtained images on paper or plates coated with "bitumen of Judea," a substance which when acted on by light becomes insoluble. In the course of these experiments Niepce was in constant correspondence with Daguerre of Paris, who was an artist principally occupied in painting scenes for panoramas which were then becoming popular in France.

The letters in which Niepce recorded from time to time his experiments, his failures, his hopes, and his final success with bitumen may be read in R. Colson's Memoirs of the Creators of Photography,[1] and show with what patient industry the scanty means and rough apparatus of the true investigator were turned to good account. Daguerre obtained for Niepce some improved lenses, and in 1829 the two investigators entered into partnership.

But although Niepce had been the first to produce permanent pictures in the camera, in the hope of applying the process to steel engraving, his methods led to slight practical results. Daguerre's accidental discovery of the action of vaporized mercury in developing the latent image on an iodized silver plate led to the production of the first photographic pictures which were more than mere scientific curiosities. The discovery by Sir John Herschel of the solvent power of sodium hyposulphite on the silver salt unaltered by light—a discovery which he himself applied in 1839 to paper negatives—furnished Daguerre with an efficient means of fixing his plates.

Daguerreotypes are now obsolete, but some beautiful pictures were produced by this means, and Mr. A. Brothers in his work on photography[2] published in 1899, stated that in his opinion "no photograph can exceed in beauty a good daguerreotype."

So far only single pictures had been produced and no means of multiplying copies had been made practical, but while Niepce and Daguerre had been working in France, Fox Talbot in England had been diligently experimenting with silver sensitized paper, and to him more than to any other individual belongs the credit of founding the art of photography as now practised. His paper negatives were superseded by the glass plates and collodion process invented by Scott-Archer, the details of which were published in 1851. The dry gelatin-bromide plate process made the practice of the art easy for the amateur in the early eighties and popularized photography, and at about the same time increased sensibility of the emulsion rendered possible such instantaneous pictures as those of Muybridge and others. The flat celluloid film as a substitute for glass failed to become popular, and it was not until the roll-film camera was perfected that celluloid came into general use.

The services which photography has rendered to science are of incalculable value, and every day sees the range of its usefulness widened. Without photography the *x* rays would have been undiscovered or useless, and the recent advances in the study of the intimate constitution of metals and their alloys would have been impossible.

All the arts and sciences are debtors to Wedgwood, Niepce, and Fox Talbot, and to them it is due that medicine and surgery can now rely upon the evidence of the photographic plate or film, which, if skilfully taken by a person with a proper understanding of the conditions necessary to be observed in order to obtain a true representation, may as much exceed in accuracy the drawings of former times as it is often beneath them in beauty. The qualification just made is necessary. The well known dictum of an eminent experimenter to the effect that Nature always answers the question put to her, not the question the experimenter may have meant to put to her, applies to photography. The belief that any sort of snapshot can be trusted to show the relation of parts is quite common, and equally erroneous. A photograph can only be trusted as an accurate record, whether in medicine or general biology, when the photographer takes full account of the disposition and lighting of his subjects. This has been rather amusingly illustrated by a correspondence which has taken place recently in *Nature*. A photograph of the plantar aspect of the cast of the amputated foot of a gorilla was published in *World's Work* in 1922, and certainly seems to suggest that the foot of the gorilla, or at least of this particular gorilla, is very much more like a human foot, or at any rate the foot of a child, than anybody had hitherto supposed possible. The point chiefly at issue is the position and mobility of the hallux. The writer (Mr. Akeley) said, speaking apparently of gorillas generally, that the "big toe is much more like man's than that of any other animal. A big toe that turns out from the foot, like a thumb does from the hand, can grasp branches and is useful in climbing. A big toe that is parallel with the other toes is useful for walking, but not for climbing." The photograph appeared to support the contention that the gorilla's great toe is, when the muscles are relaxed, parallel with the other toes as in man. Sir Ray Lankester took the matter up, and after stating that the gorilla's great toe is far more like that of the chimpanzee and of many monkeys than it is like that of man, suggested that the misleading nature of the photographs of the cast published by Mr. Akeley was due to flattening by illumination, which obliterates the modelling of the surface. Two photographs of the cast taken under the direction of Dr. Vevers at the Zoological Society's laboratory seem conclusively to prove his point. In the one, taken with full illumination, there is a deceptive flattening or demodelling effect which produces a result very like Mr. Akeley's photographs, the hallux seems to be lying alongside the second toe and to be parallel with it. The other photograph is of the same cast, but properly illuminated to give stereoscopic modelling. The detached position of the hallux is obvious, and its resemblance to a thumb very clearly displayed. In a third photograph of the same cast, also taken under the supervision of Dr. Vevers, but viewed from the outer or fibular side of the foot by stereoscopic illumination, the deep fissure between the hallux and the second digit is again very obvious. The principle with which Sir Ray Lankester was dealing is, of course, very applicable to many photographs of pathological lesions and of deformities in the human subject. Unless properly illuminated and clearly printed a photograph may give quite a wrong impression in various ways. The same remarks apply, *mutatis mutandis*, to the production of *x*-ray pictures, of which some of the possible fallacies were demonstrated in this JOURNAL some years ago.[3]

[1] *Notices extraites des Créateurs de la Photographie*. Par R. Colson, Capitaine du Génie. Paris. 1876.

[2] *Photography: its History, Processes, Apparatus and Materials*. By A. Brothers, F.I.A.S. London. 1899.

[3] The Interpretation of Skiagraphs. BRITISH MEDICAL JOURNAL, 1899, vol. i, p. 1209.

England and Wales.

CANCER INQUIRY AT BIRMINGHAM

THE Public Health Committee of the Birmingham Corporation has appointed a special subcommittee to collect information as to the prevalence of cancer in the city, and as to the facilities for treatment We published a fortnight ago (p 444) a letter from Dr Hall Edwards appealing to local authorities to institute inquiries of this nature and suggesting certain matters to which they might immediately give attention He proposed that the authorities should in the first place ascertain the number of beds available, the opportunities afforded for clinical consultations and pathological examinations, and the facilities for special treatment by operation, by *x* rays and radium, by electrical methods such as diathermy, and by any other means He suggested also that welfare workers should be instructed to obtain information as to the existence of cases not reported, especially, we presume, those in the early stage when treatment is most hopeful So far the task of the local authority would be simple, but Dr Hall-Edwards suggested also that welfare workers should be instructed to inquire into the predisposing causes of cancer, and justified his suggestion by arguing that even though the inquiry should fail to throw much light on that point, rules made for avoiding cancer would apply to many other diseases *Another point he made was the need* for the instruction of the public, and here the meaning of one of his recommendations was obscured by an unfortunate accident in the printing department at the moment of going to press What he suggested was that the public should be warned against the adoption of methods of treatment which could in no way influence the disease, should be warned of the madvisability of adopting quack remedies which in most instances are only productive of harmful effects, and should be advised of the absolute necessity of obtaining the best possible medical advice at the earliest possible moment after the discovery of any sign or symptom which raised a suspicion of the possibility of the onset of cancer

A USEFUL MEMORIAL

We are indebted to Dr J Readdie Salmond for the information that a motor ambulance (Dodge) in memory of the late Dr G S Hart of Measham, near Burton-on-Trent, was dedicated last week during a religious service in the market square of that town in the presence of a large gathering of his former patients and friends Dr R Logan (Ashby-de-la Zouch) gave a memorial address and spoke in feeling terms of his late friend and colleague, who by his sincerity, his absolute devotion to his patients, and his keenness in diagnosis, had won a warm corner in the hearts of all who knew him, he was universally admired, respected, and loved Constantly in attendance upon those severely ill, he deprived himself of necessary hours of rest, and his early death was greatly deplored He had constantly employed his own car for the very purpose which this new ambulance would fill, and when he died last September it was felt that no more fitting memorial could be set up than the ambulance now dedicated Most of the money subscribed to date (£610) had been collected in the district, but former medical friends in Ulster had given freely towards the memorial After paying for the ambulance £120 remained, and annual assistance towards upkeep was promised in this way it would be possible to set aside money for replacement when necessary Brigadier General Spears, M P for the Loughborough Division of Leicestershire, also spoke, after paying a warm tribute to Dr Hart, he said that when the ambulance was seen going about people would recall the man who had served them so nobly he hoped that all present would learn a lesson from Dr Hart—namely, to devote more time to the service of humanity The hymn "Thine arm, O Lord,' brought an impressive service to an end

THE TREVETHIN COMMITTEE ON VENEREAL DISEASE

Several committees of the London County Council have made reports to it on the report of the committee of inquiry on venereal disease, under the chairmanship of Lord Trevethin The Public Health Committee concurred with the suggestion that the law should be altered so as to permit qualified chemists to sell *ad hoc* disinfectants in an approved form The Midwives Acts Committee pointed out that the suggestions contained in the report with regard to the inclusion of instruction in venereal disease in the general training of midwives were already fully met so far as London was concerned The Mental Hospitals Committee referred to the evidence given before Lord Trevethin's Committee by the county medical officer of health, who emphasized the fact that there was comparatively little evidence with regard to the incidence of primary venereal disease amongst the mentally defective, and that the number of defectives notified under the Act who had been found to have the disease was small The Mental Hospitals Committee was of opinion that the measures which the Mental Deficiency Act contemplated (supervision of institutional care or guardianship) should give all necessary protection against risk of venereal infection to those who were dealt with There might be a difficulty with high grade cases of mental defect where the social circumstances were such that the persons could not be said to be subjects to be dealt with by the local authority, and who, therefore, did not come within the purview of the Act except to the extent to which a parent or guardian was able and willing to deal with the cases privately

Scotland.

MEASLES AND WHOOPING COUGH

THE Scottish Board of Health has issued a circular notice to local authorities and joint committees for maternity service and child welfare with reference to the better control and treatment of measles and whooping-cough occurring in children under 5 years of age during epidemic periods The average annual number of deaths from measles in Scotland in the ten years 1913 to 1922 was 1,429, and the great majority of these deaths (13,292) occurred in children under 5 years of age In these ten years the number of children under 5 years dying from measles alone was more than eight times the number of deaths among the whole population from small pox, typhus, and typhoid fever Measles is particularly fatal between the ages of 6 months and 1 year, and more than one-fifth of the total deaths occurred in this age period After 5 years the disease becomes less dangerous and the Board suggests that the problem is perhaps not so much the prevention of the occurrence of measles in the child as the postponement of it until the later years of childhood It has now decided with the consent of the Treasury, to set apart £10,000 for the year 1924-25 for the treatment and control of measles as part of the maternity and child welfare grant, and it invites local authorities to submit proposals for additional administrative measure The Board will give special consideration to those areas in which the mortality from measles is above the general rate for Scotland The additional administrative measures possible may be summarized as (*a*) Notification of cases —the Board considers that whilst general notification of measles is more expensive than valuable yet it favours proposals for a modified system of notification—for example, intimation of school cases by the education authority or the notification of the first case in each house (*b*) The appointment of a special staff of visiting nurses—the Board considers that in the event of a severe epidemic occurring in one of the less populous areas the possibility of obtaining a nurse or nurses on a temporary footing from other local authorities should not be overlooked (*c*) Increased hospital facilities—the Board will not make grants to populous areas that do not arrange for some reservation of hospital beds for measles cases during epidemics and although the limited grant available would be insufficient to assist in the provision of additional hospital beds by means of building yet it believes that hospital accommodation on a fluid basis, and available for various emergencies can be organized (*d*) An increased service of health visitors—the Board is prepared to consider on their merits

proposals for an increase of the health visiting staff These proposals must indicate the precise use it is proposed to make of these health visitors during epidemics and the intervals between them The staff should have special experience in infectious diseases, including measles Since these measures would be similarly effective in the treatment and control of whooping-cough, in which there is an equally heavy fatality under the age of 5, the Board will take no exception, so far as the maternity and child welfare grant is concerned, to the extension of the scope of the special measures to include whooping-cough as well as measles

Bangour Village Asylum

The last signs of the army occupation have now disappeared from Bangour During the war the institution became a temporary military hospital, when mental patients under the care of the authority were being boarded out at asylums throughout the country Reinstatement of the patients began in August, 1922 with the result that for some months past the hospital has been working along normal lines—that is to say, it has been working on the lines laid down when the scheme was conceived nearly a quarter of a century ago The idea was not that of a detention hospital, but of a village community where mental cases could be cared for without stressing the abnormality of the patients or suggesting to their minds those prohibitions which in other institutions were not conducive to the patient's recovery At the date of the opening of the hospital the conditions of treatment practised there were almost revolutionary and to-day the hospital remains one of the best examples of the more enlightened methods of caring for the subjects of mental disease The community, which comprises about 1,100 individuals, is to a large extent self-supporting as far as the necessities of life are concerned The patients assist on the farm, in milking and dairying operations, and in general work Some edibles have to be purchased outside, but most of what is consumed is home-grown The buildings are dotted about over an area of about 200 acres, the rest of the grounds, extending to about 1,000 acres, being farmed At Bangour male nurses have been abolished, while much has been done to provide suitable recreation for the patients There is a large concert hall equipped with a fine stage and entertainments are given periodically The hospital proper possesses a good operating theatre and an x-ray apparatus, which was given to it by the American Red Cross who were represented at Bangour during the war The British Red Cross during those years built a hydrotherapeutic department which the authorities have been able to acquire at a moderate figure

Edinburgh Dental Hospital and School

In the report of the Edinburgh Dental Hospital and School, which was presented at the annual meeting reference was made to the proposed extension of the institution According to the report the cost of this extension will be £18 000 Bailie Couston who represented the Lord Provost at the annual meeting and on whose motion the report was adopted said that the scheme involved the bringing forward of the premises in Chambers Street, and would effect a considerable public improvement at this point There was a good prospect of obtaining a grant of £6 000 from the Dental Board of the United Kingdom, and the directors intended to make an appeal to the public for the balance Dr Guy who presided said that the number of dentists at present on the *Register* was no more than sufficient to cope with the needs of the population He was in entire agreement with Sir George Newman, who in a recent report said that the problem of providing efficient dental service to the young and adolescent was so far as the public health was concerned a most important and most urgent problem It was for the dental profession to cope with oral and dental disease, which was the starting point from which diseases of a much more serious character took their origin The financial report showed that the receipts during last year amounted to £4 593 a decrease of £1 219 which was practically accounted for by the fact that the number of ex-service men who had been under training in the hospital had considerably decreased and that the sum received in respect of their board had been correspondingly less The expenditure totalled £3 869, a decrease of £284

Dundee Royal Infirmary

At the quarterly meeting of the governors of Dundee Royal Infirmary last week, Mr Charles Maitland, who presided, said that the directors had had the question of annually increasing deficits very seriously under consideration If the usefulness of the Infirmary was to be maintained, he said, some method would have to be devised whereby the needs of the institution could be brought even more urgently under the notice of the public not only of Dundee but also in those places in the surrounding counties from which an increasing number of cases were received The ordinary income for 1923 amounted to £26,091, as against £33,997 for 1921-22, and the ordinary expenditure reached £36,291, as compared with £37,041 for the previous year The year's deficit added to former deficits, left a debit balance of £28,282 It was agreed to empower the directors to carry out reconstruction schemes in one of the wards and in the maternity block at an estimated cost of £2,200

Glasgow Sick Children's Hospital

At the forty-first annual general meeting of the governors of the Royal Hospital for Sick Children, Glasgow, Lord Provost Montgomery, who presided, paid a tribute to the work of the institution, which he described as the largest and best equipped of its kind in the kingdom He drew attention to the necessity for enlarging and extending the building so that it would be equal to all requirements On the motion of the Rev Professor Milligan, a resolution was passed recommending to the generosity of the public the directors' appeal for £60,000 to complete the extensions and additions to the hospital which were urgently required and also for a large increase in the annual subscription to enable the resources of the new hospital to be fully developed and made available for all children in the large area who were sick and poor

Ireland.

Royal College of Surgeons Charter Day Dinner

The Charter Day dinner of the Royal College of Surgeons Ireland, was held in the College Hall, the President Sir W de Courcy Wheeler in the chair The President in the course of his speech, in which he proposed the toast of "Prosperity to Ireland," said that he had a letter a few days ago asking if Dublin could make provision for five hundred American surgeons with their wives and children who were coming over to study the methods of surgery in Dublin and although the Postmaster General had forbidden surgical contests in the coming game (laughter), he thought it would be good for Ireland to have Irish doctors as ambassadors in every quarter of the world The prosperity of the country depended upon many things but, above all it depended upon the advance of science and the scientific institutions of this country would need to be wakeful, for in their insular position, they were apt to forget the advance of science in Continental schools The Governor-General, Mr T M Healy, K C, replying said that as the President had been good enough to say some kind words about him, he would like to say one or two kind words about a British statesman who had just left office—the Duke of Devonshire There were many dispatches connected with the winding up of the old régime in Ireland, and he wished to say of the Duke that there was not one of his dispatches which was not framed in the kindliest and most considerate language towards Ireland Proceeding His Excellency said that recently he had noticed some attacks upon Irish doctors, not made by outsiders but by some ultrapatriotic people He should like, in addressing an assembly consisting largely of men connected with the healing profession, to say a word for the surgeons, nurses, and attendants of the National Army, because they had been slandered in a shocking way It was deplorable that certain people could not conduct their campaign

without attacking a class such as surgeons and doctors If there was no other way to advance their cause it would surely lag far behind Sir Conway Dwyer, proposing the toast of "The Learned Professions," said they had the good fortune to have Lord Shaw of Dunfermline among their guests that night, and they heartily welcomed him Lord Shaw had treated them with sympathy and understanding, and had never faltered or wavered in his friendly sentiments towards them Passing from Law to Divinity, he said that there would be something amiss with the Charter Dinner of the College if they had not with them the Provost of Trinity College Dr Bernard was a popular and very familiar figure, for he had spent most of his life amongst them, and was always anxious to help towards the welfare of the people The University of Dublin—of which they were all so proud—was singularly fortunate in having a man of his character at its head in these momentous times Lord Shaw, in reply, paid a tribute to the Governor-General's patriotic work for Ireland while a member of the British House of Commons, now the great chance had come, and dreams had been realized He had read the constitution of the Free State There was a danger which all young countries had to face, of thinking that they could be self sufficient and self-contained, but in the framing of the Free State constitution Irishmen had avoided the danger That constitution, he hoped, would live for all time He congratulated the Irish people on what they had received, and trusted that they would concentrate their energies, not on their self interest, but on the needs of humanity

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Lunacy Laws.

MR SCURR asked, on March 12th, whether in view of the verdict of the jury in the case of Harnett v Bond and Adam, the Minister of Health proposed to suspend Dr Bond from acting as Lunacy Commissioner pending the decision of the Court of Appeal

Mr Wheatley replied "Without entering into a discussion of a case which is still *sub judice*, I would draw attention to the fact that Mr Justice Lush in the course of the discussion which took place in court after the jury had returned their verdict, stated that he agreed that there was no evidence of any dishonesty or *mala fides* on the part of Dr Bond In view of this fact, and of Dr Bond's long and distinguished record of public service, and his eminent position in the scientific world, I see no reason to take such action as is suggested in the question"

Replying to Mr Lansbury, Mr Wheatley said that after the appeal had been disposed of, he would consider whether it was practicable to make the transcript of notes of evidence available for the information of members The case was being taken to the Court of Appeal in the public interest

Sir Ellis Hume-Williams asked, on March 13th whether in view of the fact that the system under which alleged lunatics are apprehended and interned in asylums was not in question in the case, and would not be affected by any judgement which the Court of Appeal might pronounce upon the facts of that particular case, the Home Secretary would proceed at once with the appointment of a committee to examine the system without waiting until the appeal could be heard Mr Greenwood replied that the suggestion was under consideration, and the Home Secretary hoped to be able to make an announcement very shortly The Government had promised an inquiry but had not said in what particular form

Royal Army Medical Corps

Towards the close of the general debate upon Army Estimates, on March 13th Dr Fremantle called attention to the position of the R A M C On the last occasion when he raised this subject to point out the lack of candidates the then Under Secretary for War said that the examination was unavoidably held at the very short notice of one month and that later it would be held in more favourable conditions In the instance referred to there were only four candidates for fifteen vacancies. He believed that the result of the change since made whereby two months notice was given had been that for forty vacancies there were eight candidates The force was being starved of officers One effect had been to block promotion He had gathered that the same difficulty obtained with regard to the naval and the colonial medical services What was wanted was a competent inquiry into the recruitment of medical officers for the public services He asked also what was being done to secure co-ordination of the medical services medical stores medical personnel, and medical institutions. Dr Fremantle was unable to complete his speech because Mr Walsh needed the vote by 11 o clock, and it was therefore put and agreed to

National Health Insurance.—In a written answer to Mr. Ben Turner the Minister has given the following information The total of the contributions by employers and employees paid into the National Health Insurance Fund in 1922 was £22 384 000 of which approximately £11,742,000 was paid by employers, and £10 642 000 by employees The State contribution was £7 420 000 Asked as to the payments out under certain headings Mr Wheatley gave them as follows Sickness benefit, £8 273 000; disablement benefit £3,287,000 maternity benefit £1 606 000, payments to insurance practitioners, £6 317 000 The accumulated funds at the end of the year amounted to about £90,000,000.

Health Insurance and Workmen's Compensation.—Mr Comyns Carr inquired, on March 17th whether the Prime Minister would extend the terms of reference to the proposed Royal Commission on National Health Insurance so as to include the relations between that service and Workmen's Compensation and the possibility of amalgamating the two Mr Ramsay MacDonald replied that the question of amalgamating the sickness insurance scheme with the existing statutory provision for compensation for workmen in the case of accidents and industrial diseases was fully considered in 1920 by the Holman Gregory Committee which came unanimously to the conclusion that such a course was not practicable During the present session however, opportunity might be taken, in ordinary business, to have the matter discussed

Insurance Capitation Fee.—Sir Kingsley Wood asked, on March 12th whether the Minister of Health was then in a position to bring forward his proposals relating to the increased payment proposed to medical men on the panel lists Mr Wheatley replied that the matter was still under consideration Sir Kingsley Wood took it that the Minister when he brought forward his suggestions would have regard to the proposals made by himself and his colleagues Mr Wheatley said that in such matters he never forgot any pledge he had given

Mental After-care Association.—The Ministry of Pensions has for some time been in communication with the Mental After-care Association with a view to ascertaining how far the latter's activities in connexion with the after-care of civilians discharged from asylums would embrace pensioners Mr Roberts stated that co-operation would be welcomed, but that in so far as the pensioner when discharged from an asylum needs treatment or institutional care the necessary provision is made by the Pensioners Department

Spahlinger's Treatment.—Mr Wheatley informed Sir W de Frece on March 12th, that he was anxious to arrange for a scientific investigation of the Spahlinger method of treatment for tuberculosis—to take place in this country—and had personally given M Spahlinger assurances to that effect

Opium Traffic and the Dangerous Drugs Act.—In answer to questions by Dr Fremantle Mr Henderson said that (1) the full effect of the Dangerous Drugs Act 1923 which came into operation at the end of last May could not yet be estimated The additional powers given by the Act against the smuggling of drugs into this country, and illicit traffic had already been found of great value the heavier penalties having it was believed a deterrent effect (2) the general supervision of the international opium traffic was entrusted to the League of Nations so far as its members were concerned subject to the provisions of the international conventions in force and the League had an advisory committee As a result of the preparatory work done by the committee it was decided at the Assembly last September to call two international conferences this year to consider the Far Eastern situation, and the question of restriction of production separately

Schick Test for Diphtheria.—The Minister of Health stated in reply to inquiries on March 5th that the question of offering the Schick treatment to parents was for the decision of local authorities or the managing bodies of institutions Local authorities had been advised to obtain the consent of parents before the test was applied to children The Ministry of Health had offered expert advice and assistance in the application of the method

Notes in Brief

Mr Wheatley informed Dr Chapple on March 12th that he would shortly consult the law officers of the Crown upon the question of the rejection by the Nursing Council of applicants for admission to the nursing register under the rule passed on July 7th 1923

Mr Walsh states he is not aware of any general desire for the publication of the report of the Committee appointed to make recommendations with regard to the employment of pharmacists in the army, and the provision distribution and dispensing of medical and surgical supplies in peace and war If however it were the general wish of the House he would take the question into further consideration

Mr Wheatley states that he has received representations with regard to the inconvenience caused to parents by the removal of the form of declaration of conscientious objection to vaccination from the form given at registration of birth—a change made in July 1923—and he was considering whether it was necessary to take any action

Already 222 000 final awards of pensions have been made but when it is found by medical examination that a man's pensionable condition is likely to change materially in the near future it is not thought desirable to make a final award The administration of the final award regulations is under review

Mr Henderson has explained that the governor of Parkhurst Convict Prison is the chief officer to whom other officers are subordinate but the medical officer is entirely responsible through the governor to the prison commissioners for the medical treatment of convicts.

Correspondence.

CLINICAL RESEARCH IN GENERAL PRACTICE

SIR,—The announcement of the decision of the Council of the British Medical Association to grant a prize for research in general practice has suggested to us that the present is an opportune moment for the serious consideration of the possibilities of scientific work in general practice

The present lack of all organization in practice makes it almost impossible for the average general practitioner to carry out scientific work of any real value Therefore, if the wealth of material which is available in general practice is not to continue to be lost, some proposal, more revolutionary than the offer of a monetary prize, must be made to facilitate research, £50 can be more easily earned in general practice by unscientific work than by the labour recommended by the Council On the other hand, the practitioner with scientific aspirations would prefer such a reorganization of his work as would give his results scientific value, rather than the reward of such a prize

Until there is systematic grouping of special types of chronic cases, no general practitioner is likely to have sufficient material for adequate observations Acute cases can always be treated by the general practitioner of average ability and training, whereas the chronic cases require observation and treatment by a practitioner who is prepared to devote attention to some special type

We would suggest that in each centre the general practitioners, as far as possible, should devote attention each to some special branch, such as dermatology, cardiology, tuberculosis, orthopaedics, gynaecology, pediatrics, and midwifery Furthermore, if in groups of four or five they took Sunday duty in rotation, there would be for each a reasonable amount of assured leisure which would be available for scientific work

As practitioners who were trained in specialties, and have since taken up general practice, we claim to speak with some knowledge of both aspects of the problem

The above scheme would not interfere with the position of consultants, because the continuous observation of cases, which is available to the general practitioner and which is so valuable for science, is on financial grounds impossible to the highly paid consultant —We are, etc ,

March 17th TWO G P s

PERNICIOUS ANAEMIA AND ITS SORE TONGUE

SIR —I am interested to note that the sore tongue of this disease has for the first time in English medicine received any special notice at the hands of any other writer than myself, since I first described it thirty-five years ago and am glad to learn for the first time from Dr Hurst's interesting address (BRITISH MEDICAL JOURNAL, January 19th p 93), what I did not know before, that it is now widely recognized as a very common symptom of the disease I desire to point out that it is not merely a symptom but a specific infective lesion of the disease, and to correct an important misstatement he makes as to my views regarding its meaning and nature He writes (p 98)

> Hunter believes that the characteristic glossitis ['Hunter glossitis'] is secondary to the oral sepsis

This is not my view of its character, it is the exact contrary of what I have written regarding it (*Severest Anaemias* p 123)

> The glossitis is *not producible* by ordinary oral sepsis however severe that may be
>
> But once it is contracted it is greatly aggravated by such sepsis the open wounds on the tongue which it creates placing the lymphatics of the tongue in direct communication with this pus

The full and exact relationship of oral sepsis to the disease as a whole is that recently described by me in this JOURNAL (March, 1922) As I have time and again declared and emphasized in every one of my writings since I first discovered and described oral sepsis,"

> As the cause (*causa causans*) of the disease pernicious anaemia the pus must be regarded

That was the first statement I ever made about oral sepsis in relation to this disease (1900), dismissing once and for all—as I thought—the preposterous notion that such a common condition could be considered as the cause (*causa causans*) of so rare and peculiar a disease What ever other part as a predisposing or complicating factor it might be playing—as it does play,

> "Sepsis alone, however severe it may be, cannot produce this disease

My reason for this emphatic declaration, repeated in every one of my writings, is the all-important one revealed by my work, that sepsis alone cannot produce the intense haemolytic pigment changes found in the disease (*Severest Anaemias*, p 110)

In spite of these statements of mine, repeated for twenty five years, no view has been more commonly or wrongly attributed to me—and most recently in this JOURNAL (March 1st, 1924)—than that I regard oral sepsis as the cause of "pernicious anaemia" (Addison anaemia)

What the discovery of oral sepsis has enabled me to do is to break up the big conglomerate group of cases given the common name of "pernicious anaemia" into two great forms

The first group (A) comprises the infective disease, Addison anaemia, of which a specific haemolytic infection is the *causa causans*, the second group (B), which I call "septic anaemia," is that in which oral sepsis, and other forms of chronic sepsis, is the *causa causans*

The importance of "Hunter glossitis" is that it represents one of the infective lesions—others being in the stomach and intestine—caused by the specific haemolytic (Hunter) infection underlying the disease, Addison anaemia (pernicious anaemia) Therefore, to attribute it to oral sepsis would be to miss the whole significance as a specific infective lesion which, in my judgement, attaches to it

The extraordinary complexity given to the disease arises from the circumstances that oral sepsis is so prevalent in cases of Addison anaemia, and is actually in cases of that disease producing a concurrent and often most intense septic anaemia as a complication of the original haemolytic disease Hence the supreme importance I attach to its removal in every case of the disease, an importance which I am glad to see Dr Hurst fully recognizes and emphasizes

May I also take note of the letters of Dr Priston (February 2nd) and Dr Ryle (February 16th) regarding other diseases (for example, sprue, pellagra) in which conditions of glossitis may occur, even more severe (for example sprue) than in pernicious anaemia? I have had all these conditions fully in my mind before attaching the importance I have been led to attach to the great diagnostic value of the sore tongue of pernicious anaemia, recently fully described by me in this JOURNAL (March, 1922)

> "My illness began with *sore tongue*, quickly followed by yellowish complexion (*haemolysis*), and great weakness (*anaemia*)

It is not to any particular appearances the tongue may present—since these may vary from those of perfect health up to the appearance of raw beef—that I attach importance It is to the history of recurrent sore tongue of any degree in the disease pernicious anaemia The all-important distinction between the forms of glossitis presented in other diseases and conditions, and the sore tongue of pernicious anaemia, is that these other diseases and conditions are obviously and notoriously *not pernicious anaemia* As I have been careful to define,

> 'The sore tongue to which I attach importance is that found in association with the characteristic clinical features and course of the disease known as pernicious anaemia

—I am, etc ,

London W March 17th WILLIAM HUNTER

MINERS' NYSTAGMUS AND THE COMPENSATION ACT

SIR,—I desire to make the following suggestions for the improvement of the Compensation Act relating to this disease

Last year (1923) in the BRITISH MEDICAL JOURNAL (May 5th) I gave statistical evidence based on 43,684 underground workers in this district which conclusively demonstrated that in the two northern circuits deficiency of light was not "the essential factor in the production of nystagmus" Electric lamps were advocated in the first

Report of the Nystagmus Committee, and I at last found only two pits in which electric lamps had been used solely

(1) *The Plenmeller Pit*—In 1922 nearly 4 3 per cent acquired the disease amongst the hewers, and 1 3 per cent amongst the non hewers—that is the percentage of hewers affected was 4 7 times greater and that of the non hewers was 5 5 times greater where electric lamps only were used

(2) *The South Moor Colliery*—Here twenty five years ago electric lamps were used solely and the percentage of their nystagmus cases was notoriously high but on abolishing electric lamps and installing oil safety lamps they had no cases of nystagmus amongst their non hewers and hardly any amongst their hewers Further comment is unnecessary

What are the outstanding facts about the disease? Surely that any pitman who has once had nystagmus, and after a rest followed eventually by surface work shows eventually no symptoms of it, will certainly have a recurrence if he returns to hewing I have had four patients with nystagmus, who lost their symptoms, obtained work at another pit as hewers, again acquired nystagmus, again received compensation, and so on for three times

It is my firm belief that coal hewing is not the cause of nystagmus in the same way as phosphorus is the cause of phosphorus poisoning I believe that a certain percentage —say 4 or 5—of all children when born have a predisposition to the disease that if they have not this predisposition they will never acquire it, but that if they have this idiosyncrasy they have it for life Unfortunately no means have as yet been discovered of recognizing the predisposed before the onset of the disease It may be observed that all ophthalmologists know that many cases of defect of ocular muscle balance produce no symptoms whatever, and yet others with a much smaller defect suffer from excruciating headaches and often giddiness This difference can only depend upon what may be called the instability of the fixation centre

In my opinion, then, the Workmen's Compensation Act is fundamentally unjust as far as nystagmus is concerned Practically it means that the patient receives whole or part compensation for the rest of his life, for there are very few workmen who are wise enough to seek other employment It is bad for the workman pecuniarily, for whatever his ability in other ways he can never make much money while doing light jobs at bank, and it is demoralizing to the praiseworthy principle that underlies the British workman's love of independence and hatred of charity

The fact that a workman has acquired nystagmus only shows that he is unfit for the job of coal hewing, just as I am unfitted for the job of earning my living as a prize-fighter or as a musical composer, but I have no claim for compensation on that account The pitman has, however, a claim, as coal hewing is a strongly *exciting cause* of the disease, and he should certainly be given compensation, a liberal compensation, for a limited period, provided that he accepts certain conditions

I think that all cases, if they reported their condition as soon as they noticed the first symptoms of it, would lose them all in three months if they then ceased work

I suggest, therefore, that a nystagmus patient who reports himself within six weeks of his first noting the symptoms should, after careful examination and corroboration by an *independent* referee who is really familiar with the disease, immediately be given a liberal compensation payable fortnightly for a period not exceeding one year, in order to give him time to recover and get and learn another trade He will be in no way incapacitated from taking up any other job, except perhaps that of a steeplejack special consideration should be given to those who acquire the disease late in life, as they will find it harder to find new employment

But before this compensation is given the workman must sign a declaration that he will never seek employment at a colliery again, this declaration being kept and filed by the colliery manager This is not introducing a new principle, for under Section 8 (1) (5) one reads If it is proved that the workman has at the time of entering the employment, wilfully and falsely represented himself in writing as not having previously suffered from the disease, compensation shall not be payable"

It would facilitate matters very much if every workman were examined on first obtaining employment, and his sight in each eye and any special defects were noted on a "Health Card" Any injury or recurrent disease should be noted on this health card when it occurred The workman who lost the sight of his previously better eye should certainly receive a much higher compensation than if previously it was of little use, and further it should be noted on this health card whether he had ever had nystagmus

The present Compensation Act has done nothing to check the disease At every colliery the number of cases increases year by year The pit villages are hotbeds of the disease, the children of those who are disposed to it adopt their fathers' profession, acquire the disease, and beget other children who also acquire it, whereas they can follow any other trade with impunity One may say, Why should they not be allowed to do light work about a colliery? For this reason—when the surface workman incurs increased expenditure, owing perhaps to his wife's or his child's illness, he will certainly endeavour to get better pay by undertaking hewing again, which will inevitably be followed by an exacerbation of the nystagmus

I am sure that this procedure would in three years almost clear every colliery of nystagmus, and that it would be far the best for the workman's health as well as for his pocket It would be best for the coal owner, after the first year his insurance expenses would show a marked decrease It would be best for us, the coal buyers, for it is we, not the insurance companies, who finally pay for the compensation in the enormously increased price of coal Many of our industries have been paralysed by it, and our export trade has suffered enormously, so it is best also for the country—I am, etc,

A S PERCIVAL,
Ophthalmic Referee to Circuits (1) and (2)

Newcastle-on-Tyne March 15th

THE SURGICAL ANATOMY OF FEMORAL HERNIA

SIR,—In your issue of March 1st (p 367) Mr Souttar, in an interesting article on the surgical anatomy of femoral hernia, delivers himself of statements and suggestions which invite criticism Mr Souttar states that the pad of fat surrounding the peritoneal hernial diverticulum arises from the mass of extraperitoneal fat which normally occupies the crural canal This irreducible spherical mass of fat, it is further stated, is very generally present Now the alleged origin of this admittedly frequent fat is open to question Its irreducibility is surely no valid argument in favour of its separate origin for no hernial sac is reducible except in peculiar and unusual circumstances Again, its frequent presence implies its occasional absence Why should it ever be absent if derived from such a constant source as the fatty content of the crural canal?

Although no absolute data are given, this fatty accompaniment of the sac must be of quite appreciable size, for the swelling caused by it "still remains when the hernia has been completely reduced" The femoral canal is not more than half an inch long How can a pad of fat large enough to form a visible and diagnostic swelling be derived from such a source, unless one postulates an increasing deposit which distends the canal and opens the way for a peritoneal invagination? No evidence to this effect is adduced, and none, I suggest, is available

Why is it necessary to postulate for this frequently present fatty envelope a source other than the extracrural extraperitoneal fat which is relatively abundant in this region in even moderately well covered subjects? My experience is that the femoral sac approximates in its character to the direct inguinal In the latter the abundantly fatty envelope with small peritoneal invagination is quite common and would, if transferred, form a typical femoral sac, as described by Mr Souttar I might ask, finally, whether the crural canal is normally occupied by a mass of extraperitoneal fat, the word "extraperitoneal" being used in the sense usually attaching to it

Whatever may or may not be the source of this fatty envelope, Mr Souttar maintains that it has given rise to the *totally* erroneous impression that the contents of a femoral sac are often irreducible At any rate one important manifestation of the reducibility of the contents of a hernial sac is the diminution in the size of the swelling in response to suitable manipulation It is Mr Souttar suggests the contents are reducible diminution

in the size of the swelling must occur and the observer is merely convicted of clinical incompetence But if in response to suitable manipulations no decrease in the size of the swelling takes place, irreducibility is suggested without resort to the belittlement of clinical acumen

There is a common condition in femoral hernia which fulfils these requirements, and that is a hydrocele of the hernial sac In 1919 I drew attention to the frequency and possible causation of this condition, and I here suggest it as a likely and more attractive solution of the erroneous views held as to the reducibility of the contents of a femoral sac

In discussing the mechanism of strangulation, Mr Souttar maintains that were this catastrophe brought about by the structures forming the boundaries of the femoral ring the femoral vein "must necessarily be compressed," "with oedema of the leg as an inevitable result" This compression may or may not necessarily occur, but is oedema inevitable when strangulation is brought about by structures other than the thickened neck of the sac? The importance of this contention is obvious, for the compression portion of Mr Souttar's teleological suggestion is entirely based upon it Its importance, however, seems to have been overlooked, for no mention of the point is made in the case history cited to show "what may happen when no such constricting band is present"

From the technical standpoint Mr Souttar stresses the importance of free access to the neck of the sac, and free access to the peritoneal cavity in strangulation cases A wide access to the abdominal cavity, he says, will be obtained if the sac be drawn down and the neck fully divided The area of access must obviously be determined by the size of the femoral ring The access is admittedly not wide enough to permit resection, for in this contingency Poupart's ligament must be divided to obtain more space The superiority of the inguinal route could not be indicated better than by the confessed limitations which obtain when the operation is undertaken from below Every essential requirement is fulfilled by exposure above Why continue to employ a route which provides inferior facilities?

It is admitted by Mr Souttar that the complete exclusion of the femoral canal brought about by the suture of the conjoined tendon to Cooper's ligament furnishes the most substantial method yet devised for the closure of a large femoral orifice This ideal procedure is apparently reserved for those cases in which force of circumstances compels the division of Poupart's ligament In the majority of cases the opening is closed quite satisfactorily by suturing Poupart's ligament to Cooper's That the opening can be closed in this way cannot be denied, but whether two such dense fibrous structures can be induced by this means to maintain a union sufficiently firm to prevent recurrence is at least open to well informed doubt These doubts are epitomized in the use of Roux's staple

With Mr Souttar's conclusions as to the parts played respectively by the sac and femoral ring in the mechanism of strangulation I am in entire and hearty agreement Perhaps it would be more accurate to say that on these points Mr Souttar is in agreement with me, for in the BRITISH MEDICAL JOURNAL of June 21st, 1919, I set out precisely similar conclusions backed by similar theoretical and clinical data and couched in similar language Thus in discussing the obviously weak nature of the outer boundary of the ring the following sentence occurs "The resistance to distension of any ring can only be that of its weakest segment, and it follows therefore that the role of the femoral ring as a constricting agent has been exaggerated" Clinical evidence derived from the operating table was adduced in support of my contention that the essential agent in strangulation is the thickened neck of the sac, and that Gimbernat's ligament is merely a reinforcing structure'—I am, etc,

London W.1 March 10th PERCIVAL P COLE

ORCHITIC AND OVARIAN EXTRACTS

SIR,—It is, I think, common knowledge that orchitic and ovarian extracts administered in the ordinary compressed tablet by the mouth have practically no effect Hence a good deal of prominence has been given to various other methods of increasing these internal secretions by ligation of the vas deferens and grafting operations

It may be of interest that after several experiments with suppositories it was found that by the simple method of coating the compressed tablets with a substance impervious to gastric juice - the physiological qualities naturally associated with the organs concerned were exhibited

I have for some time found the administration of these extracts, prepared as indicated above, extremely useful in cases of orchitic and ovarian deficiency, and it would be of some interest to know whether other medical men have used this method of administration, and found it effective —I am, etc,

Bourne End, Bucks, March 13th ANTHONY BRADFORD

OLD ETHICKS AND NEW MARVELS

SIR,—The daily papers, and following in their wake, I fear, the scientific journals, have dosed us so plentifully of late with overflowing accounts of various forms of quack methods or pseudo-scientific systems, that often I have been compelled to refer to that comforting doctrine of *Sutor Resutus* "With stupidity and sound digestion a man may front much" This is especially true in psychology, where nonsense seems permissible even to the exclusion of valid work, but in the domains of physics and physiology, where we have become more accustomed apply reasonable tests, the habit is at least less apparent

Judge, then, of my astonishment when in the interesting paper on "Medicine and Old Ethicks" in your issue of March 15th, I find that Sir Thomas Horder commits himself to these words "When those waves are tuned by variation of the inductance and a variable condenser they produce small areas, dull to percussion, on the abdomen of the subject"

Even Abrams in his whimsical brain never conjured such a vision of the etiology of disease, nor, since the hand that creates may also disperse these physical signs such a prospect of aerial therapeutics —I am, etc,

London N.W. March 17th ARTHUR LYNCH

MEMORIAL TO THE LATE PROFESSOR A. C. O'SULLIVAN

SIR,—Two meetings of the late Dr O'Sullivan's friends have been held in Trinity College, at which it was resolved to found a memorial to him in connexion with the medical school in Trinity College

Any of your readers who may wish to take part in the project are asked to write to either of the undersigned, who will be glad to supply further information —We are, etc

E. J. GWYNN,
JOSEPH W. BIGGER,
Honorary Secretaries

Trinity College Dublin,
March 15th

ROYAL MEDICAL BENEVOLENT FUND

AT the last meeting of the Committee twenty-nine cases were considered and £441 10s voted to twenty-eight applicants The following is a summary of the three new cases relieved

L.M.S.S.A. aged 57, whose ill health since 1921 has required the constant attention of his wife, who on this account had to give up a small business Their total income amounts to about 25s a week They live in a small bungalow which they purchased by money obtained on and a mortgage, the interest of which is £29 per annum and the rate £8 per annum Voted £26 in twelve monthly instalments and a special grant of £5

Daughter aged 65 of a surgeon who died in 1870 Applicant's capital was expended in supporting a sister who was ill with consumption for four years before she died She is now left with an annual income £38 gifts from friends amount to about £20 and she lives with brother who finds her a shelter Voted £10 in two instalments

Widow aged 73, of F.R.C.P.Edin. who died without making any provision Applicant lost her income through a fraudulent trustee and owing to ill health is unable to earn both her children are in financial difficulties and are unable to help Voted £18 in twelve monthly instalments

Subscriptions may be sent to the Honorary Treasurer Sir Charters Symonds at 11, Chandos Street, Cavendish Square, London, W.1

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys The Guild appeals for second hand clothes and household articles The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1

Obituary

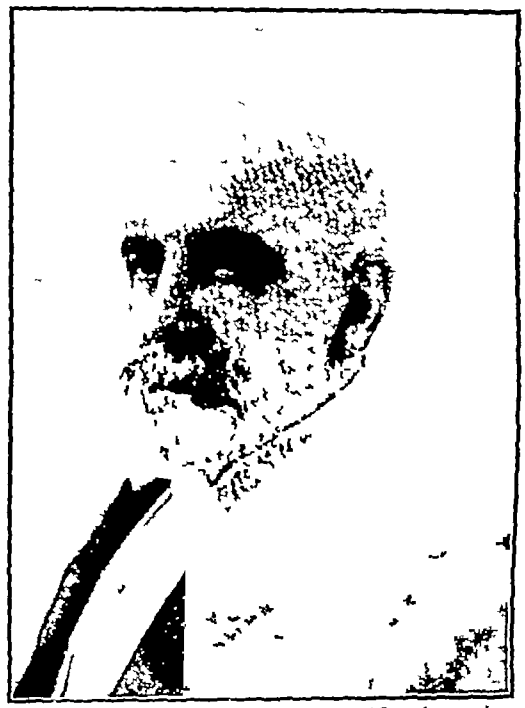
GEORGE PALMERSTON NEWBOLT, C.B.E., M.B. DURH., F.R.C.S.

Senior Surgeon Royal Southern Hospital; Lecturer in Clinical Surgery, University of Liverpool; President of the Liverpool Medical Institution.

THE *sudden death of Mr G. P. Newbolt* on March 9th aroused poignant regret among his numerous friends and patients. This great loss to surgery, with a touching tribute from his former colleague Sir Robert Jones, was announced in the BRITISH MEDICAL JOURNAL of March 15th. It now remains to furnish details of a life well spent in the exercise of his profession. He was born in 1863 at Weymouth, and belonged to a family bearing a name of frequent occurrence in military and naval annals, and had originally intended to enter the army, but an attack of rheumatic fever which left behind an impaired heart compelled him to seek another career. He decided to study medicine, and thus follow in the footsteps of his grandfather. He studied at St. Bartholomew's Hospital, and in 1884 took the degree of M.B. Durham, in the following year he became M.R.C.S., and in 1886, at the age of 23, passed the final examination for F.R.C.S. Eng. Subsequently he became house-surgeon at St. Bartholomew's. He was appointed senior house-surgeon to the Stanley Hospital, Liverpool, in 1887, and his skill and assiduity there began to attract the attention of his seniors. When the Manchester Ship Canal was begun Mr. Newbolt's ability was recognized by his appointment, in conjunction with Sir Robert Jones, to be surgeon to the Ellesmere Port Hospital. This post furnished him with ample opportunity for developing the practical side of his art, and laid the foundation of the skill which he displayed throughout his career. It followed as a matter of course that, on a vacancy occurring on the surgical staff of the Stanley Hospital, Mr. Newbolt was the man chosen to fill it. This post he relinquished in 1897, when he was appointed surgeon to the Royal Southern Hospital, and became the colleague of the late Dr. William Alexander and Sir Robert Jones. It was here that Mr. Newbolt achieved his reputation as a surgeon whose opinion was recognized to be of the highest value. To all matters pertaining to the welfare of a large hospital he gave his time unstintingly, and his untiring efforts in connexion with the nursing staff will never be forgotten. Mr. Newbolt, in the early part of his career, took great interest in the Liverpool Central Division of the British Medical Association, and held the post of chairman. When the Liverpool Divisions were amalgamated he was again elected as chairman at a subsequent period. In 1892 he was elected a member of the Liverpool Medical Institution, and after holding various offices was unanimously elected president in January last. This appointment caused great satisfaction, and Mr. Newbolt appreciated in his quiet way the honour that had been conferred upon him.

He paid a good deal of attention to abdominal surgery and published many papers in the *Liverpool Medico-Chirurgical Journal*. Mention may here be made of two communications—twenty-four cases of resection of the intestine, and ligature of the first part of the left subclavian—both published in our columns, the one in 1899 and the other in 1912. In 1896 he won the Heath scholarship open to graduates of the University of Durham by his paper on diseases of the jaws. Mr. Newbolt's communications were essentially *practical*—he described what he found and what he did. He did not set out so much to be the judge of other methods as to emphasize his practical experience, and he always preserved an open mind towards improvement in his art. The result was that his hearers felt that his opinion was based on personal experience, setting forth not only the procedure, but equally well the difficulties, that may arise during an operation.

When war broke out Mr. Newbolt became operating surgeon at the Myrtle Street Auxiliary Hospital, and at the Officers' Hospital, Croxteth Hall. He did excellent work at these temporary hospitals and his services were recognized by the award of the C.B.E. His surgical advice was widely held in estimation, and many of his professional brethren are indebted to his skill. Although never enjoying robust health, Mr. Newbolt spared himself little and there is no doubt his high sense of duty towards his patients kept him busy when other men would have rested.



Photograph by] [Jas. Bacon and Sons, Liverpool.

GEORGE PALMERSTON NEWBOLT.

As a man he was naturally reserved, quiet in disposition, and spoke at the various societies of which he was a member only when he had something to say which was strictly germane to the subject. What he said was uttered frankly and to the point, and whether his views in committee were accepted or not they always conveyed the impression of sincerity. Mr. Newbolt was a kind man; this was the adjective used by professional and lay friends and by his patients. His actions and demeanour showed this quality far more than the spoken word. He avoided publicity, but used his gifts to the best possible advantage, and in doing so was satisfied. *Popularity Mr. Newbolt* never courted, and this fact so characteristic of his whole life drew to him the high esteem of those who were his friends. Humour he possessed and at times his speech was touched with a flavour of cynicism but it was evanescent and did no harm. He was a consistent Churchman and the vicar's warden of the parish in which he lived for many years.

The funeral took place on March 13th. A large number of medical men friends, and patients were assembled thus proclaiming the high esteem in which Mr. Newbolt was held. Many members of the Committee of the Royal Southern Hospital and of the nursing staff as well as of the other institutions and societies of which he was an active member were also present. Mr. Newbolt was twice married; by his first wife he leaves two daughters and one son, and by his second one daughter. To the widow and children we desire to express our sincere sympathy.

DR. CHARLES MACALISTER sends us the following tribute:

My old friend, George Palmerston Newbolt—my colleague, first at the Stanley Hospital for six years afterwards at the Royal Southern Hospital for twenty-six years—has passed away with startling suddenness while in the very midst of the fullness of his work. To an innumerable company the news has brought an overwhelming sense of loss. This was abundantly attested by the presence of the hundreds who assembled at his funeral to do honour to his memory. Every class of the community was represented but especially that in the service of which so much of his life had been spent. From far and near they came. In hospital

patients past and present, the men, the women, and the children for whom he had worked so untiringly for so many years A silent, respectful throng all by their presence giving testimony to the gratitude and affection which they bore to their friend Newbolt was endowed by nature with a large physique and occasionally this was a source of apprehension to prospective patients, who would fear that the big frame and large hands bespoke strength rather than tenderness But this was but momentary—no sooner did they yield themselves to his touch than they found the large hands, so indicative of power were gentleness itself and later that in the softness of his touch and the dexterity of his handling were reflected the kindness of his heart and the measure of his skill He was of a silent in some respects almost a taciturn, temperament But this was more apparent than real, for with growing acquaintance the genial and deeply sympathetic spirit was soon to be discovered and the confidence which he almost immediately inspired would be irrevocably confirmed As a diagnostician he had no superior as a surgeon he was conservative to just the right degree

Speaking as a physician I can testify that Newbolt was an ideal surgical colleague Always ready to assist the physician by giving the help of his large experience and by operating where he was convinced that surgical interference would benefit the patient, he would, on the other hand, never be induced to touch a case if he considered that there were no definite surgical possibilities connected with it His judgement was always sound his assistance always practical By his death the profession has lost a pillar of strength, and the community a friend who with all the disability of a crippled heart, never failed to respond in time of need

BENJAMIN BROAD M B, C M,

Medical Superintendent Cardiff Fever Hospitals

DR BENJAMIN W BROAD resident medical superintendent of the Cardiff Sanatorium and Small-pox Hospital, died on March 8th, aged 63 He was born at Llanhilleth, Monmouthshire, and educated at the Monmouth Grammar School and the University of Edinburgh He graduated M B, C M Edin in 1894 As a student he distinguished himself in the study of fevers and both before and after obtaining his degrees he was attached to the staff of the Edinburgh Fever Hospital After leaving Edinburgh he studied in Dublin, and before going to Cardiff he engaged in general practice in the Rhondda Valley When still a medical student at Edinburgh he became one of the original members of the Volunteer Medical Staff Corps, an organization which in later years was transformed into the R A M C (T F) As a student he rose to the rank of sergeant-major, and when the Territorial Force was established in 1908 he rejoined the R A M C (T F) After serving as assistant to Dr John Williams at Dowlais, he was appointed in 1896 as medical superintendent of Cardiff Sanatorium For many years, in connexion with the Welsh School of Medicine, he taught hospital administration and fevers to students and candidates for the D P H, and this appointment he resigned only two years ago because of the pressure of other work During the war he served with the 3rd Western General Hospital as specialist in fevers, with the rank of major He was a vice-president of the Municipal Officers' Association and a member of the Cardiff Division of the British Medical Association Professor DAVID HEPBURN writes Dr Broad was a man of extraordinary energy, an exceptionally capable physician, and an unusually skilful and competent administrator, so that it is not surprising that, alike by his patients and by the city authorities, he was universally and whole-heartedly beloved admired and trusted Under his management the City Fever Hospital ranked as one of the most efficient, as well as one of the most economically worked institutions of its kind in the country It can seldom fall to the lot of anyone to possess the love and confidence of such hosts of friends as clustered round Dr Broad His generosity and his charity were on a large scale but his good deeds were never made public At all times his great business acumen was freely placed at the service of his friends and so widely was his help utilized that he was almost a public trustee Evidence of the deep appeal which his death made to every section of the community was presented by the exceptional character of his funeral and the many signs of public mourning Wherever he appeared he was a notable personality, and to everyone who knew him his uprightness, probity, and reliability were his outstanding characteristics The city of Cardiff has lost a great public servant

DONALD WILLIAM CHARLES HOOD, C V O,

M D CANTAB, F R C P LOND,

Consulting Physician, West London Hospital

WE announce with much regret the death on March 15th of Dr Donald W C Hood He was born in June, 1847, at Market Lavington Wilts the eldest son of the late Sir Charles Hood, a Lord Chancellor's visitor in lunacy From Harrow he went to Caius College, Cambridge and afterwards to Guy's Hospital, and graduated M B in 1871 proceeding M D in 1879 He obtained the diploma of M R C P Lond in 1879 and was elected F R C P in 1892

After a few years in general practice in the country, he was appointed assistant physician to the West London Hospital in 1879, and from that time until a few weeks before his death he remained in close touch with that institution He was appointed physician to it in June, 1883, and on his retirement from the active staff in March, 1909, he was elected consulting physician From 1888 to the time of his death he was a member of the board of management of the hospital and was vice president from March, 1910, onwards He was also a past president of the West London Medico-Chirurgical Society, which has always had close associations with the West London Hospital

Dr Donald Hood's other appointments included those of examining physician to the Foreign Office, manager of the Royal Institution of Great Britain, governor and member of the committee of management of Bethlem and Bridewell Royal Hospitals consulting physician and member of the board of management of Emlswood Royal Institution, and examiner in medicine to the University of Cambridge He received the C V O in 1901, for services rendered in connexion with the fund for the relief of wounded and sick officers during the Boer war He took a keen interest in fishing shooting and horticulture

His loss will be deeply felt by the West London Hospital which has been greatly helped by his energetic work and constant sympathy one of his daughters is an active member of the Ladies' Association of the hospital

THOMAS HILL JAMIESON, M B E, M D,

M R C P EDIN

Formerly of Penang

DR T H JAMIESON died in London on February 27th, at the age of 50 He graduated M B, C M Edin in 1894, and after acting as house-surgeon at Huddersfield Infirmary and the Children's Hospital, Liverpool, went to the Far East and eventually settled in Penang, Straits Settlements, where he built up a very considerable practice After many years of hard work in the tropics his health began to suffer, and he finally returned to England in 1917 He was rejected for service abroad, but was appointed to the 4th London General Hospital, R A M C (T), Denmark Hill, where his extensive knowledge of malaria and other tropical ailments was invaluable, and he was made specialist in tropical diseases In 1919 he joined the medical staff of the Ministry of Pensions, being appointed Deputy Commissioner of Medical Services in Tropical Disease, with administrative charge of the Tropical Clinics in the south-eastern region Later he became in addition visiting physician to the Ministry's hospital at Orpington, and to Queen's Hospital, Sidcup

A Friend writes Jamieson was a man with tremendous enthusiasm for his work, and many of his hard-earned holidays in this country were spent in increasing his professional knowledge On successive "leaves" he took the Diploma in Tropical Medicine and Hygiene (with distinction), the M D, and the M R C P of Edinburgh, and

after his final return to England the D P H All who came in contact with him were impressed, not merely with his knowledge and skill and care for his patients, but also with the charm of his delightful personality Only the numerous people who have experienced his acts of kindness will know of them, for it was characteristic of him always to shun the limelight Very many friends, both in this country and the Far East, will find the world a colder place now that he is here no longer

A Friend on the Medical Staff of the Ministry of Pensions writes He was outstanding in his clinical judgement and acumen, and enthusiastic in all his work By his unfailing courtesy and kindness he won the confidence of colleagues, staff, and patients, many of whom at their own request attended the funeral service at Golders Green Dr Jamieson had great charm of manner and attraction of character His broad sympathies and wide outlook on the problems of the day and all the political questions so immediately affecting national life, made him a companion to be sought and prized *Politically he inclined to many* of the aspirations of the Labour party, but he viewed all questions with sound judgement and with no narrow bias His protracted illness merely emphasized the beauties of his character and his thought for those around him, and it was with calm fortitude that he faced the inevitable In losing him in this life one has lost a real friend and comrade, and to his widow heartfelt sympathy will be tendered

THOMAS BRITTIN ARCHER, M R C S,

Formerly Surgeon Central London Ophthalmic Hospital

MR THOMAS BRITTIN ARCHER, who died on January 24th of angina pectoris, was the youngest child of the late Mr Goodwin Archer of Ely, Cambridgeshire He was educated at the King's School, Ely, and afterwards at the Grammar School at Ipswich He was apprenticed in 1865 to the late Mr Richard Jones of Woodbridge, Suffolk, and completed his medical studies at St Bartholomew's Hospital, and obtained the diploma of M R C S in 1869 When the first ophthalmic ward of St Bartholomew's Hospital was opened Mr Archer was in November, 1870, appointed ophthalmic house-surgeon and served for a year Subsequently he spent nearly three years in visiting the principal ophthalmic hospitals in Brussels Berlin, and Vienna On his return in 1873 he was appointed clinical assistant to the Central London Ophthalmic Hospital and the Royal London Ophthalmic Hospital, and became surgeon to the former hospital in that year To this hospital he practically devoted all his energies, for he neither cared for private practice nor sought after it He became the senior surgeon in 1879, and from that time as chairman of the medical committee, did all in his power to increase the efficiency of the hospital both as regards its structure and personnel

On retiring at the age limit of 65 in 1911, the members of the honorary staff and the committee presented him with a silver cup in recognition of his services, subsequently he gave it to the hospital as a loving cup to be used at the annual dinner About this time he gave up private practice entirely and became chairman of the hospital at the most critical period of its history, when its funds were at low ebb and money had to be obtained to build a new institution, it is probable that if he had not come forward and filled the post of chairman and treasurer at that time the new hospital would not have been built During this time he attended the hospital daily, supervising the collection of the funds, etc On the outbreak of the war he once more became an active member of the staff, helping daily to replace those members of the staff who had been called up on active service To show the appreciation of his services, the committee of management called one of the wards in the new hospital the "Archer Ward"

Although an original member of the Ophthalmological Society of the United Kingdom, he did not in later years often attend its meetings but he always carefully perused its *Transactions* from cover to cover When in active practice he was always abreast of the times in his specialty He gave occasionally most interesting clinical lectures at the hospital but was adverse to their publication He presented £100, the interest of which is offered as a prize for junior clinical assistants In 1921 he resigned the chairmanship of the hospital and retired into private life

He was fond of music and painting, and in his youth was an expert with both rod and gun Under a somewhat critical manner he hid a generous straightforward nature which endeared him to those who knew him well

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DR HENRY HAMMOND SMITH died at his residence in Kensington on March 4th at the age of 73 He received his medical education at the Middlesex Hospital and took the diploma of M R C S in 1872 and that of L R C P in 1874 He was at one time surgeon in the Indian Medical Service, and afterwards practised at Stourbridge On account of his knowledge of factory work and factory conditions his services were engaged by the Royal Commission on Arsenical Poisoning and during the years 1901 and 1902 he made inquiries into the liability of articles of food and drink to be contaminated by arsenic His inquiry was detailed and exhaustive and the results of his work are recorded in an appendix to the Report of the Royal Commission on Arsenical Poisoning He also carried out investigations on behalf of the Royal Commission on Tuberculosis during 1905 to 1907 in connexion with lupus and also with tuberculosis in swine During the war Dr Hammond Smith was employed by the Local Government Board, acting on behalf of the War Office in the supervision of places where rations for the army were prepared In addition to all this he was a naturalist of distinction and an authority on game birds He was attached to the staff of the *Field*, to which journal he made many notable contributions, chiefly in connexion with animal pathology He conducted several investigations of importance to sportsmen and contributed chapters to *The Grouse in Health and Disease* and *Togetmeier on Pheasants* Dr Hammond Smith was enthusiastic and indefatigable in everything he undertook, and he worked assiduously up to his death His ability and high character coupled with a charm of manner which was irresistible, made him loved by all who knew him

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DR RICHARD ALLAN medical officer of health for *Dumbarton* died suddenly on February 16th, aged 79 He belonged to a Renfrewshire family who were skilled workers in metal and his father, John Allan owned the Wyndford factory in Glasgow One of his kinsmen was the first Provost of Johnstone Renfrewshire, and another was Sir William Arrol the builder of the Forth Bridge Richard Allan worked for a time in his father's foundry and throughout his life was distinguished for mechanical skill and inventiveness At the age of 19 he commenced medical study at Anderson College Glasgow where he took the diplomas of L R C P Edin and L R F P S Glasg in 1872 He went to Dumbarton over fifty years ago and made himself one of its most highly esteemed residents For many years he was medical officer of health for the burgh and for half a century he served on the parish board and parochial council He acted also as Ordnance surgeon which gave him an association with the old historic castle of Dumbarton which it was still garrisoned by redcoats —an appointment that he regarded with particular pride During the war he was senior recruiting officer for the district and was subsequently appointed tuberculosis officer to the Ministry of Pensions He was an old member of the British Medical Association He took a keen practical interest in all that pertained to the welfare of the community, and was an elder of the High Street United Free Church, where the funeral service was attended by the town council and a large number of the general public Dr Allan is survived by his widow three sons and three daughters Three of his family have followed his own profession Dr John Allan his eldest son, succeeds him in Dumbarton his second son Dr William Allan is practising at Greenock and his youngest daughter Dr Nora Allan is engaged in school medical inspection under the West Riding County Council in Yorkshire

DR ROBERT W HEWSON, medical superintendent for forty years of the Institution for the Insane, Coton Hill, Staffs, died after a short illness on March 10th, aged 74 He was the son of the late Dr John Dale Hewson From Cheltenham College he went to Edinburgh, and took the diplomas of L R C P Edin in 1876 and L R C S Edin in 1877 After serving as senior assistant medical officer and deputy medical superintendent of the Cheadle Royal Hospital, he became in 1883 assistant to his father, who had been medical superintendent of the Coton Hill Hospital from 1854, and on the latter's death he succeeded him as medical superintendent, the father and son had thus an unbroken record of service at Coton Hill of over seventy years Dr Hewson devoted special attention to amusements for his patients, and encouraged them to take part in the different forms of sport provided, with beneficial results He was a member of the Medico-Psychological Association and of the North Staffordshire Division of the British Medical Association

DR DAVID SCOTT PARK died at Paignton on March 8th He was born at Hawick in January, 1844, and was educated at the Buccleuch Academy, and subsequently at the University of Edinburgh and the Royal College of Surgeons, Edinburgh, taking the diplomas of L R C P and S Edin in 1868 He became F R C S Edin in 1877 After serving as an assistant at Helmsley he went to Middlesbrough, and afterwards was appointed medical superintendent of the Crown Wells Hydro at Harrogate In 1880 he commenced practice at Houghton-le-Spring, and subsequently became medical officer of health for the Houghton-le-Spring urban district and the northern division of the rural district Dr Park was instrumental in getting the Infectious Diseases Notification Act adopted in his district, and took a leading part in the establishment of isolation hospitals He taught the first ambulance class at Houghton-le-Spring, and in 1912 was appointed a justice of the peace for Durham After residing at Houghton-le-Spring for over thirty-three years, he removed in 1915 to Paignton He is survived by his widow and one son, Dr Stanford Park

We regret to announce the death of DR JAMES WATCH HAY of Sutton, Isle of Ely, which took place on February 26th in a nursing home in London, following an operation Dr Hay was born in Stirlingshire in 1874, and obtained his medical education at Glasgow University, graduating M B, Ch B in 1905 He was for a time in practice in New Zealand, but returned to England in 1910 and settled at Sutton, where he continued to practise up to the date of his death He was a member of the British Medical Association, and was widely known and respected in the Isle of Ely, where his unselfish devotion to his patients, and bright happy disposition won him many friends Politically he took a great interest in the Conservative cause and during the recent election was in great request as a speaker on tariff reform and kindred subjects He leaves a widow and one daughter

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE

AT a congregation held on March 14th the following medical degrees were conferred

M B B Ch—L P Lockhart
M B—W Shaw H E K Reynolds

UNIVERSITY OF LONDON

AT a meeting of the Senate held on February 27th the regulations for the second examination for medical degrees, Part II, were amended by the substitution of the following for Red Book, 1923-24 p 259, lines 19-20, and Blue Book, September, 1923, p 225, lines 3-4

A practical examination not exceeding (a) three hours in histology and (b) six hours in physiology experimental physical and chemical

Mr I J Steward M S F R C S was elected the representative of the University on the Council of the Fellowship of Medicine The following have been nominated for appointment as representatives of the Senate on the court of governors of the London School of Tropical Medicine Professor H R Kenwood C M G, Sir William J L Simpson, C M G, Mr H J Waring, M S, F R C S

A graduation dinner will be held in the Fishmongers' Hall, E C, on Presentation Day, Wednesday May 14th, at 7 30 p m

A lecture on accommodation will be given by Professor D van der Hoeve (Leyden) at Charing Cross Hospital Medical School on Friday, May 9th, at 5 p m

UNIVERSITY COLLEGE

Annual Report

During the session 1922-23 the total number of students enrolled was 3,005, including 431 post-graduate and research students Of the remainder, 482 were taking evening courses and 223 vacation courses Of the total, 2,490 students came from homes in the United Kingdom, 206, including 75 post graduate and research students came from various parts of the Empire, and 198 from various European countries The number of students in the Faculty of Medical Sciences was 230 (151 men and 79 women), and in the Faculty of Science, 351 (220 men and 131 women) The registered internal students numbered altogether 1,214 Of these 301 obtained degrees (241 bachelor degrees, 190 honours), 60 higher degrees (37 Masters, 13 Doctors, and 10 Ph D) The College has also for many years taken an active part in promoting adult education by providing public lectures that are open without fee Over 9,000 persons attended these lectures during the session 1922-23, the approximate aggregate number of attendances being 20 970

The financial statement shows on the maintenance account a total expenditure of £167,415, and extraordinary expenditure of £4 339 making a grand total of £171 754 The fee revenue was £63 826 11s 6d, the balance being provided partly from income and endowment and partly by donations and by grants from the Treasury and other public bodies

LONDON SCHOOL OF MEDICINE FOR WOMEN

Scholarships of the total value of £1,100 will be awarded in May and July of this year Full information and forms of application can be obtained from the Warden and Secretary, 8, Hunter Street, W C 1

WELSH NATIONAL MEDICAL SCHOOL

DR A V KENNEDY, professor of medicine, has resigned the office of Dean of the Welsh National School of Medicine, and has been succeeded by Dr Graham Brown, professor of physiology Professor Hepburn has been asked to continue to occupy the chair of anatomy until the end of September, 1925, under the superannuation scheme he should have retired at the end of September Sir David R Llewellyn a great benefactor of University College Cardiff, has been elected President of the College, and made an optimistic speech at a meeting of the Council, when the Prime Minister was present Mr Ramsay MacDonald said that he could make no promises, but nothing would give him greater pleasure than to see all the educational facilities, scientific artistic and classical, fully developed Afterwards Mr MacDonald spoke to the students from the balcony, and then visited the Welsh National School of Medicine, being received at the Physiological Institute, which is at present the only complete portion of the buildings Here he made another speech, and then went to the Welsh National Museum, where he was received by Lord Aberdare vice president He gave a short sketch of the foundation of the Museum and its gradual growth

ROYAL COLLEGE OF SURGEONS OF ENGLAND

AN ordinary Council meeting was held on March 13th, the President, Sir John Bland Sutton, in the chair

Licences in Dental Surgery were granted to eighty candidates

After consideration of a report from the Examiners in Dental Surgery it was decided to insert the following clause in both the old and the new Regulations for the Licence in Dental Surgery

Candidates are required to attend to the satisfaction of their teachers the courses of instruction required by the Regulations and the class examinations held in each course

Dr W S A Griffith was re elected to represent the College on the Central Midwives Board for the period of one year from March 31st 1924 The vacancy on the Court of Examiners occasioned by the expiration of Sir Cuthbert Wallace's term of office, on May 8th, will be filled up at the Ordinary Council of that day

Nominations for Council

Monday, March 17th, was the last day on which the names of candidates for the election for members of Council on July 3rd next, at 10 a m, were to be received As many as eleven nominations have been forwarded to the Secretary by candidates seeking to fill the three vacancies made through the retirement in rotation of Mr Haslam, Mr Openshaw, and Mr Raymond Johnson The new candidates are Mr W McAdam Eccles (St Bartholomew's Hospital), Fellow 1892, Member 1893, Mr Ernest Miles (Cancer Hospital), Fellow 1894, Member 1891, Mr H J Paterson (London Temperance Hospital), Fellow 1897, Member 1892 Mr T P Legge (King's College Hospital), Fellow 1897, Member 1895, Dr Victor Bonney (Obstetrical and Gynaecological Surgeon, Middlesex Hospital), Fellow 1899, Member 1896, Mr A H Burgess (Manchester) Fellow 1899 Member 1896, Mr Wilfred Trotter (University College Hospital), Fellow 1899, Member 1896, Mr Philip Turner (Guy's Hospital), Fellow 1901, Member 1897 Sir Charles Gordon Watson K B E, C M G (St Bartholomew's Hospital), Fellow 1902 Member 1898, Mr Hugh Lett (London Hospital), Fellow 1902, Member 1901, and Mr G Grey Turner (Newcastle on Tyne), Fellow 1903, Member 1899

Medico-Legal.

AN INSURANCE INQUIRY

An order by the Minister of Health, made under the National Insurance Act 1911 by which Dr Gilbert Bailey and Dr James Leach, of Tottington Lancashire were jointly fined £1 000 and also the costs of the public inquiry upon whose report the order was made is to be reviewed A report of the inquiry appeared in the SUPPLEMENT of December 22nd 1923 (p 277)

In the King s Bench Division on March 14th 1924 Sir William Finlay, K.C in moving *ex parte* for a rule nisi for a writ of certiorari to review the decision of the Minister of Health said that in March, 1923 it was alleged that Dr Bailey had contravened the terms of service for insurance medical practitioners An inquiry was held and no complaint was made against Dr *Leach who was Dr Bailey s* partner but the Minister of Health made an order that £1 000 should be withheld from a supplementary grant payable to the Lancashire Insurance Committee for medical benefit and that the sum with the costs of the inquiry should be recovered from Dr Bailey and Dr Leach Counsel submitted that as Dr Leach was in no sense a party to the inquiry the order made by the Minister of Health was bad The Court (Horridge and Sankey, J J) granted the rule

Medical News.

A NEW quarterly periodical, entitled the *Journal of Cancer* has been published by the Cancer Research Fund (Ireland) It contains the following articles 'The cancer problem, by Dr W M Crofton, "Deep *x* ray therapy," by Dr W Pilger, "The preliminary and after treatment in *x* ray therapy,' by Professor H Wintz, "Deep *x* ray therapy in gynaecology " by Dr Rumpf, and an article by the editor on "Progress in the treatment of cancer The aim of this journal is to present, so far as possible a complete and accurate record of recent discoveries in connexion with the cause and treatment of the disease The price is 2s. 6d quarterly, or by annual subscription 10s 6d , post free The offices of the Fund are at Hume House, Dublin

THE Belgian Minister of the Interior and of Public Health has included in his Budget a proposal to spend a million francs this year on a campaign against cancer Treatment centres would be established in university towns at first, and later in other large communities

A SPECIAL meeting of Fellows will be held at the house of the Royal Society of Medicine on Thursday, April 10th, at 5 p m , to receive the medical officers of health who are visiting this country at the request of the League of Nations Some fifty medical officers of health are expected, and Dr Rajchman, Medical Director of the League of Nations Secretariat, will give a short account of the work of the League of Nations Health Organization The Minister of Health and Lord Parmoor, the British Member of the Council of the League, will be present The President of the Society, Sir William Hale White, will preside Tea and coffee will be served at 4 30 p m All members of the medical profession are invited to attend

A MEETING of the North Western Tuberculosis Society will be held at the *x* ray department of the Manchester Royal Infirmary on Thursday, March 27th, at 3 15 p m , when Dr A E Barclay will give a demonstration dealing with the differential diagnosis of tuberculosis Medical practitioners interested are invited to attend

THE intensive course at the London Temperance Hospital, Hampstead Road, from March 31st to April 12th, will include practical demonstrations, ward rounds, out patient clinics, and special demonstrations on Saturdays at Bethlem Royal Hospital and the Royal Westminster Ophthalmic Hospital, the first clinical lecture on March 31st, by Sir Humphry Rolleston, will deal with jaundice The three weeks' course on ophthalmology at the Royal Westminster Ophthalmic Hospital from March 31st to April 17th will comprise clinical work each afternoon and special demonstrations twice a week on medical ophthalmology and methods of examination The fee for either course is three guineas, and copies of the syllabus may be obtained from the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W 1

A SHORT time ago (February 2nd, p 209) we gave an account of a series of Monumenta Medica published by Messrs Lier and Co of Milan (Via Brera 7) The same firm has recently issued the *Cirurgia* of Hieronymus Brunschwig, first published in 1497 at Strasbourg The réprint is a fine volume in folio, with 272 facsimile reproductions and a study of the author by Dr Henry E Sigerist of Zürich, its cost in this country is 18s. post free Messrs Lier have also purchased the entire edition of the facsimile of Eucharius Rösslin s book on midwifery It is taken from the original edition of 1513 the volume will be supplied in this country for 5s post free

AT a social meeting of the Royal Society of Medicine on Monday, March 31st, Lieutenant General Sir John Goodwin, K C B , late Director General A M S , will at 9 p m relate some reminiscences from an active life as a soldier and sportsman in many parts of the world

THE Section for the Study of Disease in Children of the Royal Society of Medicine will meet in Liverpool on Friday and Saturday, June 27th and 28th On the first day there will be a clinical meeting in the Children s Hospital and papers will be read at the Medical Institution On the second day members will be given the choice between visits to the Open Air Hospitals at Heswall and Leasowe and of playing golf on the Formby course

A NEW Italian fortnightly journal entitled *Annali di Clinica Terapeutica*, has recently appeared under the editorship of Professor Domenico Lo Monaco, director of the institute of physiological chemistry of the University of Rome The fourth number, of which a copy has been sent us contains a review on the etiology of scarlet fever by S Rapisardi, original articles on sudden physiological changes in lactic ferments by C Gorini and on tuberculous allergy by S Busacca, pathological notes on diffuse chronic glomerular nephritis by L Condorelli, society intelligence abstracts from current literature, and medical news The journal is published in Rome at the following annual subscription Italy 50 lire, abroad, 70 lire Single copy, 3 lire

THE twenty first anniversary of the opening of the Whipps Cross Hospital, Leytonstone, will be held at the hospital on Wednesday March 26th

THE annual dinner of the Cancer Hospital will place at the Langham Hotel on Wednesday, April 2nd at 7 45 p m Mr W Ernest Miles in the chair Tickets may be obtained on application to the Registrar, the Cancer Hospital, London, S W 3

THE thirteenth post graduate course of the Vienna Medical Faculty on recent advances in surgery orthopaedics urology, gynaecology, and obstetrics will be held from June 16th to 29th Further information can be obtained from the secretary, Dr Kronfeld, Porzellangasse 22, Wien IX.

FOR the treatment of general paralysis by the inoculation of malaria Professor Plehn of Berlin has used chiefly a strain from Palestine which always gave rise to quotidian fever without the formation of gametes, and another from Hungary which belonged to a genuine tertian strain and formed gametes (*Deut med Woch*, 1924 p 136) Among the 41 patients thus treated the disease in nearly all was so severe that institutional treatment had been necessary for a considerable time Such causes as endocarditis and bronchopneumonia—to the seriousness of which the malaria may in some cases have contributed—led to the death of 7 patients Among the survivors 19 showed definite improvement and 10 of them were discharged symptom free and fit for work Among the remaining 9 there were some whose improvement was almost equally satisfactory He concludes that even in advanced cases skilfully conducted inoculations with malaria may appreciably mitigate the psychic symptoms in at least one third of all the cases, and effect symptomatic recovery in another third

MESSRS H K LEWIS AND CO , LTD inform us that they are acting as agents in the British Isles for the publications of the Chemical Catalog Company of America, and will be pleased to supply a list of these works in reply to any inquiries

PROFESSOR TUFFIER, the well known Paris surgeon has been nominated Grand Officer of the Legion of Honour

THE thirty seventh Congress of the French Society of Ophthalmology will be held at the Paris faculty of medicine on May 12th and the following days when Dr Camillo Fromaget will read a paper on ocular symptoms of dental origin, and a lecture will be delivered by Dr G E de Schweinitz of Philadelphia Further information can be obtained from the general secretary Dr R Oufray 6 Avenue de la Motte Picquet Paris VII

PROFESSOR OERTEL has been elected Rector of the Medical Academy of Düsseldorf for the year 1924–25

THE Umberto I Prize of 3 500 lire will be awarded according to the decision of the Provincial Council of Bologna for the best orthopaedic work or invention Italian and foreign doctors may compete The arrangement of the competition and the assignation of the prize is fixed by the regulations which will be sent on application to the President of the Rizzoli Orthopaedic Institute in Bologna The competition will close on December 31st 1924

THROUGH an accident to one of the printing machines last week, some readers will find they have *faulty copies of the* JOURNAL if they will communicate with the Financial Secretary and Business Manager he will send a perfect copy

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W C 2

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W C 2, on receipt of proof

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westrand, London*

MEDICAL SECRETARY *Mediocra Westrand, London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 4737, Dublin), and of the Scottish Office, 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh*, telephone, 4361, Central)

QUERIES AND ANSWERS

RECURRENT ANGIONEUROTIC OEDEMA OF TONGUE

DR CLAUDE A P TRUMAN (Exeter) writes in reply to Dr Montgomery's inquiry (March 15th, p 506) If there is any rise of temperature begin with sodium salicylate and a mouth wash of warm water and glycothymoline Follow this either with a mixture of liquor strychninae and guaiacol, or thyroid tablets and those of calcium lactate, dose and frequency according to symptoms

DR W V GABE (Dinas Powis) writes Nine months ago I was consulted by a woman, aged 29, who was suffering from angioneurotic oedema which had occurred periodically for over five years, the oedema chiefly appearing on the lips, both extremities, and occasionally on the tongue, lasting several hours and in some instances three to four days She had been treated by general tonics etc, but the attacks had persisted as before A combination of quinine, strychnine, caffeine, antipyrin, and gelsemin, with potassium bromide and aromatics, was prescribed Five weeks later the patient had only a slight attack, the oedema appearing on the dorsum of the right wrist, which entirely subsided in less than half an hour Since then the patient has not had an attack whatsoever Whether the oedema has disappeared spontaneously or the mixture prescribed had a beneficial effect I do not venture to state

INCOME TAX

Motor Cars

"A COUNTY MOH" receives an allowance of £175 for travelling expenses In 1920 he bought a car for £500, which he sold in 1924 for £40 buying another for £215 In the period covered by the life of the old car the running expenses are estimated at £150 per annum, showing a saving on the allowance of, say, £80

*** The loss on sale of the old car cannot legally be claimed, the most that can be claimed is the out-of pocket expense—that is £215–£40=£175, as there is no allowance for depreciation or capital loss On these figures, therefore, our correspondent may have a claim for deduction of £175–£80=£95 He will, however have some difficulty in establishing the amount of his actual expenditure on running costs particularly if the car was sometimes used for private purposes A supplementary claim of this kind is in effect a claim that the county allowance was insufficient, the revenue authorities, we understand, do not seek to inquire into such allowances to see whether there is an unexpended surplus liable to assessment, and district commissioners may be presumed to be likely to regard with some scepticism a claim of the converse character

"D R" sold his car in 1922 for £170 buying a precisely similar car for £225

He is entitled to regard the actual cost of replacement as a professional expense of the year in which it was incurred—that is, he can include £225 – £170 = £55 among his professional expenses for 1922 The amount should be claimed as an out-of pocket expense, not as "depreciation," as nothing is legally due under that head

LETTERS NOTES, ETC.

INTER HOSPITAL RUGBY CUP TIES

THE final match of the London United Hospitals Rugby Football Cup Competition, 1924, was played at Richmond on Wednesday, March 12th In accordance with expectations, St Bartholomew's beat King's College Hospital, but not by a large margin, for the King's forwards, headed by four fine players, gave the supporters of Bart's a good many anxious moments before the cup was won This year's cup ties provided many excellent and hard fought matches, and showed that the general standard of Rugby football at the London medical schools is higher to-day than at any previous time

LITTLE BLUE BOOKS

THE Health Department of the Canadian Government has issued a series entitled *The Little Blue Books*, which have been revised and almost entirely rewritten by Dr Helen MacMurchy, the chief of the Division of Child Welfare They are published both in English and in French, are well illustrated, and present in simple language a considerable amount of valuable information, as may be judged from the following titles "The Canadian mother's book," "How to take care of the baby," "How to take care of the mother," "How to take care of the children," "How to take care of the father of the family," "Beginning our home in Canada," "How to build our Canadian house," "How to make our Canadian home," "How to make our outpost home in Canada," "How to prevent accidents and give first aid," "Canadians need milk," "How we cook in Canada," "How to manage housework in Canada," "How to take care of household waste," and "Household cost accounting in Canada" Copies of the above may be obtained free on request from the Deputy Minister, Department of Health, Ottawa

THE TRAINING OF NURSES

MR GERALD SICHEL, F R C S (Sevenoaks), writes to express the opinion that a capable woman can learn all a nurse needs to know in a year, excluding special branches such as massage In his opinion, by a course of instruction longer than this a training hospital is merely getting cheap labour from a deserving and unselfish class He considers the training unnecessarily severe, and has reason to think that matrons and sisters might be more patient and considerate with nurses and probationers, and also that the food supplied during the very strenuous course of training might be better

TREATMENT OF APPARENT DEATH FROM ELECTRICITY BY ARTIFICIAL RESPIRATION

MR HILARY HILL, M R C S, L R C P (British Legation, Vienna), writes For many years it was disputed whether apparent death by electricity was real or only a condition of suspended animation Boruttau (Berlin) thought artificial respiration useless, and asserted that death was caused by fibrillation of the ventricles of the heart Jellinek (Vienna) has maintained that apparent death by electricity is in almost all cases suspended animation, which can be overcome by artificial respiration It is necessary to begin the artificial respiration early, to perform it properly, and to continue it, if necessary, for many hours, which *means not only for one or two hours or longer, but so long as* "mortal spots" do not appear Artificial respiration influences the circulatory as well as the respiratory apparatus The fact has been proved on cadavers by a differential manometer, of which both ends were fixed securely in the femoral artery and femoral vein We can therefore conclude that the circulation in the coronary vessels is affected also, and that artificial respiration is the best remedy against fibrillation of the heart Accounts of two electrical accidents published by Jellinek in the *Wiener Klinische Wochenschrift* (No 47, November 22nd, 1923) prove that the death is only apparent, and that artificial respiration can save a victim (1) A boy, aged 11, stood with bare feet in a horses' stall and touched an electric lamp which was badly insulated He sustained a shock of 100 volts (alternating current) He fell down apparently lifeless, and his parents thought he was dead A veterinary surgeon who arrived on the scene ten minutes later began artificial respiration immediately and continued it for an hour, assisted by the members of the family The boy's body was cold and without any reactions After one hour the boy revived (2) An engineer was struck by a spark from a transformer with a discharge of 30,000 He fell down apparently lifeless Two workmen, of whom one was well practised in artificial respiration, began *it immediately and* continued it for three hours and the victim revived That the artificial respiration performed on an electrocuted man was successful after such a long time is, I believe, a record

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, *and of vacant resident and other appointments at hospitals*, will be found at pages 31, 34, 35, 36, and 37 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 32 and 33

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *147*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

221 Therapeutical Application of the Bacteriophage

A PHILIBERT (*Clinique et Laboratoire*, January 30th, 1924, p 6) gives a short account of the bacteriophage phenomenon together with a few of its practical applications D Herelle found that if the faeces of a patient convalescing from dysentery were diluted in broth and filtered through a Chamberland L3 candle, and a few drops of the filtrate were added to a turbid broth culture of dysentery bacilli, after a short period of incubation the broth cleared up and the bacilli were dissolved A drop of this lysed culture, when transferred to a fresh broth culture of the bacilli, produced a similar clearance, a drop from this second culture was likewise effective in clearing a third, and so on The explanation suggested was that the lysis was due to an invisible filtrable living organism, which grew and reproduced at the expense of the particular strain of bacillus to which it was attached Others have disputed this hypothesis and think that the phenomenon results from the action of a non living ferment or from a special property of the lysed organism Inoculation of the bacteriophage into an animal suffering from an infection with an organism against which the bacteriophage is active has frequently resulted in recovery, but it is important to note that if it be given in repeated injections the reverse effect is produced, for an anti bacteriophagic principle is formed in the animal which counteracts the working of the bacteriophage The best results in human therapeutics appear to have been obtained with *B coli* infections, especially septicaemia and pyelonephritis In practice the blood or urine of the patient is sent to the laboratory, where a bacteriophage active against the particular strain of organism is found A peptone culture of the organism containing the bacteriophage is incubated, and when lysis is complete it is filtered through a candle and tested for sterility The filtrate is now given to the patient in doses of 5 c cm subcutaneously, or 20 to 50 c cm by the mouth, or directly into the bladder by a catheter in cases of cystitis The treatment may be repeated on two or three consecutive days, but must not be given for long Cure is often very rapid but it is not by any means constant It is important not to give any drugs of any description at the time, as these may interfere with the action of the bacteriophage The therapeutical application of this phenomenon is only in its initial stages and there is so far very little exact knowledge on the subject

228 Tuberculous Cavities and Prognosis.

K LYDTIN (*Zeit f Tuberk*, Bd 39 Heft 1, 1923 p 1) notes that at a recent tuberculosis conference in Germany the statement was made that cavities in the lungs almost invariably prove fatal, and that it is most rare to find at a *post mortem* examination a cavity in a person who has died from some disease other than pulmonary tuberculosis To verify this dismal opinion as to the prognostic significance of cavities the author has studied the records of the 2,500 cases of pulmonary tuberculosis treated in his hospital in the period 1912–20 There were 716 deaths in hospital among these cases, and in more than 90 per cent of these fatal cases cavities were found There were, however 121 patients who showed clinical or x-ray evidence of cavities, and who yet left hospital alive Several of these patients could not be traced and of the 79 about whom information could be obtained as many as 66 were found to be dead Most of the 13 survivors were fit for work and without tubercle bacilli in the sputum from four to eleven years after discharge Among the 121 patients discharged from hospital with cavities there were 41 who were in comparatively good health on discharge a fairly good prognosis being permissible yet 28 of these 41 were found to have died It would therefore seem that the presence of cavities indicates a bad prognosis either because a cavity in itself is dangerous favouring mixed infection, haemorrhages, and an accidental pneumothorax, or because it is a sign of a rapidly progressive form of pulmonary tuberculosis

229 The Schick Test

B WHITE (*Boston Med and Surg Journ*, December 20th, 1923 p 1026) advocates the application of the Schick test to various age, social, racial and geographical groups in order to ascertain why it is that diphtheria is endemic in one locality and epidemic in another and why a community may be free for years only to suffer a severe outbreak later The past diphtheria incidence rate of any given group taken in conjunction with the results of the test should afford data upon which the future history of that group can be estimated, the test thus having epidemiological value Statistics from two schools bear out the contention that repeated exposure to infection in congested districts not only produces typical cases but also mild attacks not recognized as diphtheria, which may gradually result in an antitoxic immunity The results of the test in different children s institutions show marked variations, children from well to-do homes giving a higher percentage of positive Schick reactions than those from poorer homes in closely crowded neighbourhoods Rural communities show a higher percentage of positive reactions than urban Of the public and parochial school children in various cities in Massachusetts 56 5 per cent were positive, showing that more than half are susceptible to diphtheria Susceptibility varies widely in different social groups, the past and present diphtheria incidence rates and the population density influence the proportion of immune persons The percentage of those reacting positively to the test in any given group varies inversely to the number of previous contact cases

230 Intestinal Obstruction from Acute Gastric Haemorrhage.

K FRANKE (*Deut med Woch*, October 26th 1923 p 1368) discusses the association of acute intestinal obstruction with a recent haemorrhage from a gastric ulcer, a condition which has apparently not been described previously Two cases in which this combination occurred in his hospital gave rise to difficulties of diagnosis, and though both patients showed signs of a severe gastric haemorrhage as well as of intestinal obstruction the relation of the one condition to the other was obscure In both cases the signs of intestinal obstruction passed off spontaneously in a few days and it was therefore probably due to spastic contraction of the gut Possibly the presence of much decomposed blood in the gut irritated its mucous lining and caused contraction Both the patients were elderly, their ages being 58 and 59 respectively In the second case the signs of intestinal obstruction were so alarming that a surgeon, called in consultation recommended an operation This the patient refused and five days later the normal peristaltic action of the bowel had returned The author insists that in such cases it may be very difficult to decide whether the intestinal obstruction is mechanical or spastic, the fact that the patient is suffering from haemorrhage from a gastric ulcer does not necessarily prove that the obstruction is spastic, for there may have been scarring in connexion with the ulceration, and this scarring may have given rise to mechanical intestinal obstruction

231 The Fate of Iron Given by the Mouth

E O FOLKMAR and S ULRICH (*Ugeskrift for Laeger*, December 27th, 1923, p 957) draw attention to the parodoxical finding that the physiological needs of the organism are satisfied by about 10 mg of iron per diem and yet about 200 times this quantity is needed to obtain the optimum results in certain forms of anaemia Earlier investigations have shown that iron is absorbed mainly by the duodenum and upper section of the small intestine and is excreted mainly by the caecum and colon the excret on of iron by the kidneys being negligible and not increased when the dosage of iron is raised It follows that practically all the iron given by the mouth reappears in the faeces To ascertain how much of the iron given by the month passes direct through the gut, and how much is absorbed and then excreted by the gut the authors have separated the two portions of iron in the faeces with the help of an electromagnet They gave by the mouth reduced iron which consists of metallic iron and oxides of iron—both magnetic. The iron which is absorbed and then excreted by the gut is non magnetic To test their technique the authors first experimented with a known quantity of magnetic i on in an emulsion of faeces and they found that all could be recovered with the help of the electro-magnet The cases investigated were classified according as large doses of iron failed to increase the percentage of haemoglobin or increased it In the first class from 68 to 83 per cent of the iron given by the mouth was found unchanged in the faeces But among the patients whose haemoglobin was increased by large doses of iron the discharge of unchanged iron in the faeces was up to 18 per cent less than in the first class. The authors anticipated that they would find considerable differences according as

the patients had, or had not, free hydrochloric acid in the gastric juice, but they failed to do so Another surprising finding, which they cannot explain, was that the amount of unchanged iron found in the faeces was the same whether large or small doses of reduced iron were given They conclude that the best therapeutic results can be obtained with large doses

Surgery.

232. Post-operative Pneumonia.

H ELWYN (*Journ Amer Med Assoc*, February 2nd, 1924, p 384) reports the results of his study of post-operative pneumonia extending over a period of two and a half years He tabulates his findings and draws certain conclusions He believes that after abdominal operations small or large areas of pulmonary collapse occur, principally in the lower lobes If bronchitis is already present, or irritation by the anaesthetic paves the way for bronchial infection, this infection may spread to the collapsed areas and set up pneumonia The collapse of the lungs may, he thinks, be due possibly to a sudden closure of all the bronchioles in a lung area as a reflex result of vagal stimulation derived from the gastro-intestinal tract The occurrence of massive collapse of the lung and of post operative pneumonia, usually after abdominal operations, especially on the gastro intestinal tract, gall bladder, appendix, and herniae, supports this suggestion

233 Neosalvarsan in Surgical Infections

E BIRT (*Zentralbl f Chir*, January 12th, 1924, p 24), dean of the Tungchi medical school at Shanghai, inspired by the successful results obtained in the Zürich surgical clinic, has recently employed injections of neosalvarsan in cases of severe injury which showed a tendency to become septic His patients were Chinese belonging to the poorer classes, among whom scabies and syphilis are very prevalent and the rules of hygiene are generally neglected He records eleven cases treated by neosalvarsan, in all of which the wounds were of the severest character and complicated in two instances by scabies and in two by syphilis In all the cases a complete recovery took place a more or less marked fall of temperature occurring directly after injection of neosalvarsan Small doses (0 2 to 0 3 gram) were almost always sufficient The action of the neosalvarsan was probably non specific in character, although the extraordinarily rapid fall of the temperature in most cases suggested specific destruction of the organisms In any case Birt is of opinion that this treatment should be employed, not only in severe injuries, but also as a prophylactic method in other surgical infections, and especially in infections of aseptic operation wounds

234 Arterio-venous Aneurysm

C F HOOVER and A J BEAMS (*arch Intern Med*, January 15th, 1924, p 1) consider the diagnosis and pathological physiology of an arterio venous aneurysm and call attention to the difficulty in deciding what proportion of the resulting circulatory defect is due to the aneurysm owing to the development of symptoms closely simulating those due to myocardial decompensation The question is further complicated when it has to be decided whether the arterio venous aneurysm is solely responsible for the circulatory symptoms or merely a contributory factor in the presence of heart disease Difficulty in diagnosis arises when the aneurysm is intrathoracic or intra abdominal, and therefore beyond manual control, so that the fistula cannot be eliminated from the circulation and the effect of digital compression studied, as is the case when it exists between the femoral artery and vein Absence of enlargement of the right auricle is the most important sign when the leakage is sufficient in volume to cause a systolic hepatic pulse, and, when the cardiac enlargement is compensatory, the subcardial diaphragm is not flattened and the heart appears to be erect, although enlarged, moreover, it does not encroach on the phrenic arch Pathognomonic of the lesion is the fact that the pulse pressure is unchanged, and this enables a differentiation to be made between arterio venous fistula and conditions simulating it Hepatic pulsation does not occur until there is an elevation in venous pressure, so that it is not an index of cardiac decompensation, and an arterio venous leak will not produce the hepatic pulse until the pressure in the vena cava has increased as the result of the cardiac incompetence to supply the increased output which the existence of the arterio-venous fistula demands In such conditions the closure of the arterio venous communication produces an amazing cure—the venous system and the myocardium profit directly, the work of the heart becomes much less, and both the direct and indirect causes of the venous stasis are removed

235 Gangrene following Injection of Salvarsan

H SCHLOFFER (*Zentralbl f Chir*, January 19th, 1924, p 110) records the case of a man aged 31, who was under treatment by salvarsan for a hard chancre of the penis The first four injections were well borne, and the chancre healed, but during the fifth injection, which consisted of 0 6 gram of salvarsan in 20 c cm of water, the patient complained of severe pain in the injected right arm, which became enormously swollen In the course of the next few days gangrene developed, and a line of demarcation took place at the level of the elbow joint Amputation was performed just above the joint and the basilic vein was found to be thrombosed Examination of the arm after amputation showed the presence of salvarsan in all parts of the limb down to its extremity Although cases of infiltration with necrosis of the skin, abscesses, and damage to nerves have followed injections of salvarsan which have been made into the tissues instead of into the vein, no example of gangrene of the whole limb due to this cause has hitherto been recorded Thromboses with more or less extensive circulatory disturbances and necroses at some distance from the site of injection have often been described after injection of salvarsan, though in many of the cases it was open to question as to whether syphilitic changes in the vessels were mainly or partly responsible Wechselmann and Bielchowsky have reported two fatal cases of thrombosis of the veins of Galen Klausner has described a case of thrombosis of the left thigh, followed by cellulitis, and similar instances have been published by Gaucher, Gougerot, and Guggenheim In the case reported by Oddo and Girand arterial thrombosis was found to be the cause of gangrene of the left leg, for which amputation was required In the present case extensive venous thrombosis was present, but it was not sufficient to account for the gangrene For though the superficial and deep veins were thrombosed, numerous veins were permeable The arteries, apart from a small thrombus in the wall of the radial artery, were intact On the other hand, the striking narrowness of some of the arteries on microscopic examination suggested the possibility of a spastic process resembling Raynaud's disease, which is sometimes observed after injection of salvarsan

236 Osteochondritis of the Hip Joint.

A H GALVIN (*Surg, Gynecol, and Obstet*, January, 1924, p 58) describes three cases of the condition generally termed osteochondritis deformans juvenilis, or Perthes's disease, and reviews generally the literature dealing with this subject He concludes that it is a distinct morbid entity, with a definite symptomatology, and due to trauma, which causes a disturbance of the arterial supply about the epiphysis He urges that children between the ages of 3 and 10, who have a painless limp, should be examined by *x* rays in order that the characteristic moth eaten appearance of the epiphysis early in the disease, or the later mushroom deformity, may be detected The treatment recommended is rest, both by relief from weight-bearing and by the application of a plaster spica, good results are so obtained and operation is rarely required He discusses the debatable point of the etiology of this condition, and dismisses rickets, syphilis, congenital abnormality, and endocrine disturbance, nor does he think the process is primarily infective In his view there is some traumatic cause primarily, to which the infectious process is added as a sequel

Anaesthetics.

237 Endotracheal Anaesthesia.

C L HEWER (*Brit Journ of Anaesthesia*, January, 1924, p 113) advocates the endotracheal administration of nitrous oxide oxygen ethanesal as the routine anaesthetic for major operations on account of its safety for complete muscular relaxation He regards it as the only method by which respiration can be safely suspended for an indefinite time during abdominal operations, and by which the anaesthetist may be at a distance from the patient He recommends it especially for extensive thoracotomies necessitating continuous inflation of the lungs, by using an intrabronchial catheter, an empyema communicating with a bronchus can be operated upon without the danger that the pus may be sucked into the unaffected lung For plastic operations upon the nose, mouth, face, and neck it affords a practical way of administering a general anaesthetic, while deep narcosis can be obtained in operations for acute intestinal obstruction without the risk of regurgitated material being inhaled In the author's experience this method is less toxic and gives better results than other combinations, and it allows of accurate regulation of the oxygenation of the blood Prior to the introduction of the catheter into the trachea full anaesthesia must be obtained, and the cords must be

sufficiently abducted to allow the catheter to pass easily The method is unsuitable for operations on new growths of the mouth, tongue, and upper air passages on account of the risk of introducing particles of growth with the catheter and setting up a septic pneumonia, and it cannot be used for children under 1 year of age, in whom the glottis is too small to admit a catheter of sufficient size

238. Ethylene and Oxygen Anaesthesia

J S LUNDY (*Journ Amer Med Assoc*, February 9th, 1924, p 448) reports on the use of ethylene gas for anaesthesia in infants and describes four illustrative cases, with charts indicating pulse rate, blood pressure, and respiratory rate curve He believes, as a result of using ethylene in all types of cases, that the advantages of this method of anaesthesia are most strikingly demonstrated in the weak patient and the "bad risk" He has found the method more satisfactory than nitrous oxide and oxygen in infants, but points out that since each respiration is very shallow it must be remembered that embarrassing respiratory phenomena may occur without warning when any kind of gas is used to produce deep anaesthesia in the very young In each case he used the Gwathmey apparatus, and took blood pressure readings by the oscillatory method throughout the operation The following precautions, in his opinion, make gas anaesthesia safe for infants watching the colour of the patient, the respiration, the pulse rate, and blood pressure

239 Blood Pressure in Anaesthesia.

G BROWN (*Med Journ of Australia*, January 19th, 1924 p 53) urges the value of blood pressure as the criterion of safety in anaesthesia He describes in detail his own researches and observations, and mentions the more authoritative literature on the subject His main conclusions are as follows A fairly exact prognosis before during, and after surgical operations can be obtained by the proper recording and interpretation of the blood pressure If during an operation the systolic blood pressure falls to 80 mm or less and the pulse pressure to 20 or less, with a pulse rate of 100, the operation should be terminated as quickly as possible and restorative measures employed Further, if this circulatory depression continues for more than twenty minutes (as compared with the thirty minutes of McKesson) the patient will probably die within three days The classification of circulatory depression in connexion with surgical operations includes three degrees (1) *Safe* 10 to 15 per cent increase in pulse rate without change in pressure, 10 to 15 per cent decrease in blood pressure without change in pulse rate (2) *Dangerous* 15 to 25 per cent increase in pulse rate, with 15 to 25 per cent decrease in blood pressure (3) *Fatal* progressively increasing pulse rate above 100, with progressively falling blood pressure of 80 or less systolic, and 20 or less pulse pressure for more than twenty minutes Moot's rule for estimating cardiac reserve is quoted—namely, that the pressure ratio (a fraction having the pulse pressure as numerator and the diastolic pressure as denominator) is normal between 40 and 60 per cent, and the case operable if the ratio is between 25 and 75 per cent, outside these limits the case is probably inoperable The author adds that the anaesthetist ought to examine the patient fully a day or two before the operation

240 Chloroform Anaesthesia in Children.

G ROELLO (*Arch Ital di Chirurg*, December, 1923 p 345) gives an account of his research into the effect of chloroform on the blood and kidneys in young children His conclusions are as follows Given with the usual precautions and for everyday surgical work, he finds the effect of chloroform on the blood, kidneys, and liver is very slight As far as the blood was concerned the most important change was the reduction of the haemoglobin index, resulting in temporary reduction of the respiratory capacity No destructive or degenerative changes were seen in the red or white blood corpuscles or in the kidneys In the liver slight functional changes occurred, as shown by the raising of the coefficient of acidosis and the appearance of urobilinuria These changes might possibly be as much due to the ante operation starvation and dietetic restriction as to the chloroform itself The traumatic element in every operation must also be remembered in this connexion So far as these researches go, they tend to show that, at any rate in children chloroform with proper supervision is a good anaesthetic, and this was borne out by the author's clinical experience

241 Retention of Urine after Spinal Anaesthesia.

I DI PACE (*Il Policlinico*, December 15th, 1923, p 614) reports the case of a man, aged 41, operated on for anal fistula with stovaine spinal injection, followed by retention of urine for fourteen days, failure of erection of the penis, and limited loss of sensation in the coccygeal area The solution of stovaine used was a 10 per cent acid solution and 1 c cm was injected The spinal fluid was clear and not under pressure Although it was easy to inject the solution it was found impossible to withdraw fluid by aspiration The author's suggestion as to the cause of the subsequent symptoms is that one of the branches of the first and second pair of sacral nerves which go to the bladder and corpora cavernosa was injured by the needle of the syringe, and the inability to aspirate fluid was due to the nerve tissue closing the opening of the needle The symptoms were too slight to be accounted for by toxic poisoning or any more serious lesion The patient was highly sensitive, and possibly some of the earliest symptoms may have been partly due to shock. He refused to have a catheter passed for the first two days, partly from fear of the subsequent constant need of catheterization and partly because, owing to the anaesthesia of the bladder, he said he did not feel very uncomfortable, although he had passed no water for two days In the second week he had a catheter passed daily and at the end of a fortnight was able to micturate naturally

Obstetrics and Gynaecology.

242. Rare Case of Twin Pregnancy

J A VAN DONGEN (*Nederl Tydschr v Geneesk*, January 5th, 1924, p 32), in view of the extreme rarity of uni ovular twins with a single amniotic sac, records the following case He was called to see a woman in labour who had had two attacks of eclampsia The first twin was delivered by forceps and weighed 5 lb 12 oz The macerated feet of the second twin then presented at the vulva and a macerated foetus smaller than the first child, was extracted Both were of the same sex Shortly afterwards the placenta was delivered by gentle pressure, and it was found that there was a single placenta, chorion, and amnion The two umbilical cords were inserted into the placenta close together one having a marginal insertion They were twisted round one another without forming an actual knot There were no further attacks of eclampsia, and the subsequent progress of the mother and first twin was favourable The most probable explanation of this case is that entanglement of the cords caused the death of one foetus while the other escaped The difference between the two cords in thickness and in the quantity of Wharton's jelly accounted for the death of only one child taking place A less probable explanation is that one of the children died from another cause, such as pregnancy toxaemia and that the entanglement of the cords took place after the death of one child Only a few similar cases have been described Sometimes one and sometimes both foetuses died during pregnancy or during delivery In a case reported by Kouwer in which there were two distinct placentas in a uni ovular twin pregnancy and a velamentous insertion of both umbilical cords both children died during delivery Dietrich has reported a case in which the first child was born alive and the other died during delivery

243. Repeated Tubal Pregnancy

L E PHANEUF (*Boston Med and Surg Journ*, January 24th 1924, p 128) remarks that repeated tubal pregnancy is not so infrequent as formerly believed He reports in detail two cases which occurred in the Carney Hospital—during a period of, approximately, ten years—in both of which the first gestation was in the right tube the second in the left Cragin, out of thirty five cases of ectopic gestation during three and a half years had encountered six which had previously been operated upon for this condition In five of these cases the extrauterine pregnancy was found to be on the opposite side to the first In one case it occurred for the second time on the same side, the tube not having been removed at the first operation Phaneuf considers that the possibility of this occurrence should be remembered when a woman who has had a previous operation for tubal pregnancy develops pelvic pain with irregular menorrhagia He adds that, when operating for ectopic gestation the appendages of the opposite side should only be removed if diseased, and if the patient has had severe haemorrhage

244 Congenital Deformity of the Limbs

GAETANO (*Rif Med*, January 21st 1924, p 49) reports three cases of congenital deformity of the limbs (1) Congenital absence of the right tibia in a boy of 14 years The leg was flexed on the thigh and only reached about half way up There was no other deformity, and both the boy and his parents were otherwise quite well there was no family history of malformation (2) A child aged 3 with complete absence of the fibula shortening of the tibia absence of the first and third phalanges, and poor development of the second, on the other side absence of the fourth phalanx and

syndactyliam of the first and second (3) Polydactylism of the right hand in a child aged 7 Photographs and radiograms of cases (1) and (2) are given The cause of these deformities is still uncertain, sometimes they appear to be due to pressure from too small an amniotic sac, sometimes they may be atavistic in origin, in any case they are primarily the result of imperfect development Where the lesions are multiple it is not easy to believe they can be due to amniotic pressure,

245. Tuberculous Infection of Myomata.

I. SPIRITO (*Arch di Ostet e Ginecol*, November, 1923, p 483) remarks that secondary tuberculous infection is much more rare in uterine myomata than in ovarian cysts, carcinomata, or any other tumours occurring in the female genital organs. Pampanini, among 150 systematic microscopic examinations of such tumours, found 13 examples of tuberculous infection, of which 3 only were cases of myoma In all but 3 of the recorded cases tuberculous lesions of the adnexa or of other portions of the genital organs have led to secondary invasion of the myoma by direct extension, usually from one or both Fallopian tubes In two instances the myomata affected have been pedunculated and submucous, both patients died of pulmonary tuberculosis In one case described by Grünbaum the tubes and peritoneum were healthy, and there was evidence of probably contemporaneous tuberculous infection (via the blood stream) of the endometrium and of a large adenomyoma of the uterus The histological investigation of one case is described by Spirito

246. Lumbar Puncture for Eclampsia.

THE value of lumbar puncture in some cases of eclampsia and pre-eclampsia is shown by VORON and MANTELIN (*Bull Soc. d'Obstét et de Gyn*, No 9, 1923, p 551), who give short histories of three cases In the first case there were persistent headaches for some days after delivery in a woman who had suffered from eclampsia All the usual anteeclamptic remedies were tried with no success, but after lumbar puncture the headache disappeared almost immediately and did not return The fluid was clear and not under pressure The second patient was a primipara of 24 who was suffering from very severe pre eclamptic symptoms —especially visual disturbances—and extremely severe headache, the urine being loaded with albumin The usual treatment was again unavailing, but lumbar puncture caused the headache and visual disturbances to disappear in a few hours, and nine days later she was delivered of twins The fluid was clear and under pressure The third patient was a primipara who had had seven fits and was comatose, but very restless No improvement occurred with the usual treatment, so lumbar puncture was performed and 20 c cm of a clear fluid not under pressure was removed The condition began to improve and a macerated foetus was born Two days later the patient was normal again The authors, therefore, advocate the use of lumbar puncture when the usual methods of treatment fail, especially in cases of severe headache, visual disturbances, and restlessness

Pathology.

247 Diphtheria Anatoxin

RAMON has recently described a technique of titrating diphtheritic toxin with antitoxin *in vitro* Making further experiments on this reaction, he has now (*Ann de l'Inst Pasteur*, January, 1924, p 1) found that the flocculating power of a toxin and its toxicity to guinea pigs do not always run a parallel course During the first eight days of incubation of a broth culture of diphtheria bacilli the strength of the toxin as estimated by either method gives similar results, but after this time the toxicity to animals begins to decrease, whereas the flocculating power remains constant Experiments showed that the antigenic power of a toxin with a high flocculating titre which, through standing at the temperature of the laboratory, had lost a great part of its toxicity, was likewise very high—that is to say, that the power of a given toxin to produce antitoxin varies not with its toxicity, but with its flocculating capacity Following up this discovery, he prepared a toxin with a high flocculating titre, made it up to 0 4 per cent formalin, and incubated it at 42° C, after a certain time this toxin, which at first killed a guinea pig in a dose of 1/800 c cm in four days, was no longer able to cause intoxication even when injected in a dose of 6 c cm This toxin which, though retaining its flocculating power, is completely innocuous to animals, he calls 'anatoxin" Using this anatoxin for the injection of horses, he succeeded in obtaining in a short period serums of very high antitoxic power Further experiments confirmed his previous conclusion that the antigenic power of a toxin varies not with its toxicity but with its flocculating capacity The higher this is the greater is the immunizing power of the toxin He considers that this anatoxin, being perfectly devoid of toxicity, should prove of great value both for the production of antitoxic serums and for the immunization of children

248 Primary Lymphatic Gland Tumours

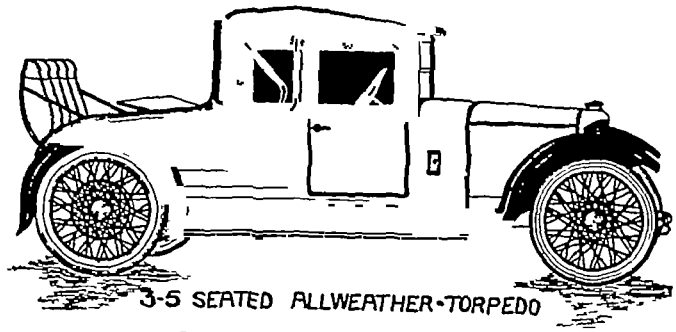
E GIOJA (*Arch Ital di Chir*, November, 1923, p 113), who records two illustrative cases, comes to the following conclusions (1) However minute and careful the clinical examination may be, the diagnosis is often impossible without the help of a histological examination (2) Extreme caution is needed in using some of the ordinary diagnostic methods, such as the so called regional or local cutl reaction The fact that it may be positive in non tuberculous affections, if unrecognized, may lead to an erroneous diagnosis, (3) The author's first case, which was one of lymphosarcoma, shows how misleading may be the success at first obtained by injection of iodine into the enlarged glands In the course of five months a diminution of 6½ cm was obtained in the circumference of the neck and the general condition showed decided improvement, but on the occurrence of acute tonsillitis the glandular enlargement underwent a rapid development A case of this kind shows the necessity of histological examination before adopting treatment which may only waste valuable time Though primary tumours of lymphatic glands in general, and lymphosarcoma in particular, are extremely malignant, and may become generalized in a very short time, in cases which are monoglandular at first early operation may be of use Moreover, the action of x rays shown in one of Gioja's cases suggests that this method may be a valuable adjuvant to surgical treatment, or at least a palliative method, especially when there is severe and persistent pain (4) Histologically the cases prove that there are no grounds for the statement that the elements of lymphosarcoma invade the interstitial tissue but do not destroy the muscles or the vessels like a malignant tumour, as examination in one of Gioja's cases showed complete destruction of the muscle fibres (5) Primary endothelioma with oval or fusiform cells may develop in the lymphatic glands and be mistaken for spindle celled sarcoma A distinction can be made clinically by the tendency of endothelioma to develop locally with early involvement of the skin

249 Bacilli of the Paratyphosus B Group

DURING the course of his work on the differentiation of the organisms of the paratyphoid enteritidis group E O JORDAN (*Journ Infect Dis*, December, 1923, p 567) has made a study of 63 strains belonging to the *paratyphosus* B group All these strains agree in producing acid and gas in arabinose, dulcite, and xylose, while all but 5 of them produce a transient acidity in inosite Further, they all ferment trehalose and they all blacken lead acetate medium These cultural reactions alone are generally sufficient to differentiate them from organisms of the *enteritidis* and *suipestifer* groups As regards agglutination the paratyphoid B strains seem to belong to a more or less homogeneous group, but when the absorption test is applied they are seen, with the exception of 3 strains, to be capable of division into two sharply cut groups One of these groups, comprising 33 strains, contains all the strains isolated from typical paratyphoid fever in man and all or nearly all of the *paratyphosus* B strains of porcine origin For this subdivision he suggests the name of "Schottmüller type" The other group, comprising 27 strains, includes nearly all the strains of the group isolated from food poisoning outbreaks, together with all strains of rodent origin As the members of this subdivision agree in their ability to absorb the homologous agglutinins from an *aertrycke* "mutton" serum, it is suggested that they should be listed under the name of "*aertrycke* type" Both of these types are more closely allied to one another than to the *B enteritidis* type, from which they are distinguished both by fermentative and serological reactions

250 Red Cell Sedimentation in Pulmonary Tuberculosis.

K V NEERGAARD (*Schweiz med Woch*, December 6th, 1923, p 1122) has examined the rate of sedimentation of the erythrocytes in 240 cases, some of which were not tuberculous He has found this test of the greatest value in distinguishing between active and inactive pulmonary tuberculosis Among the 32 healthy persons examined the average rate of sedimentation was 3 mm an hour Among the cases of suspected or latent tuberculosis this rate was 5 mm, and among the cases of early tuberculosis it was 10 mm an hour Among the exudative, cavernous cases it was 52 mm., and among the patients in the last stages of pulmonary tuberculosis the average was 79 mm an hour The difference between complete health and advanced disease in this respect was very noticeable



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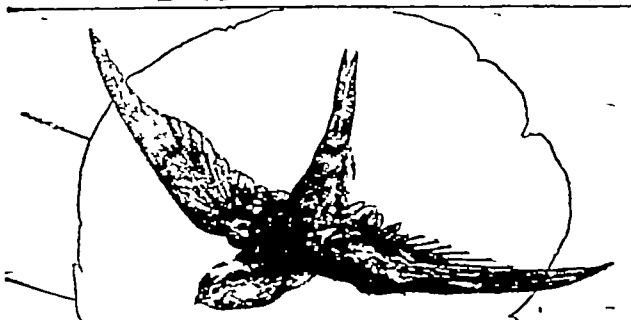
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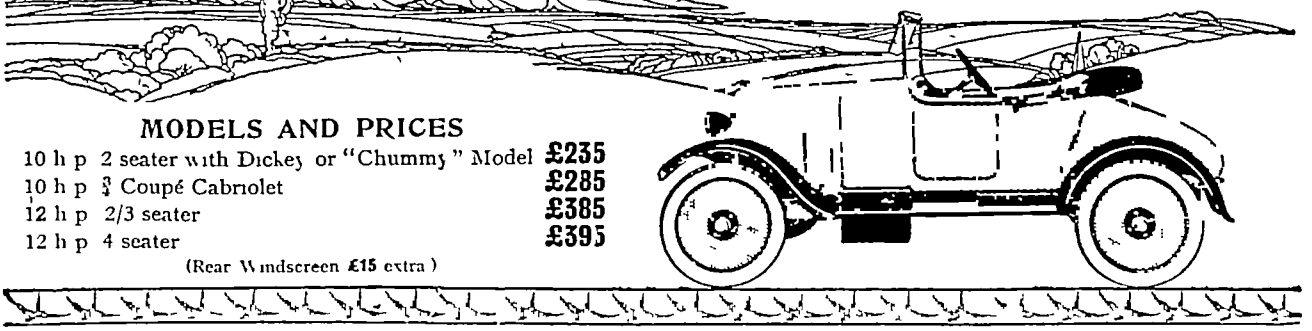
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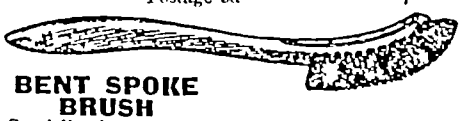
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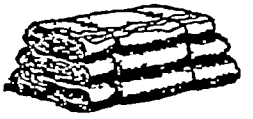
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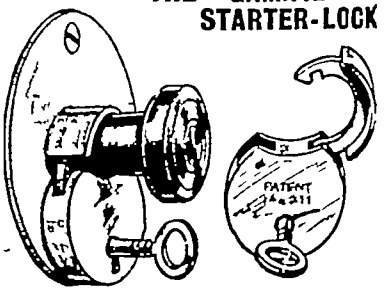
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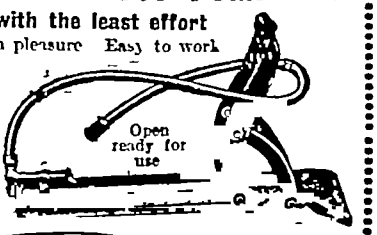
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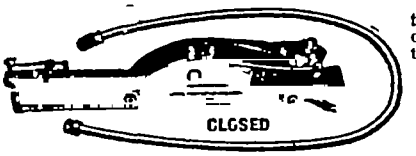
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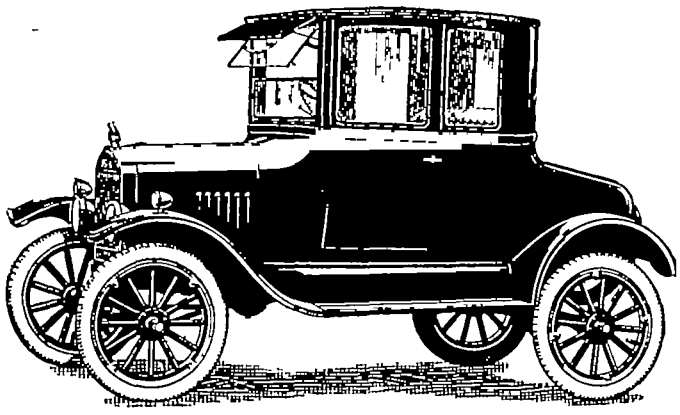




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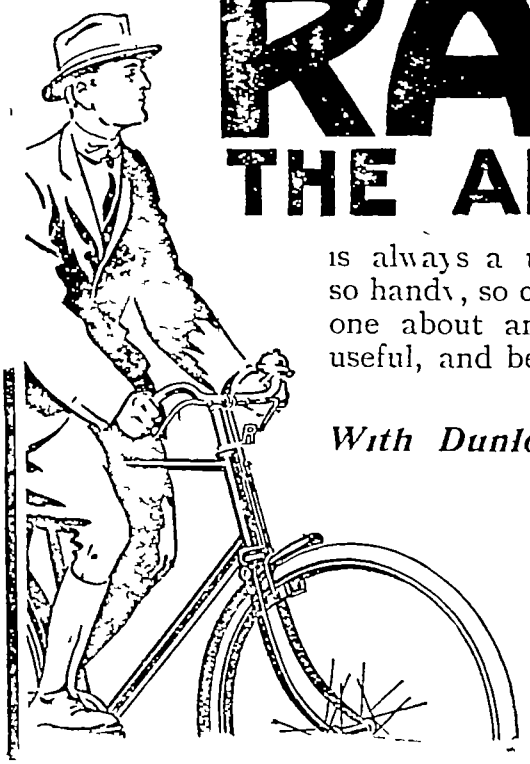
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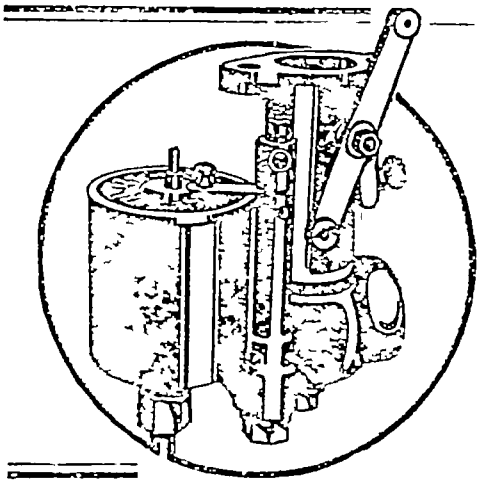
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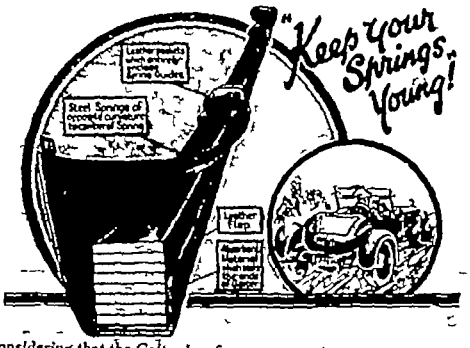
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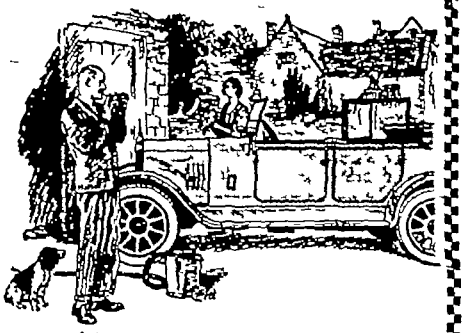
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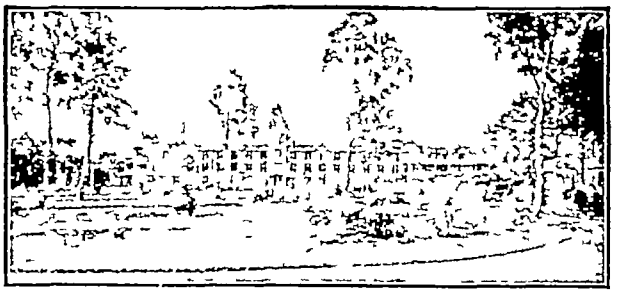
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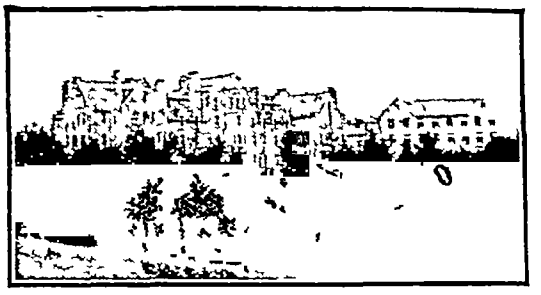
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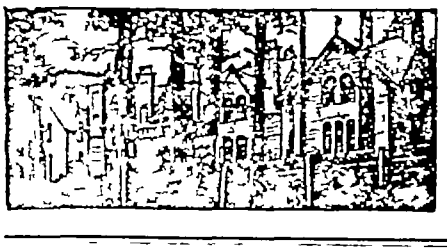
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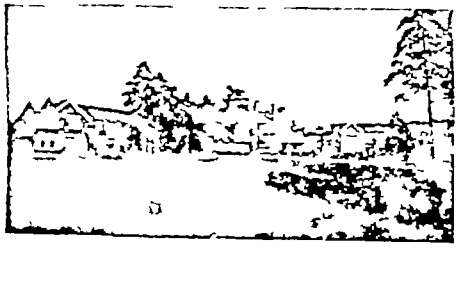
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Complete X-Ray and High FREQUENCY INSTALLATION comprising 16 heavy discharge Gaiffe coil Giant turbine interrupter Millampmeter 0-5 & 2-5 Polished slate switch panel fitted with necessary controls. The whole mounted in handsome polished oak cabinet Universal X ray couch by the Medical Supply Association High frequency pedestal complete by Cox & Co milliampmeter 0-800 Two heavy anodo X Ray tubes, 2 valve tubes set of deve oping tanks etc. Can be seen working by appt. Price £120 — W G THICKER 151 Brooke Rd Upper Clapton, E.5.

X-Ray Installation with couch tube stand three good tubes etc £80 Seen Manchester —Address, No. 1519 BRITISH MEDICAL JOURNAL Office, 429, Strand W C

X Rays -Wanted to purchase, whole or share of RADIOLOGICAL and ELECTRO THERAPEUTICAL PRACTICE.— Address No 1543 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Recent type of X RAY OUTFIT of medium power Send details, price etc to P H CRITCHLEY Esq 21 Great George Square, Liverpool

Govt Surplus —Record Syringes 2 c.c. 5/ 5 c.c. 7 6 10 c.c 10 Wool 2 oz. comp pkt. 1/4 lb Plaster 1 spools 10d Scissors from 1/ Sterilizers 10 from 12 Pot Permang tabs. 5001 3 Pilboxes 1od Catgut 6 tubes 1/6 -A W AUTY 63 King's Rd. Wille-den N W 10

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Brighton — Great Bargain Large NURSING HOME on Marine Parade 33 rooms all with sea view suitable for private hotel or medical institution electric light and passenger lift If sold immediately low price of £5,000 accepted freehold Occupation immediate possession would be given Address, No. 1512 BRITISH MEDICAL JOURNAL Office 429 Strand W C

City —Doctor unable to give full time wants another to share his rooms in excellent position Good opportunity for right man —Address No 1540 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2.

Doctor's House for Sale — Also suit City man, 10 minutes to Cannon St good position nr station A bargain 40 years a Doctor's Residence converted Handsome return on outlay immediately First floor flat room Second floor 5 rooms Vacant possession Price £2,650 — Write X Y Z c/o MANCHESTER COMMERCIAL BANK 111 Great Portland S London W 1

For Sale —Semi-detached Freehold RESIDENCE vacant possession beautiful district fine open aspect Medical man No Resident Doctor Pop 5 0 0 growing Close schools golf links etc. Price £1,400 — Apply No 1517 BRIT MED JOUR. Office 429 Strand W C.

Leicester — To Let (unfurnished) in very best Residential District Compact property containing basement 2 bath 3 Reception rooms garage tabling an Egron ds a suitably suited for Nursing Home or Medical Man For rent and all particulars apply WARNER, SHEPPARD & WADE & F L KIRBY 1 Millstone St., Leicester

Leigh-on-Sea (30 miles, London Doctors strongly recommend Fine Freehold HOUSE Premier position a front suitable Nursing Home 14 bedroom 4 ample reception room £5,500 with furniture £7 000 —Write Box B 432 c/o ALDRIDGE, 3 Paternoster Row E C

Park Crescent, Portland Place facing Ornamental Garden Spacious HOUSE to be Let on Lease for approved professional residence or for conversion into good maisonettes —Apply to Mr JOHN MYERS F.S.I., 11 Suffolk Street Pall Mall S W 1

Car Hire.—Doctor going abroad will let his smart Peugeot Coupé de Ville with experienced Chauffeur for Town use weekly or part use by arrangement —Apply, T Ansell, 6a, Lanark Place, Maida Vale, W 9 Tel 5855 Padd.

D.F.P. Ideal Doctor's Coupé, dash lighting, detachable head beautifully fitted and conditioned Clock speedo, gent's companion £100 Any trial —D & S Autocar Co The Parade, Golders Green Hampstead 3914

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Printers 1, Hill Place Edinburgh

Prison Medical Service.

Vacancies exist for Medical Officers Class II in the above Service Salary £350 rising by £20 per annum to £600 with quarters or an allowance in lieu. The pay is subject to a bonus which at present on a salary of £350 is £154 14s These posts are pensionable and there are prospects of promotion to higher rank

Candidates must be fully qualified and registered Preference will be given to those who have held House Appointments have had experience in Lunacy and Psychological Methods and are under the age of 30

Forms of application can be obtained from the Secretary Civil Service Commission, Home Office London S W 1

Guy's Hospital

SALOMONS INFANT WELFARE CENTRE

Applications are invited for the post of MEDICAL OFFICER to the Salomons Infant Welfare Centre Guy's Hospital The appointment is for two years commencing May 1st 1924 and the honorarium attached to the post is at the rate of £350 per annum Further particulars may be obtained from the Superintendent.

Candidates should send their applications, together with copies of not more than four recent testimonials to the Treasurer, Guy's Hospital, on or before Monday March 31st

North Staffordshire
INFIRMARY Stoke on Trent.
(A General Hospital 304 Beds)

Vacancy for HOUSE SURGEON Salary £200 per annum, with board residence and laundry

Applications invited to be addressed to the undersigned with two or three recent testimonials (copies) at once

Applicants with previous experience essential
W STEVENSON
18th March 1924 Secretary & House Governor

Rochdale Infirmary and DISPENSARY (110 Beds.)

Wanted JUNIOR HOUSE SURGEON (Male) Salary £200 per annum including board, residence and laundry Applications stating age, nationality &c together with three recent testimonials to be sent to the Secretary endorsed House Surgeon" Conditions of appointment may be had on application to W WYNNE Secretary

Norwood and District
COTTAGE HOSPITAL.

Applications are invited from registered general practitioners in the neighbourhood for the post of HONORARY ANÆSTHETIST Testimonials not required Applications should reach the Honorary Secretary Mr Frank Jefferson 77A Westow Hill, S E 19 on or before March 29th

The Manchester Victoria
MEMORIAL JEWISH HOSPITAL —Wanted at once SECRETARY and SUPERINTENDENT with full knowledge of Hospital work (Male or Female) Commencing salary £350 Apply in writing with full particulars, to Hon Sec of above Hospital

City of Leeds.

CHIEF CLINICAL TUBERCULOSIS OFFICER.

Applications are invited from qualified and registered medical practitioners for the post of Chief Clinical Tuberculosis Officer The person selected will have the status of Assistant Medical Officer of Health and will be required to devote his whole time to the office It will be necessary for him to enter into an agreement of service with the Corporation terminable by three months notice on either side and to undergo a medical examination and contribute to the Superannuation Fund established under the Local Government and other Officers Superannuation Act, 1922

Applicants should be under 45 years of age must have had experience in the treatment and care (Dispensary and Sanatorium) of persons suffering from Tuberculosis had experience of medical and surgical practice in a general hospital and be acquainted with modern methods of diagnosis and treatment including X Ray, tuberculin pneumothorax etc

The possession of a D P H is not essential though it would be considered an extra qualification

Salary £900 per annum Statement of duties and form of application can be obtained from the Medical Officer of Health 12, Market Buildings, Vicar Lane Leeds.

Applications together with copies of three recent testimonials endorsed Tuberculosis Officer, must be delivered at my office 26, Great George Street, not later than 5th April

Canvassing any member of the Council directly or indirectly is prohibited

ROBERT E FOX Town Clerk
March 1924

Croydon Union

APPOINTMENT OF NON RESIDENT MASSEUSE AT THE MAYDAY ROAD HOSPITAL.

The Guardians invite applications for this appointment from single women or widows Salary £175 per annum (no bonus)

Candidates must be fully trained nurses possess the certificate of the Chartered Society of Massage and be experienced in simple electrical treatment and radiant heat therapy

Forms of application with list of duties may be obtained of the undersigned and must be returned not later than the 7th April 1924

NORMAN P WALKER
Clerk to the Guardians
Union Offices Mayday Road
Thornton Heath 18th March 1924

Croydon Union

The Guardians of the above-named Union invite applications from fully qualified Medical men for the appointment of SECOND ASSISTANT MEDICAL OFFICER of the MAYDAY ROAD HOSPITAL, QUEEN'S ROAD HOMES and the CHILDREN'S HOMES

Salary £300 per annum with residential emoluments valued at £140 per annum

Forms of application with list of duties may be obtained of the undersigned and applications must be received by me not later than 7th April 1924

Selected candidates will receive notice to attend
NORMAN P WALKER
Clerk to the Guardians
Union Offices Mayday Road
Thorton Heath 18th March 1924

Ministry of Pensions
HOSPITAL, Beckett Park Leeds

RADIOLOGIST required Salary £600 per annum (plus lodging fuel and light or an allowance in lieu if no quarters available) Appointment terminable on three months notice given by either side

Applications, stating age qualifications experience and whether married or single should be addressed to the Secretary Ministry of Pensions (M S 1 B) 2 Sanctuary Buildings Great Smith Street London S W 1 Two recent testimonials should accompany the above information

Preference will be given to applicants who served in the Great War

Royal Surrey County
HOSPITAL Guildford 110 Beds

Wanted early in April HOUSE SURGEON (Male) Salary £150 with board residence and laundry

Applications stating essential particulars with copies of testimonials to the Secretary by March 29th

Ayr County Hospital

The Directors invite applications for the post of SENIOR (Male) RESIDENT HOUSE SURGEON Salary £100 per annum, with board and residence appointment from 1st April 1924 for one year or six months, as may be arranged

Applications with testimonials, to be lodged with the Secretary 2, Barns Street, Ayr, not later than Thursday 27th inst

Surrey County Council

ASSISTANT MEDICAL OFFICER IN PUBLIC HEALTH DEPARTMENT

Applications are invited for the appointment of a Male Assistant Medical Officer Candidates must possess a qualification in public health and have had experience in the diagnosis and treatment of tuberculosis and venereal diseases The officer appointed will be required to undertake such other public health duties as may be allocated to him. He will be on the staff of the County Medical Officer of Health must reside in the County and devote the whole of his time to the work Salary £600 per annum rising by annual increments of £20 to £700 per annum

The appointment will be subject to the approval of the Ministry of Health to the provisions of the Local Government and other Officers Superannuation Act 1922 and to the Standing Orders of the Council which provide inter alia that the appointment may be determined at any time by three months written notice.

Applications stating age, qualifications and experience, together with copies of three recent testimonials, should be made on the prescribed form and sent to the County Medical Officer of Health 5 Grove Crescent Kingston upon Thames from whom copies of the application form may be obtained and to whom any inquiries relating to the appointment should be addressed

Last day for receipt of applications 2nd April, 1924
Canvassing directly or indirectly will disqualify
County Hall T W WREDDING
Kingston-on Thames Clerk to the County
17th March 1924 Council

The Prince of Wales's
GENERAL HOSPITAL Tottenham N 15

Applications are invited for the following posts, vacant on the 15th April next:—
HOUSE SURGEON £150 per annum
HOUSE PHYSICIAN £150 per annum
JUNIOR HOUSE SURGEON, £110 per annum
JUNIOR HOUSE PHYSICIAN, £110 per annum with residence board and laundry

The appointments are held for six months but the holders are eligible for re-appointment for a further term

Candidates (male) must be duly qualified and registered and applications together with copies of 3 recent testimonials to be sent to me on or before Monday 30th March next.

FREDK W DREWETT, Director
10th March 1924

Royal Westminster
OPHTHALMIC HOSPITAL
(Incorporated by Royal Charter)
King William Street West Strand, W C 2.

ASSISTANT HOUSE SURGEON required from 1st May 1924 for six months Candidates must be duly qualified registered in this Country, and with a knowledge of Ophthalmology Board residence &c provided with a small salary On conclusion of term of service as Assistant House Surgeon will be eligible for appointment as House Surgeon for six months if recommended

Applications with copies of testimonials be sent on or before the 31st March 1924 to the Secretary from whom further particulars can be

Hospital for Epilepsy and PARALYSIS Maida Vale W 9

MEDICAL REGISTRAR REQUIRED

Applications are invited for the post of Medical Registrar They should be accompanied by copies of not more than three recent testimonials and should reach the undersigned by the 5th April

An Honorarium of £100 is attached to the appointment which is for one year and further particulars can be obtained on application
H W BURLEIGH Secretary

The Bury Infirmary
(101 Beds)

Wanted at once a JUNIOR HOUSE SURGEON Male who must have both Medical and Surgical qualifications Salary £150 per annum, with board residence, and washing

Application stating age and nationality, with testimonials to be sent at once to
H MOSCROP ROBINSON
12, Crompton Street, Honorary Secretary
Bury Lancs

London Jewish Hospital
St Pancras Green E 1

Applications stating in full previous appointments held are invited for the post of CASUALTY OFFICER, and should be sent to the Secretary immediately accompanied by copies of three testimonials Salary at the rate of £200 per annum with lunch and tea The holder will be required attend the Out patient Department daily (Monday to Friday) at 9 a m Applicants must possess registered qualification.

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

CONTRACT PRACTICE.

Town or District	Town or District	Town or District
ENGLAND	**WALES** (continued)	**PUBLIC HEALTH** (continued)
MIDDLESBOROUGH (Medical Aid Associations or Workmen's Clubs)	MARDY GLAMORGAN (Workmen's Medical Scheme)	BERKSHIRE EDUCATION COMMITTEE (Assistant Medical Inspector of Schools)
SOUTH BANK & ESTON (Medical Aid Associations or Workmen's Clubs)	OAKDALE MON (Medical Officer for Medical Aid Association and Cottage Hospital.)	CORNWALL: EDUCATION COMMITTEE (Woman Assistant School Medical Officer)
WALES	OGMORE VALLEY GLAMORGAN (Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme)	EAST SUFFOLK ADMINISTRATIVE COUNTY (Assistant Tuberculosis Officer)
ABERTRIDWR GLAMORGAN Windsor Colliery (Medical Scheme.)	TONDU & ABERKENFIG, GLAMORGAN (Workmen's Medical Scheme.)	LEEDS EDUCATION COMMITTEE (Assistant School Medical Officer
EBBW VALE MON (Workmen's Medical Society)	**PUBLIC HEALTH.**	LINCOLN: CITY AND COUNTY BOROUGH (Medical Officer of Health)
GILFACH GOCH GLAMORGAN (Workmen's Medical Scheme)	BARNSLEY COUNTY BOROUGH (Assistant Medical Officer of Health and Assistant School Medical Officer)	NOTTINGHAMSHIRE (County Medical Officer of Health)
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN (Workmen's Medical Scheme.)		SOUTHWARK METROPOLITAN BOROUGH (Tuberculosis Officer)

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2

Town or District.	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch.	Town or District	Hon. Sec. of Division or Branch
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN (Senior Resident Physician.) (Senior Resident Surgeon.)	Mr. A. RADFORD, M.C., F.R.C.S., 5 & 6, 4th Floor National Bank Buildings, Durban.	QUEENSLAND (Brisbane Associated Friendly Societies' Institute.)	Dr. R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street Brisbane.	VICTORIA (All Institute or Medical Dispensaries.)	Dr. FRANK DAVIES (Hon. Sec. Victorian Branch), Medical Society Hall, Melbourne, Victoria.
NEW SOUTH WALES. (All Friendly Society Appointments.)	Dr. R. H. TODD (Hon. Sec., New South Wales Branch) B.M.A. Building 30-34 Elizabeth Street Sydney N.S.W.			WESTERN AUSTRALIA. (Contract and Lodge Practices.)	Hon. Sec. Western Australian Branch No. 6 Bank of New South Wales Chambers St. George's Terrace Perth.

Address 429 Strand, W.C. 2.
March 19th, 1924.

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary.

The Sheffield Royal Hospital

Applications are invited for the post of ASSISTANT CASUALTY OFFICER. Salary £100 per annum with board and residence in the Hospital. Candidates must be registered medical practitioners and unmarried.

Applications with copies of testimonials to be sent to me as early as possible.

The Board Room, 11th March 1924. JOE W. ROBINSON, Secretary.

County Hospital, York

(170 Beds.)

HOUSE PHYSICIAN wanted. Candidates must be fully qualified and registered. Salary £150 a year with board residence etc.

Applications stating age together with copies of not more than three recent testimonials to be sent to the undersigned not later than the 3rd April next. FREDK. NEDEN, Secretary.

City of Bradford

Applications are invited for the post of CITY BACTERIOLOGIST and PATHOLOGIST for the City of Bradford. Commencing salary £750 rising to £1,000 per annum.

Forms of application may be obtained from the Medical Officer of Health, Town Hall, Bradford, and should be returned not later than 24th March 1924. N. L. FLEMING, Town Clerk.

Western Ophthalmic HOSPITAL, Marylebone Road, N.W. 1

Applications are invited for the post of SENIOR and JUNIOR NON-RESIDENT HOUSE SURGEONS. The salaries are at the rate of £150 and £100 per annum respectively and the appointment are for six months. The elected candidates will be required to take up duties early in April. The present holder of the junior office is a candidate for the senior and candidates for the latter post should indicate whether they are prepared to accept the junior position.

Applications accompanied by copies of three testimonials should reach me by March 25th.

H. W. DURLEIGH, Hon. Secretary.

Coventry and Warwickshire HOSPITAL, Coventry

SPECIAL EYE, EAR, NOSE AND THROAT AND X-RAY DEPARTMENT

RESIDENT HOUSE PHYSICIAN (male) wanted who will also be required to act as Casualty Surgical Officer. Vacant March 31st 1924. Salary £150 per annum with board, washing and attendance.

Candidates must be duly qualified and registered.

Applications stating age and enclosing copies of recent testimonials, should be sent to the undersigned on or before March 25th 1924.

(Miss) R. HOOPER, Secretary.

10th March 1924.

Royal Waterloo Hospital FOR CHILDREN AND WOMEN Waterloo Road, S.E. 1

There is a vacancy for an HONORARY PHYSICIAN in charge of Out-patients.

Candidates must be graduates in Medicine of a University recognised by the General Medical Council and Members of the Royal College of Physicians.

Any letters should be sent to the Secretary at the Hospital on or before March 5th with copies of not more than three testimonials.

Radcliffe Infirmary and COUNTY HOSPITAL, Oxford.

Applications are invited for the post of HONORARY ASSISTANT SURGEON at the above Hospital. Applications together with 20 copies of 3 testimonials, to be forwarded to the undersigned not later than Monday 7th April 1924.

A. G. L. SANCTUARY, Administrator.

Brighton—The Royal ALEXANDRA HOSPITAL FOR SICK CHILDREN (80 beds.)

A HOUSE SURGEON required. Salary at the rate of £120 a year with board, lodging and washing. Good experience. Ample time for study. No canvassing allowed. Further particulars may be obtained of A. F. GRAVES, Secretary.

The Barbados General Hospital.

Wanted a duly qualified Medical Practitioner as JUNIOR RESIDENT SURGEON of the Barbados General Hospital A man who has had experience in administering Anæsthetics preferred

Salary £250 per annum with furnished quarters, and there is also at present a temporary War Bonus of 20% in addition to the salary

Applications accompanied by professional and other testimonials stating age and date of graduation will be received by the Steward and Secretary of the General Hospital up to 12 o'clock noon on Wednesday April 9th 1924

Canadian Graduates must be registered in a province registration in which will entitle them to be registered in the United Kingdom

Candidates holding a United States Diploma must be registered in the State of New York

By order of the Deputy Chairman of the Court of Trustees and Directors.

General Hospital, Jemmotts Lane Bridgetown Barbados B W I
6th February 1924

J WARD
Steward & Secretary

Western Australia—

Applications are invited by the Agent General for Western Australia from duly qualified medical men for the post [illegible]ion of BACTERIOLOGIST and PATHOLOGIST Medical and Health Department of Western Australia Applicants must be fully qualified practitioners experienced in and competent to carry out the routine work of a laboratory Clinical and Public [illegible]ology Commencing [illegible] to £804 salary to commence from date of arrival in Western Australia. Transport allowance of £200 for married man and £100 for single man Should the successful applicant voluntarily relinquish the position before the expiration of two years from the date of his appointment he will be called upon to refund the amount of the transport allowance Applications which should be endorsed Pathologist must reach the Agent General for Western Australia Savoy House 115–116 Strand London W C 2 not later than the 12th April 1924

Birmingham Union

SELLY OAK HOSPITAL.

ASSISTANT MEDICAL SUPERINTENDENT (RESIDENT)

The Guardians invite applications from fully qualified medical practitioners for the above appointment

The present hospital accommodation is approximately 400 beds (medical surgical and maternity and gynæcological)

Candidates must have had previous hospital experience in medical and surgical posts

The gentleman appointed to the post will be required to assist in the training and lecturing of nurses and to serve at other Institutions of the Board if desired

Commencing salary £550 per annum rising by annual increments of £50 to a maximum of £700 per annum together with full residential emoluments (furnished apartments rations, laundry and attendance)

There are no married quarters

Further particulars of the appointment may be obtained from the Medical Superintendent, Dr W [illegible]URTIN at the Hospital

Applications stating age experience and qualifications accompanied by copies of recent testimonials should be forwarded to me at the earliest possible date

Union Offices, Edmund Street, Birmingham
JAMES CURTIS
Clerk to the Guardians
13th March 1924

Leicestershire & Rutland Mental Hospital

Narborough near Leicester

Wanted a SECOND ASSISTANT MEDICAL OFFICER (Male unmarried) not exceeding forty years of age doubly qualified and registered under the Medical Act Salary £350 per annum with board furnished apartments laundry &c. The appointment is subject to the provisions of the Asylum Officers Superannuation Act 1909

Applications with copies of not more than three recent testimonials, to be sent to the Medical Superintendent on or before the 9th March 1924

Victoria Hospital, Keighley

(160 Beds)

HOUSE SURGEON required Appointment for six months renewable for a further period of six months Salary at the rate of £180 per annum with board residence and laundry

Candidates must be fully qualified and registered Applications with copies of recent testimonials to the undersigned on or before the 8th March 1924

M HOYLE Secretary

11th March 1924

The Hospital for Sick Children

Great Ormond Street London W C 1

The following appointments will shortly be vacant —

HOUSE SURGEON 12th April, 1924
HOUSE PHYSICIAN and ASSISTANT CASUALTY OFFICER 14th April 1924

Gentlemen are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday 31st March 1924 with copies of not more than three testimonials given specially for the purpose and also evidence of their having held a responsible hospital appointment

The appointments are made for six months Salary £50 laundry allowance £2 10s and board and residence in the Hospital

Candidates must be unmarried, and possess a legal qualification to practise.

All candidates must appear before the Joint Committee at their meeting on Wednesday, 2nd April 1924 at 5 p.m. precisely

Forms of application and copies of the rules may be obtained from the Secretary

By Order of the Board of Management
JAMES McKAY
Secretary

March 1924

Norfolk County Council

APPOINTMENT OF ASSISTANT TUBERCULOSIS OFFICER

Applications for the above post are invited Special experience in the diagnosis and treatment of Tuberculosis is essential The Officer appointed will work under the direction and supervision of the County Tuberculosis Officer and will be required to reside in Norwich

The duties consist of visiting patients at their homes dispensary and such other work as may from time to time be required Travelling expenses are provided and the Officer is supplied with a car Some experience of Laboratory work would be appreciated Salary £600 per annum

Applications accompanied by not more than three recent testimonials stating age and date when free to commence duties must be received by Dr W B CHRISTOPHERSON County Tuberculosis Officer Bank Court The Walk Norwich not later than Saturday April 5th 1924

H C DAVIES Clerk of the Council
Shirehouse, Norwich 18th March 1924

The Queen's Hospital for Children

Hackney Road Bethnal Green E 2

The Committee invite applications for the post of ASSISTANT SURGEON to the Ear Nose and Throat Department

Attendance required on Thursday morning for about three hours commencing at 9·30 and during the holidays or absence from other causes of the two Senior Surgeons to the Department on Monday and/or Tuesday morning with charge of beds during these periods Lunch provided, and honorarium to cover travelling expenses.

Candidates must be Fellows by examination of the Royal College of Surgeons England

Applications with copies of three recent testimonials which may be printed or typewritten should be sent on or before 7th April to the undersigned, from whom further particulars may be obtained T GLENTON KERR
Secretary

3rd March, 1924

The Queen's Hospital for Children

Hackney Road, Bethnal Green E 2

RESIDENT MEDICAL OFFICER required The appointment is made for twelve months and may be extended to a further period of twelve months. Salary £200 per annum with board residence, and laundry

The Resident Medical Staff consists of R M O (post now advertised) two House Physicians and three House Surgeons Candidates must have held a responsible resident appointment at a recognised hospital

Applications with copies of not more than three testimonials given specially for the purpose should reach the Secretary not later than 7th April

17th March 1924 T GLENTON KERR
Telephone: Dalston 305 & 544 Secretary

London Lock Hospital,

91 Dean Street London, W 1

The Board of Management invite applications for the post of HOUSE SURGEON at the Male Lock Hospital Candidates must be doubly qualified and duly registered Salary at the rate of £200 per annum with furnished flat full board and laundry

The appointment to be for 6 months duties to commence 21st April 1924

Applications enclosing copies (only) of three recent testimonials to be sent to the undersigned at the Male Lock Hospital 91 Dean Street W 1 on or before 10 a.m March 24th 1924

By order of the Board.
HY J EASON Secretary

Central London Ophthalmic Hospital,

Judd Street St. Pancras W C 1

There is a vacancy for a HOUSE SURGEON salary at the rate of £100 per annum with board and residence in the Hospital

There is also a vacancy for JUNIOR HOUSE SURGEON (non resident) to attend daily at 1 o'clock to assist the ordinary staff until the clinic is closed and undertake the duties of Senior House Surgeon when required Salary at the rate of £50 per annum

Applications with testimonials from duly qualified candidate must be sent to the undersigned on or before March 24th

Candidates must attend at the Hospital on March 27th at 4 p m

H R S DRUCE Secretary

Royal Chest Hospital,

City Road E C

(Royal Northern Group of Hospitals.)

Applications are invited for the post of HOUSE PHYSICIAN The appointment is for six months. Salary at the rate of £100 per annum, with board, residence and laundry

Applications with copies of testimonials should be sent by the 4th April to the undersigned from whom forms of application and rules for the appointment can be obtained

GILBERT G PANTER, Secretary
Royal Northern Hospital Holloway London N

Paddington Green Children's Hospital London W 2

HOUSE PHYSICIAN HOUSE SURGEON

The appointments will become vacant on May 1st 1924 Gentlemen are invited to send in their applications with copies of three testimonials addressed to the undersigned not later than April 10th 1924 Salary of each £150 per annum with board and residence

Candidates who have held a responsible Resident Hospital appointment are preferred The appointments are for a period of six months

JAMES A HAMLIN Secretary

Central London Throat, Nose and Ear Hospital,

Gray's Inn Road W C 1

HONORARY RADIOGRAPHER

The Committee of Management invite applications for the post of Honorary Medical Officer to take charge of the X ray Department about to be constructed Times of attendance to be arranged.

Applications should reach the undersigned not later than April 3rd

RICHARD KERSHAW Secretary

York Dispensary

Wanted a RESIDENT MEDICAL OFFICER to visit and attend the sick poor at their own homes to commence duties about April 10th Candidates must be duly qualified registered and unmarried Salary £175 a year with board lodging and attendance Applications with testimonials to be sent on or before March 31st to AUSTIN J PEERS Secretary 4 New Street York

York City Mental Hospital,

Fulford York

Required a LOCUM TENENS at once Salary Seven guineas weekly with furnished apartments, board etc. to be a duly qualified and registered Medical Practitioner registered under the Medical Act, 1858

Applications stating age with recent testimonials to be sent to E ORMOND BOWIE Acting Medical Superintendent

London Temperance Hospital,

Hampstead Road, N W 1

Applications are invited for the post of SURGICAL REGISTRAR Honorarium 40 gns per annum The appointment is for a period of one year and applications with testimonials should be forwarded to the Secretary not later than April 4th

London Temperance Hospital,

Hampstead Road N W 1

Applications are invited for the post of MEDICAL REGISTRAR Honorarium 40 gns per annum The appointment is for a period of one year and applications, with testimonials should be forwarded to the Secretary, not later than April 4th

St Thomas's Hospital

Vacancy The appointment of an OPHTHALMIC REGISTRAR Applications with testimonials should be forwarded to G Q ROBERTS Secretary, not later than April 7th 1924

Hull City Asylum

APPOINTMENT OF
MEDICAL SUPERINTENDENT

Applications are invited for the appointment of Medical Superintendent at the above Asylum. The salary offered is £1,000 per annum (no bonus to be paid thereon) with emoluments valued now for pension purposes at £250 per annum and subject to revision as follows —Residence (furnished), coal light vegetables for self wife and family, laundry permission to buy provisions etc out of store at contract price and £30 per annum towards upkeep of motor car

The Asylum is situate at Willerby 7 miles from Hull Forms of application can be obtained from the undersigned

Applicants, in addition to completing the form will be required to send in a formal application for the post

Applications endorsed "Medical Superintendent" should be sent to or delivered at my office not later than Thursday the 10th day of April 1924

The appointment will be subject to the provisions of the Asylums Officers Superannuation Act 1909

Canvassing either directly or indirectly will be a disqualification

H A LEAROYD
Guildhall Hull Town Clerk and Clerk to the
18th March 1924 Committee of Visitors

Maternity and Child Welfare

MEDICAL OFFICER required by the Hampstead Council of Social Welfare to take charge of Infant Welfare Centres, every afternoon in the week except Saturdays. A half-time Officer is required who will carry out the administrative educational and consultative duties Salary £400 Applications, stating full name age, qualifications and previous experience together with testimonials should be sent before March 31st, to the General Hon Sec 47 Heath Street N W 3 from whom further particulars can be obtained

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Medical services required for

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PRACTICES for sale Particulars on application

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ST. LUKE'S HOSPITAL.

ESTABLISHED 1751

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FOR SALE

HOME COUNTIES —Large industrial town middle and working class. Panel 2 100 Branch surgery Income £1 970 p a Premium £2 500 (cash) House £1 500 freehold or would let at £120 p.a. 7 years lease

LONDON N E —DEATH VACANCY Old-established G P Working class district main road Income about £800 p a. Panel over 600 Small house, can be rented at £45 p.a Premium £900 Scope for increase

NORTHERN TOWN —Old-established non panel PRACTICE producing nearly £4 500 p a 3 appointments Premium £5 000 House would be let. Excellent opportunity for one keen on surgery

NURSING HOMES —We have several Nursing and Convalescent Homes situated in London and Provinces

DERBYSHIRE.—Old-established G P Panel over 600 Income nearly £800 Premium £1,000 Scope for increase

CHANNEL ISLANDS —NUCLEUS unopposed can be of increase Freehold large garden 10 years lease rent £125 p a. Suit semi retired man Premium £200

LONDON N E —Old-established G P Panel nearly 400 Average cash receipts £950 p a. No midwifery scope Premium £3 000

to 4 include freehold house

LANCS —Old-established G P situated in country town Very pretty country Large house (8 beds) garden and garage Panel over 700 2 appointments Income £1 400 Prem. to include house £4 000

YORKS —Old-established County Town G P Panel 1 200 Income £2 500 3 appointments Detached house with garden and garage to let on lease Premium £3 500

Purchaser stating their requirements will be sent particulars of suitable Practices and Partnerships for sale free of charge

Please address all communications to the Manager Medical Transfer and Insurance Department

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

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Established by Bovril, Limited, to provide an efficient and reliable transfer service for the Profession at minimum charges.

Under the personal direction of Dr. J. FIELD HALL, and Mr. J. C. NEEDES.

An Accountant's certified report is required in respect of every practice or partnership the disposal of which is undertaken by the Agency

The commission chargeable in respect of any practice placed exclusively in the hands of the Agency for transfer has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being £50

NO CHARGE IS MADE TO PRINCIPALS FOR THE INTRODUCTION OF LOCUM TENENS OR ASSISTANTS

Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges

PRACTICES AND PARTNERSHIPS FOR SALE

1 SOUTH SEA ISLANDS —In a Capital City a well established lucrative and increasing PRACTICE averaging over £1 200 per annum Good climate malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10 6 Visits 10/6 upwards Midwifery from 5 guineas Dispensing optional Practice can be worked on foot Good bungalow residence in excellent position with ½ of an acre of garden Electric light etc Rent £10 a month on lease Premium £800 Income Tax 1/ in the pound over £500

2 WEST LONDON —Old-established general PRACTICE producing about £2 800 a year Fees 2/6 upwards Not much midwifery Panel of over 1 800 Convenient house with small garden Rent £100 a year on lease Good partnership introduction will be given Premium £4 000

3 SOUTH LONDON —Residential Suburb —PARTNERSHIP A one-third share to commence with is offered in a very old established general Practice Income for the immediate past year approximately £2 200 with large scope No appointments and small panel (400) Fees from 3/6 to 10 6 A few midwifery cases from 3 guineas Choice of houses or the purchaser if a bachelor can secure suitable rooms Cambridge graduate preferred Premium 2 years purchase

4 LADY DOCTOR'S PRACTICE —EAST LONDON —Rapidly increasing entirely women's and children's Practice Income for the last year about £850 Fees 2 6 to 5/ Very convenient house with good garden Rent £56 per annum on lease Premium £1 500

INLAND HEALTH RESORT —£3 000 a year Old established PRACTICE held 13 years by present incumbent who is relinquishing on account of ill health Cash receipts for the past three years average £3 000 per annum including about £1 500 from panel Visits 3/6 to £1 1 about 0 cases of midwifery a year at 2 to 5 guineas Centrally situated house (reception rooms consulting and waiting rooms 4 bedrooms bathroom etc) on lease at £100 a year Premium 1½ years purchase Efficient introduction given Surgery Cottage Hospital in the place and vendor is on the staff

6 BORDERS OF NORFOLK & SUFFOLK —In a small Market Town and within 20 miles of a Cathedral City amidst pretty country a very old-established unopposed PRACTICE is for immediate disposal in consequence of the ill health of the Vendor Receipts for past three years average £1 500 per annum including appointments and panel about 1 000 Very little midwifery Very nice house with ample accommodation rent £54 Premium to prompt purchaser £1 450 Sport of all kinds tennis club etc Efficient introduction

BRISTOL.—Very old established middle and working-class PRACTICE held nearly 40 years by present Incumbent who is compelled to relinquish on account of ill health Average cash receipts over £1 200 a year including several small appointments and a panel of over 1 000 Visits 3/6 to 10 6 Midwifery £3 3 0 cases yearly Very good house specially built for a doctor contains reception rooms waiting room consulting room and larger with separate entrance 5 bedrooms dressing room etc Garden Price £2 200 Premium £1 800

8 INLAND HEALTH RESORT —In a very pleasant town (resident population 1 400 which is considerably augmented by visitors during the season) amidst beautiful scenery an old-established practically unopposed PRACTICE is for disposal in consequence of the ill health of the Vendor's wife It is estimated to be worth nearly £1 800 a year panel patients Visits up to £1 3 to 5 guineas Excellent residence of ¾ of an acre, with very small orchard Price £3 000 of which £2 500 can remain on mortgage at 4 per cent Premium for Practice £3 000 The Practice offers exceptional future prospects tennis golf hunting shooting etc

9 KENT —LARGE TOWN (within 50 miles of London) PARTNERSHIP —A half share in an old established Practice producing an average of over £3 800 No panel and no appointments Surgery fees 2/ and 2/6 visits 3/ and 3/6 Very little midwifery 2½ cases Night work extremely light House on lease with 2 reception rooms 6 bedrooms bathroom etc Small garden Rent £60 Premium 1½ years purchase payable by arrangement

10 DORSET —Country PRACTICE within reach of good Town A half or possibly two thirds share is for immediate disposal (owing to the serious ill health of the senior partner) in a practice producing about £1 000 a year at present but offering good scope No opposition within six miles Fees 3 6 to £1 1s Small house with 2 reception and 3 bedrooms Rent £26 per annum If desired a much larger house can be bought for £2 500 Premium 1½ years purchase

11 SUITABLE FOR TWO LADY DOCTORS —Well established and flourishing, middle and working-class PRACTICE situated in populous neighbourhood in East London Income over £1 150, with panel of 1 300 Surgery fees 2 6 visits 3 6 upwards No midwifery Small house will be let or sold Premium £1 750 Large scope for increase

12 DEATH VACANCY —WEST MIDLANDS —Very old-established PRACTICE averaging for the past three years over £1 000 per annum including £40 to £50 from appointments and 350 panel patients and situated in a very pleasant Country Town with beautiful surrounding country 4s for immediate disposal Held by late incumbent over 50 years Visits 5/ and 7 6 Very little midwifery Large house and grounds Price (freehold) £2 500 £1 600 on mortgage Premium for Practice £1 250 or near offer Locum Tenens in charge

13. LONDON EAST —PARTNERSHIP —A half share is for disposal in an exceptionally sound old established middle and working class Practice The average income is well over £5 000 including panel of under 1 000 The panel can be largely increased if desired Fees 3/6 and 5/ Midwifery from 3 guineas About 80 cases Small very convenient house in quiet road Price £400 Premium £3 750 maybe £2 000 down

14 OUTLYING SUBURB OF LONDON (South) —Old-established good middle-class PRACTICE doing at present at the rate of £1 200 a year Vendor has no panel but there is very large scope in this direction Visits 5/ upwards Very little midwifery and nothing under £5 5s Exceptionally attractive residence with good accommodation garden etc It is the Vendor's freehold Price £2 000 a good part of which can remain on mortgage Premium for Practice £1 500

Profits accruing to Bovril, Limited, from the Agency will be allocated amongst recognised Medical Charities.

Full Schedule of Terms and conditions will be forwarded on application.

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Kent—Partnership About £3 700 p a No panel or appointments Good fees Half share for disposal Good house to rent.—Apply No 7512

Death Vacancy—South Coast About £700 p.a. Old established Appointments about £140 Small panel Good house to be 6 rooms etc to rent—*Apply No 7510*

London, South-West—PARTNERSHIP about £2 700 per annum Half share for disposal Fees 7/6 to 10/6 Good house to rent Apply No 7504.

West County—Partnership About £2,800 a year Very old established Panel 800 Good fees *Quarter or one-third share for disposal* Very moderate premium *Apply No 7500*

Riverside Suburb—Nucleus about £500 a year Small panel Fee 5/ to 7/6 Increasing district Good house and garden. Apply No. 7474

Open Air Sanatorium, £6,000 a year Old-established Splendid premises on lease. Every investigation Net profits over £1,500 Premium very moderate. Personally known—Apply No. 7426

Scotland—Seaside Resort About £3 800 a year Panel 850. Good fees. Very few midwifery cases. Cottage Hospital Nice house and garden—Apply No. 7494.

Kent—£1,700 a year Very old established PRACTICE. Panel 1,500 Good house rent £50 Easily worked—Apply No 7487

Midlands—£800 a year, Industrial Town Panel 850, easily worked no Car House with large garden lawn and orchard Sell or Let. Premium for practice £1,000—Apply No. 7483.

Northern Town—About £1,200 a year Vendor retiring Appointments £280 Panel 800 Good house—Apply No. 7449

Midland Town—Practice about £1,400 a year Panel 1 420 Excellent house to rent Appointments about £250 No midwifery—Apply No 7473

Eastern County—Good old-established Family PRACTICE, now returning about £2 000 a year and increasing Panel work £600 Fees good Large detached house grounds one acre, to be Let. Apply sole Agent No 7495

Cheshire—£3,500 a year, PARTNER wanted Good Suburb of large Town with Hospital Good fees Panel £1,000 a year Good house available. Half share for sale—Apply No. 7444

Wales Coast—Over £900 a year Good general PRACTICE Small panel Good house and large garden Residential Seaside Resort. Prem. £1000—Apply No 7419

Eastern County—About £800 a year Unopposed On rail Panel over 500. Detached house on lease. Schools near Personally known. Premium 1½ years purchase—Apply No. 7455.

ESTABLISHED 1868.

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LOCUM TENENS and ASSISTANTS supplied

FOR SALE.

1 MIDLAND CITY—Cash a d Panel PRACTICE No booking Receipts £1,400 to £1,500 p.a Panel 1 7 0 No midwifery Convenient surgery with good living accommodation. Rent £35 Good residence available if required

2 MIDLANDS—*Half share of a Country PRACTICE* Industrial district Receipts average over £2,000 a year Panel 1 600 Good residence, garden, orchard and field Rent £50 ten years lease. Premium £1 500 payable by arrangement.

3 NORTH WALES—PARTNER wanted for mid dle and working-class Practice Country district Total receipts £3 300 p a mainly from panel and appointments. Good house and *garden Rent £40 Opposition slight* Premium for a third share £1,700

4 SOUTH WALES—Seaside Town Practically unopposed PRACTICE *Receipts £1 700 a year* 1 anel 1 400 Good house and garage Lease (5 years) for sale, cheap. Premium 1½ years purchase

5—NORTH WALES—Town and Country PRACTICE Receipts £550 p a Small panel Commodious residence Large garden etc. *Rent £50 Premium £650*

6 LOCK UP SURGERY—London N.E Not long established yielding at rate of over £400 a year 1 anel 200 Rent 30/ a wk Prem £600

7 SOUTH LONDON—General and Panel PRACTICE Receipts £1,700 p a. About 2 0 0 panel patient Good residence Rent £50 long lease. Separate surgery small rent Premium £2,800

8 LONDON S W—General and Panel PRACTICE Receipts *over £2,200 a year* Panel 1 0 0 Fees from 2/6 to 10/6 Commodious house, suit two partners Rent £75 Long lease.

9 LONDON W—General and Panel PRACTICE yielding £1 000 a year Panel 1,300 Plenty of scope. House on lease Premium £1 800

No charge to purchasers or for inquiries

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1 HOME COUNTY—Country PRACTICE averaging about £1,200 a year situate in a very pretty district within 25 miles Panel 00 Appts. over £100 Old fashioned house with land and garage on long lease. Prem. £1,800

2 *CITY PRACTICE* averaging £1,250 including £900 from appts. and ready money from good fees. Residence imperative Convenient premises on lease *Vendor retiring will accept* £1 250 from suitable successor

3. LOCK UP SURGERY PRACTICE (London S W) Receipts over £1,000 Panel over 1 000 Appointment £100 Surgery rent low Buyer must select his own residence Price 1½ years purchase

4 LONDON—Old established Private PRACTICE in leading thoroughfare and making £1,300 a year No panel midwifery or night work Convenient house on lease at low rent. Efficient introduction and moderate premium

5 LEICESTERSHIRE BORDERS—PRACTICE in small industrial town with good country around Returning about £800 Panel 850 Ample scope for active man. Very nice house with good grounds and garage. Rent on lease £70 Premium £1,000

6 SEAPORT TOWN—Old-estab PRACTICE held by Vendor many years and averaging about £1,500 a year over £600 being from Panel and appointments Very considerable scope for active man of ability the opposition being of no superior import Convenient residence on outskirts and admirably situate can be *leased or* bought Premium 1½ years purchase

7 LANCS—Middle and good working-class PRACTICE in small town Held by Vendor over 40 yrs and returning nearly £1,500 a year including £650 from Panel and Appts. Capital house with garage beautiful garden and orchard in all 2 acres Price for Goodwill and Freehold £4 000 with large sum on Mortgage if desired.

8 WANTED by married man of experience and with capital of £4,000 PRACTICE of £1,500 to £2,000 a year in pleasant locality within 60 miles of London.

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S W County—Old-estabd PRACTICE of £2,000 in country town in beautiful district Appointments and panel £850 Fees 3 to 1 gn. £5 midwifery Cottage hospital Good schools House with large garden Golf etc Prem. 1½ years purchase

Death Vacancy—Middle and working class PRACTICE of £850 in densely populated district Panel 58 Great scope *Rent £45* Premium 1 yrs purchase

Birmingham—Old-estabd PRACTICE let *down owing to illness* Receipts £450 Panel 80 Great scope Good house rent £67 Premium £450

Home County—Practice of £3 500 suitable for two in industrial place Panel and appointments about £1,500 Nice house rent £53

Cornwall — Unopposed PRACTICE of £900 in village on fine coast Good visitors in summer Excellent golf etc Well-built house with good garden Price of house and practice only £1,750

North Wales—Practice in beautiful seaside place Receipts £550 Small panel Cottage hospital Good house and garden rent £50 on long lease Garage. Premium £650

N E Coast—Partnership Half share of £2 800 including £1,800 from panel Suitable living accommodation Premium 1½ years purchase

Lancs—Practice of £1,500 in manufacturing town Panel 1 100 Appointments £120 Rent £60 on lease Reasonable price

Residential Suburb in S E *London* Old established middle class *PRACTICE of £1 150* Appointment £240 No panel Good house with tennis court can be bought

Lincs—Unopposed Practice of £850 Panel and appointments £200 Small house can be rented

London, S W—Practice of nearly £600 in pleasant suburb Great scope as vendor has been doing other work Panel 350. House can be rented for £60

Surrey—Rapidly increasing PRACTICE of £500 in residential suburb House and Practice can be bought for £1 400 Practically no panel

Liverpool—Suburb, near open country Receipts £1,400 Panel 1 100. *Appointment £90* Opposition slight Great scope as vendor has been handicapped by illness. Rent £50

South Coast—Old established good class PRACTICE of £4,000 in large town Very good fees. 10 midwifery 5 gn up. *Scope for surgery* House in good position with garden and garage Rent £100

X Rays Practice of £800 in select seaside place. Good house can be rented

Peak District—Very old-established PRACTICE in country town Receipts average £1,300 Panel 0 0 Very desirable practice House at reasonable rent

South Devon—Nucleus and RESIDENT PATIENT connexion in beautiful seaside place. Large house and garden

East Coast—Practice of £1,140 in beautiful seaside place Panel 850 Appointment £40 Rent £60

South Coast—Practice of £1,300 in favourite resort. Panel 250 Appointment £40 Rent £60 Seven years lease Premium 1½ years purchase

Purchasers stating their requirements can have Particulars of other Practices not advertised

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SOUTH OF ENGLAND —(1) Old-established PRACTICE of £2 000 in beautifully situated Country Town Panel 1 1 House (in good repair) with 3½ acres o garden paddock etc Very good educational advantages C ttage Hospital Premium O ie and a half years purchase

LONDON, WEST END —(2) PARTNERSHIP (with view to succession) in good-class non-dispensing Practice £2 300 No panel Practically no midwifery Very good hou e (5 bedrooms etc) to let on lease

LONDON, E DEATH VACANCY —(3) Cash and Panel PRA TICE etween £800 and £900, in thickly populated district R nt of Hous £45

HOME COUNTY —(4) PARTNERSHIP in old-established and very compact practice averaging over £3 800 p.a. in Indu trial Town under 40 miles from London No Appointments or Panel R nt of house £60 Prem one half-share one and a half years purchase part by instalments

SOUTH OF ENGLAND —(5) Seaport Town PARTNERSHIP in old-established Practice averaging over £2 000 p a capable of great extension One third share with option to increase up to one-half

BRISTOL —(6) Well-established PRACTICE Panel 850 Appointments value £230 p a H use specially built in central position

NURSING HOME, WEST END OF LONDON —(7) Net profits (19) £1 100 Fees 8 to 20 guineas House redecorated and painted through ut Premium to include lease furniture and goodwill £5 000

SOUTH MIDLANDS —(8) PARTNERSHIP (with view to Succession) in old established C untry Town Practice about £1 100 per annum Small panel Premium one half share one and a half years purchase

MANCHESTER —(9) O d established and increasing middle-class PRACTICE over £1 400 p r annum in Suburb with Hospital and o p rtunities f r Surgery Small panel Good house (8 bed rooms) in excellent position Rent £90 Premium one and a half years purcha e

SCOTLAND NORTHERN HIGHLANDS —(10) PRACTICE averaging over £1,600 per annum in a Town No panel House (5 bedrooms &c.) in best residential part for sale Ample scope for midwifery and panel Premium £1 200

SHROPSHIRE —(11) PARTNERSHIP in Country Practice, nearly £1 350 per annum D tached house (6 bedrooms) with nice garden, for sale Cottage Hospital Premium one half share £1 000

NURSING HOME, HAMPSTEAD —(12) Old-established Net profits past five years over £440 per annum formerly much larger Fees 8 to 20 guineas Good house rented on lease Premium for goodwill lease furniture &c £1 750

DEATH VACANCY, CAMBRIDGESHIRE —(13) Old-established unopposed Country PRACTICE averaging £1 680 per annum Panel 700 Go d house (6 bed and 2 dressing rooms) with large lawn and garden about an acre

SOUTH WEST OF ENGLAND —(14) Health Resort Well-established PRACTI E between £400 and £500 (neglected through illness) Hou e contains 7 bedrooms etc Rent £59 Mild climate Schools Premium £600 Hospital

SOUTH-EAST COAST —(15) Favourite Health Resort, PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1 750 including appointments £170 (about) No panel Premium two fifths share two years purchase and up to one-half in two years Partner should be S to 30 single Preliminary Assistantship

NEAR BIRMINGHAM —(16) Lucrative PRACTICE in Town Receipts averaging £2 300 per annum (£1,500 from appointment and panel) Large house with g od garden Premium for house and Practice £5 000

NORTH WALES —(17) Old established PRACTICE in mah Seaport Town Receipts (19 3) £550 Panel 150 No midwifery or night work Rent of hou e 7 bedrooms garden half an acre) £50 Prem £650

INLAND HEALTH RESORT —(18) Well-established PRACTICE of £1 600 in first rate R sidential Town Panel 2 000 Large house (7 or 8 bedrooms) Premium Practice and Hou e £3 500

WITHIN 40 MILES OF LONDON —(19) Old-established middle and upper middle c a s PRACTICE over £2 100 per annum in one of the most de irable Re idential Districts Panel 700 Good society and excellent e ucational facilities Premium £2 750

MIDLANDS —(20) PARTNERSHIP in very old-established unopposed Country Practice well over £2 000 per annum near Important Town Not much Midwifery Detached house 4 bedrooms) and field of 2½ acres Rent £50 on lease Premium one-half share £1,500 to include drugs &c

WEST OF ENGLAND —(21) Fashionable Inland Health Resort Good class non-dispensing NUCLEUS over £200 No panel Good introduction Premium £300

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MIDLANDS —(29) PARTNERSHIP in old-established Practice over £3,200 per annum in excellent Country Town Panel about 1 400 Premium one third share one and a half years purchase

SOUTH COAST —(30) Good class general PRACTICE of £2 000 per annum Excellent house Rent £80 Premium one year purchase only

NORTH LONDON —(31) PARTNERSHIP in very old established good middle-class Practice in Residential Suburban District Receipts average about £5 430 per annum No panel clubs or appointments Suitable house obtainable One-third share at first at one and three quarter years purchase

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NORTH OF ENGLAND —(36) Old-established PRACTICE of £1 460 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds two acres Premium practice house and grounds £4 000 Mortgage could be had on house

FAVOURITE HOME COUNTY —(37) PARTNERSHIP in good-class Country Practice about £3 00 per annum in delightful residential district Visits up to £2 2s Excellent modern detached house (6 bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

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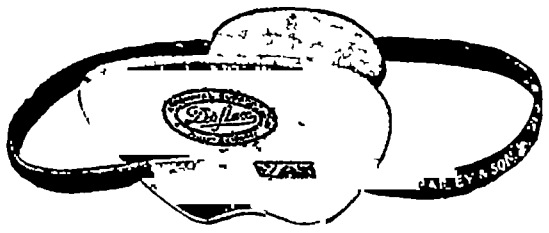
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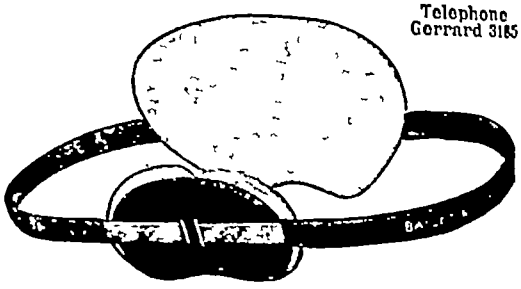
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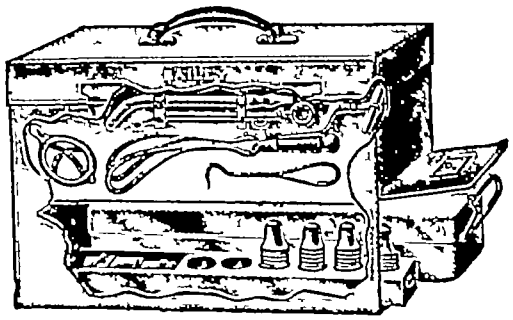
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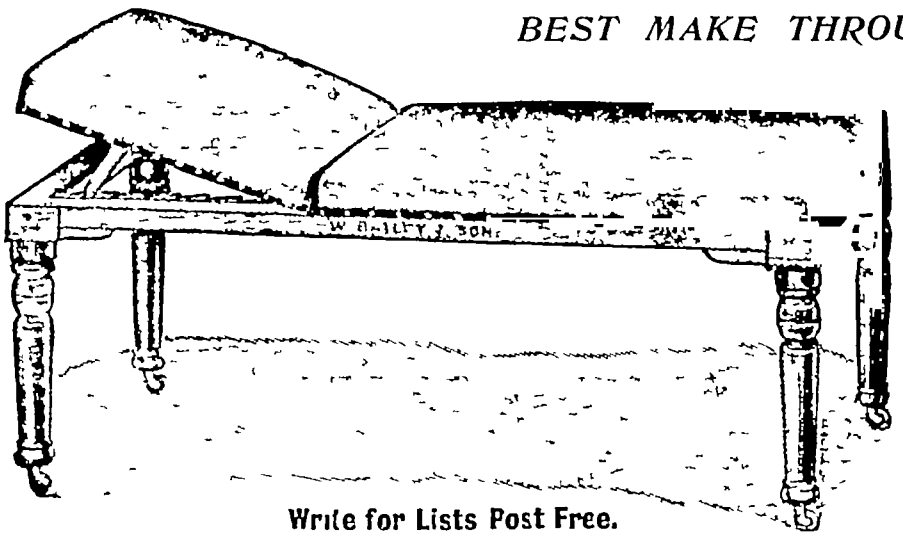
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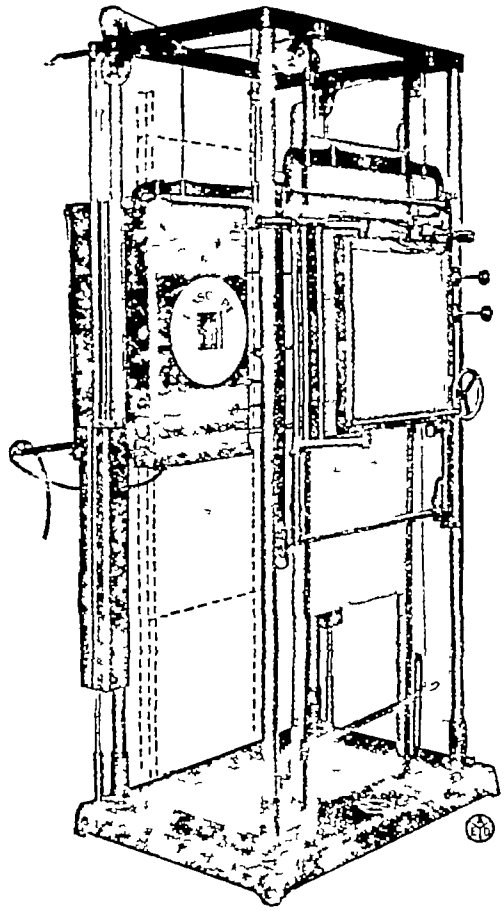
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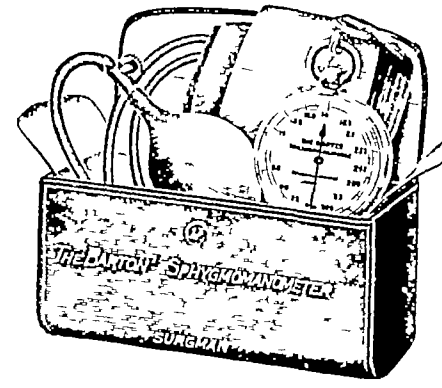
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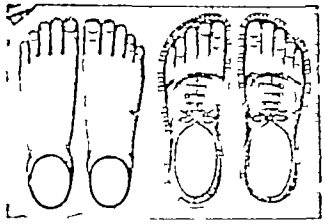
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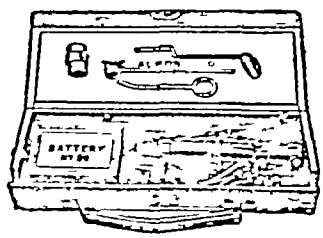
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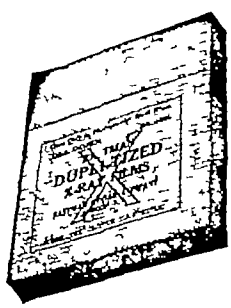
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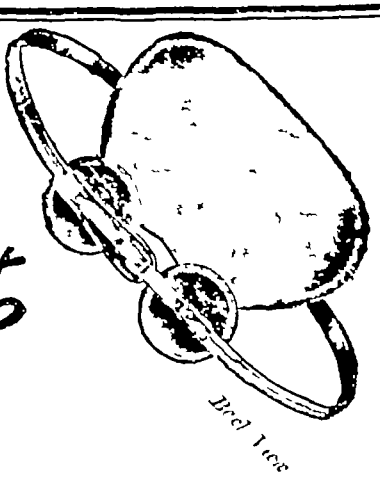
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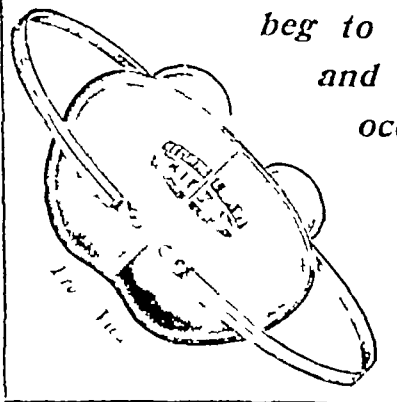
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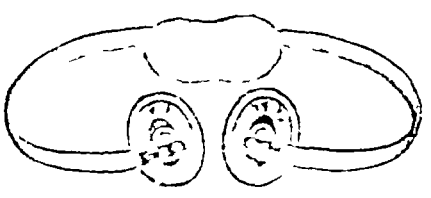
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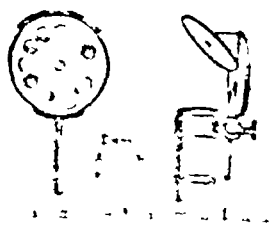


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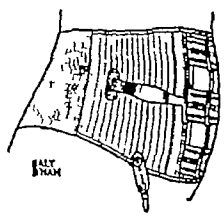
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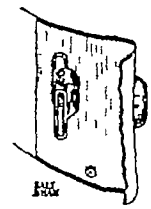
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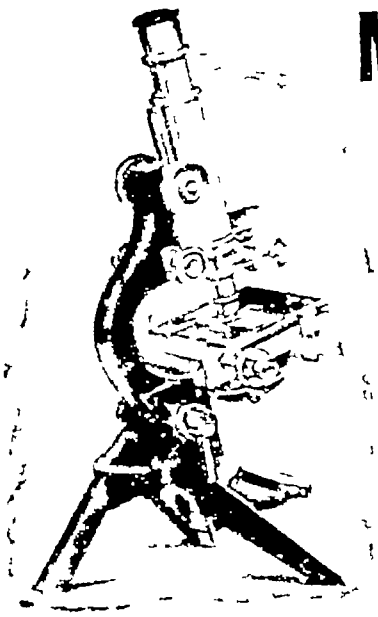
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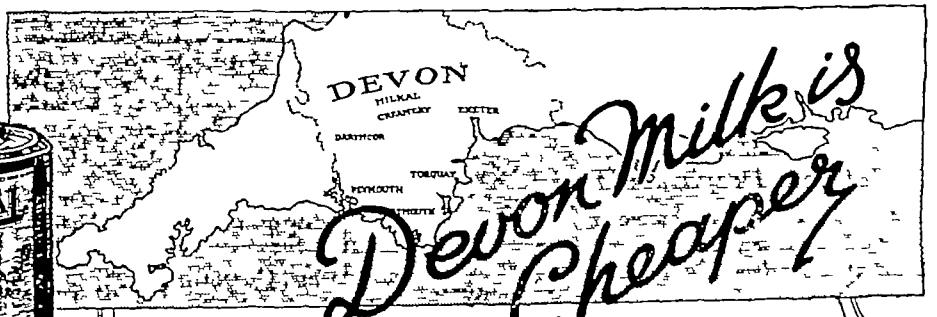


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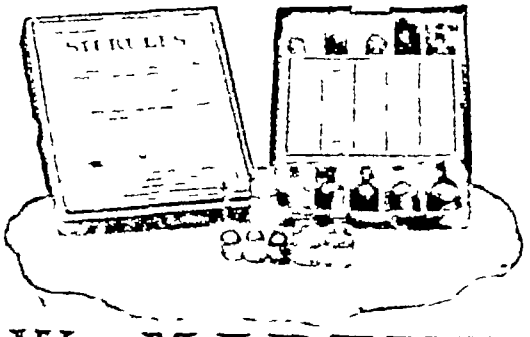
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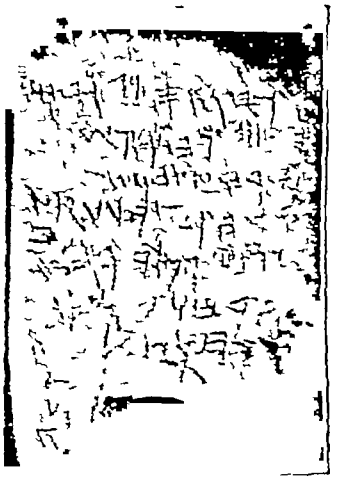
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A CALENDAR TABLET IN OLD HEBREW CHARACTERS—Very few specimens of the old Hebrew script have survived most of the writings in which it was employed having been perhaps of perishable materials. The broken tablet here illustrated represents a calendar stating the annual rotation of agricultural labour in Palestine. The ' months appear to be descriptive of the occupations performed in them, rather than proper names A number of scholars have made translations which differ from each other slightly in detail. The following is a rendering (1) A month and ingathering—A month and sowing— (2) A month and the spring gathering— (3) The month of the pulling up (?) of flax— (4) The month of the reaping of barley— (5) The month of the reaping of (?)— (6) A month and pruning— (7) The month of summer fruits— (8) Abl. ' This calendar beginning in October is still true for the agricultural labours of the year in Palestine. The tablet is not an important official monument, but just an effort on the part of a private person. It is interesting and precious as providing a specimen of the script employed by the pioneers of the kingdom of Israel during an uncertain period of the four centuries of its existence. Cuneiform may have been used for foreign correspondence David had a Babylonian scribe.



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SOME EXPERIENCES IN RECTAL SURGERY *

BY

SIR CHARLES GORDON-WATSON, K B E, C M G, F.R C S,

SURGEON TO ST BARTHOLOMEW'S HOSPITAL AND TO ST MARK'S HOSPITAL FOR FISTULA, ETC , CONSULTING SURGEON, METROPOLITAN HOSPITAL.

I DO not propose to weary you with statistics, to magnify my successes or to minimize my failures, but rather to demonstrate some of the difficulties and pitfalls in diagnosis and treatment I personally have encountered, and to comment on some of the interesting cases that I have dealt with I remember a delightful address given by the late Sir James Goodhart entitled "Where memory sleeps," in which he urged the profession to record its failures It is a good thing to review the past Memory too often sleeps over failures, while we are wide awake to our successes It is indeed strange, on looking back, to find that we have acquired in the past some experience which has failed to serve us in the present, over which memory has slept

RECTAL PAIN

The absence of sensibility to pain in the rectum has its advantages and disadvantages in health and disease In the great majority of healthy individuals Nélaton's sphincter at the junction of the pelvic colon and rectum responds to the stimulus of the first meal of the day, or it may be to an early glass of cold water, and deposits its load into the rectum The rectum when adequately distended gives the call for evacuation When this call is neglected by careless habit or for other reasons the rectum becomes accustomed to a normal load and requires an extra load—that is, a greater distension—to excite the normal reflex Those individuals who so assiduously dope their intestines with innumerable aperients upset this normal mechanism by repeated stimuli to the colon, and interfere with the regular daily supply in bulk, just as those who neglect the daily call in early life acquire the constipated habit

It would be a most unfortunate thing if the normal distension of the rectum was a painful process, on the other hand, a man may swallow his clasp knife or his false teeth, and these may repose comfortably in the rectum, so, too, the native thief in the gold and silver mines may employ the rectum painlessly as a "safe depository" When we realize that a malignant growth, provided always it does not pass the boundaries of the rectum by invasion, may grow to a considerable size without the owner's knowledge, we can only regard this insensibility as a mixed blessing When we consider the portals of the rectum it is another story The anal canal is truly blessed with great sensibility and most enduring powers of contraction, for which we in health are truly grateful, though should it be our lot to endure a fissure our blessings may be turned to curses until the surgeon sets the sphincter at rest with the knife This great muscular power combined with high sensibility is due to the abundant nerve supply, which comes from the parietal instead of the visceral nerves as in the case of the rectum It often happens that rectal pain, which is really anal pain, is a reflex phenomenon Many cases of rectal discomfort are due to simple prostatic enlargement

Rectal pain sometimes proves to be due to prostatitis and vesiculitis—a diagnosis which is easily confirmed by massaging the prostate and obtaining a specimen of urine afterwards These are not all cases of urethral infection, some are instances of *coli* infection met with in the overworked man whose resistance is below par—cases which often respond well to vaccine treatment

Occasionally with patients who complain of pain along the sciatic nerve and in the gluteal region we are content to diagnose sciatica, and it may not occur to us to investigate the rectum Now and then in cases of this sort the cause of the pain is a rectal ulcer (in itself painless), and there is often much kudos to be gained in the diagnosis Other examples of reflex irritation through the sacral plexus are met with in connexion with rectal complaints which give rise to bladder symptoms—sometimes irritability and sometimes retention Last year I excised the lower four inches of the mucosa of the rectum from a middle-aged man who had a villous tumour involving this area About a week afterwards, although to all appearance the patient was progressing quite normally, I found that his bladder was distended above the umbilicus and yet was causing him no discomfort He had passed a moderate amount of urine daily The bladder contained three pints of urine, and it was a fortnight before it recovered its normal tone There was never any rectal or bladder pain These cases are not uncommon, and are usually attributed to prostatic enlargement and the recumbent position, but do, I think, occur as a reflex manifestation without prostatic enlargement

It is a matter of regret that pain is generally regarded by the public as inseparable from cancer We know that cancer of the rectum is painless in the early stages and remains so until it either causes obstruction, encroaches on the sensitive anal canal, or by fixation to the sacrum or bladder irritates somatic nerves We know that when carcinoma of the rectum is treated by radical operation in the early stages the percentage of cure is probably higher than for any other part of the body, except, perhaps, the lower lip, and we also know that the majority of the cases which give rise to pain have extended beyond the range of cure

I often see patients who refuse to believe that they have cancer because they have no pain, and indeed I often see patients who have not been examined for carcinoma for the same reason

Examination of the Rectum

Failure to make a routine examination of the rectum is responsible for many mistakes in diagnosis A patient now under my care with carcinoma of the rectum suffered from iritis and was treated for a prolonged period with arsenic While under this treatment the patient began to suffer from diarrhoea, which was attributed to the arsenic Unfortunately for her the real cause was not recognized till six months later, when the growth was far advanced

On one occasion I went out of town to see a patient with jaundice which was thought to be due either to gall stones or malignant disease This patient had carcinoma of the rectum within reach of the finger, and secondary growths in the liver Last year I performed colostomy for a patient with advanced carcinoma of the rectum who had been under medical supervision for some time, and had been treated as a case of colitis without rectal examination

Unexpected mistakes occur sometimes when a rectal examination is made A patient was sent to me once as a case of carcinoma who was suffering from impaction of faeces in the rectum, and my colleague, Mr Mummery, was called in on one occasion with a view to operation and found that the supposed growth was the cervix uteri projecting into the rectum Inflammatory strictures are constantly mistaken for malignant disease I have myself taken a breaking down haematoma for a carcinoma of the rectum and on one occasion operated for haemorrhoids and left an adenomatous polyp behind which I had to remove later on I once saw in the *post mortem* room an instance in which the patient had died from peritonitis a week after an operation for haemorrhoids a growth at the recto-sigmoidal junction had perforated

MORGAGNI'S PAPILLAE AND PRURITUS

I should like to call your attention to cases of hypertrophy of the rectal papillae—Morgagni's papillae, the so-called 'sense organs" of the rectum

Nearly twenty years ago I recognized that they were often a factor in pruritus ani, and I have relieved, and in many cases cured, almost in the twinkling of an eye cases of long standing pruritus by cauterizing these papillae

* A paper read before the City of London Division of the British Medical Association, at the Metropolitan Hospital, December 11th 1923.

In addition to causing pruritus, these papillae when hypertrophied often give rise to pain, and are, I am convinced, responsible for many of the cases of so-called "obscure rectal pain" The pain often comes on quite suddenly, and is of a sharp, shooting, intermittent character It is especially liable to come on when the bowels act In some cases the patient will complain of a dull ache in the sacral region, and more often than not of a sensation of a "lump in the rectum," which seems to protrude during defaecation, although nothing actually comes down

I was consulted by a medical man on one occasion who told me that pruritus was ruining his life by destroying his sleep, playing havoc with his temper, and wrecking his practice I cured him then and there in a few minutes with the electric cautery I never heard from him, but his partner told me some time later that the result was miraculous

Only the other day I learned that I had cured another medical man in the same way I will quote some sentences from his letter in the *Lancet* of September 29th, 1923, which is headed "The causation and treatment of pruritus ani"

"Having been a sufferer from this complaint off and on for thirty four years, it has occurred to me that my personal experience with regard to its treatment may be of value to those who have cases of this sort

"About twenty four years ago I consulted Sir Charles (then Mr) Gordon Watson He held the view that the cause of the trouble lies in the papillae of Morgagni, which, situated at the ano rectal junction, are absent in the majority, yet present in a considerable proportion of individuals In my own case Sir Charles Gordon Watson destroyed these hypertrophied papillae with the electric cautery This was done without even a local analgesic and was not very painful The itching, which had become unbearable, disappeared at once like magic, and I remained absolutely free for about five years There was then a slight return occasionally, but carbolic vaseline kept it in check About a year ago, as the pruritus had again become rather troublesome, I was examined by a surgeon, having first told him what he would probably find He destroyed five or six papillae with instantaneous results, and has since treated four similar cases with equally good effects The reappearance of a papilla is in my case always attended by a return of the pruritus and discharge of irritating mucus which rapidly causes the skin to inflame The patient should be warned that the papillae are likely to recur, and advised to return for their destruction immediately any fresh itching is felt"

Although in some instances, as just recorded, great success follows this treatment, in others results are often disappointing

ABSCESS AND FISTULA

Fistula in ano, though a common complaint in hospital practice, is comparatively rare in the better-class practice It is perhaps the most neglected disease in existence Patients of the poorer class will endure the daily staining of their "linen" for years on end, while the fistula burrows up hill and down dale Surgeons will pass the bed of a fistula case with a pious prayer for his speedy recovery, but with a hope deferred and with a heart sick at long-occupied bed These cases can be cured with certainty in experienced hands, but the operation is too often considered a minor operation and relegated to a resident, who lacks the special experience Quite half the cases admitted to St Mark's for fistula in ano have been operated on elsewhere, and often more than once Operations for fistula in ano in general practice more often than not will fail to enhance the reputation of the practitioner as a surgeon, for I do not think there is any operation in surgery in which experience is so essential to success Let me quote from Shakespeare (*All's Well that Ends Well*)

Countess What hope is there of his Majesty's amendment?
Lafeu He hath abandoned his physicians, madam under whose practices [illegible] persecuted time with hope, and finds no other advantage [illegible] only the losing of hope by time
[illegible] the King languishes of?

[illegible] T. PEARSON

[illegible]n tissue must be most
the tough fibrous
e dissected out or
moved, and it is

essential to remember that the great majority of fistulae open into the bowel posteriorly just above the external sphincter Although from time to time a great variety of foreign bodies have been removed from fistulae at St Mark's—small bones, tin-tacks, grape stones, and the like—I do not think that foreign bodies are found at operation in more than about 3 per cent of the cases No doubt in some cases when an abscess bursts or is opened a foreign body escapes unrecognized

A patient came to me suffering from agonizing rectal pain, the pain had commenced during defaecation on the previous evening and had continued with short intermissions until seen the following day, when it had become unbearable I found a rabbit bone about 2 inches long impinged across the anal canal and penetrating the sphincter on either side, which I removed after cutting it in two I warned the patient that abscess sometimes followed injuries of this nature, and several weeks later he presented himself with a large ischio-rectal abscess on either side

It is well to remember that an ischio-rectal abscess may sometimes occur on both sides simultaneously, advancing rapidly on one side and slowly on the other On one occasion I dealt with an abscess on one side which healed up uneventfully The patient, who was a nervous individual, left the home some three weeks later, but when he left still complained of rectal pain, which I attributed to temperament A few days later he came back to me still complaining of pain I examined him and found nothing wrong, and attributed his symptoms to nerves He had in fact an abscess on the opposite side, which, to my great regret, I had failed to recognize As a rule pain is not a marked feature until the abscess begins to bulge either into the rectum or to the side of the anus in the ischio-rectal fossa, and I have opened abscesses of considerable size which have caused very little pain On the other hand, pain may be a symptom of perianal infection before an abscess can be detected I have recently met with a case of this nature that caused great difficulty in diagnosis There are many pitfalls in connexion with abscess and fistula, both in diagnosis and treatment, and it is only when you have spent many years constantly dealing with these cases that you realize this I am often amazed at the light-hearted way in which some of these cases are tackled by the inexperienced

An abscess in connexion with the appendix or Fallopian tubes will sometimes make its way down to the pelvi-rectal space and bulge or burst into the rectum It was the usual practice of the late Mr David Goodsall to open and drain an appendix abscess by the rectum

I was once asked to examine with the sigmoidoscope a patient who had been under treatment for several months because of a purulent discharge from the rectum which had been diagnosed as due to ulcerative colitis I discovered a small pin-point opening in the lower rectum which admitted a probe and exuded pus Bimanually there was marked induration in the pelvis I cured the patient by removing an appendix which was embedded in adhesions in the pelvis and was responsible for a pelvic abscess draining via the rectum

In 1911 a patient was sent to St Mark's with a diagnosis of ischio-rectal abscess Some years previously he had been operated on for ischio-rectal abscess When I examined the patient in the kneeling position I found that the supposed ischio-rectal abscess was in reality a swelling connected with the ischium which bulged out into the ischio-rectal fossa On palpation the diagnosis at once became clear Wherever the tumour was pressed on with the finger well marked "egg-shell" crackling occurred This was a large myeloma of the ischium, which in due course I removed, together with most of the ischium, after tying the internal iliac artery as a preliminary measure The patient made an excellent recovery It is, I think, the only case of myeloma that I have seen in which I have been able to demonstrate clearly the egg-shell crackling

Tuberculous Fistula

I am often asked what part tubercle plays in perianal abscess and fistula in ano Mr W B Gabriel, assistant surgeon at St Mark's, when he was house-surgeon, investigated a series of 75 cases of fistula, cutting sections of

fistulous tracks in 45, and inoculating guinea pigs with the pus and granulation tissue in the remaining 30 cases Of these 75 cases no less than 10 proved to be tuberculous, *5 of them were victims of active pulmonary* tuberculosis, and 5 showed no evidence of tubercle elsewhere and must be regarded as cases of primary tuberculous fistulae Nine of these cases were operated on, and it is a noticeable and characteristic feature that after six months only one of them had healed Mr Gabriel is of opinion that the per centage of tuberculous cases in this series is higher than normal, and I agree If similar investigations—which, I may add, are extremely laborious—were carried out over a series of some 500 cases I do not think the proportion of tuberculous cases would prove to be more than 5 per cent

This summer I was asked by a physician to see a case of pleural effusion (?empyema) in a man aged 62 The effusion turned out to be non purulent and sterile Subsequently we found the tubercle bacillus in the sputum although there were no physical signs of pulmonary tuberculosis The pleural condition cleared up and the temperature settled and the patient was about to leave the nursing home when the temperature again became unsteady without any change in the chest signs Some days later there was rectal discomfort and pus appeared in the motions On rectal examination I found a fairly large retrorectal abscess which had to be dealt with surgically The patient died in a sanatorium about three months later from pulmonary tuberculosis The retrorectal abscess settled down, though a small sinus remained

Although in cases of tuberculous fistula pulmonary tuberculosis is more often present than not, fistula is a comparatively rare complication of pulmonary tubercle Dr Hugh Walsham found that, at the City of London Chest Hospital, in 891 cases of tubercle of the lung, fistula was present five times and ischio rectal abscess twice, and that in 133 necropsies after death from phthisis there was only one fistula in ano

A fistula occurring in a tuberculous patient is not necessarily tuberculous in origin, though liable to become so if neglected If simple and treated early it may, and probably will, heal even though tubercle is active in the lungs, but if tuberculous it is much more intractable, especially if the lung condition is active

It was a tradition in the past that tuberculous fistulae should not be operated on It was contended that the fistula acted as a safety valve to the lungs, and relief or cure of the fistula accelerated the pulmonary mischief At the present time no such belief as this holds ground There can be no doubt that progressive ulceration, subcutaneous faecal extravasation, and painful defaecation can have no beneficial effect on the local condition in the lungs or on the general condition of the patient On the other hand, considerable relief, both bodily and mental, can be obtained by operation if the cases are judiciously selected, and in a certain percentage a complete cure of the fistula will result

If a patient is the victim of acute phthisis and cannot live long, no operation is advisable The most that can be done is to relieve pain by simple incision under local anaesthesia If a radical operation is attempted no benefit will accrue, it will be followed, not by healing, but by progressive ulceration, and the last state will be worse than the first If a patient has been the subject of active phthisis, but is at the time of consultation on the road to or far advanced towards recovery, more active treatment may be employed and with more prospect of success

I cannot leave the subject of abscess and fistula without a warning that some such cases are secondary to malignant *disease* Many cases come to St Mark's with a diagnosis of abscess or fistula which are really cases of carcinoma with secondary sepsis These are hopeless cases from the first, but it is wonderful how much improvement can be secured with colostomy and free drainage A patient of mine improved so much temporarily with the aid of x rays that he embarked on matrimony for a second time

A chronic fistula may in rare circumstances become the seat of malignant disease I have had one such case, which I reported at the Royal Society of Medicine In spite of radical operation *the fistula failed to heal Induration* round the area increased and ulceration commenced A portion of the indurated area was removed, and it was found that carcinoma had developed in the track of the fistula Colostomy was refused and a modified local excision was performed so as to allow the anus to function

Recurrence followed and was again dealt with, but ultimately death occurred from secondary growth in the liver

Had this patient, when carcinoma was first recognized, consented to colostomy followed by a radical excision, I have little doubt that he would be alive to-day As it was he survived for nearly three years It is interesting to record that in this case there was a very strong family history of cancer, and that the patient, when he first consulted me, was in dread of the disease Another point worth noting is that when healing was delayed silver nitrate was freely used, which increased the chronic induration rather than promoted healing

Colostomy

It is unfortunate that colostomy has got such a bad name both with the profession and with the public It is a commonplace for patients to say, "I would sooner be dead than have an opening in my side" There can be no question that the irritating diarrhoea and mucous discharge, the tenesmus and incontinence, the loss of appetite and cachexia from toxic absorption, which are the accompaniments of advanced carcinoma of the rectum, can not only be relieved, but in many cases completely arrested, often for many years, by a colostomy properly performed and properly attended to

A well managed colostomy acts but once a day if washed out regularly at a fixed time The toilet involves perhaps half an hour, often less Offensive odour can be eliminated by kerol internally, and custom soon overcomes sentiment Many patients admit to a daily sense of "well-being" after the colon has been emptied by a wash out, such as they have not experienced in the past when the bowels were evacuated by the natural route

There are members of our own profession, to my knowledge, in London going about doing their work and enjoying life with a colostomy, and it is the same in every walk of life There are many patients leading active lives who come to see me periodically at the hospital on whom I have performed colostomy and often also excision of the rectum I always ask them whether the colostomy causes them much inconvenience, and the reply is nearly always to the contrary The secret lies in the fact that I always insist on a regular daily wash out, which trains the colon to act automatically, efficiently, and thoroughly once in the *twenty four hours*

Inoperable Cases

The question is constantly asked after colostomy has been performed for an inoperable case, Can anything be done to diminish or destroy the growth?

My experience with radium has not been great, but I can record one striking case in a medical man This patient, who had been my own medical man as a boy, was not under my care though I examined him He had a fixed hard growth of the rectum causing a stricture which just admitted the finger I had no doubt that it was a carcinoma, and this opinion was shared by several others who examined him *He would not consent to a colostomy* and was treated with radium The growth entirely disappeared, and he died more than ten years later, over 70 years of age, of an independent condition In recent years several of my cases have been treated by intensive x rays Reaction in these cases tends to be very severe, and improvement occurs after the reaction subsides but I am not yet able to say that I have seen a growth disappear

Injections of copper and selenium have been employed for many of my cases, and I have often noted that they produce an improvement in the general condition of the patient How far this is due to physical effect and how far to mental I cannot say, but I can record two cases in which striking results were produced in the local condition

The first case was a man aged 73 seen in 1920 He had a typical circular carcinoma on the anterior wall of the rectum 2½ inches from the anal margin involving one-third of the circumference The diameter of the growth was about 2 inches it was not fixed to the base of the bladder Operation was refused and treatment by copper injections once a week was commenced and at the same time x rays were employed

Three months later I again examined him. Instead of an obvious growth I found a small projecting lump (diameter less than an inch) covered with normal mucosa. The lump felt

more like scar tissue than new growth The patient, contrary to advice, discontinued treatment

Three months later I saw him again There was then definite ulceration and bleeding, the ulcer being about the size of half a crown I did not see him again, but he ultimately died of the disease

Recently we have had a remarkable case at St Mark's

A woman, aged 47, was seen with a fixed extensive growth within easy reach of the finger I performed colostomy in October, 1920 On November 8th intramuscular injections of copper, alternating with intravenous injections of selenium, were commenced under Mr Norbury's care in the out patient department The growth rapidly diminished in size Injections were continued for over two years

At the present time the patient remains in excellent health, and there is no evidence of a growth in the rectum

Mr Mummery has recorded the following interesting case of spontaneous cure of cancer of the rectum after colotomy

The patient, a working man aged 48, was admitted to the hospital with a typical cancer of the rectum and anus The growth was ulcerating, and had extended out on to the skin in one place It occupied most of the posterior and part of the left lateral wall of the anus, and went up the bowel for about 1½ inches Colotomy was performed as a preliminary to excision The second operation was postponed for some reason, and before it could be done the hospital was closed for a month for the purposes of cleaning The patient returned home, to be readmitted directly the hospital reopened As a matter of fact, about seven weeks elapsed from the time of the first operation until he was readmitted It was then discovered that the growth had almost disappeared It completely disappeared in time and after waiting another six months the colotomy was closed At this time no trace of any growth in the rectum could be discovered

RECTAL TUMOURS

Some of my earliest memories in rectal surgery are associated with my work in the Metropolitan Hospital I cannot forget a youth of 17 who came to the out-patient department with a story of troublesome diarrhoea, he was a victim of advanced carcinoma of the rectum, and died within three months Or a young woman of 20 with a carcinoma of the rectum which filled up the pelvis and rapidly became disseminated over the peritoneal cavity, causing intestinal obstruction and death Since that time I have met with four other cases under 30, and I have learnt that carcinoma of the rectum under 30 is a disease so rapid and so malignant that surgery, even in the early stages, is practically hopeless

Practitioners sometimes forget that tumours of the rectum are not always malignant I have on several occasions been able to bring great cheer to a patient, who has come with a terribly long face, when I have been able to make a diagnosis of simple rather than malignant tumour In this respect great caution is needed, and a positive diagnosis should be withheld till the result of the microscopic examination is known Recently I removed a pedunculated rectal tumour from a man, aged 50, which appeared to be an adenomatous polyp the size of a chestnut After I had burnt my boats in diagnosis the microscope revealed definite evidence of malignancy, and much subterfuge has since been required by the doctor to keep the patient under observation In another instance this year I removed a simple adenoma from a man of 66, and he presented himself with an apparent recurrence three months later In this case both tumours proved to be innocent, and I have no doubt that these were separate and independent adenomata, though occurring in close proximity

From time to time cases of multiple adenomata of the colon are met with Sometimes the adenomata are so numerous and cause so much distress from diarrhoea and haemorrhage that colectomy offers the only hope of cure *Multiple adenomata, apart from the serious symptoms of* frequent haemorrhage and diarrhoea, present an added danger from a liability to malignant changes

Nearly twenty years ago a police sergeant was admitted to the Metropolitan Hospital with a tumour of the pelvic colon, which I resected, performing an end-to-end anastomosis The specimen when examined showed an ulcerating carcinoma and several innocent polypoid adenomata above and below the carcinoma The sergeant was anxious to remain in the police force and to qualify for a pension which was due in eighteen months' time This he was able to do, as he made an excellent recovery He lived nearly four years, and finally died in St Bartholomew's Hospital of haemorrhage from the bowel due to a recurrence, or, as is more probable, from another carcinoma arising from another adenoma

I have met with several instances of multiple carcinomata of the colon A patient was admitted to hospital with acute intestinal obstruction, from which he died On rectal examination a carcinoma was felt When I opened the abdomen to perform colostomy I was amazed to find that the cause of obstruction was a constricting growth of the pelvic colon which existed concurrently with a rectal growth It seems probable that the rectal growth was the result of implantation from the pelvic colon growth

The following case is worth recording as illustrating multiple carcinomata and the conversion of an adenoma to carcinoma

A man, aged 65, came to the out patient room in the summer of 1908 with a simple polypoid adenoma of the rectum This I removed by transfixion after dilating the sphincters, and the patient returned to the country A year later he again came to the hospital complaining of pain, the passage of blood in his stools and of having lost flesh rapidly On examination I found just within reach of the finger, at the site of the original polypus, an ulcerating growth of the rectum, which was fixed beyond hope of removal I performed an inguinal colostomy Subsequently he developed symptoms of obstruction, and on digital examination by the colostomy wound a second growth could be felt in the descending colon above the colostomy opening I again opened the abdomen and performed a transverse colostomy, verifying the existence of the second growth in the descending colon The man eventually died at home, so that we had no opportunity of a *post mortem* examination But I think there is little doubt that this was a case of multiple adenomata of the large bowel, developing into carcinomata

In 1910 I excised the lower six or seven inches of the rectum, and the specimen illustrates the important dictum that innocent tumours of the rectum of a certain size in a certain situation require to be treated as if they were malignant The tumour is a villous papilloma involving four-fifths of the circumference of the rectum and about four inches of its long axis It is situated in that part of the rectum which is in direct relationship with the prostate and base of the bladder There is no ulceration of the surface, and no constriction of the lumen of the bowel, nor has the growth extended through the muscle wall

I excised the lower six or seven inches of the rectum by removing the coccyx and exposing the bowel from behind by an incision extending from just behind the anus to the sacro-coccygeal junction The peritoneum was opened on either side of the bowel, and the rectum freed all round The patient was then placed in the lithotomy position, and an operation commenced corresponding to the first stage of a 'Whitehead,' the lining membrane of the anal canal being dissected free of the sphincters The muscular wall of the rectum was then cut through above the level of the sphincters and the bowel with the growth drawn through the anus and cut through well above the growth The proximal cut edge was then sutured to the skin of the anus and a drainage tube with gauze packing passed into the sacral incision

This may seem a somewhat severe operation for an innocent tumour, but experience shows that these tumours frequently become malignant and commonly recur if not freely removed No operation short of an excision could secure removal of this growth and leave the lumen of the bowel intact

In a recent case of villous tumour not so extensive I dissected up the mucosa, starting at the anus, and removed as much as five inches of the circumference I sutured the cut margin to the anus, and the patient retained perfect control

Sarcomata in this region are so rare that the following case is worth recording

A middle aged lady was sent to me with symptoms of occasional rectal haemorrhage, sacral pain, and troublesome constipation On examination I found that she had a small villous tumour in the ampulla of the rectum and that there was a huge, smooth, hard swelling in front of the sacrum bulging into the rectum, and obviously not a tumour of the rectum The differential diagnosis seemed to be between a sarcoma of the sacrum, a large dermoid cyst, or a sacral chordoma The papilloma of the rectum was removed and proved to be innocent The retrorectal tumour was removed with great difficulty after partial resection of the sacrum, and proved to be a round-celled sarcoma Metastasis soon occurred in the liver, followed by intense jaundice, ascites, and death within three months of the operation

Excision of the Rectum

Opinions still differ as to the best methods to employ in excising the rectum I will repeat the views I expressed at a discussion on this subject in 1920 at the Annual Meeting of the British Medical Association

When the British Association of Surgeons met in London in May, 1920, I asked Sir Berkeley Moynihan what operation he employed for excision of the rectum He stated in reply that he had changed his mind more often with regard to the surgical treatment of cancer of the rectum than with regard to any other surgical subject This statement is, I think, good evidence that the surgical treatment of carcinoma of the rectum is not yet stabilized There is no doubt that the operative treatment of cancer of the rectum is one of the most important outstanding surgical problems of the present time I think we are all agreed that the conclusions at which Mr Miles has arrived on pathological grounds are most convincing, and that the method of operation which he advocates represents a high surgical ideal, and one which we would all willingly employ if the mortality could be further reduced Unfortunately the human equation plays havoc with high surgical ideals

It was early in 1909 that my friend Mr Ernest Miles invited me to visit the Cancer Hospital and see his new method of excision by the combined route I went, I saw, I admired, and I was convinced, the operation appealed to me as an ideal radical method In April of that year I performed my first abdomino perineal operation by Miles's method, and from 1909 to August, 1914—that is to say, until I went to the war—I excised the rectum by this method 32 times, with 11 deaths

When I returned to civil practice after the war, and had ascertained that the abdomino-perineal method with its heavy operation mortality did not confer a high immunity from recurrence, I felt that it was time to reconsider my attitude towards the operation I consulted my colleague at St Mark's, Mr Lockhart-Mummery, and found that during the period of the war he had given up the abdomino-perineal method for growths below the recto-sigmoidal junction, and had adopted a very free excision from below after preliminary colostomy His operation mortality was about 7 per cent, and the recurrence mortality of his early cases appeared to be no worse than after the abdomino-perineal operation I then argued that if 93 patients out of 100 recovered after this operation, and that if one third of these escaped recurrence, 31 would ultimately survive On the other hand, if 100 patients were operated on by the abdomino-perineal method, unless the mortality could be improved only 66 would survive the operation, and if one-third of these escaped recurrence only 22 would ultimately survive—that is, a final mortality of 78 per cent against 69 per cent Even if the recurrence mortality of the perineal operation is as high as 75 per cent, the final results of the two methods would be about the same It is well known that many operable cases are unsuitable for the abdomino-perineal operation on account of age or fat, or some other disease Many of these can be dealt with by the perineal method under spinal anaesthesia with comparative safety I therefore decided to employ the perineal method with preliminary colostomy until it could be shown that the final results of this method were not so good as the final results of the abdomino-perineal, reserving the abdomino perineal method for all growths at or about the recto sigmoidal junction which could not be satisfactorily removed by the perineal method

If we are to make real progress in the operative treatment of this disease it is essential that the general practitioner should endeavour by more frequent rectal examination to establish a diagnosis at an earlier stage than is usually the case During the year 1919, 47 new patients attending the out-patient department of St Mark's Hospital were diagnosed as suffering from carcinoma of the rectum, and in no fewer than 42 of these—that is, 89 per cent—the growths were diagnosed as fixed and inoperable Until the result of our experience can be based on the operative treatment of comparatively early cases, not only will the material be insufficient on which to draw safe conclusions, but we shall always be handicapped in arriving at conclusions from the final results of any particular method of excision by the uncertainty of the existence of metastasis at the time of operation

My views on this subject have not altered since the above mentioned discussion in 1920 Since the war the mortality of the abdomino-perineal operation has improved in expert hands, but the nature of the operation is such that the mortality must be high for the average type of case requiring the operation It can only be kept low if the cases are carefully selected I have now performed considerably more perineal than abdomino-perineal excisions

I am not yet able to refer to recurrences, but the number of cases that remain alive and well is most encouraging I have one patient, who was 72 when I operated on him late in 1920, who is still extremely flourishing

DIVERTICULITIS

It is only in recent years that we have become familiar with an inflammatory condition, most commonly met with in the pelvic colon, known as diverticulitis

Hernial pouches of the mucosa through the muscular coats harbour faeces Stagnation is followed by inflammation, which when acute may give rise to gangrene, perforation, and peritonitis, or to acute suppuration and its sequelae The acute phases simulate the acute manifestations of appendicitis, and were originally described by Rolleston under the title of "pericolitis sinistra"

A number of these interesting cases have been under my care, and I have had the singular good fortune to carry out a successful resection in three cases—one primary and two secondary I say good fortune because, as a rule, the degree of inflammation renders resection impossible or unsuitable More often than not when any degree of obstruction obtains colostomy is the only possible measure, though in one instance I was able to short-circuit the pelvic colon When the inflammation takes a chronic course we get a remarkable mimicry of carcinoma Chronic inflammation surrounding several inches of the pelvic colon gives rise to increasing fibrosis and stenosis, and so we get a sausage-shaped tumour which is often palpable The sequel to stenosis is often intestinal obstruction of varying degrees

Differential diagnosis may be very difficult even when the abdomen is opened A positive diagnosis may sometimes be obtained with a barium meal and enema The diverticula will fill with barium, and long after the barium has been evacuated from the general cavity of the colon little black blobs may be seen remaining in the diverticula, and when stenosis has occurred a long tunnel stricture as opposed to a "string" stricture, at one point in the canal will be very suggestive

When there is no definite obstruction but the symptoms are troublesome constipation and flatulence and a diagnosis is established by x rays, the question of treatment is rather a problem Unless the involved area is put at rest the condition is sure to progress, and at any time acute symptoms may intervene Many patients are quite unwilling to consent to colostomy even as a temporary measure, and the local condition may preclude a short-circuit Faced with this condition last year I made use of the great omentum, wrapping up the whole of the involved area within it, and I sutured the margins of the omentum to the mesentery of the pelvic colon In this way I felt that I was guarding against acute complications, though I was powerless to relieve the mechanical factors It is interesting to note that the success of the operation has exceeded my expectations The patient has experienced great relief from her previous symptoms of troublesome constipation and flatulence

There is no doubt that diverticulitis under favourable conditions, can, so to speak clear up—that is inflammation may subside and normal function return especially when colostomy has been performed In the past, before this condition was recognized, such cases when chronic and obstructive, were no doubt styled malignant after exploration, and it seems certain that many recorded recoveries from malignant disease in this situation have been cases of diverticulitis

It is seldom that diverticulitis can be diagnosed with the sigmoidoscope Usually the affected area is beyond the reach of the sigmoidoscope, but recently I was able to demonstrate the mouths of diverticula in this way which were seen to open up when the sigmoidoscope was inflated Although I convinced the doctor I did not, unfortunately, convince the patient She was apparently so frightened either at the diagnosis of diverticulitis or at my sigmoidoscope, that neither of us has seen her again

ON THE CANCER-PRODUCING FACTOR IN TAR.

BY

E. L. KENNAWAY, M.D., D.Sc.

(From the Cancer Hospital Research Institute, London.)

THAT tar can produce cancer has been known for nearly fifty years, but no systematic attempt to identify the particular compounds responsible for this effect was possible until the experimental production of cancer in lower animals became a practical method. In the absence of such experimental evidence from the laboratory, the capacity of any material to produce cancer must be learned from those accidental experiments on man which are the cause of "industrial diseases." When a new cancer-producing substance comes into industrial use on a large scale no danger will be detected during the long latent period, which in man is probably of many years' duration, the effect of the substance will then become apparent, as we have seen recently in the case of mule-spinners. The object of this paper is to bring together the evidence, from both the industrial and experimental sources, which indicates the presence or absence of carcinogenic power in the different fractions obtained from coal-tar and in the pure substances isolated from it.

SECTION I.—THE DIFFERENT FORMS OF TAR

The forms of tar which are of most importance in the study of cancer are (1) lignite tar, (2) gasworks tar, (3) producer-gas tar, (4) coke-oven tar, (5) blast-furnace tar. Of these, (1), (2), some forms of (3), and in all probability (4) produce cancer, while (5) does not. What, then, is the factor which determines whether a tar shall or shall not have cancer-producing properties? The composition and mode of formation of the various tars, and the occurrence of cancer in the workers handling them, cannot be dealt with in the present paper, but the lack of cancer-producing power in blast-furnace tar provides such important evidence that it is necessary to state the chemical characteristics of this tar.

Blast-Furnace Tar

Blast-furnace tar does not produce cancer either in men (Legge[1]) or in mice (Leitch[2]). Unfortunately the composition of this tar has been little studied, almost all the current statements about it can be traced to the analyses of Watson Smith[3] published about forty years ago.

The chief differences between blast-furnace tar and the ordinary cancer-producing gasworks tar are as follows:

(*a*) The total quantity of phenols in blast furnace tar is more than twice that in gasworks tar. Blast furnace tar contains much less carbolic acid, but much more of the phenols other than carbolic acid (that is, cresols, xylenols, pseudo-cumenol and alpha and beta naphthol). Thus the phenols other than carbolic acid make up over 90 per cent. of the mixed phenols of the carbolic oil fraction of blast furnace tar, and 35 per cent. of the corresponding portion of gasworks tar.

(*b*) Paraffins, liquid and solid, are present in much larger amount in blast furnace tar. The solid paraffins make up about 1 per cent. of the tar, whereas they are absent, or present in traces only, in gasworks tar. The presence of paraffins is very undesirable if a tar is to be used as a source of benzene, toluene or anthracene, and hence the amount of paraffin in gasworks tar is purposely kept as low as possible by maintaining a suitably high temperature during carbonization; in a blast furnace the temperature is, of course, not regulated by any such considerations.

(*c*) Of the aromatic compounds other than phenols, toluene, xylene, trimethyl benzene, aniline and a small amount of naphthalene are present in blast-furnace tar, but Watson Smith could not detect either benzene or anthracene which are, of course, very important commercial constituents of gasworks tar.

Thus a comparison of the composition of a cancer-producing and a non-cancer-producing tar shows that the latter contains the greater quantities of paraffins and of phenols other than carbolic acid, but is deficient in some aromatic compounds.

SECTION II.—THE FRACTIONS OF GASWORKS TAR

The seven fractions which are produced by the ordinary commercial distillation of coal-tar are stated in Table I, where an attempt is made to indicate the relative amounts of the different fractions, and the temperatures between which each fraction is produced, the figures are only very rough, for the practice varies considerably in different tar-works, and also in the same works in accordance with fluctuations in the market for different products. Thus the proportion of creosote oil produced may vary from 9 per cent. to 25 per cent. of the crude tar.

TABLE I.—*Fractions of Gasworks Tar.*

Fraction	Per Cent. of Tar	Upper Limit of Temperature in Still
1 Ammoniacal liquor	2	150° C.
2 Crude naphtha	2	
3. Light oil	9	235°
4 Middle or carbolic oil	5	255°
5 Creosote oil	14	275°
6 Anthracene oil	3	320°*
7 Pitch	65	

* Steam distillation.

The *anthracene oil* is the only one of these fractions of which the further treatment by the tar distiller must be described here. Anthracene oil contains a quantity of crystalline material in suspension. These solids, which amount to about 5 per cent. by weight of the oil, are separated from the oil by centrifuging or filtration, and constitute "40 per cent. anthracene." The oil is now known as green, strained, or dead oil, this is used for the manufacture of "grease" (see below) and for other purposes. The green oil is a saturated solution of the crystalline substances removed. The 40 per cent. anthracene is washed with solvents in which anthracene is not very soluble, and by this means is converted into "85 per cent. anthracene", the material removed in this way, which consists chiefly of carbazole and phenanthrene, with acridine and of course many other substances, will be spoken of here as "anthracene residue."

The relationships of the derivatives of tar which must be dealt with in this section may be represented by the following scheme (Table II), those which are known to produce cancer are indicated by italics.

TABLE II.

- Tar
  - Crude naphtha
  - Light oil.
  - Carbolic oil
  - *Creosote oil*
  - *Anthracene oil*
    - *40 % Anthracene*
      - 85 % Anthracene
      - Anthracene residue
    - *Green oil*
  - *Pitch*
    - *Pitch distillate*
    - Pitch coke

Distribution of the Cancer-producing Substance among the Different Fractions of Gasworks Tar

The question then arises: Into which of these fractions does the cancer-producing substance present in the original tar pass? Cancer similar to tar cancer has been recorded in workers handling creosote, green oil, 40 per cent. anthracene, and pitch, and experimentally has been produced also by a high-boiling distillate from pitch which is not prepared commercially. We may now consider in detail the industrial and experimental evidence in the case of each fraction, when no other source is stated the experimental evidence is derived from investigations carried out in this institute.

1. *The Fractions of Low Boiling Point (Naphtha, Light Oil, Carbolic Oil)*

Industrial evidence appears to be almost wholly negative. Many of the substances contained in these fractions are present also in blast furnace tar (toluene, xylene, trimethyl benzenes, cresols, xylenols). Ball[4] in 1885 reported that workers in a carbolic acid factory showed numerous warts, "one man, whose duty it was to fill the bottles with pure carbolic acid, had his hands covered with them." It is not clear whether these people came into contact also with the crude carbolic oil fraction or other tar products, no cases of cancer among them were reported. Story,[5] in the same year, described the case of a workman who received a splash of "crude carbolic acid" on the eyelid, at the spot a wart of the type familiar to carbolic acid workers developed which in the course of a few months became an epithelioma, this was excised and examined microscopically. This seems to be the only case of cancer recorded

in the literature which could be attributed to the fractions of coal tar preceding the creosote oil Possibly the cancer in this instance was of the type which occurs sometimes in scars and was independent of the chemical nature of the injury

Experimental evidence with regard to this and the next fraction (creosote) may be taken together Bloch and Dreifuss[6] refer to experiments in which mice were painted with the fraction of low boiling hydrocarbons ' , they do not state any limits of temperature but it is evident that some fraction boiling below 300° is meant. Whether this indefinite term is intended to include the creosote must be left uncertain this fraction of tar would include many substances which are not hydrocarbons at all This fraction produced tumours which ulcerated late and were as a rule non malignant in character, there was a considerable development of the stroma and blood vessels, so that such tumours might be given the name strongly vascularized benign fibro-epithelioma

In this institute we have obtained negative results with xylol (boiling point about 136° C) and we can exclude the constituents of 90 per cent benzol " (that is benzene toluene xylene) which has been used as the solvent for several substances (for example acridine, phenanthrene) which have given negative results in tests of nine months duration Apparently no conclusive experiments have been made with the creosote fraction alone

2. *Creosote Oil*

Industrial Evidence —MacKenzie[7] recorded the case of a man engaged in treating timber with creosote on whose scrotum were several papillomata from the size of a pea to that of a nut Apparently this author had met with other such cases in creosote workers, in one of whom a similar tumour became an epithelioma, *and was excised unfortunately, this second case is only* vaguely described and it is not quite clear whether the man worked with creosote or with tar Legge[8] recorded cases of eczematous eruptions of the forearms in men using creosote to lubricate die-moulds in a brickworks in one old man an epithelioma developed on the forearm, and was excised In the following year a case of epithelioma and another of severe ulceration of the forearms and hands were reported to the Home Office from a creosoting factory [9] O Donovan[10] described cancer in three men employed in creosoting timber the occupation of a fourth is described only by the words ' pickles telegraph poles, no substance being named but in all probability this was creosote In three of these men the cancer was on the scrotum while the fourth man had one cancer on the lip and three on the arms

[Since this section was written a good account of a case of creosote cancer with illustrations has appeared in this JOURNAL (Cookson BRITISH MEDICAL JOURNAL, March 1st, 1924)]

3 *Anthracene Oil and Green Oil.*

Industrial Evidence —Green oil and sometimes creosote also is mixed with rosin and lime to make lubricating greases, heat is evolved when the lime is added to the oil and the arms of the workmen are often splashed by the hot liquid Oliver[11] described two cases of epithelioma of the arm among grease-makers of which one ended fatally Unfortunately the material used is described only as ' oil distilled from coal but in all probability it was green oil or creosote or both of these Legge [12] in describing an examination of the workmen in eight oil and grease works where coal or anthracene oil " was used says One man using grease in the filling of brattice cloth was found with extensive ulceration of the *arm and a scar marking the place* where an epithelioma had been removed ' These records are sufficient to show that the practice common in some tar works of removing tar from the skin with heavy oil,[13] is not free from danger unless the oil be afterwards removed completely

Experimental Evidence —Both anthracene oil and green oil were found to be very toxic to mice, in each case three mice only out of 100 lived more than six months One epithelioma appeared in each series Thus both oils are capable of producing cancer but the number of mice surviving in the later months was too small to allow any conclusion to be drawn as to the relative potency of the two

4 *40 per cent Anthracene and Anthracene Residue*

Industrial Evidence —The only cases recorded in this country of epithelioma due to crude anthracene seem to be those described by O Donovan [14] Three men engaged in handling 40 per cent anthracene in an alizarin factory developed epithelioma on the hand cheek and wrist respectively one of the three had previously been a pitch breaker of the two others, one had worked for thirty years and the other for thirty two years with the crude anthracene and these two had never worked with any other tar product Of the twenty five men employed in the factory those dealing with the purified anthracene were free from the skin lesions (acne keratoses, telangiectases pigmentation) which affected those in contact with the crude material Leymann[15] mentions three workers in the anthracene department of a German chemical factory who had to undergo operation for tumour of the scrotum, but he gives no further information

Experimental Evidence —40 per cent anthracene was tested upon two series of 100 mice one series received a suspension in lanolin and showed no tumours the other received an ethereal extract and after five months one of these mice showed a papilloma bearing a long horn, no other tumours appeared An ethereal extract of *anthracene residue* produced no tumours this test was not very satisfactory as only 8 mice out of 100 lived longer than 160 days But these experiments are sufficient to show that the cancer producing substance is not concentrated among the solids in suspension in anthracene oil.

5 *Pitch*

Industrial Evidence —Of the 95 cases of epithelioma notified to the Home Office from England and Wales between January 1920 and June 1922, 66 were in pitch workers (Legge[16]) Many writers have described the conditions under which the pitch breakers and the *briquette makers work and the affections of the skin which they* show (Legge [12] Warnes [17] Ehrmann [18] and others) so that it is unnecessary to give any account of the matter here Probably pitch cancer could be almost wholly eliminated if one of the systems now in use in some works in Holland and Germany[15 19] could be adopted Thus in the Fohr Kleinschmidt system the liquid pitch can be run *off from* the tar-stills into tank wagons and conveyed to a briquetting plant where it is converted in a closed apparatus which is patented, into a fine dry powder this is mixed with the coal-dust in a closed drum Thus the work of the pitch breaker at the gasworks is abolished altogether, and the briquette-makers are not exposed to pitch-dust

Experimental Evidence —Pitch was applied to two series of 100 mice Series A received a suspension of pitch in melted lanolin (3 grams in 10 c cm) Between the 181st day when 27 mice were alive and the 294th day 9 tumours appeared of these 3 were papillomata of which 2 showed considerable downgrowth while the remaining 6 were typical epitheliomata Dr Leitch has found that a suspension of pitch in the sebaceous secretion obtained from dermoid tumours is equally effectual in producing cancer Series B received the filtered solution from pitch (3 grams) in 90 per cent benzol (10 c cm), this produced papillomata very quickly the first appearing on the sixty fourth day This preparation was far more toxic than the other, only two mice lived more than 150 days Two tumours were examined one being a papilloma and one an early carcinoma Jordan[20] also has produced cancers by means of a solution of pitch in benzol

6 *Pitch Distillate*

Experimental Evidence —When pitch is heated in an iron retort the first distillate which comes over is greenish black and greasy like anthracene oil If the temperature be raised to 490° C (bulb of thermometer in liquid) the distillate becomes yellowish, and at 510° C a clear orange-yellow liquid having no resemblance to anthracene oil, comes over this solidifies to a reddish material rather like sealing wax This liquid continues to distil over till 550° C is reached the residue in the retort is then a very hard coke A solution of the red solid in 90 per cent. benzol in which it is almost wholly soluble was used for application to 100 mice *between the fifth month when 12 mice remained alive and the* twelfth month, when the last was killed 4 epitheliomas and 2 papillomas with considerable downgrowth were obtained

Summary of Section II

The industrial evidence alone shows that the cancer-producing substance is present in the higher boiling fractions—namely, creosote oil, anthracene oil (and hence in the green oil and crude anthracene), and pitch, the experimental evidence supplements this by showing that the substance is not concentrated in the solids suspended in anthracene oil, and that it is present in the highest boiling distillate obtainable from pitch Hence it may distil over through an interval of temperature extending roughly from 250° C (the creosote fraction) to above 500° C (the " pitch distillate ")—that is, over a range of 250° or more

SECTION III —A COMPARISON OF THE COMPOUNDS OF HIGH BOILING POINT IN TARS AND MINERAL OILS

Since cancer is produced by gasworks tar, lignite tar, shale oil, and at any rate some forms of petroleum, it is natural to inquire (1) what substances are common to all these liquids, and (2), since blast-furnace tar is innocuous and the evidence points to the comparative feebleness of crude petroleum in this respect, what substances are absent or less abundant in these two With this object in view a list as complete as possible was compiled of the compounds stated in the literature to be present in each of these five liquids This piece of work obviously had to be carried out, but the result was not very rewarding

The chief difficulties were as follows (1) because any compound has not been demonstrated *in say shale oil one can by no means* assume that it is not present (2) we have very little information about the composition of blast furnace tar and of shale oil (3) many of the statements about lignite tar refer to the modern product and it is not certain whether this produces cancer the most recent case of lignite-tar cancer of which any record has been found in the literature occurred thirty four years ago, (4) the whole subject of petroleum is made difficult by the great number of different kinds of oil differing very widely in composition, and by the scantiness of the information available about many of them

Attention was then directed especially to the compounds of higher boiling point, for it seems clear from the facts given in Section II of this paper that the cancer producing substance must be sought amongst these As an arbitrary lower limit, a boiling point of 270° C (roughly the temperature

at which the distillation of anthracene oil is begun) was chosen, and a separate list made of all the compounds known to be present in gasworks tar which boil at or above this point

These compounds are the following fluorene, fluoranthene, acenaphthene, anthracene, β-methyl anthracene, anthracene di- and hexa-hydride, phenanthrene, retene, pyrene, chrysene, picene, truxene, naphthacene, naphth anthracene, chrysogene, crackene, benzerythrene, α- and β-naphthol, β-naphthofuran, diphenylene oxide, carbazole, phenyl-naphthyl-carbazole, acridine, a dimethyl quinoline, diphenylene sulphide, and some of the higher paraffins in very small amounts Apparently no members of the olefine, acetylene, or naphthene series having boiling points above 270° C are known to occur in coal-tar

We must now consider which of the compounds in this list are common to the other cancer-producing fluids and to blast-furnace tar The only substances boiling above 270° which are stated to be present (*a*) in blast-furnace tar are the naphthols, (*b*) in lignite tar are picene and chrysene, (*c*) in Scottish shale oil are pyrene and chrysene (the literature does not seem to contain adequate proof of the identification of these compounds in shale oil), and the methyl quinolines from $C_{11}H_{11}N$ onwards, with some higher paraffins in each case

In some of the petroleums, compounds boiling above 270° of the paraffin, olefine, and terpene series are present, but apparently no substance on the above list has as yet been shown beyond doubt to be present in any *unheated* oil In the distillation residues, on the other hand, such as those obtained by distilling Pennsylvanian oil in red hot iron retorts, anthracene, phenanthrene, chrysene, and pyrene are present and the same substances have been found in the Galician residues (Höfer[21]) The cases of petroleum cancer recorded by Ullmann[22] and by Derville and Guermonprez[23] occurred in men engaged in removing such residues from the stills The cancer producing power of a large number of petroleums is being tested by Dr Leitch in this institute

This comparison of the composition of gasworks tar, lignite tar, and Scottish shale oil shows, then, that chrysene, picene, and pyrene are common to two or more of them The results of experiments in this institute with these and other high-boiling substances have so far been wholly negative Each substance is tested upon a series of 100 mice, and the experiment is continued for nine months

Chrysene (a 1 per cent solution in warm "90 per cent benzol" of a preparation by Kahlbaum) is distinctly toxic, 10 mice were alive after three months and 2 mice after eleven months, when the experiment was stopped, none showed any signs of a tumour *Picene* and *retene* Dr Chattaway of Queen's College Oxford, has been so kind as to give his very pure preparations of these two hydrocarbons to be tested, at the present date, after six months' application of solutions in sebaceous material from dermoids the results are quite negative *Pyrene* has not yet been tested here, Bloch[24] records a negative result with this compound *Anthracene* dissolved in olive oil gave a negative result, this is in agreement both with the fact that workmen handling purified anthracene do not suffer from skin lesions (see above under "40 per cent anthracene") and with the experiments of Fibiger,[25] who failed to produce tumours in mice and rabbits by subcutaneous injections of suspensions or solutions of anthracene in oil

Truxene seemed to be of considerable interest, for it, or compounds allied to it, have been thought to be important constituents of pitch It was synthesized from phenyl propionic acid and applied in solution and suspension in various media (lanolin, xylol, 90 per cent benzol) without result

Phenanthrene fluorene, and *acenaphthene*, dissolved in 90 per cent benzol, all gave negative results, the two latter are distinctly toxic *Acridine* has often been suggested as the cancer producing agent in tar, probably on account of its irritating effect upon the skin and mucous membranes It was applied, dissolved in lanolin in the one case and in 90 per cent benzol in the other, to two series of mice—that is, 200 in all, the only noticeable effect was that the health of these mice was especially good, so that an unusually large proportion lived throughout the nine months This provides another illustration of the fact that "irritation" alone is not a means of producing cancer (cf the chrome workers—Legge[16])

The formula of *carbazole* suggested the possibility of establishing a connexion between the forms of cancer affecting aniline workers and tar workers, but no effects upon the skin or bladder were produced by a 1 per cent solution in alcohol subsequently evidence indicating that the cancer producing substance does not contain nitrogen was obtained (see below) Thus of the high boiling substances given in the list above the following have already been tested in this institute with negative results fluorene, acenaphthene, anthracene phenanthrene, retene, chrysene picene truxene, carbazole, acridine The remaining seventeen substances in the list have not as yet been available for experiment of them one can exclude the naphthols, for these are present in blast furnace tar

In conclusion, a few points about some other compounds and classes of compounds may be considered *Naphthenes* are present in very small amount in gasworks tar They are present in specially large amounts (up to 80 per cent) in Russian (Baku) petroleum, none of the very few cases of petroleum cancer of which we have been able to find records were due to Russian petroleum The *olefines* are present in very small amount in high-temperature tar, but more abundantly in Scottish shale oil, the only petroleum at all rich in them is the Californian, which certainly has not attracted notice as a source of industrial cancer, and has given negative results in Dr Leitch's experiments on mice in this institute

With regard to the *paraffins*, it may be noted that high-temperature coal-tar, which, together with its pitch, produces far more cases of industrial cancer than do all other materials put together, is especially poor in paraffins and contains less of them than does blast-furnace tar, which does not produce cancer The evidence on this point derived from the lignite tar and Scottish shale oil industries will be given more fully in another paper, in both these industries the workmen who have most to do with the most concentrated forms of paraffin are the least liable to affections of the skin The petroleums of Pennsylvania, Canada, Galicia, and Rumania contain especially large amounts (up to 85 per cent) of paraffins, but are not distinguished by the production of many cases of petroleum cancer, we have been able to learn of one case from the United States, and of 13 cases in ten years in twenty refineries in a district of Galicia (Boryslaw-Tustanowice), where the oil contains about 32 per cent paraffin (Ullmann[22]), which is about three times the amount present in Scottish shale oil Prosser White[6] (p 143) says "The writer has watched women and girls employed all their working hours, year after year, bedaubed with refined paraffin wax free from impurities, none of whom have experienced the least trace of inconvenience or distress" Deelmann[7] found that horizontal-retort tar from the Amsterdam gasworks produced malignant tumours in mice much more rapidly than did the vertical-retort tar, average samples of the former variety of tar contain a slight trace of paraffins only, and of the latter about 0 3 per cent (West[26]) Weidmann and Jefferies[27] have given a valuable summary of the results of subcutaneous injection of paraffins in man and in monkeys, the type of lesion observed so far "is a foreign body granuloma, and in no sense of the word neoplastic" It is unfortunate that the idea that paraffins cause cancer should be encouraged by the use of the term "wax cancer" in the title of a paper ("Paraffinoma and Wax Cancer" by Davis[30]) which does not contain a description of even a single case of any condition which could be described as "wax cancer" The degree of accuracy which is considered sufficient in reporting cases of occupational cancer is shown very well by a passage in the thesis by Scott,[31] who examined the records of nearly a quarter of a million hospital admissions "In examining the records of Edinburgh Royal Infirmary for the past twenty-two years, numerous cases have been recorded as paraffin cancer among railway workers, dock labourers, masons, chimney-sweeps, glass makers, engiuemen, etc, in none of whom was the condition likely to have been due to paraffin"

Naphthalene seems to be excluded by its great volatility, which causes it to be present in the lower-boiling fractions, by its presence in blast-furnace tar, and by the fact that the men engaged in its manufacture show only negligible affections of the skin (Prosser White,[26] p 150) Bierich[32] produced cancer in mice once with *pyridine* and once with *benzidine*, he tested twenty-seven other substances with negative results, but unfortunately he does not name them Our results with benzidine and *aniline* were wholly negative, both as regards the skin and the bladder, benzidine has not been found in coal-tar, and aniline is present in blast-furnace tar

Later experiments have shown that at any rate a very large part of the acids and bases can be removed from tar without destroying its cancer producing power Tar was extracted by shaking, for six hours in each case, first with water, then with alcohol, and finally with ether, such ether extracts are very active in producing cancer (Murray[33]) The ether extract was distilled fractionally, and certain fractions—namely fraction C, obtained between 350° and 400° C, and D, between 400° and 450° C—chosen for further treat-

ment These fractions were shaken out by hand (1) four times with 15 per cent $NaOH$; (2) twice with water (3) four times with 20 per cent H_2SO_4 by weight (4) twice with water C and D after this extraction of acids and bases were dissolved in ether and applied to series of 100 mice In the D series between the 120th day when 30 mice were alive and the 258th day when 5 mice remained 8 mice developed epithelioma and one a non malignant epithelial horn this is as large a yield of tumours as one would obtain with many samples of crude tar Fraction C at the present date (355th day) has produced one epithelioma presenting some remarkable features which will be referred to in a later publication and among the 9 surviving mice there is one tumour which is almost certainly malignant and one papilloma Thus the higher boiling fraction D is the more active The ordinary Prussian blue test shows a very slight trace of nitrogen in C and a distinctly larger amount in D Bloch [1] mentions cancer producing fractions of tar containing no acids bases nor nitrogen, and a trace only of sulphur but he gives no details

Summary of Section III

Thus the attempts made as yet to find the cancer-producing substance among the known constituents of coal tar have given wholly negative results Anthracene, phenanthrene, chrysene, picene, retene, triuxene, acenaphthene, fluorene, acridine, carbazole, aniline, benzene, toluene, and xylene have been excluded by experimental tests, and either the experimental or industrial evidence, or both of these, is against the importance of naphthalene, the acids, bases, and other nitrogenous compounds, paraffins, olefines, and naphthenes It now seems not unlikely that this substance is a compound, as yet unknown, which is unstable and present in amounts perhaps as small as those of the vitamins in foods, as in the case of some hormones, its identification may be long delayed even when very concentrated preparations can be obtained The substances which are known to be present in coal-tar have been isolated because they are specially abundant, or stable, or capable of forming well defined compounds, the unknown substances are unknown because they have not these properties, and the cancer-producing substance may well be among them

The whole of the experimental work described in this paper has been done under the supervision of the Director of this Institute Dr Leitch to whom I am indebted for much help and advice Very valuable materials and information have been received from Messrs W Gordon Adam F M Potter and N E Siderfin of the Gas Light and Coke Company, and from Mr W Kirby of the South Metropolitan Gas Company without their help which has been most readily given at the cost of much time and trouble the work could not have been carried out. I wish to express my indebtedness also to Dr T M Legge Senior Medical Inspector of Factories for information about many forms of industrial cancer to Mr E M Bailey Chief Chemist of the Pumpherston Works for the data obtained by him as to the temperatures in shale retorts to Mr D R Steuart for literature on the composition of shale oil to Mr A B Searle of Sheffield for information upon several points connected with tar and coal and to Dr Chattaway, for his kindness in supplying specimens of picene and retene

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THE RELATION OF MANURE TO THE NUTRITIVE AND VITAMIN VALUE OF CERTAIN GRAIN

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THE distribution of true tropical beri beri in India[1] having led me to suspect that the nutritive and vitamin values of food grains might possibly vary with the conditions of their growth, an attempt was made, during 1923, to ascertain whether or not these values varied with the manures used in their cultivation Unfortunately the research had to be stopped, in consequence of recent financial retrenchments in India, before it could be completed nevertheless, the results were so consistent that I venture to record them, without, however, desiring, in the absence of further work, to assert that they are to be regarded as final

At the suggestion of Dr R V Norris, agricultural chemist to the Madras Government, the permanent manurial plots at the Central Farm, Agricultural College, Coimbatore, Madras, were used for the purpose To him I am indebted for the samples of millet (*Eleusine coracana*) grown on these plots and used in the experiments to be described He has also provided me with the following details relating to soil, manure, cultivation, and yields of the respective plots, and with analyses of the millet grown upon them

Soil and Manure

There are ten permanent manurial plots, each four cents in area [2] They were laid down in 1909,[2] and had been under observation for fourteen years at the time the present investigation was commenced During this period thirty-nine crops had been raised The soil is a fairly heavy loam, typical of much of the land in the Coimbatore district, and characterized by a low content of organic matter and a deficiency of nitrogen and available phosphoric acid Eight of the plots received mineral manures—that is, nitrogen, phosphoric acid, or potash, either alone or in combination—while the last two have been treated with cattle manure The application of cattle manure to plot x, however, was stopped in 1916, "*in order that the residual effect of the manure might be studied*" The treatment of the ten plots was therefore as follows

Plot I	No manure
,, II	Nitrogen
,, III	Nitrogen *plus* potash
,, IV	Nitrogen *plus* phosphate
,, V	Nitrogen *plus* potash *plus* phosphate (complete chemical manure)
,, VI	Potash *plus* phosphate
,, VII	Potash
,, VIII	Phosphate
,, IX	Cattle manure (continuous)
,, X	Cattle manure (discontinued since 1916)

The manures were used in the following proportions (1) Ammonium sulphate 1 cwt per acre supplying 20 lb of nitrogen (2) Superphosphate 3 cwt per acre supplying 50 lb of phosphoric acid (3) Potassium sulphate 1 cwt per acre, supplying 50 lb of potash (4) Cattle manure 5 tons per acre, supplying approximately 70 lb of nitrogen 40 lb of phosphoric acid and 100 lb of potash The cattle manure was a farmyard manure—that is a mixture of dung urine and litter The manures were applied at the end of the preliminary cultivation one day before the crop was transplanted

Cultivation

The plots are intensively cultivated by hand, three crops being taken off each year Irrigation is supplied as required In the particular crop of millet under consideration preliminary cultivation took place in July 1922 the manures were applied on August 7th and the millet seedlings were transplanted on August 8th Irrigation was given on seven occasions and the crop was harvested on November 12th, 1922

Temperature and Rainfall

The average atmospheric temperature in the shade during the four months was as follows August, 78 5° F , September, 78 5° F , October, 76° F , November, 75° F The average rainfall was in August, 0 035 inch, in September, 0 075 inch, in October, 1 63 inches, in November, 1 2 inches

Yields

The yields of millet from the various plots were as follows

		lb per acre
Plot I	No manure	120
,, II	Nitrogen	189
,, III	Nitrogen *plus* potash	486
,, IV	Nitrogen *plus* phosphate	1,485
,, V	Nitrogen *plus* potash *plus* phosphate	1,674
,, VI	Potash *plus* phosphate	1,404
,, VII	Potash	729
,, VIII	Phosphate	480
,, IX	Cattle manure (continuous)	714
,, X	Cattle manure (discontinued since 1916)	714

Plots I and II were attacked by stem-borer and the yields are therefore abnormally low Attention is directed to the high yield from plot V, which received a complete chemical manure, the yield from this plot was more than twice as great as that from plot IX, which received cattle manure In former years, however, the difference in yield was not so great [2] It is mainly in regard to the relation between the yield of crops and the manures used in their cultivation that so much scientific and practical knowledge has been accumulated within recent years, but little or nothing is known of the effect of manures on the quality of the produce

Composition

The chemical analyses of the various samples of millet provided by Dr Norris varied within fairly wide limits, but these variations, whether of nitrogen compounds, of ash constituents, or of both, could not be correlated with the variations in nutritive value as indicated by feeding experiments on animals (vide infra) Thus in order of their protein content, the various samples ranged themselves as follows IX, VIII, II, III, I, VII, VI, IV, V, X—an order differing from that of their nutritive values The highest percentage of protein occurred in sample IX (cattle manure, continuous), the lowest in sample X (cattle manure, discontinued since 1916) Again, in order of their content of phosphoric acid the samples ranged themselves as follows VI, V, IV, X, IX, VII, I, II, III, VIII—an order which also differed from that of their nutritive values Nor did the analyses suggest that the nutritive values were related to any combination of nitrogen compounds and ash constituents The slightly higher protein content of samples IX and VIII may have had something to do with their higher nutritive values, but even if this were so it would hardly account for their superiority in this regard unless their protein was itself of higher nutritive value For sample II, which was relatively rich in protein (8 95 per cent), ought to have been third in order of nutritive value if this value had been due to its protein content, whereas feeding experiments on animals proved it to be one of the worst in the series It seemed probable, therefore, that the nutritive value of the various samples was related to their content of other food factors which were not detectable by chemical methods of examination, but whose presence, in varying amounts in different samples, might be capable of demonstration by feeding experiments on animals

Experimental Results

The samples of millet from the ten plots were sent to me at the Pasteur Institute, Coonoor, for experimental study of their nutritive and vitamin values The three experiments which follow are all I was able to complete in the time at my disposal They represent the preliminary work necessary at the outset of such an investigation as the present, they were designed to clear the ground and to provide broad general conclusions rather than detailed results

Experiment I

In this experiment I purposely kept myself in ignorance of the manurial conditions under which the ten samples of millet were grown until the time came for grading them in order of their nutritive value as indicated by feeding experiments with pigeons The general plan of the experiment was to take pigeons, as nearly as possible of the same age, weight, and strain, and all obtained from the same locality, divide them into groups of six in such a way that the initial body weight of each group was the same or as nearly the same as possible, and to feed them in a precisely similar way on a basal diet of rice of known vitamin value, to which definite amounts of the samples of millet to be tested were added, each group receiving a different sample It was thought that, the initial weight of each group being the same, a comparative estimate of the nutritive value of the various samples of millet might be indicated by such differences in the body weight of the various groups as might result from this method of procedure Twelve groups were used, the initial weight of each group was 1,830 grams or as near this figure as possible. Two groups, comprising twelve birds, acted as controls, these received the basal diet of rice only The other ten groups received, in addition to the basal diet, one or other of the ten samples of millet to be tested The birds were allowed to eat naturally of the basal diet of rice, partly because of the impossibility, with a limited staff, of feeding artificially such large numbers daily, and partly because previous experience had shown that natural feeding gives results as reliable as artificial feeding without the risks attending the latter (injury, crop binding, or ejection of the food from the crop) A daily record was kept of the amount of the basal diet consumed by each group This record indicated that the results of the experiment were not attributable to the greater consumption of the basal diet by one group than by another In fact, the amount of the basal diet ingested by the different groups varied within comparatively narrow limits, it was, for example, no greater, and sometimes not so great, in the case of the group fed on sample IX—which proved to have the highest nutritive value—than in other groups fed on samples which proved to have lower nutritive values The basal diet consisted of washed, parboiled rice for the first thirty two days of the experiment, the vitamin value of this rice was approximately 0 45 [1] Thereafter, and in order to speed up the results of the experiment, washed, raw, milled, and polished rice was substituted for the washed, parboiled rice—that is to say, the basal diet from the thirty third day onwards was as devoid of vitamin B^1 as any rice can be, and from this day forward the birds were wholly dependent for their supply of vitamin B on that provided by the millet. The millet was fed artficially, and in order to overcome the difficulty of differences in body weight of individual birds each was given an amount of millet proportionate to its body weight. For the first three days of the experiment each bird received daily 0 2 per cent of its body weight of the particular millet, 0 4 per cent for the next seven days, 1 per cent for the succeeding seven days, and thereafter 2 per cent until the end of the experiment Each bird was weighed daily, and the quantity of millet required for it was calculated each day from its body weight on that day All increases in the amount of millet were made on the same day for each group so as to keep the results strictly comparable

The results on the thirty second day of the experiment are shown in Table I On this day the samples of millet were graded in accordance with the average daily loss of body weight of each group, and then only did I make myself aware of the manurial conditions under which the different samples were grown

TABLE I.—*Showing the average daily loss of body weight of groups of pigeons of the same initial weight when fed for thirty two days on a basal diet of rice to which millet, grown under various manurial conditions, was added in a definite proportion to the body weight of the birds*

No of Millet and Group No of Pigeons	Average Daily Loss of Body Weight	Manure
I	1 56 grams	No manure
III	1 40	Nitrogen *plus* potash
V	1 33	Nitrogen *plus* potash *plus* phosphate.
II	1 30	Nitrogen
X	1 09	Cattle manure (discontinued since 1916)
IV	1 06	Nitrogen *plus* phosphate
Controls (no millet)	0 95 gram	
VI	0 73 ,	Potash *plus* phosphate
VII	0 65	Potash
VIII	0.56 ,	Phosphate
IX	0 36	Cattle manure (continuous)

The results on the *forty-seventh day, or fifteen days after* the vitamin B value of the food had been reduced by the substitution of washed, raw, milled, and polished rice for the basal diet of washed, parboiled rice (the amount of millet given remaining the same), are shown in Table II Only those birds which survived the experiment for forty-seven days are included

TABLE II.—*Showing the average daily loss of body weight of groups of pigeons of the same initial weight when fed for forty-seven days on a basal diet of rice to which millet grown under various manurial conditions was added in definite proportion to the body weight of the birds*

No. of Millet and Group No. of Pigeons	Average Daily Loss of Body Weight	Manure
I	2·69 grams	No manure
Controls (no millet)	1·69	
II	1·36	Nitrogen.
III	1·32	Nitrogen *plus* potash
X	1·2 „	Cattle manure (discontinued since 1916)
IV	1·1	Nitrogen *plus* phosphate
V	1·09	Nitrogen *plus* potash *plus* phosphate
VIII	1·06	Phosphate.
VII	0·95 gram	Potash.
VI	0·67	Potash *plus* phosphate
IX	0·37	Cattle manure (continuous).

The results shown in Tables I and II appear to indicate (1) that millet grown on soil manured continuously with cattle manure was of higher nutritive value, for pigeons, than millet grown on soil manured with chemical manures, even when the chemical manure was a complete one, (2) that the nutritive value of the grain varied with the manure used in its cultivation and (3) that the grain grown on an exhausted soil was of low nutritive value Beyond these broad general indications it would be unsafe to go, but it is significant that while a complete chemical manure may greatly increase the yield of grain, its nutritive value falls far below that of the same grain grown on soil manured with natural manure

Experiment II

In this experiment three groups of pigeons of the same initial weight were used There were three pigeons in each group The first group (controls) was fed exclusively on a diet of parboiled rice of which the vitamin value was just below the unit L.[1] The second group was fed exclusively on the millet grown on plot V, which received a complete chemical manure (N+K+P) The third group was fed exclusively on the millet grown on plot IX, which received cattle manure. The experiment lasted seventy days At the end of this period the first group had lost 10 grams in body weight; the second had gained 10 grams, and the third had gained 60 grams The average daily gain or loss of body weight, which may be taken as an index of the nutritive value of the grains, was thus *minus* 0·14 for parboiled rice, *plus* 0·14 for millet grown on soil manured with a complete chemical manure, and *plus* 0·85 for millet grown on soil manured with cattle manure Although the number of pigeons used in this experiment was small, the result reached again indicates the superiority of the grain grown on soil which received natural manure over that grown on soil which received artificial manure

Experiment III

The object of this experiment was to arrive at a comparative estimate of the vitamin B values of the various samples of millet. Some indication of these values had already been reached from the first experiment, which was continued until all birds in each group had died from polyneuritis or other causes In that experiment the polyneuritis varied both as to incidence and to time of onset in such a way as to suggest that the millet grown on soil which received cattle manure contained more vitamin B than that grown on soil which received mineral manure It had also been noted from the results of Experiment I that the millet grown on plot I, which received no manure, afforded little or no protection against the polyneuritis resulting from the basal diet of rice, for all six birds which received this millet died of polyneuritis in an average period of forty-eight days, while the controls died of it in an average period of fifty-one days It may safely be inferred, therefore that the *vitamin B value of millet* grown on an exhausted soil is low, and hardly greater than that of the rice used as the basal diet—a point of importance in regard to the frequent occurrence of beri-beri amongst millet eaters in Madras In Experiment III a basal diet of washed, raw, milled, and polished rice was used from the outset, the object being to produce polyneuritis quickly, and to observe the effect of the addition to the basal diet of the different samples of millet in delaying its onset Groups of six pigeons were used in this as in the first experiment, the initial weight of each group being the same There were eleven groups in all, two of these were controls, they received the basal diet of rice only Nine groups received in addition the samples of millet to be tested (sample I was exhausted in the first experiment) As there was less variation in the weights of individual birds in this experiment, each received 2 grams of the particular millet daily The basal diet was fed naturally, the millet artificially Records of the consumption of the basal diet by each group were kept, and the same remarks apply here as have been made in regard to the first experiment A comparative estimate of the vitamin B content of the various samples of millet was reached by noting (1) the earliest appearance of polyneuritis in each group, (2) the range of variation in the appearance of this malady in each group, and (3) the average day of development of polyneuritis in each group The results of the experiment are shown in Table III.

TABLE III.—*Giving details regarding the occurrence of polyneuritis in groups of pigeons of the same initial weight when fed on a diet of washed raw milled and polished rice to which millet grown under various manurial conditions was added*

No. of Millet and Group No. of Pigeons	Days of Development of Polyneuritis		Manure
Controls (no millet)	13 to 25 days	average 21 days	—
VI	17 to 52 days	average 30 days	Potash *plus* phosphate
III	20 to 41 days	average 31 days	Nitrogen *plus* potash
V	14 to 54 days	average 33 days	Nitrogen *plus* potash *plus* phosphate
VII	20 to 49 days	average 33 days	Potash
II	23 to 45 days:	average 33 days	Nitrogen
VIII	27 to 53 days	average 35 days	Phosphate.
X	17 to 54 days	average 36 days	Cattle manure (discontinued since 1916)
IV	30 to 54 days	average 42 days	Nitrogen *plus* phosphate
IX	44 to 54 days	average 50 days	Cattle manure (continuous)

It will be noted from Table III that in group IX the millet grown on soil which received cattle manure markedly delayed the onset of polyneuritis, and that the average period before its onset was longer in this group than in any other This result taken in conjunction with the first experiment, which also indicated a higher vitamin B value for this sample would seem to justify the conclusion that the grain grown on soil which received natural manure was of higher vitamin B value than that grown on soil which received artificial manure

Conclusion

It is recognized that the problem dealt with in this note is a very complex one Many factors and many variables are no doubt involved in different localities and climates Differences in character of the soil, in soil composition in soil *deterioration* in its bacterial and protozoal content in aeration, in weather, water atmospheric temperature etc may possibly determine different results in different places It is not the purpose of this note to suggest reason for the superiority of natural over artificial manures in influencing the nutritive and vitamin values of food grains, but to provide evidence that such superiority in all probability exists It is well known to practical farmers and to students of agricultural science that 'farmyard manure does something which artificial manures do not,"[2] and it would seem that part of this "something" is to increase both the nutritive and the vitamin B value of the grain grown on soils fertilized by it

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TREATMENT OF FRACTURE OF HUMERUS AT BIRTH

BY

T WILSON FROGGATT, M B, CH B SHEFFIELD,
LATE CASUALTY OFFICER, ROYAL INFIRMARY, SHEFFIELD

A MALE infant, 3 days old, was brought to the casualty room of the Royal Infirmary, Sheffield, on August 1st, 1923, by its godmother, who said that it cried whenever its left arm was handled Examination revealed a transverse fracture in the middle third of the humerus, but no inability to use the wrist, or other indication of damage to nerves

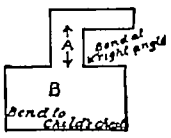


FIG 1.—Plan of poroplastic.

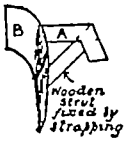


FIG 2.

The child's other arm was measured, and a splint made from poroplastic felt, according to the diagram, the A portion being cut a quarter of an inch longer than the child's humerus, so that by suitable bandaging with a crepe bandage a degree of elastic extension could be exerted on the lower fragment of the humerus The arm was thus carried in a position of right-angled flexion at the elbow, with horizontal abduction at the shoulder, the B portion of the splint being fixed by a crepe bandage passing round the thorax

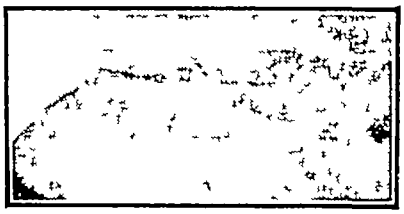


FIG 3

The arm was inspected from day to day, and at the end of three weeks was taken down and an x-ray print obtained (Fig 3) The arm was now massaged [illegible] and bandaged to the child's side by a crepe bandage to prevent further injury at home On September 6th the function of the arm was perfect, but a bulge of callus could be felt, increasing its diameter by half at that point



FIG 4

Another skiagram showed very good union with re-formation of the medullary canal (Fig 4)

The child was discharged after another week's massage, and at Christmas, 1923, it was impossible clinically to detect any abnormality in the arm

AN APPARATUS FOR DISLOCATION OF THE ACROMIAL END OF THE CLAVICLE

BY

DONALD I CURRIE, F R C S,
COLWYN BAY

DISLOCATION of the acromial end of the clavicle, resulting from a fall on the "point" of the shoulder, is a somewhat rare injury, and although the reduction of the dislocation is easy and the functional result usually good, yet the appearance of the shoulder is often very unsatisfactory This in most cases is due to the prominence of the outer end of the clavicle, and can only be avoided by correct and prolonged retention of the two bones constituting the joint in apposition Treatment should be commenced at once, and the partial redislocation of the joint during manipulation and readjustment of the apparatus studiously avoided

The simple apparatus shown in the diagrams is made from two buckled webbing straps, which are cut and sewn together as illustrated The shoulder strap, A, passes over a pad of strapping, placed over the acromio-clavicular joint, and passes down in front and behind the shoulder and round the padded flexed elbow (which is retained, flexed at right angles, in a sling) The chest strap, B, is fastened to the shoulder strap, as shown, in front and behind the "point" of the shoulder Its function is to retain the shoulder strap in its correct position and prevent it from slipping outwards off the point of the clavicle and so increasing the deformity

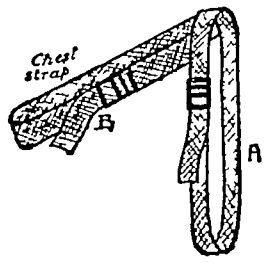


FIG 1.—Apparatus for dislocated clavicle (acromial end).

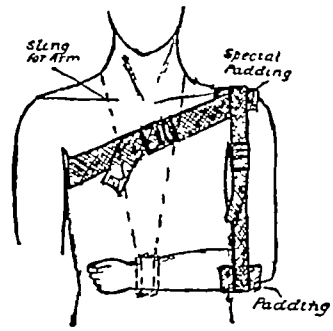


FIG 2.—Apparatus in position

In order to obtain the best cosmetic result the apparatus should be worn night and day for a month or longer, the arm muscles being massaged to retain their nutrition and tone The shoulder should be well supported from the elbow whenever the apparatus is removed for massage or adjustment

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PITUITRIN IN ASPHYXIA PALLIDA NEONATORUM

I HAVE recently had striking results from the use of pituitrin injection in two cases of asphyxia pallida in newly born children

In the first case the mother, a Chinese, had been in labour for two and a half days when I was called to her the head of the child was presenting The child was delivered by low forceps operation It was exceedingly pale and limp and made no attempt to breathe beyond one slight retraction of the abdomen I used the various methods of artificial respiration with the child bathed in hot water, and also tried breathing into its mouth through two layers of gauze, but without any result These measures had occupied about fifteen or twenty minutes, and the friends regarded the child as quite dead and advised me not to trouble further However, as I could just detect a little heart flutter, I injected about 0·3 c cm of pituitrin into the muscle of the buttock, and within less than a minute the child gave a deep sigh, its skin began to flush, and before five minutes it was crying and breathing quite normally The friends rather regarded the case as one of raising the dead

The second case was also a Chinese, the mother had a perfectly normal labour without aid of any kind The cord was round the neck rather tightly when the head was born, but was immediately released The babe gave a few gasps, but it was quite evident that no expansion of the lung had taken place, for with the retraction of the abdomen the intercostal muscles seemed also to be drawn in and the whole body was pale, flaccid, and lifeless I used the usual methods of artificial respiration and kept the child in warm water while doing so until the placenta was expelled, before I cut the cord, and continued these efforts for quite a quarter of an hour As I felt the heart was still beating I gave about 0·3 c cm of pituitrin The result was most striking—the child gave a deep sigh, the lungs expanded, and in a minute or so the body, which had been so pale, became deeply flushed, while the stump of cord, which a moment before was lying limp flat, and bloodless on the abdomen of the child, began to expand and throb quite strongly

The explanation that occurred to me was that the pale asphyxia was due probably to something of the nature of "shock," and the action of the pituitrin in contracting the arteries and raising the blood pressure forced a bigger supply to the lungs and at the same time stimulated the intercostal and abdominal muscles to contract I confess that when I first used pituitrin in this manner it was largely in the hope that something might come from a stimulant that could act quickly I intend to repeat this method again in like circumstances

Peking J G CORMACK, F R C S Edin

LARDACEOUS DISEASE FOLLOWING AN EMPYEMA

THE following progressive case of lardaceous disease, a condition happily now seldom seen, thanks to the greater efficiency of surgery, is worthy of record as showing how prolonged suppuration will produce this peculiar degeneration despite our modern methods of vaccine therapy

At the age of 10 years an empyema followed acute lobar pneumonia Surgical treatment was undertaken at the London Hospital, and through an incision below the eighth rib the pus was evacuated, unfortunately, however, the cavity continued to secrete pus, and a more extensive operation, was performed—resection of a portion of the neighbouring ribs, thus allowing the chest wall to fall inwards Improvement was temporary, and further surgical treatment was refused, as the surgeon could not "guarantee a cure" Hence the long train of events which ultimately led to the development of lardaceous disease

Five years later the child was placed under my care, he was then a boy of 15, but his physical development was that of a child of 10 There were no signs of puberty The skin was of a lemon yellow tint Emaciation was extreme, and the face had the wizened appearance of an old man He had a permanent slight rise of temperature, and *the wound continued to discharge a thin pale green pus* which was now probably tuberculous Some months later he became troubled with almost uncontrollable diarrhoea I found complete evidence of lardaceous disease The more important physical and positive signs were

1 The liver was enormously enlarged extending downwards almost to the pubes it was very hard and smooth and there was no tenderness The spleen was enlarged downwards and to the right there being a distinct groove between the latter organ and the liver The *splenic notch* was easily palpable

2 Ascites with all its signs was very marked—shifting dullness, thrill of transmission wave and 'dipping for the liver etc

3 The kidneys were not palpable The urine however was of a pale colour, of low specific gravity (1005) and slightly acid Albumin was present in fair quantities, and the microscope showed hyaline and waxy casts.

4 The diarrhoea was profuse, but it served to diminish the quantity of ascitic fluid, and the discomfort of a distended abdomen gave place to most extreme prostration consequently the necessity for tapping did not arise The motions at times were indistinguishable from urine, a combination of lead and opium gave temporary relief There was little doubt that the lardaceous degeneration had extended to the vascular system of the intestinal tract

The boy became progressively worse, was kept on stimulants such as strychnine and caffeine, and finally hypodermic injections of camphor General anasarca supervened owing to the cardiac and renal inefficiency, and death soon followed

A *post-mortem* examination was not allowed, but I had an opportunity of seeing the body five days after death The external appearance differed in no essentials from that during life There was no evidence of cadaveric lividity, no offensive odour, and apparently no decomposition This is a very interesting point, as it showed that this waxy or lardaceous material was so thoroughly diffused throughout the vascular system and tissues of the body that it acted as a preservative

Leyton A ROBERT FOX, M R C S, L R C P

HAEMORRHAGE IN THE NEWBORN TREATED BY INJECTION OF PATERNAL BLOOD

A FEW weeks ago I was called to see a baby 3 days old On the evening of the previous day it began to vomit blood When I arrived the infant was passing blood very freely by the bowel, it looked very ill I sent for the father and withdrew from his median basilic vein 10 c cm of blood and injected it into the baby's buttock I only gave 10 c cm because I had not a larger syringe I did not expect much effect from so small a dose, and gave a bad prognosis Soon after the injection all bleeding ceased The child took the breast, vomited no more, and now is thriving The note of a similar case in the BRITISH MEDICAL JOURNAL (October 6th, 1923 p 609) suggested this method of treatment to me As the amount of blood which effected a cure in this case was so much smaller I thought it worth reporting

Richmond Yorks. H M LYRES

ACIDOSIS TRACED TO INFECTION BY *B COLI*

THE following brief account of a case of non diabetic acidosis, in which relief followed injections of soluble hexamethylene-tetramine after various methods of treatment had been tried without result, is sent for publication in the hope that it may be of use to others who may find difficulty in relieving the painful and seemingly endless sickness and wasting of this affection

Mrs McF, aged 35 was suffering from a severe acidosis She had great sickness vomiting and nausea lasting for many week and was extremely emaciated

The diagnosis was not very clear It was thought at first that exophthalmic goitre with gastric crises might account for the sickness an alternative diagnosis was intestinal intoxication None of the remedies tried was of any avail I am of opinion now that the cause was an infection of *Bacillus coli* which was cultivated from the urine The breath smelt strongly of acetone The urine contained 0.2 per cent of acetone but no blood albumin or sugar

After trying many modes of treatment I gave her as a last resource injections of a solution of hexamethylene-tetramine I started with 1 gram intramuscularly each day for two days very little pain was caused Then I gave the solution intravenously ten injections of 1 gram each The patient preferred the intravenous injections which were not attended by any discomfort

The sickness was controlled almost immediately On the two days succeeding the intramuscular injections she was sick only twice and only slightly On beginning the intravenous injections the sickness ceased entirely

Acetone was no longer in her breath and was almost indetectable by delicate tests in the urine The number of *B coli* was also greatly diminished her appetite gradually increased and became excellent

Ardrossan. JAMES FRASER, M B, Ch B

DIAGNOSIS IN ACUTE ABDOMINAL ATTACKS—INTUSSUSCEPTION APPENDICITIS

THE two cases here reported show how one may be deceived in the diagnosis of abdominal disease

CASE I.—*Intussusception*

I was asked by Dr —— to see a patient in private consultation on the afternoon of December 14th. This was a boy of 2 years and 9 months who, after a meal of cooked peas and gravy some five days previously had vomited and complained of spasms of pain in the abdomen *There had been loss of appetite and lassitude but the pulse and temperature had been normal and the bowels open two or three times*

On examination the child had a filthy tongue normal pulse and temperature, with a perfectly flaccid abdomen into which one could put a fist without any discomfort to the patient There appeared to be no definite sign of an acute abdomen so after careful consideration it was decided that no surgical interference was necessary for the time being The condition of the child did not change much with the exception that on December 16th the temperature rose to 99 8° and the pulse to 92 Rectal examination revealed nothing, there was no abdominal distension and vomiting had ceased I then asked a colleague to see the case with me and we agreed that though nothing definite could be diagnosed it would be better to operate

Operation.—External examination under the anaesthetic revealed no lump of any kind On opening the abdomen in the mid line I found an intussusception 3½ inches long with the caecum and adjacent ileum very oedematous but fairly easily reduced The boy made an uninterrupted recovery and left the nursing home within three weeks

CASE II.—*Appendicitis in an Infant*

The next evening a baby boy aged 4½ months (breast fed) was brought into the Royal Hospital Richmond The child was vomiting persistently passed blood and mucus from the rectum several times had a high temperature, and rapid pulse The abdomen was very distended and appeared tender on the right side also on could apparently feel a small lump on the right about the level of the umbilicus From these symptoms I came to the conclusion that the child had an acute intussusception Within half an hour I opened the abdomen The small and large bowel were enormously distended but there was no intussusception Instead there was a purple inflamed appendix in a pre-gangrenous state No other abnormal condition was found The appendix was removed and the abdomen closed without drainage *there being no purulent fluid* present Though very ill for a few days the infant recovered *completely*

It was a curious coincidence that these two cases should *follow* each other within thirty hours, and so demonstrate the difficulties of exact diagnosis in abdominal disease Although conditions in the first case did not seem acute one sensed the necessity for an operation, even if the age seemed a little against intussusception In the second instance it was, of course, to be expected, as acute appendicitis at the age of 4½ months in a breast-fed child must be extremely uncommon

JOHN W HEKKS, M B B S Lond, Honorary Surgeon to In patient R a Hospital Richmond

Reports of Societies.

THE CLINICAL RESULTS OF DEEP X-RAY THERAPY

AT the meeting of the Section of Electro-Therapeutics of the Royal Society of Medicine on March 21st a discussion took place on the clinical results of deep *x*-ray therapy Dr W J TURRELL was in the chair

Dr WILLIAM MITCHELL (Bradford), in opening, said that in November, 1922, a symmetry apparatus was installed in the Bradford Royal Infirmary for administering deep *x*-ray treatment The technique he had used was that published by Professor Wintz Owing to an unwise discussion in the press many false hopes were raised, and the hands of those responsible for the treatment were almost forced by the public feeling that the widest advantage should be taken of the treatment even in cases which were virtually hopeless During the first sixteen months he treated at the infirmary 133 cases of carcinoma of various kinds, including about 30 breast cases Of the 133 cases, 48 were perfectly hopeless from the start At the end of the first year 41 had ceased attending for reasons unfavourable to the treatment Among the cases which were improved were two of cancer of the cervix uteri One of these cases, in which there had been considerable invasion of the vaginal walls, was still living and well In this case a full course of treatment was given, the second application six weeks after the first, and the third three months after the second Two cases of carcinoma of the pelvic colon seemed to get on well, one, he knew, was living to-day One case of carcinoma of the bladder had had six treatments, each time with a full dose After each treatment the urine became clear, and remained so for two or three months, and then haematuria asserted itself again in a marked degree He had found lymphadenoma respond well During the past year, when it had been possible to exercise more selection of cases, he had treated 55, but it was too soon to speak of results at present Of these cases, 16 had ceased attendance for reasons unknown to him, 23 appeared well, and 9, hopeless from the start, had died He had come to the conclusion that it was useless to promise cures in any case by means of deep *x*-ray therapy The only cases which really did well were those in which the general condition was good, with a good blood count and a good haemoglobin index In a large general hospital, of course, it was impossible to treat the patients under the same conditions of control as existed at Erlangen With regard to septic cases, his experience was that if a tumour, say of the jaw, got septic infection, the whole thing broke down and death followed from toxaemia He found that under *x* rays all cases, including those in which the general state of health was bad, got temporarily better, but so far as any results other than temporary were concerned his experience did not justify the optimistic accounts from Erlangen With regard to such conditions as rodent ulcer, he invariably used diathermy, and found that he got better results thereby than with any method of radio-therapeutic treatment

Mr SIMPSON HANDLEY declared that the time was past when surgery alone could claim to deal with malignant disease The help of the radiologist was necessary in nearly all cases, but he was not quite clear that deep *x*-ray therapy was the sort of help that surgeons would ask for from the radiologist He would hesitate to advise a patient who had been operated on for cancer of the breast to subject herself to deep *x*-ray therapy The effects of deep *x* rays on patients who had malignant disease required discussion under two heads the effect upon the patient, and the effect upon the growth The first of these effects required more study than it had yet received At Middlesex Hospital Dr Dodd had taken a few of Dr Webster's cases and investigated them thoroughly In the speaker's opinion such an intensive method of investigation of particular cases was the only way of tackling the subject which was likely to be effective One thing which was discovered was that while irradiation of the head neck, or thorax had little effect on the urine irradiation of the abdomen profoundly modified the urine, which was diminished in amount and in the daily excretion of its normal constituents This was ascribed to the temporary inhibition of the principal abdominal glands In the blood a marked fall in the blood-urea content was found Patients subjected to heavy *x*-ray dosage suffered from a profound asthenia and a loss of vitality which was greater than could be accounted for by the disease for which they were being treated This was in striking contrast to the stimulating effect of radium on the general condition Deep *x*-ray therapy, in amounts such as were necessary for the treatment of deep-seated tumours, had effects which were undesirable and deleterious Turning to the effects of the treatment on the tumour itself, the speaker said that in his experience undoubted benefit took place in certain cases, but in others there was sometimes actual stimulation of the growth He described three cases he had seen, of persons subjected to deep *x*-ray therapy, in which within a few months superficial metastases developed within the area which had been subjected to the treatment One of these was a case in which he had excised the greater part of the stomach for a gastric carcinoma, and deep *x*-ray therapy was applied as a prophylactic measure because he had felt sure that his operation must have been an incomplete one Within two months of the beginning of the treatment masses could be felt deep down in the abdomen In another case—that of a medical man—a growth was found in the descending colon and small nodules in the left lobe of the liver The speaker performed a lateral anastomosis so as to relieve obstruction, and the patient then went to Erlangen and had treatment there As a result of that treatment the lump in the colon diminished very much in size, and at first the patient felt much better The symptoms, however, recurred, and the patient had lately died In another case—that of a retired colonel—of carcinoma in the pelvic region, radium was embedded and the case improved, though masses were still to be felt, and the patient developed glands in the right iliac fossa After the one radium application he was treated with *x* rays This patient was still alive, although death might have been expected about a year ago if the disease had run its natural course The speaker's general conclusion was that a mean must be found in the application of deep rays At the one extremity was a dosage which was inadequate for acting on the growth, at the other a dosage which was harmful for the individual He did not think that the balance had yet been struck It must be recognized also that the use of buried radium in suitable cases, where the area was small, had advantages over *x*-ray therapy With radium a maximum irradiation of the growth was obtained with a minimum irradiation of the tissues generally, whereas in deep *x*-ray therapy irradiation of the tissues generally was hard to avoid, and this was generally deleterious in its effect

Dr GEORGE COOPER (Leeds) said that his experience of deep *x*-ray therapy extended over eighteen months and comprised 400 cases These cases represented the most varied types of malignancy In the majority of cases there was a marked improvement in the general health of the patient, a sensation of well-being, and a return of strength for a short period after the first treatment The patient's constitution appeared able to reassert itself, and the toxic action was stayed It might be said that the radiation stunned the growth—scotched the snake, if not killed it The relief of pain was a very constant result, and in certain cases there was a cessation of any discharge The use of hard rays was more stimulating to the formation of fibrous tissue than the use of soft Although the general opinion was that the harder rays had nothing to recommend them beyond the fact of their penetrability, he had found a dose of hard rays set up healing in simple lesions more quickly than protracted doses of soft rays, and this he attributed to the stimulation of the fibrous tissue The general factors controlling the results obtained by radiation included the stage which the growth had reached, the situation of the growth, the condition of the patient, especially with regard to his blood, the nature of the neoplasm, and the volume and quality of radiation administered His own best results had been obtained in genito-urinary conditions and pelvic conditions generally Cancer of the cervix had shown a definite tendency to relapse after a first improvement Cancer of the prostate had not reacted very well, he had been much more

successful in treating cancer of the bladder The treatment of cancer of the rectum had yielded encouraging results The most definite result of all, however, was in the improvement of the general health Cancer of the stomach he had found most unsatisfactory, except in one case where the treatment was given at the time of the operation on an exposed surface In inoperable cases of cancer of the breast he had had some excellent results The results must be judged chiefly by the duration of the effects obtained It could not be claimed that x rays were a cure for cancer, but it could not be denied that x rays had a definite lethal and controlling effect on the malignant growth In estimating the present position of deep x ray therapy it must be remembered that since the advent of this method radiologists had been called upon to treat cases of a much more advanced and desperate character than were formerly sent to their departments There was no doubt that more had been done for the treatment of malignant disease since the introduction of deep x rays than had hitherto been obtained outside the domain of surgery

Dr ROBERT KNOX reminded the gathering that x ray therapy was not a new thing It did not originate in Erlangen Radiologists in this country had been developing their own technique on perfectly sound lines, and this should be borne in mind It was on the observations made while treating superficial conditions in the early days that the theory of deep therapy was evolved It was assumed that if a particular lesion of the skin reacted to a certain dosage, a deep-seated lesion would respond similarly if the same dosage could be projected to its site Deep therapy was simply the application at a depth of dosage equivalent to what would produce an effect in a similar condition on the surface Deep therapy, therefore, was an extension of superficial therapy, and the matter resolved itself into a question of wave-length The principal points to which he wanted to direct attention were based on Mr [illegible] Handley's work on cancer of the breast The task to which the radiologist had to direct himself was to supplement Nature's efforts of repair, instead of depressing them, to encourage them in every way to overcome the disease He had observed for years the effects of radiations on various lesions, and had classified such effects according to the conditions of the disease Thus, in enlarged lymphatic glands the response was very rapid, in lymphosarcoma it was rapid, but not quite so rapid, and there was greater tendency to recurrence, in sarcoma there was a fairly rapid reaction, but not certain, and in carcinoma the action was much less certain He proceeded to describe and to illustrate by photographs the results obtained in a few cases One was a laryngeal case, apparently of epithelioma, which was completely healed and the growth arrested under treatment without operation The case was one which came under the care of Sir StClair Thomson It was treated by x rays in 1921 The full 200,000 voltage installation was not used, but one of about 140,000 voltage The rays were filtered through 8 mm of aluminium, and the total dose over a period of three months was something like sixteen hours During the whole of this treatment the skin remained uninjured The speaker saw the patient two days ago, and the larynx was perfectly normal Another case was that of a patient who, six years ago, had a testicle removed for a carcinomatous condition He received the ordinary prophylactic treatment given at that time, and did very well for about three years, when he turned up with a large mass in the abdomen A fairly heavy dose was given, and the mass disappeared very rapidly At the beginning of last year the patient appeared with a mass of glands in the supraclavicular region and a very large mediastinal tumour He was treated with penetrating rays, and this condition cleared up There was no doubt about the primary condition being carcinoma

Dr REGINALD MORTON said that although he had treated many hundreds of cases he could give no summarized statistics at the moment, and would content himself with a few general impressions To his mind the chief advantage of x ray treatment was that it enabled one to deal with deep lesions with even more efficiency than formerly one dealt with superficial ones With regard to the possible stimulation of the growth by x rays, he confessed himself in some doubt, he had had to revise his opinions, but his present feeling was that if there were growths which were stimulated to increased activity by a certain dose of x rays they formed a very small proportion of the whole But so long as any uncertainty remained on this point he meant to continue giving the single full dose unless there were contraindications Among his reasons for preferring the single dose was the fact that it permitted a smaller margin of error in dosage Beyond the fact that modern developments had extended the range of the radiologist's activities, he doubted whether he had been given greater control of malignant disease From all the evidence which was available to him it would appear that the percentage of successful results had not increased to any marked extent The effect of x rays on the living tissue was for all practical purposes independent of the wave-length, always assuming that they were using rays of medium or greater hardness, and that the correct exposure was given for that particular wave-length The determining factor in the result of an x ray application was unknown, it was not a physical or a technical one Some of the best results were obtained in pelvic cases where greater evenness of irradiation was possible than in breast tumours, which could rarely be irradiated evenly to one's satisfaction Among the most unfavourable cases were those involving the neck or the air passages, especially the larynx He did not think that in carcinoma of the larynx they were justified in applying the full radiation—the full carcinoma dose Cancer of the rectum at times responded very favourably As to after effects, sickness was occasionally troublesome in the distant irradiations, in this respect the length of exposure was an important factor Ever since he had modified his apparatus so that all his exposures were shortened, being only three-quarters of the time previously taken, this effect had become much less prominent

Dr CURTIS WEBB said that his own experience with deep therapy—he was working with the Erlangen apparatus—extended over eighteen months This was far too short a time to form any definite conclusions, but he had been very much encouraged by the use of this treatment in [illegible] cases that could be considered at all suitable He had had three cases of malignant disease of the cervix, the first was treated about fourteen months ago, the last about eight months ago, all three were considered inoperable, they were all suffering a good deal of pain and discharge, and the result of the treatment had been that they had all put on weight, the discharge had ceased, and the fungation disappeared He had employed the Erlangen massive dose, as opposed to the divided dose as generally practised in France, and he advanced some arguments in favour of the former He also mentioned the unsatisfactory results very generally obtained in mouth and stomach cases According to the theory which was held at Erlangen, the main efficacy of the deep treatment depended on the secondary radiation obtained from the hard rays, which was not forthcoming to the same extent from the soft rays, therefore, in cases where the site of disease was the stomach or intestines, or again, the tongue, the fact that the site was surrounded by air prevented the same secondary radiation from being forthcoming as in the case of, say, cervical or uterine carcinoma It was the difficulty of getting the secondary radiations to an efficient amount that if not entirely at any rate to a considerable extent, tended to make the results in these situations less satisfactory than the results in what might be called the solid organs

Dr N S FINZI said that, as Dr Knox had pointed out, this deep therapy was nothing new It was largely a question of difference of method in recent years, though by the old methods very successful results were forthcoming The question was, Were these modern methods better than the old? He unhesitatingly declared that they were Dr Reginald Morton was apparently in some doubt on the point, but the test was whether Dr Morton would go back to the old methods He did not believe that any of the radiologists who were using the new methods would go back to the old, and they would not go back to the old simply because they were getting better results with the new A large number of the bad results were due to their own faulty technique There was too much of the feeling that

either x rays or radium must be used Why not combine the two? Much was to be gained by a combination of methods in these cases Much had been done in radium therapy of recent years by getting a large number of separate foci, and so securing a more homogeneous irradiation, and he was certain that radium treatment was advancing *pari passu* with x-ray treatment In France and Belgium they were so convinced of the success of radiotherapeutic methods that they were starting a number of cancer centres in which the chief treatment given was not surgery, but radium and x rays With regard to the effects of x rays upon the system, he agreed that the changes in the blood had been exaggerated, not, however, in the case of irradiations of the upper abdomen, because there the most profound changes in the blood did result In ordinary breast or neck cases the changes in the blood were not nearly so remarkable as people had been led to suppose In treating prophylactic cases he used intensive methods He had several times, in treating carcinoma of the breast, seen a reinfection of the irradiated area, but in all such cases he had been able to demonstrate by skiagram enlarged glands in the mediastinum, and he thought that in all these cases there was a spread along the mediastinum back to the area which had been treated With regard to radiation sickness, he found that it helped considerably if one insisted that the patients at the time of treatment should have plenty to drink and little to eat, and if the room was ventilated as much as possible

Dr LOUISA MARTINDALE said that she had been doing the Erlangen technique for the last eighteen months She could not say that she had noticed a great deal of sickness In every case she had prepared the patient as for an abdominal operation, and the patient had had nothing more than a cup of tea about two hours before the treatment was given In castration cases, of which she had done about fifty, there had been surprisingly little sickness

Dr DOUGLAS WEBSTER thought that radiologists should study carefully all that the pathologists or surgeons who knew a great deal about pathology had to say Lately Professor Ewing in the United States had published an excellent article summarizing the effects of radiation on malignant disease, in which he considered the subject from various points of view, such as the effects on embryo and on adult growths Lymphoid tissues and lymphosarcoma were affected by changes in the actual cells themselves, without any effect on the connective tissue, and in this type of case one might hope to have a radiation cure The speaker had about twenty or thirty cases which would bear scrutiny as to their final result, several of them were cases of sarcoma He had three or four cases of inoperable cervix tumour, in one of these the last treatment was given a year or so ago, and the patient was still in health and the growth appeared to have been restrained He had had few cases of primary breast tumour, those which did best were those in which the patient was seen very frequently In all cases the best results appeared when radiotherapy was combined with some form of general treatment or when the patient was living an open-air life in the country

The President (Dr TURRELL), in closing the discussion, said that it had been one of the best discussions on deep therapy held in this country The first enthusiasm for this treatment had now passed away, and they were all able to approach it more logically and scientifically On only two points did he himself wish to touch The first was that in combined treatment diathermy might have been more used The second point related to deep therapy and the menopause It did not appear to him that deep therapy was justifiable for the treatment of fibroids near the time of the menopause From Bordier's table it appeared that the treatment of fibroids by means of small repeated doses produced the menopause in some cases with four such treatments, and in other cases only after as many as fifty, but when the subject was near the menopause the small number of treatments—not the large—was required If one used the massive dose which produced castration at a single application, one must be employing in some of these cases ten times the necessary dose to produce the cessation of the periods Not much was known about the endocrine functions of the sexual glands, but it was known that the glands exercised some important function, and therefore he thought it very advisable to give as small a dose as was possible in order that the endocrine function might escape undue injury Very small doses on the Bordier principle had brought about the menopause in the most excellent way

LYSOZYME EXPERIMENTS

AT a meeting of the Pathological Section of the Royal Society of Medicine, held on March 18th, Dr V D ALLISON read a paper on the effect of administration of vaccines on the lysozyme content of tissues and secretions Three series of experiments were carried out on man and animals, using vaccines of (*a*) organisms very sensitive to the bacteriolytic action of lysozyme—namely, *M lysodeikticus*, (*b*) organisms moderately sensitive to lysozyme—for example, a faecal streptococcus, and (*c*) organisms almost insensitive to lysozyme action, such as *B typhosus*, *B paratyphosus* A, and *B paratyphosus* B The faecal streptococcus vaccine was given subcutaneously to man, while the other organisms were given intravenously to rabbits The bacteriolytic titres and the bactericidal power of the tears and serums of the test subjects were tested against the homologous organisms, both before the commencement of inoculation and during the course of the experiment, but there was no change in the lysozyme content of the tears or of the serums throughout One rabbit which received massive doses of *M lysodeikticus* intravenously and one control rabbit were killed, and extracts were made of various organs and tissues, the extracts from the immune and control animals were tested for lytic power on the indicator organism, and the lytic titres were found to be identical in the immune and in the control animals In the case of the rabbits immunized with the typhoid group of organisms, the tears and serums were tested for lytic power not only with the homologous organism but also with *M lysodeikticus* and the faecal streptococcus already mentioned, no change in the lytic power was observed These results led to the conclusion that the lysozyme content of the tissues and secretions of the living organism could not be increased by active immunization with vaccines

A paper was also read by Dr A B ROSHER on the effect of inoculation of heterologous antigens on a steady agglutination titre with reference to the diagnosis of enteric in inoculated subjects Various antigens, both living and dead, were injected into rabbits, the serums of which showed steady agglutination titres as a result of injections of vaccines The titre was only appreciably affected when the secondary antigens were in close serological relationship to the primary ones, and this was brought forward as evidence in favour of the reliability of the repeated agglutination method as a means of the diagnosis of enteric in the inoculated subject

SUPPURATIVE DISEASES OF THE FRONTAL, ETHMOIDAL, AND SPHENOIDAL SINUSES

AT a meeting of the Section of Laryngology of the Royal Society of Medicine on March 7th, with Mr H J BANKS-DAVIS in the chair, a discussion was held on the subject of suppurative diseases of the frontal, ethmoidal, and sphenoidal sinuses, and illustrative cases and specimens were shown

Mr MUSGRAVE WOODMAN in his opening paper drew attention to the need for further investigation of the borderland territory which lay between the upper sinuses of the nose and the meninges of the brain Below the rhinologist looked upwards and above the physician held sway, but the connexion between the sinuses and the brain, which so frequently resulted in meningitis, was to a large extent a borderland and hitherto unexplored territory Looking first at the frontal sinus, he gave the analogy of the gall bladder, in which drainage normally was adequate and from its most dependent portion, its troubles, like those of the gall bladder, arose principally from obstruction outside and in the neighbourhood of the duct He was extremely interested in osteomyelitis following operative procedures in this sinus, and drew attention to the

very extensive connexions between the external, diploic, and meningeal veins, which had their anastomoses in this region Turning to the ethmoid, he described it as the key position to the antrum and frontal sinus in its anterior portion, and the sphenoidal sinus in its posterior portion Attention was drawn to the sponge-like nature of its cellular framework, its close relation to the eye, its influence on the spheno-palatine ganglion, and the production of neuralgia of the fifth nerve from infection locked away in its posterior portion Lastly, in dealing with the sphenoidal sinus, he reminded the audience of the great importance of the observation of Sluder in 1912 that the first and second branches of the fifth could be anaesthetized by painting the sphenoidal wall with cocaine, and the deduction from this that acute or subacute infection of this cavity must have very considerable influence on the production of neuritis of this nerve Attention was called to the proximity of the pituitary and the necessity for further research in the influence of this gland on suppuration in the sinuses In conclusion an appeal was made for further research work on the influence of suppurative disease in the sinuses, both in the production of neuritis of the fifth nerve and of meningitis

Dr W T GARDINER gave a lantern demonstration of the various steps in Sluder's method of opening the ethmoid cells and sphenoidal sinus intranasally, under local anaesthesia obtained by blocking the spheno-palatine ganglion and the nasal branches of the ophthalmic nerve with the application of cocaine

Dr DOUGLAS CUTHRIE demonstrated specimens and lantern slides illustrating the variations of the cribriform plate and its relation to the upper nasal sinuses He had found that the anterior part of the cribriform plate was the more easily penetrated On examining 200 skulls he found in 74 per cent that the ethmoidal cells rose above the cribriform plate and the olfactory groove was deep, while in the remaining 26 per cent it was shallow

Mr HERBERT TILLEY said that sphenoidal sinus disease was much more common than was usually thought, and headache and a dry pharyngitis were the most common symptoms of it He made reference to cases of osteomyelitis of the frontal bone, apart from operations on the sinus

Mr ERIC WATSON-WILLIAMS showed a number of skiagrams of cases with frontal sinus disease, and discussed the symptoms and treatment

Dr LOGAN TURNER referred to the results of the consideration of answers to a questionary which he had sent out, with reference to intracranial complications of sinus disease and osteomyelitis He divided the complications into two groups, spontaneous and post-operative, out of 125 cases 77 were spontaneous and 48 post-operative, the former occurring in patients under the age of 30, 34 were complications of acute and subacute sinus suppuration, and 40 of chronic suppuration The post-operative complications occurred chiefly after operations for chronic sinus suppuration—only in 10 per cent was it after acute sinusitis Osteomyelitis occurred in 58 per cent and not only as a sequel of the external operation

Sir STCLAIR THOMSON said that he had observed in his clinic a number of what he regarded as spontaneous cases of osteomyelitis, some of whom gave a history of having been recently in a swimming bath

Mr W S STEIE described his operative methods of treating sinus suppuration, and pointed out that in dealing with the ethmoidal cells the great necessity was for thoroughness

SUDDEN DEATH FROM INHIBITION.

AT a meeting of the Medico-Legal Society on March 18th, Dr Percy B Spurgin and Sir Bernard Spilsbury discussed cases of sudden death from inhibition and their medico-legal bearings

Dr SPURGIN presented notes on the case of a young man who died suddenly in Regent's Parl last October after two separate bouts of fisticuffs with another man The latter was convicted of manslaughter at the Old Bailey, and sentenced to four days' imprisonment Dr Spurgin himself conducted the *post mortem* examination in this case, and came to the conclusion that the man died of inhibition due to irritation of the vagus nerve from repeated blows on the left side of the neck above the clavicle

Sir BERNARD SPILSBURY presented notes on the death of a child aged 3, who gave a slight cough, fell back in her chair unconscious, and died ten minutes later The *post-mortem* examination, which he himself made, revealed a thin skull and a large brain, the finger nails and lips being livid Such findings were not uncommon in cases of inhibition There was nothing to show the cause of death, and his conclusion was that it was due to inhibition, probably excited by the entrance of a crumb into the air passages Sir Bernard Spilsbury mentioned another case where a man died after receiving a blow on the abdomen The explanation of inhibition was based on the normal physiological functions of muscles and nerves, the nervous system bringing certain muscles into action, thus causing the inhibition of opposing muscles

An interesting discussion followed Sir WILLIAM WILLCOX said in a considerable number of cases it was very difficult at necropsy to find the cause of death, especially in cases of sudden death where, after a hearty meal, vomiting ensued with violent inspirations A small portion of the vomit became inhaled in the air passages, and the cause of death was probably asphyxia Deaths from submersion in water were by no means cases of drowning always, 30 per cent were probably due to inhibition Mr R F LEVY, Dr JOBSON SCOTT, and Dr BRONTË were among the other speakers

Replying to the discussion, Sir BERNARD SPILSBURY said in cases of apparent inhibition artificial respiration ought immediately to be applied He knew of a case where an electric shock prostrated a man, and where prolonged artificial respiration proved successful

CHRONIC DIARRHOEA

A MEETING of the Derby Medical Society was held on March 21st, the President, Mr J E KILVERT, being in the chair

Dr J A RYLE *read a paper on chronic diarrhoea*, which, he said, although not a prevalent complaint, was a symptom common to a great variety of diseases, and might be very difficult to analyse and treat The incidence of certain infective types had increased in consequence of the wide extent of our Empire and the recent ravages of war On a rough anatomical basis chronic diarrhoeas might be grouped as those originating in the stomach, the small bowel, the large bowel, and rectum, those due to pancreatic or gall bladder disease or to disease of the lymphatic absorbent system, and those due to reflex or other external nervous stimuli It was important to recognize that diarrhoea was not necessarily a primary bowel symptom at all The methods of investigation might be subdivided into (*a*) simple clinical methods, such as microscopic inspection of the stools and rectal examinations, (*b*) other methods falling within the scope of the clinician such as proctoscopy and sigmoidoscopy, microscopic examination of the stools for blood, pus, meat fibres, etc, and (*c*) specialist methods, including chemical analyses search for parasites, bacteriological procedures and radiography with opaque meals or enemata Gastric diarrhoea was nearly always associated with achylia or achlorhydria, and occurred in Addison's anaemia, chronic gastritis and cirrhosis, and many other conditions Diarrhoea might be the only symptom of achylia, and the earliest symptom of Addison's anaemia, often preceding the development of the anaemia by many years, it was almost always relieved by the therapeutic administration of dilute hydrochloric acid Another form of gastric diarrhoea followed over-successful gastro-enterostomy Diarrhoea originating in the small bowel was generally the result of ileal tuberculosis, and was therefore commonest in the later stages of pulmonary or abdominal tuberculosis The colonic diarrhoeas constituted a wide group and included the chronic phases of amoebic and bacillary dysentery, other forms of ulcerative colitis, and colonic and rectal carcinoma In all of these examinations of the stools and sigmoidoscopy were of the first importance Some spurious diarrhoea due to

constipation or abuse of purgatives might also be included in this group Pancreatic diarrhoea was very rare and was associated with the passage of oily or fatty coagula, other evidences of pancreatic deficiency should be sought A far more common cause of fatty stools, in which the fat was largely present in split form and intimately mixed with the stools, was disease of the lacteals or mesenteric glands, commonly tuberculous The very similar stools of coeliac disease and sprue were possibly due to other forms of lacteal obstruction Mesenteric glandular tuberculosis also produced a simple form of mild chronic diarrhoea in children and young adults, and might be the earliest evidence of tabes mesenterica In all the gastric, pancreatic, and small intestinal diarrhoeas undigested meat fibres might be present in excess in the stools, reflex diarrhoeas might accompany chronic appendicular disease and cholecystitis Diarrhoea might occur as a visceral neurosis in anxious-minded persons, but originated not uncommonly in a digestive or infective diarrhoea Rational treatment must depend on careful grouping and accurate diagnosis, and when diagnosis was accurate purely symptomatic measures were seldom necessary

DUODENAL OBSTRUCTION

A MEETING of the Section of Medicine of the Royal Academy of Medicine in Ireland was held on March 7th, the President, Dr T G MOORHEAD, in the chair

Dr G E NESBITT read a paper on duodenal obstruction, pointing out that partial duodenal obstruction could be demonstrated in a large proportion of cases in which there were chronic dyspeptic symptoms The cause of the obstruction varied, but the most common cause was compression by the superior mesenteric artery, which, in his experience, was nearly always associated with an abnormal condition of the colon Mobility alone, due to the possession of a mesentery, was not sufficient and some other factor was necessary, such as descent over the pelvic brim, chronic constipation, or loss of tone in the abdominal muscles The medical treatment for this condition consisted in regular emptying of the colon, with support for the latter by an efficient abdominal belt Failing improvement on these lines, colopexy was indicated, or possibly duodeno-jejunostomy

Mr MCCONNELL said he had found constipation present in duodenal cases during attacks of pain, but between the attacks the patients were fairly normal and did not suffer greatly from constipation The attacks were often precipitated, however, by a period of constipation the colon became loaded and heavy, dragged on the duodenum, and, in his opinion, brought on the attack of pain, and therefore medical treatment was of great value in a large number of cases He personally thought it was a great mistake to open a patient's abdomen unless a fairly definite diagnosis had been made beforehand by a physician Sometimes medical treatment brought relief during the attacks, and sometimes after prolonged medical treatment patients recovered completely, and escaped an operation Some patients who had six hours' residue in the stomach were found at the operation to have no obstruction, but to have a very dilated duodenum, in other cases there was no retention at all, but the patient continually vomited, and such cases were certainly relieved by operation He did not agree that duodenal symptoms were always associated with mobility of the colon, many other factors would explain these cases Allaying the symptoms was no good for the patient, cure should be attempted and an early and thorough examination, including the use of x rays, should always precede and not succeed treatment

The PRESIDENT said that although there was no doubt at all of the existence in some patients of a dilated duodenum, he could not accept the existence of a loose colon as an adequate sole explanation of the symptoms described by Dr Nesbitt, nor did he believe that fixation of the colon would relieve these symptoms The symptoms and conditions described were hardly distinguishable from the familiar syndrome of enteroptosis He had seen the rise and fall of many procedures which were at first held up as a panacea for all chronic abdominal troubles, and it was not so long since loosening the colon was regarded as the one thing necessary, whereas now it was held that the colon should be fixed Fixing the kidney, removing the appendix, gastro-enterostomy, and excision of the colon had all had their day, and although each of these procedures was advisable in certain well defined cases none of them had retained the vogue prophesied at their first introduction

Mr CHANCE said that by lifting up the colon, and fixing it, the pressure on the ascending mesenteric artery would be relieved, but he felt that by doing this they were only removing a very small part of the trouble in cases of duodenal obstruction

Dr V M SYNGE said that if Dr Nesbitt's explanation of symptoms in cases of duodenal obstruction was correct it was curious that these cases were not much more common, since he had heard this condition described two years ago he had looked out for it in his practice, and had only come across two cases He thought the symptoms described by Dr Nesbitt were found in most patients suffering from chronic abdominal trouble

Dr NESBITT, in reply, said he did not mean to put forward this conception as an explanation of all abdominal cases, but it had thrown a good deal of light on cases which had previously puzzled him greatly In his experience the condition was very common, and he had come across a great many cases which, when examined by x rays, showed pictures similar to those exhibited that evening Mobility alone was not always part of the picture, but it was essential that the caecum should descend over the pelvis In some cases, if the colon was thoroughly emptied the patient lost all symptoms for the time, but later on they came back again, whereas if operated on the cure was permanent Sometimes the obstruction might be due to pyloric spasm, or retention of the stomach contents in the stomach

Paroxysmal Tachycardia

Dr LEONARD ABRAHAMSON described a case of paroxysmal tachycardia

The patient was seen first on July 11th, 1922 She presented a mitral lesion, the result of acute rheumatic infection, and was in the middle of an attack of paroxysmal tachycardia, due to a series of nodal extra systoles (200-205 per minute), which lasted for two days Her history, until November 23rd, 1923, included a number of short paroxysms of extra systoles, between the paroxysms the heart was usually irregular, and this irregularity was found to be due to the occurrence of extra systoles, arising at different levels in the region of the $a\ v$ node On this last date symptoms of heart failure became more marked, and examination showed the supervention of auricular fibrillation, treatment by quinidine sulphate was ineffectual, but the patient progressed favourably on digitalis until December 22nd, when she developed symptoms of cerebral embolism and died on the following day At the necropsy the heart showed a mitral stenosis with enlargement of both ventricles and fibrosis of the right auricle

Dr Abrahamson discussed the question of the relationship between extra-systoles and fibrillation, and, in reply to points raised by Dr ALFRED PARSONS and Dr G E NESBITT, said that there was a presystolic murmur in the case described, but it did not appear when fibrillation supervened He had got good results by the use of quinidine, although in some cases it did not stop the fibrillation One patient after taking quinidine for two years was still free from fibrillation, and he attributed this to the drug In about 40 per cent of cases he had restored normal rhythm by giving quinidine, and he thought it was a drug which was well worth trying

ANAESTHETICS

AT a meeting of the London Association of the Medical Women's Federation held on March 11th, Miss M CHADBURN, the President, in the chair, papers on anaesthesia and anaesthetics were read

Dr H N PAYNE, discussing general anaesthesia, preferred ether to chloroform or chloroform mixtures, on grounds of easy administration and safety, patients liked induction by nitrous oxide, which followed by closed ether,

was her routine method In the case of toothless patients in the Trendelenburg position, in the late stages of long operations, in abdominal cases where the patient was acutely ill, and in thyroid operations she made use of the open method, and gave chloroform only to patients who appeared unsuitable subjects for ether by reason of chest complications, age or stoutness She did not use scopolamine and morphine before an anaesthetic, and atropine only in selected cases

Miss A Gilliatt, dealing with anaesthetics for ear, nose, and throat operations, detailed the modifications necessitated by an obstructed airway, the difficulties being least in ear operations The use of open ether was not altogether satisfactory, and she preferred induction with chloroform or C L mixture

Mrs Tindal-Robertson discussed spinal anaesthesia, which was useful in cases of operation at the level of the umbilicus or below, especially in asthmatic and bronchitic cases for prostatic operations and for the amputations of diabetic gangrene it was the method of choice, as it was also when combined with twilight sleep or general anaesthesia, in Wertheim's operation and excisions of rectum The injection of stovaine was liable to cause a fall of blood pressure which might be dangerous when the patient was suffering from shock before operation, apart from this spinal anaesthesia diminished shock, and a patient who had had injections of hyoscine, morphine, and atropine before being brought into the theatre was already drowsy and remained asleep if not aroused by noise If the operation were delayed or the patient difficult, very slight chloroform inhalations sufficed to put her to sleep

Dr Enid Moore, in a contribution read by Miss Ida Mann, described the technique of gas and oxygen anaesthesia, laying stress on the importance of slow induction, in the case of an alcoholic patient, the introduction of ether vapour into the mixture was desirable At the Infants Hospital, gas and oxygen was used invariably for abdominal operations, and the statistics indicated fewer fatalities than with other methods, in cases of congenital pyloric stenosis it was of great value Since an infant was liable to become deeply anaesthetized suddenly and without warning, it was wise to give a proportion of one of oxygen to two of nitrous oxide, instead of one to four as in adults The introduction of small quantities of ether vapour appeared occasionally to be stimulating For adults, gas and oxygen was useful in stomach, thyroid, and head operations, in Caesarean sections, in bronchitic patients, and in cardiac cases without myocardial degeneration

Mrs Brady, discussing ethyl chloride anaesthesia, demonstrated the Loosely apparatus for closed administration, which she used, she had found it not difficult, and a useful halfway house between nitrous oxide and chloroform The advantage of dental anaesthesia in children was that the child came once only, instead of several times, for multiple extraction, but caution was needed, since ethyl chloride was a quick anaesthetic Change in respiration was, in the speaker's experience, far the most useful of the signs to watch, and another danger signal was a change of colour, especially to a waxy, pale appearance The drug had a cumulative effect, and it was not wise to push it till the pupil was fixed, central, and dilated, the lessening rigidity of the jaw muscles was a useful and practical sign of increasing depth of anaesthesia

Miss L Aldrich-Blake spoke of anaesthetics from the point of view of the surgeon and of the patient Nearly all patients disliked the smell of ether, and therefore induction by gas or some other method was an advantage, both to the patient and the surgeon In future there would be probably a combination of local anaesthesia with some less toxic form of general anaesthetic than those in routine use at present She had found the injection of 2 per cent novocain into the abdominal wall, and into extraperitoneal tissue of the rectum, very useful in diminishing shock From the surgeon's standpoint, where good relaxation was required, it was necessary to obtain and maintain the free airway Miss Aldrich Blake quoted statistics from the records of nearly 700 consecutive patients operated on by her at the Elizabeth Garrett Anderson Hospital, to show that no appreciable risk of pulmonary complications after ether anaesthesia need be feared Of these patients, only twelve had developed pulmonary complications which might possibly be attributable to the anaesthetic, none of them being fatal

Dr Mina Dobbie said that the advisability of twilight sleep during labour was still a matter of controversy many of the arguments used against it were formerly employed against the use of chloroform The method of induction, the dosage, and the purity of the drugs varied so much when twilight sleep first came into use that the arguments used then were now out of date Most of the conditions mentioned by J S Fairbairn in 1917 as special indications for its use had been given by early observers as contraindications For women nervous of pain it was an ideal method, and was safe so long as it was remembered that amnesia and not analgesia should be the objective Dr Dobbie traced the history of twilight sleep, and gave details of the technique of the three schools (1) the single dose school, (2) the standard dose school, and (3) the individual dose school

Dr Handley-Read, in connexion with dental surgery, discussed the patient's usual preference for an anaesthetic which would enable several teeth to be extracted at the same time, this necessitated a general anaesthetic other than gas and oxygen The disadvantages were the difficulty of obtaining a suitable, firm, reclining couch, even in a nursing home, where such an operation should be done, the danger that a portion of tooth or debris might pass down the throat, the shock following multiple extractions, and the danger of several open sockets in a septic mouth

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At a meeting of the Royal Medico Chirurgical Society of Glasgow on March 7th, with the President, Dr A Maitland Ramsay, in the chair Mr G H Stevenson made a communication on the treatment of ununited fractures and other bone defects by bone grafts and bone comminution After a brief survey of the causal factors in the cases of non union under consideration—chiefly war wounds—Mr Stevenson discussed the conditions determining the choice of operative treatment, and drew attention to the contrast afforded in this respect between the upper and lower limbs The operative technique was then described in detail—the use of the electric saw, the source of the grafts, the types of graft, the methods of fixation, etc Preference was expressed for the massive inlay graft taken from the tibia, combined with a partial intramedullary method in some cases The importance of secure fixation was urged, and the various methods of effecting this discussed For after treatment he had found that plaster of Paris fixation was the most satisfactory, and to avoid irritation he employed Rutherford Morison's bipped silk to close the skin Renewal of the plaster and valving to permit of massage carefully controlled was advisable The latter part of the paper was devoted chiefly to the method of bone comminution, the technique of which was described in detail and the importance of very thorough and 'brutal' comminution was urged Reference was also made to the repair of defects in the skull by bone grafts In the ensuing discussion Messrs Archibald Young, William Rankin, Donald Duff, James Russell, and J Scouler Buchanan took part

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The annual report for 1923 of the Ophthalmic Hospital in Jerusalem, which is maintained by the Order of St. John of Jerusalem in England, contains interesting details of what was in some ways a record year of work The number of new out patients—1,915 in the year operations 4,169, and admissions as in patients 1,524—were all an increase on previous years The bulk of the patients were suffering from one or both of the two prevalent eye diseases in the East—trachoma, with its complication trichiasis and acute conjunctivitis A large number of Jews and Arabs attended the hospital for treatment of trachoma in order that they might emigrate to North or South America after being cured The unusually dry and dusty weather throughout the year increased the amount of eye disease, and another factor in producing the pressure of work was the closing down of the Government travelling ophthalmic hospital It was only possible to deal with about 50 per cent of patients requiring operation—the remainder had to be sent away the services of a third surgeon are urgently needed A scheme is under consideration for co-operation with the Government of Palestine in establishing ophthalmic clinics in the outlying towns and districts The hospital will be represented in the British Empire Exhibition at Wembley by an illuminated panoramic view—one of a series illustrating the history of the Order

Reviews.

PSYCHO-ANALYSIS

In view of the widespread interest now manifested in psychotherapy in general and psycho-analysis in particular, attention is here directed to two volumes in which the doctrines of psycho-analysis are submitted to a critical examination, and a third in which the author discusses the general principles of medical psychology from a broad philosophic standpoint. The first is written by Dr A. WOHLGEMUTH, an experimental psychologist of the introspectionist school, and is entitled *A Critical Examination of Psycho-Analysis*,[1] the second is by Dr P. MCBRIDE, and is entitled *Psycho-Analysis Analysed*,[2] and the third is a brilliant essay, destructive to many of our cherished notions, but constructive as well, by Dr CH. DE MONTET, professor of medical psychology at the University of Lausanne, of this an English translation has been issued with the title, *The Primary Problems of Medical Psychology*.[3] Dr. Wohlgemuth is a vivacious writer, and his criticisms are damaging to some of the vital doctrines of psycho-analysis, and would certainly seem to demand a reasoned reply from the exponents of Freud's teaching. In the preface he explains, as follows, how he was led to suspect the validity of Freud's theories:

> "One of the last works (Freud's) which I read was *Der Wahn und die Träume in W. Jensen's Gradiva*. This booklet was a very disagreeable surprise. Freud had vouched in the *Traumdeutung* for the accuracy of his analyses by stating that the latent dream thoughts were arrived at from the manifest dream-content by the dreamer's own free associations, and that their constituting a comprehensible whole, fitting well into the dreamer's life, was a confirmatory proof. But here the Gradiva dreams were never dreamt, they were a poet's phantasy, the dreamer furnished no free associations, and yet Freud construed them into a comprehensible whole fitting well into an imaginary dreamer's life. This showed conclusively that, even if Freud's theory was all he claimed for it, it was quite useless as a means of penetrating to the latent dream thoughts."

Dr. Wohlgemuth has here suggested an important criticism of the validity of analyses and interpretations of dreams arrived at by the free association method, and not only of dreams but any psychic product such as numbers thought of at random to which Freud has devoted much attention. If we take the dream or a number chosen by another person and submit these data to personal analysis, it is still possible to discover a "meaning" in the dream or number—our meaning, of course, and not the other person's. Dr. Wohlgemuth does actually in this way analyse one of Pharaoh's dreams as well as a number chosen by Freud himself for analysis. This criticism does not invalidate the free association method as a means of eliciting "complexes," because any train of uncontrolled thought soon leads to intimate thoughts with strong emotional colouring, but it does cast doubt on "the assumption"—to quote Rivers, who made a similar criticism—"which underlies the whole construction of Freudian dream analysis that the process of free association, starting from an element of the manifest content of a dream, will lead to the discovery of experience which enters into the chain of causation by which the dream has been produced."[4] This view led Rivers to adopt a procedure for the analysis of dreams different from that advocated by Freud—a fact which somewhat diminishes the value of Dr. McBride's criticism of the different interpretations arrived at by analysts. The reason is that they adopt different methods of interpretation, all of which may (theoretically) be valid. Dreams, like all psychic products, are striving towards a goal (Jung), have a bearing upon the present (Rivers), and are determined by the sum-total of past experience, both individual and racial (Freud). Interpretations will thus differ according to the emphasis laid on the past, present, or future.

However great a strain some of the Freudian interpretations may place upon our credulity, we should hesitate to accept the view of Dr. McBride that dreams have no importance whatever, or that they can be adequately "explained" in physiological terms—changes in the nerve cells and their connexions. It would be just as reasonable to suppose that ordinary perception could be described in physiological language, and, after all, as Bergson points out in his delightful and far too little known essay on *Dreams*,[5] sleeping thoughts are no more than intensely subjective perceptions, or, as Dr. de Montet shows in his book, "Awake, as well as asleep, reality continually appears to us under different aspects." We feel that it is scarcely possible to dismiss as "figments of a too vivid imagination" such investigations, the product of many years' patient and arduous investigation, as (say) those of Rivers, and the wealth of literature on the structure and significance of dreams cannot be lightly ignored.

Dr. McBride's impressions of psycho-analysis are wholly unfavourable, and he comes to the conclusion, from a study of its literature, that what purports to be a new science rests upon quite unsatisfactory foundations, he feels, furthermore, that these new theories are undeserving of a place in scientific medicine.

Dr. Wohlgemuth is equally severe in his strictures. He describes psycho-analysis as a confidence trick, calculated to trap the unwary, and finds nowhere in Freud's writings a shred of a proof, only assertions—assertions of having proved something before, but which was never proved, and mysterious reference to inaccessible and unpublished results of psycho-analysis. Such views can scarcely be ignored, at the very least they indicate that Freud's doctrines have not yet been expressed in such a manner as to carry conviction to the mind of the average reader. This much may and should be said, however. Freud is a practical psychiatrist, who has for many years been listening to the "confessions" of a great number of mentally sick people, and, however unconvincing his theories may seem to be, we can scarcely doubt that the tendencies he has unearthed do exist and exert an influence on their subjects unbeknown to themselves. In the insane, nature often openly reveals just those processes which Freud has discovered in his nervous patients. Thus an obsessional case which becomes insane and loses all control will pour forth a stream of reminiscence, and reveal a number of surprising and unnatural tendencies of such a form and character that the patient might be the author of a text-book of psycho-analysis. Thus, however much suggestion may direct the course of an analysis, it is clear that what Freud describes does exist, and that certain primitive tendencies do take part in the production of morbid mental symptoms.

At the conclusion of his book Dr. McBride raises an important question. He calls attention to the fact that the mind of an individual is subject to so many variations that it is impossible to believe that the analysis of one day, say in a mood of elation, would be accurate for another when the patient is depressed. It is this fact of variability upon which Dr. de Montet lays so much stress in his essay. He points out that medicine is becoming more hostile to the idea of independent functions. Such functions are now dissolved in the system of relativity. In the development of medical thought, we find at first that any organ at will, in alternating course can be the bearer of life: pineal body, heart, testicles, or liver. In the second stage any organ or function must stand in immediate dependence upon every other organ or function, and finally, in the third stage, no organ or function is directly dependent on any other organ or function, but, on the contrary, all reaction results from the collaboration of all organs. We see even that many phenomena cannot be derived from the individual organism, but are traced to further super-individual influences in order to be understood, researches in heredity, symbiosis, epidemiology, social factors, etc., are proof of this.

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[1] *A Critical Examination of Psycho-Analysis*. By A. Wohlgemuth, D.Sc. Lond. London: George Allen and Unwin, Ltd. New York: Macmillan Co. 1923. (Demy 8vo, pp. 250. 7 figures. 10s. 6d. net.)

[2] *Psycho-Analysis Analysed*. By P. McBride, M.D., F.R.C.P.E., F.R.S.E. With an Introduction by Sir H. Bryan Donkin, M.D. Oxon., F.R.C.P. London: William Heinemann. 1924. (Cr. 8vo, pp. ix + 142. 3s. 6d. net.)

[3] *The Primary Problems of Medical Psychology*. By Dr. Ch. de Montet, Professor of Medical Psychology at the University of Lausanne. Translated by A. Newbold. London: John Bale, Sons, and Danielsson, Ltd. 1923. (Cr. 8vo, pp. vii + 142. 7s. 6d. net.)

[4] "Methods of Dream Analysis." By W. H. R. Rivers, *British Journal of Psychology*, Medical Section, vol. ii, part 2.

[5] *Dreams*. By Henri Bergson. Translated by Edwin E. Slosson. London: T. Fisher Unwin.

Turning to psychology, Dr de Montet points out that it is still deeply steeped in mythological thought Independent powers, great and small, still rule here as masters, and we operate with conceptions such as instinct, intelligence, will, desire, the unconscious, as agents or entities which "cause" behaviour Such terms do not originate in the fantasies of the investigators, they all express, as the author observes, one or another of the different aspects under which the infinite variety of life presents itself At the same time all these elementary and partial processes cannot correspond to separate modes of existence, and the author feels that we should revise our fundamental hypotheses, and, as in the case of internal medicine, erect a psychology upon the hypothesis of the mutual dependence of all the manifestations of life The problems of consciousness are multivocal in principle—that is, they are derived without exception from processes admitting of an infinite number of solutions As Dr de Montet observes:

Action is not in direct relation with any cause With none of us is conduct determined exclusively and directly by this or that external cause or interior motive such as we pretend On the contrary, action is the variable result derived from the collaboration of external excitations with our general condition, the latter is the sum total of our habits and former modes of conduct, it is continually changing and growing is in perpetual motion and consequently reacts differently to the same stimulus

Such views have an important bearing upon psychiatric problems, and strike at the root of some of the beliefs of the psycho-pathologist How can we with confidence express an opinion as to the conscious or unconscious motivation of, say, a crime? Every attempt to dismember an action into elementary fragments (causes) is deceiving The causation of the action is determined by the external situation at the moment of its performance and a myriad of past happenings, both racial and individual An anxiety state is ascribed to (caused by) frustrated sexual cravings, it may be dissipated by removal of a business worry How, then, can the frustrated sexuality be *the* causal factor, as it would still continue to operate when the worry was removed? We can absolve the more erudite psycho-analysts from such simplistic explanations of behaviour, but there does appear to be some danger in applying elementary psycho-analytic principles to practical and extremely complex problems such as criminology—a tendency which can scarcely enhance the reputation of psychiatrists

In view of his hypothesis of multivocal causation, Dr de Montet does not accept psycho analysis as a truly causal therapy The whole of psycho-therapy, he considers, depends upon the possibility of enlarging conscious relationships—a view which has actually been recently expressed by Ferenczi Dr de Montet suggests that

"when a doctor is successful it is because of this and nothing but this, he does not release complexes, he does not give his patient the *gift* of a new conception of things he practises with him the faculty of passing from relatively narrow views to broader relationships And so, when the psycho-analyst succeeds, it is not at all because of the analysis, but because he practises upon him, gives him *training exercises, generally of a social nature*, which first develop the personal relations between the doctor and the patient and afterwards those between the patient and his fellow men These often help the patient to look upon the world, the sexual problem and upon his own condition in a different light

In the reciprocal fluctuations which occur between the analyst and the patient there are, as Dr de Montet shows, an innumerable number of factors coming into play which cannot be reached by the most subtle analysis, and cannot even belong to the domain of analysis All these irrational factors must be taken into account, and for this reason it is difficult to regard psycho-analysis as "analytical" in the strict sense of the word

Eden Phillpotts makes one of his characters say, "How one thing depends upon another is the greatest mystery about life in my opinion, and no doubt if we could see the network of cause and effect spun and spinning around us, it would be a very interesting and wonderful spectacle" This perhaps expresses in a sentence the thought which has inspired Dr de Montet's essay, and we may agree with him that no method is adequate to unravel this mystery We do feel, however, that, in spite of the defects and inconsistencies which these various authors have discovered in Freud's doctrines, and which they have done well to point out, Freud has certainly done much to enlarge our knowledge of some of the factors, of which we are in a large measure unconscious, that exert an influence on our behaviour

HY DEVINE

INSULIN IN GENERAL PRACTICE

THE discovery of insulin has been followed by a series of books and articles giving the authors' experiences with this remedy for diabetes, together with their views on the proper management of cases

One remarkable fact is apparent from these various publications—namely, the completeness with which Banting and his fellow-workers in Toronto had studied the laboratory and clinical behaviour of insulin before putting it at the disposal of the public So far, little has been added or taken away from the original instructions with which Banting accompanied the announcement of his great discovery

Dr BEGG has now published a book[6] giving his experiences with insulin in diabetes and discussing its use from the standpoint of the general practitioner The book is a thoroughly practical one, and gives in a concise form the exact method of applying insulin to the treatment of diabetes in everyday practice One of the chapters is founded on an address given to the South Wales and Monmouthshire Branch of the British Medical Association last year Scientific discussion is reduced to a minimum, the first three chapters are devoted to diagnosis The modern methods of urine and blood examination are succinctly described, and in this chapter the author emphasizes the applicability of Maclean's method of estimating the blood sugar to the general practitioner's consulting room In Chapter VII the author discusses the question whether an estimate of blood sugar is essential before commencing insulin treatment His answer is that in all cases it is very desirable, but that in certain cases it may be omitted where there are marked clinical signs of true diabetes, especially where there is acetone or diacetic acid in the urine We think his meaning is that treatment with insulin may be safely begun, but if he intends to convey that it can be advisedly or safely continued over long periods of time without blood sugar estimations we should join issue with him

The principles of dietetics are briefly but adequately considered, and due insistence is laid on the fact that insulin does not remove the necessity for strict dieting but rather renders it absolutely indispensable The author will be found in agreement with Banting on one important point—namely, that an adequate diet may be given from the commencement of treatment with insulin, and that starvation and ladder schemes are no longer essential Woodyatt's formula of the ratio of fats to carbohydrates and proteins is the basis of the author's dietetic plan The instructions for home treatment are admirable, while the short notes on the complications and dangers attendant on diabetes are sufficient and clear

This book will undoubtedly prove useful to general practitioners, to whom it is addressed, and also to nurses who may have diabetic patients under their care as well as to students

ALOPECIA AREATA

THE perusal of a new volume of SABOURAUD's clinical lectures[7] proves that the problem at which he is now working is the etiology of alopecia areata, for nearly all the lectures are devoted to this complaint He again enlarges on several of the points which he discussed in the volume he published about a year ago, but in addition he brings forward a good many other observations on the subject which are either new or have not been given the prominence he thinks they deserve He discusses in detail the differential diagnosis of the complaint, he describes more completely than has

[6] *Insulin in General Practice A Concise Clinical Guide for Practitioners* By A. Clarke Begg O B E. M D Ch B Edin M B Lond London William Heinemann (Medical Books) Ltd. 1924 (Cr 8vo pp 130 4 diagrams 5s. net)

[7] *Entretiens Dermatologiques à l'Ecole Lailler* Par Dr R. Sabouraud. Série nouvelle deuxieme volume Maladies du cuir chevelu. Paris Masson et Cie. 1924 (Med. 8vo pp 272 14 plates Fr 20.)

ever been done before the characteristics of the hairs affected, he calls attention to the various conditions with which alopecia areata has been observed to be associated, and he discusses the various theories of its causation that have been, from time to time, put forward A great many pages are devoted to the destruction of Jacquet's theory that alopecia areata is the response to irritation of the peripheral nerves, this hypothesis has long been discounted and discredited, and, after reading Sabouraud's paper on the subject, one feels that Jacquet has no longer a leg left to stand upon On the other hand, he gives Jacquet the credit of destroying the parasitic theory which once was generally held It cannot be said that Sabouraud himself has solved the problem of the etiology of this mysterious complaint, what he has done, however, is to point out certain fairly constant features in its clinical history Firstly, he shows the influence of heredity It has, of course, been noticed before, but possibly not been emphasized as much as it deserves Secondly, he shows that it is also associated with exophthalmic goitre, and this too has been noticed before Thirdly, he describes a fairly definite variety associated with the menopause, a point which so far as we are aware has not previously been brought out Fourthly, he is still inclined —as in his last volume of clinical lectures—to lay considerable stress on congenital syphilis of a mild type as an important etiological factor He states that he has frequently been successful in treating cases, particularly in the young, on antisyphilitic lines Apart from this factor, Sabouraud appears to think that some obscure glandular deficiency plays a considerable part

In the matter of treatment he is not very original He advises local rubefacients, both chemical and electrical, and he points out that occasionally in old and inveterate cases surprising success may attend a new and energetic course of treatment The prognosis is relatively good where the eyebrows and eyelashes have been preserved, bad where they have been destroyed He has hardly ever seen a complete cure in a case in which the nails were pitted like a thimble This volume—which is entirely devoted to diseases of the scalp—includes also lectures on early baldness, eczema of the scalp and its varieties, the dangers of permanent waving, and the care which is necessary in selecting a suitable hair dye

In conclusion it must be said that the volume now before us is well worth reading, both by dermatologists and general practitioners Though the reader may not agree with all the conclusions at which the author arrives, he will find the articles stimulating Sabouraud always puts his case well, and possesses a style which makes the perusal of his writings a pleasure

A HANDBOOK OF ANAESTHETICS

THE second edition of the excellent little *Handbook of Anaesthetics*[9] by Dr J STUART ROSS of Edinburgh follows closely the plan upon which the first edition was constructed, though a certain amount of new material has been added and the whole brought up to date The teaching throughout is sound and not too dogmatic, and the various methods and apparatus used in the administration of anaesthetics are impartially described It will be seen that, contrary to the usually accepted view that the Edinburgh school is still devoted to the almost exclusive use of chloroform as an anaesthetic, the author steers a mid-course as regards the vexed question of ether *versus* chloroform, and is quite frank on the subject of the dangers of the latter drug, while being unwilling to follow those who would gladly abolish it altogether In this he will be supported by the great majority of anaesthetists His views on the subject of gas and oxygen as a general anaesthetic are equally sound, and he acknowledges that the method has its limitations despite his pioneer work, which led to its adoption as the anaesthetic of choice in war cases suffering from profound shock The new volume is an improvement on the old in the matter of type, and this has been effected without sacrificing the character of the volume as a handbook For the same reason the physiology of anaesthesia is touched upon only lightly, but the summary given is clear, concise, and adequate to the needs of the embryo anaesthetist, for whom it is mainly intended Of misprints there are few, the illustrations are clear, the index adequate, the omissions are made judiciously, and the text not overburdened with descriptions of apparatus, complicated and possibly only of ephemeral interest The work can be recommended to the student as a practical and reliable guide to the general principles of the art and craft of anaesthesia

NOTES ON BOOKS

IN the second fasciculus of the new system of medicine[10] appearing under the joint editorship of Professors ROGER, WIDAL, and TEISSIER, of which the first fasciculus was reviewed in this JOURNAL of February 5th, 1921 (p 195), the subject of acute infectious diseases is continued The articles on scarlet fever, measles, rubella, small pox, varicella, vaccination, and mumps are written by Professor Teissier, and are based on his rich clinical experience at the Claude Bernard Hospital, Paris Diphtheria is dealt with by MM Aviragnet, Weill Hallé, and P L Marie, who give an admirable account of the disease, including a full description of the Schick test and a brief summary of the work on immunization by toxin antitoxin In the otherwise excellent article on typhus by MM Nicolle and Conseil, the former of whom was the first to show the etiological importance of the louse in this disease, no mention is made of the work of Fraenkel and other investigators on the nodules found on examination of the arterioles, and the Weil Felix reaction is dismissed in a few lines The article on tetanus by MM J Camus and J J Gournay incorporates the knowledge gained in the war Other contributions to this fasciculus are by Barbier on acute articular rheumatism, by Loude on whooping cough, by Ravaut on herpetic fever and zoster, by Renault on sweating sickness, and by De Brun on pappataci fever and dengue In its all round excellence the second volume fulfils the promise of the first We are pleased to find that the work of British clinicians and pathologists receives on the whole due acknowledgement The numerous illustrations include some excellent coloured plates of the acute exanthemata and of Schick s reaction

The volume entitled *Industrial Organic Chemistry* by SADTLER and MATOS is a work on manufacturing methods. The aim has been to supply a volume giving a general view of the various industries based upon the applications of chemistry to the arts, and to show in language capable of being understood by those not specially trained in chemistry the existing conditions of those industries The fact that a fifth edition[10] has been published is evidence that the book has evoked a considerable measure of approbation The monographs on manufactures vary considerably in the amount of detail provided Some are merely described in outline, others receive extended notice Not much of the expert information the manufacturer desires to aid him in his technical difficulties is given Even for popular reading the descriptions often appear too disjointed to permit of a full grasp of the processes. The resulting impression is a good deal like that obtained in a conducted visit to a factory when the uninstructed learn little and those better informed are only half satisfied The analytical tests and methods supplied in the articles on individual substances hardly supply the analyst with data sufficient for his needs The cause of the appreciation the book has gained is to be found in the fact that it offers to people in manufacturing industries such an insight into each other's businesses as will enable them to perceive in some measure how those react on their own In this respect it certainly possesses merits It has another merit—namely, that of collating a number of facts having a particular interest but not generally known This is a feature which could be developed with advantage in a future edition, and would set the book in high esteem

The small volume, *Lectures on Endocrinology*,[11] by Dr WALTER TIMME, is a reprint from the *Neurological Bulletin* of January, 1921, and deals briefly and perhaps rather dogmatically with the thymus, pineal, thyroid, suprarenal,

[9] *Handbook of Anaesthetics* By J Stuart Ross M B Ch B, F R C S E., with an Introduction by Sir Alexis Thom on C M G M D F R C S E, and Chapters upon Local and Spinal Anaesthesia by W Quarry Wood M D F R C S L and upon Intratracheal Anaesthesia by H Torrance Thom on M D S ond edition Edinburgh E and S Livingstone 1923 (Cr 8vo, pp xii + 338 68 figure 8s net.)

[10] *Traité de Médecine* Fascicule II Maladies Infectieuses (8vo) Edited by Professors Roger Widal and Teissier Paris Masson et Cie (Roy 8vo, pp 766 35 figures 4 plates Fr 50 net)

[10] *Industrial Organic Chemistry* By S P Sadtler, Ph D, LL.D and L J Matos, Ph D Fifth edition revised, enlarged and in part rewritten Philadelphia and London J B Lippincott Co 1923 (Med 8vo pp xvi + 691, 141 figures 35s net)

[11] *Lectures on Endocrinology* By Walter Timme M D Professor of Endocrinology, Broad Street Hospital New York New York Paul B Hoeber, Inc. 1924 (Cr 8vo, pp x + 123, 27 figures. 1.50 dols)

pituitary and the gonads Dr Timmo s name has been connected with a multiglandular syndrome, the thymus suprarenal pituitary compensatory with its four stages, the first of which is the status thymico-lymphaticus the last, when compensatory changes have occurred in the suprarenals and pituitary, has some acromegalic features, but it is held that it does not require treatment, for it is regarded as the accentuation of a physiological process and terminates spontaneously This syndrome is mentioned both under the heading of the thymus and of the pituitary In the chapter on the suprarenals "the hyperadrenal make up' is described with an illustration entitled "Seemingly exophthalmic goitre without goitre," and explained in the text as being "due to hyperadrenia and not hyperthyroidism The illustrations tend to reproduce fat women and the gonads

Professor DANIELOPOLU of Bucarest, in his book *L'Angine de Poitrine*[12] gives an outline of the present state of knowledge regarding the physiology of the sensory nerves of the heart and aorta, and deals with various hypothetical explanations of anginal pain In the next section he describes the medical and surgical treatment of this condition we drew attention to the surgical operations that he recommends in our columns of February 23rd (p 337) An alphabetical list of the authors cited is placed at the end, and the value of the whole book is much enhanced by good diagrams and illustrations

The Medical and Scientific Archives of the Adelaide Hospital[13] (Supplement to the Annual Report of the Adelaide Hospital for the year 1922), which has just reached us, contains descriptions of important and interesting cases, with comments, and will preserve much valuable information that would otherwise be lost Details of seven cases of hydatid disease are recorded, since it is thought probable that this complaint will decrease materially in the near future as more perfect hygienic conditions are established Eight cases of the typhus like disease, discovered in South Australia by Dr Hone, and possibly identical with Brill s disease, are described, and notes are given of all the cases of cerebral tumour encountered during the year The *Archives* also includes notes on medical, surgical, and neurological cases of more than usual interest dealt with in the Adelaide Hospital during 1922

The *Transactions*[14] of the American Proctologic Society contains reports of the twenty third annual session held at St Louis Missouri (1922) The several papers read and the discussion which followed enable the reader to gather the views of eminent American proctologists on current questions Treatment of carcinoma of the rectum is discussed from three aspects—by radium, by radium combined with operation, and by the Percy treatment, whereby the *carcinoma is "cooked' by the application of continuous heat* at a low temperature

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[12] *L Angine de Poitrine Pathogénie Traitement Médical et Chirurgical* Par Professor Danielopolu Bucarest Imprimerie Cultura 1924 (8 × 10¼ pp 119 26 figures. 5 plates)

[13] *The Medical and Scientific Archives of the Adelaide Hospital* No 2. Adelaide R E E Rogers 1923

[14] New York H B Hoeber 1923 (Med 8vo pp xii + 124 illustrated 3 dols)

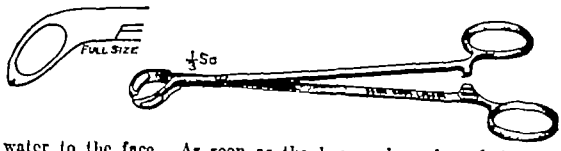
[15] *Papers on Psycho-Analysis* By Ernest Jones M.D M R C P Lond Third edition London Baillière Tindall and Cox 1923. (Roy 8vo pp x + 731 25s net.)

MEDICAL AND SURGICAL APPLIANCES

The Removal of Tonsils Haemorrhage

MR H. ELWIN HARRIS M B Cantab F R C S Eng, consulting surgeon to the Bristol Royal Hospital for Sick Children and Women, points out that if in arresting haemorrhage in the removing of tonsils the lines of ordinary surgical procedure could be adopted by seizing the bleeding vessels and ligating them, and thereby remove the fear of recurrent haemorrhage it would be a great gain both to the practitioner and his patient.

No one would regret the discontinuance of the method of thrusting a swab into the throat and holding or clamping it there a source of infinite terror and distress to a sensitive and nervous child Among the difficulties of ligaturing vessels in the throat is that it is not always possible to secure the services of a skilled anaesthetist which is essential secondly the instruments at our disposal are unsuitable, to tie a ligature clear of the end of a long or short pair of forceps of the Spencer Wells pattern is often impossible The forceps here illustrated were devised by Mr Harris and are made by Messrs Down Bros. They are a little over seven inches long are rat toothed, and the jaws are so formed that a ligature readily slips over them and on tightening a bite of the tissue is easily obtained The jaws are at such an angle with the shaft that the latter can be held so as in no way to interfere with the hands applying the ligature In dissecting out tonsils the seizing and tying of the vessels is done as the occasion demands but in enucleation the method Mr Harris adopts is immediately after the removal of the adenoids and tonsils to turn the child over and allow the blood to escape from the mouth at the same time applying cold

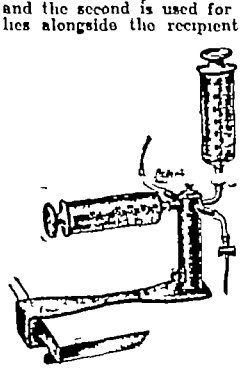


water to the face As soon as the haemorrhage has abated the child is again turned on his back and if necessary more anaesthetic is given A thorough examination with the head light is then made of the throat A swab of suitable size with a thread attached is placed in the recess from which one tonsil has been removed whilst the other is cleared of blood clot and pressure applied by means of a swab on a holder if by this means haemorrhage is not checked any bleeding points are picked up and tied The corresponding space on the other side is then dealt with in a similar manner This may sound and is in the majority of cases superfluous but it is in the best interests of the patient and is never a waste of time

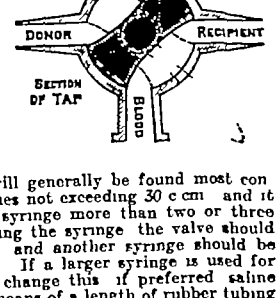
An Apparatus for the Transfusion of Whole Blood

Mr G MASSIE M B, F R C S (Surgical Registrar Guy s Hospital) writes The apparatus here described is a modification of that used and described by Unger It differs in the arrangement of the valves and the disposition of the syringes

It consists of a four way stopcock, the connexions of which as shown in the diagram communicate with the donor the recipient and two syringes, one of which is arranged vertically and the other horizontally The first of these syringes is reserved for saline and the second is used for the transference of blood The donor lies alongside the recipient and the veins most suitable in the ante-cubital space of each are selected A small table or board is placed between them and to this is fastened the clamp as shown To the end of the latter is in turn fixed the four way valve and by means of a bayonet catch and an adjustable on the clamp the whole [illegible] is placed in the position *most suitable for the operator For* the vein of the recipient it will usually be found most convenient to use a cannula and for that of the donor a needle of rather larger calibre than usual The rubber tubing connecting these with their respective fittings on the valve should be as short as possible



Before use the whole apparatus is washed in saline having previously been sterilized in absolute alcohol the valve and connexions are filled *with saline and care is taken that all connexions are airtight* The saline syringe vertically placed is also filled and a few cubic centimetres of saline are introduced into the horizontal syringe The valve by means of its lever is in the meantime placed in the neutral position shown in the accompanying cross-section When everything is in readiness the lever is turned towards the donor and 20 to 30 c cm of blood are aspirated into the horizontal syringe to prevent coagulation in this syringe a *stream of ether should be* continuously dropped on the barrel The assistant in the meantime keeps up gentle pressure on the vertical syringe, and it will be seen that while blood is passing from the donor a small but continuous stream of saline is entering the vein of the recipient When 20 to 30 c cm of blood have been collected in the horizontal syringe the connexions are now reversed and the lever of the valve turned towards the recipient It will be observed that the saline circulation has at the same time also been reversed so preventing clotting in the cannula or needle not at the moment in use Although larger quantities of blood may be transferred it will generally be found most convenient to deal with small quantities not exceeding 30 c cm and it is not advisable to use the same syringe more than two or three times in succession When changing the syringe the valve should be placed in the neutral position and another syringe should be held in readiness by the assistant If a larger syringe is used for saline it will not be necessary to change this if preferred saline may be run in by gravity and by means of a length of rubber tubing and an extra fitting the syringe may be dispensed with This apparatus has been made for me by Mr Charles A King 63, Ronalds Road, N W



PLAGUE IN EGYPT

A REVIEW OF ITS PAST AND RECENT HISTORY

THE Government Press, Cairo, has recently issued a most ably written and fully documented report[1] on plague conditions in Egypt, and in view of the many important epidemiological problems discussed by the authors we take the opportunity of noticing at some length the main features of the report, and the conclusions at which the authors have arrived

History

The present world-wide pandemic of plague took its origin in the province of Yunnan in Southern China, in 1894 Hong-Kong was attacked, in 1896 India was invaded through the port of Bombay, and in April, 1899, after a free period of fifty five years, the infection gained a foothold in Egypt, and thereafter gradually spread throughout the country from the ports of the Delta, where the first outbreaks occurred In the year 1911 the Department of Public Health in Cairo took steps to organize an inquiry into the conditions associated with the prevalence of the disease in Egypt For the purpose of this inquiry the services of Dr G F Petrie were lent to the Department of Public Health by the governing body of the Lister Institute The authors of the report under review, who were entrusted with the work, give an account of the results obtained during an investigation which they carried on from November, 1911, to November, 1913, in Upper Egypt The delay in publication, presumably due to the war, has enabled the authors to correlate their observations with important plague events elsewhere, and especially with the major epidemics of pneumonic plague within recent years in the Far East The report may be accepted as embodying the essential features of plague in Egypt during the past quarter of a century We give here a summary of the eight sections into which the text is divided, maps, charts, and numerous tables are appended to the report

The first section surveys the history of plague in Egypt from the seventh century of our era, when records of epidemics began to be taken During the Middle Ages Egypt [illegible] which is entirely devoted to diseases of the scalp—includes also lectures on early baldness, eczema of the scalp and its varieties, the dangers of permanent waving, and the care which is necessary in selecting a suitable hair dye

In conclusion it must be said that the volume now before us is well worth reading, both by dermatologists and general practitioners Though the reader may not agree with all the conclusions at which the author arrives, he will find the articles stimulating Sabouraud always puts his case well, and possesses a style which makes the perusal of his writings a pleasure

A HANDBOOK OF ANAESTHETICS

THE second edition of the excellent little *Handbook of Anaesthetics*[9] by Dr J STUART ROSS of Edinburgh follows closely the plan upon which the first edition was constructed, though a certain amount of new material has been added and the whole brought up to date The teaching throughout is sound and not too dogmatic, and the various methods and apparatus used in the administration of anaesthetics are impartially described It will be seen that, contrary to the usually accepted view that the Edinburgh school is still devoted to the almost exclusive use of chloroform as an anaesthetic, the author steers a mid-course as regards the vexed question of ether *versus* chloroform, and is quite frank on the subject of the dangers of the latter drug, while being unwilling to follow those who would gladly abolish it altogether In this he will be supported by the great majority of anaesthetists His views on the subject of gas and oxygen as a general anaesthetic are equally sound, and he acknowledges that the method has its limitations despite his pioneer work, which led to its adoption as the anaesthetic of choice in war cases suffering from profound shock The new volume is an improvement on the

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rated areas of Upper Egypt *R rattus* is the important house-infesting rodent, but *Acomys cahirinus*, the so-called Cairo spiny mouse, is also a common inhabitant of the houses Naturalists had not previously been aware of the existence of *Acomys* in Upper Egypt The breeding of *R rattus* is at its height in the summer months—that is, during the plague season *R norvegicus* has only a sparse distribution in Upper Egypt, at least in the native houses, and yet it is the species most often trapped in the felucca *Arvicanthis niloticus*, the common field rat, was occasionally trapped in houses *X cheopis* is the species of flea chiefly found on all these rodents A systematic scheme of rat examination in Asyut town showed that there was a definite seasonal wave of prevalence for fleas captured from both *R rattus* and *Acomys*, the flea curves corresponding well with the curve for epidemic plague in the district *Acomys* carries few fleas, and for this reason is of little importance in spreading the infection The degree of infestation of the houses by *R rattus* and the numbers of fleas it harbours are stated to be considerable, so that the comparative mildness of the Egyptian outbreaks cannot be attributed to scarcity of rats or fleas

Local Migrations of Rodents

The third section describes an experiment which was undertaken in a non-infected village with the object of discovering to what extent the house rodents "migrate" from house to house The rats colonizing a particular "square" (block of houses) in the village were marked in such a way as to permit identification of the house from which they were first captured The movements of the rats were afterwards traced by daily trappings and by replacing the trapped rats in the houses in which they were caught The results lead the authors to conclude that the excursions of *R rattus* and *Acomys* are limited, most of them being oscillations between adjoining houses, and that the broader streets separating the "squares" act as a barrier to the movements of rats If these results are applied to the spread of infection amongst rats during an epizootic, and there is evidence that it is legitimate to do so, the epidemic should spread *pari passu* in a gradual manner from the first infected [illegible] of the

acute exanthemata and of Schick's reaction

The volume entitled *Industrial Organic Chemistry* by SADTLER and MATOS is a work on manufacturing methods. The aim has been to supply a volume giving a general view of the various industries based upon the applications of chemistry to the arts, and to show in language capable of being understood by those not specially trained in chemistry the existing conditions of those industries The fact that a fifth edition[10] has been published is evidence that the book has evoked a considerable measure of approbation The monographs on manufactures vary considerably in the amount of detail provided Some are merely described in outline, others receive extended notice Not much of the expert information the manufacturer desires to aid him in his technical difficulties is given Even for popular reading the descriptions often appear too disjointed to permit of a full grasp of the processes. The resulting impression is a good deal like that obtained in a conducted visit to a factory when the uninstructed learn little and those better informed are only half satisfied The analytical tests and methods supplied in the articles on individual substances hardly supply the analyst with data sufficient for his needs The cause of the appreciation the book has gained is to be found in the fact that it offers to people in manufacturing industries such an insight into each other's businesses as will enable them to perceive in some measure how those react on their own In this respect it certainly possesses merits It has another merit—namely, that of collating a number of facts having a particular interest but not generally known This is a feature which could be developed with advantage in a future edition, and would set the book in high esteem

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regicus and *Irritcanthis* are the house infesting rodents The mud houses of the infected villages proved to be infested with rat fleas to an extraordinary degree, and efforts made to reduce the numbers by the use of flea killing agents were quite ineffective This estate is a dangerous potential focus in Southern Egypt, not only because the local conditions are ideal for the dispersion of epizootic and epidemic plague, but also because its inhabitants, who are emigrants from the provinces further north, are accustomed to return home when they are attacked by illness, and are thus likely to scatter infection

Factors of Seasonal Prevalence

In the next section an attempt is made to disentangle the factors implicated in the seasonal prevalence of bubonic plague When the figures for human plague corresponding to various regions in Egypt from the southern provinces of Upper Egypt to the ports of the Delta are charted, they show a regular succession of epidemic waves In seeking for an explanation the authors first reviewed the valuable work on the subject done by the Plague Research Commission in India and then proceeded to a fresh analysis with the aid of the relevant epidemiological data collected by the Commission and of Bacot's careful observations on the influence of temperature and humidity upon the life-history of *X. cheopis* The problem is evidently a complex one, and needs further elucidation, but fresh points of view are brought forward in this article which may prove to be useful

The principal conclusions are given as follows (1) The extent of the disease at any moment in the epidemic period is determined not by the strictly contemporaneous weather conditions but by those which existed four to six weeks previously The interval is attributable to the influence of atmospheric conditions on the various stages of development of the rat-flea (*X. cheopis*) (2) There is an optimum range of temperature from 20° C to 25° C and of vapour pressure deficiency from 1 to 10 millibars for plague prevalence (3) The degree in which the climate of an infected locality approximates to the optimum determines to a definite extent the normal character, whether mild or severe, of its plague history (4) The gradually increasing delay in the discussion which followed enable the reader to gather the views of eminent American proctologists on current questions Treatment of carcinoma of the rectum is discussed from three aspects—by radium, by radium combined with operation, and by the Percy treatment, whereby the carcinoma is "cooked" by the application of continuous heat at a low temperature

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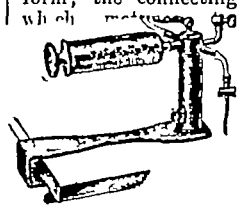
Mr H Elwin Harris M B Cantab F R C S Eng, consulting surgeon to the Bristol Royal Hospital for Sick Children and Women points out that if in arresting haemorrhage in the removing of tonsils the lines of ordinary surgical procedure could be adopted by seizing the bleeding vessels and ligating them and thereby remove the fear of recurrent haemorrhage it would be a great gain both to the practitioner and his patient

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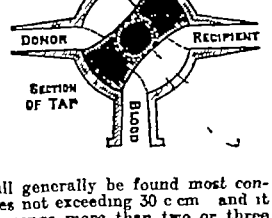
The section ends with a reference to the course that may be taken by plague in Egypt in the near future A prediction is wisely avoided, because the factors which influence the behaviour of plague during epidemic cycles are not well understood The fundamental causes at work in the spontaneous disappearance of plague—as, for example, from Egypt in the year 1844 and from India in the seventeenth century—are doubtless traceable to the rat and the rat-flea In this connexion the authors made some observations on the natural enemies of rat-fleas, and point out that this aspect of the bionomics of *X. cheopis* deserves more attention

Epidemiology of Pneumonic Plague

In the seventh section of the report we find the most exhaustive review of the epidemiology of pneumonic plague that has hitherto appeared The regular recurrence of pneumonic plague foci in the contiguous provinces, Qena and Girga, in Southern Egypt, had escaped the notice of plague workers, and yet in the authors' view there is no country in the world where the epidemic relations of pneumonic plague can be better studied than in Egypt An introduction to this chapter surveys the history of pneumonic plague epidemics throughout the world since the first adequately described outbreak in 1878-79 at Vetlianka in Southern Russia A study of these outbreaks leads to the conclusion that the circumstances mainly influencing the spread of pneumonic plague are these ignorance of the means of self protection, the absence of an effective sanitary organization, and housing conditions that are characterized by overcrowding and bad ventilation In the Qena Girga district the disease is of low diffusibility, for the number of persons affected in each outbreak is relatively small, and secondary outbreaks are few The disease in this region closely follows the spread of bubonic plague, thus indicating the close dependence of pneumonic plague upon the bubonic form, the connecting link is the secondary pneumonia which [illegible] apparatus in bubonic plague Most of the most suitable for the operation the vein of the recipient it will usually be found most convenient to use a cannula and for that of the donor a needle of rather larger calibre than usual The rubber tubing connecting these with their respective fittings on the valve should be as short as possible



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The first section surveys the history of plague in Egypt from the seventh century of our era, when records of epidemics began to be taken [illegible] Egypt gained an evil reputation as a dangerous focus of the infection, and, indeed, some writers regarded it as the endemic home of plague in the world Persistently recurring epidemics, many of which were of great severity, ravaged the country over a long period of years, until at last, in the year 1844, for no obvious reason, the infection disappeared, during the next fifty-five years it remained extinct The expedition of Napoleon to Egypt (1798-1801) forms the starting point of modern investigations into the etiology of plague The medical officers of Napoleon's army contributed their observations, and later, in 1828 and again in 1835, the French Government sent to Egypt commissions which were expressly appointed to study the disease Amongst these workers the remarkable Frenchman, Clot Bey, is the outstanding figure His personal courage is proved by his inoculating himself on two occasions with human plague material, and his insight is shown by his taking into account a microbic origin of the disease His transmission experiments gave no positive result, and he therefore rejected the idea that plague was caused by a microscopic organism

During the period of twenty years from 1899 to 1919 nearly 15,000 plague cases were notified in Egypt—a figure which contrasts with the Indian data, for it has been exceeded in several single years in the city of Bombay alone The suggestion is made that in consequence of the continually recurring epizootics of the seventeenth and eighteenth centuries the Egyptian *R rattus* may have a higher inherited immunity than the Indian rat, when plague entered the port of Bombay in 1896 India had been free from generalized epidemics for two hundred years

Rodents and Fleas

The second section deals with the species of rodents that were trapped in the houses, feluccas (Nile boats), and cultivated areas of Upper Egypt *R rattus* is the important house-infesting rodent, but *Acomys cahirinus*, the so-called Cairo spiny mouse, is also a common inhabitant of the houses Naturalists had not previously been aware of the existence of *Acomys* in Upper Egypt The breeding of *R rattus* is at its height in the summer months—that is, during the plague season *R norvegicus* has only a sparse distribution in Upper Egypt, at least in the native houses, and yet it is the species most often trapped in the feluccas *Arvicanthis niloticus*, the common field rat, was occasionally trapped in houses *X cheopis* is the species of flea chiefly found on all these rodents A systematic scheme of rat examination in Asyut town showed that there was a definite seasonal wave of prevalence for fleas captured from both *R rattus* and *Acomys*, the flea curves corresponding well with the curve for epidemic plague in the district *Acomys* carries few fleas, and for this reason is of little importance in spreading the infection The degree of infestation of the houses by *R rattus* and the numbers of fleas it harbours are stated to be considerable, so that the comparative mildness of the Egyptian outbreaks cannot be attributed to scarcity of rats or fleas

Local Migrations of Rodents

The third section describes an experiment which was undertaken in a non-infected village with the object of discovering to what extent the house rodents "migrate" from house to house The rats colonizing a particular "square" (block of houses) in the village were marked in such a way as to permit identification of the house from which they were first captured The movements of the rats were afterwards traced by daily trappings and by replacing the trapped rats in the houses in which they were caught The results lead the authors to conclude that the excursions of *R rattus* and *Acomys* are limited, most of them being oscillations between adjoining houses, and that the broader streets separating the "squares" act as a barrier to the movements of rats If these results are applied to the spread of infection amongst rats during an epizootic, and there is evidence that it is legitimate to do so, the epidemic should spread *pari passu* in a gradual manner from the first infected [illegible] towards it appears, however, that instead of this being the case, discontinuous spread amongst human beings is characteristic of town and village plague in Egypt, the apparent contradiction is explicable by the circumstance that the infection is carried hither and thither by the people themselves, who unwittingly act as distributors

Study of Some Local Outbreaks

The fourth section details observations on bubonic outbreaks made in three selected localities in Upper Egypt The outbreak in Abnub town revealed nothing unusual, and is representative of plague as it may be seen elsewhere in Northern Upper Egypt, but the epidemic in Qus town (Qena province) was marked by a tendency for foci of pneumonic plague to light up amongst the bubonic cases This outbreak is typical of plague as manifested in the southern provinces of Upper Egypt, particularly Qena and Girga A description is given of a badly infected house in Qûs town, which was thoroughly examined in order to correlate the chief sites of infection in the house with its structural features The narrative indicates the difficulties that must be encountered in Egypt when attempts are made to extinguish infective foci by means of emergency measures, and incidentally they confirm the demonstration previously given by the Plague Research Commission in India of the futility of using corrosive sublimate as a disinfecting agent in plague houses

The large agricultural estate at Kôm Ombo (520 miles south of Cairo) was the seat of the worst epidemic within recent times in Egypt A recrudescence, fortunately prevented from becoming serious by the policy of evacuating the infected hamlets, gave an opportunity for trying to find out the conditions which accounted for the severe outbreak of the previous year The hamlets scattered over the estate differ entirely in their structural features from the arrangement seen in the typical Egyptian village, for they consist of rows of back-to-back stone houses or mud huts Neither *R rattus* nor *Acomys* was trapped on this estate, *R nor-*

[1] Ministry of the Interior Egypt Department of Public Health Report on Plague Investigations in Egypt By G F Petrie M D and Donald E Todd R A M C as issued by Dr Riad Skander and Dr Hilmy Government Press, Cairo 1923 Price P T 20

vegicus and *Irricanthis* are the house infesting rodents The mud houses of the infected villages proved to be infested with rat-fleas to an extraordinary degree, and efforts made to reduce the numbers by the use of flea killing agents were quite ineffective This estate is a dangerous potential focus in Southern Egypt, not only because the local conditions are ideal for the dispersion of epizootic and epidemic plague, but also because its inhabitants, who are emigrants from the provinces farther north, are accustomed to return home when they are attacked by illness, and are thus likely to scatter infection

Factors of Seasonal Prevalence

In the next section an attempt is made to disentangle the factors implicated in the seasonal prevalence of bubonic plague When the figures for human plague corresponding to various regions in Egypt from the southern provinces of Upper Egypt to the ports of the Delta are charted, they show a regular succession of epidemic waves In seeking for an explanation the authors first reviewed the valuable work on the subject done by the Plague Research Commission in India and then proceeded to a fresh analysis with the aid of the relevant epidemiological data collected by the Commission and of Bacot's careful observations on the influence of temperature and humidity upon the life-history of *X. cheopis* The problem is evidently a complex one, and needs further elucidation, but fresh points of view are brought forward in this article which may prove to be useful

The principal conclusions are given as follows (1) The extent of the disease at any moment in the epidemic period is determined not by the strictly contemporaneous weather conditions but by those which existed four to six weeks previously The interval is attributable to the influence of atmospheric conditions on the various stages of development of the rat-flea (*X. cheopis*) (2) There is an optimum range of temperature from 20° C to 25° C and of vapour pressure deficiency from 1 to 10 millibars for plague prevalence (3) The degree in which the climate of an infected locality approximates to the optimum determines to a definite extent the normal character, whether mild or severe, of its plague history (4) The gradually increasing delay in the onset of epidemic plague from south to north of Egypt is correlated with the seasonal variations in the climate throughout the country These act by influencing the prevalence of rat plague through the transmitting agent of the infection from rat to rat—namely, the rat-flea (*X. cheopis*)

Various Aspects of the Epidemiology of Bubonic Plague in Egypt

The freedom of Cairo from plague since the year 1899, in spite of exposure to attack owing to its situation between Upper Egypt and the Delta, contrasts with the terrible epidemics which afflicted the city in olden times During the last great epidemic in 1835, when Clot's Commission was working at plague, 33,000 of the inhabitants died of the disease The present immunity of the city is associated with an unusually low rat infestation of the native houses Weasels (*Mustela africana*) are common in the houses, and no doubt they have helped to drive out the house rats The modernized capital city and the primitive hamlets of Kom Ombo are at opposite poles of civilization, and it is significant that for more than a century European influences have impinged upon Cairo to a greater extent than upon any other town in Egypt

Nubia, the southernmost part of Upper Egypt between Aswan town and Wadi Halfa, has always been immune from plague, and this may be due to the exceptionally hot dry climate acting adversely upon the processes of transmission of the infection

The results of the authors' work in Egypt are in complete agreement with the conclusions arrived at by the Plague Research Commission in India that the infected rat-flea transfers the plague bacillus from rat to rat and from rats to man, alternative modes of infection are regarded as of no epidemiological significance

Chronic (resolving) plague lesions in *R. rattus* were noted during the outbreak at Qus, but are probably not concerned in keeping the infection alive during the non plague season It is more natural to believe that the gap between epizootic periods is bridged by a narrowly limited, slowly progressing epizootic in a colony of rats which became infected towards the end of the plague season

The section ends with a reference to the course that may be taken by plague in Egypt in the near future A prediction is wisely avoided, because the factors which influence the behaviour of plague during epidemic cycles are not well understood The fundamental causes at work in the spontaneous disappearance of plague—as, for example, from Egypt in the year 1844 and from India in the seventeenth century—are doubtless traceable to the rat and the rat-flea In this connexion the authors made some observations on the natural enemies of rat-fleas, and point out that this aspect of the bionomics of *X. cheopis* deserves more attention

Epidemiology of Pneumonic Plague

In the seventh section of the report we find the most exhaustive review of the epidemiology of pneumonic plague that has hitherto appeared The regular recurrence of pneumonic plague foci in the contiguous provinces, Qena and Girga, in Southern Egypt, had escaped the notice of plague workers, and yet in the authors' view there is no country in the world where the epidemic relations of pneumonic plague can be better studied than in Egypt An introduction to this chapter surveys the history of pneumonic plague epidemics throughout the world since the first adequately described outbreak in 1878-79 at Vethanka in Southern Russia A study of these outbreaks leads to the conclusion that the circumstances mainly influencing the spread of pneumonic plague are these ignorance of the means of self protection, the absence of an effective sanitary organization, and housing conditions that are characterized by overcrowding and bad ventilation In the Qena Girga district the disease is of low diffusibility, for the number of persons affected in each outbreak is relatively small, and secondary outbreaks are few The disease in this region closely follows the spread of bubonic plague, thus indicating the close dependence of pneumonic plague upon the bubonic form, the connecting link is the secondary pneumonia which sometimes complicates bubonic plague Most of the outbreaks in the Qena Girga district prevail during the hot dry season of the year, but some light up during the winter, and these are traceable to southern Egyptians who contract bubonic plague while they are engaged in casual labour in the Delta, and who return home when they fall ill The heavy incidence of pneumonic plague on the provinces of Qena and Girga is a puzzling feature of plague in Egypt The authors discuss at length this peculiarity in the regional distribution, and they are disposed to think that an unusual degree of susceptibility to a plague infection of the lungs furnishes the most likely explanation

In Egypt the diagnosis of pneumonic plague is sometimes rendered difficult by the coincidence in time and place of typhus fever The examination of smears obtained by puncture from the apices and bases of the lungs was found to be a simple and valuable method for the *post mortem* diagnosis of suspected cases

Prophylaxis of Plague in Egypt

In the last section of the report the problem of the prevention of plague in Egypt is examined The subjects discussed under this head are (1) the reduction in numbers or the extermination of rats infesting houses, (2) the exclusion of rats from houses, and (3) the removal of infection within buildings when plague has appeared We note that the use of plague vaccine is not mentioned but imagine that the authors had in mind the more radical means of plague prevention The work at Asyut showed that persistent trapping had the effect of reducing the numbers of rats infesting the houses The results of thoroughly trapping four small villages by setting traps daily in the houses were similar in all and indicated a near approach to extinction of the rodent population

The authors conclude their report with a statement of their belief that popular ignorance is the chief difficulty in accomplishing plague prevention in Egypt They are convinced that the problem of insanitation in Egypt will not be satisfactorily solved until the people are sufficiently

educated to appreciate the purpose of the Government regulations for controlling disease At present public health laws are too often ignored or resisted by the people More than 90 per cent of the Egyptian population is illiterate, and even 25 per cent of the Omdas (headmen) of the villages cannot read or write The authors proffer the suggestion that valuable results would be obtained from an intensive epidemiological research carried out in a suitable selected centre, where special attention would be paid to sanitary improvements and to the education of the people in the simple but fundamental laws of health, the co-operation of the people themselves would be invited They write "The problem at heart is one of social psychology, and this aspect quite as much as its purely medical side should be studied"

We find confirmation of the authors' point of view in the presidential address on "Egypt as a Field for Anthropological Research," given by Professor Newberry at the British Association last year This authority, who has lived for many years in Egypt, makes the following statements, they may surprise some of our readers who have a fair knowledge of Egypt and the Egyptians

"Modern Egypt has hardly been touched by the anthropologist The Government official usually holds himself far too aloof to ever really get into intimate contact with the native A rich harvest awaits any student who, knowing the language, will settle and live throughout the year among the peasants in any village or town in the Lower Nile Valley or Delta It is only in this way that a real knowledge of the people can be obtained Far less is known about them than about many a tribe in Central Africa"

SMALL-POX IN CANADA

CANADA is one of the countries which in recent years have furnished examples of epidemics of mild or much attenuated small-pox, such as has since the beginning of this century come to be known as the [illegible] from the Eastern section [illegible] American in distinction severe form [illegible] or severe type Lately, however, the disease of the disease has reappeared in Canada, and the Provincial Board of Health of Ontario has issued to the medical officers of health of that province a circular giving a brief account of the facts We are indebted to Dr John W S McCullough, the chief officer of health, for a copy of this circular, which is of considerable interest and importance It is as follows

LESSONS FROM THE WINDSOR OUTBREAK OF SMALL POX

The recent epidemic of small pox in Windsor and vicinity has been of a particularly virulent type The symptoms have been so irregular in character that some of the lessons learned may be of interest to the medical profession generally, and specially to medical officers of health

History of the Epidemic

The facts concerning the epidemic are briefly as follows A mild epidemic of small pox had been present in Detroit for the past three or four months Owing to the proximity of the Border Cities it was inevitable that cases of small pox should appear in Windsor and other neighbouring municipalities in Ontario Some cases developed as expected in the Border Cities, but they were of a mild character, occasioned no alarm, and were promptly dealt with by the Health Department An epidemic of malignant small pox, however, broke out in Windsor about the middle of February following the death of a man suffering from an irregular type of haemorrhagic small pox This man during his illness was seen by several medical men of the highest reputation, but no one believed that the patient was suffering from a communicable disease During his illness the man was visited by many friends and relatives, and when death occurred his funeral was very largely attended It was only when cases occurred in persons who had been in contact with this man that the diagnosis of small pox was definitely made These cases were of a particularly virulent and irregular type

Number of Cases and Deaths

The number of cases of small pox in Windsor up to March 3rd was over 40 while the number of deaths was 12 The total number of cases in Windsor, Amherstburg, Maidstone and surrounding districts from the middle of February to March 3rd was 60, the total number of deaths in these places was 18 The total number of cases apparently due to the undiagnosed case of small pox had reached 42

Source of Infection of Original Case.

It has so far been impossible to determine the source of the infection of the original undiagnosed case It may have been a mild type from the Detroit epidemic which suddenly took a particularly virulent form, or possibly an unrecognized case from the northern part of the province where irregular types of small pox are often seen Whatever its source, the cases have all been of a very virulent form with a very high mortality

Points of Interest

The following points are of interest in connexion with the epidemic

1 It would appear from the evidence at hand at the present time that the first unrecognized case was one in which there had been a sudden increase of virulence in the type of the disease It is possible that this was due to the fact that the person affected had never been vaccinated As is well known, this has been predicted by medical men who believe that a mild type of small pox is at any time liable to become more severe in character among unvaccinated persons

2 *The irregular character of the prodromal symptoms and of the rash* Some of the cases gave no history of backache, which is a common symptom, others complained of very severe pain in the back and were only relieved by extremely large doses of morphine, hypodermically Some cases complained of severe headache All had moderately high fever and vomiting Sore throat was a frequent symptom The cases may be divided into three groups

(*a*) *Mild cases* in individuals with a history of an old successful vaccination over twelve years ago, also an occasional unvaccinated case who had been infected in Detroit

(*b*) *Severe semi confluent and confluent cases*, all in unvaccinated persons Some of these cases have already died and others are seriously ill These cases live as a rule six to eight days, and if they survive that length of time recover

(*c*) *Haemorrhagic cases* These were all in unvaccinated persons and were all fatal These cases were very difficult to diagnose even with the information that an epidemic of severe small pox was present Some were at first diagnosed as appendicitis, others stone in the kidney, and still others scarlet fever and measles Some of the haemorrhagic cases showed a typical "lobster rash" as mentioned by Ker in his book on infectious diseases, others somewhat resembled the rash of scarlet fever, though it was of a more dusky character and no other symptoms of scarlet fever were present Still others showed a rash like measles, but the other symptoms of measles, such as dry cough, running eyes, and cold in the head, were absent All of these rashes were, of course, prodromal rashes, and in many cases the true small pox rash was not seen owing to the patient's early death Haemorrhage into the conjunctivae was a common symptom in these cases, also haemorrhages from the mouth, bowel, and bladder, as well as haemorrhages under the skin

3 *Severity of the epidemic and the value of vaccination* The medical officer of health of the Border Cities says, "This is the most severe epidemic of small pox in Canada since the 1885 Montreal epidemic, and the deaths among unvaccinated persons suffering from the disease will run 50 per cent" He also says, "The value of vaccination as a means of prevention has been proved as never before"

4 *Compulsory vaccination of school children* The value of a by law providing for compulsory vaccination of school children on entering school was shown, and undoubtedly in this epidemic prevented the spread of the disease among children

5 *Vaccination of the general public* The severity of the disease and the high mortality rate rendered it possible to vaccinate a large proportion of the population of the Border Cities Roughly two thirds of the population of the Border Cities, or 50,000 people, were vaccinated during the last week of February There has probably never been a city in Canada which has been able to accomplish such a feat without the use of compulsory methods The severity of the disease and the confidence of the people in the local health authorities undoubtedly made this possible

Action by Local Boards of Health

Local boards of health are urged to adopt the following measures, whether small pox is present in the municipality or not

(*a*) Urge general vaccination of the public

(*b*) Have the local board of health require compulsory vaccination of all school children before admission to school (See Vaccination Act, Section 13)

(*c*) Notify medical practitioners to be on the watch for irregular cases of small pox (especially cases of the haemorrhagic type)

(*d*) Arrange for a supply of free small pox vaccine from the Provincial Board of Health

March 5th, 1924

HOSPITALS IN THE UNITED STATES OF AMERICA

The American Medical Association and the American College of Surgeons have been for some time making inquiries into the working of hospitals and have put forward a programme of standardization. The Council on Medical Education and Hospitals of the former body has recently published a third report, which contains data collected from a large number of hospitals,[1] and it would appear that the medical bodies have been greatly assisted by the action of the lay press, which gave vigorous support to the inquiry. Of the 6,830 hospitals in existence only 39 failed to supply the information asked for.

Number of Hospitals and Beds

The hospitals provide 755,722 beds, estimating the population at 100 million this would give one bed to every 130 persons. The average number of beds occupied was 553,133. The figures show a great increase in the number of hospitals and beds, particularly in the smaller hospitals with 25 beds or less. The number of hospitals was 2,411 in 1906 and 6,830 in 1923. Hospitals are maintained by many different authorities. The greatest number—62·4 per cent.—are under the control of the several States or of the federal authority, the number managed by the latter is small: they are for the use of the Veterans' Bureau, U.S. Public Health Service, U.S. Army, the Indian service, soldiers' homes, of those federal employees for whom direct responsibility is assumed, and for prisons. These hospitals are therefore like those maintained for the naval, military, and air services and by the Ministry of Pensions in the United Kingdom. The hospitals controlled by the several States of the Union provide for 40 per cent. of the beds in the country, and for 47·3 per cent. of all hospital patients. Nervous and mental patients who are included in this are mainly in a few large hospitals, tuberculous patients are housed in both large and small sanatoriums. County and city hospitals are provided for the indigent poor, and are under local management, their total capacity is small—only 4,701 beds.

A large number of hospitals, accounting for 37·6 per cent. of the whole accommodation in the country, are maintained by non-government agencies, such as religious denominations, fraternal societies (for example, Freemasons), industrial companies, individual doctors or partners, and large independent associations, mainly undenominational religious and philanthropic bodies—for example, the Salvation Army. The largest group of the non-government hospitals is controlled by these independent associations. The report does not state the conditions and arrangements for the reception of patients into these hospitals, but an American hospital physician of wide experience informs us that in the hospitals maintained by non-government agencies at least 75 per cent. of the patients are paying patients, who are treated by members of the staffs of those hospitals or their own doctor, who attends the hospital and receives his remuneration direct from the patient. The remaining third are paid for out of the charitable funds collected by the agencies, and the doctors attend these patients free. The State hospitals are conducted by whole-time resident staffs, with the exception that the small county and city hospitals have resident superintendents and interns, and a visiting staff whose service is given gratuitously. It appears that teaching is carried on in a wide range of all these hospitals, even in the hospitals for paying patients. Many of them are attached for this purpose to university medical schools. For the most part there are no out-patient departments, but a number of "dispensaries"—most of them conducted by churches, somewhat after the fashion of medical missions—have grown large in the greater cities, they send patients to other hospitals and afford opportunities for teaching, but are not without disadvantages by reason of the abuses they foster. Our informant stated that any accident or serious illness would be admitted into the free city or county hospital, and other cases on the warrant of the county judge responsible, if a patient who could pay should be found in a free hospital he would be removed to a non-government paying hospital if fit for removal.

More than half of all the hospitals are "general"—that is, for all kinds of cases, the next largest number receive mental cases, and closely following this group are the hospitals or sanatoriums for tuberculous patients, there are many maternity hospitals.

Staffing

The object of the standardization propaganda of the medical associations is to secure efficient staffing of hospitals and the provision of scientific equipment. Laboratory departments of hospitals have recently undergone a remarkable development. Of hospitals with 25 or fewer beds, 26 per cent. claim to have clinical laboratories, "this is a fair showing for such small hospitals, since one-fourth of them have less than 10 beds." Of hospitals with 25 to 100 beds 50 per cent. have laboratories, of those with 100 to 300 beds 72 per cent., and of those with more than 300 beds 74 per cent. Somewhat the same proportion of these various sized hospitals possess Roentgen ray departments, the equipment is highest in the general hospitals and next in the special orthopaedic hospitals. There is a large increase in the number of nurse-training schools, in 1900 there were only 432, now there are 1,864.

There is also evidence of the intelligent placing of hospitals in the fact that, since 1920, hospitals have been opened in 189 counties that formerly had none. This is stated to have a beneficial influence in the settlement of private practitioners in these areas. Special hospitals are increasing in number, as are special departments in general hospitals.

The provision of "interns" (house physicians and surgeons) is a growing problem. The number of new graduates, estimated at about 3,800 for 1924, will be insufficient to meet the demand even if every one of them took such a post. It is found that the difficulty is greatest in "non approved" hospitals—that is, those who do not conform to the standard set by the majority as ascertained by the medical associations. In approved hospitals 92·5 per cent. of the required interns were obtained, in the non-approved hospitals only 63 per cent. There is evidently an appreciation of those hospitals which "have made the requisite provision whereby the intern could secure a reasonable amount of experience and instruction."

Costs

In the same number of the *Journal of the American Medical Association* is a paper by Dr Herman Smith of Chicago on hospital costs, but he finds little, if any, basis of comparison. In certain hospitals charges for everyday running expenses are sometimes paid through special funds and do not appear in the *per capita* costs. In many conducted by sisterhoods, salaries are little represented. He does not think that there is one figure or a set of figures that will answer the question "What should carry through a middle-class patient without loss or profit to a hospital?"

In a group of hospitals in New York for 1922 the daily average costs are given in dollars. We have turned these costs (at the current exchange 4·30) into sterling a week, according to the usual English method of charge. In these eighteen hospitals the average cost was £8 8s. a week, in the highest £12 12s., in the lowest £6 13s. In Chicago, taking two hospitals of distinct types, one a smaller hospital with a larger proportion of paying patients and the other a larger hospital with a larger proportion of ward patients, the average cost for the first ten months of 1923 was £8 3s. and £9 13s. a week respectively. These charges do not include the doctors' fees. In the hospitals with the highest costs there averaged 2·9 employees for each patient, in hospitals with a low cost 1·5. The costs are increasing. In general, irrespective of the increase in the cost of supplies and labour the demands made on the hospital by modern medicine are increasing expenditure. The increase in the New York hospitals amounted to 128 per cent. comparing 1922 with 1912, of this only 50 per cent. was accounted for by increased costs of labour and supplies.

[1] *Journal of the American Medical Association*, January 12th, 1924.

The number of employees has greatly increased, hours are shortened and work lightened There are now social service departments, and staffs of dietitians, laboratory personnel is increasing by leaps and bounds, vast increases in expenditure have been necessitated through changes in our conception of the training of nurses Paid resident physicians are increasing

"Ten years ago," Dr Smith says, "hospitals in general, with very few exceptions, were paying what might be considered starvation wages to most of the smaller number of employees which they then had It was perhaps the thought of the times that, as hospitals were in the majority of cases charitable organizations, their employees should contribute their bit to charity by working for wages which were markedly under the commercial scale and in most cases dangerously near, if not under, the self supporting level In most hospitals it still does not reach this level

"It is my feeling that the cost of hospital care has increased and will continue to increase regardless of the changes in the cost of supplies, because of the modern conception of the hospital as an educational institution as well as an institution purely for, one might say, the custodial care of the sick, a conception of hospitals that prevailed not so very long ago"

He asks what, if any, part the standardization programme of the medical associations has had in this increase in costs, and answers thus

"There should be no increased cost involved in having a properly organized staff, which holds monthly meetings and which does not split fees With or without standardization, no hospital is justified in continuing without adequate laboratory facilities and adequate records"

MEDICAL SUPERVISION OF YOUNG FACTORY WORKERS

A HOME OFFICE COMMITTEE

THE Home Secretary has appointed a committee to inquire into the working of the provisions of the Factory and Workshop Acts for the medical examination of young persons as to their fitness for employment in factories

The reference to the committee is

(*a*) Whether the existing requirement of a certificate of fitness, limited to a particular factory, should be modified, whether any other changes should be made in the examination and certificate, and what arrangements should be adopted for the future

(*b*) What measures should be taken for linking up the examination of young persons under the Factory and Workshop Acts with their examination under the school medical inspection service, and, if considered desirable, with other public health services of the country

(*c*) What arrangements could best be made for providing medical supervision of young persons (where such supervision is considered necessary by the Department) during employment in factories or processes where the conditions of work are unfavourable to health or physique

The Committee consists of

Mr Rhys J Davies M P (Parliamentary Under Secretary of State, Home Office), *Chairman*,
Mr Gerald Bellhouse (Chief Inspector of Factories),
Dr R Wallace Henry (Chairman of the Representative Body, British Medical Association),
Mr J Moore Murray (Secretary to the Warrington Education Committee),
Mr Sydney W Pascall,
Mrs Rackham,
Mr W J Tout, M P and
Mr A H Wood of the Board of Education (Medical Branch—Administrative Staff)

The secretary of the Committee is Miss R E Squire, of the Home Office, Whitehall, to whom any correspondence should be addressed

ASSOCIATION OF CERTIFYING FACTORY SURGEONS

Biennial Report

The Council of the Association of Certifying Factory Surgeons has dealt with two years' work in the report just published, it contains matter of considerable interest to those concerned in industrial medicine and welfare Factory surgeons will be pleased to note that 86 new members have been elected since the last report appeared —a very useful acquisition in view of the reported imminence of the somewhat overdue consolidating factory bill, the likelihood of industrial medical matters constituting one of its special features, and the apparent necessity for this branch of the profession to be on the *qui vive*

Reference is made to the considerable number of exceedingly valuable papers on industrial medical subjects contributed to five different Sections of the Glasgow meeting of the British Medical Association, it is considered a matter for congratulation that the twentieth anniversary of the introduction of a Section of Industrial Medicine into the programme of the British Medical Association should have been so suitably celebrated An account is given of the conference of associations interested in industrial medicine and welfare called by the League of Nations Union in June last, and of the part taken by the representative of the Certifying Factory Surgeons' Association in advocating a properly constituted and efficient factory medical service for this country Mention is also made of the part taken in a conference organized by the Industrial Welfare Society in June, 1922, on the subject of medical examination of workpeople The most important section of the report deals with the progress made in giving effect to the policy recently adopted of extending the duties of certifying surgeons by voluntary arrangement with employers In this valuable support has been received from the Welfare Workers' Institute The scheme involves (1) a more detailed examination of young persons, (2) extension of the examination to young persons between 16 and 18 years of age, (3) re-examination every twelve months up to 18 years of age, (4) supervision of ambulance and first-aid equipment, (5) advising welfare supervisors on medical matters arising in connexion with their duties The council of the Certifying Factory Surgeons' Association has agreed that charges can be properly based on the minimum fee recognized by the British Medical Association *as suitable for work of a similar class*—namely, one guinea an hour—but strongly insists that the arrangement should be made for an annual amount, as is customary with the existing system of contracts It is considered that £50 would be fair remuneration for a year of from forty-eight to fifty working weeks The view is expressed that these new arrangements necessarily involve the adoption of a medical card, and a specimen is given The concluding part draws attention to the section of the annual circular letter of the Chief Inspector, which deals with the relation of the certifying surgeon to the new Compensation Act Prominence is given to the insistence on a certain degree of first-aid equipment in all factories, and attention is drawn to the fact that the Legislature clings so closely to tradition in the making of this provision The early Factory Acts did not provide for any inspectors to enforce their requirements, and notification of industrial disease and poisoning, together with regulation of dangerous trade processes, became law without any provision for medical supervision Now again Parliament, when enacting that the very essential first-aid equipment shall be compulsory, has not provided any effective means for securing its sufficiency and proper application The report suggests that as the earlier defects of this type were remedied in course of time, and as the Home Secretary appears to have certain powers in this particular matter, it may eventually come about that first-aid and ambulance arrangements will be placed under some degree of supervision by the certifying surgeon

RECENT Danish vital statistics show some remarkable changes during the last decades The earlier diagnosis and progress in improved operative treatment has considerably reduced the mortality of appendicitis since 1906, in which year there were 43 deaths from this cause in the Danish towns, excluding Copenhagen, a rate of 0 72 per 10,000, whereas in 1921 this rate had fallen to 0 34 per 10,000 in the same towns In the period 1890–99 epidemic diseases accounted for 20 5 per cent of all the deaths in the towns, whereas in the period 1920–22 they accounted for only 10 8 per cent During the same period the tuberculosis death rate declined from 14 per cent of all the deaths to 8 8 per cent, but the corresponding figures for cancer increased from 6 6 to 12 per cent of all the deaths, the death rate for cancer per 10,000 rose in this period from 11 7 to 15 2.

British Medical Journal.

SATURDAY, MARCH 29TH, 1924

RADIATIONS IN THE TREATMENT OF MALIGNANT DISEASE

To appreciate the position of radio therapeutic measures in the treatment of malignant conditions it is necessary to have a clear conception of the nature of the tissue under treatment, and of the method of action of the remedy used Were full knowledge of these two fundamental points available the investigator would be in a position to assess accurately and conclusively the value of x rays and radium rays in the treatment of malignant disease When both are imperfectly understood it is not surprising that conflicting opinions in regard to value should be held Dr Archibald Leitch in an interesting paper on the effect of cessation of the irritant on the development of experimental tar cancer (BRITISH MEDICAL JOURNAL, 1922, vol ii, p 1103), summarizes the results of his experiments as follows "These experiments clearly show that when tar has been applied repeatedly for a certain length of time and the irritant is then removed, tumours, even carcinomata, may make their appearance at a later date It must be that the irritation produces in the normal cells subjected to its influence some profound change, undetectable by the microscope, so that they eventually proliferate in an unrestrained and in a harmful fashion We may conclude that the neoplastic response to an irritant is a slow tissue reaction that exhibits no defensive property, that subserves no useful function The internal changes in the cells in the earliest stages may some day be analysed at present they are quite unknown"

This view of tumour origin is interesting, and would appear to indicate that in some way the equilibrium of the tissue is upset, and as a consequence disordered growth follows Radiations in some way—at all events for a time, in selected cases which respond to the rays—restore the equilibrium, a state of tissue balance ensues, and for a time the disease is held in check This statement is corroborated by observations of a large number of cases of disease treated by x rays and radium The cases cover a wide range—blood diseases, lymphadenoma, sarcoma, and carcinoma In the first group observations upon the blood constituents show positively that a period of control has been established, the control in some instances being maintained for several years, the same applies to the next group, for lymphadenoma may be kept in check for several years, sarcoma also responds in a like manner, while even in carcinoma cases are under observation which have reacted favourably and have been kept in good health for a long time by occasional exposures to x rays such cases have as a rule been recurrences of a superficial nodular type appearing in successive crops It is essential that research work of an intensive type should be undertaken in all cases showing this degree of control, if it could be ascertained what particular biochemical process is initiated or modified by the radiations a great step towards the solution of the problem would have been made

The physical factors are now fairly well known, and are under control to some extent, the technical arrangements of apparatus and tubes are also capable of standardization The elusive and ever perplexing factor is the biological the biological response of tissue to radiations is the key to finding a rational formula for the successful treatment of malignant disease by radiations

That a rational technique has yet to be found seems evident from the conclusions of several speakers at the meeting of the Electro Therapeutic Section of the Royal Society of Medicine (reported at page 572), when the clinical results obtained in deep x ray therapy were discussed The much vaunted Erlangen technique came in for full discussion, and a number of workers gave their experiences The most ardent advocates in the early period of the method have greatly modified their views—indeed, the unanimity of opinion was surprising in regard to the important question of its value It was admitted that a considerable advance in technical knowledge had been achieved On the clinical side, even when allowance had been made for the very large proportion of quite inappropriate cases submitted to treatment, an analysis of the small series of suitable cases treated showed evidence of cure in a surprisingly small percentage It was said that in a number of cases health had been improved and life prolonged, and some cases were quoted in which return to a fairly normal state had followed, for a time at least No striking claim was advanced in the way of a large percentage of cures in cancer When the Erlangen method was first announced the press gave a figure as high as 88 per cent of cures by x rays The expectations raised by such announcements were, as was then pointed out, doomed to failure, and the discussion last week has confirmed these views

It is not surprising that such conclusions should be formed, for the technique adopted subjected the patient to a maximum strain in an effort to destroy the tumour by the administration of what was stated to be the lethal carcinoma dose, often quite irrespective of the condition of the patient So great was the strain that, owing to changes in the blood after the first exposure, it was necessary to allow a period of time, approximately six weeks, to elapse before another exposure could be given Several speakers stated that in their experience no very serious blood changes had been detected It would be well to consider carefully whether this opinion ought not to be revised, for it is undoubtedly a fact that very serious blood changes can be induced by the use of large doses of x rays not only is this the fact, but on several occasions the administration of one or two short exposures to patients presumably in good health has resulted in an alarming fall in the white cells, amounting almost to a leucopenia The red cells and the haemoglobin percentage have also diminished in the same ratio

It is obvious that further research work is required in this important direction, and that if systematic examination of the blood of patients undergoing treatment be carried out very valuable information will be forthcoming for the guidance of the radiologist, and, what is perhaps of equally great importance, for the safeguarding of the patient There can be no question that in x rays and radium rays medicine has received a most valuable aid in the treatment of disease, one which is unparalleled in its applications and in the range of its action and, unlike any other agent, one which acts upon practically every tissue of the body—fortunately in a differential manner, some tissues being more resistant than others to its action

The only other remedial agent possessing to some extent similar power is sunlight, together they give a

very wide range The carbon arc light and the ultra-violet rays are also of great value in therapeutics The use of these valuable but dangerous agents is but *imperfectly understood* Much research work has yet to be done, we would commend to all bodies organizing research the advisability of devoting some of their energy and funds to the furtherance of so desirable an object, and one so full of promise

INSURANCE MEDICAL REMUNERATION

THE carefully worded and ingenuous press statement as to the arrangement made between the Minister of Health and the Consultative Council of Approved Societies with regard to meeting the new capitation fee of the insurance medical service is of considerable interest to the profession It is to the effect that no additional Treasury grant will be required, but that the whole amount necessary can be provided from the National Health Insurance Fund itself, without touching " the benefit funds of insured persons," by reason of certain " windfalls " which have occurred to the advantage of the fund " during and since the war " There is thus an official but belated confirmation of the facts disclosed in the Memorandum on the Financial Position of the National Health Insurance Funds, prepared by the Insurance Acts Committee and published in the SUPPLEMENT to the JOURNAL of May 26th last, and a complete justification of the conclusions of that memorandum and of the comments made upon it in our leading article of that date and subsequently by those who had charge of the campaign on behalf of insurance practitioners

The Court of Inquiry having determined that the insurance medical service was a good service, and that its remuneration should be at a higher rate than that offered by the Government, the question as to how the necessary funds were to be provided was not strictly one with which the profession was primarily concerned In common with other taxpayers, however, members of the medical profession were concerned that no unnecessary additional burden should be thrown upon them, and we can congratulate ourselves that we were the first to point out that it would be financially dishonest to ask the Treasury to come to the rescue of a fund which was shown to be far more prosperous than anybody outside the office of the Government actuary—or perhaps inside it—had hitherto supposed it to be That the National Health Insurance Fund in the aggregate contains sufficient money to meet the cost of a capitation fee even higher than that recently awarded, without lowering or endangering the other benefits to which insured persons are entitled, was a conclusion subsequently and independently reached by the National Executive of the Labour party, and a statement to that effect was actually signed by two officials of approved societies who took a prominent part in the recent agitation It is a pity that they should have gone back upon a conclusion now so strikingly confirmed, and should have adopted tactics and made statements calculated to mislead or confuse candidates for Parliament and the general public Many speeches made and resolutions passed at approved societies' conferences now appear particularly foolish, where is a careful investigation of the memorandums issued and statements publicly made on behalf of the Insurance Acts Committee shows that they contain nothing in this connexion which is not completely justified

Another conclusion that may be at once drawn from the agreement between the Minister and approved societies is that the actuarial calculations of the Insurance Acts need drastic revision The valuation of approved societies up to 1918 revealed a total surplus of £23,500,000, and it is now " confidently stated that the surplus anticipated at the second valuation now in progress will, despite adverse circumstances due to unemployment, largely exceed that shown at the first " The Royal Commission about to be appointed will doubtless conclude that experience of sickness and disablement benefit during the first eleven years has proved the actuarial calculations to have erred enormously on the safe side The work of the medical profession in all its branches has largely contributed to this state of prosperity

It is worth while calling attention to one more point in the statement issued to the press That statement seems to imply, and is no doubt intended to produce the impression, that the setting up of a Royal Commission to inquire into the whole subject of National Health Insurance, and the new Regulation in force from January 1st last, whereby insured persons may now change their doctor at any time, were the result of approved society action As a fact both the Commission and the Regulation have been secured on the initiative and by the pressure of the medical profession, and in opposition to the wishes and recommendations of influential groups of approved society officials The utmost possible freedom of choice on the part of insured person and doctor alike has been from the beginning one of the fundamental principles for which the profession has fought, and it is by its action that this has at last been secured

A bill embodying the Government's financial proposals for meeting the capitation fee fixed by the Court of Inquiry was introduced into the House of Commons on March 24th An account of the bill is given by our Parliamentary Correspondent at page 597 this week

A BELATED INCOME TAX REFORM

IN April, 1919, the Royal Commission on the Income Tax was appointed, and about nine months later lodged a very able and convincing report, which has served successive Chancellors of the Exchequer as a quarry from which they have obtained material for repairing weak places in the fiscal system, constructing new safeguards, or laying foundations for future improvement Our present purpose is to draw attention to one piece of the remaining supply which has apparently been overlooked, but which can, with the expenditure of very little effort, be built into the existing fabric of our income tax system The Finance Bill for the year will, we understand, be introduced towards the end of April, and the present moment is opportune The medical profession was represented before the Commission by Dr G E Hastip, who attended as a witness on behalf of the British Medical Association Among the suggestions which were then put forward was that a professional man was unfairly treated as regards depreciation of machinery—such as *x* ray apparatus and motor cars—as compared with a trader using analogous assets As our readers are aware, no allowance for annual depreciation is given to the former, though the latter receives such an allowance calculated at a reasonable percentage on written-down values—say, 15 per cent in the case of motor cars It is, of course, true that in lieu of the annual allowance the professional man is entitled to charge as an expense of the year in which it was incurred the net out-of-pocket expense of replacing the car or

piece of apparatus by a similar one, but this remedy is incomplete, for reasons which it will be well to set out One is that sooner or later the practitioner retires from work and does not replace the machine he then owns, it follows, therefore, that he gets no allowance, 'either in meal or in malt," for the depreciation which has accrued and is, so to speak, outstanding Another reason is that, owing to falling prices or from any other cause, a particular car may have cost more than succeeding ones, seeing that the net cost of replacement in such cases must be less than the previous outlay no allowance is received for the deficiency, though the capital value has disappeared through professional use A third reason is that even where the total allowance on a "depreciation basis is received in the form of renewal expenditure, the greater part enures to the practitioner's benefit some years later than it would in the case of a trader

Dr Haslip was examined on this question by more than one member of the Commission, and a perusal of the reported evidence suggests that he satisfied them as to the case for a change in the law, but we may surmise that he may have been surprised at the completeness and clearness of the Commission's recommendations on the point Paragraph 214 of the report reads as follows There is one defect in connexion with this allowance [for depreciation of plant and machinery] which we think calls for a remedy It is at present confined to traders and manufacturers, it does not apply to professional men A business man is allowed a deduction for the depreciation of the motor car used in his business, but a doctor whose practice may equally necessitate the use of a car is not entitled in law to any such deduction We recommend that *the allowance should no longer be restricted to traders*"

It is now four years since that authoritative advice was given, but the grievance remains unredressed The amount of income tax at stake cannot be such as to give pause to a Chancellor anxious to smooth the rough places in the taxpayer's path No doubt there were many other recommendations of greater importance or value, and many other grievances more acute and more keenly resented But we suggest that the past four years have given ample opportunity for such matters to be disposed of, and that the time has now come when the professional man—be he medical practitioner, country solicitor, or provincial accountant—should be put in the same position as regards the income tax allowance for the professional use of his car as the commercial traveller or motor haulier Any Government which desires a "large vision" should have also an eye for detail, and a regard for small things in the field of finance is not always the mark of a small mind—it is sometimes proof of sound and honest craftsmanship

AMERICAN INVESTIGATIONS OF "E.R.A."

A few months ago the *Scientific American*, a well known transatlantic monthly journal, announced that it proposed to undertake an impartial investigation of the claims of Abrams and his followers The investigators apparently anticipated that the "E.R.A" practitioners would welcome an opportunity of demonstrating the truth of their claims before an impartial tribunal, they have, however, been disappointed, and after four months' investigation they wrote "E.R.A is not a satisfactory subject for a scientific investigation Numerous obstacles are placed in the path of investigators, until patience is taxed beyond the utmost limit Promises upon promises are made, while precious time, which might be put to other use, is being lost Yet all the while we are assured that E R A desires to prove its case to the scientific world, through an impartial and truly scientific body of investigators We have presented E R A the opportunity Will they accept it?" The current number of the *Scientific American* (for March, 1924) contains an interesting article entitled "A study of the late Dr *Albert Abrams of* San Francisco and his work," by Austin C Lescarboura, secretary to the *Scientific American* Abrams Investigation Committee This committee has been engaged on investigations of the methods of Abrams and his followers for several months The article endeavours to make an impartial appreciation of the nature of Abrams's work It appears that anything new always had a fascination for Dr Abrams, and that he was interested in chiropractic, osteopathy, and other unorthodox cults before he developed his electronic reactions Mr Lescarboura evidently finds it difficult to appraise Dr *Abrams's work exactly, for on the one hand he is convinced* that Abrams was sincere, and on the other he finds it difficult to explain why Abrams consistently evaded subjecting his work to impartial scientific tests He has come to the conclusion that Abrams was ignorant of the elements of electricity, and supports this opinion by quotations from his work *New Concepts in Diagnosis and Treatment*, which show that Abrams had no suspicion of the need of a circuit being completed, and apparently did not know the difference between the primary and secondary windings in an induction coil Mr Lescarboura's chief conclusion is as follows "*Five months* of close observation of E.R Abrams' diagnosticians at work, and study of the entire technique, lead us to believe that the matter is by no means a bare-faced fraud. Many of those engaged in the work—Dr Abrams for one—are apparently sincere They believe in the method When they get proper results they are elated, when they get unsatisfactory or even ridiculous readings, they are bewildered and search for some far fetched explanation of a pseudo-scientific nature *The whole thing bears striking* resemblance to the subjective psychic phenomena Compare it with the Ouija, which spells out messages through subconscious muscular action Compare it with automatic writing, in which one's hand traces mysterious texts quite without one's volition and quite foreign to one's state of mind Compare it with the fact that three or four people can push a table all round a room without the *slightest idea* that they are pushing it at all The E R A technique is such as to leave the gravest ground for suspicion that it works—when it does work—in just this way" These investigations conducted by the *Scientific American* are, of course, of the highest importance, for they were started without any bias whatever Obviously an investigation conducted by orthodox medical men upon an unorthodox cult is open to the criticism that it starts with a strong bias The *Scientific American* investigators started with no bias whatever, and therefore their conclusions must carry much weight

PUBLIC HEALTH IN NIGERIA

THE address delivered by Sir Hugh Clifford, G C M G, the Governor of Nigeria, at the second session of the Legislative Council, at Lagos on February 11th, has been published, along with a report by Dr T B Adam, who is acting as director of the medical and sanitary service of public health, on the work of the medical department during the past year Cases of cerebro-spinal meningitis were observed, but the active measures employed limited the spread of the infection Small outbreaks of small pox occurred, but there was no severe epidemic, and experiments are now proceeding with a view to enabling vaccine lymph to be transported long distances without loss of efficiency Seven cases of relapsing fever were discovered

in Lagos, and the disease was localized in the native town, another outbreak took place in the province of Kontagora Careful supervision of the development of towns is maintained, so that systematic sanitation proceeds concurrently, growing centres on the Eastern Railway are receiving special attention in this respect Surface drainage is resulting in the improvement of several districts, and water supplies are receiving attention The hospitals and dispensaries in the southern provinces are being increasingly used since the extension of the Eastern Railway to the Benue River, and patients are being brought from very long distances for surgical treatment New hospitals on modern lines for the accommodation of Africans have been opened at Minna and Ilorin, in the northern provinces The hospital at Kaduna has been considerably extended, the department of radiology and electro-therapeutics has been rearranged and enlarged so as to meet the requirements of modern developments, ionization is being actively employed in the treatment of the open sore so frequently met with in Africa Research into the origin of blackwater fever has been continued, and also the systematic examination of house-flies and mosquitos Intensive work with regard to the tsetse fly has been successful in bringing to light some important facts, and treatment of sleeping sickness by Bayer 205 has been very satisfactory so far, though the permanence of the benefit remains to be proved In view of the fact that Nigeria is larger than the combined areas of Germany, Holland, Belgium, and two-thirds of France, and contains a population of over eight millions, in which the staff of administrative officers is never more than one to about 70,000 of the people, the progress in medical and sanitary matters is very satisfactory, especially since the whole administration and development of Nigeria depends upon an annual revenue of less than £6,000,000

MEDICAL PIONEERS IN NEW ZEALAND

THE beginnings of modern medical treatment in the south island of New Zealand have been told in a series of historical sketches contributed by Dr R V Fulton of Dunedin to the chief newspaper of the city It is a dramatic story, and the author, who was himself one of the founders of the Otago Early Settlers' Association, has done well to collect his articles into a volume[1] It will preserve permanently a description of the manners of life, trials, and difficulties of the pioneer doctors, the people with whom they laboured, and the development of the places in which they dwelt Dr Fulton begins by telling how Dr J Crocome, the first British doctor in New Zealand, settled at Waikouaiti, near Dunedin, in 1838, and tended the settlers and Maoris in the whaling and sealing stations without payment, except in kind At first on foot, later on horseback, he travelled hundreds of miles, through swamp and fern, over trackless country, adding the Maori medical lore and remedies to his imported armamentarium, which as yet did not include anaesthetics, antiseptics, thermometer, or stethoscope When, later on, he was joined by others, and the strain of professional work grew less, he gave up much of his practice, and, like many another doctor mentioned in this book, devoted himself increasingly to the civic duties of the expanding community, took up educational work, and was appointed the first postmaster in the town that by now had sprung up The surveying of the future city of Dunedin was only finished in 1847, and Dr H Manning arrived there at the end of 1848, and was joined by Dr W Purdie a year later Some of the excitement attending life in those days is indicated by the fact that the former thought it necessary to challenge the resident magistrate to a duel, while the latter was early appointed a justice of the peace, and wore himself out in ten years unravelling disputes, directing road repairs and town planning, and correcting electoral irregularities, as well as treating sickness and accidents Dr Purdie was the first to use chloroform anaesthesia in New Zealand, and was notorious as an abstainer from alcoholic beverages in an age which regarded such an innovation as almost criminal He had brought with him from England a good supply of vaccine lymph, and in 1850 was vaccinating without charge all who wished to protect themselves against small-pox In those early days a professional visit might entail a journey of fifty miles or more, over bush, mountains, and rivers, through extremes of climatic conditions, and even the hardiest suffered and died Dr Fulton records many incidents of heroism and self-sacrifice, he relates how Dr T Williams of Tokomairiro and Dr J Dick of Naseby, struggling from their own beds of sickness for emergency calls, paid the inevitable penalty As the country became more civilized new difficulties arose Dr E Halley wrestled for twelve years with an enormous practice, including accidents, poisonings, and attempted murders, receiving payment most frequently in nuggets or gold dust, and winning fame as a conservative surgeon Dr A Eccles, who was related to Edward Jenner, found time in Dunedin, even through the strenuous amount of professional work entailed by the gold rush, to organize the first industrial exhibition held in the country Dr Eccles was honorary secretary of the New Zealand exhibition of 1865, which heralded the beginning of the great export trade of the growing colony To him was awarded a special gold medal, struck in recognition of his work in this connexion, and he was officially described as "author of the plan of the exhibition and the chief instrument of its success" Dr T M Hocken, who reached Dunedin in 1862, was for many years the coroner of the rapidly increasing city, he suggested in 1864 a simple and ingenious system of water filtration based on his own microscopical examinations during the epidemics of typhoid, dysentery, and scarlet fever which ravaged the city from 1862 to 1864 He was the first lecturer on surgery at the Otago University, and later on laid aside most of his professional work in order to become one of the leading historians and archaeologists of the country The record of the lives of these and many other medical pioneers in New Zealand makes Dr Fulton's book of intense interest to the medical profession throughout the empire It is copiously illustrated with photographs, and is a mine of entertainment as well as of information

[1] *Medical Practice in Otago and Southland in the Early Days* By Robert Valpy Fulton M D Edin. Dunedin N Z Otago Daily Times and Witness Newspapers Co. Ltd. 1922. (Demy 8vo, pp 304 Illustrated)

THE MENTAL AFTER CARE ASSOCIATION

THE Mental After Care Association, which has done much in a quiet way to facilitate the return to ordinary working life of poor persons convalescent or recovered from institutions for the insane, held its annual meeting on March 11th at the Mercers' Hall, under the chairmanship of its president, Sir Charles C Wakefield, Bt In opening the proceedings he referred to the large increase of persons helped (1,024 in 1923 as compared with 944 in 1922) He congratulated the association on the facts that the King had graciously subscribed £100 to its funds and that the Prince of Wales had become patron of the association in succession to the late Princess Christian The funds from all sources in 1923 (the year under review) amounted to £4,571, and although there was considerable increase in subscriptions and donations the aggregate income was inadequate to deal with the increased number of applicants There had been, however, a considerable increase in the grants from the Queen Adelaide Fund, the King Edward's Hospital Fund, and, for the first time, a grant from the "Queen Alexandra Day" Fund The

Guild of Help had contributed £372 18s 11d, a considerable part of which was derived from a sale of work to which patients in some asylums had sent articles of their own manufacture to a stall organized by Miss Vickers. Additional recognition of confidence in the association was afforded by the fact that the Ministry of Pensions had invited the council to undertake the visitation of its mental pensioners. Speeches were subsequently made by Dr. Henry Rayner, chairman of the council, who expressed approval of the Mental Treatment Bill, and the hope that something might be done in England, as had long been done in Scotland, for the boarding out of partly recovered patients. Sir Humphry Rolleston, in moving the adoption of the report for 1923, said that he was much impressed by the useful work of the association in starting again in life convalescents from mental disease, and watching over them with sympathy and tact. Work was found for them whenever practicable, and if necessary further medical attendance or rest in cottage homes. It was a notable example of the real aim of medicine to prevent disease and relapse. Sir James Crichton-Browne gave cordial support to the appeal for funds to carry on the good work of the association, which might be compared to a lifeboat cruising about to rescue human wreckage. He drew attention to the grateful testimony of patients received into the association's homes as to the kindness they had experienced at the asylum and their willingness to go back to it on any recurrence of their malady. He insisted on the need for easily accessible facilities for the early treatment of mild and incipient cases of insanity. Dr. Percy Smith referred to the need of further financial aid for the association to enable it to extend its work to a larger number of patients who required it. The new duties proposed to be assigned to it by the Ministry of Pensions, should they be arranged—and it was only financial difficulties that delayed the matter—would materially enlarge the sphere of the association's work, as well as its public importance. That the utmost economy consistent with efficiency was practised in the administration of the association was shown by the fact that the office expense of a patient dealt with worked out at 9s. 4d. (2d. less than the previous year), and the council expresses the high appreciation in which it holds the work and devotion of Miss Vickers, the secretary, and her office staff at Church House, Westminster. The usefulness of various provincial auxiliary branches was also recognized, and their activities cordially acknowledged.

CARDIAC STRUCTURE AND FUNCTION

ANATOMISTS constantly emphasize the intimate relationship which exists between structure and function, and Dr. Blackhall-Morison, in his recent paper upon "The musculature of the aorta and of the cardiac valves, anatomically, physiologically, and clinically considered,"[1] not only supports their teaching, but maintains that in certain regions more reliable conclusions about function may be expected from the anatomist than from the physiologist. Dr. Blackhall Morison's important anatomical and clinical researches upon the heart are well known, and in this contribution a further addition is made to our knowledge of the arrangement of the muscular fibres at the various orifices. Attention is drawn particularly to the discovery of a distinct bundle of fibres belonging to the left ventricular musculature and the lower segment of the left auricle, which are inserted into the aorta in three groups. From the arrangement of these fibres it is suggested that they rotate the base of the aorta in the direction of the characteristic ventricular twist during systole. The result of these researches upon the anatomical disposition of the muscular fibres implies segmental action of the cardiac muscle, and it is suggested that localization of muscular action points to a local nervous control, although there is as yet scanty physiological support for such a contention. Certain experimental and physiological evidence to which Dr. Blackhall-Morison does not hesitate to draw attention makes it a little difficult to accept at once all the views upon cardiac function which have been deduced by him from a structural study. Nevertheless, the significant facts so clearly demonstrated, and the interpretations of them, although not absolutely convincing, arrest our most serious attention and demand careful consideration. Dr. Blackhall-Morison's work is likely to act as a corrective, and to direct our energies more definitely to the neural factor as well as to the myogenic when attempting to elucidate the origin of many cardiac irregularities. It is possible that subsequent investigations will prove the correctness of Dr. Blackhall Morison's conclusions, and that, as he ventures to think, the stimulating views he has advanced may be incorporated in the orthodoxy of the future.

[1] *Edinburgh Medical Journal* September 1923.

THE CARE OF CHILDREN'S TEETH

THE care of the teeth of children has been much discussed from the point of view of the school clinic, but it was as a private practitioner that Mr. George Northcroft brought the subject before the Odontological Section of the Royal Society of Medicine on March 24th. He said that the dental surgeon could do all of three things, which he summarized in the terms prevention, restoration, regulation. With regard to the first, it must not be thought that propaganda in oral hygiene was outside the province of the clinician. The education of the lay mind was most easily imparted at the chairside. The danger of the sweets habit, and of taking soft and sticky foods the last thing at night, the necessity of a correct method of brushing and of thoroughly cleansing the mouth, were all points to be emphasized. In all preventive measures intelligent co-operation between parents, teachers, and dental surgeons was necessary. One preventive measure upon which all were agreed—although they might differ as to the age at which it should begin—was the practice of periodical visits, at least three times a year, by the growing child to the dentist, so that potential exposures might be prevented and the occurrence of decay arrested with the minimum of fatigue, pain, and danger. This presupposed willing and intelligent parents but there were children whose mouths had been neglected through parental ignorance or carelessness, and here it was necessary first to remove all caries, and then to replace the lost tissue or recreate the biting surfaces where these had been lost through forced early extraction. The age of 18 months or 2 years was not too early for the child to have a first examination, although, where properly given instructions to young mothers had been followed out, 3 was generally soon enough. A knowledge of psychology was useful to the dentist in dealing with children. The child should be introduced gradually into the environment of the dentist's consulting room, first accompanying the parent just to look round, and all maladroit suggestion must be avoided. The dread of the unknown made as painful an impression on the sensitive mind as pain itself. If their confidence was not abused children remained very amenable to treatment. The dentist should not work long at a time on young patients, for their resistance was easily lowered, they were generally at their best in the middle hours of the day. Restorations should be fully contoured to avoid the packing of food and tenderness when biting, if this were done mastication could be carried on with full muscular power. Temporary teeth with exposed pulps presented a considerable problem, if septic, a tooth was better removed, but some traumatic exposures might be successfully treated for the time being. An upper second temporary molar was

often worth trying to save at the age of 9 if the corresponding lower tooth was firm Some time ago it was the general opinion that splinting mattered only when the *second temporary molars were lost too early*, but Mr J G Turner's description of the wanderings of the temporary teeth had been fully corroborated, and splints were used now in all cases where indicated In conclusion, Mr Northcroft expressed his astonishment at the recent repetition in that Section of the oft-repeated fallacy that irregularity did not occur in the temporary dentition, and he showed models illustrating the many types of variation from normal In the course of some discussion, Mr A T Pitts said that he found himself extracting far fewer temporary teeth than was the case years ago He realized that it was often quite impossible to say which teeth could be saved and which could not until one actually commenced work upon them He agreed with Mr Northcroft as to the frequency of irregularity in the temporary teeth Dr F N Doubleday pleaded for conservatism in extraction, arguing that a person's own teeth, if it was at all possible to retain them, were of more value to him as an aid to digestion than the best artificial dentures, at the same time he would not be prepared to save teeth which had exposed pulps

HYPERTONIC SALINE SOLUTIONS IN INCREASED INTRACRANIAL TENSION

IN our issue of March 8th (p 420) we published an account of the use of hypertonic saline solutions in increased intracranial tension by Dr H Cohen, who employed intravenous injections of 30 per cent sodium chloride solution in the treatment of headaches due to cerebral tumours, acute meningo-vascular syphilis, and similar conditions In the *Journal of the American Medical Association* for March 8th (p 766) Dr T Fay discusses the comparative values of magnesium sulphate and sodium chloride for the relief of intracranial tension, and quotes experimental and clinical evidence in favour of his view that the former is the superior remedy He points out that this salt is non-dialysable, and a solution introduced into the rectum is not absorbed into the blood but acts directly on the vascular elements in the neighbourhood of the intestinal wall This direct extraction of fluid from the circulation results in a secondary withdrawal of ventricular and tissue bound fluids, and brings about dehydration, since there is a drain on all the available body fluids to compensate for the depletion in blood volume by way of the intestinal tract Fay stresses the importance in the treatment of acute traumatic cases of distinguishing between those in which there are symptoms of intracranial pressure and those with increased *tension and profound shock In treating concussion* and intracranial tension, dehydration by means of magnesium sulphate will relieve the cerebro-spinal congestion, but if this salt is used after head injuries accompanied by the loss of large quantities of blood, or associated with profound shock, it will only further deplete an already impoverished and failing circulatory system, and may bring about a fatal result The diagnosis is based on the observation of the respiratory and temperature curves, there being a gradual fall in the respiratory rate and a rise in the temperature readings Fay uses a dose of 1½ oz of magnesium sulphate by the mouth every fourth hour, or 3 oz dissolved in 6 oz of water, by the rectum, at the same interval He claims that this salt has been shown to be almost twice as efficient as sodium chloride, and has obviated the danger of a secondary wave of tissue oedema due to temporary salt retention He adds that if over-dehydration is possible, as seemed to be the case with two of his patients, then any degree of intracranial pressure may be controlled by sufficient use of magnesium sulphate, and the disfiguring operation and added risk of subtemporal decompression for relief of pressure can be avoided in cases of acute cerebro-spinal tension He has had no case of magnesium sulphate poisoning, and he suggests that its occasional occurrence in other hands *may have been due to the absorption of the* salt into the circulation in the presence of intracranial obstruction, *normally* the salt is not absorbed into the blood stream

FRENCH NATIONAL LIBRARY

A FACSIMILE reproduction of the general catalogue of the French National Library was commenced in 1900, it proceeded slowly during the war, but is now being actively hastened, and the Societe des Amis de la Bibliothèque Nationale et des Grandes Bibliothèques de France has appointed M Paul Catin (3, rue du Sabot, Paris, VIe) to be the publisher of the work The complete production will contain about 160 volumes cataloguing authors, and 50 volumes dealing with anonymous books Each volume contains about 10,000 titles, and the works of each author are brought up to date, and include all that are in the National Library A large number of books other than French are in the catalogue—for example, under the letter "K" the proportion is very nearly one French book to one hundred foreign ones Thus this general catalogue constitutes a most valuable bibliography, which will be of the greatest use in all large libraries Seventy-eight volumes of the catalogue have already appeared, the next three volumes are in the press, the last of them goes about half-way through the letter "K" The need for reprinting the earlier volumes has been foreseen, and three or four each month will be dealt with, according to the demand, so that new subscribers need not fear being unable to complete their series The price of each volume was fixed originally at 50 francs, but this will be reduced if the number of subscribers is sufficiently large

INFLUENZA AND MEASLES

IN the week ending March 15th the number of deaths from influenza in the great towns decreased from 730 to 681 The epidemic is, however, by no means at an end in the North west Five county boroughs in Yorkshire returned 10 or more deaths—Halifax (13), Bradford (40), Leeds (60), Dewsbury (13), Hull (34) In Lancashire, Stockport (11), Liverpool (16), Manchester (22), and Burnley (12) had more than 10 In the South, Bath (10) and Bristol (13) are still affected, in the Midands, Stoke-on-Trent (14), Birmingham (38), and Nottingham (12) are important contributors The incidence of notified pneumonia has *increased again—from* 2,500 *to* 2,647 *In London, mortality* from influenza continues to decrease, and fell last week from 115 to 89 Measles continues to increase, the total numbers of deaths in the great towns in the last four weeks were 108, 130, 131, 157 The great majority of these deaths from measles occurred in London and Greater London—namely, 98 in London itself and 36 in the outer ring

IN the Court of Appeal on March 24th, Lords Justices Bankes, Warrington, and Atkin heard an application by the Attorney-General, Sir Patrick Hastings, K C, in regard to the date of hearing the appeal by Dr C Hubert Bond and Dr G H Adam from the verdict and judgement for £25,000 damages and costs in favour of Mr W S Harnett, for alleged conspiracy to detain him in a lunatic asylum The trial in the King's Bench Division before Mr Justice Lush and a special jury was reported in the BRITISH MEDICAL JOURNAL of March 8th, 1924 (pp 449-452) With the consent of all parties the Court of Appeal fixed Monday, April 7th, for the hearing of the appeal

Nova et Vetera.

MEDICAL EVIDENCE TWO HUNDRED YEARS AGO

It is perhaps no longer safe to assume that everybody has read Macaulay, "the best people," indeed, seldom allude to him without a sneer, still, many of us are common enough to enjoy the style which Mr Lytton Strachey deems "one of the most remarkable products of the Industrial Revolution", and some of us recollect a few touches of Macaulay's account of the trial of Spencer Cowper—the poet's grandfather—for murder, which occupies the first pages of his last chapter The *British State Trials*, collected into 21 volumes rather more than 100 years ago, are in most public libraries, but not many amateurs of literature can afford to house the collection In 1899, Mr H L Stephen published two small volumes containing a selection of these fascinating dramas,[1] and his choice has included the case of Spencer Cowper Some features of the trial have a professional interest, reference to these may suggest that in the old State trials a medical antiquary will find subjects for agreeable and even instructive meditation

We do not propose to re-tell the whole story of the trial—we fear that we might not tell it as well as Macaulay did, but we must recall to the reader's memory how it happened that medical evidence was of importance Spencer Cowper, a rising barrister and subsequently a judge of the High Court, was indicted at the Hertford summer assizes in 1699 for the murder of a young Quaker lady, Sarah Stout It was admitted that between 10 and 11 *p m* of March 13th, 1699, Spencer Cowper was conversing with Sarah Stout after supping in her parents' house The following morning Sarah Stout's body was found floating in the Priory River, and nobody could be proved to have been in Sarah Stout's company after Cowper left the house—alone, as he said, in Sarah Stout's company, as the prosecution inferred As no reason why Spencer Cowper should have murdered Sarah Stout could be suggested—some vague tittle-tattle of two attorneys and a scrivener, not apparently friends of Cowper, respecting Sarah Stout's fickleness can hardly be taken seriously as evidence of motive—it was necessary first to prove that the girl had been murdered and then to rely upon the evidence of Spencer Cowper's opportunity to commit the murder To prove that murder had been done, it had to be shown that the floating of the body was presumptive proof that death preceded immersion To establish this the prosecution relied on medical evidence

The Crown called nine medical witnesses—Mr John Dimsdale, jun, and Mr John Dimsdale, sen, surgeons, a Mr Contsworth, a surgeon, a Dr Coatsworth, Dr Nailor, Dr Burnet, Mr Babbington, and Dr Woodhouse There was also a third Dimsdale, described as a graduate physician (by himself) The John Dimsdale, jun, was, Mr Stephen thinks, the father of Baron Dimsdale of inoculation fame Of the remainder the only one who can be identified with reasonable certainty was the Dr Coatsworth, he was probably Dr Caleb Coatsworth, admitted a Licentiate of the College of Physicians in 1688, created M D by the Archbishop of Canterbury in 1692, and elected F R S in 1718 He was physician to St Thomas's Hospital and *died very rich in 1741 All these witnesses* assigned, as their reason for holding that the deceased had not been drowned, the absence of water from the lungs, stomach, and intestines *post mortem*, and some asserted as a matter of experience that the bodies of the drowned sank John Dimsdale, sen, was of opinion that the presence of water in the lungs and intestines was a sign that would be present weeks after death, but he admitted in cross-examination that he had never actually conducted an autopsy on the body of an undoubtedly drowned person six weeks after death (the autopsy was made on the exhumed body on April 26th, death occurred on March 13th) John Dimsdale, jun, supported his opinion by the fact that he had found plenty of water in the body of a child which he had examined the day after it was drowned Dr Coatsworth gave the following evidence

"I have not seen many drowned bodies to make observation *upon but it is my opinion that* every body that is drowned is suffocated by water passing down the windpipe into the lungs upon respiration, and at the same time the water pressing upon the gullet, there will be a necessity of swallowing a great part of it into the stomach I have been in danger of being drowned myself and I was forced to swallow a great quantity of water If a person was drowned, and taken out immediately, as soon as the suffocation was effected, I should not wonder if there was but *little water in the stomach and guts but if it lay in the water* several hours, it must be very strange if the belly should not be full of water, but I will not say, it is impossible it should be otherwise'

Coatsworth's evidence was the most sensible of the testimonies given for the prosecution, but in cross-examination he was not asked whether what he had said had any relevance to the state of the viscera in a corpse so decomposed that the surgeons—according to the elder Dimsdale's evidence—"finding her head so much mortified down to her neck, thought all the parts were seized, and had a consultation whether we should open her or not" Most of the other evidence was of the same order of competence as the Dimsdales' Babbington (a surgeon), for instance, had had a patient who died after immersion, and she brought up "a great quantity of water" before she died Babbington also had "never heard of any that went alive into the water, and were drowned, that floated so soon as this gentlewoman did, I have heard so from physicians"

Of the ten medical witnesses for the defence, four—three surgeons and one physician—cannot be identified The six who can be identified include the founder of the British Museum, Hans Sloane, Dr Garth of literary fame, and William Cowper the illustrious anatomist Cowper gave evidence as follows He first estimated that the amount of water drawn into the lungs by inspiration under water would amount to about three ounces, this quantity would be sufficient to cause suffocation, and, after suffocation, swallowing would become impossible He reached these conclusions as the result of experiment

"I shall by the bye, tell you how fallacious the first experiment was, when I proposed to satisfy myself whether a dead body would float in water It happened that a spaniel that had a great deal of long hair, was hanged for this purpose which I found to float on the surface of the water but when I considered that his hair might buoy him up I caused another dog, which had shorter and less hair, to be hanged and put into the water which (according to what I had always conceived of the human body) sunk directly *to the bottom In order to satisfy myself what* quantity of water was necessary to enter the body of an animal and cause suffocation in water, I caused three dogs when alive to be suddenly plunged under water till they were stifled the result was that about three ounces of water were found in their lungs, and none in their stomachs'

Another witness was Dr Morley, probably Dr Christopher Love Morley, a Leyden M D, created Fellow of the College of Physicians in 1686, he withdrew from the College as a non juror the year after this trial He also gave evidence based upon experimental data He drowned two dogs the night before and found no water in the stomach of one of them, while the other sank to the bottom

The remainder of the evidence for the defence was not very different in intellectual calibre from *that given* by the country surgeons for the prosecution, although it was more erudite Thus Dr Crell (possibly Jodocus Crull M D, a native of Hamburg, admitted F R S in 1681 and Licentiate of the College in 1692) quoted the opinion of Ambroise Paré to the effect that froth on the nostrils and *mouth was a* certain sign of drowning The parish officer who took the body out of the water swore that froth came from the mouth and nostrils, while another witness said "a great quantity of froth—like the froth of new beer—worked out of her nostrils"

In his summing up, the judge said that

"*the doctors* and surgeons have talked a great deal to this purpose (that is whether the absence of water from the body were a sign the deceased had not been drowned), and of the water s going into the lungs or the thorax but unless you have more skill in anatomy than I you would not be much edified by it I acknowledge I never studied anatomy but I perceive that the doctors do differ in their notions about these things

So far as most of the medical evidence on both sides is concerned, this seems to us not an unfair charge, but had the judge been an acuter reasoner he would have pointed

[1] *State Trials Political and Social* London. 1899 Duckworth.

out that the evidence of Cowper and Morley conclusively proved, first, that an animal brought dead into the water did not necessarily float, and secondly, that an animal unquestionably drowned might have no water in its stomach, and therefore completely disposed of the hearsay evidence of both doctors and lay witnesses on these points In fact of the nineteen medical testimonies, two only had any scientific foundation On the whole, it seems likely that the jury in acquitting the prisoner was guided by the non-medical evidence, which established, first, that Sarah Stout was, as we should now say, a psycho-neurotic, who had often talked of self-destruction and sent, without provocation, very strange letters to Spencer Cowper, and, secondly, a quite satisfactory account of Cowper's movements after leaving the Stouts' house on the night of the alleged murder One might even go a little further and say that the medical evidence was not very much worse than plenty given less than 200 years ago Babbington and the Dimsdales cut poor figures enough, but they had no textbooks of forensic medicine to consult

We mentioned at the outset that the best people always quote Macaulay with deprecation, in order to make out a claim for our own inclusion amongst the elect, we will say that Macaulay's remark that "the prosecution was conducted with a malignity and unfairness which to us seem almost incredible" is a little unfair to counsel for the Crown, who, so far as we can gather from Mr Stephen's account, did not open more than his witnesses were supposed to be able to prove It was not his fault that the evidence upon which he had to rely was mostly either irrelevant or empty assertion

VERNES S METHOD OF SYPHILIMETRY

AT a meeting of the Lewisham Division of the British Medical Association on March 18th, with Dr J GILCHRIST in the chair, a lecture and demonstration on Dr Vernes's method of syphilimetry was given by Dr E Ofenheim An article on this method was published in the BRITISH MEDICAL JOURNAL of May 5th, 1923 (p 774)

Dr OFENHEIM commenced with a statement that Vernes's method of syphilimetry was not one of the numerous modifications of the Wassermann and Sachs-Georgi test, but represented an entirely different attitude towards the diagnosis of syphilis, and was a method of ascertaining with mathematical accuracy the degree of infection and the effect of treatment Though scarcely known in England, it had received Government support in France, and its importance might be estimated from the fact that during the last year 22 000 cases had been investigated by its means, and 400 000 blood tests performed This test—first described in 1913—was really the original flocculation test Vernes had early abandoned the conceptions of the function of complement and amboceptor comprised in the Wassermann test and had found that all human blood serums had a definite flocculating action on colloidal solutions, whether organic or inorganic By way of illustration the lecturer then demonstrated the action of a normal serum on a colloidal solution of iron sulphocyanate With a high concentration of serum there was but little flocculation, but when the serum was diluted in geometrical progression, keeping the volume constant, flocculation of the colloidal solution gradually rose to a maximum and then fell again to zero He explained that syphilitic serum differed from normal serum in that the greatest flocculation of the colloidal solution was obtained at a different dilution Vernes's attention was therefore directed towards the discovery of a colloidal solution which would bring out most clearly this quality of syphilitic serum, and he set himself to elaborate a technique which would clearly distinguish healthy from syphilitic serums The colloidal solution finally adopted was known as perethynol—an alcoholic extract of horse's heart prepared according to a special technique devised by Vernes the dilution of this solution with distilled water was one of the essential parts of the technique An absolutely standard colloidal solution was prepared by the mechanical addition of distilled water at a constant rate and the mixture stirred by an electrically driven glass helical screw revolving at a constant speed In this way was produced a colloidal solution containing particles of constant size The lecturer showed two colloidal solutions containing equal quantities of solid matter, one of which, however, was densely opaque, the other completely transparent This difference had been obtained by varying the rate of mixing perethynol and distilled water The final product could be standardized by an instrument known as an opacimeter, which was described later Flocculation of a colloidal solution by a syphilitic serum depended on (1) the nature of the colloid (2) the size of the particles, (3) the temperature, and (4) the amount of serum employed

By means of graphs the lecturer showed how Vernes had finally selected the optimum conditions for performing the test On the addition of a serum to the colloidal solution the occurrence of flocculation was indicated by an increase in the opacity or optical density of the solution Vernes sought for some method of determining the extent of this increase which would eliminate the possibility of error from the human factor in the experiment At first a colorimetric method depending on the addition of a haemolytic system was employed, but the increased opacity was now measured directly by an opacimeter In this instrument a beam of monochromatic light was divided into two parts, which were separately deflected by a series of prisms, and, finally, reunited by the interposition of a mirror in the track of one of the deflected beams The reunited beam of light passed finally through a red colour filter and was thrown on to a ground-glass screen When two tubes were inserted each along the track of one of these two beams of light any difference in the optical density of fluids in them would be indicated by a difference between the components of the image on the ground-glass screen A wedge of smoked gelatin could be interposed along the track of the other beam and adjusted by a micrometer screw until the image on the screen was homogeneous In this way a numerical value could be assigned to the opacity of the tested serum compared with that of a control by reading the scale attached to the micrometer screw Studied by this method the serum of a syphilitic patient showed a high numerical value within a week of the primary chancre Even in untreated cases this serum showed a rhythm with the passage of time On one occasion it would show a normal value as for healthy serum, and within a week it would again show a high value The effect of treatment could be followed by studying the numerical value of the serum, and in Vernes's clinic the dosage of arsenical and other preparations was estimated in accordance with the value indicated by the opacimeter

The lecturer claimed that tests performed in Paris and Lausanne had proved that three laboratories of established position showed marked divergence in their results with serums submitted to the Wassermann test, but the variation in the numerical value for the serums as determined both in Paris and Lausanne independently by Vernes's test was not more than 0 06 per cent , and that where the results differed from the Wassermann findings clinical evidence was in favour of Vernes On the other hand at St John's Hospital there had been a 100 per cent agreement between the Vernes and Wassermann results In the Wassermann test there were many unknown factors complement from the guinea-pig varied with the age the manner of life, and the general condition of the animal, amboceptor came from another non-standardizable animal—the rabbit, sheep's corpuscles were a third unregulated factor, whilst antigen was whatever the pathologist might make it There were no unknown agents used in the Vernes test, and no opportunity for an error of individual judgement The lecturer then contrasted modern variations of the Sachs-Georgi test, and said that the numerical values attached to results were merely expressions of the individual opinion of the observer as to the degree of flocculation found An important development of Vernes's work was already foreshadowed It was possible that in other diseases than syphilis a change in flocculating power of the serum would be demonstrated The present technique of the test had been adjusted with regard to the size of the colloidal particles, the temperature, and other conditions so as to give the optimum value for syphilitic serums There were indications, however, that with alteration in the technique the

opacimeter might be used to estimate the degree of infection and the reaction to treatment in many other diseases, the importance of such a discovery could not be overestimated There were already three Vernes clinics in Paris, and others in Italy, America, England, and elsewhere—the lecturer being associated with the English clinic. Dr Ofenheim added that Dr Vernes was shortly coming to England to inaugurate a Franco British committee for work in syphilimetry on a world wide scale

Sir W ARBUTHNOT LANE referred to the immense amount of work performed by Dr Ofenheim in Lewisham and the district in connexion with Vernes's method, he believed that if the premiss of the wider applicability of the method was fulfilled a great advance would be made in the science of diagnosis and treatment

The discussion included a reference to the importance of obtaining a second negative reaction of the blood eight months after the first negative had been obtained The cerebro spinal fluid was also examined by the opacimeter as a routine measure, in this case the addition of nitric acid produced an opacity from which the percentage of albumin present was calculated by the help of a graph prepared by Dr Vernes The initial cost of the apparatus required was stated to be between £60 and £70

Scotland.

CERTIFICATION OF LUNATICS

At a meeting of the Edinburgh District Board of Control Mr William Elliot described the method of procedure for the certifying and detention of cases in Edinburgh On receipt of an application for the removal of a mental patient the inspector, he said, satisfied himself that the application was made by a responsible person The medical officer of the district was then asked to visit in order that he might certify, on soul and conscience, as to the mental condition of the person If satisfied by his own observation, along with facts communicated by others, that the case was one requiring treatment in a mental hospital he certified accordingly A second doctor then examined the patient independently, and, if satisfied, completed a second certificate In the meantime an assistant inspector had visited and obtained the necessary particulars to enable him to prepare a petition to the sheriff craving a warrant for the detention of the patient When the petition was presented to the sheriff clerk it was scrutinized by him, and, among other things, he satisfied himself that the medical officers who had granted the certificates were legally entitled to do so In ordinary cases no patient could be detained in an asylum for longer than three days without a sheriff's order After these formalities the patient was conveyed to the asylum in a motor ambulance, accompanied by two removal officers, one of whom must be a female if the patient was a female On arrival at the institution the certificates and detention order were handed over to the asylum officials, and the transference to the District Board of Control was complete The patient, after being bathed, weighed, measured, and photographed, was placed in an observation ward, where his condition was carefully noted under the immediate care of the medical staff and trained nurses After a time he might be drafted to the part of the institution suited to his condition The medical superintendent, once every year, must certify on soul and conscience that the patient required further detention Each patient was visited at least once a year by a Commissioner in Lunacy Lunatics boarded out were visited once a year by a representative number of parish councillors, twice by the Inspector of Poor or an assistant, and at least four times by a medical officer In addition each case must be reported to the General Board of Control by the Inspector of Poor, the sheriff clerk, and the medical superintendent, and heavy penalties are attached for neglect On recovery the medical superintendent discharges the patient on his own authority or permits return to friends on probation The parish council, the General Board, and the sheriff can also, in certain circumstances, order the liberation of patients Any patient or friend of a patient may appeal to the General Board for inquiry If the board fails to give satisfaction there is a further appeal to the sheriff Letters from a patient to the board or to the sheriff must be forwarded without being opened and read There is now only one private asylum in Scotland

EDINBURGH HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN

At the annual meeting of the Edinburgh Hospital and Dispensary for Women and Children and the hospice associated with it, Miss E S Mair, LL D, who presided, reviewed the progress of the enterprise from the time in 1878 when Dr Sophia Jex Blake, one of the pioneers of medical training for women, started a small dispensary in the city Dr Elsie Inglis had, in 1910, begun her work at the hospice in the High Street, and the opportunity was afterwards taken to amalgamate the two institutions Bishop Walpole spoke of the success of the hospital and of the hospice Such institutions were wanted for the sake of those for whom they ministered, and also for the training of those who would carry on such work Lady Walker said that the expenditure had been £8,225 5s 8d, though the deficit (£740 18s 8d) was £91 less than in the previous year, it was large enough to give cause for anxiety The number of patients at the hospital during the year was 611, and at the hospice 380 A hopeful sign was the large number attending the ante-natal clinics Miss Eveline MacLaren, the treasurer, reported that over £10,000 had been spent on the new Elsie Inglis Memorial Hospice Miss Gertrude Herzfeld, F R C S, said that the reputation of the hospital was spreading, and women in Edinburgh and the surrounding districts appreciated having a woman doctor to attend to them Mrs J C Johnston, the chairman of the executive committee, mentioned that the hospice had a complete plan of work, which included the study of infant life in the locality and the following up of cases for years

MEETING OF PHARMACEUTICAL SOCIETY OF GREAT BRITAIN

At the fourth meeting in Edinburgh of the Pharmaceutical Society of Great Britain, Mr D B Dott, Ph C, F I C, F R S E, dealt with a recent allegation that on keeping opium there was a loss of the principal alkaloid, morphine Samples carefully assayed by various methods monthly over a period of one year showed no appreciable loss of morphine Mr Dott also read a paper on the assay of nux vomica, showing that when sodium hydroxide was used as the precipitant instead of sodium carbonate as directed in the pharmacopoeial process of preparation, a higher percentage of strychnine was obtained In an address on ferments and ferment action Mr David Ellis, Ph D, D Sc, F R S E (Glasgow), discussed the distinction between organized and unorganized ferments and the various types of fermentative processes Many millions of pounds of capital were, he said, invested in industrial processes the commercial success of which was dependent upon the activity of micro-organisms The action of oxidases and their importance to the community in the production of commercial products were also explained

ST MUNGO'S COLLEGE, GLASGOW

The closing meeting of the winter session at St Mungo's College, Glasgow, was held on March 14th, when the chairman of governors, Mr James Macfarlane, LL D, presided He was accompanied to the platform by Sir Leslie Mackenzie, medical member of the Scottish Board of Health, Professor John Glaister, Professor T K Monro, and other governors and teachers Sir Leslie Mackenzie, in his address to the students, particularly directed his remarks to those who were at the point of transition from the acquisition of knowledge to the practice of life He spoke on "the problem of fitness," and emphasized the fact that the new objective in preventive medicine was the production of fitness This was one primary lesson of the war He referred to the report by the Ministry of National Service on the physical examination of men of military age during the year from November 1st, 1917, to October 31st, 1918, and to the revelations found there, based on the examination of about 2,500,000 men These examinations

showed that, of every nine men of military age in Great Britain, on the average three were perfectly fit and healthy, two were upon a definitely infirm plane of health and strength, whether from some disability or from failure of development, three were incapable of undergoing more than a very moderate degree of physical exertion, and could almost (in view of their age) be described with justice as physical wrecks, and the remaining man was a chronic invalid with a precarious hold of life With every qualification these results were staggering From other sources also it was known that not men alone, but equally women and children of every class, showed many minor and major defects, which in their totality clogged the wheels of life and seriously impaired individual efficiency Here, then, were masses of problems in preventive and curative medicine, to which medical men of the immediate future would have to apply all their science, skill, and energy Sir Leslie Mackenzie referred shortly to the prevention of infectious diseases, showing the great advances made in this field, and how in consequence death rates had fallen and the expectation of life had risen He emphasized the fact that prevention must now be taken, in the broader sense, as the sum total of the methods applied in treating the individual for the prevention and cure of diseases He referred in illustration to the many services already established, particularly for the oversight of infants and children, then proceeded to show that the new concept of preventive medicine went much deeper, quoting from Sir George Newman's memorandum on *Recent Advances in Medical Education in England*, and the General Medical Council's recommendation for the new medical curriculum, this included the dictum that the spirit of preventive medicine should animate all the teachings to students The lecturer then pointed out a still deeper meaning of prevention, in that the beginnings of disease must be sought for and made clear in this difficult field the general practitioner had his greatest opportunity

GLASGOW ROYAL INFIRMARY CLUB

The [illegible] Glasgow, on the evening of March 14th, and was attended by about sixty members The president for the year, Dr William Wallace of London, occupied the chair Though an ophthalmologist by profession, he is perhaps better known in the world of music and art, and for his Hellenic studies and work, of the importance and value of which something was said during the evening by Mr Henry Rutherfurd in proposing the health of the chairman The toast of the Glasgow Royal Infirmary was given from the chair, and was responded to by Dr G Balfour Marshall "Past and Present Residents" was proposed by Dr D McKellar Dewar, and replies were made by Dr D O Macgregor, in humorously reminiscent vein, and Dr A N Fergus In the course of the evening Drs Henderson and Read contributed songs As in former years, the collecting box was circulated on behalf of the Royal Medical Benevolent Fund, for which a sum of £5 11s 6d was obtained At the meeting Dr J Paton Boyd was appointed president for next year, and Dr J A Gib Burton was made joint secretary with Dr J K Rennie

England and Wales.

BIRMINGHAM GENERAL HOSPITAL

The annual report of the General Hospital, Birmingham, for 1923, which has just been issued, contains satisfactory evidence of the continued progress that is being maintained in all respects The number of in-patients last year was 6,153, representing an increase on the two previous years, though the number is rather less than that of the two years 1919 and 1920 The average daily number in the hospital was 314, which represents an increase of 16 on the average of the years since 1919 The out-patients reached the figure of 47,696, which is the highest number treated during the last five years, and the total number of patients treated in the hospital in the last year was a record During 1923, 6,317 operations were performed The financial position shows that the hospital, in consequence of an exceptional amount of money received by legacies and by donations from the city, is now in a happy condition of income exceeding expenditure It is hoped that in future the ordinary income of the hospital will be sufficient to meet its growing expenditure and provide for certain developments which are now urgently needed Among the gifts made to the hospital in the twelve months are included an electro-cardiograph, a skin grafting apparatus, a diathermy apparatus, an x-ray transformer, and a lamp for ultra-violet rays treatment The urgent need for further accommodation and equipment has been seriously considered, and negotiations are in progress for obtaining a site adjacent to the hospital for further development The newly instituted extern maternity department has done very good work, and has evidently met a real need in the city The board of the maternity hospital has now expressed its willingness to take over this new department, so as to avoid overlapping in the work of the two institutions As an adjunct to the nurses' home a new building has been acquired, which will enable an increased nursing staff to be housed and many needed recreation rooms to be provided

CENTRAL MIDWIVES BOARD

The Central Midwives Board for England and Wales met on March 20th A penal meeting was held first, followed by the ordinary monthly meeting, Sir Francis Champneys presided at both It was announced that the Royal College of Surgeons, the County Councils Association, and the Association of Municipal Corporations respectively had re-elected Dr Griffith, Mr West, and Dr Jervis as their representatives on the Board The Board resolved (1) that the period of training required of candidates for its examination be increased to twelve months, except that, in the case of candidates qualified under Rule C 1 (2) (a), (b), and (d), the period of training be increased to six months; and (2) that a copy of the revised rules, [illegible] of Health be asked to approve the same and to order that they should come into force on January 1st, 1926 The revised lists of examiners, lecturers, institutions, homes, and midwives at which and under whom pupil midwives may be trained were approved for the year ending March 31st, 1925 The revised list of hospitals approved by the Board within the meaning of Rule E 26 was adopted

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Criminal Responsibility and Lunacy Law

SIR M. MACDONALD asked, on March 18th, whether in view of the fact that Lord Justice Atkin's Committee on the procedure at the criminal trials of lunatics, alleged to be insane was composed solely of the legal profession, and that its report did not meet the objection put forward in the report of the Medico Psychological Association as regards the retention of the M'Naghten rules and other disputed points, and considering that the two subjects, criminal lunacy and lunacy reform, were intimately allied, the Home Secretary would also refer the question of the criminal trials of lunatics to the Royal Commission or other body now being appointed to consider the subject of lunacy reform Mr Henderson replied that the matter would be considered

Proposed Inquiry into Lunacy Laws

Mrs Wintringham asked, on March 19th, whether when a committee of inquiry into the lunacy laws was appointed it would include two women—one a member of the medical profession and one with special and practical knowledge of asylums and visiting committees Mr Wheatley said the suggestion would be carefully considered

Mr R Morrison asked whether the inquiry would be made wide enough to include investigation into the mental deficiency laws Mr Wheatley replied in the negative Those laws, he said, form a separate and distinct subject matter, the inclusion of which would unduly delay the report and recommendation of the inquiry committee upon the more urgent question

National Insurance (Cost of Medical Benefit) Bill

Mr Wheatley, on March 24th, formally introduced the Government bill to make further provision with respect to the cost of medical benefit and in regard to certain kindred matters

It will be recalled that the Court of Inquiry appointed by the Minister of Health, consisting of Mr T R Hughes, K C, Mr F C Goodenough, and Sir Gilbert Garnsey, under date January 23rd, found that the capitation fee for insurance practitioners should be 9s, and that as it appeared that their finding was intended to be only for the year from January 1st to December 31st, 1924, they made a further recommendation that the award should continue to obtain for an additional period of three years from December 31st, 1924

In the Memorandum before the bill which has been printed and circulated the object is stated to be to meet the balance of the cost of medical benefit and administration beyond the sums provided by S 7 of the National Health Insurance Act 1920 It is pointed out that for the period from April 1st 1922 to December 31st 1923 this balance was provided mainly out of the funds of approved societies in accordance with the provisions of the National Health Insurance Act 1922.

The financial position is set forth as follows

	s d
Total cost of medical benefit in England from January 1st 1924 including doctor's capitation fee (of 9s) cost of drugs doctors travelling allowances and certain minor items—per insured person per annum	11 10½
Towards this there is provided from funds of the approved societies by S 7 of the Act of 1920 a sum of	9 6
Leaving a balance of	2 4½

Subsections (a) and (b) of the first section of Clause 1 provide for the payment of this balance for the three years 1924 to 1926

Section (2) of Clause 1 provides that the balance is to be found from the following sources

	s d
(a) Out of the funds of approved societies ..	0 2
(b) Out of moneys in the Central Fund derived from the unclaimed balance of sums received from the sale of National Health Insurance stamps	1 8½
(c) Out of the interest earned on the proportion of insurance fund retained in the National Health Insurance Fund (Investment) Account beyond the prescribed rate (4½ per cent.) credited as standing in that account	0 6
	2 4½

Under the National Insurance Act of 1911 two-ninths of the above-named sums are payable out of moneys provided by Parliament the remaining seven ninths being derived from the contributions out of which the above-named funds are made up and this explains the apparent difference in the figures as given later in detail in Clause 1 Towards carrying out the scheme Clause 2 provides for the payment into the Central Fund of a sum of £100 000 from the unclaimed balance in the Stamp Sales Account over and above the proportion of that balance normally paid into the fund Clause 3 re-enacts as from January 1st 1923, to December 1st 1925 the provisions of Section (3) of the Act of 1922, which lapsed on December 31st 1922, and under which assistance was given to approved societies from the unclaimed balance in the Stamps Sales Account to enable them to pay benefits to members who would otherwise have been suspended from benefit by reason of arrears due to prolonged unemployment Clause 4 provides for a corresponding payment to the Ministry of Labour for Northern Ireland out of the Central Fund and Clause 5 applies the bill to Scotland and Wales with such modifications as are required in consequence of a difference in the cost of drugs, doctors travelling allowances, and other minor items.

The measure is to be deemed to have come into force as from January 1st, 1924, and to operate until December 31st, 1926

Dogs Bill Rejected in the Lords

Lord Banbury moved in the House of Lords, on March 25th, the second reading of a Dogs Protection Bill, similar in character to one which he submitted for several years in succession in the Commons when he was member for the City of London. His experience in the Upper House was still less favourable, a second reading being negatived without a division Lord Knutsford, who moved the rejection, said that the medical scientific world was against the proposal As showing how people were sometimes moved by mistaken sentiment he told an entertaining story Lord Montagu and he were motoring in the New Forest on a soaking wet day, and were struck by a figure which they thought to be that of a poor old tramp trudging home Lord Montagu said, We must give this poor devil a lift, but when they got nearer they recognized Viscount Grey of Fallodon, who had walked four miles to see whether a particular bird was to be found near a certain pond Lord Knutsford mentioned that the value of insulin had been discovered by experiments with dogs, and marvellous results for the benefit of humanity had been obtained Lord Rayleigh, speaking as a man of science described experiments on dogs as absolutely necessary The Lord Chancellor announced that the Government did not favour the bill The Marquess Curzon had no hesitation in opposing the second reading, having regard to the representations made to him by scientists in Oxford.

Naval Medical Service.

In supply on the Navy Estimates, Dr Spero on March 20th, touched upon the Naval Medical Service He said that in the statement issued by the First Lord of the Admiralty the only observations were to report that the Yokohama Hospital had been destroyed in the earthquake and that the Royal Marine Infirmary was closed down, owing to the transfer of the Royal Marine Division No allusion was made to the fact that there was a shortage of medical officers in the service The Admiralty, however, could not man all the ships with medical officers if they were sent to sea That, he submitted, was a very serious position and called for immediate inquiry At the end of January the number of medical officers was thirty nine below the complement required to maintain an efficient service, and more men were retiring than were entering The cause for this position was that the Admiralty had broken faith with their medical officers As a result of the new regulation which came into force on January 1st, 1920, medical officers who joined on the distinct understanding that they would be retired at the age of 55 unless previously promoted, were compulsorily retired at the age of 50 without any compensation The retirement, moreover, was retrospective Every medical officer in the service at the time the new regulations came out lost five years at the highest rate of pay and five years further chance of promotion to higher rank The actual monetary loss amounted in five years to £2,200 This was one of the chief causes why medical men were not entering the navy It was a very precarious service to enter, and the British Medical Association was right in not recommending young doctors to take it up That Association had repeatedly brought the full facts before the Admiralty, but the latter seemed to think that there would be plenty of new candidates forthcoming when the output of the medical schools was at its height In that they had been very much disappointed The navy could not be efficient unless its health was fully maintained, and the process of retiring senior medical officers at one end of the list when there was no one coming in at the other could not continue indefinitely Dr Spero went on to make one or two suggestions as to how young medical men just leaving hospital might be induced to enter the service. First, there was the question of remuneration Anyone comparing the differences in pay between the Royal Navy and the Royal Army Medical Corps would be rather surprised A surgeon lieutenant R N received £438 a year, a lieutenant joining the R A M C had £555 Another striking difference was that the Admiralty adhered to the old fashioned idea of not recognizing marriage A married surgeon lieutenant joining the R.A.M.C obtained £617 a year, but a married officer joining the navy had only £438 a year Again, supposing a naval medical officer was sent abroad—to China, for example—the Admiralty made no allowances to bring out his wife and family Another reason why medical men would not join the service was the lack of opportunities for study During the war he was a medical officer in the navy, and found that when a man was not in contact with people on shore he was apt to get stale in work. He suggested that the Admiralty should give more frequent opportunities for post graduate study There was such a system in connexion with the army Again, the conditions at sea called for attention In the case of a court martial the naval medical officer was the only officer on board not allowed to sit on that court, even if one of his own assistants was up for trial Dr Spero afterwards referred to the fact that the Naval Medical Department was not at the Admiralty in Whitehall, but at the top of a block of business premises in Victoria Street. He suggested that that did not enhance the prestige of the department. Summing up, he said that when the British Medical Association wished to send deputations to bring out the facts before the Admiralty audience had been refused

Mr Ammon, Parliamentary Secretary to the Admiralty, in the course of his reply, said that a deputation from the British Medical Association had lately been received by the Admiralty The whole matter was being gone into, and he hoped to make a reply before long

Maternity Wards—Mr Wheatley replying to Commander Bellairs on March 19th said he was ready to give sympathetic consideration to proposals for the provision of maternity beds in areas where there was need for additional accommodation and to pay grants not exceeding 50 per cent of approved capital and annual maintenance expenditure The grant in aid of capital expenditure usually took the form of an annual payment based

on the sum required for interest and repayment of capital within a fixed period Commander Bellairs asked the Minister to make his consideration prompt as well as sympathetic To this Mr Wheatley replied that he had to await the applications when he received them he would deal promptly with them He had already issued a circular to local authorities and therefore took it that the matter had come under the notice of local medical officers of health

University of London Bloomsbury Site—Mr Gilbert asked, on March 20th whether any agreement had yet been reached between the Treasury, the University of London and King's College, as to the use to which the site in Bloomsbury acquired by the Government some years ago is to be put Mr Snowden said that no decision had been reached The matter was under consideration, and was recently discussed with deputations from the University and from King's College

Vaccination—On the usual motion for the adjournment, on March 24th, Mr Black brought up the question of the administration of the Vaccination Act of 1907 He said that approximately 800,000 infants were born every year in Great Britain, and of that number the parents of 500,000 lodged exemption certificates These were the figures for the last available year Broadly, 62 per cent refused to have their children vaccinated, and 38 per cent accepted it He argued that the time had come when people should not have to seek these certificates As chairman for many years of a health committee in Leicestershire, he believed in vaccination when persons were in contact with the disease but not otherwise People who had gone in for vaccination in a village in Leicestershire, where a case of small pox had arisen, were very wise to do so The county authority, under his suggestion, put up large posters asking the people to be vaccinated because the disease was in their midst But there was no necessity for vaccination where no disease existed The guardians of the country had to provide £162,000 and the Exchequer £22,000 to administer the Act Mr Black was several times called to order by the Speaker, and was finally asked to resume his seat for arguing for legislative change, which could not properly be discussed on an adjournment motion Dr Chapple, who followed denied that the danger was so small as to be negligible, and insisted that the immunity which vaccination gave was needed The Health Department in his opinion ought to make announcements on this question The section was not, he said, based on conscience, but upon conviction born of foolish propaganda by its opponents

Royal Army Medical Corps—Questioned by Mr N Mitchell Mr Walsh said on March 18th, that the present shortage of officers in the R.A.M.C was 69, and the number of vacancies and candidates on the last three occasions were respectively 15 and 4, 20 and 6, 40 and 7 The remedies for the serious state of affairs were under consideration On report in supply on the Army Estimates on March 24th Lieut Colonel Pownall said that the Royal Army Medical Corps had practically ceased to recruit officers The February list showed seven lieutenants in the whole of the Royal Army Medical Corps, and the majority of these were on probation The same list also showed that fifty two senior officers, mostly colonels and lieutenant colonels were being re employed, presumably to take the places of lieutenants who had not been forthcoming "Before the war the R.A.M.C was attracting a reasonable number of medical recruits

Ex Service Mental Cases—Captain Bowyer asked, on March 19th how the care and treatment of ex service mental patients in pauper lunatic asylums differed from that of pauper patients Mr Wheatley said that the care, treatment, and housing of the patients in public mental hospitals were determined by the medical experts according to the mental and bodily needs of the patient There was no distinction in this general principle between the private patients and those supported by the rates

Poison Gas—According to the War Secretary the expenditure on investigations into poison gas in the current financial year is about £80 000 and a similar sum has been provided for 1924-25 The animals experimented upon were cats guinea pigs, goats, mice, monkeys rabbits, and rats The total numbers used from April 1st 1923, to the present date were 689, out of which 618 had been killed or destroyed The British Government was a signatory to the Washington resolution of 1922 which condemned the use in war of asphyxiating and poisonous gas but the resolution has not yet been ratified by all the signatory powers His Majesty's Government is doing all in its power, however, to render the resolution effective

Stone Dust—Mr Shinwell informed Mr C Edwards, on March 20th, that he had received some complaints about the accumulation of stone dust in mines but they were rare Section 6 of the general regulations of July 30th, 1920, required that the floor of every travelling road should be cleared of dust at regular intervals There need be no fear that a committee which included Dr Haldane and Dr Collis was without first hand experience of working conditions underground

Notes in Brief

Mr Adamson said in reply to Mr N Mitchell on March 18th that drunkenness resulting from the consumption of methylated spirits was prevalent in some of the principal towns in Scotland The matter had been fully considered by the departments concerned and measures were to be taken to make methylated spirits even more unpalatable than at present

During the last five years there were only four cases of pulmonary consumption among male convicts This gave a percentage of 16 of the total receptions within the period There were no cases among female convicts

Correspondence.

CLINICAL RESEARCH IN GENERAL PRACTICE

SIR,—You have asked me to give expression to any views that might be helpful on the question of research raised by the two general practitioners in last week's JOURNAL (p 550) Unless the Editor had asked me, I would not have ventured to give my views, for the reason that they are so opposed to the conception of research which is dominant to-day, that probably no one would listen to them But as the Editor thinks that my experience of forty years as an investigator, and as one who has given special attention to the problems which face the general practitioner might be of some use, I yield to his request

During these forty years I have seen many young doctors eager for research Many have acted singly, and others have banded themselves in groups As years passed enthusiasm gave place to indifference, and in the end little was achieved This indicates something lacking, for research is the most alluring of occupations, one step leading on to others, so that the investigator becomes ever more and more keen in his work

Whether or not the investigator is to succeed depends on how he starts Merely to follow up some trail his teacher may suggest is to court failure, for he can never understand the reasons for his undertaking He must himself have been brought face to face with the problem he wishes to solve

A procedure very common is to make up some new device and apply it to various purposes, as taking the blood pressure, or counting the blood corpuscles in a great variety of conditions, or analysing the chemical constituents of various secretions, or the counting of the different microbes found at the various orifices of the body No doubt many facts are thus recognized, but they end in hampering progress by obscuring the path in a chaotic mass of detail Such a confused accumulation has led to medicine being divided into a great many special departments, each engaged in adding to this mass, and it is this confusion which disheartens investigators, for they cannot see where their work is leading them

The first matter the investigator should consider is whether he possesses the qualifications necessary It is not everyone who is qualified to undertake research, any more than to write poetry The investigator must be one who is free from bias Beliefs in medicine are based upon the explanations of how certain phenomena occur, and most people cannot understand the difference between the recognition of a phenomenon and the manner of its occurrence The description of the former may be correct, while the explanation of its occurrence may be, and often is, little better than guesswork

A good investigator holds every explanation as a provisional hypothesis, recognizing that the explanation is such as his present knowledge permits He must be also one who can grasp principles Many people can observe individual phenomena but fail to see the need for recognizing their affinity in nature

The investigator in clinical medicine has, sooner or later, to recognize his profound ignorance and how totally unsuited his training has been to qualify him for his enterprise I gather that the two correspondents have had some training which they hope qualifies them for the type of investigation they desire If that means that they have spent some years in a laboratory, they have probably obtained some knowledge which can be profitably used, but they will have to unlearn a great deal and will have to undergo for many years a tedious process of re-education

There are three drawbacks which tend to render laboratory trained men incompetent clinical investigators The first is that their experience has brought them into contact with a very small field of knowledge pertaining to human disease A man with a limited experience is very often a man with a limited outlook, and there is no department of medicine which requires so broad an outlook as general

practice Every phase of disease from its onset to its finish is seen in this department

The second drawback is that the laboratory worker depends upon mechanical devices for observing or recording his results The phenomena which are of the greatest importance in general practice are incapable of being investigated by means of mechanical devices The conception of science that neglects phenomena which cannot be registered or recognized without the employment of some mechanism is a foolish one Science seeks knowledge from every source, and employs the means that are necessary for the purpose If there are phenomena which cannot be recognized without a mechanical device it is utterly unscientific to ignore these phenomena In clinical medicine the patient's sensations and the phenomena revealed by the observer's trained senses of sight, hearing and touch, are by far the most important manifestations

The third drawback is that in the laboratory it is only the end results which are recognized An end-result is the outcome of a series of events and practically such series of events are never recognized The bacteriologist, the pharmacologist, the biochemist, and the physiologist may all recognize certain reactions, the outcome of their experiment, but it is seldom that they can explain how these reactions came about The symptoms of disease are end results They are produced by disturbances in some part of the structures that regulate the functions of organs, and it is imperative, if medicine is to make progress, that these structures and the part they play in the economy should be recognized It is these disturbances which cause ill health and lead to death, and that is the kind of knowledge which the investigator in clinical medicine must acquire

In pointing out these three drawbacks I am making no attack upon laboratory methods I am calling attention to the limitations of the laboratory in its relation to clinical medicine merely for the purpose of preventing such investigators like your two correspondents from entering on an enterprise for which they may discover when too late that their methods were entirely unsuited

In the search for a problem to solve the investigator should start with the simplest Much present day medical research resembles an attempt to solve problems in the higher mathematics without a knowledge of the multiplication table If the investigator is called to see a patient who complains of certain symptoms or exhibits certain signs, he should ask himself, "Do I know the nature and significance of this sensation or of this symptom?" The patient complains of pain, or suffers from vomiting, or there is an increased pulse rate or delirium The problem which faces him is the recognition of the source of disturbance which results in these phenomena and the structures engaged in their production

All these signs and symptoms are end results, but there is nowhere in medicine to be found the knowledge which would enable him to recognize how these end results are brought about There are, of course, explanations given, any number of them, but they are all imaginary and not one of them based on actual knowledge Indeed, it will be found that a great portion of all medical knowledge which has relation to the explanation of how phenomena are produced is nothing more or less than the expression of an exuberant fancy Every department of medicine, when it encounters a difficulty, gets over it by inventing some imaginary factor and then proceeds as if the problem was solved We hear of many departments in medicine explaining phenomena by "centres" in the nervous system, yet centres are all figments of the imagination Some branches of medicine, as psychology, are entirely made up of these figments

If it be borne in mind that no sign or symptom and no manifestation of life ever takes place without the interaction of cell upon cell and that this interaction is governed by definite natural laws, it will be seen how unscientific and unsatisfactory it is to cloak ignorance by the use of fanciful terms

The importance of understanding the nature of the most obvious symptoms has escaped the attention of those who dominate medicine To day we see enterprises and campaigns started for the investigation of cancer and tuberculosis, and not one of the investigators is able to tell how such diseases produce ill health and how they cause death It must be apparent to anyone who gives the matter serious consideration that for these enterprises to succeed this kind of knowledge must first be acquired, and this kind of knowledge can only be acquired upon the lines indicated The absence of this kind of knowledge accounts in a great measure for the want of success that dogs so many attempts to solve medical problems

All investigators should beware of complacency, for there is nothing so harmful to progress The man who achieves a little success in his research, as by a drug or a suggestion, is apt to dwell upon and talk about his wonderful achievement, but about the numerous failures he is silent The true investigator will gain far more benefit by the analysis of his failures than by the complacent contemplation of his successes

In putting forward these notions, I know too well they will not be accepted, but I trust they will cause some to pause and inquire whether there is any truth in them —I am, etc,

St. Andrews Fife March 22nd. J MACKENZIE

CONTRACTED PELVIC OUTLET

SIR,—In the JOURNAL for March 15th Dr Blair Bell gives some more facts about one of his cases and asks what I would do in the event of another pregnancy In my book *Practical Midwifery* I include suppuration after Caesarean section as an absolute indication for section in subsequent pregnancies In the history of the case it is stated that *after twenty four hours' labour*, "*it was found that there* was disproportion between the size of the head and the pelvis (obviously meaning the outlet)" I do not see that it is obvious, I think it is much more likely that the disproportion was recognized by the fact of the head being still relatively high above the brim Attempts to deliver with forceps were made and failed, apparently after the disproportion was recognized I am not prepared to accept that forceps would only have been attempted if the head was completely through the brim Dr Bell gives the measurement of the outlet 2¾ inches, and says the upper pelvis was normal Did he measure it himself, and what are the measurements? I am fairly sure the upper pelvis showed transverse contraction and is of the type classed by me as "transversely contracted (round) pelvis," a large group, giving the largest incidence of difficult obstetrics, and with the important feature that a case may present very little evidence of disproportion early in labour The head, although not well into the brim, does not override in front

Dr Lochrane reports a case of outlet obstruction and ends by telling us that the pelvis was the high assimilation type, which I claim is a rare type This type of pelvis narrows all the way down from the brim, and even if the brim is normal there is an absence of the normal area of expansion below the brim which prevents the head entering well and thus gives my salient point for diagnosis—a head high and free when it should be engaged—and this should put the attendant on guard, even though he is a "head through the-brim optimist"

In the funnel shaped pelvis the greatest contraction is between the ischial spines, and the head cannot completely clear the brim till the greatest diameter comes between the ischial spines, and it is only then that the ischial tuberosities begin to influence the case I have given my personal clinical experience of cases observed all through labour by myself and I have found that if the head is able to pass the brim so as to enter the pelvic cavity it can be always delivered through the outlet Perhaps some time Dr Bell will give detailed reports of any cases he has met and failed personally to deliver, when the head has descended on to the posterior perineum so as to be visible on opening the vulva (not merely a large caput visible), for the head must have reached this point before any part of it comes in contact with the points of the tubera ischii which form the trans-

verse diameter of the plane of the pelvis in which the tubera ischii lie If the head has not reached this level the greatest diameter will still be above the level of the ischial spines and a considerable amount of the head will still be palpable above the pelvic brim, while owing to the converging transverse walls of the pelvic cavity the portion of the head below the brim will be moulded and there will be ample indications of disproportion for the case to be thoroughly investigated, as I suggested in my third lecture, and for section to be resorted to, if necessary, without a futile application of forceps, to demonstrate the impossibility of delivery, nor will section be decided upon from the empirical conclusions drawn from measurements which are always difficult to take and impossible in some circumstances I hold that if the outlet is so contracted as to prevent the passage of the head between the tubera ischii, the upper half of the pelvis will also be so contracted as to prevent the head completely entering the pelvic cavity so as to come against the outlet even if the actual brim is normal and therefore the diagnosis of contraction and the difficulty of delivery exists in the upper pelvis

I do not admit that the female pelvis in Dublin is different from that in Liverpool, perhaps Dr Bell meets St Patrick's exiles amongst the large Irish population of Liverpool, but there are some Cromwellian settlers in Ireland —I am, etc,

Rotunda Hospital, March 20th. GIBBON FITZGIBBON

EFFECT OF INSULIN ON THE SUGAR CONTENT OF ARTERIAL AND VENOUS BLOOD IN DIABETES

SIR,—I have read Dr Lawrence's communication in your issue of March 22nd (p 516) with a peculiar interest, inasmuch as he confirms some recent observations of Dr Leslie Cunningham and myself These observations were communicated in a paper read before the Liverpool Medical Institution on January 10th of this year, and reported in the BRITISH MEDICAL JOURNAL of January 26th

At that time we sought to interpret the action of insulin on these relations as evidence in favour of the glycogen-forming view, since then, and with the object of obtaining controls, values of other substances under similar conditions have been determined in both arterial and venous blood, and we hope shortly to make a communication on the causes of such differences in content as both glucose and urea exhibit —I am, etc,

Liverpool March 25th. H S PEMBERTON

MEMORY SIGHT

SIR —With reference to Captain Ian Fraser's letter in your issue of March 15th, my information that the reticence of blinded people to discuss memory vision is due to a fear of scepticism or ridicule is derived from the patients themselves, and is, I am sure, absolutely correct There is a great difference in mentality between young men in institutions such as St Dunstan's, who have been encouraged to make light of their trouble, and who have many others around them similarly afflicted, and those elderly patients from whom my information has so far been derived, who in ordinary times form the great bulk of the blind, and who live singly in scattered homes

Captain Fraser challenges my assertion that memory vision is a "pitiable delusion" If he will very kindly read the passage quoted from my book in its original context, I feel sure he will not misunderstand it As he rightly says, my whole letter is against such a construction as he has put on the words What I referred to in the passage quoted from my book is the truly pitiable delusion on the part of some patients who are suffering from glaucoma that, because they see things vividly by memory sight, it may still be possible to restore vision to them by means of operation

It would be interesting if Captain Fraser could tell us whether others like himself "saw black" when they first lost their sight One, at least, a blinded officer under my treatment, saw black with occasional flashes of light at first and gradually developed the other phenomena

From my limited experience I have seen no reason to think that memory vision, or even the vision of coloured back ground is dependent on the patient's mental condition I think it is Captain Fraser, and not I, as he suggests, who is here confusing cause and effect The evidence has pointed rather to the conclusion that these phenomena will appear in time to most, if not to all, blinded subjects, and I believe that any psychologist will bear out my statement that "It would be difficult to believe that anyone who was surrounded by thick darkness could by any possibility be mentally cheerful"

Captain Fraser would help us materially if he could say whether he and others who have lost both eyeballs definitely see these memory pictures *in their natural colours*, as several of my own patients claim to do—I am, etc,

London, W 1, March 19th. R H ELLIOT

SIR,—The interesting note on "Memory Sight" by Lieut.-Colonel Elliot (BRITISH MEDICAL JOURNAL, February 9th, p 235) reminds me of similar experiences related a few months ago by a patient suffering from glaucoma He had advanced arterio-sclerosis and suddenly lost his vision by the onset of acute glaucoma When he came under my observation about two months after the attack the tension was +2 and there was no perception of light He was a retired Indian officer, had won great distinction on active service, and was held in high esteem by his commanding officer for honesty and truthfulness On one of my visits his son, who was with him at the time, told me that a few hours ago he said he had seen distinctly the trees round his room On questioning him he told me what he had said to his son was quite true I again examined his eyes, and I was certain there was no vision or perception of light whatsoever left in them A few days later again he said he could see things about him, and on cross-examining him I elicited the fact that he saw irrespective of the hour of the day, and even when it was not light I had not read Colonel Elliot's notes on this point in his *Treatise on Glaucoma*, and I could not explain this phenomenon to my satisfaction until I read about it in the JOURNAL as quoted above Similar experiences have occasionally been mentioned to me by cataract cases whose vision was lost either by iritis or sepsis following operation —I am, etc,

S K CHAUDHURI, M B E, M B,
Benares State, March 3rd Chief Medical Officer

POST-MORTEM CHANGES IN THE FUNDUS OCULI

SIR,—Since reading in the JOURNAL, with considerable interest, Dr Bulmer's communication (March 8th, 1924, (p 424) and the subsequent correspondence upon the subject of *post-mortem* changes in the fundus oculi, I have been afforded an excellent opportunity of putting the test to practical application, with no very encouraging result

A 3 weeks old baby was admitted to hospital in a moribund condition, and during the twelve odd hours for which it was under observation there occurred a succession of attacks of apnoea, in which the child appeared, as judged by the usual signs of death, to have passed away In each case, however, after a longer or shorter period, respiration was re-established

Finally, after a prolonged period of apnoea, my colleague Dr W M Hyslop and I were much perplexed whether or not to regard the infant as dead, and therefore decided to put Dr Bulmer's test into practice The retina was easily observed, and no signs of the changes described by him could be discerned

The child's body had, by this time, begun to grow cold, and it could no longer be doubted that death had taken place We should be glad to know whether Dr Bulmer has any explanation to offer as to why, in this instance, his findings failed to be confirmed —I am, etc,

DUNCAN LEYS, M R C P Lond
Paddington Green Children's Hospital, London, March 19th.

MEDICINE, ETHICS, AND THE "E R A"

SIR,—Sir Thomas Horder states that "E R A" should "hardly have emerged from the laboratory" As a patient who has greatly benefited I object After twenty years of bowel trouble, I now feel easier than I have for years, after six weeks' treatment with the oscilloclast, and ten years

younger symptoms have got less as the reactions faded I cannot agree that I and hundreds of other sufferers should wait while Sir Thomas and others are learning what can be done by "E R A" methods Sir James Barr has been working on this line for years, Dr Mather Thomson some four years, and Abrams and many others in the United States for many years Sir Thomas Horder can recognize the reaction, and he will soon learn to localize, if he gets a competent teacher and wants to learn

Why not treat "E R A" like any other business—go to the most competent exponent you can find, and then try to improve on his methods? It is unreasonable to deny a thing can be done when it is done every day No one suggests scrapping old methods "E R A" is merely a useful addition to the means of relieving suffering—I am, etc,

W G RICHARDS M B,
Major I M S (ret)

Cambridge March 22nd

SIR,—The medical profession owes Sir Thomas Horder thanks for his article in your issue of March 15th, and for his exposure of what is going on I read with amazement the letters of the doctor who diagnosed cancer of the left breast by the "E R A" and had the audacity to pen such a letter to the patient and to suggest she could go to him for a treatment of four to six weeks (precious weeks if there were cancer), at 30 guineas a month, payable in advance

When chaffed by friends, as every doctor is, on the success of various quacks, osteopaths, and the like, I have often replied, "Well, God help the public when the general practitioner, and other qualified men, take a hand in the game, and begin to exploit you You will be led a pretty dance" The dance has evidently begun to the tune of 30 guineas a month, payable in advance! This is a product of the "E R A" that the disciples of the cult may feel called upon to explain, or disown—I am, etc,

R O ADAMSON

Glasgow March 23rd.

Medico-Legal

LUNACY CERTIFICATION MEDICAL RESPONSIBILITY

A CORRESPONDENT has drawn our attention to an interesting aspect of the case of Everett v Griffiths and Anklesaria, where the Chairman of the Islington Board of Guardians (with authority under the Lunacy Act, 1891 S 25, to act as a justice of the peace) and the medical officer of Islington Workhouse were sued for false imprisonment and for negligence in causing a young man named Everett to be detained in Colney Hatch Asylum Our correspondent is under the impression that this case is authority for stating that the *causa causans* of the imprisonment being the judicial act of the justice the doctor was not liable as his certificate was merely evidence tendered by him in his capacity as a witness This was, in fact, the effect of the judgement of the Lord Chief Justice in the King's Bench Division, and there are *obiter dicta by judges on appeal which tend to support this* view, but whilst the judgement of the Lord Chief Justice given in favour of the defendants was upheld in both the Court of Appeal [1920] 3 K B D 164, and the House of Lords [1921] A C 631, these subsequent decisions were based on other grounds

We have carefully studied the elaborate judgements given in the Everett case to ascertain the various views of the Lord Chief Justice's decision expressed by the learned judges

The Everett case first came before the Lord Chief Justice who left the question whether the defendants had exercised reasonable care to the jury—the charge that they had not acted in good faith having apparently been dropped in the course of the trial The jury, however disagreed, and the Lord Chief Justice then gave judgement for the defendants upon the law holding that as Mr Griffiths was exercising a judicial authority no action lay against him in respect of a judicial act and that Dr Anklesaria in signing the medical certificate was not the direct cause of the plaintiff's detention, the independent act of Mr Griffiths in making the reception order intervening and being the cause of the detention The subsequent decisions being based on other grounds, the question whether a justice's act in signing a reception order is a judicial act and as such is protected from liability, and the further question whether a doctor's certificate—at any rate, where he is called in by a justice of the peace in summary reception cases as distinguished from those cases where a reception order is preceded by a petition—is simply evidence upon which the justice need or need not act, and therefore absolves the doctor from any liability, was not decided The further question as to the nature and extent of the duty owing by a doctor to an alleged lunatic at the time of the signing of the medical certificate was also the subject of *obiter dicta* only

For an understanding both of the actual grounds upon which the decision of the Lord Chief Justice was affirmed in the Court of Appeal and in the House of Lords, and of *obiter dicta upon the questions left open, a consideration of the facts of* the particular case is necessary

Upon a complaint by the plaintiff's mother, a police constable, acting under Section 20 of the Lunacy Act, 1890, removed the plaintiff Everett to Islington Workhouse Within three days of his admission the relieving officer, under Section 14, gave notice of the presence of the plaintiff in the workhouse to the defendant Mr Griffiths, who, under Section 16, held an inquiry, hearing the evidence on oath of the plaintiff's mother and of the constable, questioning the plaintiff, and calling in the defendant, Dr Anklesaria who after a few days observation and examination of the plaintiff certified him in accordance with Form 8 of Schedule 2. The defendant Griffiths then signed a reception order in accordance with Form 12 of Schedule 2 and the plaintiff was removed to Colney Hatch Asylum He, however escaped within a fortnight of admission, and, remaining at liberty for fourteen days, became free—no fresh order being made—and so proceeded to bring his action

It must be borne in mind, however, that the facts in the Everett case are totally dissimilar to those of the case of Harnett v Bond and Adam (BRITISH MEDICAL JOURNAL March 8th 1924, pp 449-452) Whilst Mr Harnett was originally detained upon a justice's reception order based upon a petition supported by two certificates by doctors called in by the petitioner—the validity of which was not in dispute in the recent action—Mr Everett was detained under the summary reception orders, which do not require a petition and require a certificate from only one doctor who is called in by the justice

It was upon the interpretation of one of these summary reception orders *that the decision in the Everett case turned* The vital words were 'if the justice is satisfied and it was held *that as* Mr Griffiths was *honestly satisfied* that the plaintiff was a lunatic and a proper person to be detained, *he was justified in making* a reception order also, there was no evidence of want of care on the part of Dr Anklesaria to go before a jury It follows from this judgement that Section 330, which affords a general protection to anyone who acts under the Lunacy Act in good faith and with reasonable care, is an additional protection and *does not exclude any protection* which may be afforded by an interpretation of the wording of any particular section under which any act is pursued

Bankes, L J, felt the Court of Appeal was bound by Hart ward v Hackney (14, *Times Law Reports*, 306) where that court held that a relieving officer acting under Section 20 of the Lunacy Act, 1890, was under no duty to the alleged lunatic to take reasonable care The case was binding as to the meaning of the word *satisfied*, as used in Section 20 and which he considered applied equally to Section 16 Therefore a decision on the point upon which the Lord Chief Justice decided in favour of Griffiths was unnecessary Bankes, L J, put forward four possible views as to the position of a medical man who gave a certificate under Section 16

1 That he is merely *in the position of* a witness giving evidence as to the state of mind of the alleged lunatic in which case he would not be liable in damages for any opinion he expressed

2 That, provided he acted in good faith and with reasonable care, and had the qualifications the Act required the Legislature did not intend that the degree of skill which he possessed or brought to bear upon his examination *should* be called into question

3 That the relationship is that of *doctor and patient*

4 That whatever be the true view of his position, the certificate was not the cause of the patient being detained, as the act of the justice of the peace in making the detention order was a *novus actus interveniens*, which relieved the medical practitioner from any responsibility in damages for the detention

Looking at the statute as a whole, Bankes, L J, thought the second was the correct view

Scrutton L J considered that the honest forming of an opinion expressed in a certificate by a doctor called in by an independent authority, the certificate being given as evidence

for the consideration of an independent authority, gives no cause of action to the person about whom the opinion is formed against the doctor, even if the opinion is negligently formed, provided the opinion is honest, because there is no legal relation between the doctor and the subject of the opinion on which to found an action, and because the opinion is not directly connected with the alleged damage as to be its cause, the action of an independent authority intervening" Consequently, there being no legal relationship between the doctor and the alleged lunatic, the question whether he had used reasonable care and skill was irrelevant Scrutton, L J, was of opinion that a justice's act under Section 16 was a "judicial act" The same reasons which had prompted the making of the rule that no action lay for a judicial act should apply to the functions of those administering the lunacy laws, there was a great deal to be said for a liberal protection to certifying authorities who acted honestly

Atkin, L J, viewed the case in a different light in his dissenting judgement in the Court of Appeal, looking more to the vindication of the liberty of the subject than to the protection of those administering the lunacy laws Justices of the peace in other spheres were entitled to exercise administrative functions, but in so doing were not to be entitled to immunity, which should be limited to the judicial acts of judges of a court of record He drew a distinction between those cases commenced by petition and those commenced under Sections 13 to 22, entitled, "Summary Reception Orders," and expressed the view that, at any rate in the latter cases, the reception orders were in the nature of administrative acts rather than of judicial proceedings Referring to the grounds of the Lord Chief Justice's judgement, he said had the action been framed for false imprisonment only he could have appreciated the ground of the decision on the principle of cases where the prosecutor had been held not to be liable for imprisonment ordered by the judicial decision of the court But this was an action for negligence also, and if the certificate was wrongfully given, damages for detention might be the natural and direct result of the wrong Furthermore, the very existence of section 330 recognized that a duty to take reasonable care was owed to the alleged lunatic, both by the justice and by the medical practitioner

In the House of Lords the question whether [illegible] was a judicial act' was [illegible] by Viscount Finlay, who was unable to concur with the Lord Chief Justice's decision that it was not the medical certificate which caused the detention but the order of the justice, as he thought that if it were the duty of medical men to exercise reasonable care in giving a certificate it was impossible to exclude from consideration as an element of damage any negligence

Lord Atkinson held the view that the justice's act in signing a reception order was an authorized judicial act, and then proceeded to analyse Lord Justice Atkin's distinction between a judicial proceeding under Section 6 and a proceeding under Section 16 He thought they were identical in character, and were both judicial proceedings in which the justice performed a judicial act

CANCER CURE CLAIMS

I

In the BRITISH MEDICAL JOURNAL of November 17th, 1923 (p 938), we recorded briefly an action heard in the Doncaster County Court, in which a labourer's wife sued one David Williams, formerly a miner, for the return of £11 paid to him for the cure of cancer which had not been carried out The judge entered a verdict for the return of the £11, with £30 compensation for the pain and suffering inflicted upon the plaintiff by defendant's treatment which consisted of an ammoniacal lotion, an ointment composed of copper sulphate and lead acetate, and a plaster consisting mainly of tar

David Williams appeared again in public in January at the Doncaster Police Court charged with inflicting grievous bodily harm upon various persons, and with obtaining by false pretences £47 from four of those whom he had treated with his so-called cancer cure The magistrates committed him to the West Riding Assizes and on March 19th he was brought up for trial in the Crown Court at Leeds before Mr Commissioner Radcliffe, K C

At the opening of the case counsel for the prosecution intimated that the medical evidence was such as to suggest that Williams was unfit to plead and that he would be unable to understand the court proceedings or to instruct counsel

Dr R le G Worsley medical officer of Armley Prison, Leeds, was then called He said that Williams had been under his care since Dec mber last and as a result of his observations he had come to the conclusion that the prisoner was suffering from delusions and was of unsound mind Asked by counsel for the prosecution on which he based this opinion, Dr Worsley said 'The prisoner states that he can cure cancer in face of all medical evidence to the contrary He says he will undertake to cure nine cases out of one hundred specially selected cases from any hospital in England He also says he has been offered £10,000 for his cancer cure, but has refused it as he thinks the Government will give him more He has written a letter to me offering me a half share of his cancer cure, and says he will make my fortune He also says that after he has finished with cancer he will take up the cure of consumption and a number of other diseases He states that he is descended in the direct line from George III, that he is a prince and owns two thirds of Wales, and is entitled to millions of money which he says the Government will not let him have He also says he was visited in his cell by God on the night of January 9th 10th, and was told that He would be with him at his trial to place His word at the end of his tongue' Dr Worsley then handed in various letters written to him by the prisoner while under his care, and the Commissioner read aloud passages from one of these letters

The jury found that Williams was insane and unfit to plead, and the Commissioner ordered him to be detained during His Majesty's pleasure

II

A further case of a layman holding out that he is in possession of a cure for cancer is reported from Chelmsford where, in the course of an inquest held on December 17th, 1923, upon Sarah Ann Groves, aged 74, of Broomfield, it was stated that she had been treated for cancer by a retired master stevedore named William Bussey, aged 71, of Broomfield, who had lived at Leyton for thirty five years, and was a member of the Leyton Urban District Council

From the evidence it appeared that Mrs Groves had been advised by Dr T H Waller of Chelmsford to undergo an operation as the only cure for cancer, but that on account of her age she had refused Hearing Mr Bussey had been curing cancer the deceased woman herself requested that he should be called in At Mr Bussey's request, a photograph of the part affected a sore on the breast, was taken, and Mr Bussey then painted the sore with some lotion and gave Mrs Groves some medicine She had been the subject of asthma for some years, and her daughter in her evidence, said the deceased woman derived benefit from Mr Bussey's treatment and began to get better until she had a "nasty asthma cold"

William Bussey, who was called at the inquest, said he had studied cancer for ten years in consequence of the loss of his stepmother from that disease He had no diploma, but he had attended four other people in the same way as he had Mrs Groves Describing his treatment, he said he painted the orifice of the wound with a fluid until the heart of the tumour gave way and the discharge stopped, and he claimed that eventually the whole of the cancerous mass came away and the healing process started The only medicine he gave her was an aromatic iron and quinine tonic, which seemed to do her a great deal of good, her despondency disappearing He continued his treatment until Dr Waller was again called in, and upon hearing this he at once went to Dr Waller and told him he had been treating Mrs Groves for cancer When the witness called to see the deceased woman the following day, December 13th, 1923, he found she had passed away He had made no charge, as he attended people simply for humanity's sake He had cured the only other cases of cancer he had attended one being a case of epithelial cancer, and another a case of melanotic cancer

The Coroner I suppose you realize that when attending people like this and they die——

The Witness I never had people die

The Coroner Perhaps you have been fortunate But if people died whom you are attending you are not in a position to issue a certificate, and you place yourself in an awkward position

The Witness The woman had improved right through, and this came suddenly in consequence of chest trouble I have no hesitation in saying that for six or eight weeks before death the deceased woman had not a particle of cancer left

The Coroner You are not a professional man and are not qualified, and you are running a great risk if it could be proved that anything you did or gave accelerated death

The Witness I thoroughly understand that I have been doing it simply to alleviate pain and be of service to my fellow creatures

Mr Bussey added that his remedies were only injurious to fungoids and would harm no constitution He believed he had discovered a cancer cure, and he proposed to approach the Minister of Health

Dr T H Waller of Chelmsford said the cause of death was congestion of the lungs and debility following on cancer The *post mortem* examination showed that the centre of the cancerous growth had ulcerated away, the margins contained growth and were spreading

The Coroner Do you consider that the action of Mr Bussey in any way accelerated death?

Dr Waller No, rather to the contrary The daily dressings and cleansing of the wound probably added to the woman's comfort

The witness added that the cancer was still there, and there was no evidence that a cure was being effected It was an incurable case He did not think it right for a person not practised in medicine or surgery to experiment in human lives So far as he knew, there was nothing injurious in what Mr Bussey used for the wound, but he did not know its composition

The jury returned a verdict in accordance with medical testimony and added that it was a humane act for Mr Bussey to do, but that he should be reprimanded and requested not to do such a thing again in the absence of medical attendance

The Coroner said though Mr Bussey's intentions might have been the best, it was an exceedingly dangerous thing to do what he had been doing and he hoped Mr Bussey would understand he was not to continue

Obituary.

SIR WILLIAM MACEWEN, CB, MD, FRCS, FRS,

Regius Professor of Surgery University of Glasgow Honorary Surgeon to the King in Scotland Past President of the British Medical Association

THE profession has heard with deep regret of the death, on March 22nd after a short illness, of Sir William Macewen, Regius Professor of Surgery in Glasgow His loss is felt with particular keenness by old Glasgow students and by members of the British Medical Association He took office as President at the very successful Annual Meeting of the Association in Glasgow in 1922, and had only recently returned from representing the Association at the Australasian Medical Congress in Melbourne

William Macewen was born at Rothesay in 1848 and graduated at Glasgow University in 1869 He was house-surgeon to Dr George McLeod, and for a short period after this was superintendent of the City Fever Hospital at Belvidere, where possibly he obtained his first ideas of intubating the larynx as a substitute for tracheotomy It is quite certain that he had used his gum elastic tubes for this purpose (1880) long before intubation was suggested as a means of treating obstruction

In 1877, at the age of 29, Macewen became full surgeon at the Glasgow Royal Infirmary, with charge of wards He remained on the staff until 1892, when he was appointed successor to Sir George McLeod as Regius professor of surgery This appointment necessitated his severing his connexion with the Royal and taking up work in the wards of the Western Infirmary, so that for forty seven years Macewen has been in active service on a hospital staff During the whole of this long period he has worked without ceasing It has been a continual source of wonder and admiration to all who knew him and a matter of some concern to all his friends, many of whom endeavoured to persuade him to go slower, but one might as well have tried to stop the sun

It was at the old Glasgow Royal Infirmary in Wards 21, 22, and 29 that Macewen did practically all his work, or at least laid the foundation for work to be completed later on At some early period in his career he had been appointed casualty surgeon at the Central Police Court, and I have often heard him speak of the valuable experience obtained in the course of this work Some of it was incorporated in two admirable papers, which he published in the *Glasgow Medical Journal*, on "Wounds in relation to the instruments which produce them" and "The pupil in its semiological aspects" In the latter he drew attention to the state of the pupil in alcoholic coma—a characteristic condition, which has sometimes been called the Macewen pupil Moreover, the experience gained there in connexion with wounds of the thoracic wall would seem to have given him the first hint regarding his molecular cohesion theory, especially in connexion with the pleural surfaces

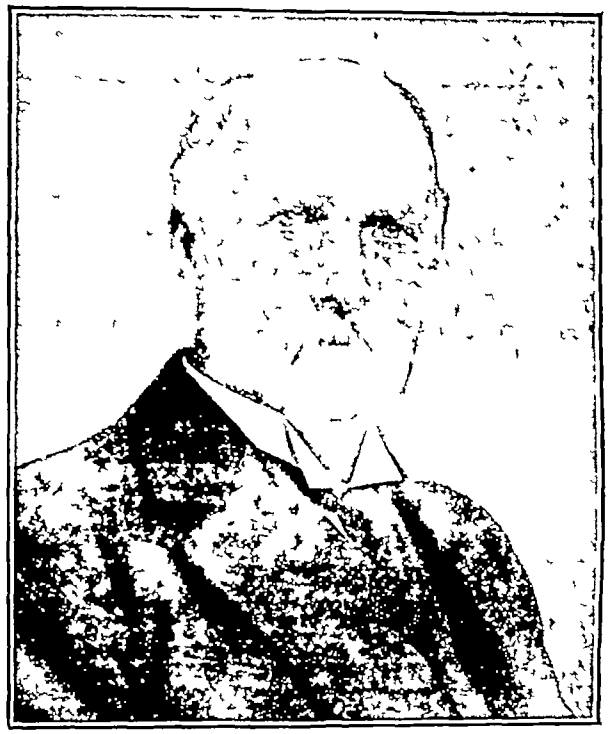
At an early date his attention was directed to problems connected with bone lesions and the growth of bone He devised a new operation for the treatment of genu valgum, and his "linear osteotomy" is practically the only operation performed for this condition at the present time After several preliminary papers on the subject, he published his monograph *Osteotomy* in 1880 In 1886 he published in the *Annals of Surgery* a paper on the radical cure of hernia The method of treating hernia suggested by Macewen was the first open operation for this condition which was really a success It was a radical cure, and although many other methods are employed now, none of them give better results than were obtained by Macewen and his followers In those early days hernias were hernias, apart from strangulation, patients only came for operation because of the bulk of the swelling when it was down

Macewen obtained his results because from the very beginning he was a genuine and whole hearted believer in antiseptic surgery For many years he used the spray, and although he had given it up generally, he continued it up to the end of the eighties for all resections of joints—in fact, until he really began to work completely aseptically He very soon in his career set out to obtain a reliable catgut—not only a sterilized gut, but one which would resist the action of the tissues for such definite periods as might be required He devoted much time to experiments directed to this object He published his results in 1881 and he used the same method of preparing cat gut up to the end

Everyone is doing bone grafts nowadays and making new shafts for long bones but just about forty years ago Macewen remade a humerus shaft after osteomyelitis by repeated grafts so successfully that for years afterwards the patient acted as his laboratory attendant and is believed to be still alive

In 1888 the British Medical Association met in Glasgow Rumour had been busy regarding some remarkable work in cerebral cases that was being carried out in the Glasgow Royal Infirmary, though only a few had any real knowledge of it Macewen was invited to give an extra address in surgery, and took cerebral surgery as his subject Although his reception was not too good at the commencement of his address, he held the audience as he unfolded his story and when he had finished he had made a chapter in surgical history and his own place in the temple of fame By general acclamation Macewen that day stepped into the very front rank of surgeons, where he has remained ever since

The results of his antiseptic and later of his aseptic methods were as nearly perfect as surgical methods can be,



Photograph by [*T and R Annan Glasgow*

SIR WILLIAM MACEWEN

Shortly before the Annual Meeting at Glasgow Sir William Macewen was induced to sit to a photographer Of the two photographs taken one was reproduced on a full plate in the BRITISH MEDICAL JOURNAL of July 29th 1922. It showed Sir William in profile. The other now reproduced is less striking perhaps but shows him as he would stand facing his audience full face.

and yet Macewen was operating in a wretched theatre in a block of the Infirmary which for years had been the fever house Macewen must have been the first surgeon in Great Britain to adopt the aseptic system whole-heartedly Certainly for several years before Schimmelbusch demonstrated his methods of sterilizing dressings and instruments by steam Macewen had been boiling his gauze He was present at Schimmelbusch's demonstration at Berlin at the congress of 1890, and on his return from it all instruments were boiled before operations in his theatre All his instruments were of steel throughout (he had banished wooden handles), and a steam sterilizer for dressings was installed at the earliest possible moment

About this period of his career an offer was made to him to become surgeon-in-chief at a large new hospital that was about to be opened abroad, and he was seriously disposed to accept it, but happily better counsel prevailed and Macewen remained in Glasgow to carry on his great work and to enrich British surgery to an extent that few, if any, other men have done In 1892 Macewen was appointed Regius professor of surgery in the University of Glasgow, which two or three years previously had made him an LL D

Down to the time when he left the Royal Infirmary, although he had lectured on surgery in the medical school there, he had not concerned himself much with teaching, but now he threw himself into the work of the new appointment and taught surgery in a manner that probably had not been attempted by anyone before, so that he immediately became one of the most successful and popular teachers in the medical faculty He reorganized the surgical department of the University When he first went there this consisted practically of a lecture room and museum and nothing more, but within a few years a large surgical laboratory was built, and here the greater part of Macewen's time was spent He continued to work especially at osteogenesis, and an account of his observations, experimental work, and conclusions drawn therefrom was published in his well known monographs *The Growth of Bone* and *The Growth and Shedding of Antlers*

Mention must also be made of his great work on the *Pyogenic Infective Disease of the Brain and Spinal Cord*, in it he described the method of dealing radically with chronic middle ear disease by the mastoid operation which he had originated many years previously About the same period *The Atlas of Head Sections* appeared—a work which is invaluable to any surgeon desirous of carrying out operations on the cranial contents Macewen was a pioneer also in pulmonary surgery He removed one lung from a man in the early nineties, and the patient was seen by me so recently as four years ago

From the outbreak of the war Sir William acted as consulting surgeon to the naval forces in Scotland This involved an enormous amount of additional work, but he went into it with all his old energy and enthusiasm Now he was in the North and then in the East of Scotland, and all the time while in Glasgow he carried on his teaching at the University and Infirmary, and in addition did a large amount of operative work at the hospital established by the Marquess of Bute at Mount Stewart for the reception of naval wounded men He was chiefly instrumental in establishing what became known as "The Princess Louise Hospital" for the making and supplying of artificial limbs for soldiers and sailors The authorities met the proposal at first with opposition and argued that there were no limb makers in the country In fact, limb makers had to be imported into Great Britain to make limbs for the limbless at Roehampton With the assistance of Mr Harold Jarrow limbs were made in some of the pattern shops on the Clyde, which were so good that consent was obtained for carrying out the scheme, and at Erskine House limbs were made by men, who were pattern makers by trade, which were equal to those made elsewhere, and at so moderate a cost to the War Office that charges were reduced all round

Many honours came to Macewen He was knighted in 1902 and made a C B in 1917 He was appointed surgeon to the King in Scotland He received the honorary degree of I L D from the Universities of Glasgow and Liverpool, and of honorary D Sc from Oxford and Trinity College, Dublin He was honorary F R C S England and Ireland, and F R F P S Glasgow He was also a member of many foreign medical societies He was President of the International Surgical Congress in London, 1923, and of the British Medical Association when it met in Glasgow in 1922 In 1922 he received the freedom of Rothesay

Last autumn he went by way of America and New Zealand to Australia to represent the parent Association at the Medical Congress held by the Australasian Branches of the British Medical Association in Melbourne He returned apparently in excellent health, took up work again with all his old zest, even going up to the Infirmary to do emergency operations at night, but an attack of influenza was followed by pneumonia, which terminated fatally

Macewen illuminated every subject he took up He was never in a hurry to publish He concerned himself with fact and with principles When he made his statement it was final, he had the proof of its correctness and he never had to retract anything he said or wrote A great worker himself, Macewen had the gift of getting the best out of everyone who was working with him Of commanding presence and persuasive speech, he was able to inspire all about him with some of his own enthusiasm Dull, indeed, was the resident, student, or nurse who could not imbibe some of the energy and "go" of the chief who, if he expected much, always led the van by doing more

Great in stature, great in his outlook, great in his friendship, Macewen stands out as one of the greatest surgeons the world has seen At the present time surgery is almost or actually at its zenith, and progress in the future is probably to be looked for in the direction of preventive measures and biochemistry, but surgery will ever be an indispensable aid to suffering humanity, and as long as this is so the name of William Macewen will live

J H PRINGLE

When the members of the medical profession in Glasgow and the West of Scotland resolved to invite the British Medical Association to hold its Annual Meeting in Glasgow there was no hesitation at all in asking Sir William Macewen to accept the office of President, and he threw himself with characteristic energy into the work of preparation Of his attention to detail and the sacrifice of time he made to ensure the success of the meeting, Dr George Allan, its Honorary General Secretary, says something below Sir William Macewen neglected nothing, but, as was to be expected, took particular care that the scientific side should have very full expression, for example, he insisted on the establishment of a Section of Microbiology, to include bacteriology, but to deal also with such subjects as the microbiology of plant and animal diseases, the mutation of species, and parasitology His address as President dealt mainly with brain surgery, in it he reviewed his life-work on a subject in which he was one of the chief pioneers For an estimate of the value of this work we may refer readers to the contributions we print below from Sir Charles Ballance and Mr Percy Sargent, both of whom speak with authority But we may recall that in commenting on the address at the time we observed that it had been our President's lot to have worked courageously, long, and untiringly, and that he was fortunate to see such fruition before eyes which, in the early days, must often have been baffled and dejected As the President of the Association who succeeded him at Portsmouth observes, Sir William Macewen did not lose his interest in the British Medical Association with the termination of the Glasgow meeting, he attended regularly the meetings of Council, and last summer consented to accept the invitation of the Australasian Branches, and attended the great congress of those Branches in Melbourne last November as the representative of the Council and Home Branches Of the cordial welcome he received in Australia, of his visit to Sydney, of the address he gave at the opening of the new anatomy department in the University of Melbourne, and of the share he took in the congress generally, we gave a full account in our issues of January 5th and February 23rd He attended the meeting of the Council of the Association on February 13th, and gave a short address in which he spoke in the warmest terms of the cordiality of the welcome

he received in Australia He then appeared to be in his usual health, alert and vigorous in mind and body His death removes a great figure, and members of the British Medical Association will always be glad to remember that they gave to him the highest honour at their disposal by electing him to be their President To those who came into close contact with him, perhaps for the first time in connexion with the Annual Meeting, his loss will be a deep personal grief, for, though he never left his opinion in doubt, he always gave good reasons, and his courtesy was unfailing

A PERSONAL NOTE

BY

JOHN PATRICK, Surgeon, Glasgow Royal Infirmary

THE passing of a man of genius must always be an event to thrill the world When the news of the death of Sir William Macewen ran swiftly about Glasgow last Sunday, there was only one thought, the thought of universal and irreparable loss To many the loss is an intimate personal one A great statesman binds to himself intermittently groups of secretaries and adherents and political friends, a great artist has his friends and admirers and worshippers, a great ecclesiastic may have countless devoted curates and assistants but the relationship of all these to each other can never have the curious friendly intimacy of a great surgeon and his house-surgeons who pour through the years of chiefship in a steady stream No man is a hero to his valet, but any house-surgeon would regard himself as infinitely disloyal if he did not hold his chief high before him as his hero, worthy of all worship Macewen was a visiting surgeon for forty seven years in the Royal and Western Infirmaries of Glasgow, and it is the house-surgeons of these many years who feel his death most keenly

In the house-surgeon days one was too near to appreciate the real genius of the man It is only in after years when one has come to fill the same position—*longo intervallo*—and has grown out of the infallibility of youth, that the greatness of his surgical genius is fully appreciated It has been said that genius is an infinite capacity for taking pains an imperfect definition containing only one, and that possibly a minor, attribute of genius To Macewen the capacity for taking pains was a lifelong quality, but of much greater importance was his capacity for knowing in what direction to take pains, along what lines of scientific investigation to run, and the objective to be sought after

His genius acted with great rapidity Appointed full surgeon to the Royal Infirmary of Glasgow in 1877, at the age of 29, within three years he published his work on osteotomy Those of us who can throw our minds backwards beyond the days of *x* rays will recognize the magnitude of his discoveries not only of the external configuration of the bones, but also of the nature of the aberrant osseous growth in rickets And those who have even faint knowledge of steel manufacture will recognize the infinite pains he took to make certain of the proper temper and toughness of the steel for osteotomes and chisels, and the innumerable ox bones he cut in practising the operation before performing it on a patient In eight years more—1888—he astonished the surgical world with his address to the British Medical Association on cerebral abscess and sinus thrombosis and the other complications of otitis media—a subject about which little or nothing was known till his paper, embracing many cases, was presented And so it continued throughout his life It was characteristic of his work that he published nothing until he was able to present his completed record

Within recent years he published his works on *Growth of Bone* and on the *Growth and Shedding of the Antlers in Deer*, books which bear signs of infinite painstaking research, enormous individual work, and careful accumulation of facts continued throughout many years

In reading any of Macewen's books one has a curious feeling that nothing more on the subject remains to be said—that apparently finality has been reached And events have proved that this is true His work on osteotomy is regarded as the last word on the subject There has been no advance in the work on pyogenic disease of the brain and spinal cord since his classic was published The descriptions, anatomical and pathological, of temporo-sphenoidal abscess and sinus thrombosis, and the various complications arising in connexion with middle-ear disease, have not altered All that has changed in this department of work is some alteration in technique of more or less superficial sort In this connexion this quotation from Osler's *Medicine* is appropriate "A most important, one might almost say essential, factor in the successful treatment of intracranial suppuration is an intelligent knowledge on the part of the surgeon of the work and works of William Macewen" Similarly with his work on hernia It may be true that the Macewen operation for hernia is not now performed by many surgeons, but it was he who pointed the way to the proper appreciation of the essential anatomical requirements in any operation for hernia

Macewen was essentially an individualist All his work was done by his own hands The modern cry for team work made no appeal to him His work was purely and entirely his own His classic *Atlas of Head Sections* contains a great series of the most beautiful photographs showing the anatomical structures accurately figured Every section was cut by himself, and he spent many days taking numberless photographs before the final selections were made for publication

And what of the personality of this man of genius? Overtopping his fellows in height, of commanding presence, with clean chiselled features, and the most penetrating blue-grey deep-set eyes in the world, his was a notable figure It is an infinite regret that no painting of Macewen is in existence, though it must be said that a committee had only in the last few weeks made arrangements for obtaining a portrait by some distinguished artist A curious foible, it may be called, was an intense dislike to be photographed He was photographed in a group of nurses and assistants in the Royal Infirmary when he left it in 1892, and no other photograph was taken in this country till immediately before the meetings of the British Medical Association in 1922, except, perhaps, in some groups taken at Erskine with Earl Haig, in these groups he appears full bearded as we had all known him for so many years

His cosmos possessed a large share of ego, and, driven on by the passion to unfold the secrets of nature, he pursued his course like some inexorable machine Let us admit that he could not fulfil the apostolic injunction to "suffer fools gladly" Life was too big and too serious, with so much to be done in it, for him to find any place for fools and shirkers, for insincerities and futilities While he worked himself, he expected others, his assistants, house-surgeons, and nurses, to work hard too In the Scottish hospitals the surgeon in charge of wards invariably visits and works in the wards for three or four hours each day Macewen spent many hours more in writing, in photography, in specimen making, in observing cases, and in emergency work The work of the wards was much more to him than private practice, and it claimed the greater part of his energies With all his steady burning zeal for scientific work, he had room for other interests In his younger days as surgeon to the Central Police Station he proved himself an expert in the use of the singlestick, later his love for yachting probably an hereditary taste, was manifest, and later still he loved to think of himself as a farmer in his native Isle of Bute, not of the bucolic but of the true nature-loving, inquiring, experimental type

As a man of affairs Macewen had a far seeing and quick mind In the committee which organized the Princess Louise Scottish Hospital for Limbless Sailors and Soldiers —a notable example of his power of carrying out great principles by practical means—and in the multifarious committees of the Annual Meeting of the British Medical Association in 1922, people who did not know the real Macewen were astonished at his firm grasp and management of business and his adroit and courteous handling of difficult people and delicate situations

The spirit of inquiry led Macewen to make frequent journeys to other schools of surgery, especially on the continent of Europe He became as well known and appreciated (perhaps, let it be confessed, a little more so) in the schools of France and Germany, Russia and Italy, as

in the schools of his own country Yet the personal debt which his own school, and the surgeons in Glasgow at the present day, owe to him can never be adequately measured His multitudes of pupils found in him an inspiring teacher from whom they learned, not to cram for examinations, but to observe, to learn surgery, and to recognize its basis in pathology It was not for him to hammer into men the hard array of facts of surgical textbooks as he used to say, "You cannot expect a Derby winner to draw a hansom-cab" There were those who misunderstood him—men who said that he was forgetful of loyal service, pontifical in manner and speech, unappreciative of other men's distinguished work, egotistical No great man is devoid of detractors it is not for him to explain himself One speaks and writes of Macewen as one knew him—a kindly gentleman, a good friend, a generous host, a racy, amusing talker He was possessed of a grim, if not very subtle, humour, and an easy appreciation of the funny side of a situation In the Royal Infirmary days the pathologist was a most lovable and able man whose temper was easily roused, showing most readily in hyperactivity of the arrectores pilorum Nothing delighted Macewen more than to indulge in a little baiting of the pathologist to let his house-surgeons see the irascible one's hair stand on end A wealthy London merchant once consulted him concerning a vexatious tumour which worried him Macewen's recommendation was complete extirpation of the growth "But," objected the patient, "Sir So-and-so in London thought operation was not necessary and told me to have it painted" "Ah, yes! but—we—would—have it removed first"

Macewen's interest in the nursing profession dates back to the earlier days in the Royal Infirmary There, with Mrs Strong, then matron, a system of training of nurses was inaugurated and carried out for many years The essential of this system was a course of preliminary education before starting work in the wards, with periodic examinations thereafter That successful surgical work is dependent in great measure on good nursing was always one of Macewen's maxims

One hesitates a little to shed light, even a dim one, on the home life, but it should be known that Sir William Macewen's family life was particularly happy When entertained to dinner on the occasion of his knighthood in 1902, reference was made to this subject, and in his reply he said that he had drunk deep of the cup of domestic happiness His death is the first break in the family, if the death of a son-in-law in the war be excepted The part that Lady Macewen has played in the life of our great chief has been that of guarding the flame, the loving watcher of the home, and the proud but quiet sharer of the honours showered upon her partner in life, the greatest surgical genius of his generation

THE PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION

Mr CHARLES P CHILDE, B A, F R C S, writes

Though I can speak with very little personal knowledge of the late Sir William Macewen, yet it seems fitting that, having so recently succeeded to the high office filled by him with so much distinction, and vacated at Portsmouth last July I should testify to what it needs no personal knowledge to endorse—the grievous loss the profession of surgery not only in this country but throughout the civilized world has sustained by his untimely and unexpected death I remember well the sensation his remarkable address on surgery of the brain, read before the British Medical Association at Glasgow in 1888, created He was then a pioneer He supplemented this, and gave us his further experiences in his masterly presidential address on the same subject less than two years ago and no one who listened to that address and witnessed the alertness and energy of the man, or who saw him last summer at Portsmouth, apparently in the full strength of his mind and body, can easily imagine that vigorous personality at rest To the Association, of which so lately he was President, only yesterday a familiar figure at its Council meetings so recently representing it in one of our overseas dominions his loss will feel very near In so far as I may be permitted to speak in the name of the Association and to voice its sentiments, I would say that its members one and all, whether they knew him personally or not, must feel to-day that they have lost one of its outstanding figures, one of its greatest ornaments, and one of whom the whole profession was justly proud

THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

We are indebted to Sir JOHN BLAND SUTTON for the following tribute to Sir William Macewen

A splendid figure passes from British surgery by the death of Sir William Macewen I met him first at the Royal Medico-Chirurgical Society, London, on the memorable evening, May 12th, 1885, when Hughes Bennett and Godlee gave an account of the diagnosis, localization, and removal of a tumour (glioma) from the cortex of the cerebrum of a man aged 25 This operation really initiated brain surgery as it is accepted to-day Macewen was invited to the meeting, and contributed to the discussion some valuable observations relating to the operative treatment of intracranial abscess Horsley was present and took part in the discussion Some of Macewen's most valuable work was the excellent atlas of head sections he published, demonstrating especially the routes and effects of pyogenic infection of the meninges, abscess of the brain, and thrombosis of the cerebral sinuses, and the methods of dealing with them surgically In conversation with Sir William Macewen I have been impressed with his deep interest in the scientific as well as the practical aspects of surgery In after-dinner talks with him I have acquired interesting and reliable information regarding natural history I found him as much at home in discussing with me the manner in which the woodcock transfers her chicks from danger, as in the transfer of septic clots from the lateral sinus to the pulmonary vessels His surgical interest in a rickety tibia was not eclipsed by his knowledge of the mode of growth of a stag's antlers, and he drove his opinions home, not with the insinuation of a crafty advocate, but with all the dogmatic force of a political partisan Exactly a year ago I spent an hour with him in the wards of the infirmary at Glasgow This surgeon, aged 74, was as keen in showing me a radical cure of hernia, and a man recovering from the removal of a subtentorial tumour of the brain, as he was in uttering invectives against the authorities of the infirmary Sir William Macewen is a striking example that extreme specialization in surgery can be carried out by a professor engaged in general surgical practice, who can both teach students the principles of the art and science of surgery and engage in research It is this love of work that enables such men to do useful practical work and carry out original research after the age of 60 The Council of the Royal College of Surgeons of England showed its appreciation of Sir William Macewen's ability and zeal by electing him an honorary Fellow on the occasion of the College centenary, 1900 He was received with warm approbation by surgeons from the British Isles and overseas—with very warm approbation on that historic occasion

THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND

Sir W I DE C WHEELER sends the following appreciation

The death of Sir William Macewen leaves a vacancy in the community of British surgeons and British scientists which will long remain unfilled It was my privilege to know him intimately, and to have experienced the force and sincerity of his character in connexion with private matters and in public life In whatever circle he moved he was an outstanding figure, strong and attractive, sometimes imperious and dominating, but yet with an open and just mind and a personality which was the admiration of all

During the war I was a member of committees and conferences in which Macewen took a leading part It was striking how a hush would fall on an assembly when this tall commanding figure rose to speak He addressed a meeting with quiet dignity, but there was a force and insistence in what he said which baffled opposition, and brought his views to prevail

His writings breathed infinite accuracy, perseverance, and

truth, and have done much to establish the high reputation of British surgery in foreign lands In conversation he lacked some of the frills and flashes of the genius which he was, but by personal magnetism he was able to get things done and to stimulate the workers by whom he was surrounded Outstanding ability, indefatigable work, and immense effort brought their rewards It is to the credit of the scientific institutions of these countries that they recognized him at his true value, and that during his lifetime he had the pride and satisfaction of knowing that his work was appreciated He became a Fellow of the Royal Society, and was honoured by the Universities of Glasgow and Liverpool The Colleges of Surgeons of England and Ireland gave him the Honorary Fellowship, and the Universities of Oxford and Dublin the degree of Doctor of Science These are but a few of his academic distinctions, for here came a time when no honours list in the realm of surgery was complete unless the name of Macewen was included Quite recently it was suggested by professional brethren that he should be paid a unique compliment, but the deliberations of the committee were cut short by the announcement of his death

He has bequeathed to the profession the priceless gifts which he collected while advancing as a pioneer and a discoverer, and many generations to come will appreciate and be guided by his contributions to the surgery of the brain, the surgery of hernia and aneurysm, and his deductions in connexion with the growth of bone and the pathology of pyogenic disease

MACEWEN AS A SURGEON

SIR CHARLES BALLANCE, K C M G , Consulting Surgeon to St Thomas's Hospital, London, has written for us the following tribute to Sir William Macewen's position as a surgeon

The death of Sir William Macewen has removed from the stage of surgery the most prominent and perhaps the most gifted surgeon of Britain Hippocrates lived in a great age, and had for contemporaries many famous men This is true also of Macewen, for during his lifetime many great and distinguished men lived and worked A few names may be mentioned Virchow, Pasteur, Helmholtz, Kelvin, Lister, Michael Foster, Hughlings Jackson, Victor Horsley, and David Ferrier, and there were many others Macewen lived through the most glorious period of British surgery The increase in knowledge of the physiology, pathology, and surgery of the brain, the recognition of the microbic origin of disease, the use of chemical pathology and of the experimental method of research, the demonstration of the truth of the localization of function in the brain, the discovery of anaesthesia, and the proof given by von Graefe that blindness occurring in cerebral disease was not, like the palsy, a direct effect of the lesion but the secondary result of optic neuritis—were all important factors in progress These great discoveries were recognized early by Macewen as essential to the diagnosis and treatment of diseases of the brain which are amenable to surgical treatment Macewen entered on his career at the epoch of "limited surgery"—the surgery of erysipelas and of purulent infection, that surgery from which safety was banished, and which poisoned with heavy cares the mind of the operator, that surgery, in fine, which saw itself reduced to laying down the knife as mortal complications fell with impartial fatality on all the operation cases in a ward Macewen hailed with welcome the new doctrine of Lister and became a pioneer in the conquests which have since been realized in all departments of surgical activity In 1887, in a splendid address delivered before the British Medical Association, he said "The full force and significance of the experiments of Fritsch and Hitzig in 1870 were not recognized until Ferrier's observations on the brains of animals, undertaken to put to experimental proof the views entertained by Hughlings Jackson were published in 1873 Another link in the unity of the plan of creation was manifest, as even in the higher and more complex brain of man parts existed whose functions found homologous expression in that of the lower animals" It was at this period and in the preceding two or three years that the question of intracranial operations for the relief of cerebral disease was agitating the minds of surgeons Ferrier wrote in 1883 "that up to that time cerebral localization had been absorbed like latent heat by medical science itself, as distinct from medical and surgical practice, but that the unfailing safety of experiments upon animals made it clear that similar results would soon be achieved on man himself" It must be remembered that not only did human surgery fail, but also that the method of experiment was fatally handicapped, and that "unfailing safety" was not attained till the great discoveries and principles of Lister became widely known and accepted Indeed, it is true to say that the genius of Lister well and truly laid the foundations of Macewen's great success in the surgery of the nervous system

In talking with other surgeons, especially with juniors, Sir William Macewen's thoughtful face, genial voice, and winning smile were very attractive In addressing an audience his commanding presence was a considerable asset, and his voice had that clear bell tone to which it is so pleasant to listen Sir William was also a brilliant and original operator But none of these things were the primal cause of the attraction which he exercised upon the surgeons of the world It was rather this like another great surgeon of Glasgow—namely, Joseph Lister—William Macewen was for ever endeavouring to unravel some problem of surgery or surgical pathology He lived for the science of surgery His life was devoted to research In visiting Macewen's clinic the writer, like many others, has come away refreshed with some new thought, some new idea, or some suggestion which was to bear fruit in some future year Macewen's life teaches that there is no last finish in the path of surgical progress This is the legacy which he left behind We who remain are pilgrims of surgery Let us follow in Macewen's footsteps

BRAIN SURGERY

MR PERCY SARGENT, C M G , Surgeon to the National Hospital for the Paralysed and Epileptic, Queen Square, and to St Thomas's Hospital, has responded to our request by sending the following note

The name of William Macewen will live in history as one of the pioneers of cerebral surgery He has indeed been called the father of brain surgery, for his early work antedated by several years that of Victor Horsley In an obscure corner of the BRITISH MEDICAL JOURNAL of December 27th, 1879, it is recorded that Macewen showed before the Glasgow Pathological and Clinical Society two patients upon whom he had successfully operated—in the one case for hemiplegia due to a subdural haemorrhage, and in the other for a tumour in the left frontal region This second case is fully recorded in the *Glasgow Medical Journal* of September, 1879 It concerned a girl, 14 years of age, from whom a supraorbital periosteal tumour had been removed twelve months previously The tumour recurred, and convulsions appeared which involved the right face and limbs Macewen trephined in the left frontal region, and found the bone to be thick and soft, whilst beneath it lay a "soft flattened gummatous tumour" of the dura mater, similar to the tumour lying on the outer surface of the bone The tumour was removed No bad symptoms followed the operation and the paralysis disappeared It is almost certain that this tumour would now be recognized as a meningeal endothelioma

It is, however, more particularly with abscess of the brain that Macewen's name is associated In 1876 he made a diagnosis of abscess in the left frontal lobe of a boy 11 years of age, but was unable to obtain consent for the operation which he wished to perform A *post mortem* examination showed the diagnosis to have been correct Had the operation been permitted it would have been one of the first practical results of the new knowledge of cerebral localization which in this country is associated with the name of David Ferrier, as well as a tribute to Macewen's faith in the new Listerian principles of wound treatment which were then beginning to enlarge the scope of surgery

Macewen's monograph entitled *Pyogenic Infective Diseases of the Brain and Spinal Cord*, published in 1893, will live amongst the classics of surgical literature Based upon a personal experience even then extending over ten years, the

wealth of anatomical, clinical, and pathological observations which it contains, together with the clear exposition of views then mostly new, place it amongst the masterpieces of pioneer work

Fortunately for surgery, Macewen, like Horsley, was no specialist in the restricted meaning of the word A master of surgery in its truest sense, he brought to bear not only upon the surgery of the brain, but upon that of the bones the chest, and other regions, that wide knowledge of general surgical principles which the modern specialist so often lacks

THE GLASGOW MEETING

Dr GEORGE A ALLAN, Honorary Local General Secretary of the Annual Meeting of the British Medical Association in Glasgow in 1922, writes

Macewen the surgeon, through his work, will pass into medical history as an open book which all may read Macewen the teacher will long be remembered with veneration by the thousands of students who, in Glasgow, have sat at his feet

Macewen the man is less well known and has often been misunderstood Few probably knew him thoroughly, and the writer does not pretend to belong to that privileged group, but the opportunity afforded by the Annual Meeting of the Association in Glasgow in 1922 of working in close association with him and of sharing his confidence in many matters, will always stand out as one of the brightest recollections and greatest privileges of that year He was so concerned for the success of the meeting that he interested himself in the minutest details, but he had an eye that looked always to the ultimate, rather than to the immediate, result of his decisions, and events usually proved the wisdom of his views To those who shared his aims he showed the utmost consideration and courtesy, and was always willing to discuss his plans or their suggestions, though, as someone quoted at the time of the meeting, "he was not one who suffered fools gladly" In dealing with many difficult situations he exhibited an amount of tact that astonished those who thought they knew him best, and he was ever anxious to avoid giving offence, or to do anything which might hurt susceptible feelings The smaller the committee the better one got to know him, and with increasing knowledge came increasing admiration of his wisdom and of his thoughtful regard for others

In contrast to his more official duties in connexion with the British Medical Association, three memory pictures stand out in definite relief One at the old castle in Rothesay, when receiving the freedom of his native burgh—Sir William, with Lady Macewen, accompanied by their three sons and three daughters, and two grandchildren, an unbroken family group One at Garrochty, his country seat in Bute—Macewen the farmer, as he liked to call himself, interested in and discoursing on the mysteries of nature on land and sea One at the Isle of Wight—Sir William, after his strenuous duties as President of the International Congress of Surgery, having crossed the Solent to enjoy the sea breezes and sunshine, and escape for a little from the turmoil of meetings and receptions at Portsmouth, but concerned that he had time, before the steamer's return, to send souvenirs to his grandchildren

Though very imperfectly drawn, these sketches may shed a little light on a man who was at once very great and very human

AUSTRALIA

Dr W T HAYWARD, C M G, of Adelaide, late Chairman of the Federal Committee of the British Medical Association in Australia, who is now in this country, sends us the following note

As an Australian who had the privilege of seeing a great deal of the late Sir William Macewen during his recent visit to Australia, I should like to express my great grief which I am sure is shared by every member of the medical profession in all the States, that he has passed hence The British Medical Association in Australia was highly honoured when it learned that Sir William was to represent the parent Association at the recent congress The anticipation the advantage, and the pleasure that we should experience in having so distinguished a man with us was more than realized We were amazed at his erudition and charmed with his personality His energy was wonderful When bidding him farewell at Adelaide on an intensely hot day, and knowing the arduous journey before him, I could not help feeling anxious as to whether the duties he had undertaken, and so thoroughly carried out, might not have been too much for a man of his age

A CONTEMPORARY'S REMINISCENCES

J M writes

Macewen's great name had some of the influence of romance on the medical students of the Glasgow school, and even on the profession in general in the West of Scotland The current stories of what might be called either his strength of character or his obstinacy, according to the particular point of view of the narrator, were no doubt largely apocryphal, but none the less impressive Two or three of them may be briefly mentioned

When the Johns Hopkins school was being established in America, those in control of it seem to have searched the world for young men of outstanding ability in research or teaching capacity or technical skill Macewen was offered appointment, but declined It was pointed out to him that not merely a salary was in question, but that he would cross the Atlantic as having been chosen for the new post from amongst the rising surgeons of the Old World, and that a great practice awaited him He still declined Then, his habit of operating in a corridor of the Royal Infirmary in preference to the regular theatre being noted, he was told that the surgical wards at Johns Hopkins had not yet been built, and if he only would come they would be erected to his own design But he declined Next it was thought that perhaps assistants and nurses might be the obstacle, and he was assured that up to any reasonable number he might bring them with him But he declined Finally it was submitted that he must anyhow be in need of a long holiday, and if he would come over for six months to Baltimore, and incidentally advise them about the establishment of the new school, he would be suitably remunerated But once more he refused to leave Glasgow, and that was the end of the project

Another story which went the rounds related to his appointment as professor of surgery in the University, he being at that time in the extramural school and surgeon to the Royal Infirmary The University school was, of course, associated with the Western Infirmary, and gossip was to the effect that the managers of that institution were determined that when the new professor applied for wards there he would not get his own way in everything as had been the habit at the Royal, so the Western managers went home from their meeting on the subject firm in the intention to boss their own show At their next meeting they learned with surprise that no application had yet been received from Macewen for the late professor's wards Doubtless this was an oversight, but at still another meeting the expected request had not come to hand, and as the opening of the session was approaching it was thought right that some one should mention to Macewen the mistake that he was making Then came the astonishing report that Macewen, thus approached, had replied that he saw no occasion to apply for wards True, he was now to be professor of systematic surgery at Gilmorehill, but that need involve no change of hospital He was very comfortable at the Royal, and those who wished to attend his clinic and be present at his operations could come to the Royal The result of this undreamt of attitude was, as the story went, that the Western managers had practically to ask him to accept, and had to give him pretty much the same free hand as he had had at the Royal Infirmary Later on, however, being once fairly settled in the Western Infirmary, the managers tried another fall with him This was, if the writer recollects aright, in connexion with a proposal to appoint another surgeon at the Western, and to give him beds partly by taking them from the surgeons already in charge When that proposition was put before Macewen he flatly declined to agree, and on it being pointed out to him that the managers could compel the arrangement, he replied that he had been offered an appointment in the medical school connected with one of the great hospitals of London, and that he would accept the offer if his ward accommodation in Glasgow was to be cut down And so once more he conquered, and that time finally

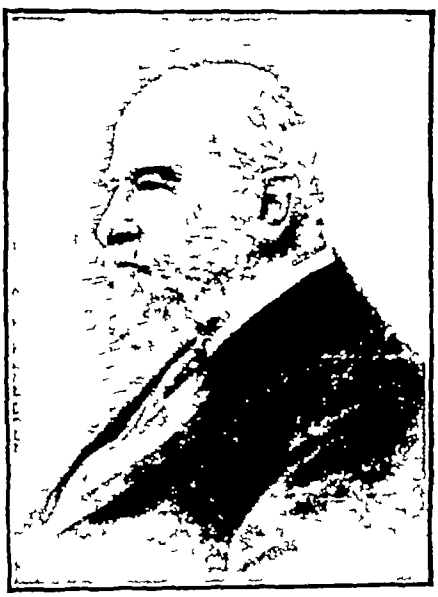
Almost certainly these tales as circulated at the time, and now imperfectly recalled, were by no means quite as here set down But however far astray they may be, they had their influence on the students of the University, increasing their regard for and their pride in their distinguished teacher He was a great figure in the lecture room—tall, handsome, dignified, a lucid teacher who spoke with all the authority of a world-wide reputation, as a master in the exposition and practice of the science and art of surgery And now, alas! he is no more, but the work he did is his everlasting monument

HENRY RUNDLL, F R C S,

Consulting Surgeon, Royal Portsmouth Hospital

By the death of Mr Henry Rundle Portsmouth has lost a fine example of the older type of practitioner, and an interesting personality The scholar, the courteous gentleman, the family friend and adviser in him were blended well His professional career commenced at St Bartholomew's Hospital, from whose ancient school he took his medical diplomas, obtaining the Membership of the Royal College of Surgeons in 1865 and the Fellowship in 1870 Before settling in Portsmouth he fulfilled the duties of house-surgeon for two years in the Royal Hants County Hospital at Winchester, and also underwent a course of study in Vienna at the Allgemeines Krankenhaus

When the Franco-Prussian war broke out he adventured under the Red Cross Society with the German army in the field He was attached to the Hessian Division as staff surgeon, was present at the siege of Metz, and witnessed the fall of Strasbourg For his services in the campaign Mr Rundle was awarded the German War Medal, the Hessian Cross, and, curiously enough, some thirty years later, the French War Medal also—a double recognition that was perhaps unique



HENRY RUNDLE.
(From a photograph by T Russell and Sons Southsea)

Having established himself in practice in Southsea in 1873, Mr Rundle was appointed in the same year assistant surgeon to the Royal Portsmouth Hospital He became full surgeon in 1882, and in 1908, upon his resignation of this post, was elected honorary consulting surgeon Thus he was closely connected with the Royal Portsmouth Hospital for a period of fifty years In 1877 he became honorary medical adviser to the Royal Naval and Marine Orphan Home on the resignation of Mr Carter, and until the day of his death the welfare of these two charities remained a matter to him of deep and almost daily concern

When the British Medical Association held its Annual Meeting at Portsmouth in 1899, Mr Rundle acted as secretary of the Section of Surgery, and took an energetic part in making the meeting a success In his earlier days he made several contributions to the medical journals, and later in life, when able to draw upon hours of leisure, he took a keen interest in the literature of the day This was his chief hobby He was indeed a lucid writer with a charming literary style He was much interested, too, in ecclesiastical affairs, being a strong Churchman of wide and tolerant views, and successive vicars of St Jude's and of St Mary's Churches must have had grateful memories of his solicitude for them and their parishes

In reviewing Mr Rundle's life work one must, in spite of his professional and literary achievements, place first of all his power to disseminate goodwill He wished well of everyone The present writer often sought his advice in time of trouble, and though the problems which needed solution more than once would have involved a discussion of personal annoyances and quarrels of a minor kind, it was never easy even to broach these matters when face to face with "old Rundle," as we younger men used affectionately to call him Disputes were petty, inconsequential things in the presence of such a gentle and human personality He possessed that understanding which can pity and forgive the hand that strikes, and the voices that mock and slander Probably to this quality was due his great attraction for and influence over young men

Of late years he lived in comparative retirement owing to ill health, but during the lifetime of his sister, Miss Emma Rundle, who died five years before him and who was always associated with him in his lay work, their house was a centre of hospitality Junior medical practitioners, clergy who had come to work at Portsea and elsewhere fresh from college, young naval officers—all received always the warmest welcome Many of these men, now middle-aged, will remember with gratitude the encouragement, sympathy, and understanding given to them by Mr and Miss Rundle at an eventful period of their lives Nor was his the friendship that forgets He kept up a correspondence with and followed the careers of men who had been house surgeons under him as long as forty and more years ago To praise the dead has become a customary task and the written word is often submitted to a heavy discount But there can be no subtraction here Indeed, it is difficult to give the credit to his quiet influence in a measure which is adequate

H L SACKETT, M B, B S, F R C S,

St Bartholomew's Hospital

WE greatly regret to record the untimely death of Mr Herbert Leyland Sackett, F R C S, which occurred at St Bartholomew's Hospital on March 21st, after a very brief illness Vigorously at his surgical work until midnight on March 13th, he complained of feeling very ill and had a rigor, it was then discovered that one thumb was inflamed Treatment was immediately carried out, but despite all efforts the grisly train of septicaemic symptoms followed The tragedy was heightened by the fact that in another ward of the hospital lay his father, the Rev Walter Sackett, suffering from erysipelas Father and son died within a few hours of each other

Herbert Sackett was 30 years old As a boy he suffered from spinal trouble and for months lay recumbent During that time his ever active mind was gleaning lore of every kind The years at St Bartholomew's revealed him as a man of outstanding character and ability As a student he won the Bentley prize, he became a house surgeon, and later intern midwifery assistant In 1921 he graduated M B, B S Lond, last year he gained his F R C S, obtained the Luther Holden surgical research scholarship, and applied himself to original work on intestinal obstruction In January of this year he was appointed surgical clinical assistant to St Bartholomew's With his eye always fixed on his professional goal, Sackett had a breadth of outlook and sympathy which the keenest student too often lacks He was for more than two years editor of the *St Bartholomew's Hospital Journal*, and conducted it with remarkable enterprise and success

Of the gap in the life of the hospital caused by his death, a colleague writes 'The hospital mourns not only a surgeon of great promise but a man of the highest type His kindness endeared him to his patients, his invariable cheerfulness and wide sympathies made him beloved by his circle of intimate friends, and his amazing thoroughness and devotion to duty caused him to be deeply respected by all who came in touch with him A man who might have climbed high has been snatched from among us, but his influence works on, for he still inspires his fellows to climb as he did, fearlessly, hopefully, manfully"

To this we would wish to add a few words expressing our own appreciation of Herbert Sackett's valued work for the

BRITISH MEDICAL JOURNAL during the past two years Amidst his manifold activities he often found time to report for our columns the proceedings of societies, and in particular acted as our representative at the International Congress of Surgery held in London last July In all his work for us he was accurate, prompt, and resourceful, and the cutting short of a career of so much promise is a loss to medical journalism

We regret to have to record the death on March 18th at a nursing home in Exeter of Dr GEORGE FRANCIS SYDENHAM of Dulverton, at the age of 63 He was the fourth son of the Rev Charles St Barbe Sydenham He was a student of St Bartholomew's Hospital, and took the diploma of L S A in 1884 and that of M R C S Eng in 1885 After working for two years as assistant to the late Dr Samuel Evans of Harwich, he settled in his native village of Dulverton, where he had practised ever since His ability and untiring energy made him widely known, and by his death the Exmoor district loses one of its most notable practitioners The Sydenhams are an old Somerset family, and long ago prospered so much that three or four branches were founded in Somerset One overflowed into Dorset in the time of Henry VIII, and that Sydenham (of Wynford Eagle, Dorset) was the great-great-grandfather of Thomas Sydenham, the famous physician Dr G F Sydenham took a great interest in the history and antiquities of his native county, and was the local secretary of the Somerset Archaeological Society He was the author of an essay on the vulgar errors and superstitions of West Somerset in their relation to medicine He was a member of the West Somerset Branch of the British Medical Association, and a very welcome attendant at medical gatherings, where he could always be depended upon to contribute to the lighter side He had a wonderful fund of Somerset stories, some of them going back to Elizabethan days in Somerset, and always told them with immitable freshness and humour Dr Sydenham was active in local affairs and was J P for Somerset, he was M O H for South Molton rural district, district medical officer and medical officer to the workhouse of Dulverton union, and a certifying factory surgeon His loss will be deeply felt by many friends of all classes, and especially will he be missed among the working men and women of Exmoor The greatest tribute to his work was the presence at his funeral on March 21st of hundreds of men, women, and children of all classes, who came to bear witness to their love and respect for him

Dr L EMMETT HOLT, the well known American pediatrist and author of a textbook of diseases of infancy and childhood, has recently died at Pekin, where he had gone to deliver a series of lectures at the Union Medical College

Dr AUGUST EWALD, professor of physiology in Heidelberg University has recently died at the age of 75

Universities and Colleges.

UNIVERSITY OF OXFORD

Radcliffe Travelling Fellowship—The Master and Fellows of University College announce that the Trustees have elected Charles Frederick Terence East M A, B M B Ch, M R C P, New College, and King's College Hospital, to a Radcliffe Travelling Fellowship of £300 for two years

UNIVERSITY OF LIVERPOOL

THE following have been approved at the examination indicated

FINAL M B AND CH B—*Part I* M M F Arthur Ethel Barrow E I Bieber H M Boston G F Church N L Corkill, O Dawood J L Donnelly F R Faux Dorothy A Gough J Graham R L Green shields J Hatton F Hughes F P Irvine D Katz B Kay J E S Lloyd W J Lloyd H McGrath Isabel McKee D J T Magowan D Roberts J Tarshish I Thomas I F Walker *Part II* T A Clarke N J Crawford H L Cullen I Gordon A J Goss Catherine F I Greenshields Sarah Leigh G W Paton F R Sherlie B J S de Villiers

D P H—A C Crawford Mary A Thomas

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY—J D Ingram J S Keele-Smith W J MacHugh H Miller R E Sadleir

* With distinction

UNIVERSITY OF DURHAM

THE honorary degree of D C L of the University of Durham will be conferred at the June Convocation upon Sir Frederick William Andrewes, M D, pathologist to St Bartholomew's Hospital, and Sir Byrom Bramwell, M D, late President of the Royal College of Physicians of Edinburgh

The following candidates have been approved at the examination indicated

THIRD M B B S (*Materia Medica, Pharmacology and Pharmacy Public Health Medical Jurisprudence Pathology and Elementary Bacteriology*)—W G H Allen, L Barber B Elliott H Gass J R Hetherington W Hinds W F Lascelles J D W McCracken A D Miller H O Connor W C Pinkney, A de Redder F E Stabler F G Sinclair R B S Smith

VICTORIA UNIVERSITY OF MANCHESTER

THE following candidates have been approved at the examination indicated

D P H—Beatrice L Ellison W D Hood J G McKinlay Margaret Pownall

DIPLOMA IN PSYCHOLOGICAL MEDICINE *Part I*—L C F Cheves H D Cormac T W Davidson W J Lynch, W R McGlashan C B V Walker

UNIVERSITY OF EDINBURGH

A GRADUATION ceremonial took place in the library of the University of Edinburgh on March 20th The following degrees were conferred

D Sc—D M Lyon M D James E McCartney M D

M B CH B—E J K Weeks

UNIVERSITY OF ABERDEEN

THE following candidates have been approved at the examination indicated

FINAL M B CH B—A Aberdein W Adams A M Barron J H Bell Jeannie Benzie F J T Bowie J Boyd †C Burnett J Carrie Laura D Catto W G Cheyne G S Christie W S G Christie T Clunie H Clyne J Cooper W S Coutts J W Craig C L C Crowe J Davidson S G Davidson A W Dookar J K Donald A Donaldson A W M Douglas J W Duncan J F Durno *A M Duthie Effie M Duthie W L Esson L H Eunson D Farquharson Rhoda G Findlay Nelly Flett A M Fraser R G Fraser L J A W Fulton J H Galter E Garden R U Gillan D G Gordon J Gordon J Grant J K Grant A P Gray, †W Greenlaw †W Gunn J S Harper J W Hay J Henderson A C Hendry E Hutcheon J Innes W J Jack W J Leach D Levack Mary R Levack J M Macfarquhar W H J M Gillivray A H Mackay G W M Mackay H H Mackay G D Mackenzie J M Kenzie N O Mackinnon J W M Kinty L G M Lean †D M Lelland D M Lennan A M Phail T D Marr R Melvin Betty Mitchell G R Morgan †A M Morrice †A G Mowat J G Munro J W Murdoch W Niven J H S Peterkin W R Pratt A F Pringle F Retief A Roy Christina Russell R A Simpson D Skinner G J Smith Gladys H Spark R J Stephen J G Stewart †Mary S Sutherland W Sutherland, G E Swapp Margaret A C Symon †G C Taylor R M Thompson, A Torrie W Tweddell †J W Walker †W W Walker J A Whyte C D Wilson M C Wright

* Passed with much distinction † Passed with distinction

ROYAL COLLEGE OF SURGEONS OF ENGLAND

CONSTITUTION OF THE COUNCIL, 1923-24

THE constitution of the Council since July, 1923, is as follows

President—Sir John Bland Sutton C (1) 1910 (2) 1918 Pres 1923

Vice Presidents—Sir Berkeley G H Moynihan Bt K C M G C B C (1) 1912 (substitute) (2) 1919 Mr Holburt Jacob Waring C (1) 1913 (2) 1921

Other Members of Council—Sir Anthony A Bowlby Bt K C M G K C V O C (1) 1904 (2) 1912 (3) 1920 Pres 1920 Mr W F Haslam C (1) 1908 (2) 1916 Sir Charles A Ballance K C M G C B M V O C (1) 910 (2) 1914 (3) 1922 Sir D Arcy Power K B E, C (1) 1912 (2) 1920 Mr Walter G Spencer O B E C (1) 1915 (substitute) (2) 1918 Mr T H Openshaw C B C M G C 1916 Mr Raymond Johnson O B E, C 1916 Mr Vincent Warren Low C B C (1) 1916 (substitute) (2) 19 Mr James Sherren C B E C 1917 Sir John Lynn Thomas K B E C B C M G C 1918 (substitute till 1926) Mr Ernest W Hey Groves C 1918 Sir Cuthbert Sidney Wallace K C M G C B C 1919 Mr F J Steward C 1920 Mr W Thelwall Thomas M B E C 1921 Mr C H Fagge C 1921 Mr R Pugh Rowlands O B E, C 1922 Mr James Berry C 1 23 Mr J H Fisher C 1923 Mr W Sampson Handley C 1923 Mr Percy Sargent C M G D S O C 1923 Mr G E Gask C M G D S O C 1923

The medical schools are represented as follows

London	
St Bartholomew's	4
Guy's	3
London*	2
Middlesex	2
St Thomas's	4
St Mary's	1
University College*	1
Westminster	1
Royal Free	1
Total London	19
Provincial	
Birmingham*	1
Bristol	1
Cardiff	1
Leeds	1
Liverpool	1
Total Provinces	5
Total Council	24

* Retires in July and does not seek re election

SOCIETY OF APOTHECARIES OF LONDON

THE following candidates have passed in the subjects indicated:

SURGERY—A Kotbi D G Robinson
MEDICINE—F H Armanious M K El Khadem W H G M Ling
FORENSIC MEDICINE—E J Creals C E Donaldson R D Jones W H G M Ling J P McGuire J G F Vachell A J Vickery
MIDWIFERY—W B Arnold J O W Bland W H G M Ling J G E Vachell

The diploma of the Society has been granted to Messrs M K El Khadem W H G M Ling and A J Vickery

The Services.

NAVAL MEDICAL COMPASSIONATE FUND

A MEETING of the subscribers to the Naval Medical Compassionate Fund will be held at 11 30 a m on Friday April 25th, at the Medical Department of the Navy, 68, Victoria Street S W 1, to elect six Directors of the Fund

DEATHS IN THE SERVICES

Lieut Colonel James Joseph Louis Ratton Madras Medical Service (ret) died at Blackheath on February 28th aged 78 He was born at Malacca and was the son of Surgeon Major J A Ratton 3rd Madras Light Cavalry who entered the I M S in 1841 and died in 1865 The subject of this notice was educated in the Queen's University Ireland where he graduated M D in 1865 and M Ch in 1866 Entering the I M S as assistant surgeon in September 1867, he became surgeon major after twelve years service and retired in 1888 He served in the Abyssinian war of 1868 receiving the medal He was the author of *a Hand book of Common Salt* 1868 *Tetanus with special reference to Treatment* 1878 and a *Syllabus of Lectures on Surgery*

Lieut Colonel John Langdon R A M C (ret) died at Cusop Herefordshire on March 21st aged 87 He was born in Dorset shire and educated at the Middlesex Hospital taking the M R C S in 1860 and the L S A in 1861 He entered the army as assistant surgeon on October 1st, 1862, attained the rank of surgeon major on April 28th 1876 and retired with an honorary step as brigade surgeon, on October 26th 1887 In the old regimental days he served in the 105th Foot now the 2nd battalion of the King's Own Yorkshire Light Infantry and in the Royal Artillery He was employed in the Afghan war in 1878-80, receiving the medal

Dr F N Kay Menzies has been appointed Medical Adviser to the Council of Management of the United Services Fund

The Greenwich Hospital pension of £100 a year rendered vacant by the death of Inspector General of Hospitals and Fleets Walter Reid R N (ret) on February 27th has been awarded to Surgeon General John L Barrington R N (ret)

Medical News.

THE intensive course at the London Temperance Hospital from March 31st to April 12th includes lectures, open to members of the profession, daily at 4 30 p m, the first to be given by Sir Humphry Rolleston on March 31st on jaundice Special demonstrations will be given on fevers on Thursday morning at the North Western Fever Hospital, on mental diseases at Bethlem Royal Hospital on Saturday morning and on ophthalmology at the Royal Westminster Ophthalmic Hospital in the afternoon Beginning on March 31st, a three weeks course in ophthalmology will be held at the Royal Westminster Ophthalmic Hospital, and will include special demonstrations in medical ophthalmology and methods of examination on Tuesdays and Thursdays For each of the above courses the fee is £3 3s, copies of the syllabus with further information can be had from the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W 1

A DINNER of the Queen's University (Belfast) Club, London, will be held in the Connaught Rooms, Great Queen Street, W C 2 on Thursday April 10th, at 7 30 for 8 o clock. Professor Thomas Sinclair, C B M D, M Ch, F R C S, M P, president of the club, will take the chair The charge for the dinner will be 12s 6d (inclusive of gratuities but exclusive of wines) It will be collected during the evening Queen's men and Queen's women intending to be present are requested to notify the honorary secretaries at 152, Harley Street, W 1, or 17, Wimpole Street, W 1, not later than April 7th

THE King has given permission to the undermentioned to wear the decorations conferred by His Majesty the King of the Hedjaz in recognition of valuable services rendered — Order of El Nahdi (*Third Class*) William Dunlop, O B E director of the Royal Hospital Baghdad George Noel Braham O B E, M C, surgeon Royal Hospital Baghdad and H Chapman Sinderson, railway medical officer Baghdad (*Fourth Class*) Everard Arnold Mills, chief pathologist, Baghdad

AN Easter course of instruction will be held at the *Hôpital des Enfants Malades*, 149, Rue de Sèvres, Paris, from April 14th to 25th inclusive There will be lectures on various diseases of children clinical work, and instruction in special forms of examination including radiology Further information may be obtained from the secretary

THE annual meeting of the Royal Medical Benevolent Fund will be held at 11, Chandos Street, W 1, on Tuesday, April 15th, at 5 30 p m

AT a meeting of the Tuberculosis Group Committee of the Society of Medical Officers of Health held at 1, Upper Montague Street on March 14th, the honorary secretary (Dr E Ward) reported that the Tuberculosis Society and the Society of Medical Superintendents and the Ministry of Health were co operating cordially in the co-ordination of annual reports and collective research, and that, on the suggestion of the Tuberculosis Society, post graduate study was also to be considered

AT the general meeting of the Medical Officers of Schools Association, to be held at 11, Chandos Street, W 1 on Wednesday, April 9th, at 5 p m, Mr Ernest Clarke, F R C S, will read a paper on the care of the sight of school children

THE Wellcome Historical Medical Museum will be closed from April 1st to 30th inclusive for redecoration and cleaning

THE annual general meeting of the Chartered Society of Massage and Medical Gymnastics will be held at 4 15 p m on Saturday April 5th, at the Court House Restaurant, 1, Marylebone Lane, Oxford Street, W 1 It will be followed by a social gathering On April 3rd and 4th and on the morning of April 5th the society will hold a members' congress in the Wigmore Hall, Wigmore Street

THE annual meeting and St Patrick's Day dinner of the Irish Medical Schools and Graduates Association was held at the Hotel Cecil, London, on Monday evening March 17th About 120 members and guests spent a pleasant evening The speakers included Lord Shaw and Senator Marconi Dr Corbett, the president, was in the chair, and Sir William Taylor Dr Douglas, and Dr Michael Bulger, past presidents, were also present

THE tenth annual conference of the National Association for the Prevention of Tuberculosis will be held in London on Thursday and Friday, July 3rd and 4th The first day will be occupied in a visit to the Burrow Hill Training Colony, Frimley, Surrey started by the association some years ago The colony is included in the scheme of the Ministry of Pensions and has sixty places for the treatment and training of tuberculous ex service men who have already received sanatorium treatment The course comprises carpentry, market gardening, poultry, pig and bee keeping, and light farm work After a practical demonstration of the work of the colony Dr A H Macpherson, the medical superintendent, who has been associated with working colonies for fifteen years will open a discussion on the part played by training colonies in the treatment of tuberculosis The discussion will be continued on the following day at the house of the Royal Society of Medicine (1, Wimpole Street W 1) The conference is open to all bodies concerned with tuberculosis and other interested persons Further particulars will be published later

THE Cambridge University Press announces for early publication a reprint in its original form, of Sir Michael Foster's *Lectures on the History of Physiology during the Sixteenth, Seventeenth and Eighteenth Centuries*, which has been out of print since 1922

THE seventh Silvanus Thompson memorial lecture before the Röntgen Society will be given by Professor C G Barkla, F R S of Edinburgh at a meeting of the society on Tuesday next at 8 15 p m The subject of the lecture is Some recent investigations in *x* rays—the J phenomena The meeting will be held at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment W C 2

THE late Captain Quintin Dick has bequeathed £3 000 to the Brompton Hospital for Consumption and £4 000 to St George's Hospital London of which £1 000 is for a Quintin Dick bed and the balance ' for strictly hospital purposes only

THE fiftieth anniversary of the Tokyo Imperial University will be celebrated in April

THE fourteenth international post graduate medical course will be held at the Vienna medical faculty from September 15th to 28th, and will be combined with a discussion on cancer on September 26th and 27th The complete programme will be published in June

THE Ministry of Health has agreed to consider applications for the sanction of the expenses of two delegates from a local authority to attend the annual congress of the Royal Sanitary Institute, to be held at Liverpool from July 14th to 19th, under the presidency of the Marquess of Salisbury

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W C 2

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W C 2, on receipt of proof

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc), *Articulate Westrand, London*

MEDICAL SECRETARY *Mediocre Westrand, London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 4737, Dublin), and of the Scottish Office, 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh*, telephone, 4361, Central)

QUERIES AND ANSWERS

LOCAL VACCINE TREATMENT OF PYORRHOEA ALVEOLARIS

DR H FIELDEN BRIGGS (London) writes, in reply to Dr A Annesley Gomes's question as to local vaccine treatment of pyorrhoea (March 15th, p 506) The direction to inject above the apices of the canines or bicuspids is merely because I have found it most convenient, but any position in the muco-buccal fold will be efficacious for general pyorrhoea of the whole of the teeth Each tooth is acted upon by the infiltration of the vaccine, but it has not to be treated separately, except by scaling and so forth It will be seen that one injection acts upon the whole of the teeth, and not merely upon the one over which it happens to be injected I trust this will satisfactorily explain any ambiguity in the mind of your correspondent and others

TUBERCULOUS TESTIS COMPENSATION

"M D" asks for guidance in estimating the cash value of an injury to the left testicle received eighteen months ago, subsequently a tuberculous condition developed, and 35s a week has been paid to the patient all the time The condition has now healed and appears well, but in estimating a figure for final settlement one has to think of the possibility of relapse

*** It is to be remembered that the Compensation Acts do not warrant payments for particular damage, the payments are made in respect of partial or total incapacity for work In the patient under consideration, if the condition has healed up, the matter resolves itself into one of prognosis The healing up of a tuberculous lesion of this type is most unusual The loss of a single testis does not incapacitate permanently After the operative removal of a tuberculous testis, it may be taken that about half the cases are cured, 20 per cent die of tuberculosis in some other organ, the remainder suffer from various tuberculous affections, such as cystitis, prostatic abscess, phthisis, etc, which were in all probability present at the time of operation

The patient in this case has been paid for eighteen months, and it is rather surprising that the employer did not take steps to determine the whole matter before this If the employer would be willing to pay one year's compensation as a lump sum it might be well to settle The memorandum of agreement as to a lump sum will have to come before the registrar of the county court, and he may or may not accept it, in the latter event he will refer the matter to a medical referee The other alternative would be to go before the county court judge and endeavour to secure a declaration of liability This involves the risk of complete loss of compensation in any form Before this risk is taken a solicitor should be consulted and in any proceedings which may be instituted legal advice should be obtained

LETTERS NOTES ETC

TREATMENT OF APPARENT DEATH FROM ELECTRICITY BY ARTIFICIAL RESPIRATION

DR T BRICE POOLE (Westcliff on Sea) writes Concerning the note under the above heading in the JOURNAL of March 22nd (p 558) the following may be worth recording During a fete and flower show held in a village some years ago a thunderstorm occurred with great suddenness and a farmer while running across a meadow for shelter from the rain was struck by lightning and fell apparently dead Ambulance lectures had recently been given in the village, and several members of the class who were present immediately proceeded on their own initiative to perform artificial respiration Animation was restored, and I believe the man is still living

THE TRAINING OF NURSES

"AN OLD BART'S NURSE" writes with reference to Mr Gerald Sichel's letter, March 22nd (p 558) What does Mr Sichel expect from women who nurse for him? Merely holding a hand and smoothing a brow? This "high degree of attainment" could no doubt be reached by a very capable woman in even less than one year (the time specified by him for full training) Most surgeons and doctors regard nurses as their intelligent allies, acting for them and carrying out minutely all their instructions Is a woman at the end of one year's training qualified to act as ward sister, to organize and teach juniors all the essential ethics of good nursing? Decidedly not! No nurse worthy of her calling regards herself merely as a "cheap tool" for the use of her hospital Mr Sichel says "the training is unnecessarily severe and sisters and matrons impatient and inconsiderate" If they are all this now, does he consider that a training of only one year will improve them in this respect? At the end of one year an "embryo" nurse thinks she knows everything at the end of three or four years she realizes how little she really does know The life is of necessity strenuous and selfless—in a sense, but it is the richest and fullest life that any woman could wish for, except that of wife and mother I think I voice the vast majority of my colleagues in saying that when we look back some of our happiest days were during hospital training

THE INVENTION OF TINCTURE OF OPIUM

DR G ARBOUR STEPHENS (Swansea) writes Sydenham, who lived from 1624 to 1689, is credited with the invention of tincture of opium, but an old Welsh text in the British Museum seems to prove that the credit belongs to the Meddygon Myddfai, or the doctors of Myddfai in South Wales In this text is a paragraph which may be translated as follows 'Crush the seed of the poppy in wine in order to make a man sleep" The hypnotic effect is sufficient evidence that the potent element was extracted by the alcohol and resulted in what we term to-day tincture of opium These doctors of Myddfai lived in the thirteenth century at a small village not far from Llandilo, which was the head quarters of Rhys ap Thomas, an ancestor of the present Lord of Dynevor According to tradition these doctors were the descendants of the Lady of the Van Lake, described so interestingly in the late Sir John Rhys's book, *Celtic Folklore* The story need not be related here, but it may be interesting to mention that after the lady disappears she shows herself once more to her son Rhiwallon and tells him that his mission in life is to devote himself to sick and suffering humanity That he and his descendants followed this advice is evident if we are to judge by the great reputation they developed and the high respect in which they seem to have been held Some of their recipes seem rather absurd to us, but perhaps not more absurd than many of the "fashions" which have been introduced of late years as methods of treatment will appear to those that will follow us At any rate, the discovery of tincture of opium is certainly to their credit and worthy of being recorded

"ORCHITIC"

DR PHILIP D TURNER (Liss, Hants) writes I wish to raise a protesting voice against the misuse of the word "orchitic," which I notice with increasing frequency in your columns bearing the significance 'relating to the testicle" "Orchitic" can only mean "relating to orchitis," and may be found in *Murray's Dictionary* under the latter word The only corresponding adjective relating to the testicle is "orchic," which Murray labels "rare," and of the use of which he cites only one example If anyone is not satisfied with "testicular" let him use "orchic," but not "orchitic," which conveys a different meaning

CUPPING

DR A KNYVETT GORDON (London, W C 1) writes The letter of Dr A Valmyre in your issue of February 23rd (p 351) contains certain dogmatic statements which seem to require elucidation He says "After cupping we observe a colouring of variable depth, one to four centimetres deep into the very middle of the muscles and organs" Has Dr Valmyre ever excised a cupped area? If not, how does he observe these changes? He says later "The red globules break up and set free the antitoxins that impregnate them" Has he any evidence to bring forward in support of this hitherto undescribed function of the erythrocytes? Again, he says "We can observe a great polynucleosis" In most of the conditions for which he employs cupping polynucleosis is common or possible If Dr Valmyre has made blood counts before and after cupping his figures would be interesting I gather that the reason why cupping is not commonly employed in this country is that its effect is believed to be superficial and transient, and that it has but little if any permanent influence on the system

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 30, 31, 33, 34, and 35 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 32 and 33

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 155

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

251 Secondary Infections in Pulmonary Tuberculosis

P COURMONT and BOISSEL (*Paris méd*, January 5th, 1924, p 18) state that the generally accepted opinion until a few years ago was that the tuberculous lung at a certain stage of the disease was almost always invaded by other organisms than the tubercle bacillus, and especially by pyogenic microbes Many of the patients' symptoms were attributed to secondary infection, especially the hectic fever and aggravation of the general condition As the result of this view mixed vaccines consisting of the principal pyogenic organisms were systematically employed in all cases of active pulmonary tuberculosis A reaction against this theory of secondary infection has recently set in Besançon and Biros in 1922 showed that the tubercle bacillus played the principal part throughout the course of pulmonary tuberculosis, and that secondary invaders merely gave rise to a few cases of pneumococcal infection or slight bronchitis Courmont and Boissel have carried out investigations on 188 cases of various forms of pulmonary tuberculosis, and found that, though secondary infections were much less frequent than was once thought, they were present in as many as 20 per cent, while in the remaining 80 per cent the tubercle bacillus was sufficient to produce every form of anatomical lesion in the lungs and every variety of the disease The authors divided the secondary infections into two groups In the first group, which consisted of thirteen cases, there was a variety of different organisms in various quantities, such as streptococci, *B coli*, pneumococci, and diphtheroid organisms Cases of this kind almost always ran a severe course, and it was difficult to determine whether these secondary infections merely represented the last stage of the disease, or whether they played an active part in the evolution of the lesions In the second group, which consisted of twenty three cases, the associated infection was due to a single micro organism, such as the pneumococcus, pneumobacillus, enterococcus, streptococcus, *Micrococcus tetragenus*, *M catarrhalis*, and Pfeiffer s bacillus In this group the secondary invaders seem to have played an important part, so that the prognosis in many cases seemed to depend on the nature of the associated organism The authors conclude that if vaccine treatment is to be employed in pulmonary tuberculosis it should be specific, and that it is more likely to be successful when the tuberculous lesions are not severe or extensive

252. Mechanism and Pathology of Air Embolism.

H BERGSTRAND (*Svenska Läkaresällsk Handlingar*, December 31st, 1923, p 209) points out that the question of air embolism has become very important in consequence of the treatment of pulmonary tuberculosis by artificial pneumothorax He has carried out numerous experiments on animals and has come to the conclusion that there are two distinct forms of air embolism The more dangerous is arterial air embolism, in which the capillaries of the greater circulation are obstructed by air bubbles In venous air embolism the capillaries of the lesser circulation are thus obstructed It has been argued that air emboli cannot pass through the capillaries of the lungs and reach the left heart The author has, however, demonstrated the possibility of this process, but he finds that the air which thus reaches the aorta is in such finely divided bubbles that it does no harm *It is only when the bubbles of air are large enough to obstruct the pre-capillary vessels that embolism occurs*, when these bubbles are small they pass through the capillary system quite as rapidly as the blood itself The author has observed air circulating in the carotid artery of a rabbit twenty five minutes after its injection into the jugular vein, and he has watched air emboli in the vessels of the choroid for over an hour, noting how the bubbles of air gradually diminished and were ultimately swept away in the blood stream Venous air embolism need not prove fatal even if 75 to 100 c cm of air are introduced, but less than 1 c cm has been known to kill a horse by arterial air embolism when the air was introduced into the carotid artery The clinical pictures of the two forms of air embolism differ in many respects Venous *air embolism causes a rise of pressure in the pulmonary arteries*, an inadequate supply of blood to the left heart, and a fall of pressure in the aorta, the blood in which is dark The patient becomes dyspnoeic, cyanosed, and unconscious, and death is not, as a rule, ushered in by convulsions but is due to anaemia of the brain In arterial air embolism, on the other hand, there is a rise in the arterial blood pressure, and in addition to dyspnoea and loss of consciousness there are convulsions, paroses, and blindness Death is due to paralysis of the respiratory centre In both forms of air embolism prevention is, of course, better than treatment

253. Treatment by Testicular Extract

M VON KROGH (*Norsk Mag f Laegevidenskaben*, January, 1924, p 1) has made an extract of the testicles of goats and boars, and claims that it differs in its action, qualitative and quantitative, from that of similar preparations It contains 0 1 gram of fresh testicular substance per cubic centimetre in a 10 per cent glycerin solution with the addition of 0 5 per cent of carbolic acid The dosage is 2 c cm injected every day for ten days The author has given this extract to several healthy persons, himself included, and to more than 100 patients suffering from a great variety of complaints, such as neurasthenia, general debility, rheumatism, early afebrile pulmonary tuberculosis, and asthma He found that the action of an injection on himself was to banish lassitude and increase bodily and mental vigour, the effects being comparable with those of the early stage of alcohol poisoning There were, however, no unpleasant after effects, and even when large doses of the extract were given there was no paralysis of the higher centres, as is the case with alcohol The extract proved disappointing in the case of elderly men suffering from senile changes, but in persons under the age of 50, both male and female, the injections had a remarkable effect, increasing the appetite, improving the complexion, and restoring the taste and capacity for work There was no change in the blood pressure in young persons, but in elderly persons there was often a fall of 15 to 25 mm of mercury The author suggests that the action of injections of this extract depends on its capacity to neutralize the normal or abnormal products of metabolism, and in this connexion he refers to several observations which show that the aching and tiredness of excessive exertion in a healthy person can be rapidly and completely banished by an injection The remarkably good results achieved in sixteen cases of early afebrile pulmonary tuberculosis are traced to the same process—the neutralization of the products of metabolism The action of the extract as an aphrodisiac proved to be uncertain, and men with congenital hyposexuality did not experience an aphrodisiac effect

254. Functional Disturbances of Micturition

F V KOVATS (*Zeit f Tuberk*, Bd 39, Heft 3, 1923, p 185) has observed as many as 51 cases of functional disturbances of the bladder which he has traced to tuberculosis in other organs These disturbances were classified according as the patient suffered from (1) pollakiuria, (2) nocturnal enuresis, and (3) diurnal enuresis. In many cases pollakiuria was the first and only sign of tuberculosis, the patients suffered from frequency of micturition which, in cold weather or when a chill was contracted, was most troublesome One of the cases recorded in detail by the author was that of a woman, aged 23, whose parents had died of tuberculosis, and who had suffered from pollakiuria for a year For the past six months she had also suffered from pain in the head and back, giddiness, night-sweats, palpitation of the heart, and insomnia A cystoscopic examination showed hyperaemia of the neck of the bladder All treatment was futile until Spengler s I K tuberculin was given, after eight injections the pollakiuria ceased and the other symptoms abated considerably Several of the author s patients were children who looked perfectly well With regard to treatment, he finds that Spengler s I K tuberculin is often beneficial, but that in more obstinate chronic cases it may be advisable to give old tuberculin Under specific treatment all his patients recovered from their urinary symptoms In no case did the urine show any physical signs of disease

255 Beri beri in Japan

IN recording some of his own original work K OHOMORI (*Japan Med World* November 15th 1923 p 231) gives a general review of the etiology and distribution of beri beri in Japan He calculates that there are no fewer than half a million cases yearly, with an average number of deaths of about 10,000—that is, 0 2 per 1,000 of the population The disease is commonest in soldiers and sailors, rarest in farmers The death rate is very high amongst infants and children up to the age of 5 years, then it falls off to increase again between 15 and 25, after which it again diminishes The brunt of the disease is therefore borne by the infants and young adults Heat seems to facilitate the onset of beri beri Experiments

were made to determine the time which the disease took to develop when it was artificially and intentionally produced These experiments were made on healthy men, and consisted in feeding them on different dietaries, all agreeing, however, in their very low content of vitamin B Taking the appearance of sensory symptoms as marking the onset, it was found that the incubation period was seven to nineteen days, and the time elapsing before the disease developed with all its typical manifestations was between thirty and forty days The onset was accelerated by dietaries of high calorific value, especially when these were rich in carbohydrates Attention is drawn to the predisposing nature of lymphatism and vagotonia in the patients Treatment is apparently carried out by administration of large quantities of bran

Surgery.

256 **Treatment of Empyema**

R B BETTMAN (*Journ Amer Med Assoc*, February 2nd, 1924 p 359) discusses the reasons which lead the majority of surgeons to prefer the open methods of treating empyema to the closed method, in spite of the fact that during the war the latter was found to be simple, expedient, and satisfactory He describes his own procedure in detail and points out the conditions on which success depends General anaesthesia is not only unnecessary but is definitely contraindicated The catheter must fit closely into the trocar, so that when the latter is removed air will not be able to get into the chest cavity between the catheter and the edge of the wound The catheter must be kept in position by tape and not pierced by a safety pin, lest it tear at the site of the pinhole and let in air The author has twice seen pneumothorax occur when these simple points were neglected He advises irrigating the empyema cavity every two hours with Dakin's solution, and then injecting into the cavity an amount of fluid equal to one third of the pus aspirated These two-hourly aspirations and injections should be continued through the night regularly, and can be performed without waking the patient If the injections are at longer intervals the cavity contents may become so thick as to be unable to pass through the catheter In some cases the catheter end slides upwards over the lung towards the apex, and pus can no longer be aspirated through it, as the cavity is drained and the lung expands This is quickly rectified by withdrawing the catheter a few centimetres It is most important that treatment should not cease and the chest wound be allowed to close until the cavity is not only sterile but obliterated The complete expansion of the lung is demonstrable by the x rays, some sterile 12 per cent sodium bromide solution, which is impervious to the rays, having been previously injected through the catheter

257 **Gumma of the Breast.**

T E ADAIR (*Annals of Surgery*, January, 1924, p 44) points out that even surgeons who see a large number of breast cases have rarely seen a gumma of the breast In the rarity of the condition lies the explanation of its non recognition, since there are sufficiently definite diagnostic points in the history and characteristics of the growth. The history of a gumma includes the following stages a painless lump appears, it grows outwards, may involve the skin, and pushes the overlying skin outwards, the skin later becomes purple or bronzed, owing to pressure and stagnant blood supply, the tumour then softens and perforates, and necrotic material escapes, finally, a typical deep, crater like, dirty, syphilitic ulcer remains During the early stages it simulates carcinoma and is hard to distinguish A history of syphilis does not exclude carcinoma, for occasionally carcinoma is seen in a luetic subject In the case of gumma there are often other syphilitic manifestations, a gumma grows faster than carcinoma and never causes nipple retraction, fluctuation appears and there is tenderness, whilst the axillary lymphatic glands are usually not affected before ulceration begins One case is recorded with full notes, and 45 cases already recorded are analysed In 20 cases antisyphilitic treatment was given and 13 were cured, 8 had surgical treatment

258 **Renal Tuberculosis**

H WILDBOLZ (*Schweiz med Woch*, January 10th, 1924, p 32) insists that in the diagnosis of renal tuberculosis three signs are essential—bacilluria, pyuria, and functional deficiency of the kidneys In the absence of the last sign the two others may be misleading, for tubercle bacilli may be excreted by healthy kidneys from some focus elsewhere in the body, or they may be derived from some focus in the lower urinary tract and be picked up on catheterization of the ureters Such catheterization may yield tubercle bacilli from both ureters, and yet only one kidney may be tuberculous, tubercle bacilli having ascended some way up the ureter of a healthy kidney The author has found functional deficiency of the kidneys to be one of the earliest signs of renal tuberculosis, and he expresses astonishment at the fact that a small tuberculous focus in a kidney, of which the parenchyma is perfectly healthy, should appreciably delay and diminish the excretion of indigo carmine This functional excretion test has proved of inestimable value in determining the working capacity of a kidney when the other is tuberculous With an experience of about 500 nephrectomies for renal tuberculosis the author has not once been misled by this test, and in the only case in which fatal uraemia followed the nephrectomy he had ignored the warning of this test, which showed delayed excretion of indigo on both sides The author has a very poor opinion of many other tests, such as pyelography, which, he thinks, may be misleading, and even directly injurious Cryoscopy, on the other hand, is a very delicate and valuable test if it is carried out with the urines collected separately from the two ureters But cryoscopy of the mixed urines is of little value

259 **Pancreatic Cyst in a Child.**

A K RAGHAVAN (*Indian Med Gazette*, January, 1924, p 29) reports a case of the rare condition of pancreatic cyst in a child A boy, aged 3½ years, still breast fed, was brought into hospital with a swelling in the epigastric and umbilical regions of two months' duration The tumour was fixed, dull to percussion, with a surrounding tympanitic area, and a fluid thrill was present Pressure symptoms were increasing in severity, so the cyst was removed It was greyish white in colour, contained about three pints of a black fluid, and was fixed to the posterior abdominal wall A drainage tube was put in, the cyst wall sutured to the parietal peritoneum, and the abdomen closed Recovery was rapid and uninterrupted

260 **Tonsillectomy in Adults**

S MACCUEN SMITH (*Therapeutic Gazette*, January 15th, 1924, p 13), in discussing the indications for and contraindications to tonsillectomy in adults, argues that while tonsils act as a barrier against invading organisms such protecting function has its limit, which being passed the tonsils themselves become a source of danger Before the tonsils are removed as being the source of infection all other foci should be eliminated, and cultures from the surfaces and crypts should be examined In the absence of local or general symptoms infective tonsils containing pus, even though small and submerged, should be removed, since these latter may cause more disturbance of health than larger ones, but unusually large tonsils giving rise to symptoms of obstruction require removal also, whether infected or not In diphtheria carriers tonsillectomy is usually followed by the disappearance of the bacilli As a preventive measure the operation is indicated in cases of repeated attacks of tonsillitis or quinsy, though in cases of cervical adenitis, unless the tonsils are infected, the question of removal is debatable Tonsillectomy is contraindicated when there is nothing to show that the tonsils are at fault during acute infections, in haemophilics, and in the presence of a positive Wassermann reaction

Ophthalmology.

261 **The Field of Vision.**

H M TRAQUAIR (*Brit Journ Ophthalmol*, February, 1924, p 49) in this communication pleads for a more rational conception of the visual field as a whole "The field of vision should be thought of as a hill whose surface sinks and rises, and not as an area whose extent contracts and expands It is now easy to understand that visual acuity stands for altitude, and that perimetry consists in establishing the height of the hill and its slope by the determination of isopters which correspond to contour lines In the same way, as each contour line encloses an area of not less than a certain height, so each isopter encloses an area of not less than a certain visual acuity" Each isopter or contour line corresponds to the size of the test object employed, or more accurately to the visual angle which it subtends Perimetry should be an analytical process and several different sizes of test objects should be employed There will be isopters for coloured test objects, and in the normal eye all the isopters will bear a certain definite relationship to each other Any alteration in this normal relationship of the different isopters one to another will be an indication of defects in the visual field Such a condition as a contraction of the visual field will be very unlikely to occur, there will be rather a general lowering of the acuity of the whole field in such a condition, so that the periphery will pass out of consciousness—the waters surrounding the hill of visual acuity will rise and submerge the foothills But uniform depression of the whole

field is unusual, the depressions are more often local, corresponding geologically to local subsidences Scotomata, viewed in this way, are local depressions surrounded by an area where vision is normal or less depressed Slight central depression of the visual field, which may be present with apparently full vision as tested by the ordinary test types, can only be detected by careful analysis of the various isopters

262. Congenital Cataract.

A L BROWN (*Amer Journ Ophthalmol*, January, 1924, p 36) has investigated three generations of a family with congenital cataract Of the first generation, the father had normal eyes and the mother had cataracts in each eye Of the second generation, which consisted of eight individuals, only two escaped, the remaining six all showing cataractous changes of a similar type though varying in degree It was noteworthy that the cataract was of less density in the older members of this generation and that this condition became more pronounced in each succeeding birth To date there are two children of the third generation, in both of whom the typical cataract is present The cataract is centrally placed, of a snow white colour, and has the shape of a rosette This central dense cataract is surrounded by a less dense area which extends to the periphery, so that no red reflex is obtained with the ophthalmoscope So far as this family series has been examined it conforms to type with regard to transmission—namely, by females to children of both sexes equally, and then from the females of those children to both sexes of their offspring There was no consanguinity Brown comments upon the sociological question of marriage among such individuals

263. Traumatic Paralysis of the Superior Oblique.

TOUSSAINT (*Arch méd belg*, December, 1923, p 954), who reports an illustrative case, states that traumatic ophthalmoplegias may be classified in three groups according to the region involved—namely, (1) the walls of the orbit, (2) the ocular muscles themselves, and (3) the motor nerves from their origin to their entrance into the orbit The lesions involving the muscles themselves may be direct or indirect The indirect lesions are much the most frequent, as is shown by the occurrence of paralysis of the external rectus in fracture of the base of the skull Owing to its peculiar anatomical arrangement the superior oblique is more frequently affected than any other of the orbital muscles in injuries to the orbit Toussaint's case occurred in a soldier who had been kicked by a horse in the intersupraciliary region at the base of the nose He received a slight shock from which he soon recovered, and a contused wound extending from the base of the nose to the upper and internal angle of the orbit The wound healed normally, and it was not until ten days after the accident that the patient complained of seeing double, especially when he looked downwards and to the left On examination he was found to have a vertical homonymous diplopia due to paralysis, or rather paresis, of the left superior oblique In view of the immediate effects of the trauma fracture of the base of the skull could be excluded, while palpation of the inner surface of the base of the orbit brought to light no fracture of this region Toussaint concluded that the condition was due to lesion of the muscle itself, especially in its most vulnerable portion—namely, at the pulley through which it passes at the inner part of the orbital roof Treatment consisted in rest for a few days with a bandage over the eye, a darkened glass was substituted later The diplopia disappeared in a fortnight

264. Disease of the Lacrymal Passages

A E LIDSTRÖM (*Acta Ophthalmologica*, Vol I, Fasc 2, 1923, p 131) reviews his experience of the past twenty years, during which, out of a total of 19,686 patients, there were 802 who were treated for diseases of the lacrymal passages The ratio of males to females was as 40 to 60, and only in 32 cases, or 3 per cent, were the patients 15 years old or younger The chief lesson of the author's paper is that conservative treatment alone—that is, irrigation, probing, etc—is sufficient in the majority of cases to effect a cure He adds that treatment with the probe demands a light and well trained hand, a good deal of the bad reputation into which the probe has fallen being due to the manner of its use Only in 379 of his cases were his notes complete enough to indicate the ultimate results of treatment In 325, or 87 per cent, a "positive result" was obtained The results were worst in the cases complicated by dacryocystitis, of which there were 65 cases, and only 68 per cent of which were cured Curiously enough, the results were better in the cases complicated by a phlegmon, 17 out of 21 such cases, or 80 per cent, being cured.

265. Holes in the Retina

SIR WILLIAM LISTER (*Brit Journ Ophthalmol*, January, 1924, p 1) divides retinal holes from the clinical standpoint into (1) macular holes and (2) peripheral holes, he subdivides each of these under the two headings of traumatic and non traumatic Non traumatic holes are probably due to choroiditis or contraction of the vitreous The author enters exhaustively into the theories of the causation of these holes, and thinks that the majority are probably caused either by the combination of detachment of the retina with the pegging out of the retina to the choroid by pre-existing areas of retino choroiditis, or by the traction of fibrous bands in the vitreous With regard to the clinical significance of retinal holes, after a traumatic hole there is the danger of the retina becoming suddenly detached by reason of fluid from the vitreous chamber flowing into the inter retinal space Another point is that in no case of detachment of the retina due to neoplasm has a retinal hole been observed With regard to treatment of detachment of the retina the presence or absence of a hole is of significance In those cases of detachment of the retina where there is no hole—neoplasm being excluded—it is probable that the detachment is caused by the retina being pushed inwards by the accumulation of fluid in the inter retinal space, and therefore a puncturing operation would seem to be justifiable, whereas in those cases of detachment where a retinal hole is seen there is already a communication between the inter retinal space and the vitreous, and so a puncturing operation would not be necessary

Obstetrics and Gynaecology.

266 Treatment of Abortion

D S HILLIS (*Surg, Gynecol, and Obstet*, January, 1924, p 83) summarizes the clinical features of 1,000 differently treated cases of abortion, in 224 of which labour was induced by the patient or by other lay persons. Analysis of the cases confirms the conclusions drawn from an earlier series of cases—namely, that patients receiving no local treatment have a shorter febrile period, a shorter stay in hospital, fewer complications, and a lower mortality than those in whom the uterus is emptied artificially during the febrile period The most important conclusion drawn from the later series is that, in the absence of dangerous haemorrhage, by waiting for five days' freedom from pyrexia before curetting, a smoother post-operative course is likely to be secured, in these circumstances curetting is not fraught with danger and does not lengthen the average febrile period Of the thousand cases as many as sixty had to be curetted—irrespective of the presence or absence of fever—on account of alarming haemorrhage Twenty patients died, of these, fourteen showed, on entrance to hospital, indubitable signs of extension of the infection beyond the uterus, of the remaining six, four had been curetted It was established that a three instead of a five day period of rest and apyrexia was not sufficient, in not a few three-day cases alarming post-operative rises of temperature occurred and the stay in hospital was prolonged

267 Primary Lymphoblastoma of the Ovary

G PETTA (*Il Policlinico*, Sez Chir, January 15th, 1924 p 51), who records an illustrative case in a girl aged 18, states that lymphoblastoma rarely occurs as a primary tumour in the ovary It is composed of a mass of lymphoid cells with a framework consisting of ramifying cells, blood vessels, and connective tissue septa No intercellular substance between the parenchymatous cells is usually present, whereas in sarcoma of the lymphatic glands with embryonic cells there is often seen a finely granular mass which should be regarded as a disintegration product of the protoplasm of the sarcoma cells Histologically lymphoblastoma is mainly differentiated from sarcoma by the presence of the reticulum A lymphoblastoma may develop primarily in the ovary from pre existing lymphoid tissue or from aberrant lymphoblastic rests Like other organs invaded by new growth the affected ovary is always considerably enlarged, and the parenchyma is completely replaced by a mass of whitish tissue of varying consistency, which may spread along the lymphatics to the regional lymph glands, which gradually become enlarged and assume the characteristic appearance of lymphosarcomatous tumours Most of the cases of lymphoblastoma of the ovary have occurred in young persons, including children The growth is of a very malignant character, owing to its rapid course metastases, and tendency to recurrence In Petta's case the tumour attained the weight of 1,700 grams in a few months Treatment consists in early and complete removal of the ovary affected. Küstner recommends subsequent

application of hard x rays The final issue is always uncertain, and recurrences, though not inevitable, are always likely to occur In Petta's case the patient was in good health seven months after the operation, although four months after it there was evidence of a recurrence The symptoms, however, rapidly subsided

268 Induction of Labour

S J DRUSKIN (*Journ Amer Med Assoc*, February 2nd, 1924, p 370) reports on a study of 20,000 cases of childbirth during the eleven years 1909 to 1920, in 340 of these labour was induced or aided by mechanical means, and 290 cases have been analysed in detail The method of induction recommended is the introduction of a bag (metreurynter) into the uterus, which the author found to be five times as effective as the catheter He has also found it of service in cases of premature rupture of the membranes, transverse and breech presentations, prolapse of the cord, poorly dilatable rigid cervix, placenta praevia, and premature separation of a normally situated placenta He has latterly been using the sterilized urinary bladders of pigs or sheep filled with a solution of glycerin or magnesium sulphate, which promotes an osmotic action and softens the cervix He considers that in cases of contracted pelvis induction of labour should never be attempted before the thirty sixth week He finds that enhancement of the action of the bag is brought about by administering a small dose of pituitary extract, and later repeating the dose if necessary He also finds that two ounces of castor oil administered several hours previously to the introduction of the bag renders its action more certain.

269 Spontaneous Uterine Rupture.

R S TITUS (*Boston Med and Surg Journ*, January 31st, 1924, p 160) reports a case of ruptured uterus during labour in which recovery of the mother followed operative treatment, and discusses the subject generally He considers that almost all cases of rupture are attributable to the formation of a contraction ring, the exceptions being due to previous Caesarean section, ergot and pituitrin administration, or pathological conditions of the uterus, pelvis, or foetus In his own case, as in the large majority of reported cases, the patient was a multipara She was 38 years old, in her fifth pregnancy, and entered the hospital after labour had begun Artificial rupture of the membranes was followed about an hour later by irregularity of the pains, and about two hours later still the rupture occurred Transfusion was performed before operation and during it; the author strongly urges the importance of this procedure He devotes some attention also to the much rarer condition of rupture during pregnancy

Pathology.

270. Virulence of Filtered Tuberculous Pus

J VALTIS (*C R Soc de Biologie*, January 25th, 1924, p 74) took 2 c cm of tuberculous pus from the mesenteric gland of a monkey, allowed it to autolyse for three days in the incubator, mixed it with saline, and filtered it through a Chamberland L3 candle 10 c cm of the filtrate were inoculated into two guinea pigs, which were then isolated One of the animals died accidentally a few days after the injection, the other succumbed after thirty seven days *Post mortem* the inguinal glands were found to be swollen and contained typical tubercle bacilli The sublumbar and the tracheo bronchial glands were likewise enlarged, and in the latter tubercle bacilli were demonstrated There was also a nodule in the left lung It appears, then, that in filtered tuberculous pus certain forms of tubercle bacilli are present which are capable of producing lesions in guinea pigs containing granular, acid fast bacilli This work confirms the author's previous experiments on tuberculous sputum, the filtrate of which was capable of causing tuberculosis in guinea pigs

271 Light Rays and the Growth of Rats

H GOLDBLATT and K M SOAMES (*Biochem Journ*, 1923, Nos 4 and 5, p 622) have carried out an experiment to determine the extent to which rays from a mercury vapour lamp can supplement a diet deficient in the fat soluble organic factor Six diets were drawn up the first contained a full quantum of the A factor, the second 70 per cent of the minimal amount of A factor required to promote normal growth, the third 53 per cent, the fourth 35 per cent, the fifth 18 per cent, and the sixth none at all Four litters, each of twelve rats, were chosen, and from each litter two rats were put on each of the six diets, one of each pair being irradiated for ten minutes daily All were kept in a room with a double plate glass window, designed to exclude the ultra violet rays of the sun The experiment started when the animals were three weeks old and continued for eight weeks, after which they were killed Histological examination was made of their bones, and the calcium content of femora, tibiae, and fibulae estimated by Aaron's method The results showed that the rats on the first or control diet grew equally well whether irradiated or not On the five other diets the non irradiated rats did not grow nearly as well as the irradiated ones As regards the irradiated rats there was practically no difference in the amount of growth in the animals on the first four diets, but those on the last two failed to show the normal growth The bones of the non irradiated rats on the last five diets were mostly affected with osteoporosis or rickets—sometimes both—whereas of the irradiated rats on the corresponding diets not one showed evidence of rickets, and only one of osteoporosis. Similarly the calcium content of the non irradiated rats on these diets was deficient—in inverse proportion to the quantity of A factor in the dietary—whereas it was practically normal in the irradiated rats It is concluded that rats fed on a diet containing only 35 per cent of the minimal amount of A factor to promote normal growth can grow normally and their bones develop and calcify normally provided they are irradiated daily for ten minutes But the light rays cannot act as a substitute for the fat-soluble factor, for if this is entirely deficient normal growth of the animals does not occur

272 The Mode of Action of Insulin

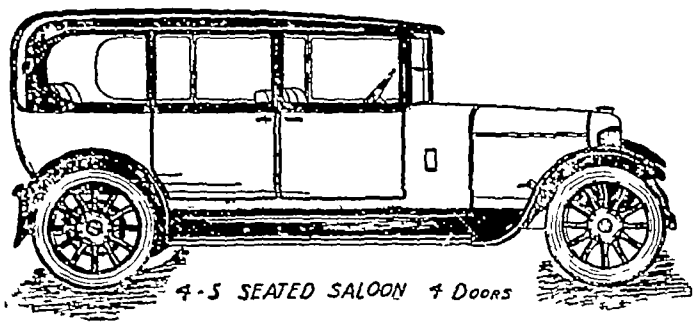
E BISSINGER, E J LESSER, and K ZIPF (*Klin Woch*, December 3rd, 1923, p 2233) record the results of experiments made on animals to determine the mode of action of insulin, these show that insulin has no action on the sugar formation in the excised frog's liver The experiments of Mann and Magath lead to the same conclusion The authors conclude that sugar formation from glycogen, by the diastase of the liver, is not influenced by insulin After excluding arrest of sugar formation in the liver, the authors endeavoured to determine whether under the action of insulin the blood sugar alone diminishes, or whether all the carbohydrates of the animal's body are reduced For these experiments white mice were employed and intraperitoneal injections of a solution of dextrose were given Similar experiments were made with injections of dextrose solution combined with insulin It was found that the injected dextrose disappeared three times as quickly after insulin injection as in the normal condition The authors consider that these experiments show that the hypoglycaemia after insulin is not caused by an altered sugar distribution between the blood and the tissues After the administration of insulin sugar disappears not only from the blood, but from all the tissues of the organism.

273. Yeast Treatment in Diabetes

H B. HUTCHISON, W SMITH, and L B WINTER (*Biochem Journ*, vol xvii, No 6, 1923, p 683) give details of their method of recovering a substance from yeast which has an action like that of insulin on the blood sugar of normal animals When convulsions occurred as the result of injections of this substance recovery was effected by the administration of glucose Samples of yeast from different sources yielded variable amounts of this substance which, following Collip's suggestion, the authors term "glucokinin" Some use was made of it in the treatment of diabetic patients, but the results are not stated In the same number of the journal (p 764) the authors report the formation of a similar substance by the action of a coliform bacillus at present not identified

274. Haemolytic Streptococci in Healthy People.

A L BLOOMFIELD and A R FELTY (*Bull Johns Hopkins Hosp*, December, 1923, p 414) stress the necessity of distinguishing haemolytic streptococci of the beta, or pathogenic and disease producing type, from those of the alpha, or non pathogenic variety, as detected by Brown's method (Rockefeller Institute Monograph No 9, 1919) A superficial resemblance exists, and, unless careful cultural and microscopic methods be employed, mistakes in interpretation may occur, leading to erroneous conclusions as to the etiology of infection and the spread of disease In the course of a repeated and closely controlled bacteriological study of a group of subjects during an influenza epidemic they found no evidence of increase of the beta type of streptococcus—an observation which corresponded with the absence, clinically, of epidemic streptococcal disease or complications of streptococcal origin There occurred, however, a widespread distribution of the non pathogenic alpha type of organism among the group of cases under observation The authors note that they have never recovered from a case of tonsillitis, erysipelas, scarlet fever, or other acute streptococcal infection, a strain which did not possess undoubted beta type characters.



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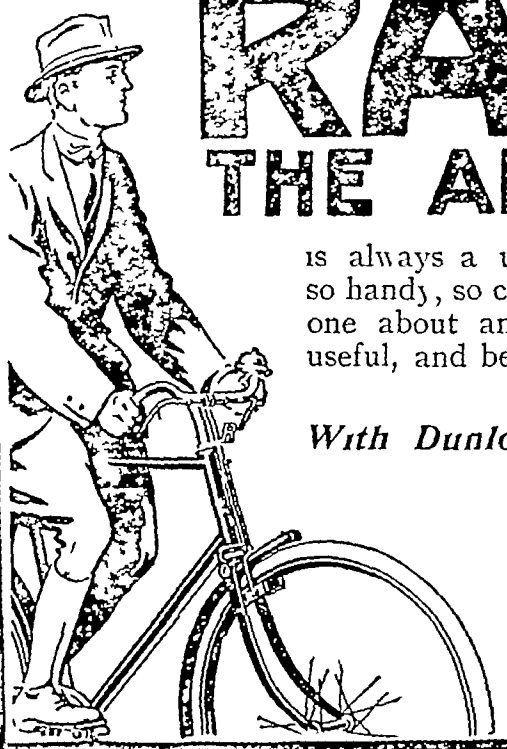
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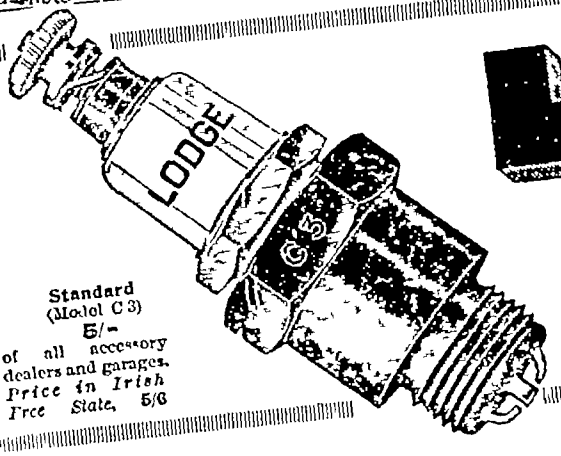


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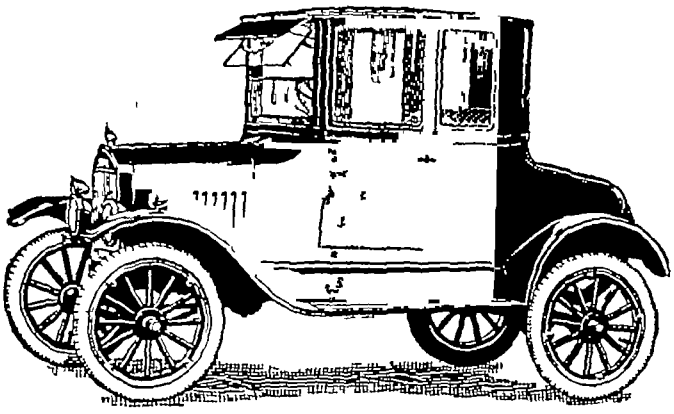
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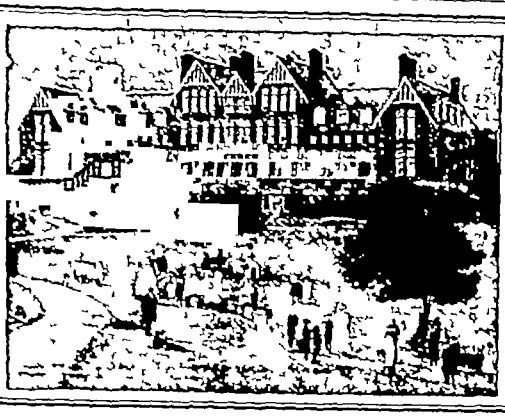
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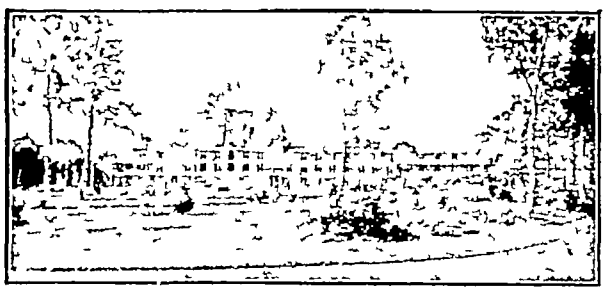
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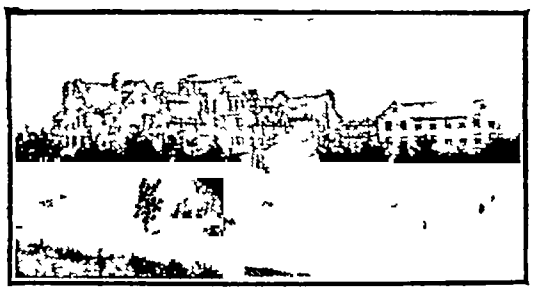
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Large beautifully appointed House, with delightful pleasure grounds and tennis courts overlooking the sea Girls from 16 years are received for thorough training in Domestic Economy and may continue studies in French Pianoforte Violin Singing Elocution Drawing Painting and Dancing —Full particulars on application to D c/o J & J PATON, 149 Cannon Street London E C 4

ST. MARY'S HOSPITAL MEDICAL SCHOOL.
PADDINGTON, W 2
(University of London)

The SUMMER SESSION will begin on April 23th, 1924 The Medical School provides courses in Preliminary Intermediate and Final Subjects and Students can join at once after matriculation

SITUATION Between a large population providing clinical material, and one of the best residential districts, thus enabling students to live in close proximity to their work

CLINICAL UNITS IN MEDICINE AND SURGERY Certain members of the Medical and Surgical Staff devote their whole time to teaching and research

NEARLY 1 000 BEDS available for teaching—additional clinical material being provided by affiliation to other Institutions.

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1 200 are awarded annually

APPOINTMENTS varying in value up to £750 per annum open to students after qualification

For further particulars and illustrated prospectus apply to the School Secretary

C M WILSON, (*M C*) M.D , F.R.C.P Dean

STAMMERING, SPEECH DEFECTS
BEHNKE METHOD Estab 1882 Cases non resident, treated at 39 Earl's Court Square S W , and In residence in the Summer holidays at Miss BEHNKE's house on the Chilterns

"Pre-eminent success in the education and treatment of stammering and other speech defects."—*The Times*

Thoroughly physiological principles."—*The Lancet*

"The method is scientifically correct and perfectly effective —*Guy's Hospital Gazette*

STAMMERING, CLEFT PALATE SPEECH LISPING, 39 (Miss BEHNKE 39 Earl's Court Sq S W

Shropshire Orthopædic
HOSPITAL Gobowen near Oswestry

COUNTRY OPEN AIR WARDS 200 BEDS

GIRL STUDENTS WANTED to learn Orthopædic Work and prepare for the Conjoint Examination of the C S M M G Three years training Salary first year £16 second year £20 all found, uniform.—Apply Miss HUNT R.R C

Royal Medical Benevolent FUND,
11 CHANDOS STREET, CAVENDISH SQUARE, W 1.

The ANNUAL MEETING of the Members of the Royal Medical Benevolent Fund will be held at 5 30 p m on *Tuesday, April 29th* 1924 at 11 Chandos Street Cavendish Square London W 1 when the Annual Report and Financial Statement for the year ending December 31st, 1923 will be presented, and the Officers and Committee for the current year will be elected

G NEWTON PITT Hon Secretary
GEORGE BETHELL Assistant Secretary
March 1924

Royal College of Physicians

Dr THOMAS McCRAE will deliver the LUMLEIAN LECTURES on April 3rd 8th and 10th at 5 o'clock at the College, Pall Mall East S W Subject: The Clinical Features of Foreign Bodies in the Bronchi "

Any member of the Medical Profession admitted on presentation of card

By Order of the President
H M BARLOW Bedell and Secretary

Preliminary Examinations

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March June September and December For Regulations apply to the Secretary College of Preceptors Bloomsbury Square London W C 1

Small Private Residential
SCHOOL established 21 yrs , for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS Special Department Pupils over school age Under Medical supervision —Prospectus Mrs MERKLEJON Principal St Paul's House Upper Maze Hill St. Leonards-on Sea.

Liverpool School of Tropical MEDICINE

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th —Prospectus from the Hon DEAN School of Tropical Medicine University of Liverpool

Home School for Backward
and DELICATE CHILDREN (estab 1904) Specialists Patients received Modern educational methods and handicraft training Horticulture, garden games and occupations Entire charge if desired Elder girls admitted. Terms moderate —Apply Principal Hatherley Brake Cheltenham

University of Dublin
TRINITY COLLEGE.

On May 21st 1924 the Council will proceed to nominate a whole-time PROFESSOR OF PATHOLOGY who will be Director of the Departments of Pathology and Bacteriology to take up his work on October 1st 1924 Fixed salary £800 a year plus certain fees His tenure will be for five years and he will be eligible for re-election

Candidates should send 25 copies of not more than five testimonials, so that they reach the Dean of the School of Physic, Trinity College Dublin on or before 1st May, 1924 For further information apply to the Dean of the School of Physic as above

Indian Medical Service

The Secretary of State for India announces that Vacancies in the Indian Medical Service continue to be filled by direct appointment

For EUROPEAN OFFICERS of British Nationality to be appointed in the immediate future special terms are offered including gratuities of £1 000 after 5 years service, together with free return passages for those who no longer desire to remain in the service

Candidates must be under 32 years of age at the time of application and must possess qualifications registrable in Great Britain and Ire and under the Medical Acts now in force

Further particulars can be obtained on application to the Secretary Military Department, India Office Whitehall, London S W 1 Letters should be marked Recruitment for I M S "

Manchester Babies' Hospital,
Burnage Lane Levenshulme.

Applications are invited for the post of RESIDENT MEDICAL OFFICER The appointment is for six months Salary at the rate of £125 per annum with laundry Only candidates with previous Hospital experience need apply Applications to be made by April 7th to

ANGELA LOPEZ Secretary

Western Australia—
Applications are invited by the Agent-General for Western Australia from duly qualified medical men for the position of BACTERIOLOGIST and PATHOLOGIST Medical and Health Department of Western Australia Applicants must be fully qualified practitioners, *experienced in and competent* to carry out the routine work of a laboratory performing all branches of Clinical and Public Health Bacteriology and Pathology Commencing salary £708 per annum rising to £804 salary to commence from date of arrival in Western Australia. Transport allowance of £200 for married man, and £100 for single man Should the successful applicant voluntarily relinquish the position before the expiration of two years from the date of his appointment, he will be called upon to refund the amount of the transport allowance Applications which should be endorsed "Pathologist" must reach the Agent-General for Western Australia, Savoy House, 115-116 Strand London, W C 2, not later than the 12th April 1924

City of Leeds.
CHIEF CLINICAL TUBERCULOSIS OFFICER.

Applications are invited from qualified and registered medical practitioners for the post of Chief Clinical Tuberculosis Officer The person selected will have the status of Assistant Medical Officer of Health and will be required to devote his whole time to the office It will be necessary for him to enter into an agreement of service with the Corporation terminable by three months notice on either side, and to undergo a medical examination and contribute to the Superannuation Fund established under the Local Government and other Officers Superannuation Act 1922

Applicants should be under 45 years of age must have had experience in the treatment and care (Dispensary and Sanatorium) of persons suffering from Tuberculosis had experience of medical and surgical practice in a general hospital and be acquainted with modern methods of diagnosis and treatment including X Ray tuberculin pneumothorax etc

The possession of a D P H is not essential, though it would be considered an extra qualification

Salary £900 per annum Statement of duties and form of application can be obtained from the Medical Officer of Health 12 Market Buildings Vicar Lane Leeds

Applications together with copies of three recent testimonials endorsed Tuberculosis Officer must be delivered at my office 23, Great George street, not later than 5th April

Canvassing any member of the Council directly or indirectly is prohibited

ROBERT B FOX, Town Clerk
March 1924

Surrey County Council
ASSISTANT MEDICAL OFFICER IN PUBLIC HEALTH DEPARTMENT

Applications are invited for the appointment of a Male Assistant Medical Officer Candidates must possess a qualification in public health and have had experience in the diagnosis and treatment of tuberculosis and venereal diseases The officer appointed will be required to undertake such other public health duties as may be allocated to him He will be on the staff of the County Medical Officer of Health must reside in the County and devote the whole of his time to the work Salary £600 per annum rising by annual increments of £20 to £700 per annum

The appointment will be subject to the approval of the Ministry of Health, to the provisions of the Local Government and other Officers Superannuation Act 1922 and to the Standing Orders of the Council *which provide inter alia* that the appointment may be determined at any time by three months written notice

Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be made on the prescribed form and sent to the County Medical Officer of Health 5 Grove Crescent Kingston upon Thame , from whom copies of the application form may be obtained and to whom any inquiries relating to the appointment should be addressed

Last day for receipt of applications 2nd April 1924.

Canvassing directly or indirectly will disqualify

County Hall, T W WEBBING
Kingston-on Thames Clerk to the County
17th March 1924 Council

Metropolitan Borough of POPLAR.

Applications are invited from registered Medical Practitioners for appointment as ASSISTANT TUBERCULOSIS OFFICER, to act under the Tuberculosis Officer and the Medical Officer of Health Salary £600 per annum subject to contribution to the Council's Superannuation Scheme

Applications stating age and experience accompanied by copies of not more than three recent testimonials to be delivered to the undersigned not later than 12 noon on Friday the 4th April

Council Offices C H SHILLINGLAW
High Street Poplar, E 14 Town Clerk.
2 nd March 1924

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C. 2

CONTRACT PRACTICE.

Town or District	Town or District	Town or District.
ENGLAND	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs)*	MARDY GLAMORGAN *(Workmen's Medical Scheme)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs)*	OAKDALE MON *(Medical Officer for Medical Aid Association and Cottage Hospital.)*	LEEDS EDUCATION COMMITTEE *(Assistant School Medical Officer)*
WALES	OGMORE VALLEY, GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*	LINCOLN CITY AND COUNTY BOROUGH *(Medical Officer of Health)*
ABERTRIDWR GLAMORGAN *Windsor Colliery (Medical Scheme.)*	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	MORAY EDUCATION AUTHORITY *(Assistant School Medical Officer)*
EBBW VALE, MON *(Workmen's Medical Society)*	**PUBLIC HEALTH**	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	BARNSLEY: COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer)*	OLDHAM EDUCATION COMMITTEE *(Assistant Schools Medical Officer)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*		SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *(Senior Resident Physician) (Senior Resident Surgeon.)*	Mr A RADFORD M C F R C S 5 & 6 4th Floor National Bank Buildings, Durban	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R MARSHALL ALLAN (Hon Sec Queensland Branch) Adelaide Street Brisbane	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon. Sec., Victorian Branch) Medical Society Hall E Melbourne Victoria
NEW SOUTH WALES *(All Friendly Society Appointments.)*	Dr R H TODD (Hon Sec New South Wales Branch) B M A. Building 30-34 Elizabeth Street Sydney N S W			WESTERN AUSTRALIA *(Contract and Lodge Practices)*	Hon Sec Western Australian Branch No 6, Bank of New South Wales Chambers, St. George's Terrace Perth

Address 429 Strand, W C 2.
March 26th 1924

By order of the Council of the British Medical Association,
ALFRED COX Medical Secretary

The Queen's Hospital for CHILDREN
Hackney Road, Bethnal Green E 2

RESIDENT MEDICAL OFFICER required The appointment is made for twelve months and may be extended to a further period of twelve months Salary £200 per annum, with board residence, and laundry

The Resident Medical Staff consists of R M O (post now advertised) two House Physicians and three House Surgeons Candidates must have held a responsible resident appointment at a recognised hospital

Applications, with copies of not more than three testimonials given specially for the purpose should reach the Secretary not later than 7th April

17th March, 1924 T GLENTON KEITH
Telephone: Dalston 305 & 534 Secretary

Central London Throat, NOSE AND EAR HOSPITAL, Gray's Inn Road W C 1.

HONORARY RADIOGRAPHER

The Committee of Management invite applications for the post of Honorary Medical Officer to take charge of the X ray Department about to be constructed Times of attendance to be arranged.

Applications should reach the undersigned not later than April 3rd

RICHARD KERSHAW Secretary

The Prince of Wales's GENERAL HOSPITAL, Tottenham N 15

Applications are invited for the following posts vacant on the 15th April next:—

HOUSE SURGEON, £150 per annum
HOUSE PHYSICIAN, £150 per annum,
JUNIOR HOUSE SURGEON £110 per annum,
JUNIOR HOUSE PHYSICIAN £110 per annum with residence board, and laundry

The appointments are held for six months but the holders are eligible for re-appointment for a further term

Candidates (male) must be duly qualified and registered and applications, together with copies of 3 recent testimonials to be sent to me on or before Monday 30th March next.

FREDK. W DREWETT Director

10th March 1924

London Jewish Hospital, Stepney Green E 1

Applications, stating in full previous appointments held are invited for the post of CASUALTY OFFICER and should be sent to the Secretary immediately accompanied by copies of three recent testimonials Salary at the rate of £200 per annum with lunch and tea. The holder will be required to attend the Out patient Department daily (Monday to Friday) at 9 a.m Applicants must possess a registered qualification.

The Sheffield Royal Hospital

Applications are invited for the post of ASSISTANT CASUALTY OFFICER Salary £100 per annum with board and residence in the Hospital Candidates must be registered medical practitioners and unmarried.

Applications with copies of testimonials to be sent to me as early as possible

The Board Room JOE W ROBINSON
14th March 1924 Secretary

Radcliffe Infirmary and COUNTY HOSPITAL, Oxford

Applications are invited for the post of HONORARY ASSISTANT SURGEON at the above Hospital Applications, together with 20 copies of 3 testimonials to be forwarded to the undersigned not later than Monday 7th April 1924

A G E SANCTUARY Administrator

County Hospital, York (140 Beds.)

HOUSE PHYSICIAN wanted Candidates must be fully qualified and registered. Salary £150 a year with board, residence etc

Applications, stating age together with copies of not more than three recent testimonials, to be sent to the undersigned not later than the 3rd April, next FREDK. NEDEN Secretary

Wanted—Assistantship, in middle-class practice by graduate (M U I) having Eng hosp and general practice experience Five yrs qualified Good testimonials from previous appointments Free in May Non industrial area preferred—Address No 1603 B M J Strand W C

Wanted—An indoor male ASSISTANT for Private and Panel Practice with Public Appointments in industrial district near Birmingham—Address, giving age, references and all essential particulars to No 1623, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted—Married Assistant end May Large mixed good class practice South Coast, with or without view to partnership one capable increasing ophthalmic nucleus pref Dispenser kept Car provided Outdoor at first—Address No 1629 B M J Office 429 Strand W C

Wanted, unmarried, outdoor ASSISTANT to manage Branch Colliery Practice in Northumberland Salary £400 p a, with furnished house coals light, and attendance State age and send copies of 3 recent testimonials—Add No 1610 B M J Office 429, Strand W C 2

Wanted by M B, M R C S., ASSISTANTSHIP with or without view to Partnership Capital available Young, keen and energetic Previous resident hospital experience Excellent testimonials—Address, No 1622 BRITISH MEDICAL JOURNAL Office, 429 Strand W C.

Wanted by M B, B Ch (Dub Univ), age 30 ASSISTANTSHIP or LOCUM Experience of large panel and private practice At present engaged in same—free any time Excellent refs Strict T T—Address No 1621 BRIT MED JOUR Office 429 Strand W C 2

Wanted—Assistant, Indoor, in Swansea Valley Motor-cyclist State age qualifications and experience height and weight—Dr LEWIS Ystalyfera Swansea.

Assistantship or Locum desired by M B Ch B (Aberdeen) D P H, woman Experienced in private and panel practice Accustomed to dispensing cyclist.—Address No 1633 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship wanted by M B B Ch (B Hast) D P H Experience H P and H S two years and general practice 18 months Single, Protestant, excellent references—Address No 1604 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Assistant wanted, indoor, single for panel and private practice in East of London State qualification and nationality—Address No 1634 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Civil Servant would keep DOCTOR'S ACCOUNTS and RECORDS at a Moderate Fee—Address No 1619 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Expert Radiographer and CLINICAL PHOTOGRAPHER now at liberty Six years Hospital experience Accustomed Secretarial work Excellent testimonials—Address No 1607 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Ex-Chief Sick Berth Steward seeks SITUATION with Medical Officer any part United Kingdom Surgical or Medical work Laboratory Dispensing Chauffeur Or Venereal Clinic Typewriting No disabilities References—Address No 1611 B M J Office 429 Strand W C

Lady (30), Scotch, seeks post as ATTENDANT to doctor or dentist Hospital training energetic bright and well recommended Ready to start work now—Address No 1601 BRITISH MEDICAL JOURNAL Office 429 Strand W C

M B, Ch B Edin (Woman), experienced in sanatorium work desires ASSISTANTSHIP in general practice Willing to do night work Small salary in return for good experience.—Address No 1613 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

M B (Woman), desires ASSISTANTSHIP in May Experienced panel and private practice Young energetic cyclist Very moderate salary—Address No 1615 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Young lady requires post as DISPENSER BOOK-KEEPER Excellent testimonials 5 years last post—Address No 1625 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Qualified Medical Man required for position in the Straits Settlements young unmarried man preferred. Three years agreement good salary passage paid out and home Free unfurnished quarters Write with particulars giving age experience and copies of testimonials to Box 988 LEATHWAITE & SIMMONS 34 Throgmorton Street E C 2

Radiographer and Masseuse, M S R, F.L.T C, seeks POST Excellent experience in Radiography X Ray, and Electrotherapy Very good testimonials—Address No 1433 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2

Required by a Belgian physician on British Medical Register ASSISTANTSHIP to Ophthalmic Surgeon—Apply F D R c/o PARKE DAVIS & Co, 50-54, Beak Street W 1

Woman, M R C S, L R C P, age 26 desires post as WHOLE or PART TIME ASSISTANT Keen on general practice and some experience in it. Excellent testimonials—Address, No 1628 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2

Woman, M B, Ch B, aged 6 years experienced Hospital and general practice, wishes post as ASSISTANT or LOCUM—Address, No 1616 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

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(Late of ARNOLD & SONS, London)

43, BEDFORD STREET, STRAND, W C 2

Telegraphic Address:

Positions Westrand London."

Telephone Regent 229

Wanted, Locum for June or August. Scotsman or Englishman young unmarried Possible partnership.—Address No 1632 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Locum Tenency desired by an experienced Doctor in panel and private who has had own practice 6 guineas per week London preferred not essential Well received by patients Good references recent locums Now disengaged Address "MEDICUS 58 Talbot Rd Bayswater W

M.B, B Ch (woman) desires appointment LOCUM or ASSISTANT SHIP Final year resident appointments held Willing to cycle At present resident in S Wales—Address No 1624 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Tuberculosis Officer wants engagement as Holiday LOCUM in the summer—Address No 1608, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

LOCUMS for EASTER

IF YOU WISH a LOCUM for EASTER communicate with us at once and you shall be FIXED UP SATISFACTORILY

LEE & MARTIN, LTD,

71, Temple Row, BIRMINGHAM

Telegrams Locum, Birmingham"

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Mr PERCIVAL TURNER

The Oldest and only Agent who for 40 year has supplied substitutes at short notic without fee to principals.

4, ADAM STREET, STRAND, LONDON, W C

Teleg: "Epsomian, London" Phone: Gerrard 39 After 5 p m.—"Phone: Epsom 335

Wanted—Middle and work ing class PRACTICE yielding from £1,00 to £3 000 a year in London or any good town Partnership entertained—Apply PEACOCK & HADLEY 19 Craven Street, Strand W C 2 (N charge unless sale effected)

Wanted by M B, Ch B., D P H Edinburgh a good-class PRACTICE or PARTNERSHIP within easy reach of London experienced Physician and Bacteriologist Good house with garden essen Advertiser is free to buy immediately—Add No 1609 B M J, Strand, W C

Cheshire—Practice for Sale, in pretty district. Detached house, with large gardens (flower and vegetable) orchard lawn and garage Receipts £500 Excellent to one Price, house and prac £1,550 part deferred—MANCHESTER MED & SCHOLASTIC ASSOCL Ltd, 88 King St

East London—Cash and Panel PRACTICE Total receipts (main and branch surgeries) £2,700, panel 3 000 Eight roomed residence for sale Branch Surgery (Lock up) doing £1 000 a year panel 1 000 sold separately if desired.—Premium 1½ years purchase—Apply PEACOCK & HADLEY, 19, Craven Street Strand W C 2

For Disposal—A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised—Full information free on application to 4 Adam St, W C 2

For Disposal—Old-established PRACTICE (private panel and appointments) £1 600 per annum Comfortable residence large garden 3 miles London Price £2 600 Half share first, if desired to suitable man—Address No 1635 B M J Office, 429 Strand W C

For Disposal, in South Coast Town a newly established SURGERY well fitted up and suitable for single man Vendor accepted appointment abroad Premium £100 for quick sale.—Address No. 1626 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

For Sale—Unopposed PRACTICE (£850) with good small house in favourite seaside holiday district in South West Excellent golf &c Moderate price—Address No 1620 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

For Sale—South Devon Country PRACTICE near Sea £1 300 per annum Comfortable house on long lease rent £70 Premium £2 000—Address, No 1631 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Kent—Half share, middle-class non panel Practice in large town for sale Share worth £1 850 p a Good residence available rent moderate Premium 1½ years purchase—Apply PEACOCK & HADLEY 19 Craven Street Strand W C 2.

Leicestershire—Practice for disposal producing about £1 000 per annum Particulars from G M A., Ltd, 3, Bowling Green Street, Leicester

London—Panel and Private Cash PRACTICE for sale Average annual receipts £700 Price 1½ years purchase or close offer Easy terms to right man—Address No 1632 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Required at once, Practices and PARTNERSHIPS—Mr W S ATKINS (late of ARNOLD & SONS London) has a large number of Clients who are seeking Practices and Partnerships and wish to settle down at once—Send full particulars in confidence to ATKINS Medical Transfer Agency 43 Bedford Street, Strand W C

Small Practices, with scope (1) Cheshire county (£350 p.a.) with house drugs £1 550 Partnership also offered (2) Somerset, coast (£400 p.a.) with house £2 200 without £500—THE WESTERN TRIPLE AGENCY Mr Woodfield Rd, Torquay (Tel: Triple Torquay)

Freehold Residence admirably adapted to the requirements of a medical man in a rapidly extending town in the North East Midlands Excellent position Ample accommodation and good garden covering ¾ acre tastefully laid out. No doctor on the main road on which this house is situated.—LEE & MARTIN Ltd, 71 Temple Row Birmingham

Lancashire — Large City — Old-established Private and Panel PRACTICE Receipts over £3,100 Panel 1 00 Expenses small Freehold house for sale, excellent position Premium for Practice and house £4,100 payable part down remainder by instalments.—LEE & MARTIN Ltd., 71 Temple Row Birmingham.

Liverpool -Partnership worth £500 per annum. Preliminary ASSISTANTSHIP Old-established good middle-class Practice. Large panel Single Englishman or Scotsman essential. Prem 2 years purchase.—LEE & MARTIN Ltd., 71 Temple Row Birmingham

North-west Midlands — Country PRACTICE Good-class Panel and Private Receipts £400 per annum increasing Expenses small easily worked. Very healthy district Good house and garden for sale Price with Practice £1,550 Cottage Hospital near.—LEE & MARTIN Ltd 71 Temple Row Birmingham

Staffordshire — Old-established Unopposed Mixed PRACTICE in Country Village Receipts £755 Can be largely increased Panel about 66 Appointments provide trans crable. House on tenancy which can continue. *Rent £10 Sporting district* Good educational facilities Doctor's ill health cause of selling —LEE & MARTIN Ltd. 1, Temple Row Birmingham

Staffordshire -Old-established town and country PRACTICE.—Receipts £1,100 Panel over 500. Appointments Scope Freehold house ample accommodation good garden. Educational facilities.—LEE & MARTIN Ltd., 1 Temple Row Birmingham.

Manchester City —Old-established middle and working-class PRACTICE for Sale. Average cash receipts £1,400 Panel 900 Premium 1½ years purchase Excellent house garage, etc, for sale with Practice.—MANCHESTER MEDICAL AGENCY 24, London Road Manchester

Manchester District —Large sound PRACTICE for sale in better working class district. Genuine. For further particulars apply—Messrs. *HOPKIN HOUGHTON & Co Ltd*, Sun Buildings, Bridge Street, Manchester

South Devon Coast — Nice PRACTICE and Freehold House and Furniture Car and Drugs £3 700 inclusive suit Anglo-Indian. No agents —Apply M. GREEN 31, Gwendwr Road, West Kensington

To Purchasers.—Do not Buy without expert assistance With 40 years experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4 Adam Street Strand *W C 2 Telephone: Gerrard 399. Telegrams: Epsomian, London.*"

Woman's Practice for Sale immediately in industrial town Scotland Panel about 1,100 very good private practice, not much night work Premium 1½ years purchase. Would suit two.—Address, No 1513, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Within 20 miles of London —Old estab. PRACTICE for disposal about £850 p.a. Panel 50 to 800 Visiting fees 3 6 to 10 6 Con 3/6 No mid but ample scope Good house to rent, 3 recep. surgery etc., 5 bedrooms good garden —Apply No 7516, Mr PERCIVAL TURNER, 4 Adam Street, Strand, *W C 2*

Wanted Partnership or PRACTICE with efficient introduction on South Coast, good class, small or no panel Good house and garden are desired Income £1,000 per annum or over Capital for cash sale available.—Reply with full details in strict confidence to *No 1204*. BRIT. MED JOUR. Office, 429 Strand W C 2

Partner wanted in Practice of over £4,000 in rising East Coast town to replace partner wishing to retire Good fees. No panel Fifth share during introduction and up to half on retirement.—Address, No 1618, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Partnership wanted, in large Provincial Town like York or Nottingham Cash available. Over two years' experience. Well received by patients. Englishman. Good price for sound proposition —Address details in confidence to No 1627 B M J Office 429 Strand W C 2

Wanted -Partnership, South Coast or S W County by highly experienced successful practitioner married Six months salaried appt pref as prelim. Pleasant surroundings *essen* Free end of May Full details treated strict confidence —No 1602, B M J 429 Strand

Lancashire —Partnership worth £1,100 to £1,200 2/5 panel and 3/5 private, in industrial area with scope. Good house available Purchaser should have necessary capital Premium 1½ years purchase —Address, No. 1617 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C

Lanc's Seaside —Half share PARTNERSHIP in excellent practice great scope and very good opening for energetic man. Price £1 600 (2 years' purchase) —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd 88 King Street

North England -Partnership with Succession in two years. Total receipts average over £4,200 p.a. Half share for sale now at 1½ years purchase —Apply PEACOCK & HADLEY 19 Craven Street Strand W C 2

Third Partner wanted in large Practice London suburb Share about £1,000 per annum offered —Address, No 1606 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted —Student's Microscope modern. Oil immersion, &c. Approval Particulars and price to RIGBY 22 Barkeley Drive Seaforth Liverpool.

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Norfolk & Norwich Hospital, Norwich

CASUALTY OFFICER and HOUSE SURGEON (with charge of 40 beds) required Salary £150 with board residence and laundry

Candidates (male) who must possess registered qualifications should forward applications stating age nationality etc. together with copies of testimonials to the undersigned as soon as possible.

28th March, 1924 FRANK INCH Secretary

North Riding Mental Hospital, Clifton York.

Temporary ASSISTANT MEDICAL OFFICER (male) single. Salary seven guineas per week, with board, lodging and washing.

Apply immediately to Medical Superintendent

Clinical Assistants required Vacancies will shortly occur for Clinical Assistants at ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN Leicester Sq W C 2. For further particulars apply to the Secretary

The Corporation of Rangoon

invite applications for the post of HEALTH OFFICER. Salary Rs 1 200/ per month rising by annual increase of Rs 60/ per month to Rs 1 500/ per month plus motor car allowance of Rs 150/ monthly. Engagement on agreement for five years, with extension by consent to ten years. First year will be period on probation during which, or at the end of which, engagement terminable by either party with three months notice. Free first class passage and half pay during voyage out will be allowed. Successful candidate will be eligible to join Corporation of Rangoon Provident Fund, paying subscriptions at the rate of 8¼ per cent. of salary, Corporation of Rangoon contributing equal amounts compound interest allowed according to amount earned by fund. Leave and leave allowances in accordance with special leave rules in fundamental rules of the Government of India. The officer appointed will be responsible for administration of the department associated with Public Health including Veterinary and removal and disposal of rubbish and refuse from City, and will be Adviser to the Corporation of Rangoon on all matters pertaining to Public Health including preparation and carrying out of schemes for prevention of and control of epidemics and other diseases. Population of City 312 000. Candidates must be registered under Medical Acts as holders of diploma in Public Health and should state age, education, and other qualifications, experience acquired accompanied by copies of testimonials. Successful candidate if passed medically fit, will be required to join appointment immediately.

Applications should be addressed to the undersigned not later than 9th May.

All applications will be sent to Rangoon where the selection will be made.

OGILVY GILLANDERS & Co.
Sun Court 67, Cornhill, London E C 3. Reference R 2978.
London Agents for the Corporation of Rangoon

Colonial Service

GOVERNMENT MEDICAL OFFICER required for service in the BRITISH GUIANA DIAMOND FIELDS. Salary £500 with station allowance £200 private practice computed at £250 and free transport and quarters. Appointment for 3 years, renewable and with option of being made pensionable from beginning if service satisfactory. £40 each way provided for passage. Candidate should be bachelor aged between 25 and 33.

Further information may be obtained from the Assistant Private Secretary (Appointments), Colonial Office, Downing Street.

City of Manchester

BAGULEY SANATORIUM (333 Beds)

THIRD ASSISTANT MEDICAL OFFICER.

The Public Health Committee invite applications from qualified medical men for the position of Third Assistant Medical Officer in the above Institution.

Every applicant must be a registered Medical Practitioner under forty years of age and unmarried.

Preference will be given to applicants with previous hospital experience, a knowledge in bacteriological methods is desirable.

Salary £400 per annum which includes emoluments (board lodgings and laundry) valued at £91 13s 0d per annum with bonus in addition which at present amounts to £83 8s 0d per annum. The commencing cash remuneration is therefore £391 15s 0d.

Every application stating fully the training qualifications and experience of the candidate and his age with copies of three recent testimonials and endorsed on the envelope "Medical Officer Baguley Sanatorium" must be addressed to the Medical Officer of Health Civic Buildings, 1 Mount Street Manchester only and not to members of the Committee or Council, not later than Saturday, the 12th April 1924.

The gentleman appointed will be required to contribute to the Corporation Superannuation Fund and to execute the deed of service. Canvassing in any form oral or written direct or indirect is prohibited.

Town Hall, Manchester. 24th March 1924.
P M HEATH
Town Clerk

St Chad's Hospital,

Birmingham
For Paying Patients—100 Beds

RESIDENT MEDICAL OFFICER required (Male or Female). This post offers exceptional educational advantages.

The Medical Staff consists of thirty Consulting Specialists in all branches of Medicine. Salary £100 per annum with furnished apartments board (excepting stimulants) and laundry.

Candidates must be fully qualified and registered, and have previously held Resident Post.

Applications (marked R.M.O.) with full particulars of experience age etc together with copies of recent testimonials should be sent to the undersigned no later than April 10 h. 1924.

DAVID J RICHARDS House Governor

Birmingham Union.

SELLY OAK HOSPITAL.

RESIDENT ASSISTANT MEDICAL OFFICER (JUNIOR)

Applications are invited from fully qualified medical practitioners (accustomed to administering anæsthetics), for the above post.

The present hospital accommodation is approximately 450 beds (medical, surgical, and maternity and gynæcological).

The appointment will be for a period of twelve months in the first instance, but may be extended at the end of that time.

The person appointed to the post will be required, should occasion arise, to assist at any of the other Institutions under the control of the Guardians.

Commencing salary £300 per annum rising by annual increments of £25 to a maximum of £400 per annum together with full residential emoluments (rations laundry and attendance).

Further particulars of the appointment may be obtained from the Medical Superintendent, Dr W MARTIN.

Applications stating age experience and qualifications accompanied by copies of recent testimonials should be forwarded to me at the earliest possible date.

Union Offices, Edmund Street, Birmingham. 22nd March 1924.
JAMES CURTIS,
Clerk to the Guardians

West London Hospital,

Hammersmith Road W 6

Applications are invited for the post of HONORARY MEDICAL REGISTRAR for a period of one year, eligible for re-election annually. The holder of the post must hold no appointment at a general teaching hospital during his term of office. The duties include the preparation of the Medical Registrar's report for the year and the supervision of the records of cases.

The candidate appointed must be available as substitute for the Physicians and Assistant Physicians when required and be prepared to undertake such teaching for the Post Graduate College as may be desired.

Candidates are required to be registered under the Medical Act, to send applications so as to reach me not later than Wednesday 23rd April next to attend the Medical Council Meeting on Friday, 25th April at 4 30 p m and prior to that date to call upon and send copies of application and testimonials to each member thereof to abstain from canvassing but nevertheless to send copies of application and testimonials to each member of the Board of Management at whose meeting on Tuesday, 29th April, at 5 p m., candidates must be in attendance.

H A. MADGE Secretary

Wilts County Council.

TEMPORARY ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

Applications are invited for the above appointment.

Applicants must be fully qualified medical practitioners with experience in Tuberculosis and must hold a Diploma in Public Health or an equivalent qualification. The salary will be at the rate of £600 per annum, and the period for which the officer's services are required will be not less than three months. The duties will be in connection with Tuberculosis School Medical Inspection, and such other work as the County Medical Officer may require.

Applications, stating age, qualifications, and experience and accompanied by not more than three recent testimonials to be lodged with the undersigned not later than Thursday, the 3rd April 1924.

Canvassing directly or indirectly will disqualify.

Clerk's Office, County Offices, Trowbridge. 25th March, 1924.
W L BOWN,
Clerk of the County Council.

Norfolk County Council

APPOINTMENT OF ASSISTANT TUBBROULOSIS OFFICER

Applications for the above post are invited. Special experience in the diagnosis and treatment of Tuberculosis is essential. The Officer appointed will work under the direction and supervision of the County Tuberculosis Officer, and will be required to reside in Norwich.

The duties consist of visiting patients at their homes dispensary and such other work as may from time to time be required. Travelling expenses are provided, and the Officer is supplied with a car. Some experience of Laboratory work would be appreciated. Salary £600 per annum.

Applications accompanied by not more than three recent testimonials stating age and date when free to commence duties must be received by Dr W B CHRISTOPHERSON County Tuberculosis Officer Bank Court The Walk Norwich not later than Saturday April 5th 1924.

H C DAVIES Clerk of the Council
Shirehouse Norwich 13th March, 1924.

Evelina Hospital for Children,

Southwark, S E

The Committee of Management require a HOUSE SURGEON (male), for four months and HOUSE PHYSICIAN (male) for six months both from 12th April. Salaries at £160 per annum with board, residence and washing. Candidates should send applications, stating age and qualifications (with dates) together with copies of four testimonials, to the Secretary, at the Hospital before 4th April.

Suitable applicants (qualified and registered) will be informed when they must be interviewed by the Medical Committee.

Selected candidates must attend Committee of Management.

Time and place of meeting will be notified by the undersigned, from whom rules and other particulars relating to the post may be obtained.

By Order of the Committee of Management
H C STANILAND SMITH,
3rd March 1924. Secretary

Tunbridge Wells General

HOSPITAL.

Wanted, HOUSE SURGEON. Candidates must be unmarried and duly qualified in Medicine and Surgery (Two residents) May be required to Lecture to Nursing Staff. 86 Beds. In patients 1923 1 304. Surgical cases largely predominate. Major operations 700 yearly. V D Clinic.

Salary £160 per annum with board residence &c in the Hospital.

This Hospital is approved by the University of London for the purpose of the M D and M S Examinations.

Applications, stating qualifications with certificates of registration and copies of testimonials, should be sent to the undersigned on or before Wednesday, April 9th, next. Appointment to be entered into May 1st.

J J WEBB Secretary

Paddington Green Children's

HOSPITAL London, W 2

HOUSE PHYSICIAN HOUSE SURGEON

The appointments will become vacant on May 1st 1924. Gentlemen are invited to send in their applications with copies of three testimonials addressed to the undersigned not later than April 10th 1924. Salary of each £150 per annum, with board and residence.

Candidates who have held a responsible Resident Hospital appointment are preferred. The appointments are for a period of six months.

JAMES A HAMLIN Secretary

The Cancer Hospital (Free)

(Incorporated under Royal Charter),
Fulham Road, London, S W 3.

The Committee are prepared to receive applications for the post of HOUSE SURGEON. Salary £100 per annum. The appointment is for six months and subject to rules a copy of which may be obtained from the Secretary.

Previous experience as a House Surgeon is indispensable.

Applications with three copies only of testimonials to be sent to the undersigned not later than the first post on Tuesday, 8th April 1924.

J COURTNEY BUCHANAN Secretary

King's College Hospital

The Committee of Management invite applications for the post of JUNIOR PHYSICIAN who shall hold the post of Medical Tutor and Morbid Anatomist. In the event of the appointment of the present Medical Registrar who is a candidate the Medical Registrarship will be vacant.

Applications together with copies of three testimonials should be sent before April 1st, 1924 to the House Governor King's College Hospital, Denmark Hill S E 5, from whom particulars of the duties can be obtained.

Coton Hill Mental Hospital,

Stafford

The Visiting Committee invite applications for the post of Male MEDICAL SUPERINTENDENT of the above Hospital.

Salary £600 per annum, with board furnished quarters in the Hospital and laundry.

Candidates must be fully qualified medical practitioners and have had experience in mental hospitals. Diploma in psychological medicine an advantage.

Applications together with copies of not more than three testimonials to be sent to the Chairman of the Committee, not later than Saturday, April 12th.

Coton Hill, 24th March 1924.

Wanted immediately,

Educated girls age 18 20 as PROBATIONERS for CHILDREN'S NEW ORTHOPÆDIC HOSPITAL Bath. — Apply, Miss HOOPER, 1 Landown Place West Bath.

Wolverhampton Education COMMITTEE

APPOINTMENT OF SCHOOL DENTAL SURGEON

Applications invited for position of School Dental Surgeon Applicants must be registered and fully qualified Salary £500

Applications stating age qualifications, experience in Dental work etc. together with copies of not more than three recent testimonials must be forwarded by not later than April 5th, to Director of Education, Wolverhampton from whom further particulars are to be obtained Canvassing will disqualify

The Mental Hospital, Wells, Somerset

ASSISTANT MEDICAL OFFICER required (Male single must be legally qualified and registered A knowledge of Bacteriology a recommendation. Salary commencing £300 per annum with board lodging washing, and attendance subject to statutory deductions for superannuation fund Applications, to be sent to the Medical Superintendent stating age, and with full particulars and not more than three recent testimonials

Charing Cross Hospital, London, W C

ASSISTANT SURGEON

The Council invite applications for the post of Assistant Surgeon to the Charing Cross Hospital

Candidates who must be Fellows of the Royal College of Surgeons of England should send in their applications, together with copies of three testimonials to the undersigned not later than Monday April 7th, 1924

PHILIP INMAN
Charing Cross Hospital House Governor
London W C 2

Charing Cross Hospital, London, W C

MEDICAL REGISTRAR

The Council invite applications for the post of Medical Registrar Honorarium £150 per annum

A copy of the Regulations can be obtained from the undersigned to whom applications together with copies of three testimonials must be submitted not later than Monday April 7th 1924

PHILIP INMAN
Charing Cross Hospital House Governor
London W C 2

Charing Cross Hospital, London, W C

SURGICAL REGISTRAR

The Council invite applications for the post of Surgical Registrar Honorarium £150 per annum

A copy of the Regulations can be obtained from the undersigned to whom applications together with copies of three testimonials must be submitted not later than Monday, April 7th 1924

PHILIP INMAN
Charing Cross Hospital House Governor
London W C 2

Hull City Asylum

APPOINTMENT OF MEDICAL SUPERINTENDENT

Applications are invited for the appointment of Medical Superintendent at the above Asylum The salary offered is £1,000 per annum (no bonus to be paid thereon), with emoluments valued now for pension purposes at £250 per annum and subject to revision as follows —Residence (furnished) coal light vegetables for self wife and family, laundry permission to buy provisions etc out of stores at contract price and £30 per annum towards upkeep of motor car

The Asylum is situate at Willerby 7 miles from Hull Forms of application can be obtained from the undersigned

Applicants in addition to completing the form will be required to send in a formal application for the post

Applications endorsed "Medical Superintendent" should be sent to or delivered at my office not later than Thursday the 10th day of April 1924

The appointment will be subject to the provisions of the Asylums Officers Superannuation Act 1909

Canvassing either directly or indirectly will be a disqualification.

H A. LEAROYD
Guildhall Hull, Town Clerk and Clerk to the
18th March 1924 Committee of Visitors

Derbyshire Royal Infirmary, Derby (General Hospital 318 beds)

Applications are invited for the following Resident appointments, which will become vacant on 1st May —

HOUSE SURGEON Gynæcology and General Surgery

ASSISTANT HOUSE SURGEON AND CASUALTY OFFICER.

The appointments are six months, and may be extended Salary £200 per annum with apartments board etc

Candidates (male) must be qualified and registered; applications with copies of three recent testimonials to be sent to the undersigned not later than first post on Thursday 10th April

WALTER BANKS
Superintendent and Secretary
8th March 1924

Metropolitan Hospital, Kingsland Road E 8

The General Committee are prepared to receive applications for the appointment of an HONORARY ANÆSTHETIST (Male)

Candidates who must be Medical Practitioners, registered in this Country will be required to call upon Members of the Staff

Applications with copies of three recent testimonials, must reach the Secretary at the Hospital not later than first post on Wednesday the 23rd April, 1924

London Temperance Hospital, Hampstead Road N W 1

Applications are invited for the post of SURGICAL REGISTRAR. Honorarium 40 gns. per annum The appointment is for a period of one year and applications, with testimonials should be forwarded to the Secretary not later than April 4th.

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NORTHERN BRANCH —Apply LADY SUPERINTENDENT 57 Clarendon Rd., Leeds. 'Phone: Leeds 2816

London Temperance Hospital, Hampstead Road, N W 1

Applications are invited for the post of MEDICAL REGISTRAR Honorarium 40 gns per annum The appointment is for a period of one year and applications with testimonials should be forwarded to the Secretary not later than April 4th

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Kent—Partnership About £3 700 p.a. No panel or appointments. Good fees. Half share for disposal Good house to rent —Apply, No 7512

Death Vacancy — South Coast About £700 p.a. Old-established. Appointments about £140 Small panel Good house 5 bedrooms etc to rent —Apply No 7510

London, South-West — PARTNERSHIP about £2 700 per annum. Half share for disposal Fees 5/6 to 10/6 Good house to rent Apply No 7504

West County —Partnership About £2,800 a year Very old established Panel 800 Good fees. Quarter or one-third share for disposal. Very moderate premium. *Apply, No 7500*

Riverside Suburb —Nucleus about £500 a year Small panel Fees 5/6 to 7/6 Increasing district Good house and garden Apply No 7474

Open Air Sanatorium, £6,000 a year Old established Splendid premises on lease Every investigation Net profits over £1,500 Premium very moderate. Personally known.—Apply No 7426

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Midlands —£800 a year, Industrial Town. Panel 800 easily worked no Car House with large garden lawn and orchard Sell or Let Premium for practice £1 000 —Apply No 7483

Northern Town —About £1 200 a year Vendor retiring Appointments £[illegible] Panel 800 Good house —Apply No 7449

Midland Town —Practice about £1 400 a year Panel 1 420 Excellent house to rent Appointments about £250 No midwifery —Apply No 7473.

Eastern County —Good old-established Family PRACTICE now returning about £2 000 a year and increasing Panel work £600 Fees good Large detached house grounds one acre to be Let Apply, sole Agent No 7195

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Wales Coast —Over £900 a year Good general PRACTICE Small panel Good house and large garden Residential Seaside Resort. Prem. £1000 —Apply No 7419

Eastern County — About £800 a year Unopposed On rail. Panel over Detached house on lease Schools near Joint Hospital known. Premium 1½ years purchase — Apply No 7155

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6 N.W. COAST.—A General PRACTICE situated at a favourite seaside resort Receipts about £3,000 Fees 5/6 upwards. Plenty of scope Excellent house containing 6 bedrooms, &c. Rent £75 p.a. Premium £4 000 —Folio 639
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S.W. County —Old-established PRACTICE of £2.000 in country town in beautiful district Appointments and panel £850 Fees 3 to 1 gn 25 midwifery Cottage hospital Good schools. House with large garden Golf, etc Prem. 1½ years purchase.

Death Vacancy.—Middle and working-class PRACTICE of £850 in densely populated district Panel 880 Great scope Rent £45 Premium 1 yrs purchase

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Home County —Practice of £3 500 suitable for two in industrial place. Panel and appointments about £1,500 Nice house rent £53

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North Wales —Practice in beautiful seaside place Receipts £550 Small panel Cottage hospital Good house and garden rent £50 on long lease Garage. Premium £650

N.E. Coast — Partnership Half share of £2,800 including £1 800 from panel Suitable living accommodation Premium 1½ years purchase

Lancs —Practice of £1,500 in manufacturing town. Panel 1 100 Appointments £120 Rent £60 on lease Reasonable price

Residential Suburb in S.E London Old established middle class PRACTICE of £1,150 Appointment £240 No panel Good house with tennis court can be bought.

Lincs — Unopposed Practice of £650 Panel and appointments £200 Small house can be rented

London, S.W.—Practice of nearly £600 in pleasant suburb Great scope as vendor has been doing other work. Panel 350 House can be rented for £60

Surrey —Rapidly increasing PRACTICE of £500 in residential suburb. House and Practice can be bought for £1 400 Practically no panel

Liverpool — Suburb, near open country Receipts £1 400 Panel 1 100 Appointment £90 Opposition slight Great scope as vendor has been handicapped by illness Rent £50

South Coast –Old-established good class PRACTICE of £4 000 in large town Very good fees 10 midwifery, 5 gns up Scope for surgery House in good position with garden and garage Rent £100

X-Rays Practice of £800 in select seaside place. Good house can be rented

South Devon —Nucleus and RESIDENT PATIENT connexion in beautiful seaside place Large house and garden

East Coast — Practice of £1 140 in beautiful seaside place Panel 800 Appointment £40 Rent £60

South Coast —Practice of £1,300 in favourite resort Panel 200 Appointment £40 Rent £60 Seven years lease Premium 1½ years purchase

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1. LONDON.—RIVERSIDE SUBURB.—Old-established good class *non-dispensing PRACTICE. Steady average income of over* £1 800 Fees 5/- to 1 guinea. About 12 cases of midwifery a year at 5 to 10 guineas Excellent detached house with good garden rent £130 Lease 21 years Very efficient introduction to suit purchaser's wishes Premium £3 000
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3. *WEST LONDON.*—Old-established mixed general PRACTICE In come for the last year approximately £3 000, including panel of 2 000 Advice and medicine 2/- upwards Visits 3/6 to 5/- About 6 midwifery cases a year at from 2 to 10 guineas Ten roomed house with small garden on lease Rent £100 Partnership introduction for 12 months or longer if desired Premium £4,000
4. CANADIAN COAST TOWN.—Old-established mixed-class PRACTICE, held by Vendor 30 years. Income for the last 12 months £1 650 Average for the last 10 years £1 350 No appointments Nearest opposition 10 miles Fees: Consultations 1 dollar; medicine 1 dollar extra Visits 2 to 8 dollars Not much midwifery fees 15 to 35 dollars House is Vendor's own property and contains 2 reception rooms, professional rooms 5 bedrooms bathroom etc Central heating electric light, etc Small garden Trout and salmon fishing shooting From um for House and Practice £3 500 payable £2 000 cash and a mortgage for the balance on the house
5. DERBYSHIRE.—*HOSPITAL TOWN.*—Old-established PRACTICE held 13 years by present Incumbent who is relinquishing on account of ill health. Cash receipts for the past 3 years average £3,000 per annum including about £1,500 from panel Fees 3/6 to £1/1/0 About 50 cases of midwifery a year at 2 to 5 guineas. Centrally situated house (2 reception rooms, consulting and waiting rooms bedrooms bathroom etc.) on lease at £100 a year Premium 1½ years purchase Good scope for surgery and Vendor is on the Staff of the Hospital
6. NORFOLK.—Unopposed Country PRACTICE Very old-established and situated in a very pretty part of the County Practice is for immediate disposal owing to the ill health of the Vendor Receipts for the past 3½ years average £1 500 per annum including appointments and panel of about 1 000 Very little midwifery Good *house with ample accommodation* Small garden Rent £54 Premium to prompt purchaser £1,450 Sport of all kinds tennis club etc Efficient introduction given
7. KENT.—LARGE TOWN (within 50 miles of London) PARTNERSHIP.—A half share in an old-established Practice producing an average of *over £3 800. No panel and no appointments* Surgery fees 2/- and 2/6 visits 3/- and 3/6 Very little midwifery 2½ gns Night work extremely light House on lease with 2 reception rooms 6 bedrooms bathroom etc. Small garden Rent £60 Premium 1½ years purchase payable chiefly by instalments
8. SOUTH WEST OF ENGLAND.—LARGE TOWN.—Very sound middle and working-class PRACTICE held nearly 25 years by present incumbent who is relinquishing on account of ill-health Average cash receipts over £1 200 a year including several small appointments and a panel of over 1 30) Visits 3/6 to 10 6 Midwifery from £3/3/0 about 20 *cases yearly Very good house* specially built for doctor contains 2 reception rooms waiting room consulting room surgery with separate entrance 5 bedrooms etc Garden Premium £1 500
9. PARTNERSHIP.—A THIRD-SHARE is offered in an old-established general Practice situated in a residential *suburb of South-east* London Income for the immediate past year approximately £2 200 Practice offers large scope with the aid of a suitable partner No appointments Panel of 70 Fees from 3/6 upwards A few midwifery cases from £3/3/0 Choice of houses, or suitable rooms can be secured. Premium 2 years purchase Cambridge Graduate preferred.
10. PARTNERSHIP.—KENT.—A HALF SHARE of an old-established first-class unopposed Country Practice, amidst pretty surroundings. *Worth about £1,600 per annum including panel about £450* and Union and Vaccination appt £50 A number of country houses farmers, shopkeepers, etc Suitable arrangements can be made as regards a house Sport of all kinds cricket, tennis etc. hunting Premium for share 2 years purchase. Excellent scope.
11. *INLAND HEALTH RESORT.*—In a very pleasant town (resident population 1 400 which is considerably augmented by visitors during the season) amidst beautiful scenery an old-established, practically unopposed PRACTICE is for disposal in consequence of the ill health of the Vendor's wife. It is estimated to be worth nearly £1 800 a year including appointments £50 and 500 panel patients Visits up to £1 1s Practically no midwifery fees 3 to 5 guinea Excellent residence standing in its own grounds of ¾ of an acre with very ample accommodation Vendor's Freehold Price £3 000 of which £2 500 can remain on mortgage at 4 per cent Premium for Practice £3 000 The Practice offers exceptional future prospects tennis, golf hunting shooting etc
12. SUITABLE FOR TWO LADY DOCTORS.—Well established and flourishing middle and working-class PRACTICE situated in populous neighbourhood in East London Income over £1,150 with panel of 1 300 Surgery fees 2/6 visits 3/6 upwards. No midwifery Small house will be let or sold Premium £1,750 Large scope for increase
13. OUTLYING SUBURB OF LONDON (South).—Old-established *good* middle-class *PRACTICE doing at present* at the rate of £1 200 a year Vendor has no panel but there is very large scope in this direction Visits 5/- upwards Very little midwifery and nothing under £5 5s Exceptionally attractive residence with good accommodation garden etc It is the Vendor's Freehold Price *£2,000* a good part of which can remain on mortgage Premium for Practice £1 500
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MIDLANDS —(2) Unopposed PRACTICE of about £1,100 per annum, including panel of nearly 600 Small house and garden on long lease Rent £30 Premium about one and a half years purchase, according to length of introduction

SOUTH-WEST OF ENGLAND —(3) PARTNER required in very old-established Country Practice in beautiful residential neighbourhood in one of the finest hunting centres Convenient and pleasant house (4 bed and 2 dressing rooms) Garden and orchard Share worth about £1 150 per annum at two years purchase

LONDON, S W —(4) Old-established good-class non-dispensing PRACTICE averaging over £1 800 per annum in first rate residential district No appointments Small panel Very good detached house (4 bed and 2 attics). Garden half an acre Premium about £3 000

SOUTH OF ENGLAND —(5) PARTNER required in very sound old-established Practice in Seaport Town Panel under 3 000 Share worth £700 to £800 at two years purchase Partner must be keen and energetic and not much over 30

HOME COUNTY — (6) Old-established Country PRACTICE between £850 and £900 in beautiful residential neighbourhood Panel 1 5 Excellent detached house (5 bedrooms attics) Lovely garden with tennis lawn Educational facilities Premium practice and house £5 000

COUNTY DURHAM —(7) Well established unopposed Country PRACTICE near important Town Income between £950 and £1 100 per annum Panel about 700 House to rent Moderate premium

DORSET —(8) PARTNERSHIP in Country Practice about £1 000 per annum in beautiful part Premium one half or two thirds share one and a half years purchase

ESSEX —(9) Well-established middle class PRACTICE, averaging £657 per annum, in pleasant district Panel 400 Excellent double fronted house (5 bedrooms) with good garden Premium £900

MIDDLESEX —(10) PARTNER required (after preliminary Assistantship) in very old-established and lucrative practice over £4 500 per annum in industrial district Panel 4 000 Small house (4 bedrooms) Rent £52 Premium one third share two years purchase

SOUTH OF ENGLAND —(11) Old-established PRACTICE of £2 000 in beautifully situated Country Town Panel 1 100 House (in good repair) with 3½ acres of garden paddock etc Very good educational advantages Cottage Hospital Premium One and a half years purchase

LONDON, E DEATH VACANCY —(12) Cash and Panel PRACTICE of £800 in thickly pop district Rent of House £45

HOME COUNTY —(13) PARTNERSHIP in old-established and very compact Practice averaging over £3 800 p a in Industrial Town under 40 miles from London No Appointments or Panel Rent of house £60 Premium one half share one and a half years purchase part by instalments

SOUTH OF ENGLAND —(14) Seaport Town PARTNERSHIP in old established Practice averaging over £2,000 p a. capable of great extension One third share with option to increase up to one-half

BRISTOL —(15) Well-established PRACTICE Panel 850 Appointments value £230 p a House specially built in central position

SOUTH MIDLANDS —(16) PARTNERSHIP (with view to Succession) in old-established Country Town Practice about £1,100 per annum Small panel Premium one half share one and a half years purchase

MANCHESTER —(17) Old-established and increasing middle-class PRACTICE over £1 400 per annum in Suburb with Hospital and opportunities for Surgery Small panel Good house (8 bedrooms) in excellent position Rent £90 Premium one and a half years purchase

SCOTLAND NORTHERN HIGHLANDS — (18) PRACTICE averaging over £1,600 per annum in a Town No panel House (5 bedrooms &c) in best residential part, for sale Ample scope for midwifery and panel Premium £1 200

SHROPSHIRE —(19) PARTNERSHIP in Country Practice, nearly £1 350 per annum Detached house (6 bedrooms) with nice garden for sale Cottage Hospital Premium one half share £1 000

DEATH VACANCY, CAMBRIDGESHIRE —(20) Old-established unopposed Country PRACTICE averaging £1 680 per annum Panel 700. Good house (6 bed and 2 dressing rooms) with large lawn and garden about an acre

SOUTH WEST OF ENGLAND —(21) Health Resort. Well established PRACTICE between £400 and £500 (neglected through illness) House contains 5 bedrooms etc Rent £59 Mild climate Schools Premium £600 Hospital

SOUTH-EAST COAST —(22) Favourite Health Resort, PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1 750 including appointments £170 (about) No panel Premium two-fifths share two years purchase and up to one half in two years Partner should be 28 to 30 single Preliminary Assistantship

NEAR BIRMINGHAM —(23) Lucrative PRACTICE in Town Receipts averaging £2.300 per annum (£1 500 from appointment and panel) Large house with good garden Premium for house and Practice £5 000

INLAND HEALTH RESORT —(24) Well-established PRACTICE of £1 600 in first-rate Residential Town Panel 2 000 house (7 or 8 bedrooms) Premium Practice and House £3 500

MIDLANDS —(25) PARTNERSHIP in very old established unopposed Country Practice well over £2 000 per annum Important Town. Not much Midwifery Detached house (4 bedrooms field of 2½ acres Rent £50 on lease Premium one half share £1 to include drugs &c.

WEST OF ENGLAND —(26) Fashionable Inland Health Resort Good class non-dispensing NUCLEUS over No panel Good introduction Premium £300

NORTH OF ENGLAND —(27) Cathedral PARTNERSHIP (with view to succession) in old established Practice about £1 100 per annum (practically all from Panel, Clubs and Appointments) One-half share at once and a half years purchase Very considerable

SOUTH OF ENGLAND —(28) PARTNERSHIP in a good class non panel practice of £2 400 per annum in beautifully situated Country Town near the coast. One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate not over 30 preferably F R C S England Preliminary Assistantship Salary £ per annum

NORTH-WEST OF ENGLAND —(29) PARTNERSHIP good class practice about £1 500 per annum in popular Seaside resort Panel 650 No clubs Modern residence (4 bedrooms &c) to rent or sale Premium one-half share two years purchase. Partner must be a gentleman and aged 28–40 Great scope

DERBYSHIRE —(30) Well-established PRACTICE between £700 and £800 per annum in Manufacturing Town Panel No Midwifery Nice detached house (4 bedrooms) 1a acre of ground to Great scope for increase Premium one and a half years purchase

EAST COAST —(31) Old-established good class PRACTICE £1,700 per annum in pleasant Seaside Town and favourite Resort panel Nice modern double fronted house (6 bedrooms) Rent £55 Premium one and a half years purchase

MIDLANDS —(32) PARTNERSHIP in old-established Practice over £3 200 per annum in excellent Country Town Panel about 1 400 Premium one third share one and a half years purchase

SOUTH COAST —(33) Good class general PRACTICE £2.000 per annum Excellent house Rent £80 Premium one purchase only

SOUTH-WEST OF ENGLAND —(34) Very old-established middle and better-class PRACTICE over £4 200 in important Seaport Town No Panel or Appointment Commodious house in excellent position Rent £100 Premium one and a half years purchase.

UP-THE-THAMES —(35) Middle-class PRACTICE worth about £500 in Residential District Small Panel House contains bedrooms Premium £500

MIDLAND TOWN —(36) Old established PRACTICE about £1,100 per annum in Residential Suburb Panel 700 House contains bedrooms Large garden Price £1 750 Premium for Practice £1 600

NORTH-WEST COAST —(37) Well-established middle class PRACTICE about £2 400 No appointments. Conveniently situated house to rent Premium £2 900 part by instalments.

NORTH OF ENGLAND —(38) Old established PRACTICE of £1 460 per annum in Country District Panel 810 Very good (5 bedrooms) in charming grounds two acres Premium practice house grounds, £4 000 Mortgage could be had on house

FAVOURITE HOME COUNTY —(39) PARTNERSHIP in good-class Country Practice about £3,200 per annum in delightful residential district Visits up to £2 2s. Excellent modern detached house (4 bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

SEASIDE TOWN AND HEALTH RESORT —(40 JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old-established practice Share worth £1 000 p.a., at two years purchase

EAST COAST —(41) Popular Resort Old established middle and working class PRACTICE of £1 184. Panel 817 Rent of house (5 bedrooms) £60. Premium £1 400

NURSING HOME.—(42) Fashionable Health Resort Gross receipts over £2 400 Fees £5 5s to £15 15s Excellently resid with ample accom Prem for Goodwill furniture and fixtures £2 500

SURREY — (43) PARTNERSHIP in good middle class compact practice over £2 650 in Residential District easy distance of London Panel 1 200 Premium two-fifths share two years purchase Practice investigated by Association s Accountant

CHESHIRE —(44) PARTNERSHIP in good middle and working-class practice over £3 200 per annum in Manufacturing Town. Panel returns about £1 000 per annum Modern detached house (6 bedrooms) for Sale Premium one half share one and a half years purchase Hospital and plenty of scope for special work

CHESHIRE —(45) Important Town Old-established mixed class PRACTICE averaging £3,550 per annum Panel 293. Good house with 6 bedrooms held on lease Very suitable for 2 young practitioners keen on surgery Cottage Hospital (40 beds) Premium £5 000 (or near offer) to include all book debts amounting to over £3 000

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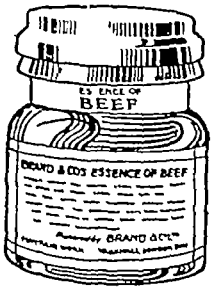
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Caused by	Killed	No of Accidents
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Private Motor-cars	51	4,445
Motor-cycles	13	1,638
Commercial Cars	60	3,391
Horse-drawn Vehicles	10	2,200

More now than ever before is the careful man exposed to the actions of the careless driver of a high-powered machine The owner of such a vehicle has often little financial backing, and is possibly uninsured It is extremely unlikely that it would be possible to recover adequate compensation for an accident which proved fatal

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British Medical Journal.

APRIL 5TH, 1924

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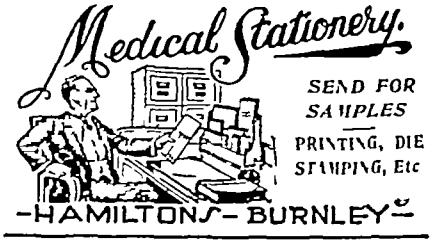


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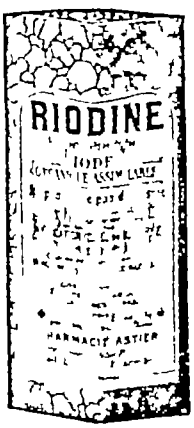
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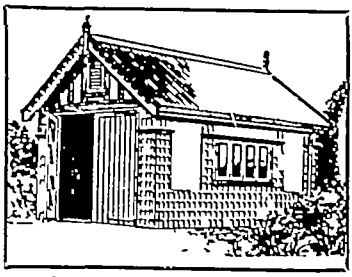
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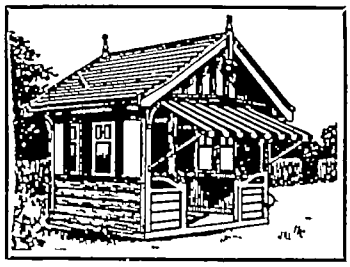
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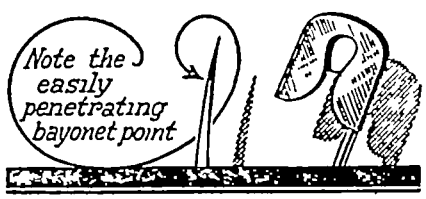
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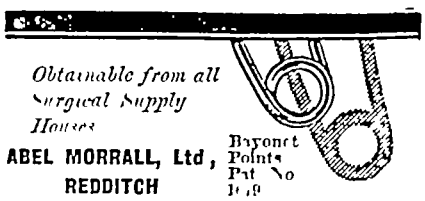
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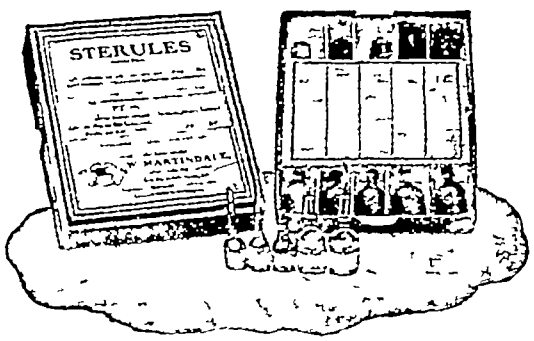
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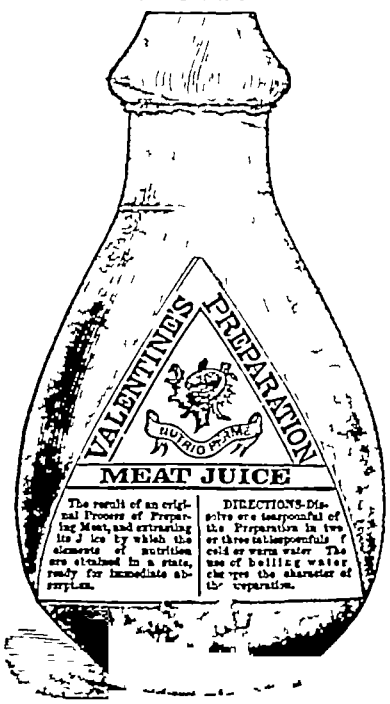
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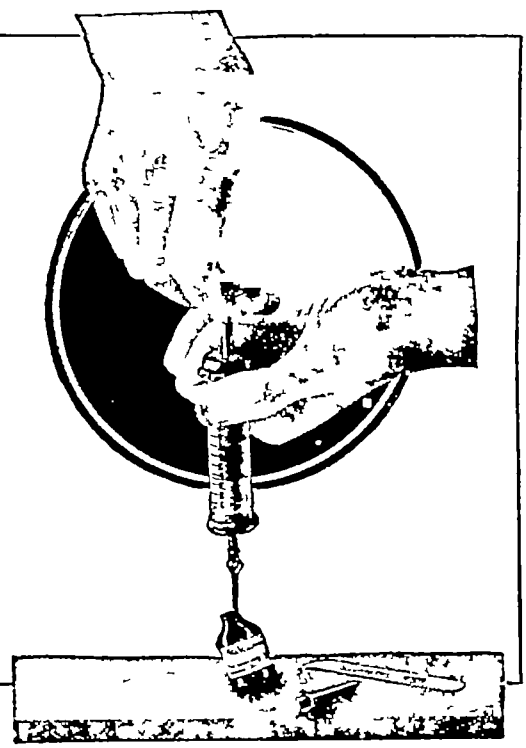
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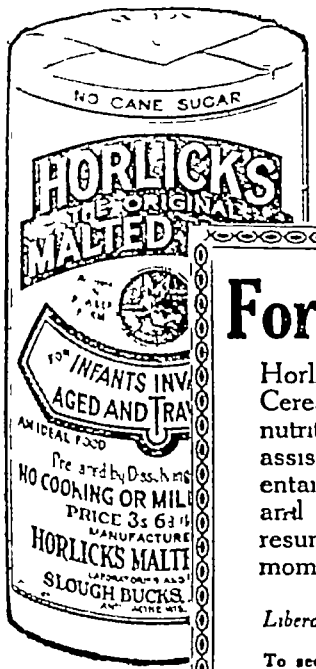
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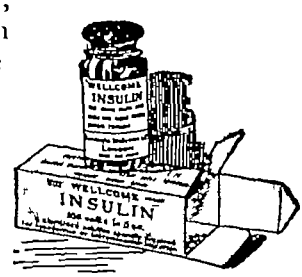
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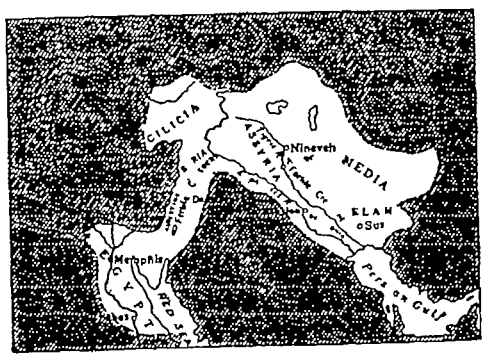


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MAP ILLUSTRATING THE ASSYRIAN EMPIRE AT ITS GREATEST EXTENT.—The first great chapter in the story of Mesopotamia relates to the Sumerian, Akkadian and Babylonian pioneers the second is concerned with the empire builders of Assyria during the ninth, eighth and seventh centuries B C Assyria colonised from Babylonia at an unknown date, had begun to extend her dominion about 2000 B C. Among her chief cities were Assur (now Kalch Shergat) and Nineveh (Kouyunjik) Already in 1850 B C Ishme Dagan extended his rule beyond the borders of Assyria and styled himself King of universal reign,' and although much is obscure in the history of these early times it is clear that the idea of world power was abroad in Assyria. Her kings and those of Babylonia were constantly on the watch to take advantage of a moment of weakness in each other's situation to enter upon an aggressive policy Tiglath Pileser I thus attempted world conquest and succeeded in building up an extensive kingdom which, however crumbled to pieces at his death Not until the ninth century B C did Assyrian power achieve stability At this time Tiglath Pileser I's dominion was restored and the foundations of empire were laid The accompanying map illustrates the expansion of Assyria under her greatest emperors Ashurnasirpal Shalmaneser V Sargon Sennacherib Esarhaddon and Ashurbanipal Outlying Egypt remained part of the empire for but a very short time The Assyrian empire—built up by force of arms—was more extensive than any the ancient world had as yet seen.

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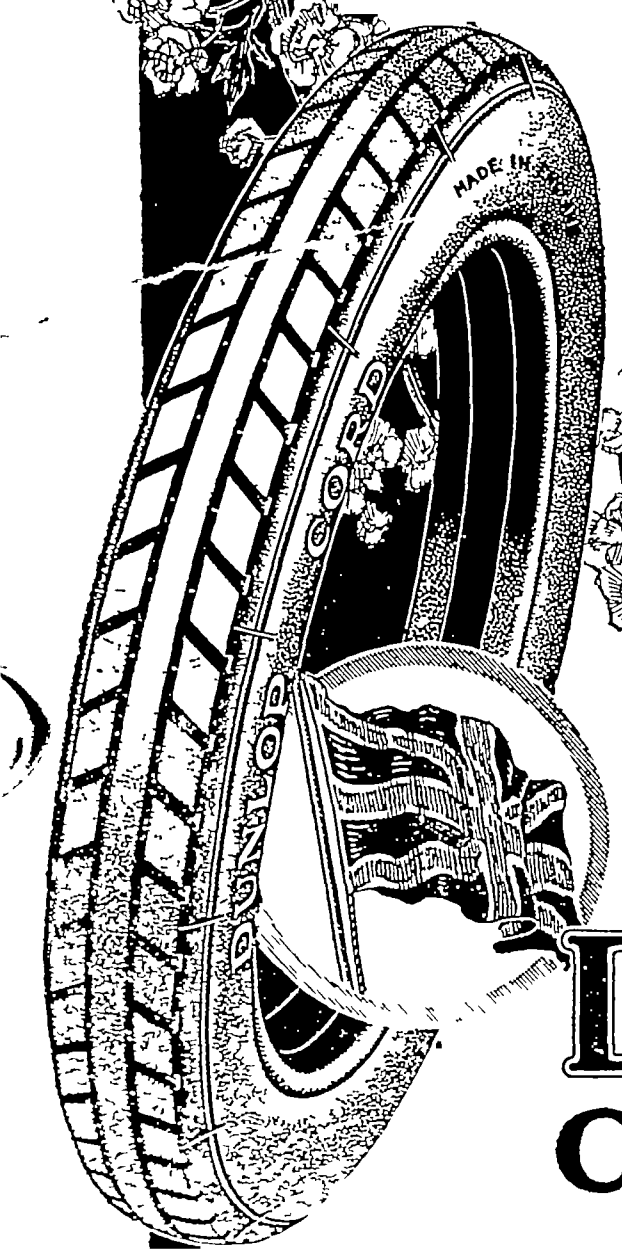
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A British Medical Association Lecture

ON

THE CAUSE AND SIGNIFICANCE OF DYSPNOEA IN PULMONARY DISEASE*

BY

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THE occurrence of respiratory distress is one of the most common and important symptoms in diseases of the lungs. This symptom may be described by the patient in many ways. Indeed it may vary from an urgent complaint without any conspicuous or even obvious change of rate to a very pronounced objective disturbance with or without the patient indicating any inconvenience. It may usually be stated that "dyspnoea" is the conscious desire for increased pulmonary ventilation. But this is not absolutely correct, as there are certain pathological conditions in which increased pulmonary ventilation occurs without conscious distress on the part of the patient. Nevertheless, in cases which exhibit such an increased respiratory function its significance is none the less important. In fact its diagnostic and prognostic import is frequently in inverse ratio to the distress or discomfort it gives the subject. Therefore the disturbances of function and structure which give rise to respiratory abnormality in pulmonary diseases should be clearly understood.

THE POWER OF ADAPTATION

The underlying causes of dyspnoea are numerous and frequently are to be found in structures far removed from the lungs. Consequently those causes which result from pulmonary diseases may be looked upon as local, in spite of the fact that their effects may influence many other remote and important functions. But being localized there is a definite and concrete opportunity for their investigation and interpretation. In order that this may be accomplished, certain biological phenomena must first be considered. These are concerned mainly with the power of adaptation which the animal body seems inherently to possess. It is a well known fact that an organism if suddenly plunged into a radically new environment will rapidly succumb. If, however, the change of environment be brought about slowly it will gradually acquire in the same or succeeding generations an unexpected tolerance for or even a relish for an ordinarily impossible situation. Adaptation occurring in one generation is amply illustrated by the acquired capacity of aviators and mountaineers to attain altitudes and even accomplish severe physical exertion in such a rarefied atmosphere as some authorities had predicted was theoretically impossible without certain artificial aids. These predictions must surely have been made without knowledge of the powers of adaptation of the animal organism. Examples might be cited of an almost similar power of adaptation of unicellular organisms to gross changes in their environment. Dallinger[1] showed how successive generations of flagellates gradually accommodated themselves to changes in the temperature of their environment. This was increased from 60° to 158° F. by slow graduations over a period of seven years. In view of these facts due allowance must be made for the different responses, both local and general, which may result from disturbances of respiration in pulmonary diseases. It would obviously be illogical to compare the effects of interference with respiratory function in bronchopneumonia and emphysema or those resulting from laryngeal obstruction due to diphtheria and tracheal obstruction due to a slowly growing mediastinal tumour.

RESPIRATORY FUNCTION AND THE CONSEQUENCES OF ITS DISTURBANCE

Respiration primarily is necessary for the acquisition of oxygen and elimination of carbon dioxide by the organism. Oxygen is absolutely necessary for all forms of function. Further, although so essential there are no known reserves, which is contrary to the case of many other almost equally important supplies. In regard to the elimination of carbon dioxide the reserve powers for dealing with its retention are much more adequate provided a simultaneous and acute deprivation of oxygen does not occur. Want of oxygen makes the respiratory centre and probably all the other tissues more sensitive to their normal hydrogen ion concentration, which is influenced by that of the arterial blood. If the circulation rate through the tissues remains normal or is increased a lowering of the carbon dioxide content of the arterial blood will lower its hydrogen ion concentration and consequently will effect the reaction of the tissues. Thus the effect of acute oxygen want is to produce a moderate degree of dyspnoea which is not so much due to the lack of oxygen as to the fact that the organism has not sufficient time to lower the hydrogen ion concentration of the blood by removing carbon dioxide. Hence the pulmonary ventilation is increased in order that this may be accomplished. If a more insidious oxygen want should occur there will be a slight increase of pulmonary ventilation, which lowers the carbon dioxide pressure of the alveolar air and thus of the arterial blood, and so the tissues gradually reduce their carbon dioxide pressure and thus their hydrogen ion concentration. Therefore there is no demand for violent pulmonary ventilation. The respirations, however, will gradually become shallower and shallower and to some extent faster, but at no time giving distress, until eventually inspiration and expiration are so diminished that the respiratory movement practically ceases. This may be called the anoxaemic type of respiratory failure so characteristic of uncomplicated oxygen want which occurs in mines with increasing "black damp". It is also tragically revealed by Tissandier in his diary of the famous balloon ascent of the "Zenith" in 1875.

There are practically no pulmonary lesions which solely produce a retention of carbon dioxide. This is accounted for by the fact that carbon dioxide is twenty times more soluble than oxygen, and also on account of the peculiar character of the former's dissociation curve, which allows it to be removed from the blood entering the lungs at an almost constant rate in proportion to the degree of pulmonary ventilation. If, however, there be acute oxygen want and carbon dioxide retention a most violent form of dyspnoea is produced. Most characteristic examples of this condition are to be found in acute laryngeal obstruction due to diphtheria and in certain cases of spasmodic asthma. Furthermore, such a condition can be experimentally produced and studied in man by introducing a resistance to inspiration and expiration.[2] If the resistance be comparatively moderate it will only produce a slowing and slight augmentation of the respirations. If, however, it be increased further, or if exertion be undertaken with moderate resistance, the respiratory effort will become more violent until a sudden climax will be reached, when it will suddenly become excessively rapid and shallower until it ceases altogether. This may be termed the asphyxial type of respiratory failure.

Before leaving the discussion of the causes of dyspnoea in pulmonary diseases it remains to account for another type of respiratory disturbance. Respiration, besides being controlled by the relative proportions of oxygen and carbon dioxide (as a regulator of the hydrogen ion concentration) in the tissues, is also influenced in a very profound degree by a nervous reflex. The chemical conditions may be said to determine the total pulmonary ventilation, but to some extent the Hering-Breuer reflex may be considered to have a leading role in arranging how this shall be accomplished. Under relatively normal conditions if there be a demand for increased pulmonary ventilation this is accomplished by increasing the depth of respiration rather than by increasing the rate. In other words, the points at which inspiration ceases and expiration begins are moved farther and farther apart until a maximum is reached. On further demands being made, the rate begins to increase conspicuously. If these demands be sufficiently severe it will be soon impossible to increase the rate except at the expense of the depth. At this point the high tide of respiratory efficiency is reached. A continuance of the demand leads to a decrease of the

* Delivered before the Birmingham Branch of the British Medical Association February 21st 1924.

supply proportionate to the increase of rate and decrease of the depth so in the end the rate reaches a relative infinity and the depth zero, and respiration ceases

THE DYSPNOEA OF VARIOUS PULMONARY DISEASES

1 *Laryngeal and Tracheal Obstruction*

Lesions producing obstruction in the larynx or trachea lead to symptoms very similar to those which are found in experiments with artificial resistance Particularly is this the case if the obstruction be acute, as in laryngeal diphtheria In such circumstances there is no time for accommodation The breathing at first is, if anything, slowed, with increased depth and obvious difficulty After a short time, or if the obstruction becomes more complete, deep blue cyanosis develops, the respirations become more and more rapid, shallower, and eventually asphyxial respiratory failure occurs It has been shown by Schafer that an almost similar condition occurs in double vagotomy, the animals dying within twenty-four hours of asphyxia During this period the breathing is slowed, which has led to the conclusion that this is a direct result of section of both vagi It is probably due to the laryngeal obstruction resulting from the paralysis of the vocal cords If the animal survives the first twenty-four hours, accommodation seems to occur and recovery may eventually take place

Respiratory failure in such cases is undoubtedly due to the fatigue of the respiratory centre, brought about by a combined oxygen want and carbon dioxide retention If the obstruction be more insidious in its course a considerable degree of accommodation of the tissues may take place and very pronounced stenosis may occur without signs of respiratory failure, even although anoxaemia and carbon dioxide retention occur, as demonstrated by direct examination of the arterial blood and also by the deep blue type of cyanosis

Complete collapse of one lung may lead to no respiratory symptoms at rest, except for the first few minutes The reason for this is that although the lung be collapsed and non-functioning, so also is the circulation through these tissues Therefore comparatively little non-aerated blood returns to pollute the general circulation If, however, a partial stenosis of one bronchus occurs which leads to deficient aeration of the alveoli supplied by this bronchus, the circulation through this region will continue almost as freely as previously, and the blood, being partly aerated, will return to pollute the general circulation

2 *Bronchial Obstruction*

It is seldom that acute bronchitis leads to any interference with respiratory function provided that the inflammation does not descend to the small ramifications of the bronchial tree In spasmodic asthma, on the other hand, a very good example is found of diffuse bronchial obstruction As the attacks come on suddenly, and may be of different degrees of severity, it offers a very good opportunity for the study of acute dyspnoea due to pulmonary lesions It may be stated that in practically all cases of spasmodic asthma there occurs a more or less pronounced arterial anoxaemia This results from interference with the proper ventilation of some of the alveoli A variable number of these, depending upon the severity of the attack, are probably almost completely cut off from adequate ventilation Dyspnoea and hyperpnoea result from the acute oxygen want, which is accentuated by either relative or absolute retention of carbon dioxide If the lesion is not of a very diffuse character, leaving many areas of alveoli undisturbed, the dyspnoea soon brings about a sufficient elimination of carbon dioxide to more or less relieve the symptoms This elimination is accomplished on account of the greater solubility of carbon dioxide as compared with oxygen, but of more importance is the character of the two dissociation curves The blood passing through a normally functioning alveolus can only become 99 per cent saturated with oxygen This is usually sufficient to make up for the desaturation which occurs in other alveoli which are not properly functioning The carbon dioxide, however, may be removed in such an increased amount from normally functioning alveoli as to completely or at most more than completely compensate for the retention occurring in the pathological areas In this way carbon dioxide may be eliminated with such rapidity as to produce a relative apnoea through its excessive reduction in the arterial blood and tissues This apnoea may last for a few minutes, and then hyperpnoea may ensue as the carbon dioxide reaccumulates In this way successive paroxysms of asthma may appear to occur, with some minutes' intervals between each This, however, is not a true remission and exacerbation of the asthma, but is due to an excessive degree of periodic breathing In such cases the urine is usually faintly alkaline On the other hand, the distribution of the asthmatic obstruction may be very diffuse, leading to a partial lack of ventilation of a great number of the alveoli The increased ventilation which results is not sufficient to decrease the carbon dioxide in the general alveolar air, and therefore in the mixed arterial blood, and persistent symptoms of acute asphyxia result In such instances the urine is strongly acid Thus we see that there may be in asthma both an anoxaemic and asphyxial type of dyspnoea

TABLE I.—*Gases in the Arterial Blood of Cases of Lobar Pneumonia*

No.	Day of Disease	CO_2 c.cm. vol. per cent. in 100 c.cm. of Arterial Blood	Oxygen per cent. Saturation of 100 c.cm. of Arterial Blood	Remarks
1	5th	—	83·00	Some delirium
	8th	—	82·00	Delirious
	8th	—	91·00	On oxygen
	9th	—	91·00	On oxygen
	10th	—	84·00	Semi-delirious off oxygen
	11th	—	95·00	Crisis
	15th	—	95·50	Convalescent.
2	6th	—	88·80	
3	5th	—	92·00	
4	5th	—	87·93	
5	6th	—	87·87	
6	9th	42	86·58	Slightly delirious
7	8th	—	89·66	
8	8th	42	82·13	Delirious *p*H 7·48
9	7th	41	80·05	Semi-comatose
10	6th	44	91·56	
11	4th	48	93·00	*p*H 7·41
	5th	44	92·00	*p*H 7·48
	6th	46	91·00	*p*H 7·44
	7th	46	91·00	
	10th	46	90·00	*p*H 7·42
12	—	52	95·00	Before pneumonia
	2nd	67	89·00	
	6th	45	84·00	Delirious
	7th	47	93·00	On oxygen
13	7th	42	93·00	*p*H 7·54
14	6th	39	80·00	*p*H 7·45
	8th	45	92·00	On oxygen, *p*H 7·46
	10th	43	92·00	On oxygen *p*H 7·42
	21th	54	95·00	Convalescent *p*H 7·31.
15	9th	48	63·00	Moribund *p*H 7·33

3 *Lesions of the Alveoli*

It is a frequent observation in cases of acute bronchitis that when the lesion extends to the alveoli, giving rise to a bronchiolitis or bronchopneumonia, the character of the breathing immediately changes I have already mentioned how rare it is to have respiratory distress when the inflammatory lesion is confined to the larger bronchi But, as soon as alveolar inflammation or irritation occurs, the rate of the respirations increases and synchronously the depth

becomes much less This is probably one of the most important causes of tachypnoea It is frequently observed in lobar pneumonia, bronchopneumonia, infarct and oedema of the lung, and its detailed consideration will be taken up later

In acute lobar pneumonia the respiratory distress as subjectively experienced by the patient is most acute during the first few days This is during the period of early consolidation, *when the exudate is forming in the alveoli*, but yet the pulmonary circulation is still more or less active During this period there may be a considerable reduction of the oxygen saturation of the arterial blood and an increased carbon dioxide content This is undoubtedly due to the pollution of the general circulation by non aerated blood coming from the consolidating lung As the circulation becomes more and more cut off this condition rapidly changes While there may still be arterial anoxaemia, the carbon dioxide content of the arterial blood becomes progressively less When the consolidation has become complete and the circulation through this area has been almost completely cut off, it will be found that the carbon dioxide content has reached an abnormally low level (Table I) There has been considerable discussion as to the cause of the continued increase of the respiratory rate at this stage of lobar pneumonia By many it has been considered to be due to a specific influence of the pneumococcus toxin on the respiratory centre If this were the case, however, one would expect it to occur in pneumococcal infections which do not affect the lung

The *dyspnoea in bronchopneumonia* as well as the cyanosis is usually of a much different type The patient frequently complains of very urgent desire for increased pulmonary ventilation, in distinction frequently to the cases of lobar pneumonia in whom the hyperpnoea is not of an urgent character (except probably in the first thirty six hours), although it may be complicated by the occurrence of pain The type of cyanosis frequently gives us a clue as to the reason for the urgency of the dyspnoea It is usual in bronchopneumonia for the patient to exhibit a full purplish colour, in distinction to lobar pneumonia, where the skin is either of a good pink colour or assumes a pale grey hue This latter type of cyanosis, which is a very serious omen, may occur in the terminal stages of both diseases

The *reason for the urgent dyspnoea and purplish cyanosis* in bronchopneumonia is to be found in the fact that there is usually besides an oxygen want also a relative or an absolute carbon dioxide retention (Table II) This has

TABLE II—*Gases in the Arterial Blood of Cases of Bronchopneumonia*

No	Day of Disease	Oxygen per cent Saturation of 100 c cm of Arterial Blood	CO_2 c cm vol per cent in 100 c cm of Arterial Blood	pH	Remarks
1	6th	75 0	70 0		
	6th	98.0	72 0	7 5	On oxygen
2	6th	85 0	54 0	7 33	
3		79 0	85 5	7 27	On oxygen
		18 0	85 3		Not on oxygen
4	9th	93 5	51 0	7 47	
5		97 0	—		
6	10th	90 0	—		
	13th	80 0	53 0		
7	10th	89 0	—		

been amply demonstrated, as will be seen from Table II, and is probably brought about through the following conditions In bronchopneumonia the inflammatory lesion begins in the smaller bronchioles and extends into the alveoli in an irregular manner Complete consolidation does not occur in all the inflamed areas As a consequence a certain amount of circulation persists through damaged alveoli in which the alveolar air is not being properly aerated This may be due either to a stenosis of the bronchioles, a swelling of the alveolar epithelium, or an actual exudate *into the alveolar spaces* If the first two conditions are the most important an increase of the partial pressure of oxygen in the inspired air may overcome this obstruction to oxygen diffusion by increasing its inward diffusion pressure, and more or less complete oxygenation of the pulmonary blood may result If, however, the oxygen saturation of the arterial blood is not increased by administration of oxygen *it is probable that* circulation persists in inflamed areas to which the oxygen cannot penetrate, and venous blood returns to the left side of the heart to pollute the general arterial blood The same reason which prevents the inward diffusion of oxygen interferes with the outward diffusion of carbon dioxide Thus there is an absolute retention of carbon dioxide in spite of the increased pulmonary ventilation

In oedema of the lungs a similar state of affairs occurs If the oedema be uniformly distributed the epithelium of the alveoli in the greater part of the lungs becomes swollen There is a serous exudate into the alveolar spaces and a free diffusion of the blood gases is interfered with Many of these cases exhibit the violent dyspnoea associated with an asphyxial form of respiratory distress and also the deep blue cyanosis which usually accompanies it Such cases obtain considerable relief by inhaling air sufficiently enriched with oxygen In some cases the lesion is so serious as to require the oxygen in the inspired air to be increased to 80 90 per cent It is very gratifying in cases of mitral stenosis in which this pulmonary complication develops to observe the relief and rapid improvement which occurs on the proper administration of oxygen

DYSPNOEA IN CHRONIC ALVEOLAR LESIONS

In chronic diseases where damage to the alveoli is the outstanding lesion dyspnoea of a less urgent type is met with This is particularly so in emphysema Here the lung, through a number of years has gradually lost its elasticity through destruction of the alveolar walls and fibrosis of the interstitial tissue The total volume of the lungs is greater, but the alveolar surface, therefore the functioning surface of the lung, is decreased Further, through the lack of elasticity, the normal churning movement which respiration imparts to the air in the lungs is diminished and thus the free diffusion of gases is impaired The patients suffering from emphysema usually develop a pronounced degree of cyanosis, with comparatively little dyspnoea when at rest The cyanosis is of a deep purplish colour and is accentuated by the polycythaemia which so frequently occurs in cases of chronic oxygen want There is also found to be a pronounced change in the alveolar air in these cases The partial pressure of oxygen is greatly below normal sometimes diminishing to between 70-80 mm partial pressure, while that of the carbon dioxide may conspicuously increase

The chronicity and insidious development of this lesion produces a very good example of adaptation As the lesion slowly develops carbon dioxide retention and anoxaemia occur The carbon dioxide retention is compensated for by an increase in the "alkali reserve," so that the blood has a greater capacity for combining with carbon dioxide and at the same time maintaining the normal hydrogen ion concentration This condition is probably also reflected in the tissues In order to compensate for the diminished partial pressure of oxygen in the alveolar air and also diminished saturation of the arterial blood, polycythaemia occurs, thus increasing the oxygen capacity of the blood There is at the same time a moderate change in the oxyhaemoglobin dissociation curve, indicating that the blood can take up more oxygen at a diminished partial pressure than normally This brings about a greater oxygen saturation of the arterial blood than normal at the same partial pressure of oxygen in the alveolar air

There is also found in cases of emphysema an increased capacity for breathing air enriched with carbon dioxide[1] This is shown in experiments where the emphysematous person breathes without discomfort a concentration of carbon dioxide which would produce in a normal individual a pronounced degree of dyspnoea In the former there is very little increase in rate or depth of respiration until a concentration of 6 to 7 per cent carbon dioxide is being

inhaled When, however, symptoms begin to appear the maximal intolerance is rapidly reached This is probably to be explained by the fact that as soon as any increase in pulmonary ventilation is demanded the lungs are physically incapable of responding, and therefore an acute crisis in the respiratory effort occurs This probably explains in great part why individuals suffering from emphysema may tolerate changes in their blood gases which a normal person would find the greatest difficulty of enduring, but if a very moderate increase of pulmonary ventilation be demanded it leads to an acute onset of symptoms

In fibroid phthisis the occurrence of dyspnoea and other respiratory symptoms in a great part depends upon the condition of the lungs at the moment If there be complete fibrosis of a part with obliteration of the circulation and no surrounding inflammatory area then there may be comparatively few signs of respiratory embarrassment The condition is very analogous to a complete unilateral pneumothorax In such cases the lung is completely collapsed, the local circulation through the pulmonary artery has practically ceased, and the healthy lung is sufficient to supply all the needs of the moment In large areas of fibrosis or partial atelectasis the circulation may continue to some extent This blood will not be properly aerated, and on joining the general arterial blood it will reduce the oxygen saturation and increase the carbon dioxide content of the latter The severity of the dyspnoea and other symptoms which result will depend upon the proportion in which the aerated blood be diluted with non-aerated blood Similar conditions occur in extensive pulmonary tuberculosis

DYSPNOEA DUE TO NERVOUS LESIONS

Reference has already been made to the character of dyspnoea which appears to result from a disturbance of the normal respiratory reflex In normal respiration the inspiration and expiration are initiated at certain intervals, thus producing normal depth of respiration, which is increased if there be a demand for increased ventilation If the respiratory reflex be upset the inspiration and expiration become abnormally short, and on increased demand either remain so restricted or become more so Therefore increased ventilation is accomplished by an increase of rate rather than of depth This condition can be simulated in animals by the production of minute pulmonary emboli, by damage to the alveoli by irritant gases, etc In man pulmonary infarcts, which in themselves are not large enough to produce any interference with respiration, may produce this peculiar disturbance of the respiratory rhythm It is also significant that it is practically always associated with lesions occurring in the capillaries of the alveoli It would appear that the pulmonary reflex becomes intolerant of more than a very restricted pulmonary expansion The result is that in spite of increased total ventilation of the lungs signs develop which are indicative of deficient respiratory function [4] This has been explained on the hypothesis that the ventilation is not uniform many alveoli being poorly ventilated while others may be excessively so The excessive ventilation of certain alveoli allows for an abnormal removal of carbon dioxide This excessive removal compensates for the diminished removal of this substance in the poorly ventilated alveoli The small increase in the oxygen saturation is insufficient to compensate for the desaturated blood coming from the poorly ventilated area As a consequence a certain degree of arterial anoxaemia may result It is probable that this type of respiration plays a very important role in the disturbed respiratory function of lobar pneumonia and other

hysteria with a respiratory rate of 100 or more In some of the more aggravated of these, pronounced cyanosis appears and collapse may result In these cases the respiratory rate as a rule returns to normal during sleep, or hypnosis, and very probably is not present when the individual considers himself alone The exact mechanism of the disturbance of such reflexes is not at present satisfactorily explained

In cases of encephalitis lethargica pronounced disturbances of respiration occur These are quite independent of any local pulmonary lesion as far as can be determined In a case of encephalitis lethargica reported by Harrop[5] the respiratory rate ranged between 40 and 50 a minute, the arterial oxygen saturation was 80 per cent, but contained only 25 per cent by volume of carbon dioxide, and there was a pronounced increase in the arterial *p*H, it being 7 59 As Harrop states, it is evident that the condition was one of uncompensated carbon dioxide deficit, due to the rapid shallow breathing which had produced an abnormally great pulmonary carbon dioxide excretion, with an increase in the ratio $BHCO_3$ H_2CO_3, and therefore in the *p*H This explanation seems quite logical, and the excessive removal of carbon dioxide as compared with the absorption of oxygen is to be explained by the greater diffusion constant of carbon dioxide as compared with oxygen At *post-mortem* examination it was found that there was an extensive pulmonary lesion which in some respects resembled the lesion of early influenzal pneumonia We have found in these cases that instead of an excessive carbon dioxide elimination there is generally a carbon dioxide retention The only exceptions are those cases where the extent of the pulmonary lesion is insignificant as compared with the healthy portion from which a large quantity of carbon dioxide may be removed by means of the excessive ventilation

Contrary to the case recorded by Harrop, Barach and Woodwell[6] have reported two cases of encephalitis lethargica in whom the respirations were between 40 and 50 a minute and of pronouncedly shallow character The patients breathed in a jerky manner and there was evidence which suggests a paralysis of the respiratory muscles In both these cases there was extreme cyanosis, the arterial blood was 61 to 65 per cent saturated with oxygen, and in one case contained 62 volumes per cent of carbon dioxide and in the other 51 volumes per cent On the administration of oxygen the oxygen saturation of the arterial blood increased in the first case to 85 per cent and in the second case to 82 per cent, while the carbon dioxide content increased to 88 per cent and 62 per cent In both of these cases there was, in addition to very pronounced arterial anoxaemia, a carbon dioxide retention The administration of oxygen to some extent relieved the anoxaemia but also brought about an increase of the carbon dioxide content In the second case, from the carbon dioxide dissociation curve it was demonstrated that there was an uncompensated carbon dioxide acidosis, *p*H 7 22

It is obvious that the case reported by Harrop and those reported by Barach and Woodwell, although similar in certain characteristics are quite dissimilar in others In the cases of Barach and Woodwell the carbon dioxide retention may be explained on the grounds that there was probably a paralysis of the respiratory muscles If this were the case their results would be quite intelligible, in that very inadequate pulmonary ventilation was taking place in spite of the increased respiration rate As a consequence the air in the greater part of the lungs was remaining in a stagnant condition The administration of oxygen would increase the partial pressure of this gas into the alveoli and thus to some extent relieve the arterial anoxaemia, but would have no effect on the carbon dioxide retention In the first case reported by Barach and Woodwell the respirations slowed from 45 to 34 during oxygen administration, and it was in this case that the greatest increase of carbon dioxide retention occurred This could be explained by an absolute decrease in the demand for pulmonary ventilation due to the partial removal of the anoxaemia In the second instance it is not easy to explain the carbon dioxide increase in the same manner, as the respiratory rate remained comparatively constant

This now brings us to consider the respiratory function when there is a paralysis of the respiratory muscles due to a

spinal lesion The conditions which ensue are very analogous to those which occur with increased respiratory resistance There is an inability of the respiratory muscles to ventilate the alveoli adequately and thus a pronounced degree of arterial anoxæmia and carbon dioxide retention occurs The oxygen want can be to some extent overcome by the inhalation of oxygen, but the increased elimination of carbon dioxide cannot be accomplished If relief of the spinal lesion can be expected within a reasonable time, properly controlled methods of artificial respiration may be instituted in order to reduce the uncompensated carbon dioxide acidosis which is apt to occur This may be helped in some degree by the administration of alkalis in large quantities

TREATMENT OF DYSPNOEA

The treatment of dyspnoea in pulmonary diseases is very unsatisfactory unless the cause can be removed In cases of respiratory obstruction, laryngeal diphtheria, or asthma, the first object to be attained is removal of the obstruction If this be accomplished the relief is extremely prompt, as when the bronchial spasm is relieved in asthma by the administration of adrenaline

We have at present few drugs which we know from actual observation relieve the dyspnoea which occurs in many pulmonary lesions The evidence upon which respiratory stimulants are given is at present very scanty, and there is comparatively little proof to indicate that they are at all efficacious On the other hand, the proper use of oxygen and carbon dioxide is of the greatest importance In all acute cases which show any degree of cyanosis oxygen should be administered promptly and in sufficient quantity This can only be done if proper methods are employed The use of the so-called funnel method is to be condemned, as the quantity of oxygen allowed to pass through the funnel is usually ludicrously inadequate, and there is evidence to prove that it does not enrich the inspired air On the other hand, the use of properly fitting masks and the regulation of the amount of oxygen given, or the use of a nasal catheter with a similar control, gives very good results (Table III)

TABLE III.—*Showing the Effect of Oxygen Administration on the Cerebral Symptoms in Cases of Lobar Pneumonia with Lowered Oxygen Saturation of the Arterial Blood*

No	Inspiring Air enriched with Oxygen	Oxygen per cent. Saturation of 100 c.cm. of Arterial Blood	Cerebral Symptoms	No	Inspiring Air enriched with Oxygen	Oxygen per cent. Saturation of 100 c.cm. of Arterial Blood	Cerebral Symptoms
1	–	83	Slight delirium	3	–	80	Semi comatose
	–	82	Delirious		+	94	Quite rational
	+	91	No delirium.	4	–	84	Delirious.
	+	92	No delirium		+	90	Slight delirium
	–	84	Very restless	5	–	81	Semi-delirious
	+	97	No delirium		+	93	No delirium
2	–	89	Restless	6	–	79	Delirious.
	+	98	Very comfortable		+	98	No delirium

The ideal, of course, would be to place the patient in an atmosphere rich in oxygen without the disturbance and discomfort of the mechanical appliances already mentioned

Up to the present sufficient attention has not been given to the therapeutic use of carbon dioxide In many cases it might be expected that a pronounced decrease in the carbon dioxide content of the arterial blood and of the tissues occurs, as in the case reported by Harrop In such instances the administration of carbon dioxide after a proper manner would most probably have very beneficial results The work of Yandell Henderson and Haggart on the acapnoea which they have shown follows upon operative and other procedures needs thorough clinical investigation

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A COMPARISON OF THE KAHN AND WASSERMANN TESTS ON 500 SERUMS

BY

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THE Wassermann test for syphilis is so complicated that it can only be carried out by a highly trained and skilled pathologist working in a well fitted laboratory Many workers have attempted, with varying success, to produce a simpler test which should be more delicate and reliable, and Kahn, in America, evolved a 'precipito-agglutination" test[1] which, in its recent modification [2] seems to combine simplicity, brevity, and delicacy Antigen and serum are mixed in varying given proportions and shaken, and the reading made after a short period of incubation it is shaken again and a final reading taken

It was considered that it would be of interest to compare this test with the Wassermann test in a series of serums from cases of treated and untreated syphilis and non-syphilitic cases Accordingly 500 serums were taken at random from the Venereal Diseases Clinic at St Thomas's Hospital, in no instance was a patient seen by the authors, and no analysis of results was attempted until the series was complete

The Wassermann test performed was No 1 method Medical Research Council (Report Series No 14) the routine test in this laboratory The Kahn test was modified slightly from that described,[2] and the technique was as follows

1 *Preparation of the Antigen* [3]— Fresh beef heart is freed from fat fibre and blood vessels and passed several times through a meat chopper It is then spread in a thin layer on a porcelain platter and dried by means of a revolving fan The dried material is broken into small particles and passed three times through a coffee grinder Fifty grams of the dried heart muscle is then placed in a 500 c.cm Erlenmeyer flask sufficient ether is added to cover the dried material with an inch of fluid and it is placed in the ice-box After twenty four hours extraction the supernatant ether is yellowish it is then poured off and replaced with fresh ether This is repeated daily for three days On the fourth day the supernatant ether is water-clear The ether is then filtered off and the ground muscle spread on paper and dried at room temperature until no odour of ether is detectable This requires several hours drying To 20 grams of this material 100 c.cm of absolute alcohol is added and the whole extracted for nine days in the ice-box and a day at room temperature After this period the alcoholic extract is filtered off A total of 70 c.cm of alcoholic antigen is usually thus obtained Four milligrams of cholesterin are added to each cubic centimetre of alcoholic antigen

2 *Titration of the Antigen*.—This was carried out as described by Kahn though the reading did not appear so simple as suggested It seemed however to be satisfactory to use equal parts of antigen and saline with each of the two antigens employed

3 *The Test Proper*.—Tubes and racks as for the Wassermann test were employed Pipettes were made by drawing out glass tubing and calibrating with mercury marks being made with grease pencil to indicate volumes of 0.15 0.05 0.025 and 0.0125 c.cm No doubt these could be obtained from an instrument maker but they can easily be made by any pathologist The same pipette is used throughout any given batch of tests Three rows of tubes are set up three tubes for each test Into each tube of the first row is introduced 0.05 c.cm of *diluted antigen* (obtained by pouring an equal quantity of 0.85 per cent NaCl solution on to the neat antigen and inverting the tube several times) the point of the pipette being placed on the bottom of the tube Similarly each tube of the second row receives 0.025 c.cm of antigen and of the third row 0.0125 c.cm The three tubes for each test then receive 0.15 c.cm of the patient's serum previously heated to 56° C for half an hour Controls are set up with antigen and saline in lead of serum The racks containing the tubes are then shaken *vigorously* for three minutes (either by hand or by fixing the rack to a vaccine shaker) and a preliminary reading is then taken This is carried out with the aid of an X6 hand lens and a reading apparatus as described by Dreyer and Ward for the Sigma test [4] (An ordinary electric light with a black shade answers the purpose quite well) The tube to be examined is held nearly horizontally in front of the black background behind which is the light and examined with the lens the tube being moved slightly to set up a movement in any granules which may be present After this preliminary reading all racks are placed in a water bath at 37° C for one hour again shaken for one minute and then read a second time

Readings—The controls should show a uniform opalescence with no granules In reading the test proper three forms of nomenclature are used for each tube Positive (P) where the fluid shows clearing with definite granules (giving a hailstorm appearance) Doubtful (D) when there is some granulation but no clearing of the fluid and Negative (N) where the fluid shows no trace of any granulation A reading is taken of each of the three tubes of each test and recorded as PPP DDD, or NNN, etc Where one tube differs from the other two the majority is accepted, thus PDD is marked as doubtful DNN as negative whilst a reading such as PDN would be called 'doubtful" The amount of precipito agglutination does not depend on the amount of the antigen, since frequently the tube containing the smallest amount of antigen will show the most marked granulation

In all cases the second reading is accepted as the decisive one In fact, the preliminary reading may quite well be dispensed with since it seems to serve no useful purpose

The main modification introduced by the authors into Kahn's technique were as follows

1 The use of a hand lens instead of the naked eye, which makes the reading easier and probably gives a more delicate result

2 The use of artificial light and a specially prepared dark background

3 The interpretation of results It appeared to the authors that it would be more satisfactory to decide whether each tube were positive, doubtful, or negative, and take the results of the three together than to attempt to estimate the degree of precipitation in each tube and record it with a varying number of + signs For example PPP PPD PPN would indicate that the test was positive DDD DDP, DDN, PDN that it was doubtful, NNN, NNP, NND that it was negative

In this series of tests two antigens were used both gave the same titrations, but with the second the readings were clearer and gave less "doubtful" reactions This may be due to it having been more freshly prepared, the first one being three months old

ANALYSIS OF 500 TESTS

	No in Group
Groups in which there was complete agreement	
1 Kahn positive W R positive	151
2 Kahn negative W R negative	200
3 Kahn doubtful, W R doubtful	8
Total	389
Groups in which there was some disagreement	
4 Kahn positive W R negative—	
In favour of Kahn's test .. 20	
Apparently false positive Kahn 1	
—	21
5 Kahn positive W R doubtful—	
Syphilitic under treatment 18	
Probably syphilitic 1	
—	19
6. Kahn doubtful W R negative—	
Syphilitic under treatment .. 39	
History of syphilis 5	
Probably not syphilitic 9	
Chancroid 12 days old 1	
—	54
7 Kahn negative W R doubtful—	
Syphilitic under treatment 9	
No clinical evidence of syphilis 2	
—	11
8 Kahn doubtful W P positive (all syphilitic)	3
9 Kahn negative W R positive	1
10 Cases of anticomplementary blood in W R—	
Kahn test negative (non syphilitic case) 1	
Kahn test positive (case of treated syphilis) 1	
—	2
Total	111

carried out together, with a corresponding saving of time The results (except for one possible "false positive"—see table, Group 4) compare very favourably with those of the Wassermann test Of the 111 which disagreed, 87 (or 17 4 per cent of total) were in favour of Kahn's test, whilst only 24 (or 4 8 per cent of total) were in favour of the Wassermann test

We would point out that whilst a "doubtful" Kahn's test is of little value in an untreated case of syphilis it would appear to be distinctly valuable in treated syphilis (see table, Group 6) It will be noticed (Group 10) that in two cases the Kahn test gave an unequivocal result where the serum was so anticomplementary that the Wassermann test failed

A test which can be carried out by any medical practitioner in his surgery with so little apparatus deserves an extended trial It does not seem to have attracted much attention in England, but in America it has been compared with the Wassermann test by a number of workers For example, J A Kolmer[5] found the Kahn test better on the whole in treated cases, and also in anticomplementary cases Out of 1,000 cases there was agreement in 904 and disagreement in 96, the balance being in favour of Kahn's test Litterer[6] found the agreement with the Wassermann test surprisingly accurate W Levin,[7] in a series of 258 serums, found complete agreement in 86 4 per cent, relative agreement in 12 8 per cent, and complete disagreement in 0 8 per cent Sobel Ide and G S Smith[8] think that the value of Kahn's test is almost as great as that of the Wassermann test A series of 2,165 comparative tests gave the following results

	Wassermann	Kahn
Positive	396	423
Negative	1,769	1 742

C C Young[9] recommends that Kahn's test should be used in combination with the Wassermann

Our thanks are due to Colonel L W Harrison, D S O, Director of the V D Department at St Thomas's Hospital, for permission to publish the results of these tests

Since writing the above some 500 more tests have been carried out These confirm and emphasize the results given in the foregoing table

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A COLORIMETRIC METHOD FOR THE ESTIMATION OF DIASTASE IN BODY FLUIDS

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THE estimation of urinary diastase has been of clinical interest from the time it was first determined by Wohlgemuth in 1908 Since the publication of this observer's original results a great deal of work has been carried out on the technique of diastase estimation, and on the clinical value of the results so obtained It is with the former that this paper is concerned

In all the methods brought forward, the diastatic action is measured by the starch-splitting power of the solution containing the ferment Either the amount of diastase solution required to digest completely a known amount of starch is measured by means of an achromic point method (Wohlgemuth[1]), or else the products of starch digestion (maltose) are determined (Lovatt Evans,[2] Fyfe[3]) The former methods have found the greater popularity, undoubtedly owing to their simplicity

* On behalf of the Medical Research Council.

In the original technique and its subsequent modifications a series of tubes is put up containing constant quantities of starch solution and decreasing quantities of urine The volume is then made constant throughout the series, and the whole incubated for a definite space of time Iodine solution is then added to each tube, and the one in which the starch has just disappeared is noted, and from the quantity of urine contained in it the diastatic index is calculated The Wohlgemuth index is defined as the number of cubic centimetres of 0 1 per cent starch solution digested by 1 c cm of urine It was not until quite recently that account was taken of the effect of varying hydrogen ion concentration of the solution on the diastatic power, it has been shown that this factor may produce very marked variations

In simultaneous and independent publications Sladden[4] and one of us (E C D[5]) described modifications of the original method designed to overcome this difficulty Sladden brings the reaction of the urine to a constant figure by the addition of acid or alkali, whilst we dilute the urine with a phosphate buffer solution at a *p*H of 6 1—a figure arrived at by determining the optimum *p*H of urinary diastase phosphate compound

By means of these two modifications the difficulty of varying hydrogen ion concentration (of the diastase-containing urine) was overcome, but there still remained some very grave disadvantages to the method As performed by any of the methods mentioned above the possible readings run

6 6 10 20 22 25 28 35 40 50 66 100 200 units

If values intermediate between these are required, elaborate dilutions are necessary, and in any case it is impossible to obtain anything but an approximate idea of the diastatic value Again, the colour reaction of iodine with the dextrins produced by the action of the diastase on the starch makes the reading difficult by masking the blue starch iodine coloration At present the diastase estimation is only considered of diagnostic value when either very low or very high readings are obtained and for such cases it must be admitted that the values quoted above are sufficiently accurate, but for research purposes they are far from adequate, and it was not found possible to modify the existing methods to give accurate readings

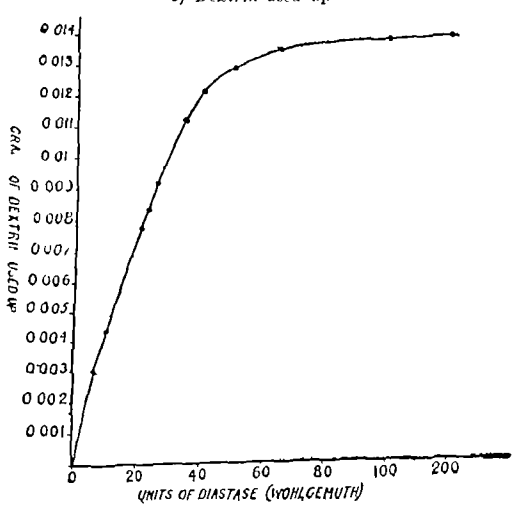
The second group of methods mentioned in the introductory paragraph were investigated but without success In the case of blood this type of method appears to be of doubtful value, owing to the possibility that other enzymes, such as maltase, may react with the end product The measurement of starch digestion by the estimation of maltose produced was employed by Lovatt Evans and others in conducting experiments on salivary diastase Although satisfactory results can be obtained with saliva by these methods, they prove unsatisfactory when applied to urine and blood, owing to the very small amount of ferment present Polarimetric methods were tried, but were given up on account of the many complications introduced by mixtures of intermediate compounds derived from starch each having a different rotating power

After a long series of experiments with various new methods, it was decided that the most accurate, and yet a simple means of estimating diastase in small quantities, was by employing erythrodextrin as the substance to be acted on by the enzyme Diastase converts this substance into maltose, now if it could be proved that the red colour given by the addition of iodine solutions to dextrin was moderately permanent and proportional to the latter, an easy and at the same time accurate colorimetric method of estimating diastase could be devised For such a colorimetric method it was essential to get a substance which after being acted upon by diastase gave end products which produced no colour with iodine, and such is the case with erythrodextrin

It was found that the iodine-dextrin colour was sufficiently stable for colorimetric comparison in the presence of ammonium sulphate, and also that the colour varied directly with the quantity of erythrodextrin present A technique was elaborated, the principle of which consisted in adding buffered urine to a definite volume of dextrin solution, incubating for a stated time, adding an iodine-ammonium sulphate solution, and comparing the colour so produced with that of a standard solution of dextrin in a colorimeter From the readings the percentage of dextrin can be calculated, and, by subtraction, the amount of dextrin used up in the time can be calculated That this factor must bear a direct relation to the Wohlgemuth unit is obvious, although the exact method of converting the dextrin factor into units is very difficult Some sort of mathematical relationship can be worked out, but this does not hold good in practice

After many trials it was decided to calibrate the dextrin method against the Wohlgemuth system A series of diastatic indices in urines was estimated by both methods, and a chart was drawn showing the relationship between the two readings It is, of course, impossible to obtain a smooth curve in this manner, owing to the large possible errors in the Wohlgemuth method Thus a urine giving a reading of 100 units by the existing method might have an actual diastatic value which was 90 per cent above or 30 per cent below this figure By a series of experiments in which the urine was diluted a series of samples was obtained, the diastatic index of which was definitely proved to be 6 6, 10 20 units, etc Estimations were performed in these urines by the dextrin method, and the results were included in the curve The curve reproduced represents the mean of a series of values

Curve to show Relation between Units of Diastase and Grms of Dextrin used up



Technique of the Method

The following solutions are required

1 *Buffer Solution*—This is made by mixing 15 c cm of Sorensen's phosphate solution A with 85 c cm of solution B The resulting solution should have a *p*H of 6 1

Solution A 11 876 grams of Na HPO 2H O dissolved in 1 litre of boiled distilled water

Solution B 9 078 grams of KH PO dissolved in 1 litre of boiled distilled water

The solutions are kept in paraffin-coated bottles and a drop of toluene is added to prevent the growth of moulds

2 *Standard Dextrin Solution*—0 75 gram of pure dextrin is dissolved in a small volume of boiled distilled water and the volume is made up to 100 c cm

3 *Iodine Solution*

N/10 iodine in potassium iodide solution	20 c cm
Saturated ammonium sulphate solution	500 c cm
Distilled water	to 1 000 c cm

Method

1 5 c cm of urine are pipetted into a tube and 6 c cm of buffer solution are added The mixture is well shaken 0 5 c cm of this buffered mixture is pipetted into a test tube graduated at 30 c cm and 2 c cm of the standard dextrin solution are added After thorough shaking the tube is incubated in a water bath at 37° C for half an hour Whilst the incubation is proceeding the standards are prepared If the approximate diastatic power of the urine is not known it is as well to prepare three standards in order to ensure accurate comparison in the event of very high or low readings These are made up by pipetting 1 5 1 0 0 5 c cm of standard dextrin respectively into tubes graduated at 20 c cm

When the incubation period is complete the tube is removed from the water bath and 15 c.cm. of the iodine solutions are added to it and to each of the three standards. In highly coloured urine it is perhaps as well to add 0.5 c.cm. of the buffered mixture to the standard immediately before comparison. The volume of each is then made up to the mark, mixed and compared in the colorimeter, the standard being set at 20 mm. The standard with the nearest depth of colour to the unknown is selected, thus avoiding errors due to too wide a difference in tint.

The amount of dextrin present in the unknown is calculated by the familiar colorimetric ratio—that is,

$$\frac{20}{x} \times Y,$$

where x is depth in millimetres of unknown, Y is the quantity of dextrin in the standard. Since 2 c.cm. of 0.75 per cent. dextrin solution—that is, 0.015 gram of dextrin—was present before incubation, the amount of dextrin used up can be calculated by subtracting from this the figure obtained in the above calculation. By reference to the curve this can be converted into Wohlgemuth units.

Observations on Blood

Before applying this method to blood it was necessary to determine the optimum *p*H of the blood enzyme. It is not justifiable to assume that it is the same as the urinary one, although the possibility of anything different is unlikely. It was decided to adopt the dextrin method for this purpose, practically no alterations were necessary, except that it was found advisable to add an equal quantity of serum to the standard just before comparison, and also that 1 drop of 40 per cent. formalin rendered the colour sufficiently stable to permit of comparison.

A series of estimations were performed on serums, keeping all the conditions constant except the buffer mixture. The *p*H of this was varied, and its effect on the digestion of dextrin recorded. A series of blank controls was set up, with the serum omitted, since it was found that hydrogen-ion concentration alone affects the red colour, and such effects have to be allowed for when calculating the digestion of dextrin. The amount of dextrin used up at varying hydrogen-ion concentrations was calculated, and the alteration in colour (calculated as dextrin) produced by the buffer solution alone was either added or subtracted, according to whether it showed a decrease or an increase respectively. *In the table will be seen the average of a series of estimations performed at various pH, together with the correction factors.* After applying this it can be seen that the maximum digestion occurs at *p*H 6.1. It appears, therefore, that the optimum *p*H for the phosphate diastase of the blood is 6.1, as in the case of the urine.

*p*H of Blood Buffer Mixture	5	6.1	6.5	7	7.5
Average of 20 experiments showing apparent amount of dextrin used up (in grams)	0.00.5	0.035	0.033	0.035	0.04
Correction factor expressed as dextrin to allow for action of buffer alone on colour. Result of 20 experiments	0.00021	0.00038	0.000285	0.00318	0.00019
Absolute amount of dextrin digested at the various *p*H after application of the correction factor	0.00275	0.0353	0.0033	0.00319	0.033

CAUSES OF FAILURE IN THE OPERATION FOR REMOVAL OF TONSILS AND ADENOIDS AND THEIR AVOIDANCE

BY

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THE removal of tonsils and adenoids is one of the commonest operations performed, and is generally considered one of the easiest. But it so frequently happens that inattention to what may be called some of the finer points of the operation leads to the object of the operation not being achieved, that I feel justified in calling attention to them.

Briefly, the object of removing adenoids may be summed up as the relief of nasal obstruction, of nasal and post-nasal catarrh, or of middle-ear suppuration and catarrh. Provided that the condition named is caused by adenoids, then failure is usually due to their incomplete removal. *There are three places where "remains" are commonly found.*

A. Anteriorly, in the upper part of the choanae (see Fig. 4). Here a fringe is sometimes left, and though the bulk of the adenoid mass is removed, this fringe is enough to maintain an appreciable obstruction to breathing, and to originate numerous colds or chronic post-nasal catarrh.

B. Laterally, in the fossae of Rosenmüller just above and behind the Eustachian cushions (see Fig. 5). These remains are very typical of incomplete removal, and, lying where they do, keep the Eustachian cushion on that side continually bathed with a mucous or muco-purulent catarrh which effectually prevents the relief of a middle-ear catarrh or suppuration.

C. Posteriorly, just behind the soft palate on the anterior tubercle of the atlas vertebra. In this place large tags are sometimes left which, proportionately to their size, make for the failure of the operation. These tags sometimes project into the pharynx below the palate.

In order to ensure the greatest possible success, the removal of adenoids should be performed in three definite steps, each of which need only take a few seconds, but neglect of any of them may lead to failure.

I. *Preliminary Digital Examination of the Post-nasal Space.*—This is necessary to estimate the size of the pad of adenoids, and to feel if the anterior tubercle of the atlas vertebra is unduly prominent, or the Eustachian cushions unduly large (Fig. 6). If the anterior tubercle is prominent care should be taken to cut out sooner with the curette, and if the Eustachian cushions are large a small curette should be used, if they are lacerated, scarring and atresia of the Eustachian tube, and consequent deafness, are likely to result.

II. *Removal of the Pad of Adenoids with the Curette.*—The most obvious point is to see the uvula lying free after the curette is introduced ready for cutting. If this is neglected the uvula may be found to be caught up by the blade and may be cut off, when this happens the adenoids are generally missed. Again, in cutting out care should be taken to do it sharply or tags may be scraped down the posterior wall of the nasopharynx.

III. *After-examination of the Post-nasal Space with the Finger.*—This is all-important. The whole post-nasal space should be searched for adenoid remains, with special attention to the roof of the choanae, and the fossae of Rosenmüller, the Eustachian cushions, and the posterior wall. These remains are usually friable and can be gently crushed by the finger and scraped away. At the end every part of *the space should be quite smooth and clean.* It is not only unsafe, but impossible to effect this "nettoyage" with the curette, which should only be reintroduced if part of the main adenoid mass still remains.

It should be borne in mind that a large mass of adenoid vegetations may fill up every corner of the post-nasal space, *and form adhesions to the Eustachian cushions* (Fig. 3). When adenoids are removed in conjunction with tonsils, it should be from a dry field after all haemorrhage from the tonsils has been arrested. This will greatly facilitate the whole operation.

THE REMOVAL OF TONSILS

Tonsils should be removed when they are so large as to cause embarrassment to respiration, when they are the site of recurrent attacks of acute inflammation, and when they are so chronically infected as to act as a focus of infection themselves, and so cause disease in other parts of the body

In order to ensure complete success in the removal of tonsils attention must be paid to four points The complete removal of the tonsils, the checking of undue haemorrhage at the time of operation, and the prevention of reactionary (delayed primary) and secondary haemorrhage

1 *The Complete Removal of Tonsils*

If the tonsils are not entirely removed the septic focus remains and the operation frequently has to be done again It is quite common for a child to be subjected to this operation three times

When the tonsils are dissected no great difficulty is usually met with except that of visibility, which can often be overcome with a Boyle Davis gag, or by pulling the tongue well out with a sharp-pointed tongue clip But when the tonsils are very soft and friable, owing to their being riddled with septic crypts and cysts, they frequently come away piecemeal and the operator has to persevere until all the scraps are gone

Care must always be exercised to avoid laceration of the faucial pillars and any destruction or exposure of muscle in the tonsil bed The parts in this region are very liable to scarring and contraction with a consequent tightening of the palate and inconvenience both in speech and deglutition The methods of dissection are well described in several textbooks

Whenever the guillotine is used the tonsil should be completely enucleated Complete removal can be ensured by placing the rim of the guillotine below and behind the lower pole of the tonsil and hooking it forwards until the whole tonsil is pulled against the anterior pillar of the fauces, causing it to bulge forward into the mouth A finger of the free hand is placed on the bulge and can then push the tonsil right through the guillotine until the hard rim can be felt lying beneath the anterior pillar of the fauces, the tonsillar fossa being now inverted and empty The blade of the guillotine is then pushed home between the tonsil and the anterior pillar, and can be felt advancing by the finger as it presses on the anterior pillar In this way only is it possible to make certain of complete removal both by sight and touch, and this is confirmed by examining the excised gland immediately after The sheath of the constrictor muscle should remain intact, with no muscle fibres visible The vessels should then be tied

Tonsils and adenoids, once completely removed, do not recur The one exception is that of adenoids removed from very young children, which may recur to a slight extent, owing to a later development of some lymphoid tissue

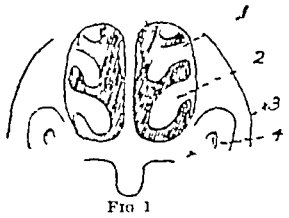


FIG 1

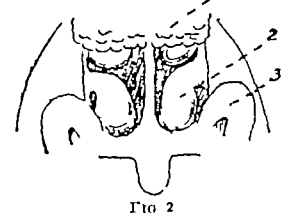


FIG 2

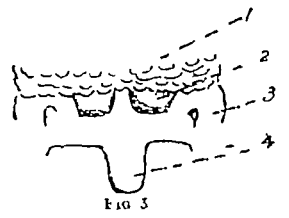


FIG 3

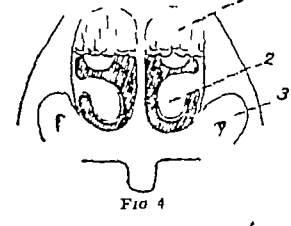


FIG 4

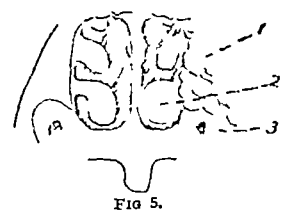


FIG 5.

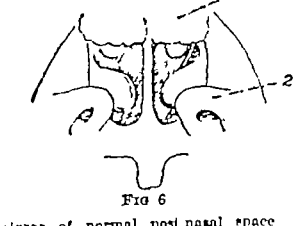


FIG 6

FIG 1.—View obtained with mirror of normal post nasal space showing (1) middle turbinate (2) inferior turbinate (3) lateral pharyngeal recess or fossa of Rosenmüller (4) Eustachian cushion

FIG 2.—Post nasal space showing (1) pad of adenoids, causing slight nasal obstruction and post nasal catarrh, (2) the inferior turbinates are swollen from catarrh and cause further respiratory embarrassment (3) the Eustachian cushions and mucous membrane are swollen causing catarrhal deafness

FIG 3.—Post nasal space filled with a large pad of adenoids (1) which fill up every part of it and are adherent to the Eustachian cushions (3) which are very swollen The inferior turbinates (2) are very swollen and fill up the choanae so that nasal obstruction is almost complete The uvula is also swollen and the patient very deaf

FIG 4.—Showing one result of incomplete removal of adenoids A fringe (1) has been left in both choanae maintaining the nasal obstruction Although the inferior turbinates (2) and Eustachian cushions (3) are not greatly swollen they are still larger than normal

FIG 5.—From a case of suppurative otitis media of the left ear The tonsils and adenoids were removed but the suppuration did not subside Examination showed adenoid remains (1) in the left fossa of Rosenmüller and adherent to the Eustachian cushions (3) which are much swollen The posterior end of the left inferior turbinate (2) is also enlarged The right side approximates to normal On the subsequent removal of the adenoid remains and enlarged posterior end of the inferior turbinate the suppuration in the middle ear subsided

FIG 6.—A pad of adenoids (1) and abnormally large Eustachian cushions (2) showing how easily they may be damaged by a curette which is too big

2 *The Checking of Undue Haemorrhage at the Time of Operation*

By "undue haemorrhage" I mean bleeding not immediately checked by the application of a pair of artery forceps to any bleeding vessel accessible to their application When tonsils are dissected out this is nearly always done, and when they are guillotined it can be done equally well after the removal of each tonsil separately But it is not usually done, and I fail to see any reason why it should not be done except that of faulty organization

It is difficult to estimate how much blood is lost by children in whom the tonsils are guillotined under gas or ethyl chloride, who are carried off the table still bleeding, and the blood allowed to trickle out of the mouth into a bowl until it stops of its own accord I quote a great authority when I put it at half a pint on the average One has to ask oneself not only whether this is an admirable surgical procedure, but also how many small children can afford to lose half a pint of blood without injury to their health Many a mother has complained to me that her child 'has never been the same since his tonsils were taken out"—referring to a wretched white faced creature, who has obviously found it hard to recover from an anaemia which nothing but the best of care could remedy

I have carefully estimated that when adenoids only are removed about one or two ounces of blood are lost, and that all bleeding stops in two or three minutes The amount lost from the tonsils is very much greater and they sometimes bleed for ten minutes without exciting alarm This is the only operation in which it is common for a patient to be carried off the table still bleeding and it is time that in this respect it should be brought into line with the other operations of surgery

3 *The Prevention of Delayed Primary Haemorrhage*

This may be almost continuous with the primary haemorrhage, but as a rule first becomes noticeable when the patient has recovered from the anaesthetic It never becomes serious if the vessels have been tied at the time of the operation, and in such a case is never more than a slight ooze But if they have not been tied it may cause the utmost alarm I give here some of the methods in use for stopping the bleeding in such cases, with their various advantages and disadvantages

When the haemorrhage consists of oozing from the surface of the wound, all that is usually required is to give the patient a full dose of morphine (nepenthe in suitable

does as is more useful in children) by hypodermic injection and a gargle of iced or cold water and adrenaline

When the bleeding is from an artery it is often very difficult to stop The first thing to do is to give the patient a full dose of morphine, and then to take immediate steps to stop the bleeding before the shock increases and severe secondary anaemia results There are several methods in use, one of which requires no anaesthetic

(a) Method Requiring no Anaesthetic—This method, which has important advantages, consists in determining which tonsil-bed is bleeding and applying a "Colaum" tonsil clamp, after first turning out any blood-clot that may be present on that side The clamp is uncomfortable for the first few minutes, but the discomfort soon wears off, especially if the preliminary and always essential dose of morphine has been given The clamp is easy to apply and to remove, is secure when in position, and effectually stops the bleeding It should be kept on for about twelve hours, and those should be hours of sleep induced by morphine and under careful supervision Fluids can be swallowed with the clamp in position When the clamp is applied, a rectal saline is useful to restore lost fluid

(b) Methods Requiring an Anaesthetic—*(1) The method* of choice is to find and tie the bleeding vessel, but while under the anaesthetic the vessel sometimes ceases to bleed, and is hard to find A stimulating anaesthetic such as ether, or gas-oxygen-ether, is therefore indicated in these cases (2) The tonsil-bed may be sewn up by stitching the pillars of the fauces together by deep sutures with Scott's or Irwin Moore's needles The stitches should take in the floor of the tonsil-bed This effectively stops the bleeding, but is not advisable except as a last resort, owing to the scarring of the faucial pillars which is liable to supervene, with a consequent "tight palate" (3) A small pad of gauze sewn into the affected tonsil-bed stops the bleeding, but if vomiting occurs the stitches often cut out, thus releasing the roll of gauze immediately, and causing the pillars to scar later on The roll of gauze may be swallowed or even sucked into the larynx

4 *The Prevention of Secondary Haemorrhage*

Tonsils should never be removed when sepsis is present in the mouth owing to dental trouble or ulceration from other causes, nor, needless to say, when the tonsils are in a state of acute or subacute inflammation As much care should be taken in preparation for this operation, both in adults and children, as for any other operation in the buccal cavity, and the patient should be put into as good a state of health as possible before its performance After the operation the frequent use of a gargle of hydrogen peroxide is the most efficient preventive of trouble, because it clears away any necrotic material, which may harbour infection, far more effectively than any other disinfectant

Secondary haemorrhage usually occurs from six to ten days after the operation Every case in which it occurs should be kept under close supervision, since it may at any time become serious and need instant attention In all cases the clot should be turned out and the tonsil-bed swabbed with an antiseptic solution If serious it should be dealt with as if it were primary haemorrhage by the most suitable method for the occasion

children and adults So justly popular has this operation become that the number of patients has in many instances outrun the facilities for dealing with them properly Although the percentage of incomplete removals, undue haemorrhages, and damaged tissues combined may not be more than 30, yet so many of these operations are performed that the actual number of comparative failures is very large

In adenoid disease the maxim should be to remove the adenoids, all the adenoids, and nothing but the adenoids, and in the case of the tonsils to take out the tonsil, the whole tonsil, and nothing but the tonsil In the latter case it is also essential to arrest all bleeding at the earliest possible moment by means of pressure forceps and ligature, and to perform the operation in a buccal cavity free from all sepsis but that of the tonsil itself

The figures are from semidiagrammatic drawings made by the author from cases which have come under his observation

SOME EXPERIENCES IN AND CONSIDERATIONS OF DEEP X-RAY THERAPY *

BY

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IT is only by the periodical publication of results by those who are practising deep x-ray therapy that the knowledge of the great value of this form of treatment in malignant and certain other conditions can be acquired by general practitioners and surgeons, who are brought primarily into closer contact with sufferers than is the radiologist I have personally been using this treatment now for about eighteen months, and during that time have had certain very instructive cases The interest taken in this form of therapy is now so steady—though in this country slow—that a review of some of the cases, and of the latest views held on the treatment, may be of interest

Among non-malignant cases treated I will only refer to three of fibroids, in women aged 47, 48, and 42, and treated respectively eleven, sixteen, and twelve months ago Each patient suffered from menorrhagia and metrorrhagia In two of the cases the fibroids could be felt bimanually, in the other they were seen by a surgeon who operated for appendicitis four weeks before I treated her, but the patient was not in a condition to have them removed at the time of the operation These three cases were severally treated by *one* application only each of deep therapy, and an artificial menopause induced with no more of the characteristic subjective symptoms than one sees at any ordinary climacteric I know that the consensus of opinion among English gynaecologists is against this treatment—an opinion that is diametrically opposed to that held by the majority of practitioners in other countries In France, Belgium, Germany, Austria, Italy, and largely in America, x-ray therapy—either in one deep massive dose or by divided weaker doses—is the treatment of choice in ordinary cases of fibromyomata, and surgery is only used when there are some definite symptoms—for example, pressure, or temperature, etc, suggesting the existence of some other condition or of degeneration Where malignant changes are suspected deep therapy, if available, is the almost invariable rule Those of us who have seen the comfort that is brought to patients suffering from prolonged climacteric menorrhagia or haemorrhage from fibroids—of course, if it be due to a polypus, surgical removal is required—are at a loss to understand the views held by gynaecologists in this country, especially if they have studied the records of the long series of successful cases published in Continental literature by such men as Beclere, Wintz, Gauss, and others

Of cases of malignant disease I have treated seven for prophylaxis after operation—principally mammary scirrhus, *of these there is nothing to be said—there are no recurrences*, but of course the time is too short

Among the patients treated for actually existing malignant disease there have been several of great interest, all

* Abstract of a communication read before the Gloucestershire Branch of the British Medical Association, January 1924

of them were inoperable cases It is almost unnecessary to state that when a malignant disease has reached the inoperable stage there is every probability that metastatic growths have started elsewhere, and that the biological factor of the body is failing or has failed Therefore, in such cases as these, one must gauge the efficacy, and the possibility of future developments of the treatment, not only by whether the patient is cured, but whether the progress of the malady in the part treated is inhibited in a way that experience shows not to occur in cases not so treated If this takes place one has gone a long way towards proving that the e rays will effectually destroy malignant tissue

I A case of inoperable supraclavicular growth occurring eight years after removal of the breast for scirrhus There was intense pain Two treatments practically relieved the pain entirely and the mass diminished but the patient died ten months later of secondary deposits in the brain

II A doctor aged 54 who had a large inoperable mass below the ear secondary to an epithelioma of the jaw treated in London by radium a year previously He had great pain and constant salivation One treatment completely stopped the pain and salivation for though I only treated the patient that once in May 1923 I received a letter three weeks later saying the patient is better in health and spirits The salivation is nil and he took solid food yesterday—the first for months The pain has disappeared Early in July I received a report that this satisfactory condition continued but on August 1st I had a letter stating that after six quiet painless weeks resting in his garden with his children playing round him he passed quietly away

Considering the hopelessness of the case from the start, the relief of the patient's distressing symptoms from a single treatment was, I think, very remarkable

III In three cases of inoperable cancer of the cervix pain and haemorrhagic offensive discharge were very marked symptoms There was a fungating cervix to be felt by the examining finger and in one patient there was a large ulcer behind the cervix in Douglas's pouch In each of these cases the discharge and pain have ceased the ulceration where present has healed up and the fungation disappeared One of the patients—she who had the large ulcer—was unable to walk a quarter of a mile To-day eight months after the first application she can walk five or six miles has put on weight from 8 st 4 lb to 9 st 12 lb, and has no pain or discharge

These have been the most satisfactory of any, and this experience bears out what has been proved at Erlangen and elsewhere As I mentioned two years ago, in the Wertheim Klinik in Vienna operations on malignant disease of the cervix and uterus have been largely given up in favour of deep therapy Of course, it is too soon yet to speak of cures," but, considering how very unsatisfactory the general results of surgery are in these cases, and that Continental statistics prove that the chances to the patient are far better from deep radiotherapy than from operation, I think one may fairly claim that in most cases of carcinoma of the cervix and uterus deep x ray therapy is to be preferred to surgical interference

It would require too much space to go into details of the other cases Some were failures, either because the disease was too far advanced when treated or insufficient treatment only was possible I feel that, where the cases have been suitable, the results have been most encouraging, and one has definite proof of the power of these specially generated rays to alleviate pain and to destroy malignant cells

The position as regards deep x ray therapy in this country to-day is that it is growing slowly I have written to the various makers, and as far as I can ascertain there are about 50 sets designed for deep therapy in the whole of the British Isles

As far as France is concerned, Gaiffe Gallot et Pilon tell me they have made 130 sets, and they believe that about 20 have been made by other manufacturers—say, 150 in all Reiniger Gebbert and Schall and the Weifa Werke Co of Frankfort inform me that between them they have made 990 sets of apparatus for deep therapy, of which 460 are in Germany and the remainder scattered over the rest of the world—thus there are about 100 in Spain, 80 in Italy 80 in Holland, 20 in Austria, nearly 200 in the Argentine and Brazil, and so on I have not the figures from Siemens and Halske, but their output is considerable, and there are a large number in the United States to my knowledge

Considering the initial cost of the apparatus and the expense of working two facts stand out from these statistics (1) that the medical world at large considers as proved the value of this treatment in malignant disease (2) that we in this country are behind the rest of the world in studying and using it

For a long time it has been recognized that even x rays from an ordinary apparatus will destroy malignant cells if they can reach them in sufficient quantities Surgeons acknowledge this when they submit patients, after a mammary scirrhus operation, to radiation, and find the ultimate results better than without raying This means that they realize that a certain number of malignant cells may have been set free during the operation, or that some are present in the tissues not removed and that these can be destroyed If radiation can destroy isolated malignant cells when superficial, it can also destroy them when occurring en masse, provided we can get such a radiation as is able to reach the growth in sufficient quantities and of the proper wave length This so-called deep therapy merely consists in a development and improvement of the older technique—a development because it is now possible to produce and maintain a much harder or more penetrating ray and one which also sets free quantities of secondary radiations, which the rays from ordinary apparatus cannot do and an improvement in that the tubes can be calibrated, so that we know the exact quantity of rays absorbed at any given depth below the surface, and, as we also know the lethal dose of such rays for the malignant and other cells, we can, by calculation, determine how to get the necessary dose at the depth of the tumour in the body The old method is haphazard and unscientific We know the skin dose by the change in colour of a pastille, but we have no idea of how much of that dose is absorbed at different depths below the skin

Professor Wintz of Erlangen has enabled us to substitute accuracy for inaccuracy, and, further, he has worked out what is the amount of radiation required to kill the cells of carcinoma sarcoma, etc But, as he has carefully demonstrated, though such a dose may be the "lethal" dose to the tumour, it does not always follow that it is the "curative" dose to the patient Many factors beside that of the irradiation must be considered First and foremost there must be the same amount of care taken in the preparation and after treatment of a patient as there would be for a surgical operation These treatments cause severe constitutional effects, and are not like the simple treatments to which we have been accustomed with the ordinary type of apparatus

Wintz has made an interesting series of observations on 326 cases which were apparently more or less similar as far as their pathological condition was concerned, but which could be divided into two classes

(1) Those who had decent homes, good nourishment, and efficient after-care

(2) Those who had to struggle for their daily bread had to face poverty and anxiety, and could not give themselves proper attention

After 4 years there were	26% more of (1) than (2) living
" 3	22.6%
" 2	23.6%

This shows the great importance of after-care and the necessity of repairing the damage to the blood caused by the rays in order that the products of cell destruction may be efficiently dealt with, and the process of replacement of the destroyed tissue properly carried out

All my cases have been treated by the technique and with the same apparatus as is used at Erlangen I do not at present see any reason to change either

Short of an expected 'cure," what will the treatment do One of its most striking results is the relief of pain As pain is almost invariably due to pressure, and, in the case of malignant disease, may be traced either to the direct pressure of the tumours on nerves or to secondary neuritis the partial or complete destruction of the malignant cells causing a diminution in size of the mass, relieves the pressure Holzknecht of Vienna has shown that leucocytes are of all structures, the most rapidly destroyed by penetrating rays, where, therefore, there is leucocyte

exudation and consequent pressure this will be relieved It is this action that explains the relief brought about by radiation of the appropriate nerve roots in cases of sciatica or other neuritis, and also that latest treatment of nephritis where the use of deep rays has had the same result as a decapsulation, by destroying the leucocytes and so relieving the pressure

From the patient's point of view the actual treatment is entirely free from pain or other sensation Naturally a weariness is induced from remaining for the required time in one position Prolonged exposures to the thorax and upper abdomen cause a varying degree of vomiting, which rarely lasts more than twenty-four hours Careful preparation, the administration of chloretone, and the use of "drop enemas" of saline solution usually relieve the symptom in a short time For some days after the treatment patients may experience a certain amount of malaise, but this does not occur in the majority If the exposures have been correct the skin shows nothing but an erythema and a subsequent bronzing If there be irritation it can be relieved by ointments

There is still much to learn, and if we are to learn there must be more co-operation between the different branches of our profession in the treatment of cancer Such treatment—as also that of fibromyomata—is to-day no longer purely surgical, and the patient has a right to expect that every means that can alleviate or cure him should be called into requisition where available A surgeon remarked that a radiologist ought also to be a surgeon In my opinion the boot is on the other leg Every radiologist has learnt some surgery, and has seen more or less of it in the ordinary course of his work The surgeon of to-day—at any rate those in middle life—never learnt anything of radiology beyond a certain acquaintance with the reading of x ray pictures It is they who have to study the developments and potentialities of the science of modern radiotherapy, and to know when to advise it, and they have far more to learn in this, the youngest of the healing arts, than the radiologist has to learn of the art of surgery its results in the treatment of malignant disease have not kept pace with the advances in other departments of their art

A HALOMETER

BY

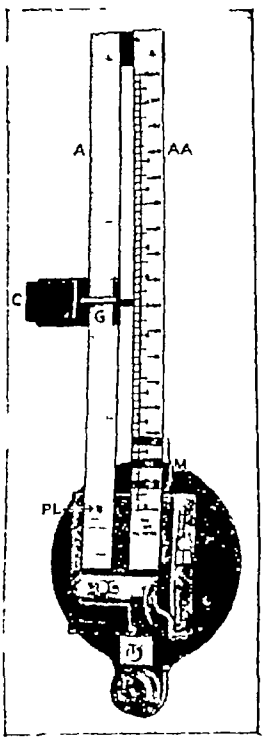
ROBERT HENRY ELLIOT, M D, F R C S,
LIEUTENANT COLONEL I M S (RET)

We have been steadily learning that it is important to be able to ascertain with some degree of accuracy the angular measurement of the halos or coloured rings of which patients from time to time complain, for it is becoming clear that by this means we have an important aid to differential diagnosis

Description of Apparatus

A circular wooden base (B) for fitting to the wall carries a base box (BB) to which are affixed twin aluminium bars (A and AA) This box revolves round the base through 180°, the object of this movement is to enable the observer to measure diagonally placed segments of halos The box also encloses a 4 volt lamp for the principal light, which is seen through a 7 millimetre aperture (PL), this has been found a convenient diameter for the easy observation of halos

To the left-hand bar (A) is attached a sliding box carrier (C), easily movable by the hand Enclosed in this box is another 4 volt lamp, the light from which is trapped by a tapered glass rod (G), which is serrated, flattened, and bevelled to give the effect of a luminous grid, from which no halos are given off This rod extends over the width of the bar The observer slides this up or down until it corresponds with the circle of colour which it is desired to measure, since it gives off no halos, and is quite distinct in the dark, it is very easy for the patient to say exactly when the right position is reached



The right hand bar (AA) is engraved with an inch scale in numerals, giving the radius of any circle represented by a coloured ring Knowing the distance (d) of the eye from the source of light, and the radius (r) of the halo circle as measured by the instrument, the angle (a) subtended by this radius with the eye can be at once calculated from the relationship $\frac{r}{d} = \tan a$ On doubling the result so obtained we have the angular measurement of the diameter of the halo In order to save calculation this has been reckoned out for measurements taken at 100 inches, and shown alongside of the wide scale in Roman figures, no mathematical mental process is necessary so long as this instrument is used at 100 inches Three spring indicators (M), coloured red, green, and blue respectively are attached in order to register the position of the corresponding halos in the dark

The distance of the patient from the instrument (100 inches) is controlled by a length of cord, which is wound on an enclosed drum fitted to the base box (DC), the cord can be very quickly rewound when done with

All electrical contacts are arranged without wire or flex The lamps are standard size Spare lamps and trap rods are provided in the base box All parts fitted are easily accessible

A plug intake for current is fitted for use with a 4 volt accumulator or a dry battery, or through a resistance from the main supply

An alternative pattern with a dry battery fitted in the base box can also be supplied if desired

I have had this instrument at work in my consulting room for several months and have found it quite satisfactory, it has furnished valuable clinical indications

THE MECHANICS OF THE ANTERIOR ABDOMINAL WALL

BY

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The aponeuroses of the lateral muscles of the abdominal wall constitute an element mechanically of great importance in the structure of the anterior wall of the abdomen The union and the interlacing of the fibres of these aponeuroses are well known, but I have observed a mechanical feature which has not been described and one which is of considerable interest and possibly of practical importance

The feature, briefly, is this, that the interlacement of the aponeuroses produces a fibrous membrane which is elastic

in the vertical axis of the abdomen but is practically quite inelastic in the transverse axis This can be readily demonstrated by dissecting out a long strip, *as wide as possible*, and pulling upon it in the different axes A pull in the *vertical axis shows that the membrane "gives"* quite considerably, and recoils again to its former length, while traction in the transverse axis shows that in this direction there is practically no elasticity Such an arrangement is, after all only what might be anticipated from a consideration of the forces which during life act upon the aponeuroses

The pull of the flat muscles is mostly a side-to-side one, and in this direction the aponeurosis acts like the tendon of a muscle, which must of course be non-elastic The tone of the lateral muscles ensures that the membrane is always kept tense in this direction

On the other hand, the distance between the lower end of the sternum and the pubis alters with the movements of the trunk, and the aponeurosis must have some means of adapting itself to these variations, and hence in this direction it is elastic

I think it highly probable that this peculiarity of the aponeurosis has an important effect in determining the contour of the abdominal wall in the vertical and in the transverse axis when the abdominal contents are increased

The quality may have an interest to surgeons in connexion with the direction of the incisions through the abdominal wall and the methods of suturing them, and hence I bring it under their notice

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

INTESTINAL OBSTRUCTION DUE TO ADHESIONS

THE condition found in the following case in no way resembles any of the congenital conditions of the small intestine described by Sir Arthur Keith in the BRITISH MEDICAL JOURNAL in 1910 (vol i, p 301) Probably it must be attributed to foetal or infantile peritonitis, the origin of which it is not possible to ascertain

A married woman aged 32 strong healthy and engaged in farm work had had since infancy occasional attacks of severe abdominal pain associated with vomiting and usually accompanied by diarrhoea There was no history of illness apart from such attacks She had always connected the pain with indigestible food and thought the present attack was due to eating coco nut On previous occasions the pain lasted only a few hours and relief was always preceded by passage of much flatus

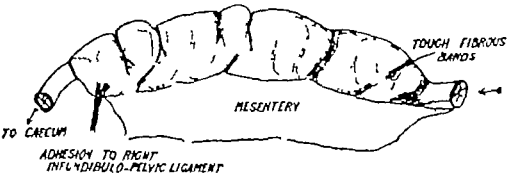
On May 1st, 1923, about 3 p m she was seized with acute abdominal pain When seen at 7.30 p m she was pale collapsed and rolling about in pain She had vomited frequently slightly stained watery mucus and had had a loose action of the bowels at 5 p m A soft, resonant sausage-shaped tumour was palpable in the abdomen stretching from the left umbilical area to the right iliac fossa most prominent on the right The rectum was empty but flatus still passed An enema gave great relief though it returned only slightly stained by faeces and the patient went to sleep On May 2nd pain and vomiting returned the pain was griping in character, ending with passage of flatus and the vomiting was of the same type as before Although obstruction was not complete it was decided to operate at once

Right paramedian laparotomy was performed, and the tumour was found to consist of the last portion of ileum matted into a sausage-shaped mass This was easily brought out of the abdomen *the only extrinsic adhesion—a tough fibrous band* 2 inches in length passing to the right infundibulo-pelvic fold—*being divided* and ligatured The matting of the intestine ended 3 inches from the ileo-caecal valve The appendix and caecum were normal the appendix retrocaecal, the uterus and adnexae were normal Resection of the mass with end to-end anastomosis of the divided ends of the ileum was performed

The patient made an uninterrupted recovery though she suffered from slight diarrhoea with undigested stools for a few weeks after operation

Description of the Part Removed

The mass is sausage-shaped of convex curvature 14 inches in length and of average diameter 2 inches with a wedge of mesentery attached The proximal end of ileum entering the mass is wide and hypertrophied the distal end is normal in calibre The mass consists of ileum packed close in serpentine fashion into an investing sero fibrinous membrane This membrane is strengthened in places especially at the proximal end by glistening fibrous bands, *constricting but not firmly* adherent to the underlying intestine Incision of this membrane releases the coils of intestine, and they can then be unravelled with moderate ease, being adherent to the membrane and each other by fine areolar tissue only The contained intestine is definitely hypertrophied in parts the wall showing more than twice the normal thickness Towards the distal end of the mass the calibre of the gut is reduced to that of a pencil by an outer constricting band and kinking in places is very acute The outer



The packed coils of ileum are represented diagrammatically by dotted lines (Sc 1/6)

membrane can be freely moved over the contents except where the fibrous bands occur The mesentery is thick, oedematous and fat laden but outwardly shows no distortion The only extrinsic adhesion is the one mentioned above that passed to the fold There is no evidence of any recent of portions of the intestine show no

The selective action of the adhesive process is particularly interesting, involving, in a lesion stretching from left to right of the abdomen, consecutive coils of ileum only An almost similar case was reported by Rao in the *Lancet* of May 19th, 1923 (p 1004) The accompanying sketch is diagrammatic

Stafford. E J BRADLEY

HAEMORRHAGES OF INFANCY AND CHILDHOOD

DURING the hours which immediately precede the act of birth the pressure exerted by natural labour or by midwifery forceps may be responsible for haemorrhage so severe *as to destroy life* or to cause irreparable damage The meningeal haemorrhage which may accompany difficult forceps delivery often leads to *stillbirth or neo natal death*, or, if not so extensive, may be followed by birth paralysis More fortunate cases escape with a cephalhaematoma and are little the worse Still others show haemorrhages into the lung which may be large enough to involve the whole *of a lobe* Or the abdominal viscera—which suffer in this respect more than the thorax—may give us a liver studded with *small haemorrhages or a ruptured suprarenal capsule*, which is said to be one of the most frequent causes of large haemorrhages

Many diseases from which children suffer include haemorrhage either as a symptom or a complication The congenitally syphilitic infant may "snuffle" much blood along with mucus and serum, or may bleed from the mouth or the anus In the septic child—infected usually through the cord—haemorrhages are common and *sometimes fatal* The convulsed infant may die from cerebral haemorrhage and so may the child with whooping-cough, in the latter disease bleeding may also occur from the nose, mouth ear, or eye Epistaxis is one of the complications of diphtheria and there is a haemorrhagic form of one or more of the exanthems In leukaemia from which even young infants may suffer, haemorrhages are common and may occur from the nose, the bowel, and the bladder, or into the subcutaneous tissue But while haemorrhage occurs in a great many diseases and conditions of *early life, it may be* the only sign or symptom, as it was in the following case

An 8 months old breast fed male infant who appeared to be quite well in every way with the exception that he was covered with bruises for which the mother was quite unable to account was *found to have* an ecchymosis measuring 1¼ in by 1/2 in along one rib and several smaller ones in various parts of the face arms and legs usually near joints but also along the course of the long bones They appeared spontaneously and without apparent cause and as some vanished others became noticeable The child was not anaemic he had four teeth and the gums were firm and healthy there was neither splenic nor hepatic nor any other glandular enlargement The heart was normal in fact with the exception of the haemorrhages the child was normal in every way and exceedingly good tempered allowing free examination which obviously caused neither pain nor tenderness The family history was not helpful the mother being one of a family of seven is on with no known record of a haemophilic in it.

In making the diagnosis three diseases came to mind—scurvy, purpura simplex, and haemophilia Scurvy attacks

bottle-fed children much more frequently than the breast-fed and it is practically always accompanied by tenderness of the affected limbs and changes in the mouth In purpura simplex the haemorrhages are much smaller than in the case here recorded and take the form of petechiae rather than patches, it is usually accompanied by some constitutional disturbance, with perhaps a slightly raised temperature, vomiting, and diarrhoea, and is occasionally associated with rheumatism In haemophilia, however, the diagnosis can be easily established, for while as a rule in "bleeders" haemorrhages are precipitated by some trifling cause, they may occur—as they did in this child—spontaneously, and they are unaccompanied by any other symptom

A F G SPINKS,
Maternity and Child Welfare Medical Officer
Newcastle upon Tyne.



PUBO-PENILE ECTOPY OF THE TESTIS

THE example of this rare form of ectopy of the testis, reported by Sir Berkeley Moynihan in the JOURNAL of March 15th (p 467), recalls a similar case that was operated on by the late Mr Edward Ward at the Leeds General Infirmary in 1902 This case was doubly interesting in that the ectopic testis was tuberculous The patient was about 30 years of age

J A CAIRNS FORSYTH
London

ANAPHYLAXIS TO ANTIVENOM SERUM

CASES of fatal anaphylactic shock after primary injection of serum in apparently perfectly healthy individuals are sufficiently rare to warrant the publishing of the following case, which, though not fatal, might easily have been

On November 13th 1923 at 7 p m I was called to see an Indian Christian lad aged about 17, who had been "bitten by something" ten minutes before, whilst at the latrine The bite, he supposed, was by a snake as he said that there were two small marks (on the tendo Achillis) from which a little blood oozed He had not seen any snake

When I saw the patient ligatures had been applied to the leg and the site of the bite was completely discoloured with potassium permanganate, so that nothing could be seen The patient and his relations seemed to treat the affair quite lightly, in spite of the fact that only twelve months before a brother, who had also been under my treatment had been fatally bitten by a Russell's viper

The patient was carried to hospital—a few yards away—and I at once injected intravenously 20 c.cm (half the full dose) of anti venomous snake serum Whilst refilling the syringe for the remainder of the dose the patient became extremely agitated and restless calling for air and water and complaining of burning in the chest and epigastrium swelling of the eyes, throat and lips, and tingling all over the body The saliva became viscid and the face suffused Urine and faeces were passed The pulse, which was momentarily greatly accelerated absolutely ceased in a minute (or at most two) at the wrist axilla and groin Respirations went up to 60 a minut With a stethoscope the heart could be heard beating feebly and intermittently Adrenaline was at once injected hypodermically followed subsequently by ether and digitalin and strychnine A hot bottle was applied over the heart and sal volatile given by the mouth

In spite of these measures the pulse in the axilla could not be detected for over two hours and the radial pulse for over three hours after the injection of the serum The patient slowly rallied and passed a good night though I was informed he passed two "blood stained" stool He made an uneventful recovery

4 The obvious difficulty of giving "a small preliminary dose of serum" in such rapidly fatal conditions as snake bite

5 A month before the patient underwent a course of anti-rabic treatment at Shillong

6 Death from anaphylactic shock after primary injection is said to occur only about 1 per 1,000,000 [1]

ERSKINE FAWAKER, M R C S, L R C P
Mission Hospital Kalna, Burdwan District Bengal

Reports of Societies.

TREATMENT OF CARCINOMA OF THE PROSTATE

IN the Section of Urology of the Royal Society of Medicine on March 27th, Dr W LANGDON BROWN presiding, a discussion took place on the treatment of carcinoma of the prostate

Mr C MORSON, in opening, said that there were two distinct types of malignant disease which might occur in the prostate One was adeno-carcinoma, the signs and symptoms of which in the early stage were those commonly associated with simple enlarged prostate, but haematuria might be severe, the other was the scirrhus variety, with no haematuria, and with pain present only when the disease had spread beyond the anatomical limits of the gland, the chief signs and symptoms being those connected with gradual contraction of the prostatic urethra It had been known for many years that the scirrhus type of cancer was the more chronic When the carcinoma was superimposed upon a simple enlargement the surgeon removed the gland, under the impression, until he received a pathological report, that he was dealing with an innocent condition In the present state of knowledge regarding the malignant cell the greatest enemy of such cell was the fibroblast, the most successful barrier to the spread of malignant disease was fibrous tissue, and the more dense and avascular it was the less chance had the malignant cell to penetrate Science had placed in the surgeon's hands three methods whereby he was enabled to determine the spread of cancer (1) the change in the mucous membrane at the base of the bladder could be determined by the cystoscope, (2) estimation of renal function, which would show whether the growth had reached the inter-ureteric bar, (3) skiagrams of the lumbo-sacral region In the surgical removal of malignant prostate the gland only might be taken away, without removing muscle, fascia, and lymphatics, or the surgeon might attempt the excision of those tissues which were liable to become invaded by extension from the primary lesion There was little to be said in favour of the removal of the prostate *per se*, although relief of symptoms might sometimes be obtained by that method The radical operation for carcinoma of the prostate must consist in the removal, not only of the prostate and the seminal vesicles, but of all the tissues which formed the base of the bladder and which lay between it and the anterior wall of the rectum Two routes were open to the surgeon—the perineal and the suprapubic The operation which the speaker had elaborated and practised was by the latter route It consisted, first, of partial enucleation of the prostate, and then of removal by dissection of the tissues between the prostate and the inter-ureteric bar He described his technique in detail, and showed some illustrations With the removal of the malignant growth much raw surface was exposed, and this he covered over with flaps of mucous membrane He had now performed the operation he had described—of enucleation of the prostate, followed by dissection away of the intervening tissues—in fourteen cases during the last eighteen months Three of the patients had died—one from post-operative shock, the other two from causes not directly attributable to operation In the eleven living cases he was satisfied so far as clinical observation went that there had been no recurrence The operation differed from the well known operation of Young (of Johns Hopkins), not in principle but in method of approach, and,

[1] Sumner F W Sudden death from anaphylactic shock BRITISH MEDICAL JOURNAL March 17th 1923

whereas Young had to feel his way to the base of the bladder, the part was directly under observation by the other method, which involved the suprapubic route Young admitted that incontinence of urine might follow operation by his method, but in his own cases the speaker had never seen such incontinence, and he was not prepared to admit that it could occur

Mr Morson then turned to the question of treatment of carcinoma of the prostate by x rays or radium Since the classic experiments of Becquerel, which showed that the rays from radium were able to discharge electrified bodies, many observers had concentrated their efforts on investigating the action of these rays on human tissues, normal and pathological In this field of research the man to whom the greatest credit was due was Dominici of Paris As malignant disease of the prostate was of the spheroidal-cell type and slow growing its sensitiveness to the rays of radium was not pronounced, the anatomical position of the lesion also added to the difficulties of radium treatment The methods of applying radium were four (1) internal application per rectum or per urethram, (2) burying in the growth, (3) application following radical operation, (4) application on the surface He could not regard any of these methods as very satisfactory He had adopted early the method of burying radium in the growth, but after ten years' experience of this method, during which he had been able to keep in close touch with fifteen cases, his conclusion was disappointing Not one of those cases was alive to-day, and only one of them survived for as long as four years The immediate results of the radium application were satisfactory, the tumour shrank in size, and in two cases of retention normal micturition recommenced But as the months went on patients returned and complained of increasing difficulty in micturition That radium destroyed the malignant mass he had no shadow of doubt, but the permanent effects did not bear out the first hopeful expectations The anatomical position of the prostate was a great stumbling block The stimulation of connective tissue cells by the rays and the resulting formation of dense fibrous tissue led to serious complications in the ducts which lay adjacent Applied after operation, the rays might cause the very complications one was anxious to avoid The effects of surface applications of radium might be considered in conjunction with those of the Erlangen method of applying x rays

Professor SIDNEY RUSS said that Mr Morson's remarks amounted almost to an indictment of radium therapy It was well however, to point out that the chief reason for the bad clinical results in radium therapy was the excessive formation of fibrous tissue, not so much the recurrence of the original growth Owing to the particular anatomical features of such cases, excessive formation of fibrous tissue led to conditions which might be just as grave and dangerous as the primary lesion, although in other conditions the formation of fibrous tissue might be of value As illustrating the apparently contradictory effects which radiation differently applied might give, the speaker mentioned that Clunet had produced spindle-celled sarcoma in the rat by submitting the animal to repeated heavy doses of x rays He suggested that in those cases where the excessive formation of fibrous tissue was at all costs to be avoided, radium treatment, if carried out at all, should be planned on different lines Fibrous tissue often appeared as a sequel to irradiation, particularly, though not exclusively, when the dose of radium employed had been heavy Radium exposures therefore, should be tried, using an intensity very much reduced, with an appropriate lengthening of the time of exposure

Sir J THOMSON-WALKER thought that Mr Morson had dismissed rather too lightly the Erlangen method of x ray treatment It was well known that very considerable reactions were produced when the rays were so applied There was first of all a local reaction, which might be very serious, the skin reaction and the reaction in the rectum were well known, but there was a reaction in the bladder which was very important These patients often suffered from retention of urine, a number of them got ulceration of the neck of the bladder, and some had attacks of very severe haematuria He was also convinced that after these severe x ray exposures there was a diminution in resistance to bacterial invasion In some cases, again, there was a very considerable degree of general reaction Why this should occur in some cases and not in others he could not say In one or two cases this general reaction was such, he thought, as actually to hasten a fatal result, on the other hand many of the patients escaped with very little general reaction With regard to the effect on the prostate, he had seen cases of malignant prostate as hard and fixed as could be imagined in which, on examining a month or two after the x ray exposures, he was not able to tell that there had been any malignant growth at all Whatever might happen afterwards, there was certainly an effect upon the malignant prostate The x rays had a great effect on these growths, and he did not think that this x ray action should be neglected, it was very important With regard to the surgical aspects of Mr Morson's communication, the speaker had for a number of years been removing the vesicles through the bladder in the way Mr Morson had indicated, he had done this, not only in malignant growth of the prostate, but in tubercle and in septic infections When he was elected President of that Section he had intended bringing forward in his presidential address the subject of the various methods for the removal of the prostate and the removal of the vesicles through the bladder, but he was advised that a subject of more general interest should be taken Later he set out his observations in the form of a paper read before the last International Urological Congress The operation he had been carrying out was not so extensive or ambitious as the one Mr Morson had described, and, in fact, his own view was that when the operation needed to be so extensive it was hardly worth while doing it at all The patients lived a very considerable time without operation, and the only time when such an operation might be done with absolute satisfaction was in the early stage of the disease The misfortune of malignant growth of the prostate was that it produced no symptoms until it was fairly widespread so as to cause contraction and obstruction of the urethra If cases did come forward at an earlier stage it was usually as the result of a chance discovery His own operation was to remove the prostate by dissection, not by enucleation If one started enucleating the prostate one was fairly certain to leave a plaque of malignant growth inside the sheath His practice was to dissect out very carefully, and then turn the prostate over and begin on the seminal vesicles The incision which was made passed back in the middle line through the trigone and 1 or 1½ in posteriorly, and then one turned the flap out on each side and this carried away the ureters By that exposure the operator saw in front of him the seminal vesicles and the ampulla of the vas But the question had often arisen in his mind as to whether he was doing enough He feared that the mere removal of the seminal vesicles was not sufficient, and that this procedure alone would not prevent the spread upwards of the carcinoma Mr Morson's wider dissection would be more likely to effect that object He did not think, however, that the cases which Mr Morson had cited, favourable as they were, were of sufficiently long standing to furnish an indication of the final result A period of eighteen months was too short for absolute conclusions, and he would like to have a discussion on the results of these cases five or ten years hence

Mr SAMPSON HANDLEY said that he had come to the meeting quite convinced that carcinoma of the prostate was essentially an inoperable condition, and although Mr Morson's remarks had reopened the question in his mind, he was by no means convinced that his previous ideas on the subject were incorrect But he was convinced that, if operation were undertaken, the operation from above was better than the perineal If operation proved to be of lasting value in these cases it would be in combination with radiation, and he was rather surprised that Mr Morson did not lay more stress on the value of radium as an accessory to operative treatment About three years ago the speaker enucleated the prostate in the case of a retired naval officer, it proved to be carcinomatous The surgeon who subsequently took charge of the case, the patient going into the country, introduced radium, on the speaker's suggestion into the prostatic cavity, with considerable relief to the patient so far as his difficulty in passing urine was concerned, and that patient was still living, and there was

definite improvement, although he was now again suffering a certain amount of discomfort in urination The speaker thought it quite time that somebody stood up for radium as a substitute for surgical operation He could not agree that these cases came forward late The diagnosis was relatively early—he meant that it was early compared with some other conditions which the rays were called upon to treat—for symptoms were produced at a fairly early stage in cancer of the prostate cases Moreover, there was only one glandular route of infection, and the gland which was first affected lay close to the lateral aspect of the prostate, so that one had to deal with a relatively small mass, which was an essential condition for effective radium treatment Radium was very effective, but only at a short range If radium was introduced from the perineum and on the lateral aspect of the prostate, right away at the side, there was very little fear of irritation of the surrounding mucous membranes The introduction of radium on the lateral aspect also avoided the danger of stimulating the cells which had receded furthest from the point of origin of the growth As to the Erlangen treatment, he had seen one or two cases in which it did good, but it produced a general lowering of vitality which was, in his opinion, a fatal objection to the use of these massive doses

MR C A R NITCH said that in 1909 he saw a patient who had acute retention and haematuria, suddenly occurring He diagnosed, on clinical grounds, cancer of the prostate, and another urologist made the same diagnosis It was concluded that radium was the best thing for the patient, and he was sent to Paris, where again the same diagnosis was made, and radium was applied via the urethra in a catheter The dose was 15 mg at the beginning and was never more than 30 mg The patient got perfectly well, and there was no sign of growth at the base of the bladder In 1914 the speaker was called to see this same patient, who was then moribund, with pyaemia due to erysipelas of the scalp, and took occasion to examine his rectum, and could not feel his prostate at all Unfortunately, he was unable to get a *post-mortem* examination In some of these cases radium treatment was not hopeless With regard to the use of *x* rays by the Erlangen method, he knew that this treatment set up a profound anaemia, but sometimes, in cases not suitable for operation, it was successful A little while ago he saw a man of 81 who, two years previously, had one application (he was too old for operation), and the surgeon who had advised *x* rays could subsequently find no evidence of growth That man had lived for two years in comfort The speaker was sceptical about the method of enucleating the prostate digitally because he felt that cells must be left behind in the capsule

MR JOCELYN SWAN expressed some surprise at the statement that in cases treated by irradiation the clinical symptoms disappeared in the same way as the growth in the prostate, in his experience, although the prostate became [illegible] got these cases early he did not think the results of radical measures were likely to be sufficiently encouraging to justify one in proposing such a severe operation to the patient

DR LINDON BROWN remarked that it was hardly likely there would be complete agreement as to the relative advantages of operation and deep *x*-ray therapy and radium He wondered whether it was at all common for the so-called diffuse carcinomatosis—small growths in almost every part of the body—to be traced to growth in the prostate

STATISTICS OF PUERPERAL MORTALITY

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine held on March 28th, the President, DR R J REECE, C B, in the chair, DR REGINALD DUDFIELD read a paper entitled "A survey of the mortality due to child-bearing in London, from the seventeenth century"

In the first place, Dr Dudfield described the nature of the records available from 1603 to the establishment of the General Register Office—namely, the London Bills of Mortality He pointed out that, in spite of the obvious criticisms to which these records were exposed, they probably did give at least an approximate idea of the facts, thus the ratios of deaths of women in childbed to christenings were of the same order of magnitude as those deduced by Kisskalt from the unpublished archives of the city of Konigsberg Kisskalt found that the fatality from childbirth during the years 1770-1802 was at the rate of 10 6 per 1,000 births (and stillbirths), with a maximum of 23 0 and a minimum of 5 0 According to the data contained in the London Bills of Mortality the mean ratio for London during 1770-1802 was 10 1 per 1,000 births, with a maximum of 15 8 and a minimum of 6 9 The exclusion of stillbirths would have increased Kisskalt's ratio Beginning in or about 1685, the ratios of deaths in childbed to deaths of females at all ages and to christenings showed an almost continuous decline

Passing to the data of modern civil registration, Dr Dudfield showed that between 1840 and 1919 (quinquennial periods) there was a decline from the beginning to the minimum rate (in 1910-14) of 44 per cent The highest rate was 6 98 in 1845-49, the lowest 3 22 in 1910-14 Dealing in detail with the recent statistics of London, he called attention to the following points (1) The increased rates of the war years (1916-19) and the reduction which had since taken place (2) The fact that the rates in the "West" were practically uniformly higher than those of the whole county, while the rates of the 'East" were lower He further pointed out the increased proportion of institutional deaths, and continued as follows

> During the years 1911 and 1912, 55 2 per cent of the deaths of pregnant and parturient women occurred in institutions, the proportion increased to 63 1 per cent in the years 1914 and 1915, and to 70 5 per cent in the three years 1918 20 The returns make no distinction between deaths of women confined in institutions and deaths of women admitted to institutions after onset of the complication leading to a fatal termination Unfortunately the reports of the Registrar General afford no information as to the number of children born in hospitals and other institutions It is, I venture to think, a subject well worthy of inquiry, especially having regard to the present housing conditions In my own area records have been kept since 1905 of the numbers of infants born in institutions From 1905 to 1912 the figures are incomplete, as it was in the latter year only that full returns of births in outlying areas were first received In 1905, 7 4 per cent of the births took place in institutions, including 3 1 per cent in Poor Law lying in wards In 1911 the proportion was 8 7 per cent in all institutions, with only 1 8 per cent in Poor Law establishments In 1923, 27 8 per cent of the births occurred in institutions, 17 3 per cent in maternity hospitals and homes and rescue homes, 4 1 per cent in general hospitals, and 6 3 per cent in Poor Law institutions Comparing the averages for the five years 1914 18 with those for 1919 23 the percentage of births in all institutions in the second quinquennium is 48 per cent higher than in the first period the proportion in Poor Law institutions showing an increase of 59 per cent It is not unreasonable to expect that increased resort to suitable institutions for confinement should lead to a reduction in the fatality of child bearing The statistics submitted must, I think, be regarded as disappointing in that respect"

DR G C PEACHEY then read a note on the provision for lying in women in London up to the middle of the eighteenth century The first evidence of specific provision occurred in the proposal of the Westminster Charitable Society, which in 1716 launched a scheme for the relief of the sick and needy, and for the lodging, maintenance, and treatment of poor lying in women in the parish of St Margaret, but when, three years later, the Westminster Infirmary was established it did not admit lying in women The first actual provision in a general hospital was made in 1747, when special wards on a separate floor were set aside at the Middlesex Hospital for lying in women In 1739 Sir Richard Manningham rented a house or part of house in Jermyn Street for the reception and treatment of lying in women It was supported by voluntary subscriptions, and appears to have been carried on by Manningham himself until about 1752 This institution had several changes of address, and in 1809, when it was at Bayswater Hall—near Queen's Road—it secured the support of the Duke of Sussex, by whose influence Queen Charlotte became its patron and lent her name to the institution, which was moved the same year to the site it now occupies In other words, there was no doubt that Queen Charlotte's Hospital was the direct continuation of the institution established by Manningham in 1739, and therefore could claim to be the earliest lying in hospital *not only in London but in the British Isles*

The papers were discussed by DR T W EDEN, DR MAJOR GREENWOOD, and DR FISHER of New York

ENURESIS

AT a meeting of the Section of the Royal Society of Medicine for the Study of Disease in Children on March 28th, with the President, MR R H ANGLIN WHITFLOCKE, in the chair, DR DINGWALL FORDYCE opened a discussion on enuresis DR Fordyce explained that micturition in infancy was frequent and automatic, and was influenced by both environment and heredity After the age of 3, as the higher nervous centres developed, the co-ordinated neuromuscular effort came under the control of the will Excluding cases of gross physical or mental defect as being outside the limits of discussion, he emphasized the importance of considering the general condition of the patient, and instanced the classical connexion between lymphatism and enuresis An endeavour must be made to secure a healthy body, and the specific lines of suggestion treatment, medicinal therapy, and surgical intervention might be followed DR Fordyce considered suggestion an excellent method of treatment, but it should be reinforced by the environment of the child With regard to medicinal therapeutics, belladonna, calcium salts, pituitary and thyroid extracts had been tried, but he thought such drugs really acted as aids to suggestion rather than specifically on the condition The only rational treatment of this *common and troublesome disorder was one which dealt with* the individual child and his environment

MR RALPH THOMPSON, who read the second paper, approached the subject from the point of view of the physical abnormalities concerned In the case of older children, when thyroid extract and belladonna had failed, his method of treatment included catheterizing and introducing increasing quantities of fluid into the bladder, and in ten cases treated in this way there had been complete recovery of control It was important to exclude disease—for example, tuberculous disease of the kidneys, spina bifida occulta, or vesico-vaginal fistula, with all of which enuresis might be present Increased knee-jerks and raised blood pressure were often found associated with enuresis, in his experience With regard to congenital deformities of the lower urinary tract, MR Thompson remarked that the textbooks contained many errors He classed certain abnormalities together under the name of "clefts of the bladder", this group he subdivided into (1) complete, or ectopia vesicae, (2) incomplete, which included true epispadias and ureteral fistula In cases of complete cleft the pubes were always widely separated In these cases he recommended suture of the bladder wall during the first few months of life, because the bladder was actually larger then than later He did not approve the insertion of the ureters into the intestine, and therefore he had attempted to use the split rectus muscle as a sphincter round the opening of the bladder The vascular and nervous supply of this part of the rectus remained intact after splitting it, and there seemed to be no reason why it should not function as a sphincter One patient treated in this manner was able to retain urine three weeks after the operation Five weeks later he was retaining urine for two hours during the day, and this period was later increased to three hours Slides were shown demonstrating the operation described, and MR Thompson suggested that the compressor urethrae might possibly be made to function as a useful sphincter

DR SMELLIE followed with an account of his method of treatment at the Children's Hospital, Birmingham He had found that children suffering from enuresis were generally of good physical and mental development, and examination of the urine showed no appreciable changes from the normal as regarded albumin or average acidity It was therefore questionable whether the common habit of restricting fluid intake was a good line of treatment DR Smellie then gave a detailed description of the neuromuscular system of the bladder He had formed the conclusion that a drug which would stimulate the motor myoneural junction would be effective in controlling the enuresis He had found such a drug in ergot, which by means of its ergotoxin and ergonine stimulated this junction, and its use had resulted in a high percentage of cures *The dose for a child of 4 to 5 years was 5 minims* of the liquid extract of ergot, with 2½ minims of liquorice, made up with peppermint water, taken three times a day for one week This dose might safely be increased to 1/2 drachm without unpleasant symptoms General treatment was also pursued with a view to re-education of the bladder

DR H C CAMERON thought that enuresis was primarily a psychological problem to which both mother and child contributed difficulties He almost always found the child intelligent and sensitive, occasionally with stammering or other nervous manifestations The mother admitted usually that the child suffered real misery on account of the unfortunate habit, but occasionally she attributed it to callousness This indifference, DR Cameron considered, was only apparent, and a kind of mental compensation for unhappiness The mother generally belonged to the over-anxious pessimistic class which undermined the child's self-confidence The success of the treatment depended entirely on the optimistic confidence exercised by the doctor and mother Good mothercraft was essential, and as a result of her exaggerated praise of successes and her blindness to failures the child's confidence would be *satisfactorily* restored For older children, especially boys at school, a rubber urinal was often of great help in restoring confidence

PLACENTA PRAEVIA AND ALBUMINURIC TOXAEMIA

AT a meeting of the Edinburgh Obstetrical Society on March 12th, with the President, Professor B P WATSON, in the chair, DR DOUGLAS MILLER read a communication on the association of placenta praevia with the albuminuric toxaemias DR Miller referred at the outset to the work of James Young who in 1914 advanced the view that eclampsia and pre-eclamptic toxaemia resulted from the absorption of products of early degeneration of a piece of placenta, the blood supply of which had been cut off Young's observations were based on a study of the morbid changes found in the placenta in cases of toxaemia, and he claimed to have reproduced in animals by the injection of early autolytic products of the placenta a disease closely simulating the classical picture of eclampsia The present communication was based on a study of forty-nine cases of placenta praevia, the cases representing, with three exceptions, a consecutive series In placenta praevia, where time allowed of it, there developed in the separated portion of the placenta macroscopic and microscopic changes identical with those found in the separated placenta of accidental haemorrhage If Young's theory

were well founded, evidence of toxaemia should accordingly be found in those cases of placenta praevia in which subsequent to its detachment the delivery of the placenta was sufficiently long delayed to allow of the development of infarction In the complete series of forty-nine cases albuminuria was found in twenty-one, or 45 per cent In the consecutive series of forty-six cases, excluding three cases in which toxaemic symptoms were present prior to the onset of haemorrhage and five cases in which only a trace of albumin appeared, the incidence of albuminuria was 25 5 per cent The speaker referred to seven cases in which the urine on admission to hospital after the initial haemorrhage was albumin-free, but in which albuminuria subsequently developed He also described three cases of the series in which placenta praevia was associated with eclampsia In one of these the combination was probably coincidental, as toxaemic symptoms had been present for some time prior to the onset of bleeding, in the other two, however, toxaemic symptoms had been absent until haemorrhage had occurred and had then developed in fulminant form The association of albuminuria with placenta praevia was admittedly less frequent and the degree of toxaemia less conspicuous than with accidental haemorrhage In explanation of this the speaker recalled that in placenta praevia the area of placenta separated was comparatively small, that—unless in the central variety—the area of degeneration was less completely surrounded with healthy placenta, and therefore the diffusion of necrotic products via living placenta tissue into the maternal blood stream was less free, and, finally, that in the majority of cases of placenta praevia delivery was completed so soon after the occurrence of haemorrhage that the evolution of degenerative processes in the placenta had not time to occur

Progress in Midwifery Practice

Dr C E DOUGLAS of Cupar (Fife) then read a paper on seventy years' experience of country midwifery practice, culled from the case book of his predecessor in practice and from his own observations from 1880 till the present day, and attacked the prevalent belief that there had been no improvement in maternal mortality in seventy years Dividing the cases into three time periods, he cited the progressive improvement from a maternal mortality of 21 per thousand gross, and approximately 17 per thousand septic in the first period, to 10 per thousand and 7 2 per thousand in the middle period, down to 3 6 and 1 7 per thousand respectively in the last, and supported this by a description of the practice in each period He then criticized the statement that forceps were responsible for most of the prevalent mortality and morbidity, and showed, on the contrary, that so far as his figures went there was more sepsis in normal than in operation cases—a comparative mortality of 1 in 557 of his operation cases, as against one of 1 in 333 in normal cases He had used the forceps in 393 cases, with only one death from sepsis The foetal mortality in these cases was at the rate of 5 2 per cent in primiparae, 2 9 per cent in multiparae, and 4 05 per cent in both combined He described two types of women who needed forceps delivery—the Mrs Dombey type, who could do nothing to help themselves, and the "justo minor" type occurring in strong, healthy women He gave two golden rules—never to operate till the head had passed the os and was well engaged, and, secondly, whenever operation seemed indicated to operate at once The criterion of harm done by forceps was to be found in what he called "subsequent efficiency test"—namely, was the woman fit to bear children afterwards? Applying this test to 60 of his cases he found that 38 had one or more subsequent children normally, 13 needed forceps again and only 3 did not have another child [illegible] alternative to forceps he much favoured version, as to Cæsarean section or perforation Although improvement had taken place he believed there was "irreducible minimum" of puerperal mortality [illegible] there was not a remaining field to be This he found in the existence of an increased [illegible] to or a decreased immunity against disease [illegible] toxaemia and septic [illegible] especially dangerous to the pregnant woman In spite of these we continued to regard her as a healthy person undergoing a physiological process This was not the case, and in an attempt to explain it he postulated in the pregnant woman a reversion to primitive types of plants and animals in which death ensued so soon as the sex function was completed Herbert Spencer's teaching on the struggle between self-evolution and race-evolution was cited, and also salient points in the life-history of the cereals, spiders, the praying mantis, and the eel As a practical outcome of this line of thought two things should be in the mind of anyone who undertook the care of a pregnant woman first, that she lay in danger of her life from toxaemias, exogenous or endogenous, if not protected by every help that ante-natal care could give her, and, secondly, that her case, whether normal or not, should be conducted on the lines of a major surgical operation

The communication was discussed by the PRESIDENT, Drs HAIG FERGUSON, FORDYCE, JOHNSTONE, YOUNG, LANCHILL, and BROWNE, Dr DOUGLAS replied

Veratrone

Dr A E CHISHOLM then read a communication on veratrone, with special reference to a case of severe reaction The patient, aged 36, was seven months pregnant when seen first, the urine was loaded with albumin, the blood pressure registered 200 mm Hg, and amaurosis was present, the foetal heart sounds were not heard It was decided to induce labour in a few hours' time and meanwhile to lower the blood pressure by means of veratrone About half an hour after the injection the blood pressure fell to below 50 mm and the pulse to 68 The patient became comatose and almost violently restless, remained in this condition for several hours, and then gradually recovered, the blood pressure returning to 200 mm During the state of coma the skin and cornea were acutely sensitive Labour was induced next day and in due course a dead premature child was born As time went on the degree of albuminuria lessened, but two months after delivery the urine still contained a trace of albumin and the blood pressure was still about 170 mm There had been three previous miscarriages and the Wassermann reaction had been positive The chemical and physiological properties of veratrone were briefly discussed

PRIMARY CARCINOMA OF THE FALLOPIAN TUBE

A MEETING of the Section of Obstetrics of the Royal Academy of Medicine in Ireland was held on March 22nd, the President, Dr L CASSIDY, in the chair

Dr J S QUIN showed a specimen of primary carcinoma of the Fallopian tube The patient was a woman, aged 59, who had had no children, but there was a doubtful history of one abortion The menopause occurred at 50, and some years after this a blood-stained discharge commenced which she ignored for nearly a year She was then curetted, and a small polypus was removed from the cervix, she was warned that if she was no better after the operation she should have *x*-ray treatment Three months later she was examined at the Rotunda Hospital, a diagnosis of a fibroid undergoing some degenerative change was made, and the patient was operated on A large mass of adhesions was found, the uterus was removed low down, and both tubes and ovaries were also removed A pathological examination was made, and the report came back that it was a case of primary tubal cancer

The PRESIDENT agreed that the specimen shown was a most interesting one, and that the difficulty in diagnosis was extremely great He had recently been looking up the literature on the subject, and the specimen shown was very similar to those illustrated

Dr BETHEL SOLOMONS had not seen a similar case since four years ago, when he had come across two such cases in one week which he had reported to the Academy of Medicine His cases were much more advanced than the one described by Dr Quin, since at the operations he had found that the carcinoma was not confined to one tube, but had spread widely In the first case the patient died very soon after the

operation The next week he saw a case which appeared very similar, no operation was performed, and the patient died a few weeks after It would be interesting to know how Dr Quin's patient got on From the appearance of the specimen, having regard to the adhesions, he would not be very hopeful of the prognosis

Sir WILLIAM SMYLY recalled that when at the Rotunda he had seen a case similar to the one described by Dr Quin He had not diagnosed the condition as malignant, as he had not examined the uterus, but he sent a specimen for pathological examination At that time, however these examinations were not carried out so quickly as now, and by the time the report came back that it was a case of carcinoma the patient was dead

Dr GIBBON FITZGIBBON said, in reply to Dr D G MADILL, that the uterus in this case had been removed because the adhesions were so dense, and by taking the whole uterus away a much cleaner pelvis was left He wondered if deep x ray therapy or radium would benefit the patient, if radium were given it would only be possible to go up to within three inches of where the adhesions were, and therefore he did not think it would be of much benefit

Dr QUIN, in replying, said that the patient at present was very well, and had put on 1½ st in weight since the operation It was interesting to note that in the pathological report it was stated that the growth was primary in one tube and secondary in the other

PATHOLOGY

THE Liverpool Medical Institution held the fifth pathological meeting of the session on March 20th, the senior vice-president, Mr R CRAIG DUN, in the chair After the exhibition of specimens, which included a unique series of experimental lesions in animals, which at least closely resembled those of foot-and mouth disease, a short discussion took place Professor J M BEATTIE gave a brief account of the experimental work done with material obtained from supposed healthy contacts of cases of foot-and mouth disease, and alluded to the almost insuperable difficulties which had been put in his way In reference to a specimen of epithelioma of the vulva removed with the glands in the groin *en bloc* by Mr St G Wilson, Professor BLAIR BELL spoke of his experience of this operation, which had given him uniform success during the last fifteen years

Dr HENRY COHEN then read a paper on observations on the cerebro spinal fluid He reviewed the work of Dandy and others on the formation, circulation, and absorption of cerebro-spinal fluid, and gave a brief account of his own work on this subject He dealt with the inorganic phosphorus content of cerebro-spinal fluid and showed that no appreciable increase occurred in chronic degenerative nervous diseases He discussed the "*meningitic law*" he had enunciated—the chemical composition of cerebro-spinal fluid in meningitis approximates to that of the blood plasma, this is dependent on the degree of damage to the cells of the choroid plexus and the cerebral vessel walls, which impairs their vitality and increases their permeability Assimilable foodstuffs—for example, glucose—owing to increased consumption and greater cellular activity, will tend to diminish unless the supply exceeds the demand For all substances investigated the law held—protein, cholesterol, chlorides, uric acid, fibrinogen, nitrates, potassium iodide, etc Dr Cohen proceeded to review his work on the relation between blood and cerebro-spinal fluid, and showed that the excess of chlorides in the cerebro-spinal fluid could be explained by assuming the membrane separating blood and cerebro-spinal fluid to be a Donnan membrane

Professor R J M BUCHANAN suggested a possible fallacy in the results owing to changes following repeated spinal punctures Dr COHEN said this had been carefully excluded

A MEETING of the Royal Medico Chirurgical Society of Glasgow was held on March 21st, when Sir HUMPHRY ROLLESTON read a paper on the medical aspects of Dr Samuel Johnson, Dr LEONARD FINDLAY being in the chair in the absence of the President Dr Maitland Ramsay Sir HUMPHRY said that the manuscript notes of the necropsy of Johnson made by James Wilson on December 15th, 1784, were headed asthma, and described the exceedingly large and strong heart with commencing ossification of the aortic valves, incipient peritoneal inflammation and ascites, the hard liver and spleen, the latter feeling almost like cartilage, some peritoneal adhesions, the hydatids in the kidneys, and a gall stone in the gall bladder These changes were interpreted by the lecturer as pointing to long continued high blood pressure and granular kidneys, emphysema, and cardiac failure Dr Johnson's ailments, scrofula in early life causing tuberculous keratitis and leucomas, his physical and psychical ties, dyspepsia, gout, dropsy, sarcocele and his attacks of aphasia were then discussed The asthma which troubled him for twelve years could not have been renal in origin throughout this period, but possibly it was so finally His life long liability to melancholia and its influence on his manners and views of life, and his avowed fear of death were passed in review Reference was made to Dr Johnson's relations with medical men and his excursions into medicine on his own and on friends behalf

Reviews.

CUSHNY'S "PHARMACOLOGY AND THERAPEUTICS"

Pharmacology and Therapeutics, by Professor A R CUSHNY, is perhaps the best known standard textbook of pharmacology in the English language, and therefore in welcoming the eighth edition,[1] which has just appeared, there is no necessity to say much about the general merits of the book, for these have been familiar to medical students for more than twenty years

It is six years since the last edition appeared, and the advances in pharmacology which have taken place in that period have necessitated many minor alterations Descriptions have been added of the actions of several important new drugs, such as luminal, silver salvarsan, and, most important of all, insulin, but at the same time space has been saved by discarding many obsolescent drugs, and the total length of the book remains unaltered Otherwise few alterations have been made in the general arrangement of the textbook, and the new chapters on histamine and anaphylactic shock, on vitamins and on insulin, are obviously necessary additions The other chief changes are those necessitated by the discovery of important actions, hitherto unrecognized, of certain drugs For example, an account is given of the action of quinidine in auricular fibrillation

Our chief impression, derived from a comparison of the present edition with its predecessor, was one of surprise that the passage of six years had entailed so few alterations Undoubtedly progress in therapeutics is slower than we are apt to imagine, for each new discovery attracts an amount of attention disproportionate to its importance relative to therapeutics as a whole A further special reason for the lack of change is that the author views his subject with a robust scepticism, and in consequence does not often mistake geese for swans when dealing with new departures in therapeutics This attitude has the very solid advantage that it reduces the number of changes necessary in succeeding editions, for it very frequently happens that in therapeutics discoveries at first heralded as revolutionary quietly sink into insignificance as experience shows their failings and limitations

For the reasons we have stated the changes in the new edition are fewer than might at first sight have been expected, but the book is of course, completely up to date, and a proper caution is a most valuable characteristic in an authoritative textbook

AN AID TO PRACTICE

Clinical Memoranda,[2] by Dr ALEX BRAND and Dr JOHN KEITH, is one of those handy little books of reference which are a real source of help to the general practitioner It

[1] *Pharmacology and Therapeutics or the Action of Drugs in Health and Disease* By A R Cushny M D F R S etc Professor of Materia Medica in the University of Edinburgh. London J and A Churchill Eighth edition thoroughly revised. 1924 (Med. 8vo pp 707 73 figures. 24s net)

[2] *Clinical Memoranda for General Practitioners* By Alex Theodore Brand, M D C M and John Robert Keith M A M D C M Second edition London Baillière Tindall and Cox. 1923 (Cr 8vo, pp xiv + 375 1 figure 7s 6d net)

possesses the great merit of being mainly original, and is the product of individual personal experience, so that the reader has the sense of comparing notes with the authors, the stale atmosphere of the textbook being altogether absent The book is planned to afford quick reference, and follows a system which is typified by the inclusion of certain kidney diseases under the general heading abdomen, since the symptoms arising from them are referred to this region From the point of view of the general practitioner the advantages of such an arrangement are obvious The scope is necessarily very wide and covers the whole field of practice, from "wax in the ear" to 'puerperal septicaemia," and everywhere the authors have something useful to say It is an exceedingly good feature of the book that the lesser things find an equal place with the ailments of greater pathological moment Is it not frequently the minor matters which cause the most discomfort, and therefore assume, as far as the patient is concerned, the position of greatest importance?

The information as a whole is admirably up to date, the present edition having been carefully revised and enlarged, but the use of strychnine in shock is advocated at one place, while at another Crile is quoted in authority against it Again, in treating of calcium metabolism, the thyroid, not the parathyroid, is credited with its regulation There is a most useful chapter on drugs, full of suggestions and modes of usage of much practical value, not to be found in pharmacological textbooks The authors have crystallized some of their wide experience into a number of aphorisms for those who like such things

The little work is rounded off by an index which deserves high praise, and might with advantage be studied by the authors of more ambitious books With its aid it is possible to find anything in the book within the shortest time

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LTH AND CONDUCT

ck has written a book on *Health and* describes as a doctor's contribution to een his aim to show how the doctor's may be applied to the elucidation and problems, and throughout his book he een human diseases and diseases of the readers will agree with Dr Brock that ity of the community is pathological him the feeling that the machinery of reaking point The number and comms involved in any serious attempt to onal life are certainly formidable The present troubles, the disease from which ag to shell shock—a psychological upset maintains, will not be effected by the or the specialist, but by the plain man,

With him lies the secret of psycho-sis—with the plain man, in his own

man help in this most desirable recon-

Dr Brock pins his faith on what is of civic and regional survey He o a body of literature dealing with leaves him perhaps a little puzzled as principles of the new teaching The n appears to be a widening of the con- It is an old doctrine expressed in a should not consider himself merely as ife of his locality, his ince only by identifica- The author has a ent to his fellow prac- endeavours to say too that he is somewhat physical diseases and ure to express the hope cal studies, and thus xposition of his views

M D Edin With intro- William and Sons)

THE BIOLOGY OF MIND

IN his *Essays of a Biologist*[1] Mr JULIAN HUXLEY endeavours to analyse the phenomena of progressive development in the self-conscious mind of man, and to indicate the direction in which the psychic properties of life are moving in the process of biological evolution The seven essays deal with Progress, Biological and Other," "Biology and Sociology" "Bird-Mind," "Sex Biology and Sex Psychology," 'Philosophic Ants," "Rationalism and the Idea of God," and "Religion and Science" All except the essay on sex biology and psychology, which was read before the British Society for Sex Psychology in October, 1922 have already appeared in journals or magazines The author's views, therefore, are no doubt familiar to philosophers and theologians, but in their present form he tells us the essays have been considerably revised and enlarged Their interest to the student of the medical sciences will be found in such influence as they may have on the ever-widening problems of physiology and psychology The dominant idea, which emerges from a somewhat complex mass of reasonings, appears to be that the psychical faculties of knowing, feeling, and willing have increased in intensity during the evolution of psychozoic man, and also in their relative importance for the life of the individual organism, and that, although this increase has not been universal, some organisms remaining stationary or regressing, the upper level of these properties in living matter has been continually raised and the average continually increased In other words, there has been biological progress in the psychical just as much as in the physical character of organic life This progress, we are told, is indicated by an immense increase of control over environment, so that man has become less and less at the mercy of the forces of nature and of other organisms Man as a biological species is in his infancy Mind has become self-conscious and in time psychozoic organisms may come to direct their own evolution instead of having their destinies shaped by the blind forces of natural selection We gather that in the author's opinion a limit will be reached "when the present competition of sovereign states has been replaced by some form of federation covering the whole globe" But he holds that the human species is still at the beginning of its evolutionary career and that "man has before him vast tracts of time to set against the vastness of his tasks" Mr Huxley is a declared rationalist and would destroy religious beliefs that depend on the idea of a personal Deity In this respect he distinguishes between what he calls the "orthodox religious" and the "scientific" The former, he says, starts from the top, the latter, based on the scientific view of the universe, starts from the bottom, but "has been creeping up, and now that it has begun to attack the problem of mind will be able to drown the other out" His views on sex biology and sex psychology are equally destructive of hallowed traditions We understand his argument to be that the sex instinct should not be suppressed but should be given equal recognition with and brought into harmony with the other qualities of mind

'Should the relation of sex instinct he says, "with the rest of the mind progress so far as to be carried through in a majority or dominant section of the population, the whole outlook of society towards the sex problem will be changed and the laws institutions and customs connected with it completely remodelled

He regards a realization of this change as fraught with enormous possibilities for human progress From this may be judged the author's attitude towards some of the present-day problems in sociology But we are not quite sure whether he is always serious or only indulging in dialectics

The essays will not appeal to everyone They are of a nature which makes it difficult to condense all that they imply into a brief critical review They will be appreciated according to the mental bias of the individual reader The ordinary reader will find the essay on bird-mind the most enjoyable The style of the others is at times troublesome Sentences are often of undue length, and such expressions as "behaviouristic terminology"

[1] *Essays of a Biologist*. By Julian Huxley London Chatto and Windus. 1923 (Cr 8 o pp xiv+306 7 6d net)

embarrass the mind in its efforts to grasp their meaning The simpler language of older writers, such as Henry Drummond whose *Natural Law in the Spiritual World* and Lowell Lectures on the *Ascent of Man* deal with much the same problems of biological progress in the mind of man, is lacking An element of futurism in language, as in art, is perhaps regarded as a symptom of the phenomena Mr Huxley analyses in his essays How different it was at the time when one of those delightful ladies in *Cranford* said that in her day the only use people made of four syllabled words was to teach how they should be spelt!

ANNALS OF MEDICAL HISTORY

THE third instalment of the fifth volume of the *Annals of Medical History*[1] has on the cover a reproduction of Harvey's bust Usually the portrait on the cover is in connexion with a current article, and in this instance it would appear to be Professor T McCrae's editorial on the octocentenary of St Bartholomew's Hospital last June, which contains some historical account of its school he remarks that "very few of the early names of physicians and surgeons have been preserved," thus suggesting to a hypercritical reader, *uncertain of the exact procedure, that, like the Popes on* election, the medical officers altered their names on appointment! The editor, Dr F R PACKARD, contributes an interesting account of the earlier methods employed in the treatment of syphilis He points out that the most successful quack remedies of the sixteenth century contained mercury, which had been the favourite medicine for leprosy, given by injection or fumigation, and contends that syphilis was regarded as leprosy and existed in Europe long before 1495 The discovery of the value of potassium iodide is ascribed by Dr Packard to Dr William Wallace of Dublin, and no reference is made to Dr Robert Williams of St Thomas's Hospital, who is stated in Munk's *Roll* of the Royal College of Physicians to have described its value Dr G H Bailey's well illustrated life of William Hewson contains an account of his contests with Alexander Monro secundus about priority in the description of the lymphatics, and of his relations with William Hunter It is interesting to learn that two of his descendants, Addinell Hewson, father and son, were distinguished anatomists in Philadelphia Dr W Mendelson prefaces his sketch of Maimonides of Cairo with an appreciation of Dr Solomon Schechter, who discovered some letters of this twelfth century physician and medical writer Dr M Charlton continues his history of medicine in Lower Canada, and Dr Anastacia Villegas of Manila writes on primitive medicine in the Philippines In his essay on early anatomical fugitive sheets Dr Leroy Crummer gives the result of much research and a number of illustrations from his collection In connexion with Dr H C Cameron's address on Lord Byron's lameness, published in our columns, Dr E B Krumbhaar reproduces the account of the necropsy, which, however, does not throw much light on the suggestion that Byron had Little's disease

The December number bears on its cover a portrait of Richard Bright, of whom Dr Delancey Rochester gives a rather brief account, in the course of which he mentions some facts, not in the *Dictionary of National Biography*, about James Parkinson (1755-1824), who first described paralysis agitans, he was a Guy's man and reported in 1812 the first case of appendicitis in English, which was the first occasion on which perforative appendicitis was recognized as the cause of death In the article on "Osler, student of the Toronto School of Medicine," Dr Norman B Gwyn mentions that Osler originally entered Trinity University as a divinity student and shows how much he was influenced by his teachers, William Johnson and James Bovell, whose names are so familiar from the dedication of his *Principles and Practice of Medicine* Dr David Reisman illustrates his story of a physician in the papal chair by a fine portrait of Pope John XXI, who in spite of the name Petrus Hispanus was a native of Portugal, he was Pope in the thirteenth century, was the author of a book on the dietetic treatment of surgical patients, and a teacher in Siena Captain F L Pleadwell, whom we are coming to regard as the biographer of the Medical Corps of the United States Navy, gives a well illustrated and well documented life history of Dr Cutbush, one of his predecessors and the author of the first book by a medical officer of the United States Navy, observations *On the Means of Preserving the Health of Soldiers and Sailors* (1808), a title recalling James Lind's essay *On the Most Effectual Means of Preserving the Health of Seamen in the Royal Navy* (1757) Dr D C Elkin writes on "The Transylvania School and Oliver Perry Hill," and refers to a duel between two medical men due to a disagreement arising out of a necropsy on an Irishman Molière's withering barrage of satire on the medical faculty of Paris is amusingly illustrated with many quotations by Dr J W Courtney Three medical pioneers in Norway—C H Homan, father and son, and C H Hartwig, unknown to but deserving of fame as epidemiologists in the small town of Kragerö—are shown by Dr I Kobro to have early worked out the infective nature of diseases, to have independently distinguished typhoid from typhus fever, and even to have grasped the conception of "carriers" Dr Green Cumston of Geneva contributes an interesting note on the Italian poisoners of the sixteenth and seventeenth centuries

[1] *Annals of Medical History* Edited by Francis R Packard M D Vol V No 3 September Serial No 19, and No 4 December Winter Number New York P B Hoeber Inc London Baillière Tindall and Cox 1923 (8½×12½ No 3 pp 189 290 illustrated No 4 pp 291-416 illustrated Subscription in Great Britain £2 2s for four numbers)

NOTES ON BOOKS

IN *L Etat dyspeptique*[6] Dr LÉON MEUNIER deals with the pain attending various diseases which affect the stomach, duodenum, and liver He attributes it to faulty emptying of the stomach, the reaction to this deficiency results in the stomach becoming filled with air and in changes in the secretory function He deals in detail with the diseases concerned in the production of this state, and suggests appropriate dietetic, medicinal, and surgical treatment based on the principle of modifying the gastric contents so that their retention in the stomach is prevented

In *The Culture of the Abdomen*[7] Mr HORNIBROOK describes eight exercises by using which he claims that obesity and constipation may be relieved or cured There is no doubt that regular exercise of the abdominal muscles is beneficial, especially to those whose lives are sedentary However excellent such procedures may be, we can hardly go all the way with Sir ARBUTHNOT LANE when he says in the preface that this book shows "how it is open to everybody to be vigorous and healthy" We feel that there are many people whom none of the rival professors of posture or physical culture can cure

Vat Colours,[8] by J F THORPE and C K INGOLD, is one of a series of monographs on industrial chemistry produced under the editorship of Sir Edward Thorpe, their object is to illustrate the governing influence of chemistry on industrial enterprise The history of vat dyeing is of considerable interest in this respect, being one of the most notable instances in which chemical science has led an industry to great developments Vat dyes belong to that class of colouring matters which, though insoluble, can be transformed into a soluble condition as a preliminary to the dyeing operation They owe their importance to the fact that, while in the soluble form they can be made to permeate the stuff to which the colour is to be imparted, and having been absorbed are converted through spontaneous oxidation into the insoluble, colour giving dye within the substance of the fibre itself They are thus fast dyes without the intervention of a mordant or accessory The book gives a history of the development of this scheme of dyeing beginning with an interesting account of the purple of the ancients, it contains an excellent summary of the important influence exercised on economics and political history by the trade in natural indigo, which was the parent of the system The chemical constitution and properties of the whole series and their relations to each other are very well described

[6] *L Etat dyspeptique* Par Leon Meunier Médecine et Chirurgie Pratiques. Paris Masson et Cie 1923 (Post 8vo pp 128 37 figures. Fr 8)

[7] *The Culture of the Abdomen The Cure of Obesity and Constipation* By F A Hornibrook. With a preface by Sir W Arbuthnot Lane Bt C B M S London W Heinemann (Medical Books) Ltd. 1924. (Demy 8vo pp xi + 67 26 figures. 6s net)

[8] *Synthetic Colouring Matters Vat Colours* By J F Thorpe C B E. D Sc Ph D F R S F I C and C K Ingold D Sc Monographs on Industrial Chemistry London and New York Longmans Green and Co. 1923 (Demy 8vo pp xv + 491 16s net)

In his book, *A Short History of Birkbeck College*,[9] C DELISLE BURNS gives an account of the progress of the College history during the hundred years since its foundation by Dr G Birkbeck in 1823 Dr Birkbeck, who was born in 1776, and studied medicine in Edinburgh and London, became lecturer on chemistry and natural philosophy in the Andersonian Institution in Glasgow Whilst there his need for new scientific instruments brought him into contact with the workmen who made them, and, finding them anxious to understand their work better, he established a class for them in 1800 This class continued its existence after Dr Birkbeck's departure from Glasgow in 1804, and in 1823 a group of its members wrote to him in London with reference to the foundation of a Glasgow mechanics' institute, which was brought into being in July, 1823 Dr Birkbeck, in conjunction with two others, founded the London Mechanics' Institute in November of the same year, and, in spite of the opposition of those who felt that the foundations of society were being shaken by this innovation of extending education, it took root firmly, and passing through the phases of being a place for popular instruction and next a technical college, it became, finally, a unit of the University of London The College was partly a self governing association of students and partly an institution for adult education, and these two elements in it have persisted throughout its history The book is full of interest, particularly in the light it throws upon the change in public opinion with regard to education in the last hundred years Eight illustrations are included in the text and there is a good index

[9] *A Short History of Birkbeck College (University of London)* By C Delisle Burns With a Foreword by Viscount Haldane of Cloan, O M F R S London University of London Press, Ltd. 1924 (Demy 8vo, pp 170, 8 illustration 5 net)

PREPARATIONS AND APPLIANCES

Lecithin and Glycerophosphates

"TABLOID" Nucleo Lecithin Compound, prepared by Messrs Burroughs Wellcome and Co, contains nuclein, lecithin, and glycerophosphates The tabloids are sugar coated, so that the lecithin component is well disguised and at the same time protected from deterioration by atmospheric action The lecithin presents phosphorus in organic combination and in a readily assimilable form, and the glycerophosphates supply easily absorbed phosphates The compound is recommended by the makers for administration with any diet as a restorative, nutrient, and reconstituent in nervous and nutritional disorders

POST-GRADUATE STUDY IN PSYCHOLOGICAL MEDICINE

DIPLOMAS IN PSYCHOLOGICAL MEDICINE

THE President of the Medico-Psychological Association of Great Britain and Ireland has sent to us the following letter, urging that in every centre of medical teaching facilities for tuition in psychological medicine should be provided, and submitting a revised scheme for diplomas in psychological medicine

SIR,

The President of the Medico Psychological Association of Great Britain and Ireland in 1910 addressed a letter to all Universities and other examining bodies, urging the necessity for facilities being provided for post graduate teaching in psychological medicine at all medical schools, and for the granting of a special diploma to candidates after examination, as had already been done with such conspicuous success in public health and tropical medicine

Mainly as the outcome of that letter, diplomas in psychological medicine, or psychiatry, have been created at the Universities of Manchester Edinburgh, Durham, Cambridge, and London and by the Conjoint Board of the Colleges of Physicians and Surgeons of London, the University of Leeds and already moved in the matter Notwithstanding the grave dislocation of educational work, which occurred by reason of the war, definite progress has been made in the better systematic and scientific training and teaching of medical officers serving in mental institutions and others engaged elsewhere in psychological medicine Much however, remains to be done before psychiatry as a branch of medicine can be considered to be in satisfactory position and for their mutual benefit, properly related to other departments of medicine, nor has the time come when it can be said that psychiatry has had adequate opportunity of making full use of those modern methods of research which have resulted in such noteworthy advances in medicine Thus psychiatry, though its renaissance the past half century has been in many respects remarkable, still occupies a position of isolation not until every centre of medical teaching has adequate facilities for tuition in psychological medicine in the shape of a department (in and out door) or clinic in psychiatry, can the treatment of disorders and diseases of the mind hope to be on a level with that of the treatment of physical disorders and diseases, not until then can psychiatry be constantly subjected to the stimulating and enlightening influence of the associated teaching of medicine in its several branches which is so vital to progress, not until then will there be efficient teaching in psychiatry

The linking up of the mental hospitals of the country with these clinics at teaching and clinical centres of medicine would necessarily follow as an expansion of this policy

The Council of this Association respectfully asks that the subject matter of this letter may receive your earnest consideration Though fully aware that any action taken will need to be in line with the established practices and traditions of particular Universities or examining bodies, it directs me to transmit a revised scheme of post graduate work and subjects This, it is suggested, having regard to recent developments of psychiatry and practical experiences already gained in this matter, would constitute a suitable course of study and training for a diploma in psychological medicine

I am, Sir,
Your obedient servant,
EDWIN GOODALL, M D, F R C P,
President.

11, Chandos Street,
Cavendish Square, London, W 1

MODEL SCHEME FOR A DIPLOMA IN PSYCHOLOGICAL MEDICINE

1 The candidate must be already a registered medical practitioner

2 The candidate may present himself for examination on the subjects detailed under Part I of the curriculum (see para 4) immediately he has concluded the prescribed course of instruction or can produce such other evidence of diligent study of the subjects to be examined upon as may be demanded Part I must be passed save by special permission at least three months prior to entering for examination on Part II of the curriculum

3 The candidate may not present himself for examination on the subjects detailed under Part II of the curriculum (see 4) until he has been a registered medical practitioner for not less than two years He must, subsequently to qualification, have been in the practice of an approved mental hospital for not less than two years, or have attended for six months at a hospital, mental or general, for clinical instruction in psychological medicine, and subsequently held a resident appointment at an approved mental institution or mental wards of a general hospital for not less than six months In both cases he must produce a certificate from a recognized source that he can apply his theoretical knowledge and has practical acquaintance with, and is well and adequately versed in, the current clinical methods of examination and treatment of nervous and mental disorders In the case of mental deficiency the certificate should include a practical knowledge of the various intelligence tests and other methods of ascertaining the degree of mental defect He must also produce evidence of having attended, subsequently to qualification, courses of lectures, demonstrations or other evidence of diligent study of the subjects upon which he presents himself for Part II of the examination, as may be demanded

4 CURRICULUM

Part I—(*a*) Anatomy, histology, and physiology of the nervous system, including the autonomic system Anatomy and physiology of the endocrine glands Chemistry and cytology of the cerebro spinal fluid
(*b*) Psychology, systematic and experimental

Part II—(*a*) Morbid anatomy histology, and pathology of the systems mentioned under Part I (*a*) *Post mortem* and laboratory technique
(*b*) Neurology and clinical neurology
(*c*) Psychiatry (including the psycho neuroses), clinical psychiatry, and the medico legal relationships of mental disorders and mental deficiency

In addition, the candidate for Part II will need to show special knowledge of any one subject, to be selected by him from the subjects comprising Part I or Part II, or may choose to be examined in any one of the following subjects

(*d*) Mental deficiency and the mental disorders of childhood and adolescence, and the duties of school medical officers in relation thereto
(*e*) Bacteriology as applied to mental and nervous disease
(*f*) Psycho pathology and psycho therapy
(*g*) The principles of diet, vitamins, and basal metabolism, and their application
(*h*) Eugenics, and vital statistics
(*i*) Criminology and the jurisprudence of criminal responsibility

5 The diploma, by request, may be endorsed that special knowledge has been shown in the subject selected

6 It is suggested that any compulsory attendance at lectures and demonstrations and clinical courses should be limited to the subjects detailed for Part II, and that the course for Part I or Part II should not exceed eight weeks

C HUBERT BOND *Chairman*
JOHN R LORD, *Honorary Secretary*

British Medical Journal.

SATURDAY, APRIL 5TH, 1924

EXPERIMENTS ON DOGS

THE custom of debate in the House of Lords gives the introducer of a motion opportunity to present his case as fully as he may wish Lord Banbury's statement, in moving the second reading of the Dogs Protection Bill last week, may therefore be taken as containing all that is to be said for it It will be seen (p 639) that he professes to be actuated by an emotion with which the majority will have much sympathy, but that he was also influenced by a motive less worthy of respect He gave three reasons As to the first, "that dogs are not necessary for the purpose of science," he showed that he had not made himself acquainted with the facts, in the second, that they are used because they are cheap, he began to betray an unworthy motive, and in making the third, that they are used because they trust man and will not hurt him, he was unmannerly—so unmannerly that even his seconder did not support him, and no other speaker thought it worth while to refute his insinuation Lord Knutsford, in the course of a very well informed and effective speech, dealt briefly with the second reason, and had no difficulty in showing that the introducer of the bill, who suggested that monkeys should be used instead of dogs, had been badly briefed, and had not taken the small amount of trouble necessary to ascertain the facts This brings us to the third point Both the mover and seconder will have disappointed their prompters by admitting that experiments on animals are useful by adding to knowledge and diminishing suffering and death Yet they seemed to think that men of science experiment on animals for the same reason that they and other sportsmen among whom let us in all fairness include Lord Knutsford, use sporting dogs—for fun Lord Knutsford explained, and Lord Rayleigh, speaking from his own knowledge of experimental science and scientific workers, also dealt with the point, that in investigations carried out on living animals the species of animal selected is that most likely to yield a clear result

The antivivisectors, as they call themselves, are very slow to learn, but they are learning No attempt was made to meet the evidence insulin has provided to justify experiments on dogs, and Lord Lambourne—who as Colonel Lockwood was one of the chief exponents of antivivisectionist doctrines in the House of Commons—was so rattled by the reminder of the eagerness with which the dog world is supporting the experimental inquiry into distemper recently instituted under the general direction of the Medical Research Council, that in the hurry of the moment he gave away such case as he had by suggesting that it would be perfectly easy by an amendment in Committee to make an exception in the case of that particular disease '

A new stumbling block is the increase in knowledge about the cause and prevention of rickets afforded by recent experiments, mainly on puppies, which have been conducted in this country chiefly at the instance and with the financial assistance of the Medical Research Council It is a curious practical comment on the situation that a dog breeder who, out of ignorance, misfeeds his puppies so that they develop rickets is condoled with on his bad luck, while another man who, starting from a similar state of ignorance, feeds two sets of puppies on different diets in the hope of discovering whether one sort of diet may not keep the puppies healthy, must go to the Home Office for a licence, because he is experimenting in pursuit of knowledge and not of gain Further, it appears that if a man puts fish into a sewage pond in the hope that they will fatten faster for market he does no wrong, and the Ministry of Agriculture and Fisheries may even pat him on the back, but if another puts fish into several ponds containing sewage diluted in differing degree to find out in which they batten best he becomes a vivisector, and the Home Office will prepare a rod for his back This by the way, it is not strictly relevant

Lord Knutsford gave a lucid account of the elaborate checks and safeguards provided by the Cruelty to Animals Act of 1876, and the Lord Chancellor some interesting information in regard to the working of the Committee, of which until the other day he was chairman, set up by the Home Office to advise it as to the propriety of permitting experiments about which the inspectors under the Act felt the least doubt The Lord Chancellor said definitely that the Government could not approve of the provisions of the bill, for it would put an end to some of the most essential researches that have been carried out, and Lord Parmoor, also speaking for the Government, and in particular as the Minister responsible for the work of the Medical Research Council, said that the Government considered that experiments on dogs should be allowed to continue Lord Lambourne paid a back handed compliment to science by asserting that ' our great medical profession has not suffered in any way, has not lost ground in comparison with other nations, because experiments are hedged round with so many licences But the operation of the Act, and of the procedure of the Home Office under it—very stringent and therefore hampering—was not the matter debated That was a bill which, it was not denied, would absolutely and wholly prevent any experiments on dogs, even though these were only feeding experiments or inoculations to find a means of preventing distemper

Science is deeply indebted to Lord Knutsford for stating the case against the bill clearly and fully and in a manner that compelled attention but we cannot share his hope that we shall not hear of the Dogs Bill again, we rather expect, with Lord Curzon, that it will continue to be a hardy annual and it is partly on that account that it has seemed proper to print the very full report of the debate which will be found at page 639

THE CHOICE OF INDUSTRIAL WORK.

THE Committee which the Home Secretary has appointed to inquire into the working of the provisions of the Factory and Workshop Acts for the medical examination of young persons has as we stated last week (p 586), a threefold reference The main question is whether there should be any modification in the arrangements with regard to examination and certification as to fitness for employment in factories, and it may well be found that this examination should be on the one hand, more general than at present, so that it would apply not to a particular factory alone, and, on the other hand more precise, indicating a class of work in a factory for which a young person, on account of some special defect may

not be suited On such points as these any evidence to be offered on behalf of the British Medical Association will require careful consideration

A subsidiary but important matter for inquiry is what measures should be taken for linking up the examination of young persons under these Acts with that under the school medical inspection service, and possibly with that under other public health services, including the insurance medical service The great importance of such linking up has been pointed out on several occasions The medical members of an Interdepartmental Committee appointed some time ago to consider the form of medical record to be kept by insurance practitioners drew attention to the advantages that might accrue from a continuous record of the health of the individual throughout life, and the report, issued in 1920, includes the following paragraph " Suggestions have been brought to our notice that the form of record should be linked up with other medical records kept in connexion with various branches of public administration, such as school medical records, the medical records of the Pensions Ministry, or institutional records We are of opinion that this is eminently desirable, but we have considered it to be outside the terms of our reference We have, however, not lost sight of its importance, and in framing the forms of record have endeavoured to make them such as could conveniently be linked up with other such records " The Representative Body endorsed generally the opinion that such continuity of medical record was desirable, but its practicability was doubted by many The school medical records of most children are now satisfactorily kept down to the leaving age of 14 years In a large number of cases these records are now continued, through medical inspection at secondary or continuation schools, to the age of 16 or even later Then usefulness then ceases, for, though records of illness have again to be kept of the same individuals when they become insured persons, often at 16 years of age, these are in all cases fresh records, begun without any knowledge of those previously kept, and frequently there is an interval of several years, during which there is no medical examination or supervision at all Were the proposal which has been made to raise the school leaving age by one year adopted, this would help materially to bridge this gap

Education authorities now have the power, and in a large number of cases are using it, to help and to supervise the employment of young persons up to 18 years of age, and to administer unemployment insurance in the case of such persons The school medical records are, of course, accessible in such cases, and may be of great service in guiding the juvenile employment officer as to the suitability of available employment in individual cases The problem is to make this information available also to those who are charged with the responsibility of examination and certification under the Factory and Workshop Acts in such cases as come within their purview, and to others into whose care the young persons may subsequently pass It would evidently be necessary to establish safeguards that the information given by such records should be used only for medical and scientific purposes—either to assist in the proper medical care of the individual, or generally for conclusions as to the causation and progress of disease as revealed by the study of a large number of life histories in an impersonal fashion To devise methods by which these ends can be achieved without any disturbing disclosures to the subject of the record, and without arousing unwarranted prejudice in the minds of employers, and so causing unnecessary difficulty in securing employment, is obviously no easy task It is, however, time that the problem was seriously taken in hand, and the investigations of the Home Office Committee into this part of the subject of its reference will be watched with great interest

HOSPITAL STAFFING

THE attention of members of hospital staffs may be drawn to the summary published last week (p 585) of the third report of the American Medical Association upon the investigation made by that association in conjunction with the American College of Surgeons into the condition of the hospitals of the United States Of a total of 6,830 hospitals, which is the sum of the hospitals controlled by the State and by independent bodies, all except 39 responded by making the desired report The returns obtained are of great value to hospital authorities both in the States and in other countries wherever there are comparable conditions The British Medical Association has recently undertaken a similar investigation from another angle In a publication of the Labour party in which is set out the hospital policy of that party there is a direct criticism of the voluntary hospitals in the statement " An appointment to a hospital staff carries a certain monopoly value, and, this being so, the number of appointments are jealously guarded, with the result that all big hospitals are badly understaffed " So serious a criticism as this could not be allowed to pass unchallenged The Association has therefore issued a set of questions to all the hospitals of England and Wales with one hundred or more beds The number of replies received up to the present date is considerable, but many more are wanted to complete the tale In the provinces there are 111 hospitals of this size, and 81 have replied, in London there are 40, of these 20 have replied A similar inquiry is proceeding in Scotland In view of the fact that the Labour party has called a conference of those interested in hospitals for the end of April, to consider the question whether further State aid should be provided for the establishment and maintenance of hospitals, and has requested the British Medical Association to present the medical point of view, it is hoped that those hospitals which have not yet sent in a reply to the Association's inquiry will do so within the next ten days Members of hospital staffs should ask the secretary of their own hospital if the return has been made This evidence is needed It will be of great value Those who furnish it will do good, both to themselves and to their colleagues It may be possible at a later date to publish a list of the hospitals which have made returns

WAR PHOTOGRAPHY

As many readers will remember, the practice of photography in France during the war was forbidden In addition there was a standing order that anyone possessed of a camera must hand it in to the officer in command of his unit Probably few failed to observe this rule, for though at bases kit inspections in the case of departmental officers were carried out very irregularly if at all, the penalty of detection was too great to run any risks As for front areas, everyone knew that even sketching was unlawful except in pursuance of some special duty, and that anyone who attempted to take a photograph exposed himself to very serious consequences, a court martial being a probability and cashiering a possibility Looking back one is perhaps not sure how far these orders were really essential The French were less strict in the matter, and on the

German side photography seems to have been practised with considerable freedom Still, at the time of their first issue the stringency of the orders was comprehensible The policing of the British war zone was not so thorough as eventually it became, there were known to be spies in existence, and if cameras had been innocent possessions the task of dealing with espionage would have been further complicated Also, at this time any kind of definite information might have been of use to the enemy, neither side knew much of each other's exact methods of work, and air plane reconnaissances were still in their infancy The net result was that for long only two individuals were allowed to photograph, and great care was taken that their work should never be exposed to capture by the enemy, or even seen by other than privileged persons They were official photographers, both serving as officers under the command of the censor, and were appointed to meet a need that the authorities recognized to exist—namely, the provision of pictures such as could be used for propaganda purposes by publication in the general press The Dominion troops were subjected to the same regulations, so the Anzac officers and men, when they arrived in France at first, got into considerable trouble in this connexion For in Gallipoli photography had in practice not been forbidden Their commanders, who also wanted photographs, at first contented themselves with the occasional loan of the two British official photographers, but after a little they managed to get their facilities extended, partly perhaps because as time went on the danger became less of a photograph telling the enemy anything he did not know, partly perhaps because the Anzacs were ever the spoilt children of the war, as also amongst its boldest and most enterprising fighters They did not want pictures useful for propaganda purposes—pictures making appeal more to the heart than to the intellect—but photographs which would serve as a pictorial history of what they did And they succeeded—as anyone can see for himself who turns over the pages of Volume XII of the *Official History of Australia in the War*[1] It is true that relatively few of these pictures show actual fighting beyond glimpses of batteries in action, but they do show the country over which the Australian fought and how he fought, except at close quarters, and how he lived meanwhile Also to some extent they reveal how he suffered and why he suffered, and to a considerable extent the atmosphere, physical and moral, in which he had his being There are 750 photographs in all, and though some of them may be of interest to Australians alone this is not so with the majority Though they relate primarily to the Anzacs, they apply equally to all troops that took part in front-line operations, for the conditions in which all lived were, practically speaking, identical Pages of skilled writing could not reveal as much of the war as do many of these photographs at a glance, nor volumes convey as much comprehension of the subject as would be obtained by anyone who studied these pictures and their underlettering with intelligence A good many pictures are of direct medical interest, for instance, operations in a casualty clearing station, and work in a dug-out advanced dressing station are shown in progress Many of those of a landscape type suggest how formidable a medical task it must have been to keep in good fettle great bodies of men living amid the hopeless morasses into which a fair countryside was so frequently turned by unending shell fire, pouring rain, and blockage of streams and natural drainage The underlettering of one of the pictures indicates that during a certain series of operations the ground was in such a state that relays of stretcher-bearers had to be stationed at intervals of about 600 yards, and that even then a wounded man could not be carried back at a quicker rate than a quarter of a mile an hour No one who examines the pictures can doubt for a moment that this must often have been the case With the possible exception of a few pictures obtained from private sources, none of the negatives (the preface notes) were retouched, and in all cases an exact record was made of the circumstances in which the photographs were taken They are very well printed, and as a whole the volume—which was produced entirely in Australia—is worthy of the magnificent body of men to which it relates

[1] *Official History of Australia in the War of 1914-19* Vol xii Photographic Record of the War annotated by C E W Bean and H S Gullett. Sydney Angus and Robertson. 1923 (Demy 8vo 753 illustrations Price 20s.)

MATERNAL MORTALITY

A THIRD report by Dr Janet Campbell on maternal mortality has been issued by the Ministry of Health[1] Sir George Newman, when summarizing in his introduction the main features in the report, observes that, as is well known, maternal mortality is relatively excessive in England and Wales, and adds that in this respect we compare unfavourably with Germany, Norway, Italy, Sweden, and Holland Excessive rates are found in the aggregate in some of the most rural areas, and in certain highly industrial areas engaged in textile manufactures and coal mining, especially in certain county boroughs within those areas Maternal deaths are due principally to puerperal sepsis and to certain complications of pregnancy, but deaths due to the former have shown a greater decline since 1902 than those due to the latter cause It appears, therefore, that the child bearing mother is not sharing equally with the rest of the population in the improved public health Various forms of disease concurrent with pregnancy or confinement may, either of themselves or by rendering confinement difficult, have fatal issue, among them being heart disease, pneumonia, rickets, syphilis, and embolism, but puerperal sepsis accounts for the highest number of deaths, and a special section of the report is devoted to its consideration Next come the toxaemias of pregnancy, and then haemorrhage The problem is how to prevent, and Sir George Newman says, 'We can only prevent by preparation" Insanitation, overcrowding a deficient water supply, or lack of effective lighting and ventilation may have many disadvantages, but, whatever else may result from them, they spell domestic uncleanliness Undesirable at all times, such uncleanliness may mean disaster at the time of confinement Even more essential than environment or the personal health and occupation of the mother is ante-natal supervision No sound progress can be made in the reduction of maternal mortality apart from it Equally important, it is held, is the training, quality, and skill of the professional attendant For every confinement there must be an irreducible minimum of knowledge, experience, and aseptic method An ignorant midwife or a hurried doctor may easily do more harm than good The recommendations with which the report closes include proposals for an improvement in the quality of the professional attendants, the action the public health department of the local authority can take and general social and educational measures We hope to return to this report on some future occasion

[1] H M Stationery Office (Cr 8vo pp 120)

CHILD WELFARE

THE annual report for 1923 of the National League for Health, Maternity, and Child Welfare draws attention to the great advance that has been achieved in the organization of health work amongst women and children during the nineteen years of the league's existence and to the drop in the infantile mortality from 145 per 1,000 in 1904 to 69 in 1923, the lowest figure for any industrial country in the world The activities of the league during the past year include eighty five lectures given to girls' clubs, a special series of lectures on the hygiene of growth, delivered in

conjunction with the eleventh annual conference of the Educational Association, held at University College, London, and the preparation of new editions of the text-book *Mothercraft* and of the book *Wives and Mothers* The publications of the league are still in great demand, and their nutritive value may be estimated from the following sentence in the report "The mother who wrote that she had successfully reared her baby on the leaflets issued by the league till it was past the bottle stage was easily helped when she asked for instructions on what to do next" The work in finding treatment, convalescent, and holiday homes for babies is increasing, and 318 cases were dealt with in 1923 The report also contains the details of the work of the constituent societies, including the National Baby Week Council, which, in conjunction with the National Association for the Prevention of Infantile Mortality, organized in London a conference on infant welfare The council has received an invitation to hold an "Imperial Baby Week" at the British Empire Exhibition in the fourth week in July The National Society of Day Nurseries held an international conference during the year under review, at which delegates from eleven other countries were present

BRITISH GUIANA

THE *British Guiana Medical Annual*,[1] now in its twenty-third year of issue, is edited by Dr F G Rose, and contains, in addition to various original articles and reports, the transactions of the British Guiana Branch of the British Medical Association for 1919-21 The volume is one of unusual interest in a series of exceptional merit, and includes a paper by the editor, in conjunction with Dr J E Chow, which was read to the West Indian Medical Conference in 1921, it recounts the history of the long line of workers in medical science in the colony Dr Edward Bancroft, in 1769, published the pioneer "Essay on the natural history of Guiana," describing leprosy, yaws, and guinea-worm, and a disease which was probably yellow fever In 1835 Warburg brought his famous tincture into the colony Dr Blair, the first surgeon-general of British Guiana, published a valuable book on yellow fever in 1852, and a blood sucking bat in the colony still commemorates his name and fondness for blood-letting Further contributions to our knowledge of yellow fever were made by Lett Anderson in 1861, and in 1882 by Freeman Ankylostomes were first identified about 1887, and in the *Georgetown Hospital Reports* for that year appears the first paper on this subject by Dr A T Ozzard, the present President of the Branch, who has also been responsible for valuable discoveries with regard to malaria since 1892, and filariasis The *Medical Annual* has had an historical association with the British Guiana Branch, and the present number constitutes a fine testimony to the valuable services that have been rendered by both Dr Grieve, a former surgeon-general to the colony, seems to have founded the serial when he launched the *Asylum Journal* in 1881 This publication in 1887, under the editorship of Dr Rowland, became the *Georgetown Hospital Reports*, and in 1890 took the name of the *Medical Annual* The twenty-three volumes of this annual form a continuous record of progress in knowledge about yellow fever, filariasis, ankylostomiasis, leprosy, and many other tropical diseases In 1896 and 1906 attempts were made without success to merge the journal into a combined West Indian medical journal, and the present number of the *Medical Annual* reports the resolution passed at a meeting of the local Branch of the British Medical Association in July, 1921, that the time had now come for this to be effected In the SUPPLEMENT of October 7th, 1922 (p 137), we reported a resolution passed by the Branch to the effect that no benefit would be gained by British Guiana joining with the West Indian islands in the formation of a unified West Indian Medical Service, but the question of a unified journal seems to stand on a different footing Year by year the *Medical Annual*, as well as the reports of the local Branch of the British Medical Association, have recorded important advances in medicine and hygiene, and the present issue is a worthy successor to a most famous series, containing as it does a selection of papers presented to the West Indian Medical Conference in British Guiana in 1921, public health reports by Dr E Minett, the Government medical officer of health, and several papers dealing with original research in pathology, public health, and clinical medicine

BRITISH BIRDS

WE will make no apology for calling the attention of readers to the completion of Mr H F Witherby's *Practical Handbook of British Birds*,[1] for members of no profession are more addicted than those of medicine to outdoor pursuits Many a country practitioner is a fervent gardener, perhaps a specialist in roses or carnations, and we would venture the guess that next to horticulture and botany the study of natural history, and particularly of birds, has proved to be the most popular relaxation with medical men Amongst naturalists who have followed this child of their choice to the length of writing a book about it a large number are doctors The natural history of India owes a very great debt to the love labour of officers in the Indian Medical Service, and many a Royal Naval surgeon has employed his spare time in foreign countries by making collections of birds or butterflies One of the difficulties of the British field naturalist visiting Europe, or wandering as far as North Africa or Egypt, has been the want of a handy portable book of reference A traveller cannot drag about with him a series of cumbersome tomes, while if he carries only one volume, such as that classic handbook on British birds by Howard Saunders, he is continually being baffled by meeting with some bird that is not described or even mentioned Armed with Mr Witherby's handbook and a pair of field-glasses, such a field naturalist should be able to diagnose any bird he sees in Western Europe from the Balearic Islands to Denmark—that is, if he have the natural eye and ear for bird form and bird song There are unhappy folk who reach old age striving every year to recognize their spring friends, but never quite succeeding Fortunately the camera is replacing the gun with the more sympathetic sort of bird student, and this book will leave even the more callous with no excuse for shooting a bird merely to find out what it is, by means of numerous coloured plates, drawings, and sketches, Mr Witherby has supplied the salient points of difference, and even subspecies can be diagnosed without killing by anyone who has an eye for a bird Very valuable and practical in this regard are the sketches of the vultures, buzzards, kites, and other birds that glide high up with outstretched wings The outline drawings of the appearance of such birds seen from above or below, and in some cases characteristic attitudes of flight, are enough in themselves to clinch the species of the bird Altogether there are 350 such figures in the text, and only a true bird lover with a quick eye and a sure hand could have drawn them The book is a small octavo, and to the traveller we recommend the edition printed on thin India paper, for the complete work can be carried conveniently in the pocket of a tweed coat But it must not be thought that

[1] *The British Guiana Medical Annual for 1921*. Edited by F G Rose B A M B B C Cantab M R C S Eng L R C P Lond Demerara The Daily Chronicle Ltd 1923. Price 4s.

[1] *A Practical Handbook of British Birds*. Edited by H F Witherby M B E F Z S M B O U In eighteen parts London H F and G Witherby (Demy 8vo over 1 500 pages, 350 figures, 30 plates 44 10s the complete work, 4s 6d per part)

this handbook is only for the field naturalist it is one no serious naturalist working in laboratory or museum can afford to be without The beginner in the study of ornithology is looked after, for the first pages of the book contain directions, clearly and well illustrated, of the methods now in vogue for measuring the wings, tails, tarsi, and bill—all points of great importance Diagrams also are given which explain the topography of the down tracts in the nestling, and the feather tracts of the wings and underwings and bodies of adult birds Next comes a key—very helpful, profusely illustrated—to the different orders of birds The book is not limited to the birds popularly supposed to inhabit and visit these islands, for through the indefatigable research of the authors large numbers of birds, until recently considered foreign, have been proved without the least doubt to have been not only seen but procured in Great Britain The thirty coloured plates of such birds as the willow tit, Irish cole-titmouse, northern long-tailed titmouse, and other usually unpictured rarities, are a very useful addition to the book Some idea of the wide scope may be gathered from the fact that no fewer than seven species of wagtails are described, thirty-four different warblers and nine woodpeckers Again, no fewer than sixteen species or subspecies of titmice are mentioned (eight are beautifully illustrated by coloured plates), and fifteen different buntings are shown in one beautiful coloured plate The excellence of this really remarkable work (the several parts of which have been briefly noticed in our columns from time to time) is explained by the fact that it is the result of five years' work by six very distinguished ornithologists Mr H F Witherby, the editor, is to be congratulated on having produced a book which is certainly unique, and which we most strongly recommend to the notice of all bird lovers, field naturalists, and ornithologists

INFLUENZA AND MEASLES

THE number of deaths attributed to influenza in the great towns continues to decline, and fell last week to 627 (681 in the previous week), but the epidemic is not over in the north west The following county boroughs all recorded more deaths than in the previous week Blackburn (12), Preston (11), Blackpool (9), Huddersfield (9), Bradford (42), Sheffield (13), Burnley (18) The number of notifications of pneumonia again slightly increased—from 2,647 to 2,666—almost all the increase being in London (where the deaths from influenza again decreased, from 89 to 83) and the north west The mortality from measles is still increasing Last week there were 186 deaths in the great towns (157 in the previous week), of which 153 occurred in Greater London

A COURSE of lectures for medical practitioners on mental deficiency supplemented by a course of clinical instruction has been arranged by the University of London Extension Board in co-operation with the Central Association for Mental Welfare The course will extend from May 19th to May 24th, 1924 It is intended for qualified medical practitioners, and more especially for those who are engaged as certifying officers to local authorities under the Mental Deficiency Act, 1913, as school medical officers, or as medical officers of institutions, or who are otherwise definitely concerned with defectives The course will be based on the requirements of the syllabus for the University of London Diploma in Psychological Medicine The University will grant a certificate of attendance to those who have attended the whole course regularly, taking both theoretical and practical work Inquiries should be addressed to Miss Evelyn Fox, care of University Extension Department, University of London, Imperial Institute Road, South Kensington, S W 7

THE DOGS PROTECTION BILL.

DEBATE IN THE HOUSE OF LORDS

REJECTION WITHOUT A DIVISION

LAST week we were able to do little more than record the fact that the Dogs Protection Bill introduced in the House of Lords by Lord Banbury of Southam, on March 25th, had been rejected without a division The subject, however, is of so much medical and scientific interest that it seems desirable to give a fuller account of the debate It will be remembered that Lord Banbury, when Sir Frederick Banbury and a member of the House of Commons, introduced bills with this title which passed a second reading on three occasions On the last occasion the bill was referred to a committee and amended, but rejected on a third reading The bill Lord Banbury introduced into the House of Lords on March 25th was the same as the bill rejected in the Commons on a third reading

In his speech in the House of Lords, Lord BANBURY said that the bill was not an attempt to do away with vivisection, but to exempt dogs from vivisection and experiments He proposed to show that dogs are not necessary for the purpose of science that they are used because they are cheap, and because they trust man and will not hurt him In support of the first proposition he quoted certain medical and veterinary opinions On the second point, as to cheapness, he quoted a statement he attributed to Sir William Cheyne, to the effect that the men engaged in this sort of work were in the great majority of cases poor who spent their money on instruments, and that to ask a poor man to buy such an expensive animal as an ape was out of the question He also quoted from the report of the Royal Commission on Vivisection (1912) in support of his assertion that it was not necessary to make experiments on dogs The Cruelty to Animals Act 1876, he said authorized experiments to be performed without anaesthetics on a certificate being given that insensibility cannot be procured without necessarily frustrating the object of the experiment, and, further, that a certificate might be given authorizing experiments to be performed without imposing on the experimenter an obligation to cause the animal to be killed before it recovers from the influence of the anaesthetic, should it be shown that the so killing of the animal would necessarily frustrate the object of the experiment, and provided that the animal was killed as soon as such object had been attained He argued that if the main result of the experiment had not been obtained the animal might be kept alive though suffering severe pain Returns for 1917 showed that 887 dogs and cats had been experimented upon without anaesthetics, that, he thought, included inoculations those which recovered after a serious operation numbered 147 Man had made the dog trust him, and he thought it a shocking commentary to believe that because a dog trusted in a man, and it would save a little trouble to deal with an animal that trusted, and because it was cheap, the dog was taken for the purposes of an operation which could be performed on other animals

Viscount KNUTSFORD *moved* that the bill should be read a second time that day six months The House of Lords, he said was unfortunately very poor in representatives of science or of medicine His life brought him into very close touch with medical men and with scientific men, and he believed that what he was going to say represented almost the universal medical opinion in this country and that of the whole scientific world He fully appreciated the sentiment which led to the introduction of the bill, and was himself a dog lover and a dog owner There ought to be no mistake about the bill If it passed no dog could ever be used for any experiment of any sort, even a feeding experiment The words calculated to give pain or disease which were in Lord Banbury's bill were the words used in the Act of 1876 No experiment could be performed on any animal without a licence, and this bill contained no provision whatever for any licence Experiments had been made to test the nutritive value of margarine as compared with butter, the food of the animals was the same except that one had margarine and the other butter and it was proved that the animals needed butter to thrive An experiment of that kind could not have been made except by licence under the present law, and could not be made at all if the present bill were passed No experiment of any kind could be made without a licence

If, he continued any experiment involves cutting the animal has to be completely anaesthetized and killed before it recovers If the nature of the research is such that it is necessary to allow the animal to recover from the anaesthetic and to be kept alive which is a privilege that many of your lordships have had—I have twice had an operation myself and been allowed to survive—

for such an experiment on an animal a special certificate must be obtained in addition to the licence, and if that animal is a dog a still further certificate has to be taken out Therefore dogs are specially protected

'More than that, when you apply for a licence for an operation on a dog you have to say the reasons why the object of any experiment will be necessarily frustrated unless it is performed on a dog, and also why no other animal is available for any such experiment But it does not even stop there If the experiment is to be done without an anaesthetic another certificate has to be obtained before the animal can be operated upon, and a still further certificate has to be obtained if the animal is a dog You have also to give the assurance to which I have just referred These experiments without an anaesthetic which sound so dreadful to us are merely inoculations or feeding experiments, or the withdrawal of a drop of blood In the returns of 'operations done without anaesthetics' even sewage experiments on fish are included, so that when we see these horrible statistics of thousands of operations done without anaesthetics they are not really what you would ever dream of calling vivisection"

Lord Knutsford next observed that Lord Banbury had said it was possible for the Home Office to allow an experiment involving pain without an anaesthetic, but the Home Office report just issued stated that in no case had certificates dispensing with the use of anaesthetics been allowed for any experiment involving serious operation Further, neither of the two certificates was ever issued without the following condition being imposed by the Home Office "If after the recovery from the anaesthetic the animal suffers from severe pain, or any pain likely to endure it must be killed painlessly" Having shown that dogs were sufficiently protected, Lord Knutsford went on to contend that not only was there no reason for excluding dogs, but every reason for including them, both for the sake of man and for the sake of dogs themselves It was unwise to exclude any animals from the law of the country as regards operations, because researchers selected the animal most likely to be helpful for the experiment He continued as follows

"For a vast number of experiments rats, mice, guinea pigs, and rabbits are used But as soon as it becomes necessary to analyse the processes in separate organs such as the heart and the kidneys, recourse has to be made to the larger animals I am speaking carefully not at random The dog is not only carnivorous but he lives and thrives on the same food as man, and his digestive processes are the same And therefore the [illegible] be used for experiments [illegible] it is essential that dogs should [illegible] experiments Until quite recently some of the [illegible] disorders of the human heart were not understood at all By means of experiments on dogs, completely anaesthetized and killed before recovery, the reason of these disorders had been discovered and this was the first step towards the prevention of them and treatment of them There is not a single scientific man in this country who would deny the truth of what I have said about that work upon hearts That work could only have been done on dogs and the experimenter had to say so before he obtained his certificate to carry out those operations"

The Royal Commission made no recommendation to exempt dogs and Lord Lambourne, who had signed the Minority Report, never claimed or suggested that dogs should be exempted Lord Knutsford then gave two outstanding instances which alone he said, would justify the House in throwing such a bill as that now before it into the rubbish heap The first instance he gave was rickets, and he quoted from the report issued by the Medical Research Council The report, he said, stated that a large number of feeding experiments were made, two sets of puppies were given abundance of food but in one set the food was without certain constituents Puppies so fed developed rickets while the others did not and if the particular constituents were supplied to the puppies that had rickets the disease disappeared These experiments could not have been carried out under the present bill Where was the humanity, he asked, of such a bill? Had we no sense of proportion? Was the discomfort or even the pain, of a few days to be put against the saving of thousands of children from dragging out their miserable lives in deformity, to say nothing of parents, who were saved the misery of seeing their children growing up deformed He did not think Lord Banbury could have known of the experiments or studied them, otherwise so good a sportsman and so kind a man would not proceed with the bill The Medical Research Council concluded its report by saying

They cannot do otherwise than raise their protests against what we must deem the inhumanity of placing any hindrances in the way of those working for the diminution of this total volume of human and animal pain"

The suggestion that dogs were used because they were cheap was utterly unworthy, especially when it was known that the men carrying out these researches were possessed of some of the finest intellects in the world and were receiving salaries not quite so large as that received by a first class clerk If they were poor the dogs were not paid for by them, but by the college in which they worked, but he felt it beneath him to pursue the argument

Lord Knutsford then turned to the striking instance of insulin Dr Banting had isolated the substance from the pancreas, and having got it, what was he to do with it? Lord Knutsford continued as follows

"He had then to give a dog diabetes, and inject into it this substance, and then to find out whether that substance, which was introduced artificially into the dog, would work in the same way as if it were given off normally by the pancreas It did, and the disease is now controlled The antivivisection party claim that the disease is not cured It is not cured Food does not prevent hunger returning Insulin does not prevent diabetes returning But as food is to hunger, so is insulin to diabetes, and if your lordships were to see, as I have often seen the marvellous effect of a dose of insulin on a patient, you would be dumbstruck You see a patient come into hospital with large eyes, sunken face, and stooping figure He is given insulin In quite a short time that man is bright and happy and smiling again, and his disease is forgotten There are many patients brought into hospital upon whom you cannot operate because they have diabetes If a person has diabetes the wounds do not heal up Give the patient insulin, and you can operate This discovery has been made absolutely and entirely, and only by operations on dogs, which would have been impossible under the present bill It would be distorted humanity which would keep food from a hungry man, and I venture to think it is distorted humanity that would keep insulin from a diabetic patient"

Lord Knutsford then turned to the advantage conferred on dogs themselves, and referred to the research now in progress into distemper

"But," he continued, "this precious bill would stop that If you are going to have research into distemper you must first isolate, you must first ascertain what carries the distemper Is it carried from the sputum? Is it got from the faeces? Is it caught from the breath of the dog? You must first isolate a microbe, and, having got the microbe, you must give a dog distemper from it to see if you have the right microbe, and then you must try to discover the antitoxin which will kill that microbe Then you will conquer the disease

"I wonder whether, if dogs could speak, they would claim exemption from suffering for the benefit of their fellow dogs Men have not claimed it There are hundreds of instances of men submitting to vivisection for the benefit of their fellow men You all know what the Americans did in the yellow fever, and it is not very long ago that during the war, when it was thought prussic acid vapour would kill people Sir [illegible] Sharcroft went into a chamber full of prussic acid vapour to see whether it would kill him or not Thank goodness it did not"

It was necessary once and for all to place the whole case before the House so that it might be spared having the bill brought up year after year as had happened in the House of Commons Lord Knutsford then quoted the resolutions adopted by the Royal College of Physicians of London and the Royal College of Surgeons of England in 1919, and by the Royal Society of Medicine, and also that adopted at the Special Clinical Meeting of the British Medical Association in London in that year, to the effect that the meeting heard with dismay of the possibility of the passage through the House of Commons of the bill to prohibit experiments on animals That was the opinion of all leading societies representing the medical profession in this country, and in face of such testimony there could be no doubt what to do with the bill or where real humanity lay

Lord LAMBOURNE supported the second reading in a short speech He claimed that the bill had only been lost in the House of Commons by one vote, and read the following paragraph from the report of the Royal Commission on Vivisection

"The representations made to us for the complete exemption of any class of animal from all experiments under the Act have been strongest in the case of dogs"

He then read a portion of one of the sections of the Act as follows

"If the main result of the experiment has been attained"

But eventually, stimulated by Lord Knutsford, he read the following further passages

"The animal must be forthwith painlessly killed"

"If the animal after and by reason of such experiment is found to be suffering severe pain which is likely to endure, such animal shall forthwith be painlessly killed whether the main result of the experiment has been attained or not"

For himself he would endeavour so long as he could speak to bring the case of dogs before the House, and argued that the advancement of medicine in this country had not been prevented by the Acts now in force It was true that men had submitted themselves to experiment voluntarily, but a dog could not refuse As to distemper, he suggested that an amendment in Committee might allow dogs to be experimented on in the case of that particular disease

Lord RAYLEIGH, F R S, in a maiden speech, said that he had lived all his life in scientific circles and could speak from personal knowledge, from daily communion with people actually doing the work of discovery in physical science, and with physiologists He could say without the slightest hesitation

that they did in their hearts believe in the necessity for using dogs for experimental purposes Opinion in this country was traditionally averse to accepting without examination the views of experts, but this was one of the cases in which such opinions might be accepted He continued

Nature does not give up her secrets easily It is a delicate and difficult art to force her to disclose them and no one who has not tried it can have any appreciation of how difficult it is What would be thought if noble lords proposed in the case of experiments in electricity to lay down what materials are or are not necessary in order that they may be successful? The noble lord would not profess to give any opinion on such a subject unless his prejudices were concerned That is the reason why he professes to know better than those who are actually concerned to decide what is or is not necessary "

He would supplement what Lord Knutsford had said of the reasons why dogs were more necessary for experimental purposes than other animals

"In any operation of a manipulative character—and I use the word operation in a generalized sense, I am not speaking only of surgical operations but of mechanical operations—the size of the object operated upon if it is difficult to handle offers the most disadvantages I think your lordships will appreciate that point very clearly if you consider the case of watches and clocks It is obviously very much easier to repair a clock which is of substantial size and comparable with the hands of the operator than to deal even with an ordinary watch and still more with one of those very small fancy watches which you sometimes see used by ladies Obviously, the difficulties of manipulation must become very much greater when the thing with which you are dealing is inconveniently small compared with the size of your hands and with a larger object which you can conveniently distinguish with the unaided eye That is one of the chief reasons why operations on dogs are far easier to carry out than corresponding operations on other animals, such as rabbits or cats where the organs which it is necessary to manipulate are smaller where it is more difficult to make junctions and to perform the various operations which it is necessary to carry out These are far more difficult in the case of the small and delicate organs of rabbits and cats than in the case of the large and comparatively substantial organs of dogs That together with the facility with which dogs are obtained is the real reason why dogs are in practice so very much more necessary than other animals for purposes of experiment

'For some classes of work particularly in diseases which affect monkeys alone it is necessary to resort to monkeys but the expense and difficulty of procuring them and the obstacles which they place in the way of experiments are notoriously very great '

Lord MILDMAY OF FLETE spoke as a member of the managing body of a great London hospital on the cancer and medical research committee of which he had sat, and also as one of the three lay members of the Medical Research Council After sketching the work of the Medical Research Council, he said that almost all that was known about the processes of digestion, about the work of the heart, and about the circulation had been due to the help of the dog Lord Knutsford had not said a word too much about the results of the experiments on insulin and rickets Those who had spoken in favour of the bill had attempted to minimize its effects but if it were passed it would remove dogs altogether from experimental work in medicine not only as regards operations under anaesthetics, but also the experimental infliction, for instance, of distemper, with a view to protecting dogs themselves from that disease At a farm at Mill Hill the Medical Research Council, with the help of the *Field* Distemper Fund, had constructed kennels where under ideal conditions, puppies would be housed The puppy would be painlessly inoculated with the disease which almost certainly it would have contracted outside under more disadvantageous circumstances that puppy was probably cured, after contributing to the health and happiness of future members of its race One reason why the Medical Research Council took an interest in distemper research was that the agent producing it was closely akin to that responsible for influenza in man In both the mischief was due to a filter passing organism, and the research staff, though it had not got this organism yet, was hard upon its track The more that was learnt about distemper in dogs the more effectively would it be possible to cope with influenza Moreover, organisms of a filter passing kind were believed to be responsible for a whole group of infectious diseases, including small pox, chicken pox whooping cough infantile paralysis, and rabies Study of the organism of distemper in dogs might throw a flood of light upon this whole group of diseases The bill would make work on distemper—at present subject to the rigid control of the Home Office—altogether illegal Further, it was only lack of progress in the study of this filter passing organism which prevented attempts to cope with foot and mouth disease and swine fever The Government had recently appointed a research committee into foot and mouth disease that committee contained workers in the dog distemper inquiry, a fact that illustrated the value which one side of the research work might have in solving another side, and the no less intimate connexion in many respects between human and animal ills

Government Disapproval of the Bill

The LORD CHANCELLOR (Viscount Haldane), after mentioning that until a few days ago he had been Chairman of the Committee of the Home Office to which the question of serious experiments on animals had been referred (a committee consisting of many eminent surgeons physicians, and physicists) sketched the work of the Committee as follows

They meet at the Home Office, and their function is this There is a small corps appointed by the Home Secretary who possess high qualifications, and who visit places registered for the performance of experiments on animals They report on every application for a licence to perform such experiments sent into the Home Office Nobody can get a licence who is not recommended by very high authority—the President of the Royal Society or somebody holding an analogous position Nobody gets a licence unless he is recommended by people who know his work and can testify to his capacity and the urgency of the experiments The inspectors visit the premises The bulk of the experiments involve no pain and no wounding, but there are some which do and the first of the provisions of the Cruelty to Animals Act to which I have referred is that no experiment may be performed without an anaesthetic or the animal kept alive afterwards, except under exceptional circumstances and special permission has to be obtained from the Home Secretary

When the inspectors have any doubt about the experiment they refer it to the Committee, who investigate the matter carefully and permission is never given for any experiment that is in the least degree serious much less painful or likely to result in wounding unless the most serious case is made out for the experiment More than that if the experiment is by an unknown person we always make certain that the person applying is really someone of high skill and science and if necessary his work has to be supervised by someone on whom we can rely to see that the provisions of the licence are strictly carried out In that way painful experiments on animals have been really reduced to a minimum Only in rare cases are they painful, and in such cases permission is only given with reluctance It is only given because human suffering could not otherwise be alleviated

As to the cases which have been referred to, the dog is a peculiar animal in that his mode of livelihood is not diverse from that of the human being and the kind of food which he consumes is similar to ours That has been a circumstance of the greatest importance in investigating the action of diet upon such questions as have been referred to to-day—rickets tetanus and other things of the kind Without the dog we could not have had the experiments with any hope of getting to the root of the scientific problem which was to be solved if the disease was to be treated and its cause ascertained For that reason the Home Office is very stringent in the supervision of these experiments It considers these experiments to be necessary

Lord Parmoor is the Minister responsible for research and he will state the reason for the attitude of the Government and the attitude of the Government is that it cannot approve of the provisions of a bill which would put an end to some of the most essential research that has taken place

Lord PARMOOR Lord President of the Council, speaking as the Minister responsible for the work of the Medical Research Council, quoted from its report for 1919 as to the nature of experiments on dogs as to rickets, and as to insulin. He then passed to the question of distemper, and observed that Lord Lambourne had suggested that an exception might be made but if that were done in the case of distemper why should the possibility of finding relief for human evils such as diabetes and rickets be abandoned? The Medical Research Council, which was actively co operating in the inquiry into distemper has stated that it could only proceed by careful experiments, in which puppies were given distemper for the proper scientific study of the disease under controlled conditions Lord Parmoor concluded as follows

These puppies in normal circumstances would in any case almost certainly fall victims to distemper I need not emphasize those simple statements Surely they are conclusive that under the safeguards which have been stated by the Lord Chancellor these experiments should be allowed to continue They have resulted in saving hundreds of thousands of people from misery both as regards diabetes and rickets I have nothing more to say because I think the matter is too clear to need argument

The MARQUESS CURZON OF KEDLESTON said that he was unable to advise the House to give a second reading to the bill He had received from the University of Oxford of which he was Chancellor representations from eminent men of science in Oxford asking that the voice of Oxford should be heard in the discussion He feared that even though the bill were rejected Lord Knutsford's hope that the bill might not be put forward again would be falsified he feared it would become a hardy annual What Lord Knutsford had so ably established were after all truisms The first was that over a long period of time the results to the gain of humanity, obtained by these experiments on dogs had been of *incalculable benefit* In recent years from the continuance of these experiments in the instances mentioned notable discoveries to the benefit of humanity had ensued The researches now being made as to distemper would have the double effect of diminishing the risks of distemper in dogs and the horrible tortures all had seen in their own dogs dying of distemper, and would also have a

reflex influence upon the good of the human race That seemed to him to have been established Secondly, it had been shown by Lord Haldane that the experiments were only conducted under the most rigid scrutiny, exercised by the most competent men, with the most earnest desire to avoid anything in the nature of unnecessary pain The debate had established this

On the question being put the motion to read the bill a second time was negatived without a division

Paris.

[FROM OUR OWN CORRESPONDENT]

A MEDICAL WAR MEMORIAL

IN the Rue de l'Ecole de Medecine in Paris there is fixed to the wall of the old school a memorial monument to which every French medical man contributed It shows a medical officer rendering first aid to a wounded soldier The artist, M Blanchot, is a professor of philosophy in the University and was wounded when serving as an aviator during the war It is a sober, impressive work of art, and the profession has desired that it should be inaugurated without any rhetorical display The inscription is in itself eloquent It reads

A LA MEMOIRE
DES 1800 MÉDECINS
MORTS POUR LA PATRIE
Le Corps Médical Français

The names of our fallen brethren have been collected in a *livre d'or*, with dates and "citations"

THE CURIE CANCER INSTITUTE

Amongst other medical points of interest it is strongly suggested to our colleagues when in Paris not to forget to pay a visit to the new dispensary for cancer treatment which has just been established in connexion with the Curie Foundation It was in 1912 that, under the guidance of the Pasteur Institute, the Radium Institute was created Its object was twofold the investigation of the physics of radium under Madame Curie, and of radiophysiology under Dr Regaud who has just been elected a member of the Academy of Medicine The physiological department is specialized for the study of the biological and therapeutical effects of radium

The war put a stop to the enterprise, but in 1918 Madame Curie, in faithful memory of her husband, decided to give to the Radium Institute practically all the radium they had extracted from the ore they obtained in Bohemia, amounting to one gram, its value is estimated at over a million and a half francs At the same time Dr de Rothschild gave the 550 milligrams he possessed, which had been lent to the Military Medical Corps during the war

The battle against cancer was immediately started at the Hospital of the Pasteur Institute, where patients from all over France were concentrated To radium therapy was promptly added a service of Roentgen therapy, and the work extended so much that a special hospital and dispensary proved necessary Hence the establishment of the Curie Foundation, which is situated near the Pantheon, in the heart of the Latin Quarter It is a centre of research, of teaching and of treatment well worth visiting It works in close connexion with the surgeon and Professor Gosset is in charge of the surgical department Cancers of breast and rectum are still considered surgical ailments, but cases of cancer of the skin, mouth, and tongue, and of the cervix of the uterus seem to escape the knife The work—or rather the fight—is actually in full progress, and a visit to the institute is sure to repay our visitors

THE BATTLE AGAINST TUBERCULOSIS

An interesting conflict has arisen between the National Commission of Defence against Tuberculosis and the Union of Medical Syndicates of France To the committee, which comprises the best known of our specialists, has been given the task of leading the fight on social grounds It was brought into existence in 1916 and we owe much to our American friends for the example and help they have given us They rely principally on dispensaries all over the country They have done most efficient and well organized work as regards detection, prevention, treatment and social help Success is dependent on a new (with us) type of visiting nurses who act as so many missionaries preaching the gospel of hygiene The result has been, of course, that a new specialization has been created and that the general practitioner may be made to look incompetent The Union of Medical Syndicates, which comprises the majority of the profession at large, has been considering the question very seriously, and asks that the rank and file should take part in the battle A pamphlet was issued to every registered man in France, and the result has been the nomination of a joint committee to try to find some solution of the difficulty But it appears that they could not come to an agreement Both sides hold their ground very strongly On the syndicate side the argument would be overwhelming if every one of us proved to be the ideal medical man that we dream to be Syndicalism does not necessarily mean competence Good will is not sufficient to accomplish a difficult social task Also a winning battle cannot be fought if a general plan is not followed The syndicates wish to introduce their some twenty thousand members into the now existing 450 national dispensaries That sounds like disorganization and destruction Therefore the National Committee has resorted in turn to the publication of a general pamphlet stating the facts and admitting that an agreement does not seem possible—and why We are greatly embarrassed Specialization invades every branch of practice, and as soon as a man promotes himself a specialist he turns with compassionate pity towards his poor ignorant brother the G P Generally he condescends to write a book The title is the name of his specialty, and the subtitle reads, "For the practitioner," We have scores of them Every publisher issues his special series It really seems good time for one of our disinherited confreres to write a treaty of general practice "For the use of specialists" It is urgently needed Meanwhile the dispute is not settled and we are waiting for a compromise

SIR STCLAIR THOMSON

Our small medical world was greatly shocked and grieved to hear of Sir StClair Thomson's railway accident in Lyons His name sounds in French like so many silver bells, and he is quite popular with us After an anxious silence we heard a good report of his condition, and we feel greatly relieved to know that he escaped safely, and to see from a snapshot published in the press that he is still "complete"—except for the Thomsonian smile which is sadly lacking in the picture We feel full of sympathy, and hope that Sir StClair will some day write an auto-observation of catastrophitis from the psychological and physiological points of view

England and Wales.

KIDDERMINSTER INFIRMARY

AT the recent annual meeting of the Kidderminster Infirmary and Children's Hospital the President, Dr J I Stretton, drew attention to the fact that he was entering upon his duties as president with certain responsibilities His predecessor during his two years of office had been associated with the extinction of a debt of over £3,000, and the increase in the contributions to the hospital was very gratifying The working-class collections were over £400 more in 1923 than in the previous year and would probably continue to improve Some of the workers had adopted a voluntary 2d levy, and were performing a magnificent service to the community in this way Unfortunately, an extension of the infirmary building had now become urgently necessary The Voluntary Hospitals' Committee for the county had inspected the present building, and had reported that the accommodation for the treatment of out-patients and children was quite inadequate, and that steps should be taken as early as possible to enable the necessary improvements to be effected The architect had estimated the cost of this extension at £25,000 and Dr Stretton urged that, inasmuch as the hospital served an area with a population of nearly 50,000, and included Stourport, Bewdley, and the surrounding district, it ought to be possible for the money to be raised, especially as Kidderminster had enjoyed a period of unusual prosperity and her trade was still flourishing Many donations were

already coming in, but there was urgent need for activity in all classes of the community A small committee was formed to collect funds to carry out the necessary extensions

THE MEDICAL STAFF OF THE LONDON COUNTY COUNCIL

The London County Council has been rearranging its public health department and readjusting the scales of salaries paid to its medical officers Instead of the five divisions in which the medical work is at present organized it is intended to have four, each in charge of a senior medical officer These four divisions will be concerned with (1) general public health, (2) inspection and treatment of school children, (3) tuberculosis and other treatment, (4) mental deficiency and medical examinations The division which is being dispensed with is that concerned with inquiries and examinations, its work is to be merged into the fourth division Its present head, Dr J Kerr is retiring from the position in August next, but his services are to be retained in a consultative capacity for three years The salaries of the senior medical officers attached to each of these divisions are to be £1,000 to £1,300 in divisions 1 and 2, £800 to £1,000 in division 3, and £900 to £1,000 in division 4, the increment in each case being £50 a year These salaries, like all the others in this department, are based on pre-war conditions and are subject to certain temporary additions which, for example make the total value of the nominal £1,300 salary £1,529, and that of the £1,000 salary £1,234 The work of the senior medical officers will be mainly administrative Each of the divisions is also to have a principal assistant medical officer, whose work will be largely diagnostic or clinical The salaries attached to this position in the first three divisions are to be £700 to £900, in each case based on pre-war conditions, and subject to the annual increment of £50 The question of granting certain personal allowances is to be considered There is to be one principal assistant medical officer on a part-time basis at a salary of £150 a year The remuneration of the four part-time consulting surgeons (dental, aural, orthopaedic, and tuberculosis) is to be increased—in the case of the dental surgeon, from the present figure of £250 to £300 a year for five sessions a week, and in the other three cases from the present figure of £150 a year to £180 for three sessions a week The remuneration in these part-time appointments also is based on pre war conditions An improvement in the basic salary of the twenty three assistant medical officers has also been approved When the first permanent appointments to these positions were made the duties were chiefly the routine inspection of school children, but the work now covers a wider range and requires more specialized knowledge The scale of salary hitherto has been £400, rising to £500 a year, it is proposed to start at £450, rising by annual increments of £25 to £550, again on pre-war conditions The salary of the eleven divisional (or supervisory) medical officers, at present £500 to £700, is to be raised to £550 to £750, and the yearly increment is to be £50, instead of, for the first four years, £25, and afterwards £50 It has been decided that as large a proportion as possible, compatible with efficiency, of the subordinate medical staff shall be engaged on a part-time basis, and that the number of such officers on full time shall be reduced as opportunity arises through the occurrence of vacancies The fixed staff of assistant medical officers on yearly engagements is ultimately to consist of sixty three part-time officers, for the present it will be forty six in consequence of an excess number of permanent whole-time officers The salary of these part-time officers is to be £180 a year inclusive The salary of four medical inspectors under the Midwives Act has been left at £400, rising by annual increments of £25 to £500 a year

TREATMENT OF VENEREAL DISEASES IN LONDON

The London County Council is continuing, for the ensuing year, the scheme for the treatment of venereal diseases which has been approved from year to year since 1916 The county councils of six adjoining areas and the borough councils of three towns on the London border participate in the facilities afforded During 1923 an all day clinic was opened by the authorities of St Paul's Hospital at Endell Street, and it is considered that the elaborate facilities provided there for diagnosis and treatment and the central situation of the clinic will probably lead to its recognition as one of the most efficient and convenient in London A similar clinic is to be opened this month at Guy's Hospital There will then be three all day clinics in London, the first having been opened at St Thomas's in 1921 The various hospitals at which clinics are conducted make any necessary provision for in patient treatment, and the number of in patient days in 1923 was 106,662, a decrease of about 6,000 on the previous year The number of new patients attending the clinics in 1923 was 25,650, of these 6,644 were found not to be infected The total number of attendances was 555,509, an increase on any previous year, though the number of new cases found to be venereal, while above that for 1922, was lower than for the three preceding years It is considered that the increase in the number of non-venereal cases coming for examination indicates a steadily increasing appreciation by the public of the serious consequences of the disease and a growing confidence in the clinics Of the new cases, 7,128 were suffering from syphilis, 11,563 from gonorrhoea, and 315 from soft chancre Special inquiries have been made as to existing facilities for the treatment of women and children at the various clinics, and the question of improving facilities for the treatment of women in East London is under consideration Further provision is likely to be made for extending the almoner system More intimate relations are also to be encouraged between maternity and child welfare centres, certified practising midwives, and lying-in hospitals and the work of the clinics Pathological examinations for practitioners in 1923 numbered 24,403, as against 19,836 for 1922 The number of medical practitioners on the approved list for the free supply of salvarsan or its substitutes at the end of 1923 was 391 The total expenditure for 1924-25 is estimated at £124,050, compared with £112 060 for 1923-24 Of this sum London is responsible for 83 per cent, and the other participating local authorities for the remainder, while three-fourths of the whole sum is met by Government grant

MENTAL DISORDER AND DEFECT COURSE FOR MAGISTRATES

A short course of instruction—the first of its kind—for magistrates in connexion with their duties under the Lunacy and Mental Deficiency Acts was held, under the auspices of the Central Association for Mental Welfare, from March 18th to 21st In all, twenty-eight justices, men and women, took part in the course, the majority of these came from various parts of England, but one was from Nigeria and two came from South Australia The instruction given consisted of eight morning lectures, delivered at the Royal Sanitary Institute, supplemented by afternoon visits to various prisons, remand homes, mental hospitals and institutions For the purpose of visiting, the magistrates were divided into small groups so that the greatest possible benefit could be gained Sir Leslie Scott, K C, M P, gave the inaugural lecture on "Legal responsibility and mental deficiency", Dr J G Porter Phillips gave three lectures on mental disorders, dealing especially with their medico-legal relationships Dr A F Tredgold dealt with the subject of mental deficiency in three lectures, dealing in detail with the subject of defective delinquents, and Dr F C Shrubsall gave one lecture on "Legal administration under the Mental Deficiency Act" Visits were paid to Brixton and Wandsworth Prisons (by courtesy of H M Prison Commissioners), to Bexley and Claybury Mental Hospitals, the Manor, Epsom, and South Side Home, Streatham, and Ponton Road Place of Detention (by permission of the London County Council), and Pield Heath House Special Industrial School, Hillingdon From the great appreciation expressed by those who attended, there can be no doubt that the course proved a means of giving valuable information on the subjects of lunacy and mental deficiency, and that this new departure was thoroughly justified It is hoped to repeat it at a later date Information as to future courses may be obtained from the Honorary Secretary Central Association for Mental Welfare, 24, Buckingham Palace Road, S W 1

Scotland.

THE LATE SIR WILLIAM MACEWEN

THE funeral of the late Sir William Macewen, C B, M D, LL D, F R F P S G, Regius Professor of Surgery in the University of Glasgow, took place on Tuesday, March 25th In deference to the expressed wishes of the family the funeral was strictly private Only a few intimate friends accompanied the relatives to the crematorium, at the Western Necropolis, Glasgow, where a short service was held Among those who sent wreaths were H R H Princess Louise, the President and members of Council of the Glasgow and West of Scotland Branch of the British Medical Association, the Lord Provost of Glasgow, the members of the Executive Committee of Erskine House, the matron and nursing staff at Erskine, and the chairman and managers of the Glasgow Royal Infirmary

At a meeting, on March 27th, of the Executive Committee of the Princess Louise Scottish Hospital for Limbless Sailors and Soldiers (Erskine House), presided over by Sir John Reid, a resolution of sympathy with Lady Macewen and her family in their great loss was passed Sir William Macewen was the originator of the hospital and chairman of its council, and took the deepest interest in its work Sir John Reid expressed his desire to provide at his own expense a suitable memorial to Sir William Macewen, to be erected in the hospital, in order to mark the deep sense of obligation to him under which the committee rested The committee, with great cordiality, accorded its permission and passed a warm vote of thanks to Sir John Reid for his generous offer

PRESENTATION TO PROFESSOR STALKER, DUNDEE

A representative gathering of Dundee citizens took place on March 28th to make a presentation to Professor A M Stalker on the occasion of his retirement from the professorship of medicine in University College, Dundee, and also from the post of senior honorary physician at the Dundee Royal Infirmary Lord Provost High, in presenting Professor Stalker with a cheque for £1,000, referred to his splendid work performed on behalf of the community both at the Royal Infirmary and as a medical practitioner Mrs Stalker was at the same time presented with a silver salver bearing the following inscription "To Mrs Stalker, as a tribute of esteem from the subscribers to the public testimonial presented to her husband Professor A M Stalker, M V, M D, on his retiral after thirty-six years' service at Dundee Royal Infirmary—March, 1924"

GLASGOW ROYAL CANCER HOSPITAL

In the report submitted at the annual meeting of the Glasgow Royal Cancer Hospital it was stated that during the year 263 patients had been treated in the hospital and 23 in the outdoor department, while the district nurse had made 1,128 visits There was a deficit of £2,582 in the ordinary account, but this had been met from the extraordinary income and there was a surplus for the year of £2 650 which had been carried to the credit of capital The directors emphasized the importance of research work in connexion with the hospital During the year the Research Department printed a pamphlet showing the incidence of cancer in Scotland and its distribution in different parts of the country The figures showed that the disease was widespread and apparently on the increase

The adoption of the report was moved by Sir John M MacLeod, Bt, who presided, and seconded by Sir George Beatson, senior surgeon of the hospital, who said he was glad to have the opportunity of making some remarks upon the present position of the cancer problem, seeing that the general public were responsible for a great deal of ridiculous and ignorant talk about medical matters, including even the subject of cancer, of which they had little if any knowledge The trend of their views about cancer was to the effect that doctors knew absolutely nothing about it, that they were ignorant as to its cause, that the disease was incurable, and that it was useless to try to combat it This was far from the truth It was now known that there were many different types of the malady and that there might be more than one cause for it The last point was of no small importance, experimental work had shown that the cause might be chemical, parasitic, mechanical, or physical Thus certain tumours could be developed in fowls by a virus which could be administered by inoculation, while in industry the disease could be caused by the action of tar or paraffin That cancer could be of parasitic origin had been shown by Fibiger, who produced cancer of the stomach in rats by making the animals swallow cockroaches infected with a particular parasite That cancer could follow a blow or an injury was a well recognized fact, though not universally admitted, and recently it had been learned that radiation such as the *x* rays had an irritating action which, if repeated frequently, might be followed by the development of cancerous lesions

Two facts emerged from the knowledge thus far gained The first was that with such promising results obtained in the past they had just reason for continuing researches, remembering that progress in any sphere of knowledge was bound to be slow A cure for the disease would in all probability come only when a complete knowledge of the malady in all its bearings had been obtained The second point was that irritation was evidently a factor in causation and that its elimination was of great importance in prevention Especially did this hold good in the matter of food, seeing that there was a marked increase in cancer of the digestive system, and too much attention could not be devoted to improving their knowledge on this particular point, not only as to the constituents of diet, but its mode of production by modern fertilizers In the same way, now that industrial cancer had been recognized, there should be careful supervision of all those industries where the disease was apt to manifest itself, so that early treatment might be undertaken A great responsibility attached to those who preached the doctrine that cancer could not be cured by operation In recent years the prospect of cure had been good, provided the case was dealt with early Surgery, too, had a very helpful adjunct in the use of *x* rays and radium The application of the latter had become more efficient with experience, and the recent report of the London Radium Institute* made it clear that by its employment in larger quantities and for longer periods than was formerly deemed safe better results had been obtained The Glasgow Royal Cancer Hospital had been indebted to the Glasgow and West of Scotland Radium Committee for supplies of radium emanation, but it ought to have a supply of its own, and such a gift would be a most valuable asset Support, too, was needed for the research department of the hospital, as with more funds it might be most advantageously extended

LAIRBERT INSTITUTION FOR FEEBLE-MINDED CHILDREN

The necessity for making better provision for the permanent care of mental defectives was the principal point brought out at the sixty-third annual general meeting of the Royal Scottish National Institution, Lairbert, held in Edinburgh, Sir Charles Chalmers presiding

The institution cares for, trains, and educates as far as possible about 500 mentally defectives of all ages, from 3 to 21, of all grades of mental defect and belonging to every social class As mentally defective children could not be cured, because their condition was due to an actual defect of the brain, due to inborn causes or to injury or disease, they ought, when they grow up, to be kept under care and control for their own protection or the protection of others Dr R D Clarkson, superintendent of the institution, said that the 508 cases for which it had been responsible during the year were all picked, urgent cases More could not be taken at present, but an extension scheme which should be completed in May or June next was being carried through At the age of 21 the cases had to leave the institution, though mentally many of them were only 5 years old permanent care was therefore necessary If all the hereditary cases were left out of consideration provision would still have to be made, for many of the cases were due to accident

* See BRITISH MEDICAL JOURNAL February 23rd (p 344)

Sir Charles Chalmers, chairman of directors, said that it was hoped to be able to establish a colony for adult feebleminded persons, and Lady Leslie Mackenzie also laid stress on the need The mental defective could not be cured but could be trained The pity of it was that when institutions such as Larbert had done their best to train the children they were turned out into the outer world, which would always be abnormal to them

BANGOUR VILLAGE ASYLUM

In the paragraph on the Bangour Village Asylum published on March 22nd (p 548) it was stated that male nurses had been abolished Dr Charles A Crichlow, acting medical superintendent, informs us that this statement is too sweeping Male nurses have not been abolished altogether, but where they can be replaced in the nursing of male patients by female nurses this has been done This is especially the case in the male admission wards, where all fresh and acute cases are admitted and nursed wholly by female nurses with every success since the opening of the hospital in 1906

Ireland.

TAXES ON ANAESTHETICS

DR WILLIAM O'SULLIVAN, at a recent meeting of the Irish Free State Senate, moved the following resolution, which was unanimously passed "That, in the opinion of the Senate, ether, chloroform, and other drugs used in the relief of the sick should be free of taxation" Senator O'Sullivan, in moving his resolution, said he would appeal to the Minister of Finance to do away with the tax in his next Budget It was inflicting a terrible hardship on rich and poor alike The tax was proposed as a protective tariff He instanced two cases in which the patients had died before the drugs ordered arrived from England

LUNACY FEES

Two magistrates for the county Armagh recently forwarded a communication to the Lurgan Board of Guardians to the effect that Dr George Dougan (Portadown), dispensary medical officer of Tartaraghan, refused to accept an order issued by them as justices at Clonmacate, accompanied by the fee of one guinea for professional services in connexion with the case of a supposed dangerous lunatic The doctor stated he would not go out again under £2 When the magistrates sent for him a few days later in a similar case, he sent word he could not come as he had some other work to do The clerk informed the guardians that the matter rested with the magistrates to fix the doctor's fee, they could fix it up to £2 It was only a dispensary doctor that was legally entitled to be called in The fee in such cases varied in the several dispensary districts, and was from £1 1s to £1 10s The guardians disapproved of the friction that existed between the magistrates and the doctor, and unanimously recommended a fee of £1 10s to be paid for the committal of lunatics

ROYAL VICTORIA HOSPITAL, BELFAST

The annual meeting of the Royal Victoria Hospital, Belfast, was held in the King Edward VII Memorial Hall of the Hospital on March 28th His Grace the Governor of Northern Ireland (the Duke of Abercorn) presided The annual report showed increased work in all departments 4,643 cases were treated in the wards, against 4 530 last year, and there were 2,676 operations (an increase of 149), in the out-patient department 7,000 more cases were registered than in 1923 The pathological, the biochemical, and the radiological departments were all working at full pressure Even with the depressed trade the board had been enabled to close the year with a balance due to the bank of only £647 The report gave an account also of the progress of the new buildings, three new wards, new ophthalmic and gynaecological theatres, a surgeons' dressing room, and a plaster-work room are being provided In addition a new nurses' home, with a hundred bedrooms, is being built, in it will be possible to lodge all the nurses Mr Mitchell, chairman of the visiting staff, proposed the adoption of the medical and surgical report, and Professor R J Johnstone, who seconded, drew attention to the work of the hospital, and to its function as an educative centre The Duke of Abercorn referred in highly appreciative terms to the management and work of the hospital A special resolution was proposed and passed unanimously enabling Professor Lindsay, M D, to be elected chairman for a sixth year, to bring the enterprise of the reconstruction of the hospital to a successful termination A hearty vote of thanks to the Governor was passed with enthusiasm

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Insurance Medical Remuneration.

THE National Health Insurance (Cost of Medical Benefit) Bill (of which a summary appeared in this column last week) was read a second time in the House of Commons on March 31st In moving the second reading, the Minister of Health (Mr Wheatley) said that, owing to the assistance and advice he had received from the Consultative Council of Approved Societies, he was able to present a measure on which the parties mainly interested were in agreement The object of the bill was to provide money to meet the balance of cost of medical benefit and administration beyond the sum provided for by Section 7 of the Act of 1920 Under that Act the Minister of Health was empowered to authorize only the payment to the doctors of approximately 7s 3d per head per annum of the insured persons As the doctors were now entitled to more, and their quarterly cheque was due that day, the bill was urgently required

The Minister then went over the story of the dispute leading to the introduction of the bill On January 1st 1920 the capitation fee was increased to 11s the increase being met by a special grant from the Exchequer On January 1st, 1922 the fee was by an agreement reduced to 9s 6d The Geddes Committee after wards recommended withdrawal of the Exchequer grant and that the difference between 7s 3d and 9s 6d should be met from the approved societies funds The Exchequer paid the difference up to April 1st 1922 but from that date to December 31st 1923 when the contract with the doctors expired (as also did the agreement with the societies) the difference was paid by the approved societies Mr Wheatley then related the events leading up to the reference to a court of inquiry which appointed in December last reported in January in favour of a capitation fee of 9s The bill was to enable this amount to be paid The money would be found without any grant being required from the Exchequer and without call upon any of the funds held by approved societies which were available for additional benefit The bill was for three years within which time it was hoped that the Royal Commission which he proposed to set up would have reported, and legislative effect would have been given to its recommendations The total amount required to tide over the three years including the statutory allowance of two-ninths from the Treasury was £1,762,000 per year That was for England Scotland and Wales The sum varied for the three countries because of the differences in the costs therein but they were not affected by the bill The sum required for England was 2s 4½d per head per annum First of all it was proposed to take 2d out of the fund of the approved societies That was offered by them because they felt they were entitled to pay something for the services of the regional medical officers who acted as referees and for keeping the central index of insured persons Then 1s 8½d per head per annum would be provided for this purpose from the central fund This fund, whose main purpose was to help societies who through no fault of their own had deficiencies derived its income mainly from what was called the unclaimed stamps sales account of the administration fund This was a windfall account and nine tenths of money so accruing was ear marked for the central fund It was now in a very healthy condition but to strengthen it for this immediate purpose the proposal was to make a special grant of £100 000 from the reserve created by the one-tenth that did not normally go into the fund The remaining 6d to make up the 2s 4½d would come from another source The approved societies always had large sums of money in the hands of the national loan commissioners These were held at a guaranteed rate of interest which at present was 4½ per cent per annum and if the commissioners obtained more the excess was credited to a reserve account that went to the benefit of the society and was used also to maintain the guaranteed rate of interest, or if that was sufficiently high to increase it That fund at the moment was in a position to yield 6d a head per annum for the next three years and the societies had agreed that such amount should be taken Thus was made up the total sum of 2s 4½d Provision was further made to take the usual two ninths contribution out of the moneys provided by Parliament Outside Parliament there was agreement amongst all parties concerned and Mr Wheatley expressed the hope that there would be general agreement in favour of it inside the House As for the objection that no further amendment of the National Health Insurance Act should be made until the whole question of social insurance and public assistance had been investigated his answer

was that apart from temporary financial provisions, he was not proposing in this bill to amend the law at all It was not desirable to postpone the passing of this bill seeing how urgently it was wanted and he hoped that it would be given rapid progress

Sir W Joynson Hicks after concurring that the matter was urgent touched on the earlier controversies He thought it right the House should know that a Government bill was actually introduced to provide for a larger payment of contributions by the individual insured persons in order to afford some of this money which had to be paid for the higher fees in 1920 22 That measure was not approved by the House, and thus occurred the arrangement that a certain amount of money should be supplied from the Treasury and a certain amount out of the reserved funds now being dealt with While the Treasury was prepared, in the period of inflation after the war, to provide a given amount of money towards the extra payments to the doctors, the Geddes Committee concluded that it was an improper payment to make out of public funds He agreed with that view There were 15,000 000 insured persons, but a very much larger number of non insured The taxpayers already paid something like £6,000,000 a year towards the cost of National Health Insurance, and seeing that approved societies on their valuation made four years ago had a surplus of something like £17,000 000, it would not be right to call upon the general taxpayers to contribute more than the two months which they already gave Touching on the danger of hasty pledges by parliamentary candidates, he said that something like 400 members of that House had pledged themselves that they would not agree to any raid on the societies' funds In his opinion, as he explained in detail these moneys were coming indirectly from contributions of the insured person and the employer There was every reason to hope that at the present valuation a still larger surplus would be found, which would allow of further extension of the additional benefits The only pledge he gave when he was Minister of Health, was that the existing benefits and the existing additional benefits should not be interfered with for the necessary money required for the doctors' fees It had been proved that the money could be paid without touching the additional benefits Now the dispute was over he hoped that the approved societies and the doctors would jointly realize that the foundation of national health was an efficient medical service Doctors had great difficulties to face It was about the most expensive of professions to enter, and qualification took longer than in any other The work was exceedingly hard and unless a fair or even a generous sum were paid there would gradually be a division into two classes—those who took panel practice and those who did not It was essential that the best men in the profession should be utilized for panel practice He hoped arrangement would be made by a majority of the approved societies, by friendly negotiations with the doctors, for an extension of the accommodation in clinics and hospitals whereby the poorest person in the land might be entitled through his contribution to the same medical advice as the Minister of Health or himself

Mr Masterman recalled the gloomy forebodings ten years ago when the National Insurance Act was being submitted to Parliament He rejoiced at the recognition now given to the value of the medical benefit, and also to the soundness of the undertaking He himself recently gave two pledges which he believed a majority of the House had given, and he stood by them The first was that no money should be taken from the approved societies from the balance they had obtained through careful management and exceptional capacity to increase medical benefits The second was that if on investigation it appeared that owing to increased cost of living the doctors were not receiving as much money as they should this must be put right It would be no use trying to work national health insurance with doctors inadequately remunerated in proportion to the cost of living who were worse remunerated than they were when the first contracts were entered into

In the course of later debate Mr Blundell regretted that the terms of reference to the Royal Commission were not being disclosed at the present stage He hoped that when the Commission was nominated it would be impartial rather than representative of the different bodies concerned Mr Perry said the point already reached had utterly disproved the fear of the medical profession at that time that the Act would bring ruin to them It had improved their status and created one of the strongest vested interests in the country He was not satisfied that the stamping of cards was the best way of administering health insurance Sir Henry Cautley thought that Mr Wheatley would have done better to secure some part of the Budget surplus in providing the necessary money Mr Falconer regarded the proposal as an infringement of the principle on which the original Insurance Act was based He dealt with the matter at some length from the Scottish point of view

Sir King Ley Wood expressed disappointment that the terms of reference to the Royal Commission had not been stated He was glad the matter of medical remuneration had been settled by the Court of Inquiry and also that no medical man went to it and said 'Whatever the result we will not abide by it' The doctors stated their terms and accepted the verdict He welcomed the alteration whereby any insured person could change his panel doctor immediately The present panel of 2 500 was far too large remembering that doctors had a private practice as well in nearly every instance It had always been a matter of surprise to him that hospitals did not come forward and claim that they were entitled to some payment Three fourths of the out patients of most of the hospitals were insured persons If more money was to be spent on medical treatment he would like to see far more encouragement given to the hospital Summing up he regarded the bill as a compromise and was glad that it had been arrived at Mr Palmer said it put some strain on his loyalty to the Government to give unqualified support to this bill He had not a word to say against adequate remuneration for services rendered but he asked that inquiry should be made by the Commission into the services rendered and he would like to see a larger measure of control by the approved societies over the doctors Mr Meller supported the bill because he believed it in the best interest of the societies but he did not like the way in which they had been persuaded to get round their consciences and say that the amount was not being taken out of their funds

Dr Chapple dealing with the demands made upon the doctors pointed out that the income of the manual worker did not limit his right to membership An artisan might be getting £10 a week or more The tendency of the introduction of the wealthy class of members was to make a greater demand upon doctors who never complained against the legitimate demands of the ordinary patient He thought that provision should be made in the bill that where a person's illness was due to an accident bringing compensation, medical fees should be paid out of the sum obtained

Mr Greenwood (Parliamentary Secretary to the Ministry of Health) replied for the Government In his opinion the criticisms alleging that funds were being raided were beside the point The approved societies—large important bodies with a full knowledge of the Act—had reached an agreement the financial aspects of which had been most carefully considered With regard to the two months statutory payment, he said that it would be necessary, later, to have a supplementary estimate

Dr Fremantle presented the point of view of the medical officer of health who looked at the medical insurance remuneration from consideration of the requirement of the nation The public needed the best service it could possibly get at the lowest price, and if good service could be got at a lesser cost, it was to the advantage of the community But what was too often forgotten was that medical attendance was not a thing to be bought by the yard or dished out by the piece It could only be given in accordance with the will of the giver The medical profession was largely to be recruited, or not to be recruited, by the possibilities which awaited the young student when he was choosing his profession At the present time the Government medical services were finding difficulty in recruiting their men The Insurance Act offered a tremendous advance on what was given by the clubs A constant flow of good recruits to the profession was needed it must stand well with other professions to attract men at the outset Therefore, from the large point of view, care should be taken to see that as much remuneration as was appropriate should be got for the medical man He corrected a suggestion made in the debate that the approved societies had initiated the alteration to give a free change of doctor when desired As a matter of fact that was put forward by the Insurance Acts Committee of the British Medical Association, who had always been keen that there should be absolute freedom of choice for the insured person

The bill was then read a second time without division and referred to a Standing Committee

Health Committee of the League of Nations.

In answer to Sir John Leigh, on March 27th, Mr Ponsonby stated that the Health Committee of the League of Nations consists of (1) the President of the Office International d Hygiène Publique (*ex officio*), (2) nine members appointed individually for three years by the committee of that Office—in such a way that each State which is a permanent member of the Council of the League of Nations is represented, (3) six members appointed for three years by the Council of the League, and (4) not more than four assessors appointed by the Council of the League on the nomination of its Health Committee The fact that the British Empire is one of the four permanent members of the Council of the League gives it a right to one representative under heading (2) In the election of the other five members by the Committee of the Office International d Hygiene Publique under that head, in the appointment of the six members by the Council of the League under heading (3), and in the appointment of the three assessors so far made under (4), no nation has a right to claim representation As a result of the election made in these various ways no other representative of the public health services of the British Empire, beyond the one already mentioned, had been appointed Having regard to the area and populations comprised in the Empire, and the achievements of medicine and hygiene therein, His Majesty's Government considered that this result was regrettable, and tended to weaken the authority of a Health Committee This view had been represented to the Council by the British delegate, and was the subject of a protest by the British member of the Health Committee recorded in the minutes of its first meeting on February 11th

Highlands Medical Officers.

In reply to Sir William Sutherland, on March 25th, the Secretary for Scotland said he was aware the Dewar Commission expressed the view that some form of superannuation for medical officers of the Highlands and Islands was worthy of consideration The Scottish Board of Health had considered the matter from time to time, but it had not been possible on account of financial reasons, to make any specific provision for superannuation Considerable improvement—particularly in the less remunerative practices—had, however, been effected since the date of the Commission's report by the Highlands and Islands (Medical Services) Grant Act, 1913

Royal Commission on Insurance Acts—Mr Arthur Greenwood stated in answer to Sir Kingsley Wood on March 31st that the terms of reference of the Royal Commission to inquire into the question of the National Insurance Acts had not yet been finally settled but it was hoped to announce them without undue delay

Insurance Practitioners—The Minister of Health stated on March 25th that the average number of insurance practitioners in England and Wales for the year 1923 was approximately 12 850 The average number of panel patients to each insurance practitioner for the West Riding of Yorkshire for the same year was approximately 1,110

Vaccination Statistics—On the request of Mr Black on March 26th Mr Wheatley gave the following statistics for England and Wales

	1922.	1923
Births registered	780 194	758 131
Number of deaths from small pox	27	7*
Number of deaths classified to vaccinia	4*	8*
Number of deaths not classified to vaccinia but associated therewith	3*	4*

Provisional figures

The number of parents who secured exemption certificates from vaccination could not yet be stated The vaccination returns for 1922 are only now being received, for the reason that, as vaccination in some cases does not take place until a year after birth, they cannot be rendered till the end of the year following that to which they relate The last figure differed from that given on January 21st 1924 the reason being that one death provisionally classified as associated with vaccination was found, on reference to the certifying medical practitioner, not to have been associated therewith

Venereal Disease—Mr Wheatley informed Mr Somerville Hastings that during the first three months of last year 6·4 per cent of the total number of patients attending treatment centres for venereal diseases for the first time, and found to be suffering from these diseases were under 18 years of age and 7·8 per cent were under 19 years of age Figures were not available as regards the number of patients under 20 years of age

Nurses Registration—In reply to Dr Chapple on March 26th the Minister of Health said that the law officers of the Crown had been consulted on the question whether existing nurses might, until July 1925 apply for registration under the Nurses Registration (Amendment) Act passed by Parliament on July 7th, 1923, and if so whether this right would extend to all other applicants qualified under Section 3 of the Act if they could comply with the conditions set out Their opinion had not yet been received

Motor Taxation—Mr Gosling Minister of Transport gave an assurance on April 1st that the departmental committee on motor taxation would present its report in June Colonel Assheton Pownall moved a resolution affirming the opinion that the present system of motor taxation was inequitable and recommending that in the case of petrol-driven vehicles the taxation should be on the motor spirit used and in the case of steam and electrically propelled vehicles on weight The resolution was criticized by Sir W Joynson Hicks and others, but was carried in the end without division

Schick Reaction—The Minister of Health was asked questions on March 25th about the injurious effects of the use of toxin antitoxin which had been frozen, as reported from America and noted in our columns on March 8th (p 454) The Minister said that now the unfavourable effect of freezing the mixture had been ascertained suitable precautions would, of course be taken in future, and he saw no reason to modify the advice given in reports issued by his department on the use of immunization methods against diphtheria Supplies of diphtheria toxin used for this purpose in this country were obtained from the two or three commercial firms which had made special arrangements for its preparation and sale

Final Awards for Pensions—The Pensions Minister informed Lieut Colonel Watts Morgan on March 27th that in cases where it was shown that an award was erroneously declared final at the time it was made, owing to a definite error of fact or judgement, the Minister was empowered, with the sanction of the Treasury to amend the award and this procedure was now in operation for the benefit of cases in which appeal to the Pensions Appeal Tribunal was no longer available The question whether any amendment to the Final Awards Regulations was necessary to meet cases of error of this kind was under consideration Lieut Colonel Watts-Morgan put it that there were at least three or four thousand cases now awaiting revision

Mental Hospitals—The Minister of Health will consider, with a view of providing facilities for the recovery of early mental cases which could not be proved to be dangerous or unfit to be at large the advisability of encouraging by national grants the establishment of appropriate hospitals under the management of the health committees as distinct from the asylum committees of the local authorities

Notes in Brief

The quantity of milk used for human consumption in Great Britain can only be estimated very approximately but Mr Buxton says he is advised that in 1923 it amounted to about 800 million gallons The quantity in 1922 was probably less

The Home Secretary who is considering the appointment of a committee to investigate and report as to the protection of children against assault has stated that there was no evidence of increase in the number of these offences during the last twenty five years

Correspondence.

BRACKENBURY TESTIMONIAL

SIR,—The long and untiring devotion of Dr H R Brackenbury to the interests of the medical profession, culminating in his recent presentation of the case for insurance practitioners before the Court of Inquiry, has given rise to a widespread feeling that the time is opportune for adequate acknowledgement of his unique services In order to give material expression to this desire a committee has been formed with the object of collecting a fund which will be applied in a manner to be decided at a later date, after consultation with Dr Brackenbury

Insurance practitioners, who more than all others are indebted to Dr Brackenbury, will be approached through their Panel Committees, many of which have already taken the matter in hand and have promised contributions The appeal, however, is a general one, and steps are being taken to bring the fund to the notice of various other professional organizations No direct request will be made by this committee to individuals, but the committee will welcome contributions from any member of the profession who wishes to pay tribute to Dr Brackenbury's immense labours

All communications should be addressed to the Honorary Secretaries of the Fund (of which the undersigned form the Executive Committee), and cheques should be made payable to the Honorary Treasurer Mr H S Souttar, at Room 17, 429, Strand, W C 2.—We are, etc,

H G DAIN,
Chairman.
N BISHOP HARMAN,
Deputy Chairman.
H S SOUTTAR,
Hon Treasurer
T RIDLEY BAILEY
R J FARMAN
E R FOTHERGILL
C E DOUGLAS,
Hon Sec and Treas (Scotland)
W E THOMAS,
Hon Sec. and Treas (Wales)
HAROLD S BEADLES,
PETER MACDONALD,
Hon. Secretaries.

THE CAUSATION OF CANCER

SIR,—The admirable paper by Dr E L Kennaway in your issue of March 29th (p 564) contains the suggestion that in tar the effective substance in producing cancer may be "present in amounts perhaps as small as those of the vitamins in foods" May I in this connexion refer to a lecture I delivered before the medical faculty of the University of Leeds, which was published in the BRITISH MEDICAL JOURNAL on May 9th, 1914? The argument there adopted starts from the facts that x rays are known to cause cancer in man, and that by their use cancer has been produced experimentally in certain lower animals An obvious inquiry suggested by the facts mentioned was whether radiations play a part in the production of cancer generally, and in particular whether radium, widely distributed in nature, is in any special way associated with cancer itself or with conditions usually regarded as antecedent to cancer

The series of investigations carried out by my colleagues and myself at the Middlesex Hospital, in the Cancer Research Laboratories, over a number of years led us to the following conclusions I place them in a dogmatic and orderly sequence for brevity

(1) Minute but definite quantities of radium element are present in many human cancers, though absent from normal tissues

(2) Exposure of certain dividing cells to the radiations from minute quantities of radium causes division to proceed at an increased rate

The deduction from these two observations was that possibly the proliferation of cells which characterizes cancer is dependent upon the presence of radium

(3) Gall stones associated with primary cancer of the gall bladder almost always contain relatively large, though actually minute, quantities of radium element, whereas gall stones not associated with cancer of the gall bladder almost always are devoid of radium

(4) When pyogenic or other micro-organisms are grown in a culture medium containing added traces of a soluble radium salt, the radium collects in the solid deposit of organisms and correspondingly disappears from the supernatant fluid

From (3) and (4) combined with (1) and (2) the deduction was that if local pathological conditions are in progress at a time when traces of radium are circulating in the fluids of the body, such radium tends to be deposited at the local sites of pathological change, and possibly may subsequently induce a local stimulation of cell division which eventuates in cancer

(5) Minute quantities of radium placed experimentally beneath the skin of mice or rats, or inserted into gall stones which are then introduced into the gall bladders of rabbits, lead to local changes often indistinguishable histologically from early cancer Such changes are absent under control conditions in which radium is not employed

The object of this letter is to point out that so far as I know this line of observation has never been followed by others I believe the facts to be as stated and the deductions to be warranted If so it is obvious that they would be useful for further research on cancer Work of the kind indicated is not without difficulty, and I should be glad to place my experience at the disposal of any investigator attracted by the line of inquiry—I am, etc,

London, W March 31st. W S LAZARUS-BARLOW

RADIATIONS IN THE TREATMENT OF MALIGNANT DISEASE

SIR,—There has been a great tendency during the past three years for attention to be concentrated on "deep x-ray therapy" (by which is generally meant the Erlangen method), to the exclusion of older and well tried methods of x ray treatment

Speaking in the recent discussion at the Royal Society of Medicine (reported in your issue of March 29th, p 572), Mr Sampson Handley said that the Erlangen method was not quite the sort of help the surgeon had in mind when he wished to co-operate with a radiologist in an operable case This is not to be wondered at, for the surgeon cannot approve of anything which depresses his patient's vitality It was apparent to me from the first that, whatever the merits of the Erlangen method, it was a treatment *per se*, and not in any way suitable for use as a surgical adjunct This view I expressed in your columns in 1921 The surgeon may reasonably ask one or both of two things from the radiologist (1) that an inoperable case should be rendered operable, (2) that something be done to reduce the likelihood of recurrence after operation He also requires that these matters be accomplished without in any way making the patient less fit

Now as a matter of incontrovertible clinical experience, it is often possible to make an inoperable case operable by comparatively small doses of x rays given every other day for some weeks *At the end of this time*, in favourable cases if pain has been complained of, it is less or absent, and the patient feels much fitter than he did before the treatment Often weight is increased The manner in which for example a breast tumour, apparently firmly fixed to the ribs may become quite loose is truly remarkable It is obvious that no responsible medical man would make a statement such as this unless, as is my case, he could if required produce surgical testimony to support it

We have then a technique which is beneficial to the general health and of proved efficiency as regards its effects on malignant growths It would therefore seem rational to employ the same procedure as a prophylactic after operation I have done so for thirteen years with what I believe to be excellent results Proof here is difficult to give, but at least there is no doubt that such patients experience great benefit to their general health with each course of treatment

The bogy of the stimulating dose is scarcely believed in nowadays, even by those who introduced it It has done an infinity of harm by scaring people who did not possess intensive apparatus from seeking to give relief with such appliances as they had The x-ray departments of many large hospitals are crowded with inoperable or recurrent breast cases who come up two or three times a week for small doses of x rays, often from a 12-inch coil, and are thereby kept reasonably free from pain and in fair *comfort* To such as these the Erlangen technique has nothing to offer, while quite a humble outfit in the hands of a skilled man may give them a measure of relief

It is often suggested that the Erlangen claims dealt chiefly with early carcinoma of the cervix uteri The radiologist does not see such cases in this country For the widely spread disease which he encounters—disease abandoned by the surgeon—drastic measures are necessary, but the unmodified Erlangen technique is unsuitable It is my belief that four days is the minimum time over which treatment should be spread, and, as in most cases a large field must be used, the skin dosage must correspondingly be cut down In inoperable or recurrent cases of pelvic carcinoma, even when widespread, the results are often remarkable for a time, which may extend to a year or more Too often the patient does not return until a rapidly spreading recurrence alarms her, and a second course of intensive treatment seldom has as good an effect as the first It would seem that there is a hiatus in our treatment which ought to be filled in Fresh air and a diet rich in vitamins can help, and you, Sir, raise an important point in your editorial reference to the therapeutic value of sunlight The complete sun effect may now be built up synthetically by the use simultaneously of various types of lamps, and its several constituents varied at will Why does a patient fail to respond to a second, or, at any rate, to a third or a *fourth course of intensive x rays*? The idea of the "cancer dose" is, we may hope, dead and buried It is something in the patient which has changed Perhaps we shall learn how to use the period of grace after the first course of x rays in such a way as to resensitize the patient, so that the beneficial effects of successive courses will be cumulative—I am, etc,

London W 1 March 30th F HERMAN-JOHNSON

SUPERANNUATION OF MEDICAL OFFICERS IN THE MUNICIPAL SERVICES

SIR,—The provision for superannuation of medical officers in the Local Government and Other Officers Superannuation Act, 1922, whereby a fraction of the annual salary is multiplied by the number of years of service to arrive at the pension payable, reacts very unfavourably in the case of medical officers, by reason of the late age at which they commonly enter the service Thus, ordinarily, doctors first enter upon these duties at some age between 30 and 40, and not infrequently at an age exceeding 40 The count of years they can make to rank for superannuation is consequently much less perhaps not more than a half, what other members of the service can count who came in to occupy subordinate positions in their teens I may give the concrete instance of the youth who came into my department as clerk, and to learn the business of a sanitary inspector, at the age of 16 He has seventeen years' advantage over myself, who began to be medical officer of health at 33 The unfairness of this should be everywhere palpable and surely an effort ought to be made on the part of the British Medical Association, and every other medical corporation, to obtain a recognition of the anomaly whenever an opportunity presents itself by any reconsideration of the Act I think it could easily be shown that fully ten years of preliminary time has been spent by medical officers of health in a costly preparation for the assumption of their office, and that nothing comparable can be exhibited in the case of any other municipal official

Further, the altogether exceptional and ungenerous provision for the superannuation of officers who are over 55 years of age at the moment of adoption of the above quoted Act, with compulsory retirement at 65, counteracts the benefit that the passing of the Act was supposed to

confer so far as this class is concerned, and very many of the older officials must be hoping that it will never be adopted in their districts.—I am, etc.,

March 21st J. H. CARRITT, M.D., D.P.H., Medical Officer of Health, Cheltenham.

DR. SLOP OF "TRISTRAM SHANDY"

SIR,—In Lord Ilchester's highly interesting *Journal of the Hon. Henry Edward Fox* (afterwards fourth and the last Lord Holland) the following statement is to be found (page 29):

Ld. Carlisle told Sydney that he knew the original Dr. Slop very intimately—a Mr. Goddard in the neighbourhood of Castle Howard.

The editor, quite rightly, appends a footnote to this sentence:

The original of Dr. Slop in *Tristram Shandy* was always said to be Dr. John Burton (1710-1771).

In the preparation of an article which appeared in two parts in the *Journal of Obstetrics and Gynaecology of the British Empire* for the year 1913, entitled "Burton ('Dr. Slop') His Forceps and His Foes," I consulted numerous works on "Dr. Slop" and was greatly assisted by Mr. J. S. Cayner, M.R.C.S. of York and Mr. A. B. Northcote, librarian to the York Medical Society, but I found no mention of a Dr. Goddard as claimant to the name of 'Dr. Slop."

Can any Yorkshireman, or any member of our profession, throw some light on this question? Did Laurence Sterne deliberately mix up two characters? That Dr. Burton was the man on whom the character was founded there can be no doubt, the talk about his forceps settles that matter. Yet Lord Carlisle's statement cannot be overlooked.—I am, etc.,

London, W., March 24th ALBAN DORAN.

SCHOOL ATTENDANCE BY CHILDREN WHO HAVE HAD MEASLES

SIR,—The Sydenham District Medical Society, which is composed of general practitioners mostly of many years' standing, at a recent meeting considered the question of the spread of infectious diseases, and unanimously came to the following conclusion:

> There is no evidence either of second attacks of measles or of the conveyance of the disease by healthy immune individuals sufficient to justify the existence of a rule for bidding any person in whom satisfactory evidence of a previous attack is forthcoming from attending school or office from a house in which there is a case of the disease.

I was requested to communicate to you this expression of opinion with the hope that the discussion of the subject by a wider circle might lead to the abolition of rules which are probably unnecessary and frequently entail very serious consequences to those affected by them.—I am, etc.,

H. M. STEWART,
Honorary Secretary, Sydenham District Medical Society.

Dulwich, March 24th

DOMINIONS MEDICAL HOSPITALITY COMMITTEE

SIR,—We have been instructed to ask members of the medical profession to assist this committee by offers of personal help. The circumstances of the formation and constitution of the committee have been fully explained in the *Lancet* and in the *British Medical Journal*.[1] The committee includes the President of the Royal College of Physicians, Mr. H. J. Waring, Vice-Chancellor of London University and a Vice-President of the Royal College of Surgeons, the Master of the Society of Apothecaries, the Presidents of all the medical societies of London, representatives of the naval, military, and royal air forces, and of all the dominions and colonies.

If any members of the medical profession in or near London are prepared to offer personal hospitality, we should be much obliged if they would inform us. Suggestions will be welcome.

We are instructed to say that the committee would be grateful for any kind of hospitality, whether it take the form of accommodation for a short period, or of receptions, dinner parties, and the like.

[1] See the *Lancet*, March 1st, p. 455, and March 8th, p. 509, and the *British Medical Journal*, March 1st, p. 411, and March 8th, p. 437.

The Honorary Secretaries will be glad to co-operate with the hosts in any way that may be of use, and will give any particulars possible.

Offers should be addressed to the Honorary Secretaries, 94, Harley Street, W.1.—We are, etc.,

A. L. MORTIMER WOOLF,
E. T. C. MILLIGAN,
Honorary Secretaries.

94, Harley Street, London, W.1, March 6th.

Obituary

SIR WALTER JAMES BUCHANAN, K.C.I.E., M.D.,

Lieutenant-Colonel I.M.S. (ret.)

SIR WALTER BUCHANAN died at his residence in Dublin, after a few days' illness, of pneumonia, on March 22nd, aged 62. He was the son of Robert Buchanan of Fintona, county Tyrone, and was educated at Foyle College, Londonderry, and at Trinity College, Dublin, where he graduated B.A., M.B., and B.Ch. in 1887. He won the travelling medical scholarship at Trinity in 1887, studied in Vienna, and took the diploma in State medicine of his university in 1888. He also filled the posts of resident surgeon at St. Patrick Dun's Hospital and at the National Eye and Ear Hospital in Dublin. He entered the Indian Medical Service as surgeon on October 1st, 1887, became lieutenant-colonel after twenty years' service, and retired in June, 1919. His first four years' service were spent in military employment, during these years he served in the Chin-Lushai campaign on the north-east frontier of India in 1889-90, gaining the frontier medal with a clasp. In May, 1892, he took civil employment in Bengal, and after a short period as civil surgeon of Midnapur joined the Jail Department. After serving for some years as superintendent of Bhagalpur Central Jail, and for a short time in the same capacity in the great Alipur (Calcutta) Central Jail, he was appointed inspector-general of jails for the province of Bengal in July, 1902, and held that post for seventeen years till his retirement in 1919. His administration of the Bengal prisons was very successful, sanitation was improved and the death rate reduced. It was recognized by the grant of the C.I.E. in 1913, and promotion to K.C.I.E. in 1918. While his official career was in every way successful, he was perhaps almost better known as the editor of the *Indian Medical Gazette* for twenty years—1899 to 1919. This journal was founded on January 1st, 1866, by the late Deputy Surgeon-General David Boyes Smith, so that it has now had a life of almost sixty years—much longer than any other medical journal ever published in India. Its success, however, has been due chiefly to two men—the late Colonel Kenneth McLeod, who edited it from 1871 to 1892, and Buchanan, who also filled the editorial chair for twenty years. Buchanan was also the author of *The Darwinism of To-day* 1891, *Jail Manual* 1898, the article on inflammation of the liver in the third edition of Quain's *Dictionary of Medicine*, 1902, and the chapter on Indian medical jurisprudence in the fifth edition of Taylor's *Medical Jurisprudence*, 1905. He married a daughter of the late Mr. F. Simpson Byrne; she died in 1916. He leaves one son, an officer in the Royal Scots Fusiliers. After his retirement from the Indian Medical Service he served for three years as a member of the Central Council of the British Medical Association and of its Naval and Military Committee.

The death of Canon JOSEPH THOMAS FOWLER removes a learned archaeologist and divine, who was also one of the oldest members of the Royal College of Surgeons of England. He was born on June 9th, 1833, at Winterton, Lincolnshire, and died there on March 22nd, 1924. Entering as a student at St. Thomas's Hospital in the early fifties, he qualified as M.R.C.S. and L.S.A. in 1856, and spent the next two years in house-surgeoncies at St. Thomas's Hospital and the Bradford Royal Infirmary. He then gave up medicine in order to study theology at the University of Durham, where he won prizes and scholarships and graduated M.A. in 1861, in which year he was ordained. After two years in a Northern curacy, and five

years as chaplain and precentor at St John's College, Hurstpierpoint, he returned to Durham as Vice-Principal of Bishop Hatfield's Hall, that office and the University lectureship in Hebrew he held for nearly half a century Throughout all those years he zealously pursued his antiquarian researches, and published many scholarly writings on archaeological and kindred subjects He was one of the oldest Fellows of the Society of Antiquaries and a vice-president of the Surtees Society In 1894 the University of Durham conferred upon him the degree of D C L *honoris causa*, and three years later he was made an honorary canon of the Cathedral Although he retired from the practice of medicine sixty-five years ago Canon Fowler maintained to the last his interest in the work of the profession

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DR DAVID ARTHUR DAVIES died on March 8th, aged 75 He was born in Swansea, received his medical education at University College Hospital, took the diploma of M R C S in 1871, and graduated M B Lond in 1874 After serving as resident medical officer at University College Hospital under Sir William Jenner, resident clinical assistant at the Hospital for Consumption and Diseases of the Chest, Brompton, and house-physician to the Queen's Hospital, Birmingham, he returned to Swansea in 1877, where he continued to practise till his retirement to Sketty ten years ago He was consulting physician to the Swansea General Hospital, and was formerly president and co-secretary of the South Wales and Monmouthshire Branch of the British Medical Association He held a commission for many years in the 1st Welsh Brigade R F A (T F) He is survived by a widow and five daughters Dr Arthur Davies was an able and acute diagnostician, and his genial manner and shrewd common sense caused him to be in great demand as a consultant all over South Wales He was a man of wide interests, music and gardening being his favourite hobbies In 1904 he was appointed a justice of the peace for the county borough of Swansea

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DR ARTHUR GARNONS LAWRENCE of Chepstow died on March 8th, in his 89th year He was the son of Dr Henry Lawrence of Carmarthen, and received his medical education at St Mary's Hospital He took the diplomas of M R C S Eng in 1857 and L S A in 1858 and graduated M D St And in 1860 On his retirement from practice in 1910 after fifty-one years' service he was publicly presented with some silver plate "as a token of regard and in affectionate and grateful recognition of long and useful service to his sick and afflicted neighbours" He was for many years chairman of the magisterial bench at Chepstow, and served for a decade as medical officer of Shirenewton and Caldicot districts and was surgeon to the Severn Tunnel Hospital Dr Lawrence was a justice of the peace for the county of Monmouthshire, and was chairman of the Monmouthshire Division of the British Medical Association in 1911 and a member of the South Wales and Monmouthshire Branch Council in 1904 and 1912 He was fond of sport and devoted much time to shooting which recreation he was able to enjoy up to within a week of his death He is survived by two sons, one of whom Dr Gwynne Lawrence, is a member of the medical profession, and the other is a solicitor At the meeting of the Monmouthshire Conservative Association held on March 12th reference was made to the death of Dr Lawrence, who had spent an energetic and long life in work not only for that association, but for his country and for the county in which he was a well known figure

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The death occurred on January 25th of DR HERBERT HENRY HODGETTS ADDENBROOKE of Sparkhill, Birmingham, after some months of suffering very bravely borne He was educated at King Edward's School Birmingham, and qualified from the old Queen's College (now incorporated in the Birmingham University Medical School) He began practice at Sparkhill about thirty-five years ago, and subsequently became poor law medical officer and public vaccinator Dr Addenbrooke who was twice married, leaves a widow and one child He was 61 years of age He will not be forgotten by many of us who knew his deep human sympathies and never-failing kindliness

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DR CLEMENT HADLEY, who died at Leicester on March 11th in his 79th year, took the diploma of M R C S Eng in 1871 and that of L R C P in 1880 He was the second son of the late Mr John Joseph Hadley, of Colemore Row, Birmingham, and practised at Ashted Row, Birmingham, for over thirty years, and at Shilton, near Coventry, for fourteen years He leaves a widow, two sons and two daughters

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DR VALLIN, medical inspector of the French Army and member of the Academie de Medecine, has recently died

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Professor FELIX VON LUSCHAN, a well known Berlin anthropologist, has recently died at the age of 79

M MOULE, a well known French veterinary surgeon, who has made numerous contributions to the history of medicine, has recently died at the age of 75

Universities and Colleges

UNIVERSITY OF OXFORD

AT a congregation held on March 29th the degree of Doctor of Medicine (D M) was conferred on J Wallace, Exeter College

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UNIVERSITY OF LONDON

MR H J WARING M S, F R C S, has been appointed to represent the University of London at the Imperial Social Hygiene Congress to be held at the British Empire Exhibition in May

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UNIVERSITY OF DUBLIN

SCHOOL OF PHYSIC, TRINITY COLLEGE

THE following candidates have been approved at the examinations indicated

FINAL M B PART I—*Materia Medica and Therapeutics Medical Jurisprudence and Hygiene Pathology and Bacteriology* *C R Boland *N Shapira W G S Maxwell F H M Kenna H Waters E S A Crawford C E M Causland H Tomkin M Sherowitz

PART II—*Medicine* *L E J Werner *R Schaffer C T M Quillan G Robinson W R Aykroyd M A Gerrard H J Hugo M D Fox Evaline E Mooney W J Janse van Rensburg L C Brough R R D Crawford Lucy M Joly R L G Proctor W A Hopkins A FitzG Mackenzie Eileen Brangan Anne D Dockrell L J Isaac on P P van der Merwe S Wigoder G A Cowan W A Redmond D K Lyons E C Downer J J Laing C R Hillis Dorothy J Booth J L F Steele C J N Loubser J Morris A L Dobbyn O G Wilde *Surgery* *W A Taylor L E J Werner F C B L B Crawford Lucy M Joly L MacS Bell A Hawthorne Anne D Dockrell Norah M Gilleriest E Harvey R E Fausset I J Isaacson Evaline E Mooney H O D Burke Gaffney Bertha H Lawler W R Aykroyd C J N Loubser R Warnock S W Jamison *Midwifery* *I W May D L Hemmingway P A Dixon M Sless, W D Speedy I Rosin W H Coen A J Mooney J Cussen S M'Dermott S E Magowan Isobel G Smith F M Purcell W H Maguire I, Crawford M D Fox J M. Johnston J L Levingston G G M'Farland J G Maguire A B Monks Agnes L Kelly C Lord Flood M J Bradlaw C R Moore A J Head W J van Zijl C Wilson

D P H PART I—*Chemistry Bacteriology Physics and Meteorology* G Bewley N M I Falkiner B W D Kayle A Darlington A I Campbell Ruth Lemon G Blackall W L Duncan R H Micks R S M Elroy Iris P Nelis

PART II—*Sanitary Engineering Practical Sanitary Report Hygiene and Epidemiology Vital Statistics and Public Health Law* A Darlington W L Duncan G Blackall

* Passed on high marks

QUEEN'S UNIVERSITY OF BELFAST

AT a graduation ceremony held on March 26th the following degrees and diplomas were conferred

M D—*J A Smyth W E Crawford E A Davison † S Dudgeon

M B B Ch B A O—†T J Gibson ‡W Linton ‡Matilda Matson Isobel Alexander T V Aronstam † G Bell J E Boyd J L Bradley Margaret T Clearkin T Craig J S Erwin Elizabeth Fulton J A Gill W D Hamilton W K. Hay Elizabeth G Henderson J P Henderson D Kinley Isabel Lindsay G B McCloskey S McCormack Helen F McCrea Violet McFeeter W G Mckinney Catherine McNeill Jane A D Maclean F Magee J S Malseed Flora Richards G G Smith J Smith J Stuart Dorothy Watson Eleanor I Wheeler

D P H—K Cowan G A Dawson Margaret R Hanna J J Murray J W Orr Mary E Patterson † Scott Jeanie Wilson

* With gold medal † With first class honours.
‡ With second class honours

ROYAL COLLEGE OF PHYSICIANS OF LONDON

An extraordinary comitia of the Royal College of Physicians of London was held on March 26th, when the President, Sir Humphry Rolleston was in the chair

The President announced that he had appointed Dr S Monckton Copeman as delegate at the congress to be held by the Royal Sanitary Institute in July next On the recommendation of the Censor's Board it was resolved to ask Lord Dawson to act as representative of the College on the General Council of the Fellowship of Medicine

Regarding certain proposals made by Sir Howard Frank for the transfer of the present site of the College to the Canadian Government the following resolution was passed' That the College regrets it is unable to accede to the proposals made "

The President then dissolved the comitia

LONDON SCHOOL OF TROPICAL MEDICINE

THE following candidates successfully passed the examination of this school held at the termination of the seventy fourth session (January to March, 1924)

*Miss M Ellison (Duncan Medal) *Miss L G Iliff *J Johnstone *C V Braimbridge E H Black *A W H Donaldson F Stevenson I M S J B Hanafin, I M S Miss A Sydenham A V Dabholkar I M S S N E Borah I Weitzman M K Afridi E Benjamin F S Walls K J Bhavnani A C Freeth F W Fox D J Taitt S Thambipillai W Wilson G C E Reffell A Torrance J N Dugdale Miss D E Lockwood

* With distinction

The Services

THE annual meeting of the Auxiliary Royal Army Medical Corps Funds will be held at 11 Chandos Street, W 1, on Friday April 25th, at 3 30 p m

The Volunteer Officers Decoration has been awarded to Surgeon Commander Archibald B Brockway, Royal Australian Naval Brigade

TERRITORIAL NURSING SERVICE

REGULATIONS for admission to the Territorial Nursing Service have been issued with Army Orders for February 1924 The Service is under the immediate control of the Territorial Army Nursing Committee and the Army Nursing Board of which Queen Alexandra is president The Service consists of a matron in-chief, twenty three principal matrons matrons assistant matrons sisters and staff nurses Candidates must be between 23 and 35 years of age of British parentage or naturalized and must possess a certificate of not less than three years training in a civil general hospital of not less than 100 beds or a Poor Law infirmary recognized by the Ministry of Health as a nurses training school Candidates will be enrolled by the principal matron in the command There are four principal matrons in London two in Glasgow, and one each in Aberdeen, Edinburgh Newcastle-on Tyne, Leeds Sheffield Manchester, Liverpool Lincoln, Leicester Birmingham, Oxford Cambridge Cardiff, Bristol, Portsmouth, Plymouth and Brighton The rates of pay and allowances when called up for service are the same as for the Q A I M N S— namely matrons £115 a year, *rising to* £185 sisters £75, *rising to* £85 staff nurses £60 rising to £65 The allowances in lieu of board and washing and an annual allowance may also be drawn Members called up for training during peace will receive army pay and allowances and travelling expenses

Medical News.

DURING the second week of the fortnight s intensive course at the London Temperance Hospital there will be a daily lecture at 4 30 p m , commencing on Monday, April 7th, and open to all members of the medical profession The subjects are as follows The diagnosis of the acute abdomen, by Mr V Z Cope, ophthalmology for general practitioners by Mr Ernest Clarke, varieties of dyspepsia and their differential diagnosis, by Dr Soltau Fenwick, gastro enterology, by Dr David Somerville and the diagnosis and treatment of rectal cancer, by Mr W E Miles During the week the course in ophthalmology at the Royal Westminster Ophthalmic Hospital will be continued daily at 2 p m , there will be special demonstrations on Tuesday and Thursday The following courses will be held in May A two weeks' intensive course at the Prince of Wales's General Hospital, Tottenham from May 19th to 21st, a special course in diseases of children at the Infants Hospital, Vincent Square, from May 12th to 24th, a course in diseases of the ear, nose, and throat at the Central London Throat, Nose, and Ear Hospital from May 12th to 30th, one in proctology at St Mark s Hospital, May 5th to 17th, in psychological medicine at Maudsley Hospital, May 5th to 30th, and in venereal diseases at the London Lock Hospital, May 5th to 31st Copies of each syllabus, with full particulars of the courses, can be had from the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W 1

SIR EDWARD SHARPEY SCHAFER, M D , F R S , professor of physiology in the University of Edinburgh, has been elected a corresponding member of the French Academy of Medicine

DR F W COLLINSON of Preston was, on the occasion of his retirement as senior surgeon from the staff of the Preston Royal Infirmary, entertained at dinner on March 25th when he was presented by his friends with his portrait in oils, painted by W W Russell, A.R A and an illuminated address recording their appreciation of his services to medicine and surgery in private practice and at the Preston Royal Infirmary from 1887 to 1924

MR CHARLES P CHILDE'S presidential address on Environment and Health, delivered by him to the Annual Meeting of the British Medical Association at Portsmouth last summer and printed in our issue of July 28th, has now been republished in pamphlet form by the Fabian Society, 25, Tothill Street, Westminster, S W 1

THE annual general meeting of the Hunterian Society of London will be held on Monday, April 7th, at 5 30 p m , at 94, Harley Street

AT the annual meeting of University College Hospital, held on March 27th, it was reported that a generous offer had been received from Mr Geoffroy Duveen of £15,000 for the purpose of providing the most complete and modern treatment

A MEETING of the Fellows of the Royal Society of Medicine has been arranged for Thursday, April 10th at 5 p m , under the chairmanship of Sir William Hale White to meet the foreign medical officers of health now in this country and to hear an address by Dr L Rajchman, Director of the Health Section of the League of Nations, on the health organization of the League The Right Hon John Wheatley, Minister of Health, will give a preliminary address

MESSRS LONGMANS, GREEN AND CO will publish this year a fourth edition of Sir William Bayliss s *Principles of General Physiology* It has been prepared by a committee of biologists physiologists and chemists under the general direction of Professor A V Hill, F R S , partly in order to ensure that what the editors consider the greatest book of its kind shall continue to be available to the scientific public, and partly as a tribute of regard and sympathy for Sir William Bayliss at the time of his present sickness

THE Tuberculosis Society will hold a provincial meeting in the Pathological Lecture Theatre, Cambridge, on April 10th, commencing at 2 30 p m Dr Louis Cobbett will speak on a comparison of tuberculosis in man and animals, and Dr E Ward on experiences with diaplyto vaccines On the following day, at 9 30 a m Dr R C Matson will discuss tuberculosis work in America, Dr *Stanley Griffith will speak on lupus*, and at 2 15 in the afternoon Mr G R Girdlestone will deal with the present-day treatment of bone and joint tuberculosis On Saturday, April 12th, at 9 30 a m , there will be a visit to the Papworth Colony at the invitation of Dr Varrier Jones, the medical director

A SESSIONAL meeting of the Royal Sanitary Institute will be held at the Town Hall, Newport, Mon on April 11th and 12th Dr Charles Porter will take the chair at the meeting on Friday at 5 15 p m , when a discussion on some aspects of child welfare work will be opened by Dr Minna A Benner, and Dr J Howard Jones, M O H Newport, will open a discussion on increase in the use of boric acid in the sophistication of foods

THE preliminary programme of the forthcoming Congress at Bordeaux of the Royal Institute of Public Health contains an outline of the proceedings from June 4th to 9th The work of the Congress will be divided between six sections— namely, State medicine and municipal hygiene naval, military, and air industrial hygiene tropical diseases pathology, bacteriology and biochemistry and women and the public health In addition to the meetings of the various sections, visits are being arranged to the vineyards of the Sauternes and St Emilion districts, to the Pyrenees, and to kindergartens, crèches, hospitals and other institutions related to public health Specially reduced railway fares are available for members attending the Congress and arrangements are being made for hotel or boarding house accommodation Full information can be obtained from Dr T N Kelynack at the Royal Institute of Public Health, 37, Russell Square, W C 1

A VERDICT of "death from misadventure ' was returned at a recent inquest in Manchester on an advanced diabetic patient who died after the administration in hospital of a small dose of insulin

MESSRS WILLIAM HEINEMANN announce for early publication *Organic Substances, Sera and Vaccines, in Physiological Therapeutics*, by Dr D W Carmalt-Jones and Georges Portmann s *Ear, Nose, and Throat Treatment in General Practice*, translated and edited by Dr R Scott Stevenson

SIR FREDERICK W MOTT, K B E, F R S, M D, has been elected a member of the Athenæum Club under the rule permitting the annual election of a certain number of persons of distinguished eminence in science, literature, the arts, or for public services

THE King has appointed Dr Frederic Jenne Willans, M V O, of Sandringham, to be Surgeon Apothecary to His Majesty's Household at Sandringham in the room of Sir Alan Reeve Manby, K C V O, resigned

THE annual meeting of the President and General Council of King Edward's Hospital Fund for London was held at St James's Palace on the morning of April 1st, the Earl of Donoughmore taking the chair in the unavoidable absence of the Prince of Wales A letter from His Royal Highness, which was read to the meeting, contained three or four points which were not covered by the annual report, and drew attention to the real progress which was indicated by the fact that in 1923 the Fund had paid its way, although £15,000 more than in 1922 had been distributed Recently two anonymous donations had been received—one of £5,000 and another of £7,000—and a large legacy had been notified since the end of last year Owing to pressure on our space a full report of the meeting is deferred to our next issue

IN the April quarterly number of the *Ypres Times* there is a vivid description of the Salient in 1918 by Lieut General Sir Charles Harington which will be of particular interest to all who were concerned in any way in that final historic stand Lieut General Sir William Pulteney contributes some notes of the annual report of the Imperial War Graves Commission, and Colonel Oudry describes the part played by the 45th Algerian Division in the second battle of Ypres in April to May, 1915 An interesting and amusing account is also given of the propaganda work of the *Courrier de l'Air*, which was so valuable in conveying to the people in the occupied territories of France and Belgium a truthful statement of the progress of the war A reunion dinner of the Ypres League, London County Branch, will be held at Anderton's Hotel, Fleet Street, on April 10 h, with Colonel Commandant G A Weir in the chair

THE thirty ninth Congress of Balneologists will be held at Homburg from April 14th to 17th, 1924 It is hoped that balneologists from England and other countries will take part The German Foreign Office will not make any charge for the visé The programme of the Congress can be obtained from the General Secretary, Dr Hirsch, Fraunhoferstr 16, Charlottenburg (Berlin)

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange)

The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Attiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand London*

MEDICAL SECRETARY *Mediocre Westrand, London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin), and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone 4361 Central)

LETTERS NOTES ETC.

MEMORY SIGHT

WE have received the following letter from Dr T Barker Smith (Herne Hill) I am writing not merely to confirm Captain Ian Fraser's statement that mental vision is a reality, but to give a simple method of demonstrating its existence, directly or indirectly for one's self It is more than forty years ago that I investigated some phenomena started previously by the Psychical Research Society, and I stated in a short letter to the *Hospital Gazette*, the results of six months' experimentation I suggested in that letter which appeared November 17th 1883, that it might be the language of gregarious animals known to possess some means of intercommunication I gave the phenomenon the name of "form transference" The Royal Belgian Academy appointed two of its members to investigate my communication to them, but they were unable to verify the phenomenon and thought I had confounded spectra with such brain images Although the faculty is by no means confined to young people, an easy method of demonstration is to teach it as a game to a party of young people 'Shut your eyes and be prepared to see on your visual background the white envelope or card which I am now looking at', about three in a party of twenty may see more or less distinctly parts of the envelope as a lighter luminosity on the darker visual background of the shut eyes If these 'sensitives" are then sent out of the room to any remote part of the house they will be able to see figures traced on the envelope with a black lead pencil Glass and china objects radiate equally well A well known radiographer suggested to me that it was due to the alpha rays of light Having obtained a good sensitive it is easy to prove that physiological *perception* and *conception* both afford radiant images, also that these images undergo *condensation* in transit, arriving as luminous points and radiating into the complete image, or building up the image in some cases centripetally Apart from the benefit obtained for themselves by intercommunication, blind and partially blind people are well furnished by their defects to prosecute research in many directions of visual physiology and pathology Take for instance the softening of the vitreous humour and the appearance of brilliant cholesterin particles in the well known condition of "synchysis scintillans" Although these scintillating particles are seen by the use of the ophthalmoscope in their brilliancy they are much more interesting when viewed by the subject himself using various backgrounds and distances He will see two forms of movement in such particles—those due to movements in the lymph stream and those which consist of repulsion and attraction the latter especially active after eating, taking tea, or aeration in the country This condition may be accompanied by apparent red globules, as red as the field poppy, making the white tablecloth appear from end to end covered with red globules, stationary and which appear to be nerve endings There are several other conditions which defective eyes can study at leisure, such as the trabeculæ or framework around the nerves of the retina or, by a luminous slate as a background, even the nerves within the trabeculæ All are amplified by distance

THE INFANT'S STOOLS IN WEANING

DR CHARLES J HILL AITKEN (Kilnhurst near Rotherham) writes A breast fed infant at the age of 7 months was given a daily ration of diluted cow's milk Thereafter hard clay like masses were found mingled in the usual motions As the cow's milk was increased so did these clay like masses, until one morning the stool rattled as it fell in the receptacle The motions were then found to lose their hardness day by day As the milk diet was increased the motions varied in hardness but the general tendency was towards softness A week after a full cow's milk diet was established the stool was of good quantity had lost its clay colour, and though formed was soft—adhering to the finger pressed on it The adult digestive system can adapt itself to change of diet—so also evidently can the infant's, which would explain the success of various remedies used for constipation Nature is working with us

ROMAN WATERS

THE great aqueducts of the Romans, which brought abundance of water to Rome and to other great cities are among the finest and in their surroundings the most picturesque of the great engineering works they left to posterity The imperial aqueducts broken down and long out of use, were repaired by Sixtus V and the growth of the new Rome may perhaps be dated from that period A correspondent in the *Times* has recently commented on the vulnerability of these aqueducts, and Professor Patrick Abercrombie, who teaches civic design and town planning in the University of Liverpool, asked why the Romans, with all their knowledge of hydraulics, did not use sealed pipes which could have been buried in the Campagna as are those containing the water Liverpool gets from Lake Vyrnwy, they would, he suggested, have been cheaper and safer though far less picturesque Then rushed in various letter writers with various explanations, one supposed that the Romans preferred the open channel because they wished their water to be well aerated, and another wondered why the Romans did not use the principle of the siphon These were guesses, Dr Thomas Ashby, director of the British School at Rome, has given the true answer drawn from a book on the old aqueducts of Lyons and Paris by M Germain de Montauzan 'The Romans," Dr Ashby says were unable to manufacture metal pipes of a large size capable of resisting a high pressure, and had they used a number of small pipes in the aqueducts of Rome as they did in the siphons of those of Lyons, the quantity of lead required would have been enormous, and the pipes would soon have become choked with calcareous deposit A sealed concrete conduit would have been open to a similar objection, as it could not have been cleaned out, whereas the frequent shafts in the aqueducts as the Romans built them made this necessary process a comparatively easy one That the Romans did not use siphons is a common but erroneous belief'

A "HEATH ROBINSON" FRACTURE

A COWMAN died recently in Savernake Hospital from septic pneumonia following a compound fracture of the leg due to a curious accident He was aiding a butcher to load a heifer into a cattle float and had attached a chain round its neck to the floor of the float, when the animal started to plunge and then turned a somersault over the front of the float on to the back of a pony in the shafts A shaft broke under this strain and the cart dropped on the cowman's leg, causing the fracture

VACANCIES

NOTIFICATIONS of offices vacant in universities medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 36 37 40 and 41 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 38 and 39

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *160*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

275 Percutaneous Administration of Insulin

A WALLGREN (*Upsala Läkareforenings Förhandlingar*, January 15th, 1924, p 57) has given insulin by inunction and controlled its effect by blood sugar analyses, which showed that it is absorbed by the human skin Similar experimental work on rabbits was described by S V Telfer in our columns, April 28th, 1923 (p 715) Wallgren dissolved insulin in distilled water and worked it up into an ointment with a small quantity of vaseline or lanoline The skin of the chest was cleaned with ether, and the ointment was then slowly rubbed into it for a few minutes The persons on whom these investigations were carried out were children between the ages of 1 and 15, convalescing from various diseases They were given no food while the action of the insulin was being determined by blood sugar analyses according to Bang's method Control tests showed that lanoline inunction alone had little or no ability to reduce the concentration of the sugar in the blood Blood analyses were carried out before the inunction and every hour after it for six hours The action of the insulin thus administered was greater in the younger than in the older children, either because the dosage for the younger children was comparatively great or because their skin was more permeable In the case of the youngest child, the inunction of insulin brought the concentration of sugar down from 0 094 to 0 049 six hours later, when the child began to show signs of hypoglycaemia and grape sugar was given by the mouth Wallgren found that insulin, given by inunction, can prevent glycosuria, and keep the blood sugar concentration practically normal in a case of severe diabetes in a 3-year old child He admits however, that at present his investigations are of theoretical rather than practical value, for the inunction of insulin requires about ten times the dose needed for hypodermic administration Further disadvantages of the percutaneous route are the uncertainty of dosage and the lack of uniformity of the rate of absorption With the same quantity of insulin rubbed into the skin on different days the author found great differences in the blood sugar concentration

276. Antimony in Leprosy

C G CAWSTON (*South African Med Record* December 22nd, 1923, p 576) quotes Versari's work described in our EPITOME columns (March 17th, 1923, paragraph 234), and points out that good results have been obtained in several leper asylums as the result of treatment with antimony He agrees that the good results may possibly spring from the destruction of some coexistent infection rather than from direct action of the antimony upon the leprosy bacilli, and adds that ulcerated cases with a mixed infection often do very well under this treatment He draws attention to the grave danger accompanying the use of antimony in cases of albuminuria, and thinks that apart from this condition the drug has a tonic effect rather than a depressant action If given intravenously the use of small amounts of saline are preferable to distilled water for dissolving the tartar emetic He concludes that although no definite curative results can be expected yet antimony treatment results in the drying up of ulcerated patches, relief of the paralysis, improvement of the eye condition, and betterment of the general health A few injections at short intervals should be given, prolonged treatment with long intervals between the injections should be avoided

277 The Association of Diphtheria with Typhoid Fever

E R DAX (*Internat Clin*, 1923 1, p 123) remarks that the association of diphtheria with typhoid fever has been known for a long time, but it was not until the winter of 1914–15 that real epidemics of the combined diseases took place Out of a total of 1,302 cases of typhoid Rathery found 109 instances of clinical diphtheria and 275 other cases in which the Klebs Loeffler bacillus was present in the throat Labbé found diphtheria bacilli in 53 per cent of his typhoid cases The percentage of diphtheria carriers among typhoid patients is thus much higher than among healthy subjects even in places infected by the diphtheria bacillus It is therefore clear that the presence and development of this organism does not merely depend on contagion but also on the more or less favourable soil offered by the individual The dry state of the mouth peculiar to typhoid predisposes to the development of the diphtheria bacillus as a saprophyte in the pharynx Diphtheria as a complication of typhoid runs a remarkably severe course owing to the combination of the effects of diphtheritic toxaemia and typhoid septicaemia The temperature remains high and is not affected by cold baths or application of ice to the abdomen or chest The general condition becomes progressively worse The urine is scanty and contains much albumin Vomiting is frequent The pulse becomes small and compressible, and a state of cardiac collapse rapidly ensues Respiration is impeded both by naso-pharyngeal obstruction and myocardial insufficiency as well as by cardio pulmonary involvement of bulbar origin. Symptoms of myocarditis are very frequent owing to the combined action of the toxins of diphtheria and typhoid on the heart When recovery takes place convalescence is protracted Diphtheria most frequently occurs during the second week of typhoid, when the disease is at its height. It is rarely present at the onset of typhoid, but not infrequently develops during convalescence The following forms of the typhoid diphtheria association have been described (1) An asthenic form, which is the most frequent (2) A euphoric form, in which the patient does not realize the seriousness of his condition (3) A cardio pulmonary form, in which the patient is suddenly seized with vomiting hiccup, and generalized cyanosis death occurring in three or four days (4) A dyspnoeic form, characterized by sudden and intense dyspnoea, which is always fatal in a few days All observers are agreed as to the gravity of the association of typhoid and diphtheria of 109 cases observed by Rathery 32, or 29 per cent, were fatal, Bonnamour had a mortality of 75 per cent, Bourges of 65 per cent, and Mazuré of 80 per cent, the mortality being due almost exclusively to the extreme frequency of cardiac and cardio bulbar symptoms Treatment includes repeated injections of large doses of diphtheria antitoxin combined with adrenaline in doses of 20 to 50 drops of the 1 in 1,000 solution, in addition to the ordinary treatment for typhoid fever

278 Hunger and Disease

H CURSCHMANN (*Muench med Woch*, November 23rd, 1923) gives further observations on the changes in the frequency of diseases during the period of underfeeding in Germany The favourable influence of underfeeding on mild diabetes and diabetes of moderate severity indicates that food deficiency has no injurious effect on the internal secretion of the pancreas He has noted an increase of sclerodermic dystrophies and considers that underfeeding may be a cause But he does not think that the increase of jaundice, the diminution of chlorosis and the increase of pernicious anaemia can be definitely attributed to underfeeding Severe hunger oedema is associated with anaemia of the secondary type Scurvy during the hunger period was due to deficiency of fresh vegetables and not merely to underfeeding Endocarditis lenta has increased since the war, and from the great number of cases amongst those who have done war service the author thinks that fatigue has been a predisposing cause Underfeeding has increased the functional but not the organic nervous disorders

279 Transmission of Disease by Table Utensils

AUCHÉ (*Journ de Méd de Bordeaux*, December 25th, 1923 p 1053) quotes various authors who found organisms, including tubercle bacilli, present on the surface of table utensils, especially glasses forks, and spoons Experiments made with regard to the ordinary domestic cleansing of these articles show that such cleansing is very insufficient as organisms still remain He quotes the work of Lynch and Cumming, who examined in 1918 a group of several thousand American soldiers One set of vessels was carefully sterilized by boiling and another set merely given an ordinary cleansing in hot and cold water, it was found that the incidence of influenza was nearly three times greater in the second group than in the first, and so also with general morbidity The possibility of spreading disease by table utensils is therefore a contingency to be reckoned with, and the only certain way to prevent such an occurrence is to boil the articles This is not difficult in the case of metal objects, but ordinary glass will not stand boiling In private houses careful cleansing with some antiseptic like sodium hypochlorite is suggested as perhaps sufficient, but in public institutions the author advises boiling where possible, and, if not possible, the substitution of vessels which can be boiled—for example pyrex glass The Pasteur Hospital in Paris has for a long time used metal cups instead of glass

Surgery.

280 Meningococcal Septicaemia.

GRATIA and LEGRAND (*Le Scalpel*, February 2nd, 1924, p 113) state that meningococcal septicaemia, although much rarer than other forms of meningococcal infection, is probably more common than has been supposed hitherto, though it may be overlooked when, as in a case they cite, all signs of a specific rhino pharyngitis are absent The patient was a woman, aged 44, apparently in good health, who had a sudden attack of headache accompanied by rigors and pain in the right flank Next day there was severe bilious vomiting, and a tumour as large as a foetal head was found in the hepatic region, it was dull to percussion and painful on pressure There was no tenderness at McBurney's point, the rest of the abdomen was soft, the patient's general condition was serious Laparotomy was performed, and the liver, which extended almost into the right iliac fossa, was found to be smooth, congested, but without evidence of cyst or abscess, the pancreas and gall bladder were normal The liver was explored in several directions, but no evidence of pus was detected Six days after the onset bronchopneumonia, chiefly affecting the left middle lobe, occurred but subsequently cleared up A blood culture was negative The patient had the symptoms of a severe generalized infection, she was emaciated, sallow, and sweated profusely, the liver was still much enlarged, the spleen was enlarged and palpable, and there was a profuse staphylococcal vulvo vaginitis On the thirty first day of the illness a blood culture yielded a pure growth of meningococci of Type B After a few doses of antimeningococcic serum the patient developed two large plaques of urticaria, evidently due to the serum, she was then treated with an autogenous vaccine, and made a good recovery in two months Besides the urticaria the patient had many attacks of purpura, often accompanied by headache and pains in the limbs The urine was normal throughout the illness The authors state that two clinical types of this disease have been described (1) An intermittent febrile type simulating malaria, but distinguished by the absence of plasmodia, and the discovery of meningococci in a blood culture, (2) the purpuric type, as in this instance Types simulating enteric and acute rheumatism have also been described The authors regret that a meningococcal infection was not suspected at the time that the vaginal pus was examined, otherwise it seems probable that careful examination and agglutination tests might have shown the presence of meningococci They state that in male patients orchitis and epididymitis are frequent complications of meningococcal septicaemia

281 Periarterial Sympathectomy

W Q WOOD (*Edin Med Journ*, February, 1924, p 94) reviews the work of Leriche, who showed that when the tunica adventitia is stripped from an artery there follows a reaction associated with vaso-dilatation He attributes this to the removal of the vaso constrictor fibres which are conveyed in the outer trunk of the vessel This procedure is frequently followed by very striking results there is decided improvement in local nutrition, sores heal, pains disappear, atrophied muscles improve, and thickened skin becomes more pliable It appears that it may bring about the healing of intractable ulcers and ward off threatened gangrene, it also appears useful in cases of causalgia The results are not yet uniform, but justify giving the procedure a thorough trial The chief risk in the operation is tearing the vessel wall, which is likely to occur in sclerotic vessels, the author therefore describes a substitute method devised by Sampson Handley, who, after exposing the artery, injects rectified spirit at four points round the circumference of the vessel into the tunica adventitia He considers this method superior to the original operation, since it is simpler to perform and produces the vaso dilator effects at once without the vaso constrictor stage that occurs in the other operation

282. Sinusitis in Infancy and Childhood

W B DAVIS (*Therapeutic Gazette*, January 15th, 1924, p 1) considers that infection of the nasal accessory sinuses in children occurs more frequently than is generally supposed and is often overlooked, colds, influenza, the acute exanthems, pneumonia, and diphtheria are among the most frequent causes of this condition Such infections are more liable to occur in patients with infected tonsils, enlarged adenoids, the prolonged presence of foreign bodies, or other conditions tending to interfere with the natural drainage and ventilation of the sinuses Infections occur with decreasing frequency in the ethmoidal, maxillary, sphenoidal, and frontal sinuses the more general symptoms being nasal discharge and obstruction, recurring colds, epiphora, cough, joint pains, and occasional epistaxis Headaches and trigeminal neuralgia are not as frequent as in adults X ray plates are of more value in diagnosis than transillumination, and these should always be examined before making an exploratory maxillary sinus puncture Infections are usually of a mixed type with a predominance of pneumococci In the majority of cases conservative treatment with mildly astringent oil applications, followed by 10 to 15 per cent argyrol solution, answers best, together with the administration of mixed pneumococcic vaccines, stock vaccines appearing to give better results than autogenous This line of treatment, with the removal of infected tonsils and adenoids, usually suffices, nasal operative procedure being rarely required, since the tendency for sinus infection in children to clear up without operation is greater than in adults Although most cases respond readily to treatment without signs of bone involvement, it must be borne in mind that bony destruction may be very rapid in some ethmoidal and maxillary sinus infections When operation becomes necessary owing to chronicity and failure of conservative treatment the aim should be to establish drainage and ventilation with the least possible destruction of nasal tissue, though in some cases it may be necessary to remove the focus of infection and any surrounding polypoid tissue and necrotic bone

283 Chronic Gastric Ulcer and Oidiomycosis

T MERKE (*Schweiz med Woch*, January 10th, 1924, p 63) confirms the observations of Ashanazy, who three years ago drew attention to the frequency with which the oïdium could be found in every stage of gastric ulcer He found it in 25 out of 30 cases of chronic gastric ulcer coming to operation The author's own investigations were carried out on 16 cases of chronic gastric ulcer in which resection was performed, and on 12 cases of perforation of an ulcer On culture the oïdium was found in 12 of the resected cases and in 9 of the perforation cases Serial sections sometimes showed that the germ was not confined to the superficial layers of exudate and fibrinous necrosis, but had penetrated to the granulation layer of the ulcers These findings suggested that the oïdium was not merely leading an innocent saprophytic life An examination of the mouths of 180 hospital patients revealed the oïdium in 35 per cent, and though there were no characteristic changes in the lining of the mouth and throat associated with the oïdium positive cases, they were particularly frequent in patients with badly fitting false teeth The author notes that dermatologists have of late been much impressed by the chronic and relapsing character of oïdiomycosis of the skin which is favoured by the prolonged action of water, as in the case of the interdigital oïdiomycosis of washerwomen It is probable that similar conditions obtain in the stomach, and the chronicity and periodicity of gastric ulceration may largely depend on the oïdium, the growth of which is favoured by the macerating action of the gastric juice The author has carried out cultural experiments on macerated human skin with strains of the oïdium cultivated from gastric ulcers, and he has uniformly succeeded in provoking typical artificial oïdiomycosis In two cases of chronic ulceration the intradermal injection of a much diluted extract of the oïdium gave rise to violent local reactions

Radiology and Electrology.

284 Radiography of the Sella Turcica

R KNOX (*Arch Radiol and Electrother*, November, 1923, p 161), reviewing the history of this subject from 1899, describes the difficulties encountered by various authors Fearnsides described twelve cases and conclude that "changes in the conformation of the sella turcica help to make the diagnosis of pituitary disorder more certain than in other intracranial conditions" Johnson states that there is a wide variability in the size and character of the normal sella Knox observes that "the *x* ray examination of the sella is one of exceptional difficulty when exact measurements have to be made", but this may be overcome by using a standard head rest (such as Pfahler's) in order to maintain a fixed distance between the anticathode of the tube and the surface of the plate Stereoscopic radiography is recommended for the study of the sella as it is likely to be of great value in this region, but a very accurate technique is necessary Knox and Salmond have worked out a "system of topography" by a simple method of measurement to show the relations between the surface and the bony and soft parts in the interior They draw "the radiographic base line of the skull" from the "nasion" through the centre of the external auditory meatus to the mid line of the occiput—that is, below the external occipital protuberance (which is above the anatomical

base line) This line is measured and on it three points are marked at a third, a half, and two-thirds distance from either end, and preferably from the front Through these points perpendiculars are drawn with a skin pencil or marked by thin wire (if to be reproduced on the plate) The base line passes through the horizontal plane of the lower part of the frontal sinus, sphenoidal sinus, apex of the petrous bone, clivus of the sphenoid, glenoid cavity and condyle of the lower jaw, external auditory meatus, jugular foramen, and mastoid process The anterior perpendicular line crosses the zygomatic malar suture and the front of the sphenoidal sinus and just in front of the middle clinoid process, and the sella lies between the first and second perpendiculars, rather nearer the former Knox recommends a Coolidge tube with a sharp focus enclosed in a ray proof box Finzi points out the necessity of passing the rays laterally through the sella, he places a sixpence in either ear and moves the tube until one image appears "as a halo around the other", the central ray is then coming through the external auditory meatus To centre the tube on the sella he moves it forward one inch and upwards one inch Neglect of careful centring or inaccurate position of the head may lead to errors in diagnosis

285 R KNOX (Ibid, December, 1923, p 205) continues his description of this subject He states that a certain latitude must be allowed in all round measurements The size of the sella, however, will bear a definite ratio to the size of the skull if the circumference of the latter be taken when estimating the size of the sella it will be possible to say whether an increase of the latter verges on the pathological The two chief conditions causing enlargement of the sella are (1) acromegaly and (2) tumour In the former the pituitary enlargement is uniform and the sella is gradually and equally distorted, but the form is unaltered The sphenoidal sinus is compressed, and in advanced tumour cases may be obliterated The sinus may be altered from three causes (*a*) increased pressure from pituitary enlargement, (*b*) external pressure and (c) presence of fluid or of tumour within the sinus Knox describes the structure and endocrinology of the pituitary body Gigantism results from hypertrophy prior to the attainment of adult stature, acromegaly from the same condition after that period Hypopituitarism is associated with infantilism and dwarfism, arrest of sexual development with or without obesity, increased sugar tolerance, and sometimes epilepsy There is usually simple hyperplasia of the pituitary in acromegaly, but, rarely, carcinoma or sarcoma is found Cystic or fibrous atrophy, gummata, or tuberculosis are less common causes of the disease The optic nerves or commissure may be involved, causing bitemporal hemianopsia or optic atrophy Tumours in the sella turcica may be (1) *fibroma*, (2) *myxo-fibroma*, (3) *sarcoma*, (4) *carcinoma*. They cause (*a*) separation of the clinoid processes, (*b*) irregular enlargement of the sella, (*c*) destruction of its walls Knox describes the shape and size of the sella, with the changes observed at different stages of growth in normal children There is apparently no relation between the size of the head and that of the sella The sella turcica in girls is larger, both in length and height Fourteen plates illustrate this paper

288. Skiagraphy of Pneumonia in Adults

G FAISSEAU and ISER SOLOMON (*Ann de Méd*, January, 1924, p 1) observe that although skiagraphy has thrown much light upon the question of infantile pneumonia, our knowledge of pneumonia in adults is much less definite In infants there is a characteristic triangular shadow, the base being directed towards the pleural surface and the apex towards the hilus of the lung In adult cases of lobar pneumonia, according to the majority of authors, the appearances are much more variable Barjon states that among adults a rapid and complete consolidation of the whole lung frequently occurs, quickly masking the original triangular shadow Many authors consider that consolidation extends from the hilus towards the periphery Several American authors have adopted this theory of the central origin of consolidation, but their views are founded chiefly upon the study of influenzal pneumonia The authors have observed six cases of pneumonia of the upper lobe, which showed a very clear triangular image, similar to that which characterizes infantile pneumonia, these cases are described and illustrated by plates The "pneumonic triangle" is also seen in middle lobe consolidation, but is seldom visible in that of the lower lobes The cortical origin of consolidation has been used as "an argument in favour of the haematogenous (septicaemic) theory of pneumonia, but the authors observe that the ramifications of the bronchial and vascular systems in the lungs are so complex that it is very difficult to determine the vascular or bronchial origin of any given shadow Radiology has shown that "central" pneumonia, though rare, does occur The authors conclude that skiagraphy may be a valuable aid to diagnosis, but a triangular shadow may also be seen in tuberculosis and in bronchopneumonia Radiologically, lobar pneumonia may be distinguished from broncho pneumonia, tuberculosis, pleurisy, and infarct In broncho pneumonia the shadow is diffuse, indefinite, and mottled, recalling the appearance of tuberculosis rather than that of lobar pneumonia The differential diagnosis between axillary pleurisy and cortical pneumonia is *often difficult, sometimes* it is only determined by the clinical progress of the disease The same difficulty may arise in cases of partial or of inter lobar pleurisy and *of consolidation of a middle lobe* It is obvious that whatever may be the value of skiagraphy as a means of diagnosis in pneumonia, the plate cannot be *interpreted* apart from the clinical signs, although in some cases physical signs of consolidation may be absent, though a large shadow is visible, this anomaly may be explained by consolidation so massive that no air enters the affected part The early appearance and rapid extension of a shadow indicates a grave prognosis

287 Pulmonary Cavities

CH A *PIQUET* and A *GIRAUD* (*Ann de Méd*, November, 1923, p 362) state that it is admitted that the circular images frequently seen in skiagrams of the lungs correspond to cavities The most typical appearance is that of a clear circle having a dark linear border, and they are usually situated in the outer part of the subclavicular region Asmann, Jaquerod, and others have observed that while these cavities usually tend to enlarge, occasionally definite contraction is seen The authors describe five cases (illustrated by eleven plates) of patients under treatment at Leysin, and conclude that two mechanisms may assist in the progressive disappearance of an image of a cavity (1) The action of cicatricial retraction on the cavity walls, corresponding to the cicatricial retraction of a lobe or of the whole lung in *massive infiltration*, circumscribed tuberculous foci may contract after evacuation of caseous material (2) Compression of the cavity walls by the development of compensatory emphysema in the surrounding lung In all the author's cases the apparent closure of the cavities was accompanied by great improvement in the patients health and disappearance of physical signs

Obstetrics and Gynaecology.

288 Anaemia of Pregnancy

V C ROWLAND (*Journ Amer Med Assoc*, February 2nd, 1924, p 372) deals with the haemolytic anaemia of pregnancy and the puerperium, and cites the article by Osler which appeared in our columns of January 4th, 1919 (p 1) He reports in detail two cases In the first, a multipara, the anaemia commenced during the late months of pregnancy, but no *treatment* was sought until one week before confinement, when anasarca was present and the blood count was red cells 1,900,000 per c mm, white cells 7,500 per c mm, haemoglobin 20 per cent There was no marked poikilocytosis or macrocytosis After delivery the anaemia rapidly got worse, and in a few days the typical blood picture of pernicious anaemia was evident *Blood transfusion* was performed, but the patient died on the twelfth day after the birth of the child In the second case, that of a primipara, anaemia and oedema began to appear in the eighth month of pregnancy, and there was albuminuria with a blood pressure of 150 Rest in bed brought about temporary improvement only, and labour was induced The patient quickly recovered from the toxaemic condition, but ten days after the confinement fainted There followed during the next five weeks progressive loss of strength, and anaemia became marked with some abnormal pigmentation The blood count at the end of this time was red cells 600,000 per c mm white cells 3 200 per c mm haemoglobin 25 per cent, differential count—polymorphonuclears 56 per cent, lymphocytes 35 per cent., large mononuclears 2 per cent, eosinophils 6 per cent, basophils 1 per cent Macrocytosis and poikilocytosis were marked, there were a few megalocytes, but no nucleated red cells Blood *transfusions* by the citrate method resulted in recovery in two months though after the first transfusion retinal haemorrhages occurred Rowland points out that in these cases labour is usually premature, short in duration, comparatively painless, and accompanied by very little haemorrhage

289 Glands of Bartholin in Gonorrhoea.

HÜBNER (*Deut med Woch*, January 4th, 1924, p 13) refers to a publication in 1923 by Läwen, who claimed to have treated successfully malignant furunculosis of the face and lips with local injections of the patient's *blood* The author argued that if, in such a dangerous streptococcal disease, this treatment could effect recovery it should also prove beneficial in gonorrhoeal infections of the glands of Bartholin

He has thus treated fifteen diseased glands in ten patients all of whom were cured, the glands remaining free o gonococci even when gonorrhoea of the urethra and cervix persisted The technique is very simple At two points (0 5 cm above and 0 5 cm below the opening of the duct of this gland) from 2 to 3 c cm of the patient's citrated blood are injected subcutaneously, the point of the needle being first thrust vertically and then in the direction of the gland until the latter is touched Cocaine anaesthesia may be desirable in nervous patients In one case only had three such injections to be given before the gonococci disappeared

290 Treatment of Eclampsia

PESTALOZZA (*Rivista di Ostet e Ginecol Pratica*, December, 1923, p 561) reviews the general principles underlying present day treatment of eclampsia It is generally admitted, he says, that eclampsia is due to a toxin of ovular origin, but of unknown constitution and imperfectly known action—a toxin whose virulence in any given case it is impossible to assess accurately, for the number and severity of the convulsions afford no reliable prognostic indication A certain number of cases of established eclampsia are hopeless from the first, whatever treatment is tried, so that reduction of mortality can only be expected as a result of vigorous search for, and energetic treatment of, early pre eclamptic conditions Theoretically the logical treatment of eclampsia consists in early evacuation of the uterus, this, however, will not necessarily eliminate preformed toxic bodies, and is in applicable to post-partum eclampsia Evacuation of the uterus may be practicable and useful when labour has com menced, but in other cases is fraught with considerable danger of reflex nervous depression There is much, there fore, to recommend the "middle line therapy" of Zweifel, of which two of the chief measures are venesection and administration of morphine The former, which is being advocated anew in Germany, has never fallen into desuetude in Italy, and certainly diminishes arterial hypertension while decreasing the risk of cerebral haemorrhage Morphine should, as a general rule, be given in doses of 2 centigrams before the initiation of any other treatment If in spite of venesection and morphine the convulsions persist, veratrum viride should be tried before resorting to artificial induction of labour

291 Suggested Test for Pregnancy

F A PITMADA (*Arch di Ostet e Ginecol*, September, 1923, p 413) remarks that the increased velocity of sedimentation shown during pregnancy by the erythrocytes has been ascribed by different authors to alterations in the red cor puscles and in the blood plasma respectively Testing the sedimentation time of inert particles of kaolin or animal charcoal suspended in plasma or serum of pregnant or puer peral subjects, or of healthy non pregnant women, he has made the following observations Particles sink much more rapidly in the plasma or serum of pregnant than other women Plasma in which kaolin has already been suspended and has sunk possesses after centrifugalization considerably greater power of inducing sedimentation than was shown by the same plasma originally At a temperature of 55° C sedi mentation takes place with lessened but equal velocity in the serum of pregnant and other patients The sedimentation velocity of inert particles has returned to normal in the serum two days after labour It follows from these experi ments that the reaction of Fahreus and Linzenmeier is an expression of physico chemical alterations in the plasma during pregnancy, other proteins than fibrinogen being concerned

Pathology.

292 Relationship of Varicella and Herpes

A NETTER and A URBAIN (*C R Soc de Biologie*, February 1st, 1924, p 189), by using the method of complement fixation, found that using an antigen prepared from the serous fluid or from the crusts of herpetic vesicles they were able in seven cases to demonstrate the presence of antibodies in the serums of patients suffering from herpes zoster The length of time elapsing between the actual attack and the time when the serums were tested varied from five days to nine months Examining further the serum in five of these cases they found that they contained antibodies, not only to a herpetic antigen, but to one made from pustules of chicken pox The two antigens fixed complement in almost exactly the same amount, whereas they were quite unable to fix complement in the serums of normal persons The serums of six patients who were suffering from varicella, and the serum of one patient who had recovered from an attack of the same disease eight months previously, were tested against both antigens In the case of the antigen prepared from the chicken pox pustules fixation occurred in every instance, whereas with the herpetic antigen fixation was found in only five instances, but then to the same extent as with the homologous antigen From these experiments they conclude that there exist in the serums of patients suffering from varicella and from herpes zoster antibodies which are able to fix complement in the presence of their homologous antigens, these antibodies are of the same nature, since it is possible to demonstrate their presence either with the antigen of herpes or with that of varicella Such a serological relationship is a strong argu ment in favour of the identical origin of varicella with certain types of herpes This argument receives support, too, from the record of the clinical history of some of the patients examined, in whom the two diseases were closely associated.

293 Hydrogen-ion Determination of Small Volumes.

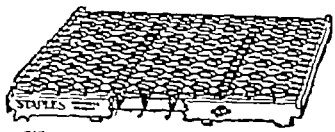
J H BROWN (*Journ Laboratory and Clin Med*, January, 1924, p 239) describes a method for the colorimetric deter mination of the hydrogen ion concentration of small amounts of fluid, which should be useful to the laboratory worker Small glass cells are made by cementing a circular cover glass to the bottom of a glass ring 3 mm in height The cell is filled with distilled water, and to it is added one drop of the fluid to be tested A drop of indicator—either methyl red, brom cresol purple, or phenol red, as the case may be—is likewise added, and the resulting colour compared with a series of standard buffer solutions put up in similar glass cells Owing to the peculiar conditions of illumination obtained by placing the cells on an opal glass plate, resulting in their being examined both by transmitted and by reflected light, it is unnecessary to view the fluids through a screen The fact that the fluid is highly diluted, and that it is spread in a thin layer, removes the difficulty encountered in dealing with coloured fluids, coloured or opaque liquids such as milk or serum can be titrated for their hydrogen ion determination very satisfactorily in this way The only drawback seems to be that a big error is experienced when using poorly buffered fluids, here the dilution with distilled water affects the original *p*H and prevents a true reading But for ordinary bacteriological purposes this difficulty is not likely to prove of much importance A series of determinations made by this method and by the usual tube method in a comparator gave readings differing by not more than 0 1 *p*H The method has obvious advantages, especially in cases where, as with the blood of insects, only small quantities are available for examination.

294 Classification of Pneumococci

MARGINESU and CORDA (*Il Policlinico*, December 1st, 1923, p 610) publish a study of various types of pneumococci met with in 56 cases of pneumococcal infection (in 4 cases no organism was isolated) The authors accept the American classification of four types (1, 2, 3, 4) Of their 52 cases 45 were lobar pneumonia, 1 metapneumonic empyema, 1 cerebro spinal meningitis, 1 pseudo-membranous laryngitis, and 4 corneal ulcer In the pneumonia cases 34 78 per cent were of Type 1, 21 73 per cent Type 2, 13 04 per cent Type 3, and 30 43 per cent Type 4 The pathogenicity of Type 4 was greater than had been indicated by other writers Type 3 was the most fatal, but most of the patients in this group were advanced in years Complications were most frequent in Type 1 The clinical polymorphism of lobar pneumonia seems to be due more to the nature of the patient than to the type of the infecting organism No substantial clinical differ ences characterized the different types of pneumococcus Type 4 was found in the four cases of corneal ulcer For the purpose of diagnosis of type the authors recommend the method of agglutination in the nascent state, using defibrinated blood heated for an hour at 55° C

295. Mechanism of Agglutination

BARINETTI (*Arch per le Sci Med*, November, 1923, p 63) publishes the results of certain experiments on typhoid serum in connexion with the problem of agglutination In his first series of experiments he tried to determine which ingredient of the dialysed serum gave rise to agglutination, and he found that the main factor was that part of the protein which was precipitated from solutions poor in electrolytes The agglutinating power of typhoid serum for *B typhosus* diminishes correspondingly with diminution of the euglobulins present These euglobulins, when added to non agglutinating serums, confer agglutinating power upon them The agglutination of large masses of bacilli increases slightly the refractometric index of the blood serum The addition of formol to a bacillary suspension in the proportion used for diagnostic emulsions renders these suspensions more agglutinable, and sometimes makes paratyphoid suspensions agglutinable by non specific serums

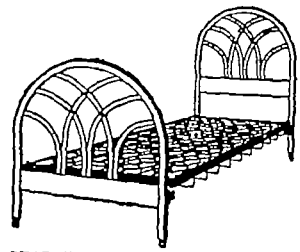


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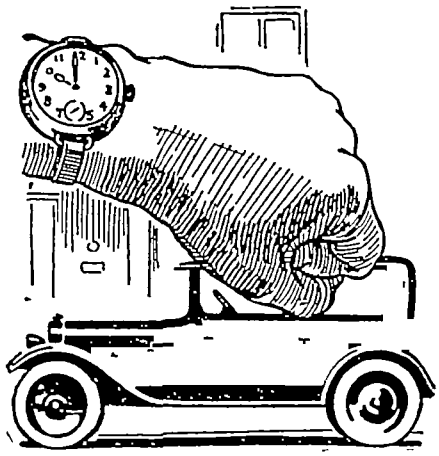
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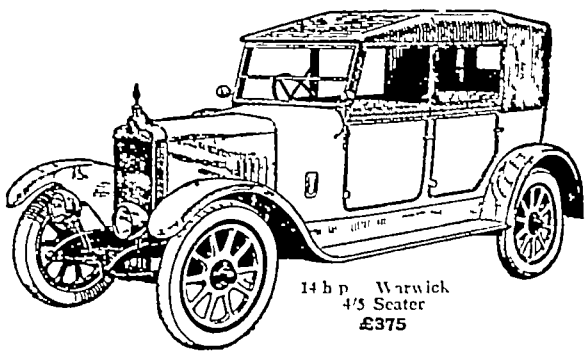
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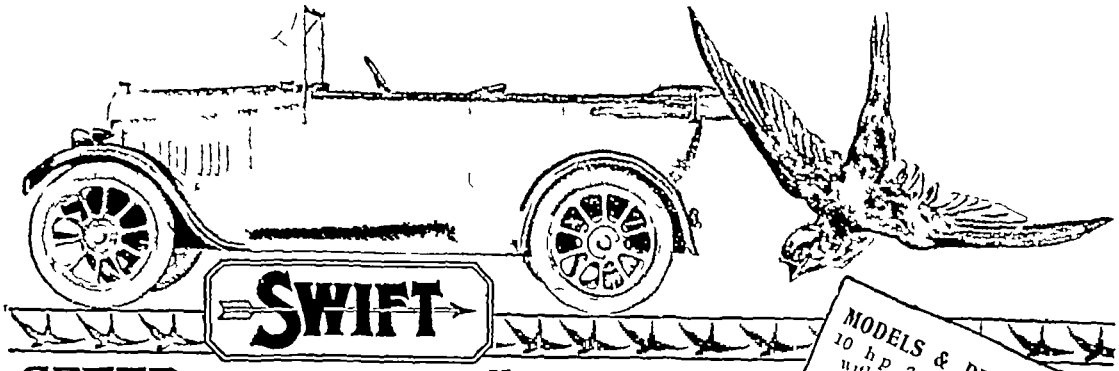
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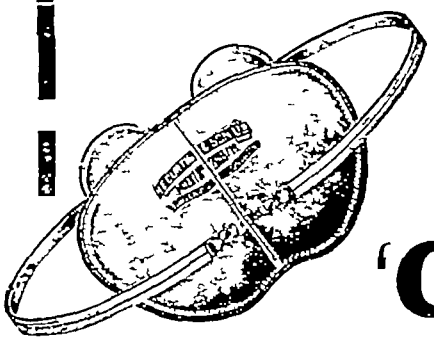
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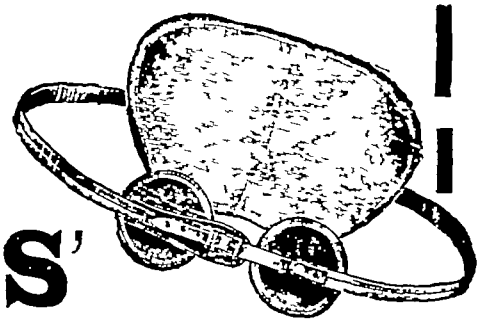
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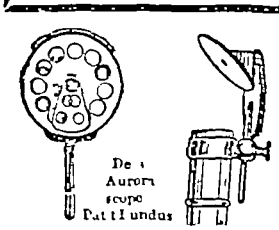
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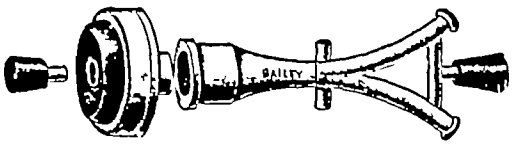
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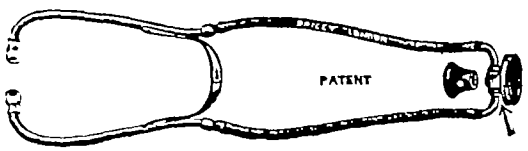
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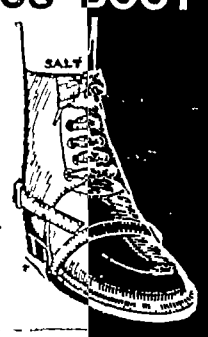
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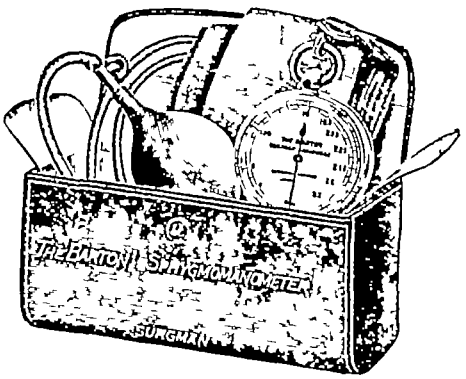
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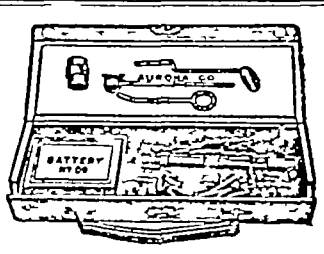
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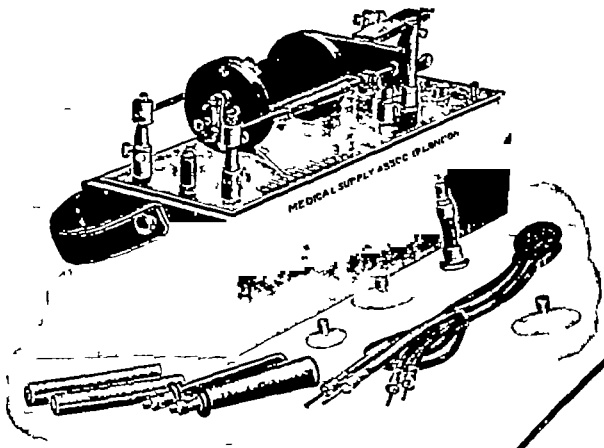
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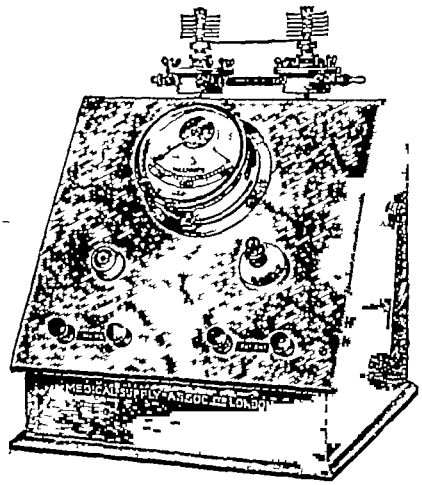
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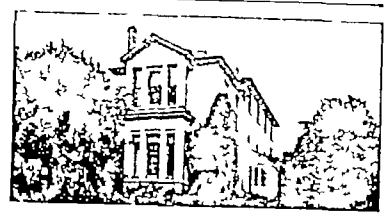
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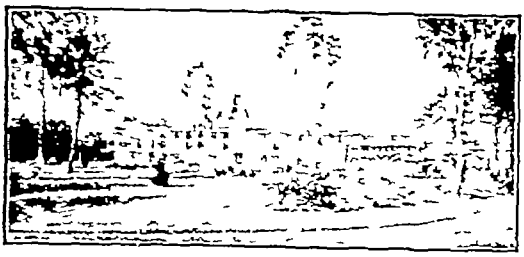
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Special Treatment by artificial **Pneumothorax** (with X-ray control), the various **Tuberculins,** and Autogenous **Vaccines** etc., is available without extra charge.



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Physician

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For full particulars apply to THE SECRETARY, Nordrach-upon-Mendip Sanatorium, Blagdon near Bristol Telegrams "Nordrach, Blagdon"

PALACE SANATORIUM, MONTANA-SUR-SIERRE

Tuberculosis Cure Station, 5,000 feet high, SWITZERLAND.

Accommodation for 100 Patients

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Late Physician to the Queen Alexandra Sanatorium, Devon Plat.

Full particulars from the Secretary, 5 Endsleigh Gardens, London, N.W. 1



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Matron Miss L. HANSON late King Edward VII. Sanatorium MIDHURST, assisted by a full Day and Night Nursing Staff.

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(University of London.)

THE SUMMER SESSION will open on MONDAY, APRIL 28th.

THE MEDICAL COLLEGE AND DENTAL SCHOOL OF THE LONDON HOSPITAL are fully equipped to meet modern requirements. The Hospital contains 950 beds and is the largest General Hospital in England.

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Preliminary Examination (at Candidates' own Schools) Tuesday, May 20th, 1924. Final Examination at Cheltenham) Wednesday and Thursday, May 28th and 29th, 1924.

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President.—General JOHN GOODWIN, K.C.B., C.M.G., D.S.O.

THE ANNUAL GENERAL MEETING will be held at 11 Chandos Street, Cavendish Square, W.1, on Friday, April 25th, at 3.30 p.m. The Annual Report and the Financial Statement for 1923 will be presented and the Officials and Committee for the ensuing two years will be elected.

WILLIAM HALL WHITE, Hon. Secretary.
GEORGE BETHELL, Assistant Secretary.
11 Chandos Street,
Cavendish Square, W.1. April 1st, 1924.

ST. MARY'S HOSPITAL MEDICAL SCHOOL,

PADDINGTON, W.2
(University of London.)

The SUMMER SESSION will begin on April 28th, 1924. The Medical School provides courses in Preliminary, Intermediate and Final Subjects and Students can join at once after matriculation.

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NEARLY 1,000 BEDS available for teaching—additional clinical material being provided by affiliation to other Institutions.

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For further particulars and illustrated prospectus apply to the School Secretary.

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Prifysgol Cymru University OF WALES

DIPLOMA IN PUBLIC HEALTH

Examinations for the above Diploma will be held in Cardiff on June 24th to June 27th, 1924, inclusive.

Entry forms which may be obtained from the Registrar, University of Wales, Cathays Park, Cardiff, must be returned to him not later than May 14th, 1924.

EDINBURGH POST-GRADUATE COURSES in MEDICINE

IN CONNECTION WITH THE

UNIVERSITY AND ROYAL COLLEGES.

The following POST-GRADUATE COURSES will be held during the Summer of 1924:—

A.—A COURSE IN OBSTETRICS AND GYNÆCOLOGY from 14th July to 9th August Fee £10 10s.
B.—A COURSE IN DISEASES OF CHILDREN from 14th to 25th July Fee £6 6s.
C.—A GENERAL MEDICAL COURSE from 11th August to 6th September Fee £10 10s. or £6 6s. for first or second fortnight
D.—A GENERAL SURGICAL COURSE from 11th August to 6th September Fee £10 10s or £6 6s. for first or second fortnight

A series of SPECIAL LECTURES open to all Graduates will be delivered during the period of the General Courses (C and D) Three Lectures on subjects of general Medical and Surgical interest will be given each week.

In addition to the above the following SPECIAL COURSES have been arranged:—

During the SUMMER TERM (MAY—JULY)—CLINICAL THERAPEUTICS; TUBERCULOSIS SURGICAL PATHOLOGY; DIAGNOSIS and TREATMENT of RENAL DISEASE INSULIN THERAPY RADIOLOGY and OPHTHALMOSCOPY **during the SUMMER TERM (MAY—JULY) and AUTUMN TERM (OCTOBER—DECEMBER)**—DISEASES OF EAR NOSE AND THROAT and VENEREAL DISEASES and **during the period of the GENERAL COURSES (AUGUST—SEPTEMBER)**—EXAMINATION of the BLOOD VACCINE THERAPY and PHYSIOLOGICAL and BIOCHEMICAL METHODS IN CLINICAL MEDICINE

Further particulars as to the Courses may be had on application to the HON SECRETARY POST-GRADUATE COURSES IN MEDICINE, UNIVERSITY NEW BUILDINGS EDINBURGH Early entry is advisable as some of the Courses are limited

THE CHARTERED SOCIETY OF MASSAGE & MEDICAL GYMNASTICS

Examinations will be held during 1924 in MASSAGE, MEDICAL GYMNASTICS, and MEDICAL ELECTRICITY, and for TEACHERS CERTIFICATES TRAINING COURSES 12 15 months, TEACHERS 2 years

For the benefit of Masseuses and Masseurs holding Certificates other than L S T M prior to June 9th 1920 TEST EXAMINATIONS in MASSAGE and other subjects are arranged Conditions of entry supplied to applicants.

Examinations are held in London and also in Dublin Manchester Glasgow or Edinburgh and Bristol when there are sufficient (30) entries

The Society is approved by the *Medical Profession and its certificate-holders work only under medical direction* The Certificate of the Society is a qualification accepted by the Admiralty War Office Ministry of Pensions and the British Red Cross Society

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The School stands in its own magnificent grounds of 18 acres Own farm Beautiful climate healthy situation Every modern convenience Electric light

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Seamen's Hospital Society.

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Endsleigh Gardens, N W 1.

Sessions will commence 22nd April and 22nd September 1924.

For Prospectus and further particulars apply to The Secretary London School of Tropical Medicine, Endsleigh Gardens, N W or to the Head Office Seamen's Hospital Greenwich London S E

THE
ROYAL DENTAL HOSPITAL OF LONDON

SCHOOL OF DENTAL SURGERY

(University of London), Leicester Square W C 2

SESSIONS commence May 1st and Oct 1st

The SCHOOL is thoroughly equipped The CLINIC of the Hospital is unrivalled

The classes: *Chemistry Physics and Metallurgy* are open to the Pupils of private practitioners

PRELIMINARY SCIENCE AND *PRE MEDICAL EXAMINATION*

These Classes are held during the Winter and Summer Sessions and are open to students who have *not yet commenced their Professional study*

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The Laboratories occupy an entire floor of the building

PUPILS can JOIN at the commencement of either the OCTOBER or MAY Sessions for the two years training in Dental Mechanics specified in the Curriculum

WOMEN are now admitted as Students of the School and are eligible for all appointments and prizes

Write for further particulars and School Calendar THE DEAN as above.

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The age of the pupil district preferred and rough idea of fees should be given

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Continuous Clinical Work in all Departments—

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FROS (FINAL) COURSE

For further particulars apply to Mr H J SIMSON, Dean West London Hospital Hammersmith W 6

F R C S Edin.

The TUTORIAL CLASS for the next Examination will commence shortly Correspondence Tuition if desired.—For particulars apply FRED GRAHAM M D F R C S Ed Northfield, Liberton Edinburgh

Royal College of Surgeons of ENGLAND

ELECTION OF EXAMINERS UNDER THE CONJOINT EXAMINING BOARD IN ENGLAND

Notice is hereby given that the Council in June next will proceed to the Election of three Examiners in Anatomy two Examiners in Physiology four Examiners in Midwifery, two Examiners for the Diploma in Public Health, two Examiners for the Diploma in Tropical Medicine and Hygiene three Examiners for the Diploma in Ophthalmic Medicine and Surgery one Examiner for the Diploma in Psychological Medicine and three Examiners for the Diploma in Laryngology and Otology

The present Examiners are re-eligible except one Examiner in Anatomy one Examiner in Physiology one Examiner in Midwifery and one Examiner for the Diploma in Public Health (Part I)

Candidates for any of these offices must make written application to the Secretary on or before Saturday, 26th April

S FORREST COWELL Secretary

5th April 1924

Royal College of Surgeons of ENGLAND

BOARD OF EXAMINERS IN ANATOMY AND PHYSIOLOGY FOR THE FELLOWSHIP

Notice is hereby given that the Council in June next will proceed to the election of four Examiners in Anatomy and four Examiners in Physiology

Two of the present Examiners in Anatomy and three of the present Examiners in Physiology are re-eligible

Candidates for the Examinership in Anatomy must be Fellows of the College Candidature for the Examinership in Physiology is unrestricted

Candidates must send applications in writing to the Secretary on or before Saturday 26th April

S FORREST COWELL Secretary

7th April 1924

General Nursing Council for ENGLAND AND WALES

STATE EXAMINATIONS

The Optional and also the first Preliminary Examinations will be held in July of this year The written part of both Examinations will be held at the various Centres on Tuesday July 1st The Oral and Practical parts will be held some days later and each candidate when she appears on July 1st will be notified of the place date and time of her Oral and Practical Examination

The first date for applying for forms of entry is Tuesday April 8th and the last date Tuesday April 29th The last date for the return of completed entry forms is Tuesday May 6th 1924

It is important that candidates should bear these dates in mind since no entry forms for the July Examinations will be issued after April 29th, and no completed entries accepted after May 6th

Pathology Scholarship

The Trustees invite applications for the DICKINSON PATHOLOGY SCHOLARSHIP

The Scholarship is of the value of £75 tenable for one year and is open to students who shall have received at the University and the Royal Infirmary instruction in Pathology Medicine and Surgery for taking the M B, Ch B (Manch) degree

A copy of the Regulations governing the Scholarship can be obtained from the undersigned to whom six copies of application should be sent not later than Thursday 1st May 1924

FRANK G HAZELL,
Secretary to the Trustees

Manchester Royal Infirmary 31st March 1924

Shropshire Orthopædic HOSPITAL Gobowen, near Oswestry

COUNTRY OPEN AIR WARDS 300 BEDS

GIRL STUDENTS WANTED to learn Orthopædic Work and prepare for the Conjoint Examination of the C S M M G Three years training Salary, first year £16 second year £20 all found, uniform —Apply Miss HUNT, R R C

Liverpool School of Tropical MEDICINE

COURSES OF INSTRUCTION (lasting three months) for the Diploma and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 4th —Prospectus from the Hon DEAN School of Tropical Medicine University of Liverpool

Home School for Backward and DELICATE CHILDREN (estab 1901)

Specialists Patients received Modern educational methods and handicraft training Horticulture garden games and recreation Entire charge if desired Home girls admitted Terms moderate —Apply Principal Hatherley Brake Cheltenham

Dickinson Research TRAVELLING SCHOLARSHIP IN MEDICINE.

The Trustees invite applications for the Dickinson Research Travelling Scholarship in Medicine

The Scholarship is of the value of £300 tenable for one year Candidates must have graduated at the University of Manchester in Medicine and Surgery in any one of the three academic years immediately preceding the award of such Scholarship, and must have earned distinction in so doing

A copy of the Regulations governing the Scholarship can be obtained from the undersigned to whom six copies of applications should be sent not later than Thursday 1st May 1924.

FRANK G HAZELL,
Secretary to the Trustees

Manchester Royal Infirmary 31st March 1924

University of Dublin TRINITY COLLEGE

On May 21st 1924 the Council will proceed to nominate a whole time PROFESSOR OF PATHOLOGY, who will be Director of the Departments of Pathology and Bacteriology to take up his work on October 1st 1924 Fixed salary £800 a year, plus certain fees His tenure will be for five years, and he will be eligible for re-election on

Candidates should send 5 copies of not more than five testimonials so that they reach the Dean of the School of Physic Trinity College Dublin on or before 1st May 1924 Further information apply to the Dean of the School of Physic as above

University of Leeds

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY

The Council will shortly proceed to the appointment of a LECTURER in Pathology at a salary of £500 a year It is necessary that candidates should hold a registrable medical qualification, and should have had experience in Chemical Pathology Further particulars may be obtained from the Registrar The University Leeds who will receive applications up to the 28th April

Small Private Residential

SCHOOL, established 21 yrs, for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS Special Department Pupils over school age Under Medical supervision —Prospectus Mrs MIKLEJON Principal St Paul's House Upper Maze Hill St. Leonards-on-Sea.

Wanted a small private

SCHOOL, willing to receive a backward boy of 14 with epilepsy (occasional petit mal) Some medical supervision necessary Quote fees —Address No 1733 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

In consequence of the lease of ASHDOWN HOUSE, Hampstead having expired, Miss BULLOCK has moved her School for SPEECH and LIP READING for DEAF Children and for the cure of SPEECH DEFECTS in HEARING Children to the larger detached residence standing in its own grounds known as KINGSFIELD HOUSE Oxhey Watford

Royal Manchester Children's HOSPITAL

Out patients Department, Gartside St, Manchester

Wanted for the Out-patients Department an ASSISTANT MEDICAL OFFICER non resident, who will be appointed for the five months ending 0th September next at a salary at the rate of £150 per annum and be eligible for re appointment for a further six months at a salary at the rate of £200 per annum

Candidates must be doubly qualified and on the Medical Register Particulars of the duties can be obtained from the Secretary The hours of duty are from 9 a.m till about 1 p m daily Duties to commence 1st May

Applications stating age and accompanied by copies of testimonials to be sent to the undersigned not later than 10th April

By Order W M HUMPHRY
Secretary

31st March 1924

Derbyshire Royal Infirmary, Derby (General Hospital 318 beds)

Applications are invited for the following Resident appointments, which will become vacant on 1st May —

HOUSE SURGEON Gynæcology and General Surgery

ASSISTANT HOUSE SURGEON AND CASUALTY OFFICER

The appointments are six months and may be extended Salary £200 per annum with apartments board etc

Candidates (male) must be qualified and registered applications with copies of three recent testimonials to be sent to the undersigned not later than first post on Thursday 10th April

WALTER BANKS
Superintendent and Secretary

28th March 1924

Government of the Union of SOUTH AFRICA

VACANCIES FOR ASSISTANT PHYSICIANS IN THE UNION MENTAL HOSPITAL SERVICE.

SALARY —£460 per annum plus free board lodging, fuel light and washing plus such local allowance (if any) as may from time to time be prescribed

ENGAGEMENT —In the first instance for two years on written contract with prospect of extension or appointment to pensionable establishment of the Public Service and subsequent promotion therein

QUALIFICATIONS —Applicants must be British subjects about 30 years of age. Preference given to candidates with previous experience in mental work and possessing diploma in psychological medicine Married women not eligible.

TRANSPORTATION —Free 1st-class rail and steamer fares from residence in United Kingdom to destination in South Africa, plus half salary on voyage No payments made in respect of travelling expenses of wives and families

GENERAL.—Successful candidates will be required to produce Birth and Health Certificates (the latter on forms obtainable from the High Commissioner)

Applications and copies of testimonials, all in duplicate must reach the Secretary Office of the High Commissioner for the Union of South Africa, Trafalgar Square London W C 2 (from whom forms of application may be obtained) not later than 16th April 1924

Colonial Service

GOVERNMENT MEDICAL OFFICER required for service in the BRITISH GUIANA DIAMOND FIELDS Salary £500 with station allowance £200 private practice computed at £250 and free transport and quarters Appointment for 3 years renewable and with option of being made pensionable from beginning if service satisfactory £40 each way provided for passage Candidate should be bachelor, aged between 25 and 33

Further information may be obtained from the Assistant Private Secretary (Appointments), Colonial Office Downing Street

Medical Officer required by the GOVERNMENT of the GOLD COAST

for service on the Takoradi Harbour Construction Works for one tour of 12 to 18 months service with possible extension Salary £1,000 to £1 200 per annum according to qualifications Outfit allowance of £60 on first appointment. Free quarters and passages and liberal leave on full salary Candidates also 0 to 40 should have a knowledge of Public Health work and Sanitation and Surgical experience No private practice allowed.—Apply by letter stating age, whether married or single, and experience to Messrs STEWART & McDONNELL, 6/7 Cowley Street Westminster S W 1

Hospital for Epilepsy and PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale London, W

ASSISTANT PHYSICIAN REQUIRED

The Committee of Management are about to appoint an Assistant Physician Candidates must be Fellows or Members of the Royal College of Physicians and Graduates of a University

Applications giving age and full particulars must be accompanied by copies of three recent testimonials and must reach me by 10th April

An Honorarium is attached to the post

H W BURLEIGH
Secretary and General Superintendent

Hospital for Epilepsy and PARALYSIS Maida Vale, W 9

Applications are invited for the post of HOUSE PHYSICIAN The salary is at the rate of £100 per annum and the appointment is for six months

The selected candidate will be required to take up duty on 1st May

Applications, accompanied by copies of three recent testimonials, should reach me by 19th April

H W BURLEIGH,
Secretary and General Superintendent

The Throat Hospital, Golden Square W 1

Applications are invited for the appointment of HONORARY SURGICAL REGISTRAR for which there are four vacancies

The applications should be sent in to me with copies of three recent testimonials on or before the 12th April

WM HOIT Secretary and House Governor

Shropshire Orthopædic HOSPITAL Oswestry

Wanted a WARD SISTER fully trained £60 per annum rising by £5 per annum or £60 for 2 years and free training in C S M M G after 2nd year —Apply to MATRON

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District	Town or District	Town or District.
CONTRACT PRACTICE.		
ENGLAND.	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	MARDY GLAMORGAN *(Workmen's Medical Scheme)*	LEEDS; EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs)*	OAKDALE MON *(Medical Officer for Medical Aid Association.)*	LINCOLN CITY AND COUNTY BOROUGH. *(Medical Officer of Health)*
WALES	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*	MORAY EDUCATION AUTHORITY *(Assistant School Medical Officer)*
ABERTRIDWR GLAMORGAN *Windsor Colliery (Medical Scheme.)*	TONDU & ABERKENFIG, GLAMORGAN *(Workmen's Medical Scheme.)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
EBBW VALE MON *(Workmen's Medical Society)*	**PUBLIC HEALTH.**	OLDHAM EDUCATION COMMITTEE *(Assistant Schools Medical Officer)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	BARNSLEY COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer)*	SELKIRKSHIRE *(Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*	SOUTHWARK METROPOLITAN BOROUGH. *(Tuberculosis Officer)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch
NATAL PROVINCIAL ADMINISTRATION GOVERNMENT HOSPITAL, DURBAN *(Senior Resident Physician.) (Senior Resident Surgeon.)*	Mr A. RADFORD M.C F.R.C.S. 5 & 6 4th Floor National Bank Buildings, Durban	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R MARSHALL ALLAN (Hon Sec Queensland Branch) Adelaide Street Brisbane	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon Sec. Victorian Branch), Medical Society Hall E Melbourne Victoria.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr R H TODD (Hon Sec New South Wales Branch) B M A Building 30-34, Elizabeth Street, Sydney N S W			WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon Sec. Western Australian Branch No 6, Bank of New South Wales Chambers St. George's Terrace Perth

Address 429 Strand, W C 2.
April 2nd, 1924.

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

Coton Hill Mental Hospital,
Stafford.

The Visiting Committee invite applications for the post of Male MEDICAL SUPERINTENDENT of the above Hospital

Salary £600 per annum with board, furnished quarters in the Hospital, and laundry

Candidates must be fully qualified medical practitioners and have had experience in mental hospitals Diploma in psychological medicine an advantage.

Applications, together with copies of not more than three testimonials, to be sent to the Chairman of the Committee not later than Saturday April 12th

Coton Hill 24th March 1924

Charing Cross Hospital,
London, W C

ASSISTANT SURGEON

The Council invite applications for the post of Assistant Surgeon to the Charing Cross Hospital.

Candidates, who must be Fellows of the Royal College of Surgeons of England should send in their applications together with copies of three testimonials to the undersigned not later than Monday April 7th 1924

PHILIP INMAN
Charing Cross Hospital House Governor
London W C 2

St. Chad's Hospital,
Birmingham.
For Paying Patients—100 Beds

RESIDENT MEDICAL OFFICER required (Male or Female) This post offers exceptional educational advantages.

The Medical Staff consists of thirty Consulting Specialists in all branches of Medicine. Salary £100 per annum with furnished apartments board (excepting stimulants) and laundry

Candidates must be fully qualified and registered and have previously held Resident Post.

Applications (marked R.M.O.) with full particulars of experience age etc. together with copies of recent testimonials, should be sent to the under signed not later than April 10th, 1924

DAVID J RICHARDS House Governor

Charing Cross Hospital,
London W C

MEDICAL REGISTRAR

The Council invite applications for the post of Medical Registrar Honorarium £150 per annum

A copy of the Regulations can be obtained from the undersigned to whom applications together with copies of three testimonials, must be submitted not later than Monday, April 7th 1924

PHILIP INMAN
Charing Cross Hospital House Governor
London W C 2

County Mental Hospital,
Rainhill

ASSISTANT MEDICAL OFFICER Age not to exceed 35 years Salary £300 per annum Emoluments £150 plus Civil Service War Bonus (at present £140 17s 1d.) Total value of appointment, £590 17s. 1d.) subject to a 3 per cent. deduction under the Superannuation Act.

The emoluments comprise partly furnished house light, coal and laundry valued for superannuation purposes at £100 per annum, and the balance of £50 will be paid in cash. Facilities for Laboratory and Research work

Applications, with testimonials and full particulars to be sent to the Medical Superintendent as soon as possible

Charing Cross Hospital,
London W C.

SURGICAL REGISTRAR

The Council invite applications for the post of Surgical Registrar Honorarium £150 per annum

A copy of the Regulations can be obtained from the undersigned to whom applications together with copies of three testimonials must be submitted not later than Monday April 7th 1924

PHILIP INMAN
Charing Cross Hospital, House Governor
London W C 2

Wanted at once, Assistant with view to Partnership in county town Midlands pleasant neighbourhood—hospital must be well qualified and energetic A very good opportunity for suitable man —Address No 1734 BRITISH MEDICAL JOURNAL Office, 429 Strand W C

Wanted, an indoor Assistant in a mixed Practice Private and Panel also Colliery in South Wales with view Ex H P or H S preferred Single Able to drive Car Salary £350 Scope for Surgery —Address, No 1730 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted –Outdoor Assistant, Co Durham Absolutely steady reliable, and energetic. Excellent prospects to good man R C preferred —Apply stating age and fullest particulars enclosing photo No 1737 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Part-time Work in London by M B (Camb), M R C S Experienced in General Practice, 3 years Hospital appointments — Address, No 1719 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted for Private Practice, London RADIOGRAPHER (M S R) experienced Electrotherapy and X ray and knowledge of massage. Particulars, salary required etc.— Address, 1721, BRITISH MEDICAL JOURNAL Office, 429, Strand W C 2

Wanted.—In or near Edinburgh or Glasgow, by M B Ch B Post graduate Student cyclist PART TIME WORK free most of week —Address No 1729 BRITISH MEDICAL JOURNAL Office 429 Strand W C.2

Assistant wanted (outdoor) end of April, English or Scotch energetic and keen Country and town practice Must have held hosp. appts, some gen prac experience preferred Age 25-30 Partnership contemplated suitable man — Add recent refs No 1712 B M J 429 Strand W C

Death Vacancy — Assistant, with view to PARTNERSHIP, wanted at once in large flourishing Practice near London Applicants should be about 35 years of age active and used to hard work A third share at 2 years purchase will be offered As Assistant be one Partnership £450 and small unfurnished house offered —No 1728 BRIT MED JOUR. 429, Strand W C 2

Expert Radiographer and CLINICAL PHOTOGRAPHER now at liberty Six years Hospital experience Accustomed Secretarial work Excellent testimonials — Address No 1607 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Indoor Assistant required in South Wales Colliery District Newly qualified man entertained Usual bonus Salary £300 per annum —Address giving full particulars age experience &c No 1740 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

L R C P and S (Ire), 27, requires afternoon WORK in London Free 2 to 5 p m daily Ex H S, H P and A M O Good Anæsthetist Experienced in private and panel Practice Ex British Army —Address No 1706 BRITISH MEDICAL JOURNAL Office 429 Strand W C

M B, Ch B (woman), wants indoor ASSISTANTSHIP London preferred Young (29) keen and energetic Nominal salary in return for good experience in general practice — Address No 1723 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Medical Officer with British Degree required immediately for Group of Rubber Estates in North Borneo Salary £750, rising by £25 annually to £800 per annum Passage out and home paid Plainly furnished quarters Three years agreement —Apply to the Secretary BRITISH NORTH BORNEO (CHARTERED) COMPANY 3a, Threadneedle Street London E C 2

Practitioner, aged 54, with many years experience both in hospital administration and general practice now disengaged would be glad to hear of some vacant MEDICAL POST administrative or otherwise Highest refs —Add No 1716 B M J 429 Strand

Woman, D P H, M D, etc, very capable and experienced desires TEMPORARY WORK immediately Would take post as Locum or Assistant —Address No 1715 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Dispenser Doctor's daughter, experienced (Hall cert) seeks post Good references —Address L N HARRIS 8 Sherburn Hall Co Durham

Capt THOMAS, R A M C, late M O VI Corps. at Tindenthal near Cologne wants the ADDRESS of same —Apply, H W SMITH 57 York Road Hove

Dispenser (lady), young, requires POST with doctor Good references and experience in book keeping and dispensing in panel and private practice Hall qualification — Address No 1722 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Doctors requiring Lady DISPENSERS should write to Mr J E WALDEN Westminster College 112 St. George's Road S W 1 (only address) No fees to Doctors 2½ years experience Daughters and other relatives of medical men always in training

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Secretary-Housekeeper — Lady 35 desires to hear of Doctor (preferably Nerve or Children's Specialist) requiring SECRETARY to live in a few months hence Salary not required —Address No 1717 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Secretary —Fully trained nurse, certificated shorthand typewriting and book keeping desires post as Secretary — Address No 1726 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

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Wanted — Ophthalmic LOCUM by M B D O M S ex H S (London) etc Highest references Free May 1st. —Address No 1713 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

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Locum Tenens wanted for a month Age 25-30 Surgical and general practice experience desired More permanent appointment if mutually satisfied —Address with full particulars and photograph if possible, No 1731 BRIT MED JOUR Office 429 Strand W C 2

Locum, experienced and reliable at present disengaged Good references and testimonials Abstainer Had own practice Parish work not accepted Surgeries days and week ends taken locally —Permanent address Medicus, 3 Wyndcliffe Road, Southsea, Portsmouth Hants

Middle-aged Doctor would take Holiday LOCUM duty Experienced highest references — Address OXON c/o 9 Lancaster Gate London W

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Apply to
Mr. W. S. ATKINS
(Late of ARNOLD & SONS, London)
43, BEDFORD STREET, STRAND, W.C 2.
Telegraphic Address
Positions Westrand London.
Telephone Regent 429

Wanted —Country Practice or PARTNERSHIP, North of England £1 200 to £1,500 a year Cumberland or Westmorland preferred but not essential Purchaser can negotiate at once —Apply No 4381 c/o PERCIVAL TURNER, 4 Adam Street Strand, W C 2.

Wanted —Good Practice of about £1,000 p a. with a good panel in non hilly district in South of Scotland or North of England Not scattered. Opposition not strong Country town near city would suit —Address, No 1703 BRIT MED JOUR. Office 429 Strand W C 2

Wanted —Practice or PARTNERSHIP London or within 9 miles £1 000 to £1 500 a year Panel immaterial, but preferred Ample capital available — Apply, No 3423 c/o PERCIVAL TURNER, 4 Adam Street, Strand W C 2

Wanted, middle and working-class PRACTICE, yielding about £1 000 to £3 000 a year in London or any good town Partnership entertained —Apply PEACOCK & HADLEY, 19 Craven Street, Strand, W C.2 (No charge unless sale effected)

Wanted —Practice or PARTNERSHIP in Home Counties £1 000 to £1 500 a year House 4 to 5 bedrooms Purchaser has capital available and can negotiate at once —Apply, No 4432 c/o PERCIVAL TURNER, 4, Adam Street Strand W C 2

Wanted by M B, Ch B, D P H Edinburgh a good-class PRACTICE or PARTNERSHIP within easy reach of London experienced Physician and Bacteriologist Good house with garden essen Advertiser is free to buy immediately —Add No 1609 B M J, Strand, W C

Wanted by M B., age 37, a middle and working-class PRACTICE of £1,500 or more with good panel in London or the South or Midlands Now free and can pay cash — Apply BLUNDELL & Co, 22 Craven Street Strand W C 2

Company forming to take over Nursing Home (London W 1) invites those interested to write in confidence —Address No 1738 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Exceptionally good Nursing HOME in country dist 10 miles from London for SALE Large connection Principally Rest Cures Nerve and slight Mental Cases. Imposing house handsomely decorated and furnished throughout 16 bedrooms (some very large) 4 reception large billiard or dance room 2 bathrooms ample staff accommodation electric light central heating delightful grounds (2½ acres) garage etc Takings average £4 000 per annum Lease 42 years. Inclusive price with goodwill £9 000 No agents — Add No 1704 B M J Office 429 Strand W C 2

For Disposal —A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised —Full information free on application to 4 Adam St, W C.2

For Sale, a Cash and Panel PRACTICE in N E London Cash last year £522 No midwifery Panel list just over 2 500 House 9 rooms and garden lease about 17 years to run must be bought. Offers invited —No 1720 BRITISH MEDICAL JOURNAL Office, 429 Strand W C

For Sale —Industrial Practice, Lancashire Panel, colliery works appointments and general practice Receipts average over £2 750 Price asked £4,000 including book debts. Terms arranged genuine purchaser Principals only —Address No 1727, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2

For Sale —Good Practice in important and growing town on the North East coast averaging with panel about £1 000 good house and surgery can be sold with Practice if req Prem for Practice £1 800 —Apply, ARCHER, PARKIN & TOWNSEND Solicitors, Stockton-on Tees

For Sale —N E London Rapidly increasing PRACTICE Panel 500 Private income £500 cash No midwifery plenty of scope Night work nil Compact house rent £ 0 Present owner retiring — Address, No 1732 BRITISH MEDICAL JOURNAL Office 429 Strand W C

For Sale —Unopposed PRACTICE (£850) with good small house in favourite seaside holiday district in South West Excellent golf &c Moderate price — Address No 1620 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Hants—Nucleus of a General PRACTICE near the Coast Receipts £2 8 Fees 7/6 upwards Population 5,600 No resident opposition Nice house rent £15 Premium £300—Quote Folio 654 Mr W S ATKINS Medical Transfer Agency 43 Bedford Street Strand, W C 2

Immediate—Good growing Medical PRACTICE for Sale on shores of Morecambe Bay House available—Apply, DALRYMPLE Bolton-le-Sands Carnforth

London, E—Cash and Panel PRACTICE Receipts £1,600 Panel 600 House in central position rent £10 p.a Premium £850—Quote Folio 655 Mr W S ATKINS Medical Transfer Agency 43 Bedford Street Strand W C 2

Lancashire—Large City—Old-established Private and Panel PRACTICE Receipts over £3,100 Panel over 1,900 Expenses small Freehold house excellent position Premium payable part own and remainder by instalments. LEE & MARTIN Ltd 41 Temple Row Birmingham

Liverpool-Partnership worth £500 per annum Preliminary ASSISTANTSHIP Old-established, good middle class Practice Large panel Single Englishman or Scotsman essential—LEE & MARTIN Ltd 41 Temple Row Birmingham

Staffordshire-Old-established town and country PRACTICE—Receipts £1,100 Panel over 500 Appointments Scope Freehold house ample accommodation, good garden Educational facilities—LEE & MARTIN, Ltd 41 Temple Row Birmingham

Staffordshire—Two branches in populous adjoining centres Plenty of scope Housing developments and increasing population Excellent opening Panel 350. Small premium—LEE & MARTIN Ltd 41, Temple Row Birmingham.

Midland Country Practice about £900 a year Old-established No resident opposition Appointments about £65 Panel 550 Good house with 3 recep. 4 bed, bath *Surgery etc Garden and Garage* Rent £45 p.a. on lease Premium £1,350 Apply No 7520 c/o Mr PERCIVAL TURNER, 4 Adam Street Strand W C

Manchester Suburb—Old-established in pleasant district *Excellent corner* house specially built Garage 2 cars Rent £90 on lease. Receipts £1,400 Small panel Scope for Surgery Price 1½ years purchase—MANCHESTER MED & SCHOLASTIC ASSOCIATION Ltd., 88 King Street

North of England, good-class general seaside PRACTICE established 5 years. Excellent house semi-detached six rooms Moderate rental with lease £55 per year Average receipts for three years over £1,700 no panel but panel patients could be easily obtained if desired Opposition unusual Excellent scope for Ophthalmic or refraction work. Prem £2,300—Apply No 2113 REYNOLDS & BRANSON Ltd 13 Briggate Leeds

North Wales—Seaside Resort.—Increasing NUCLEUS for urgent disposal Receipts £8 weekly Scope for panel House rent £65 Premium £200 payable by instalments—Address No 1735 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Required at once, Practices and PARTNERSHIPS—Mr W S ATKINS (late of ARNOLD & SONS, London) has a large number of Clients who are seeking Practices and Partnerships and wish to settle down at once—Send full particulars in confidence to ATKINS Medical Transfer Agency 43 Bedford Street, Strand W C

South Yorks, large growing town, compact private middle and working class PRACTICE established 20 years number of panel patients chiefly *non-dispensing*, 1,100 opposition—one near no other resident within one mile Average receipts for three years about £1,250 premium 1½ years purchase good house semi detached separate entrance to surgery with waiting room and dispensary Rent £47 room for garage store at present for motor cycle.—No 2109 REYNOLDS & BRANSON Ltd 13, Briggate Leeds

To Purchasers—Do not Buy without expert assistance With 40 years experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4 Adam Street Strand W C 2 Telephone: Gerrard 399 Telegrams: Epsomian London

Yorks Seaside Resort—Good PRACTICE near front Nice house £60 Average receipts over £1,100 Panel 810 Cottage Hospital Price 1½ years purchase or near offer for quick sale—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd. 88 King Street

Wanted Partnership or PRACTICE with efficient introduction on South Coast good class, small or no panel Good house and garden are desired Income £1,000 per annum or over *Capital for cash sale available.*—Reply with full details in strict confidence to No 1204 BRIT MED JOUR Office 429 Strand W C 2

Wanted by experienced Practitioner (M.D Lond) Country PARTNERSHIP in PRACTICE in Sussex Surrey, or Hampshire Capital available.—Address No 1701, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Lancashire—Partnership worth £1,100 to £1,200 5 panel and 3/5 private *in industrial area with scope Good house* available Purchaser should have necessary capital 1 remium 1½ years purchase—Address No 1617 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Partnership wanted shortly, South (preferably coast) Early or ult mate succession Age 33 keen to succeed—Address No 1709, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Partnership wanted within 50 miles of Manchester by M B Ch B aged 28 Exempt 3 years experience in general Practice Capital available—Address No 1714, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Partnership wanted in large Provincial Town; well received by Patients Englishman Good cash price for sound proposition willing to travel for interview—Address details in confidence to No. 1718, BRITISH MEDICAL *JOURNAL Office 429 Strand W C 2*

Partnership country Practice 8 mare £650 Must increase no car house and garden Good society near good towns Small means advantage—Address, No 1725 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Partner(Sleeping), registered, with £800—£800 capital to invest in a firm of West End Tailors well known to the profession to develop colonial and foreign trade If desired would turn into a private limited company—Address No 1736 BRIT MED JOUR Office 429 Strand W C

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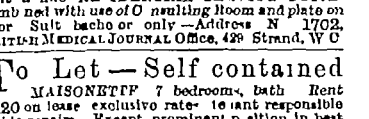
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Govt Surplus—Record Syringes 2 c.c. 5/, 5 c.c. 7/6 10 c.c. 10/ Wool 2 oz comp pkt. 1/4 lb Plaster 1 spools 10d [illegible] om 12 Pot Catgut 6 tubes 6d n N W 10

Sale Milne Murray's Forceps £2; Brunton's auroscope 10/- Student's microscope slide cabinets £3 New haemocytometer £2 Amputation case 10 Handbag £1; Dissecting case 5/ small sterilizer 10/; Crocker skin atlas, 8 sections Offers—No 1707 B M J 429 Strand W C

For Sale—House and 8 acres of ground 4 reception 8 bedrooms Dairy storerooms, kitchens and numerous out houses Bath h and c Garden and [illegible] lawn orchard and [illegible] Two streams



Queen Anne Street—Unique opportunity of acquiring at very moderate rent a fine RESIDENTIAL SERVICE SUITE comprised with use of Consulting Room and plate on door Suit bachelor only—Address N 1702, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C

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City of Manchester

BAGULEY SANATORIUM. (333 Beds)

THIRD ASSISTANT MEDICAL OFFICER.

The Public Health Committee invite applications from qualified medical men for the position of Third Assistant Medical Officer in the above Institution

Every applicant must be a registered Medical Practitioner under forty years of age and unmarried.

Preference will be given to applicants with previous hospital experience; a knowledge in bacteriological methods is desirable

Salary £400 per annum which includes emoluments (board, lodging, and laundry) valued at £91 13s Od per annum, with bonus in addition, which at present amounts to £83 8s Od per ann. The commencing cash remuneration is therefore £391 15s Od

Every application stating fully the training, qualifications, and experience of the candidate and his age with copies of three recent testimonials and endorsed on the envelope "Medical Officer Baguley Sanatorium," must be addressed to the Medical Officer of Health Civic Buildings 1 Mount Street, Manchester only and not to members of the Committee or Council, not later than Saturday, the 12th April, 1924

The gentleman appointed will be required to contribute to the Corporation Superannuation Fund and to execute the deed of service Canvassing in any form, oral or written, direct or indirect is prohibited

Town Hall, Manchester. P. M. HEATH, Town Clerk.

24th March, 1924

West London Hospital,

Hammersmith Road, W 6

Applications are invited for the post of HONORARY MEDICAL REGISTRAR for a period of one year eligible for re-election annually The holder of the post must hold no appointment at a general teaching hospital during his term of office The duties include the preparation of the Medical Registrar's report for the year and the supervision of the records of cases

The candidate appointed must be available as substitute for the Physicians and Assistant Physicians when required and be prepared to undertake such teaching for the Post Graduate College as may be desired

Candidates are required to be registered under the Medical Act to send applications so as to reach me not later than Wednesday 23rd April next, to attend the Medical Council Meeting on Friday, 25th April, at 4 3 p m and prior to that date to call upon and send copies of application and testimonials to each member thereof to abstain from canvassing but nevertheless to send copies of application and testimonials to each member of the Board of Management at whose meeting on Tuesday 29th April at 5 p m., candidates must be in attendance

H A. MADGE Secretary

Royal Mineral Water

HOSPITAL, Bath

Notice is hereby given that a vacancy in the office of PHYSICIAN to this Hospital will be filled at a General Court of the President and Governors to be held on Thursday May 1st at 12 o clock noon

The conditions of the appointment may be seen at the Hospital

Candidates who must be Graduates in Medicine of a University of Great Britain or Ireland are requested to send their applications, with not more than three testimonials to the Registrar before April 2 'rd

Personal canvassing is prohibited.

31st March 19 4

Royal Victoria and West

HANTS HOSPITAL, Bournemouth.

The Board of Management will, after the expiration of one month proceed to appoint an ASSISTANT HONORARY BACTERIOLOGIST & ASSISTANT to the VACCINE INOCULATION DEPARTMENT

Applications stating qualifications age and experience should be sent to the undersigned by 8th April 1924

Canvassing personally or otherwise will disqualify

By order of the Board of Management

GORDON M SAUL, Secretary

28th March 1924

The Mental Hospital,

Wells Somerset

ASSISTANT MEDICAL OFFICER required (Male) Single must be legally qualified and registered Previous experience not essential A knowledge of Laboratory work a recommendation Salary £300 per annum with board lodging, washing and attendance subject to statutory deductions for superannuation Fund

Applications to be sent to the Medical Superintendent stating age and with full particulars marked in left hand top corner "A M O"

Metropolitan Hospital,

Kingsland Road, E 8

There are vacancies for the following —

(a) A SENIOR HOUSE PHYSICIAN,
(b) A SENIOR HOUSE SURGEON
(c) A JUNIOR HOUSE PHYSICIAN,
(d) A JUNIOR HOUSE SURGEON,
(e) Two CASUALTY OFFICERS

(Male.) Salary £100 per annum

Appointments in the first place will be for a period of six months dating from 1st May, 1924

Candidates must possess a registered Medical and Surgical qualification of the United Kingdom.

Applications, and copies of three recent testimonials, together with a certificate of ability to administer Anæsthetics from a teacher of a recognized Medical School, to be in the hands of the undersigned not later than Wednesday, the 23rd April, 1924

Two members of the Resident Staff are candidates for the two Senior Appointments

HERBERT F. RUTHERFORD, Secretary & House Governor

Metropolitan Hospital,

Kingsland Road, E. 8

The General Committee are prepared to receive applications for the appointment of an HONORARY ANÆSTHETIST (Male)

Candidates who must be Medical Practitioners registered in this Country will be required to call upon Members of the Staff

Applications with copies of three recent testimonials must reach the Secretary at the Hospital not later than first post on Wednesday the 23rd April 1924

Bethlem Hospital,

Lambeth Road, S E

Wanted, 2 RESIDENT HOUSE PHYSICIANS (gentlemen, unmarried) recently qualified in Medicine and Surgery The term of residence is for six months from 1st May, apartments complete board and laundry being provided and an honorarium at the rate of £25 per quarter will be paid. They will be under the direction of the Physician Superintendent, to whom they must present themselves previous to the date of election

Copies of the duties can be obtained from the undersigned and applications with testimonials are to be forwarded to the Treasurer Bridewell and Bethlem Hospital New Bridge Street E C before 28th April endorsed 'House Physician"

Candidates must attend at Bethlem Hospital on Wednesday 30th April at 11 30 a m when the Sub Committee will make the appointment.

Bridewell Hospital, New Bridge Street, E C 4 JOHN L WORSFOLD Clerk, &c

April 1924

Royal Northern Hospital,

Holloway London N

Applications are invited for the posts of HOUSE PHYSICIAN and HOUSE SURGEON The appointments are for six months from the 15th May Salary at the rate of £75 per annum, with board, residence, and laundry

Applications with copies of testimonials, should be sent by the 19th April to the undersigned from whom forms of application and rules can be obtained

GILBERT G PANTER, Secretary

To Medical Practitioners —

The PARISH COUNCIL of TYRIE Aberdeenshire invite applications for the post of MEDICAL OFFICER who must reside in the village of New Pitsligo The nearest resident doctor being 4 miles distant the situation affords excellent prospects for a qualified practitioner

Applications with testimonials, to be lodged by 17th April with GEO LEITH, Parish Council Office, Clerk to Parish Council. New Pitsligo Aberdeenshire

East London Hospital for

CHILDREN & DISPENSARY FOR WOMEN, Shadwell, E 1

Applications are required for the post of AFTERNOON CASUALTY OFFICER (Male) non resident Salary £120 per annum, with tea The post is for six months subject to re-appointment by the Board Applicants must be duly qualified and registered and will be expected to attend the Meeting of the Selection Committee

Applications, with testimonials to be sent to the undersigned not later than Saturday, April 19th, 1924 W M WILCOX, Secretary

East London Hospital for

CHILDREN & DISPENSARY FOR WOMEN Shadwell E 1

Applications are invited for the post of HOUSE PHYSICIAN (Male) The appointment is for six months from May 1st, 1924 Board, residence and laundry are provided. Salary at the rate of £125 per annum

Applications with testimonials to be sent to the undersigned not later than Saturday, April 19th 1924. W M WILCOX, Secretary

Tunbridge Wells General

HOSPITAL.

Wanted HOUSE SURGEON Candidates must be unmarried and duly qualified in Medicine and Surgery (Two residents.) May be required to Lecture to Nursing Staff. 86 Beds In patients 1923 1,304 Surgical cases largely predominate Major operations 400 yearly V D Clinic

Salary £160 per annum, with board, residence, &c in the Hospital

This Hospital is approved by the University of London for the purpose of the M.D and M S Examinations

Applications stating qualifications, with certificates of registration and copies of testimonials, should be sent to the undersigned on or before Wednesday, April 9th, next. Appointment to be entered into May 1st

J J WEBB, Secretary

General Infirmary and

DISPENSARY Pontefract.—(10 beds)

Applications are invited for the post of RESIDENT SURGICAL OFFICER (male single) Candidates must be fully qualified As the greater part of the surgical work is performed by the Resident Medical Officer applicants must produce evidence of their experience in practical operative surgery A knowledge of X ray work desirable Salary £400 per annum, with board residence and laundry Applications with copies of recent testimonials, should be sent not later than 14th April to H HOLMES, Ropergate Pontefract, from whom further particulars may be obtained

The Liverpool Eye and Ear

INFIRMARY, Myrtle Street

Applications are invited for the post of Honorary ASSISTANT AURAL SURGEON to the above Hospital

Applicants who must attend three days a week, should send copies of three testimonials, and all other essential details, to the Honorary Secretary W W HIGGIN Esq 11 Chapel Street, Liverpool

West End Hospital for

NERVOUS DISEASES

Applications are invited from British male candidates for the post of CASUALTY PHYSICIAN Remuneration £200 p.a. Afternoon attendance at Out-Patient Department five days a week. Candidates must have Neurological experience.

Applications with copies of three testimonials should be addressed to the undersigned from whom further particulars are obtainable at 73 Welbeck Street, W 1 not later than Monday 28th April, 1924

J P WETENHALL, Secretary

Willesden General Hospital,

Harlesden Road, N W 10 (75 Beds)

Wanted, HOUSE SURGEON, to take up duties 1st May Male unmarried. Salary at the rate of £100 per annum with board residence and laundry in addition The appointment is for six months Every candidate must be registered under the Medical Acts

Applications stating age and other particulars, with copies of testimonials (not more than three), are to be sent to the Secretary not later than Wednesday, 16th April

Hospital for Consumption

AND DISEASES OF THE CHEST, Brompton, S W

The Committee of Management invite applications for the post of HOUSE PHYSICIAN The duties include work in the Out patient Department as well as in the Wards

Applications with testimonials must be sent in not later than Wednesday, 16th April, 1924 addressed to the Secretary

The appointment is for six months commencing on 1st May, with an honorarium of £50

FREDERICK WOOD Secretary

April 1924

Herefordshire General

HOSPITAL.

HOUSE SURGEON required for this hospital. Twelve months appointment (renewable) Salary £200 per annum with board residence and washing Candidates (unmarried and qualified) should send in their applications before 14th April, with not more than three testimonials to the undersigned, from whom further particulars may be obtained

31st March, 1924 O L BRADLEY.

Northampton General HOSPITAL.

HONORARY PHYSICIAN

The Board of Management invite applications for the post of Honorary Physician which will be vacant on the 6th May next

Candidates must be graduates of Medicine of one of the Universities of the United Kingdom and Fellows or Members of the Royal College of Physicians of London Provided that the Board may subject to confirmation by a Quarterly or Special Court, appoint provisionally as Physician for twelve months any medical candidate otherwise qualified who is neither a Fellow nor a Member of the Royal College of Physicians of London on such candidate undertaking to become a Member of the Royal College of Physicians of London during the period of his provisional appointment

Full particulars of the appointment can be obtained from the Secretary Superintendent and application with testimonials must reach him no later than the 2nd April The election will take place on Tuesday the 8th April

Canvassing is not allowed

C. S RISDER

9th March 1924 Secretary-Superintendent.

Free Eye Hospital, Southampton

Required for the month of May 1924 LOCUM TENENS OPHTHALMIC HOUSE SURGEON For particulars apply E T KNIGHT Secretary

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GLOS —Small Cash G P situated in Country Town Panel Income nearly £700 p.a. Prem £1 050 Scope

LONDON N E —DEATH VACANCY Old-established G P Working-class district main road Income about £800 p.a. Panel over 380 Small house can be rented at £45 p.a Premium £900 Scope for increase

NORTHERN TOWN —Old-established non panel PRACTICE producing nearly £4,500 per annum Three appointments Premium £5 000 House would be let Excellent opportunity for one keen on surgery

NURSING HOMES —We have several Nursing and Convalescent Homes situated in London and Provinces

DERBYSHIRE —Old established G P Panel over 600 Income nearly £800 Premium £1 000 Scope for increase

LONDON N W —Old-established G P Panel nearly 400 Average cash receipts £950 p.a. No midwifery Scope Premium £3 000 to include freehold house

LANCS —Old established G P situated in country town Very pretty country Large house (6 beds.) garden and garage Panel over 800 Two appointments. Income £1 400 Premium to include house £4 000

YORKS — Old established Country Town G P Panel 1 600 Income £2,500 Three appointments *Detached house with garden and garage* to let on lease Premium £3 500

Purchasers stating their requirements will be sent particulars of suitable Practices and Partnerships for sale, free of charge

Please address all communications to the Manager Mr W H. GRANT Medical Transfer and Insurance Department.

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1 LONDON E —A Women's and Children's PRACTICE situated in a thickly populated district Receipts £14 per week No midwifery Ample scope Excellent house containing seven bed rooms &c large garden Rent £ 2 per annum Premium £1,000 —Quote Folio 644

2 YORKSHIRE —A General PRACTICE situated in a country district Receipts £2 500 Panel 1,500 Fees 5/ upwards Excellent house &c Rent £52 p.a Premium £3,500 —Folio 645

3 SUSSEX [illegible]

4 S [illegible]

at a seaside town Receipts over £4 000 Fees 5/- upwards. Splendid house in good position with garden &c Rent £10 / per annum Premium 1½ years purchase —Quote Folio 646

5 LONDON W —A General PRACTICE situated in a good district Receipts nearly £1,000 Panel 1 300 Fees 5/ upwards No midwifery plenty of scope Nice house in central position containing 4 bedrooms &c Rent £110 per annum Premium £1 800 —Quote Folio 651.

6 N W COAST —A General PRACTICE situated at a favourite seaside resort. Receipts about £3 000 Fees 5/6 upwards Plenty of scope Excellent house containing 6 bedrooms &c Rent £75 p.a Premium 4 000 —Folio 639

7 LONDON, S W —A middle-class PRACTICE situated in a growing suburb Receipts £600 *ample scope small panel House containing 6 bed* rooms, &c Rent £60 p.a Prem. £900 Folio 650

8 DERBYSHIRE —A General PRACTICE situated in an industrial district. Receipts about £800 Panel 600 Good fees Nice house containing 8 bedrooms &c at rental. Premium £1 000 — Quote Folio 653

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An Accountant's certified report is required in respect of every practice or partnership the disposal of which is undertaken by the Agency

The commission chargeable in respect of any practice placed exclusively in the hands of the Agency for transfer has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being £50

NO CHARGE IS MADE TO PRINCIPALS FOR THE INTRODUCTION OF LOCUM TENENS OR ASSISTANTS

Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges

PRACTICES AND PARTNERSHIPS FOR SALE

1 RIVERSIDE TOWN —Within 50 miles of London —PARTNERSHIP A one-third share (with succession to a half in five years) is offered in an old-established general Practice situated in a clean prosperous town Income for last year £2 000 and rapidly increasing Fees from 5 upwards About 20 midwiferies at 5 gns A house can be obtained on lease at about £70 a year Good sport and excellent schools Purchaser must be young and energetic Premium £1 000 payable £500 cash and balance by instalments

2 SOUTH WEST OF ENGLAND —COUNTY TOWN —A ONE-THIRD SHARE producing £800 is offered in a good-class non panel and non-dispensing Practice with a considerable amount of surgical work There is a good Hospital in the town and the incoming partner (who must hold the F R C S) will eventually be elected to the Staff Premium £1 600

3 SOUTH SEA ISLANDS —In a Capital City a well-established lucrative and increasing PRACTICE averaging over £1 200 per annum Good climate malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards Midwifery from 5 guineas Dispensing optional Practice can be worked on foot Good bungalow residence in excellent position with ¼ of an acre of garden Electric light etc Rent £10 a month on lease Premium £800 Income Tax 1/ in the pound over £500

4 MONMOUTHSHIRE —SMALL TOWN —PARTNERSHIP A one third share for disposal The patients are of all classes Income for the last financial year £2 229 this being a drop on the average due to strikes and lock-outs There is a panel of over 2 000 and several Collieries pay at the rate of 2d in the £1 on the men's wages Fees 2/6 and 3/6 visits 2/6 to 7/6 medicine extra Very little midwifery No motor-car is required Small, but convenient house rent £40 Premium £1 250 half by instalments

KENT —LARGE TOWN —PARTNERSHIP —A third share (with succession to one-half in 5 years) is for disposal in an old-established Practice Average income for the last 3 years £4 800 No appointments Visits 3/6 upwards Midwifery 2 to 3 guineas about 90 cases Good schools Purchaser who must be energetic and fond of work must accept a preliminary Assistantship for one year Premium one and half years purchase payable chiefly by instalments

6 DERBYSHIRE —HOSPITAL TOWN —Old-established PRACTICE held 13 years by present Incumbent who is relinquishing on account of ill health Cash receipts for the past 3 years average £3 000 per annum including about £1 500 from panel Fees 3/6 to £1 1/0 About 50 cases of midwifery a year at 2 to 5 guineas Centrally situated house (2 reception rooms, consulting and waiting rooms bedrooms bathroom, etc) on lease at £100 a year Premium 1½ years purchase Good scope for surgery and Vendor is on the staff of the Hospital

7 LONDON —RIVERSIDE SUBURB —Old-established good class non-dispensing PRACTICE Steady average income of over £1 800 Fees 5 to 1 guinea About 12 cases of midwifery a year at 5 to 10 guineas Excellent detached house with good garden rent £130 Lease 21 years Very efficient introduction to suit purchaser's wishes Premium £3 000

8 ESSEX —MARKET TOWN within 20 miles of London Old-established General PRACTICE comprising all classes of patients and held by the Vendor many years Steady average income of about £1 375 No appointments Panel of 500 Advice and medicine 3/6 Visits 5/ 10/ to £1/1/0 About 20 midwifery cases a year at 4 to 8 guineas Very convenient corner house with large garden. Rent £156 Premium £2,000 payable part by arrangement

9 WEST LONDON —Old-established mixed general PRACTICE Income for the last year approximately £3 000 including panel of 400 Advice and medicine 2/ upwards Visits 3/6 to 5/ About 6 midwifery cases a year at from 2 to 10 guineas Ten roomed house with small garden on lease Rent £100 Partnership introduction for 12 months or longer if desired Premium £4 000

10 SOUTH WEST OF ENGLAND —LARGE TOWN —Very sound middle and working-class PRACTICE held nearly 20 years by present incumbent who is relinquishing on account of ill health Average cash receipts over £1 200 a year including several small appointments and a panel of over 1 300 Visits 3/6 to 10/6 Midwifery from £3/3/0 about 30 cases yearly Very good house specially built for doc or contains 2 reception rooms waiting room consulting room surgery with separate entrance, 5 bedrooms, etc Garden Premium £1 800

11 INLAND HEALTH RESORT —Old-established practically unopposed PRACTICE in very pleasant town (resident population 1 400 which is much augmented by visitors) amidst beautiful scenery Estimated income nearly £1 800 a year including appointments of £50 and panel of 500 Visits up to £1 1s 0d Very little midwifery Excellent residence in its own grounds of ¾ of an acre Ample accommodation Price £3 000 (£2 500 on mortgage at 4 per cent) Premium for practice £3 000 Exceptional future prospects Tennis golf hunting, shooting etc

12 NORFOLK —Unopposed Country PRACTICE Very old-established and situated in a very pretty part of the County Practice is for immediate disposal owing to the ill health of the Vendor Receipts for the past 3 years average £1 500 per annum including appointments and panel of about 1 000 Very little midwifery Good house with ample accommodation Small garden Rent £54 Premium to prompt purchaser £1 450 Sport of all kinds tennis club etc Efficient introduction given

13 PARTNERSHIP —A THIRD-SHARE is offered in an old established general Practice situated in a residential suburb of South-east London Income for the immediate past year approximately £2,200 Practice offers large scope with the aid of a suitable partner No appointments Panel of 70 Fees from 3/6 upwards A few midwifery cases from £3/3/0 Choice of houses or suitable rooms can be secured Premium 2 years purchase Cambridge Graduate preferred

14 PARTNERSHIP —KENT —A HALF SHARE of an old-established first-class unopposed Country Practice amidst pretty surroundings Worth about £1 600 per annum including panel about £450 and Union and Vaccination appts £50 A number of country houses farmers, shopkeepers etc Suitable arrangements can be made as regards a house Sport of all kinds cricket tennis etc hunting Premium for share 2 years purchase Excellent scope

15 FAR EAST —THREE MEDICAL OFFICERS REQUIRED on Railways Salary about £600 a year increasing annually Three years engagement First-class passage out and home Age 25-30 Scotchmen preferred Personal application, if possible, to Bovril Medical Agency

ASSISTANTS WANTED

1 SOUTH DEVON —Country Practice Outdoor £350 with rooms and attendance Applicants should be experienced in Midwifery able to drive a car or ride a motor-cycle and if possible hold the D P H

2 WORCS —Good mixed Practice with Surgical work Outdoor £500 Applicants should be single for preference and age about 30

3 LANCS —Non panel Practice with a good deal of Surgical work Applicants should hold the F R C S Partnership later if satisfactory

4 STAFFS —Indoor £300 Mixed private and panel Practice Cyclist preferred

5 LONDON S E —Outdoor £350 with half an unfurnished house and quarter cash takings and half Midwifery fees Experienced and aged about 30

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Death Vacancy—London, E About £800 a year Cash and Panel PRACTICE. Old-established Panel 700 Nice house on lease Rent £40 Premium £850—Apply No 7519

Home County—Partnership in very old-established Practice share producing about £1 000 a year Good panel and appointments—Apply No 7505

South Coast — Partnership Share about £800 a year Good fees Partner should be about 35 and a good all-round man—Apply No 7440

Manchester—Nearly £2,000 a year Good old-established Large Panel. Very few midwifery cases Small house Rent £42 Moderate premium—Apply No 7360

Within 20 miles of London—Old-established PRACTICE for disposal, about £850 p a Panel 5 to 600 Visiting fees 3/6 to 10/6 Consulting No mid but ample scope Good house to rent 3 recep surgery etc 5 bedrooms good garden.—Apply No 7510

Midland City—About £1,400 to £1 500 p.a Cash and Panel Old established No midwifery Panel about 1,700 Corner house, good accommodation. Rent £35—Apply No 7515

West County—Partnership About £2,800 a year Very old established. Panel 800 Good fees Quarter or one third share for disposal. Very moderate premium Apply No 7500

Riverside Suburb—Nucleus about £500 a year Small panel Fee 5/ to 7/6 Increasing district Good house and garden. Apply No 7474

Open Air Sanatorium, £6,000 a year Old-established Splendid premises on lease. Every investigation Net profits over £1 500 Premium very moderate. Personally known.—Apply No 7426.

Scotland — Seaside Resort About £3 800 a year Panel 850. Good fees Very few midwifery cases Cottage Hospital Nice house and garden—Apply No 7494.

Midlands—£800 a year, Industrial Town. Panel 850 easily worked, no Car House with large garden lawn and orchard Sell or Let Premium for practice £1,000—Apply No. 7483

Northern Town—About £1 200 a year Vendor retiring Appointments £260 Panel 800 Good house—Apply No 7449

Cheshire — £3,500 a year, PARTNER wanted Good Suburb of large Town with Hospital Good fees Panel £1 000 a year Good house available. Half share for sale—Apply No 7444.

Wales Coast—Over £900 a year Good general PRACTICE Small panel Good house and large garden Residential Seaside Resort. Prem. £1000—Apply No 7419

Eastern County — About £800 a year Unopposed. On rail. Panel over 500 Detached house on lease Schools near Personally known. Premium 1½ years purchase.—Apply No 7455

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1 GOOD CLASS PRACTICE in Hospital Town within ½ hour West Receipts over £2,200 a year Visits 5/ to 21/ med extra Capital family residence and grounds can be leased Efficient Partnership introd Prem £3 000

2 COAST TOWN PRACTICE (Scotland) of £1,800 including appts and panel of £600 safe of transfer Hospital Convenient residence at low rent Price if sold this month £1 250

3 VILLAGE PRACTICE on the S W Coast, returning about £900 a year Quite unopposed Good summer season golf etc Price for House and Practice only £1750

4 HOME COUNTY Country PRACTICE averaging about £1 200 a year situate in a very pretty district within 2½ miles Panel 900 Appts over £100 Old fashioned house with land and garage on long lease Prem. £1 800

5 CITY PRACTICE averaging £1,250 including £900 from appts and ready money from good fees Residence imperative Convenient premises on lease Vendor retiring will accept £1 250 from suitable successor

6 *LEICESTERSHIRE BORDERS—PRACTICE* in small industrial town with good country around Returning about £800 Panel 850 Ample scope for active man Very nice house with good grounds an l garage Rent on lease £70 Premium £1,000

7 SEAPORT TOWN—Old estab PRACTICE held by Vendor many years and averaging about £1,500 a year over £600 being from Panel and appointments Very considerable scope for active man of ability the opposition being of no serious import Convenient residence on outskirts and admirably situate can be leased or bought Premium 1½ years purchase

8 WANTED by married man of experience and with capital of £4,000 PRACTICE of £1,500 to £2 000 a year in pleasant locality within 60 miles of London

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FOR SALE.

1 SOUTHERN COUNTY—PARTNER wanted for town and country Practice Receipts about £2,000 p a Panel and appointments about £850 House or rooms to be selected Prem for half or third share 2 years purchase

2. MIDLAND CITY—Cash and Panel PRACTICE No booking Receipts £1,400 to £1,500 p.a Panel 1,700 No midwifery Convenient surgery with good living accommodation Rent £35 Good residence available if required

3 NORTH OF ENGLAND — PARTNERSHIP with succession in two years Total receipts average over £4,200 p a Half share for Sale now at 1½ years purchase

4 SOUTH WALES—Seaside Town Practically unopposed PRACTICE Receipts £1,700 a year Panel 1 400 Good house and garage Lease (75 years) for sale cheap Premium £2 000

5 NORTH WALES—PARTNER wanted for middle and working-class Practice. Country district Total receipts £3 300 p.a., mainly from panel and appointments. Good house and garden Rent £40 Opposition slight Premium for a third share £1 700

6 EAST LONDON—Cash and panel PRACTICE Total receipts (main and branch surgeries) £2,700 Panel 3 000 Eight roomed residence for sale Branch surgery (lock up) doing £1 000 a year Panel 1 000 Sold separately if desired Premium 1½ years purchase

7 SOUTH LONDON—General and Panel PRACTICE Receipts £1,700 p a About 2 000 panel patients. Good residence Rent £50 long lease Separate surgery, small rent Premium £2 800

8 LONDON W—General and Panel PRACTICE yielding £1,000 a year Panel 1 300 Plenty of scope House on lease Premium £1 800

9 NORTH WALES—Town and Country PRACTICE Receipts £550 p.a Small Panel Commodious residence large garden etc Rent £50 Premium £650

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LONDON, S.W.—(11) Old-established good-class non-dispensing PRACTICE averaging over £1 800 per annum, in first-rate residential district No appointments Small panel Very good detached house (4 bed and 2 attics) Garden half an acre. Premium about £3 000

SOUTH OF ENGLAND.—(12) PARTNER required in very sound old-established Practice in Seaport Town Panel under 2 000 Share worth £700 to £800 at two years purchase Partner must be keen and energetic and not much over 30

HOME COUNTY.—(13) Old-established Country PRACTICE between £850 and £900 in beautiful residential neighbourhood Panel 1-5 Excellent detached house (5 bedrooms 3 attics) Lovely garden with tennis lawn Educational facilities Premium practice and house £5 000

COUNTY DURHAM.—(14) Well established unopposed Country PRACTICE near important Town Income between £950 and £1 100 per annum Panel about 700 House to rent Moderate premium

ESSEX.—(15) Well-established middle class PRACTICE, averaging £657 per annum in pleasant district Panel 400 Excellent double fronted house (5 bedrooms) with good garden Premium £900

MIDDLESEX.—(16) PARTNER required (after preliminary Assistantship) in very old-established and lucrative practice over £4.500 per annum in industrial district Panel 4 000 Small house (4 bedroom) Rent £52 Premium one third share two years purchase

SOUTH OF ENGLAND.—(17) PARTNERSHIP in an old-established PRACTICE of £2 000 in beautifully situated Country Town Panel 1 100 Very good educational advantages Cottage Hospital One-third or one half share at 2 years purchase

LONDON, E. DEATH VACANCY.—(18) Cash and Panel PRACTICE over £800 in thickly pop district Rent of House £45

SOUTH OF ENGLAND.—(19) Seaport Town PARTNERSHIP in old-established Practice averaging over £2 000 p.a. capable of great extension One-third share with option to increase up to one half

SOUTH MIDLANDS.—(20) PARTNERSHIP (with view to Succession) in old established Country Town Practice, about £1,100 per annum Small panel Premium one half share one and a half years purchase

MANCHESTER.—(21) Old-established and increasing middle-class PRACTICE over £1 400 per annum in Suburb with Hospital and opportunities for Surgery Small panel Good house (8 bed rooms) in excellent position Rent £90 Premium one and a half years purchase

SCOTLAND NORTHERN HIGHLANDS.—(22) PRACTICE averaging over £1 600 per annum in a Town No panel House (6 bedrooms &c.) in best residential part for sale Ample scope for midwifery and panel Premium £1 200

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SOUTH-EAST COAST.—(26) Favourite Health Resort. PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1 750 including appointments £170 (about) No panel Premium two-fifths share two years purchase and up to one-half in two years Partner should be 28 to 30 single Preliminary Assistantship.

INLAND HEALTH RESORT.—(27) Well established PRACTICE of £1 600 in first-rate Residential Town Panel 2 000 Large house (7 or 8 bedrooms) Premium, Practice and House £3,100

MIDLANDS.—(28) PARTNERSHIP in very old established unopposed Country Practice well over £2 000 per annum near Important Town. Not much Midwifery Detached house 4 bedrooms) and field of 2½ acres Rent £50 on lease Premium one half share £1,500 to include drugs &c

WEST OF ENGLAND.—(29) Fashionable Inland Health Resort Good class non-dispensing NUCLEUS over £200 No panel Good introduction Premium £300

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DERBYSHIRE.—(32) Well-established PRACTICE of between £700 and £800 per annum in Manufacturing Town Panel 800 No Midwifery Nice detached house (4 bedrooms) in acre of ground to let Great scope for increase Premium one and a half years purchase

EAST COAST.—(33) Old-established good class PRACTICE £1 700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double-fronted house (6 bedrooms) Rent £55 Premium one and a half years purchase

MIDLANDS.—(34) PARTNERSHIP in old-established Practice over £3 200 per annum in excellent Country Town Panel about 1 400 Premium one third share one and a half years purchase

SOUTH COAST.—(35) Good class general PRACTICE of £2.000 per annum Excellent house Rent £80 Premium one years purchase only

SOUTH-WEST OF ENGLAND.—(36) Very old-established middle and better-class PRACTICE over £4 200 in important Seaport Town No Panel or Appointment Commodious house in excellent position Rent £100 Premium one and a half years purchase

UP-THE-THAMES.—(37) Middle class PRACTICE worth about £500 in Residential District. Small Panel. House contains 4 bedrooms. Premium £500

MIDLAND TOWN.—(38) Old-established PRACTICE about £1.100 per annum in Residential Suburb Panel 700 House contains 9 bedrooms Large garden Price £1 750 Premium for Practice £1 000

NORTH-WEST COAST.—(39) Well-established middle class PRACTICE about £2 400 No appointments. Conveniently situated house to rent Premium £2 900 part by instalments

NORTH OF ENGLAND.—(40) Old established PRACTICE of £1 460 per annum in Country District Panel 810 Very good house (6 bedrooms) in charming grounds two acres Premium practice house and grounds £4 000 Mortgage could be had on house.

FAVOURITE HOME COUNTY.—(41) PARTNERSHIP in good-class Country Practice about £3 200 per annum in delightful residential district Visits up to £2 2s Excellent modern detached house (7 bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

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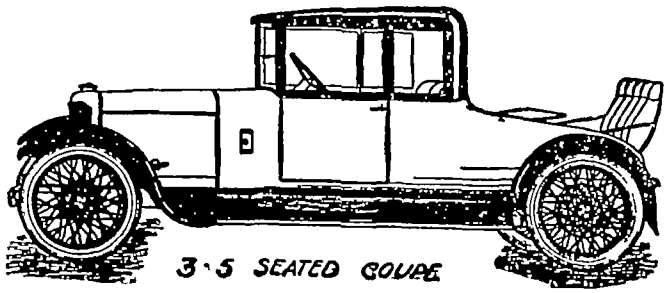
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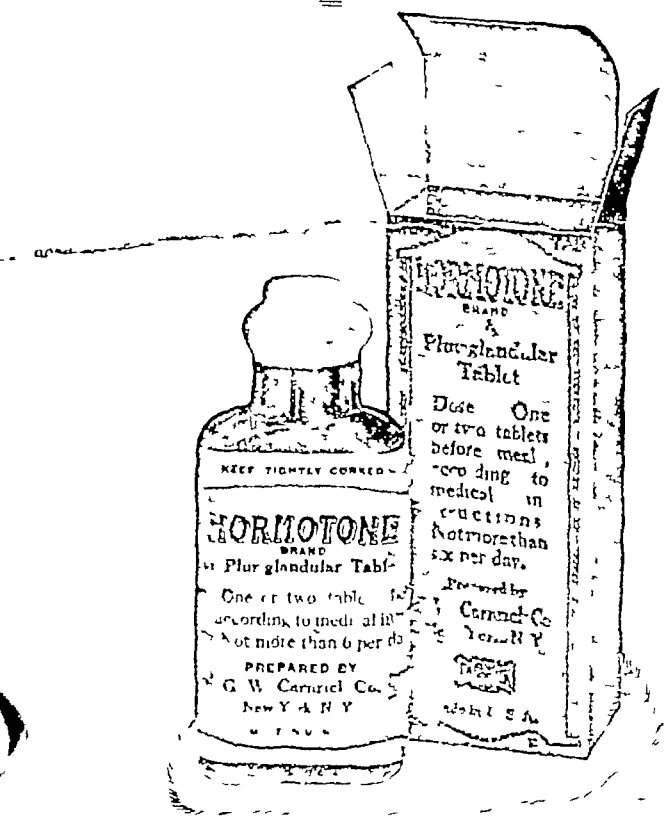
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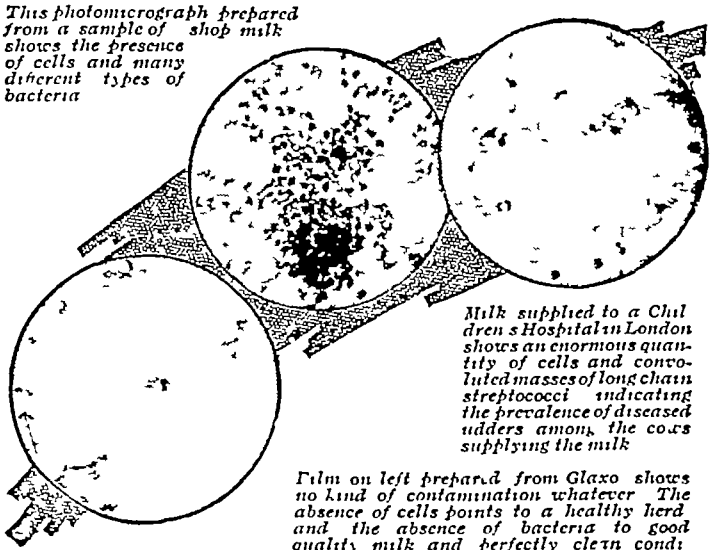
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APRIL 12TH, 1924

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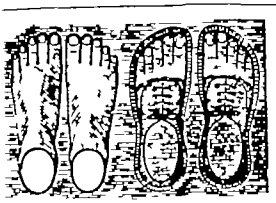
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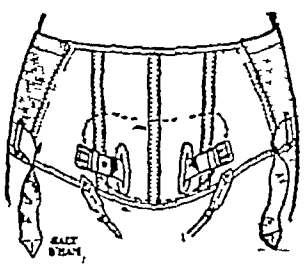
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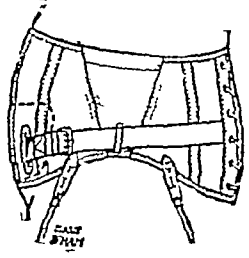
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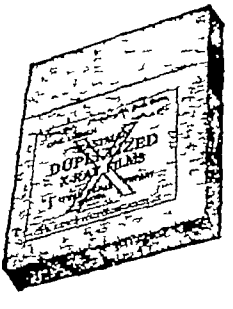


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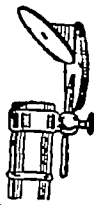
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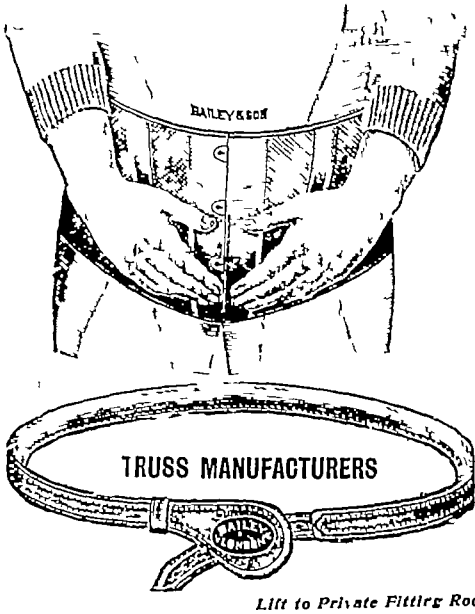
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Sp Æther Nit P B 4½ lbs @ 5/- lb 1 lb 5/5
Sp Amon Aromat P B 5 lbs @ 3/11 lb
Syr Cascara Aromat P B 6 lbs @ 2/10 lb
" Glycero Phosph Co 6 lbs @ 2/- lb

SYRUPS.

Aurant B B 7 lbs @ 2/ lb
Laston B P 7 lbs @ 1/8 lb
Ferri Iodid P B 7 lbs @ 1/11 lb
Ferri Phosp Co 7 lbs @ 10½d lb
Hypophosph Co B P C 7 lbs @ 1/1 lb.
Prunl Virg B P 7 lbs @ 1/2 lb
Rhamni, 7 lbs @ 1/4 lb
Rhei P B 7 lbs @ 1/3½ lb
Scillæ P B 7 lbs @ 1/- lb
Sennæ P B 7 lbs @ 1/3 lb
Tolut P B 7 lbs @ 1/2 lb

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	Per 1000
Blaud's (Sugar Coated) gr 5	4/9
Nitroglycerini 1 B gr 1-50th	5/-
Perchloride of Mercury (Coloured)	1/3/-
One Tablet in 1 pint of Water is equivalent to 1 1000	
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Camph Co	2/1	1/3	Opii	6/6	4/10
Card Co	2/3	1/3	Quini Amon	3/8	—
Gentian Co	2/11	1/6	Rhei Co	2/11	1/9

Ung Acid Boric 1 B 25 lb pail @ 11d lb
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Zinci Ox Benz 28 lbs @ 1/1 lb

*Minimum quantity at these prices: Home Trade 3 Export 1- Winchester Quarts assorted
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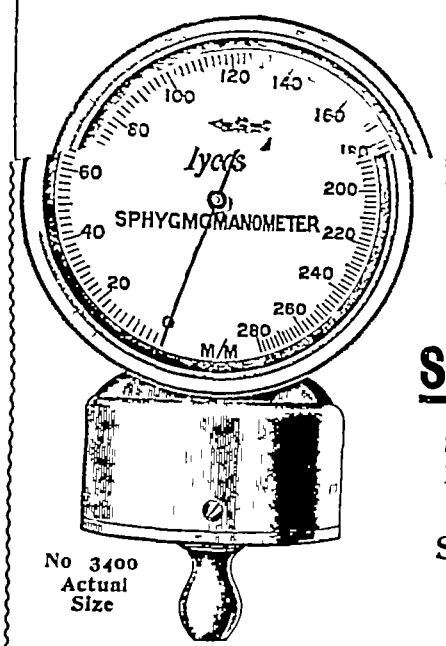
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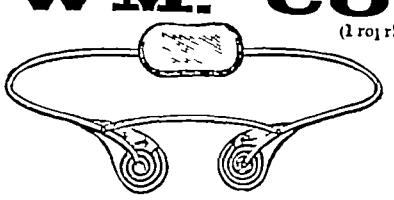
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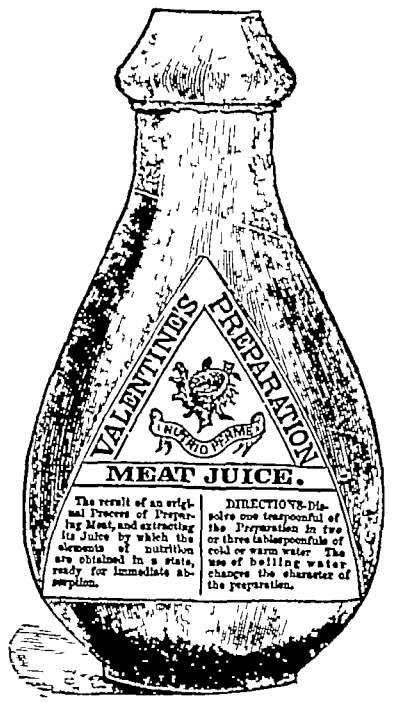
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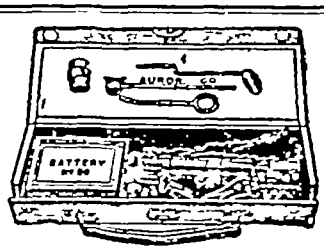
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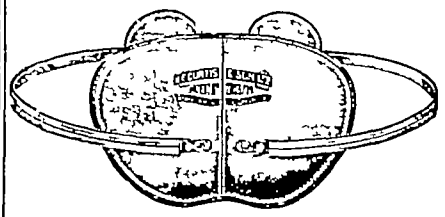
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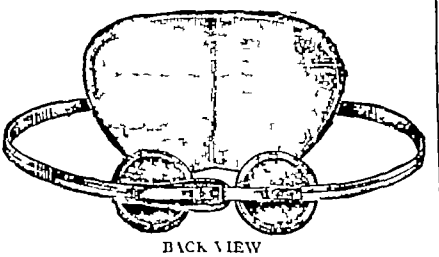
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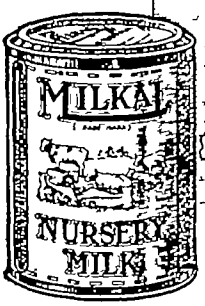
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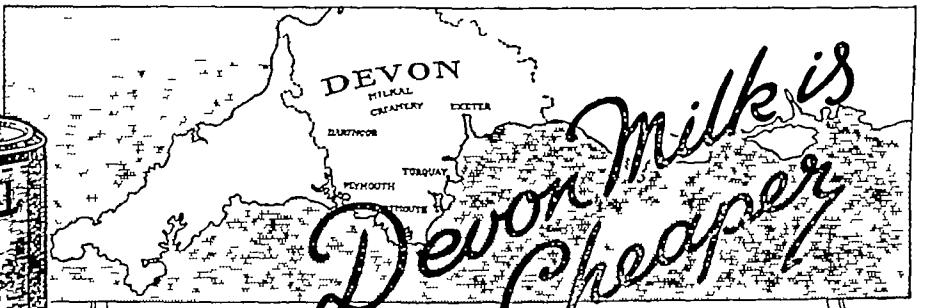
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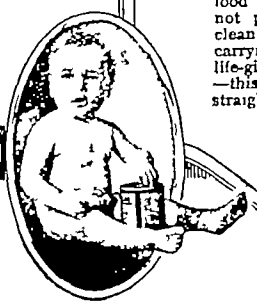
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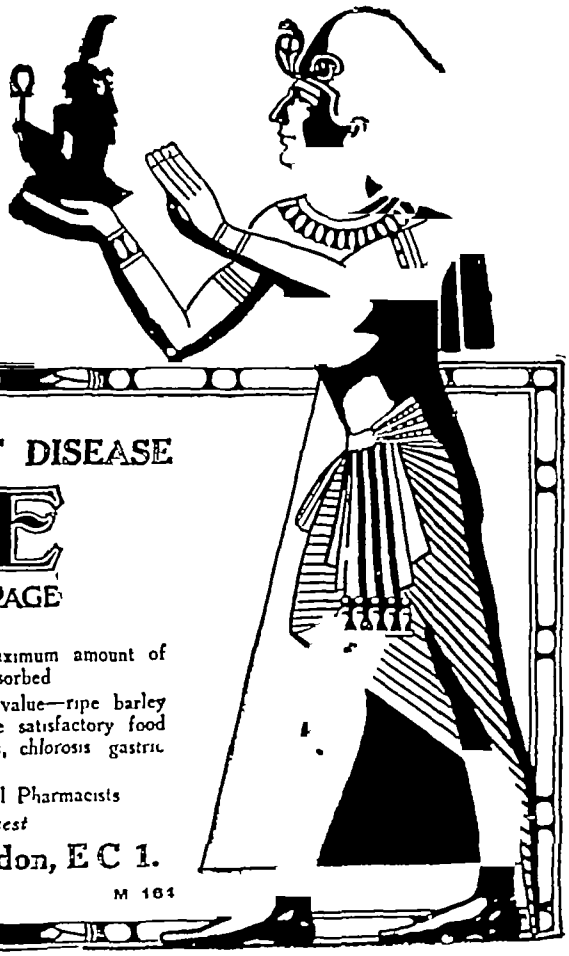
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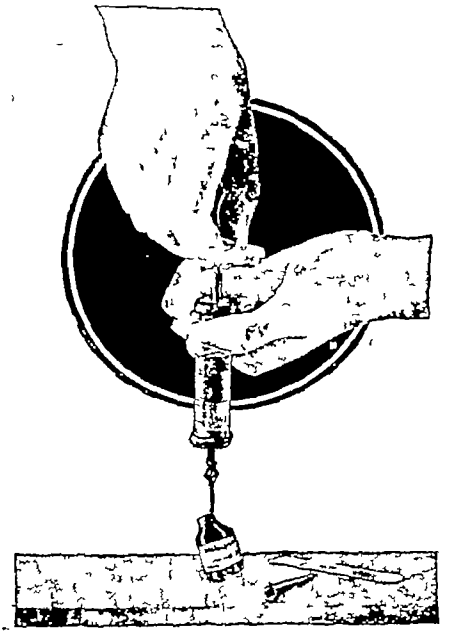
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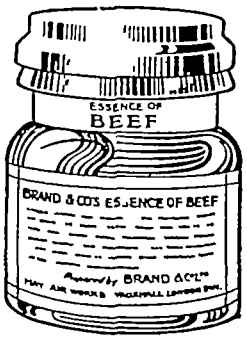
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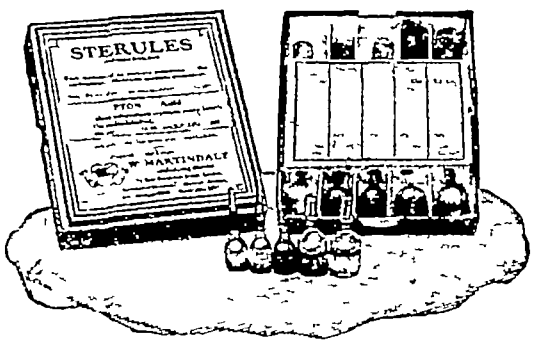
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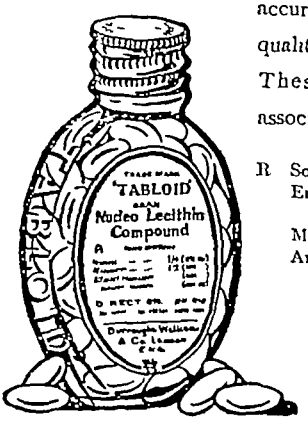
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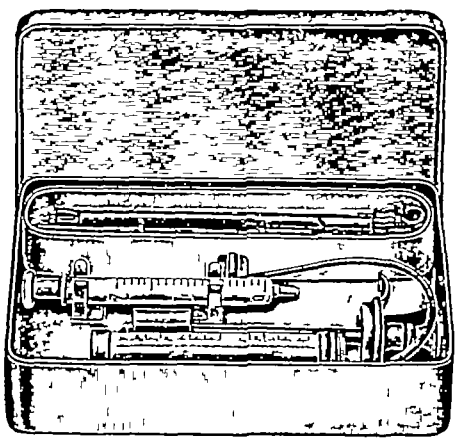
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A Clinical Lecture
ON
HYPERPLASIA OF BREAST TISSUES
(MAZOPLASIA*—"CHRONIC MASTITIS")

DELIVERED BEFORE THE NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY
BY
SIR G LENTHAL CHEATLE, K C B, C V O, F R C S,
SURGEON AND LECTURER IN SURGERY KING'S COLLEGE HOSPITAL.

(*With Special Plate*)

THE complete difference in histological and biological characters that definitely distinguish acute from chronic inflammation makes it difficult to understand how the term "inflammation" can be common to both processes, until one realizes that the terms were applied when the knowledge of pathological processes was based on more slender evidence than exists at the present time I recognize the advantages of conservatism in dealing with established terms, yet for some years I have found it impossible in this instance to orientate freshly one's views concerning these two processes and at the same time to adhere to the old nomenclature

I shall be able to make myself clear if I do not use the term "chronic mastitis" I believe that if, when pathological changes in the breast are being described, all were to adopt the same course, they would be more easily explained and more simple to understand If I refrain from using the term "chronic mastitis," what term can I employ? To answer this question let me mention some of the various pathological changes that can be induced by local irritation, and from that list I will extract changes that immediately concern the subject of my lecture

First of all, irritation may be induced by the following agents mechanical, infective, chemical (biochemical), thermal, electrical, nervous, *x* rays, and radium The list of the various changes that can be induced by these forms of irritation is as follows

1 Increase of normal activity leading to hypertrophy
2 Excess of normal activity leading to atrophy
3 Fertilization of ova—for example mechanical irritation of frogs ova inducing the development of normal frogs and the chemical alteration of the medium in which the ova of sea urchins live leading to the development of normal sea urchins
4 Biological changes of the tissues irritated by their ordinary exposure to life wear—that is biotripsis (See Figs 1 and 2 and BRITISH MEDICAL JOURNAL, June 12th 1909)
5 Hyperplasia of epithelium and of connective tissues
6 Acute inflammation
7 Suppuration
8 Ulceration
9 Gangrene

In considering the irritants it must be borne in mind that the results of irritation depend upon the kind, degree, and length of application of the irritants, and also upon the state of the parts irritated

Although the matter contained in (5) is the main subject of my thesis, I must draw particular attention to matter contained in (4), because I *do not* know to what extent it influences the changes described in (5)

BIOLOGICAL CHANGES DUE TO LIFE WEAR (4)

I will content myself by giving the example of biotripsis which is illustrated in Fig 1 The backs of the hands belonging to a woman are seen She had lived all her life in a small Oxfordshire village, and her daily occupation was her domestic duties She was 72 years old Her hands had never been chapped, nor had she suffered from chilblains, nor had there been any solution of continuity The skin on the dorsal surfaces of the hands is shiny, smooth, melastic, and so thin that the veins appear to be in contact with the epithelium In parts there is profuse pigmentation, and in others pigment is absent and the skin is white The condition is symmetrical and is more marked over the backs of the second metacarpals There was no disturbance of sensation Curiously enough, the most frequent seats of warts and carcinoma of the hands are on the backs of hands, and most commonly in the skin covering the second metacarpal bone as seen in the case depicted in Fig 2

The whole history of this biotriptic change resembles skin that has been overexposed to *x* rays A great many patients who suffer from carcinoma of the hands are gardeners, a fact that suggests that exposure to sunlight has a great deal to do in inducing this particular form of biotripsis

HYPERPLASIA OF BREAST TISSUES (5)

Epithelial and connective tissues are affected in this hyperplasia, and I wish particularly to point out that in most examples they undergo this process in some form or other together, very probably the only exceptions which occur are some examples of sarcoma of the breast As I proceed I shall make myself clear in what appears to be confusion in one state of things My appreciation that one of my notions was not clear to all arose out of a courteous letter I received from Dr J C Bloodgood of Baltimore, who tells me that although he began his investigations with the object of proving that cysts of the breasts are dangerous, he came to the opposite conclusion, that large "blue-domed" cysts are not dangerous, and on these grounds Dr Bloodgood wanted to know why I consider cysts to be dangerous My reasons will appear as I proceed

I will now describe the various forms of hyperplasia of breast tissues, and as far as I can in the sequence of their occurrence

1 *Desquamative Hyperplasia of Epithelium Lining Ducts and Acini*

This is an important type, and many pathological changes occur as the result of this hyperplasia The epithelium of the ducts proliferates from many parts of the circumference of the duct walls and by meeting in the centre of their lumens nearly fills the ducts, leaving spaces in them which are occupied by desquamated large round cells, which contain small degenerated nuclei The epithelium of acini also undergoes a proliferation The effect of proliferation and desquamation is to distend the duct, or acinus, as the case may be, and this distension induces secondary proliferating changes in the connective tissues outside them

2 *Permanent Duct and Acinus Cysts*

Duct and acinus cysts are formed permanently by this process unless it be arrested The distended, lengthened, and convoluted ducts, when cut longitudinally, appear to be separate cysts When cysts have become established there will be permanent stagnation of their contents, and the contained irritant would then be able to act undisturbed over a long period

It is important to watch what may occur to a small young cyst in which the epithelium is active First, it may grow into the least dangerous thing that may happen—namely, a big cyst in which the epithelium becomes so degenerated and inactive that irritation can no longer induce important results when applied to it Thus is the "blue domed" cyst described by Dr Bloodgood and I quite agree with him that, as a rule, this kind of cyst is not very dangerous, although I have three specimens of it in which carcinoma began Secondly, in the smaller developing cysts more serious and dangerous changes may occur In them papillomata and carcinoma may develop either together or separately in the same breast

3 *Character of the Papillomata*

Papillomata thus arising may be uniradicular or multiradicular The latter are by far the more common, more widely distributed, and eventually become associated with carcinoma, either (1) by becoming carcinomatous or (2) by occurring in the same ducts of the breast that are associated with carcinoma I am sure the latter association is more common than is generally supposed It is common for a multiradicular papilloma to occur in a duct which is in continuity with a carcinoma that has begun in or near its peripheral distribution, although there may be no obvious etiological connexion between the two processes It is probable that common agents of irritation may be factors

* I asked my friend Sir Humphry Rolleston if he could suggest a single word to represent the phrase of four words He very kindly suggested either mastoplasia or mazoplasia Of the two he preferred the latter so to those who require one word instead of hyperplasia of breast tissue I would recommend mazoplasia

that induce both tumours The fact that the two tumours frequently occur in the distribution of the same duct more than suggests that this theory is correct (Fig 3)

The epithelium covering papillomata may be arranged in many layers and may be exceedingly active in appearance In other examples the epithelium may be arranged in two or more layers, and may be desquamating in type Multiradicular papillomata are usually multiple, only rarely are they met with singly Should a single papilloma occur, its most common situation is in the ampulla of a duct When papillomata are multiple, one can usually be observed in the ampulla of the duct in which many are growing That the duct ampulla is a common situation is interesting for two reasons it is near the duct exit on the surface of the nipple, and hence near sources of irritation, and also it is a dilated cavity in which stagnation may occur

4 *Non-desquamating Epithelial Hyperplasia*

I now pass on to another and more serious change in the epithelium, which causes small cysts, and spreads as a primary process in those that are already formed The cysts may be full of epithelial cells, may be lined with two or three layers of them, or two or three layers of epithelial cells may line only one part of them (Fig 4) I regard this as a cystic condition, and these are the cysts to which I allude mainly when I say, "Cysts are dangerous," and the breast containing them should be removed To this class belongs epithelial hyperplasia more active in appearance and which is not desquamative I cannot be sure how nearly this non-desquamative epithelial hyperplasia is related to the desquamative type They may exist together In the non-desquamative type the cells composing it are more lusty and more irregular in shape It may affect ducts and acini It usually affects the terminal branches of one duct and some of its acini, or more than one duct, but it may affect the whole distribution of a duct up to and including the ampulla I have not seen the whole of the breast affected The condition may be localized or very diffuse, and occurs in women over 30 years of age There is no capsule

Dr Bloodgood describes the condition under the term "comedo-adenoma,"* and has pointed out, in a record of forty-nine cases, that "This tumour should always be treated as cancer, because in twenty-eight out of the forty-nine cases definite cancer was found microscopically

After cutting whole sections of breasts containing this condition my own opinion is that usually at some point or other it infiltrates surrounding tissues, and I consider that it should be regarded as part of the process of carcinoma It affects duct and acinus in combination The duct epithelium also becomes markedly papillomatous as well as laciform (Fig 4)

Before leaving the subject of non-desquamative hyperplasia of epithelium, or, according to Dr Bloodgood's nomenclature, "comedo-adenoma," I would like to draw your attention to the evidence I have already given as to the importance of this tumour In what Dr Bloodgood calls the benign condition, the completely benign nature of which seems to me very doubtful, it will be seen that it induces duct and acinus cysts (see Fig 4) If this state is compared with the appearances seen when its carcinomatous state is flagrantly rampant, the malignant duct and acinus cystic arrangements can be very definitely observed in Fig 5, and it is an indication that I am right in stating that the process of carcinoma affects primarily epithelial cells which cover comparatively extensive surfaces of ducts and acini

So far as I have gone I have described desquamative epithelial hyperplasia, cysts, papillomata, and hyperplasia of epithelium that is not desquamative, all of which processes are swept unceremoniously together, at the present moment, under the misleading title of "chronic mastitis," and as such they are being diagnosed

The list that this term, at present, includes is not exhausted by the processes above described, as I shall now show To make these additional pathological changes clear I draw particular attention to the anatomical relations of the elastica of the breast The three particular parts are

1 The delicate connective tissue immediately internal to the elastica The proliferation that occurs in this tissue will be termed "*hyperplasia intra-elastica*"

2 The elastica, proliferation of which will be termed "hyperplasia elastica"

3 The fibrous tissue which is *outside* the elastica and which closely invests the ducts and acini throughout the breast, proliferation of this fibrous tissue will be called "hyperplasia extra elastica"

With the exception of hyperplasia elastica, which appears only as a diffuse form affecting many ducts and acini of the breast, the hyperplasia of these tissues can be localized or diffused The intra-elastica localized connective tissue tumours appear as papillomata and intra-canalicular fibro adenomata The extra-elastica localized tumours appear as fibro-adenomata Into the description of these localized conditions I do not propose to enter, having already done so completely*

All the diffuse forms to which I have alluded are now collected in a most haphazard manner under the heading of "chronic mastitis" When one hears surgeons say that "chronic mastitis" is never, in their opinion, a prelude of carcinoma, it is possible that they do not quite realize that the clinical signs on which they diagnose "chronic mastitis" include the several totally different pathological changes which I have just enumerated and need not repeat The hyperplasia intra-elastica I discovered accidentally in staining the elastica of carcinomatous breasts, and it is interesting to state that since making this observation Dr Cramer of the Imperial Cancer Research has induced diffuse hyperplasia intra-elastica in the breasts of rabbits by the introduction of tar into the mammary glands The diffuse hyperplasia extra-elastica is the only type that I would consider to exist more commonly than the other types in the least dangerous circumstances

CLINICAL INDICATIONS

It would be a very important step if one could isolate different clinical signs for each of these separate processes, although at the present moment this cannot be done with accuracy, yet a great many points can be demonstrated which lead to the recognition of important conditions of the breast—points which hitherto have been either totally disregarded, or to which only slight attention has been paid

Multiple fluid swellings, of course, indicate cysts, and when these are demonstrable they have probably passed from the dangerous stage into that in which they are lined only by degenerated inactive epithelium, in which carcinoma only rarely arises As a rule these breasts contain small cysts in which the epithelium is active, and in spite of what so great and careful an authority as Dr Bloodgood says, I maintain that even breasts containing big cysts ought to be removed, and I have specimens in which totally unsuspected carcinoma and papillomata were found in them The existence of *papillomata* can be diagnosed by a careful examination of the ampulla and ducts of breasts Very often one ampulla can be felt enlarged and painful, manipulation of which gives rise to a discharge of blood from the nipple At the same time it must be recognized that I have removed breasts in which large papillomata existed without any discharge of blood from the nipples and in which their presence was quite unsuspected The duct leading from the tumour-containing ampulla will be found irregularly enlarged and convoluted My opinion is that the existence of one multiradicular papilloma of the breast is so rare that these signs justify the removal of the whole breast and axillary glands An unsuspected carcinoma may be present

Unfortunately, desquamative hyperplasia of epithelium and hyperplasia of epithelium that is not desquamative, very often multiple papillomata, also diffuse hyperplasia intra-elastica, hyperplasia elastica, and hyperplasia extra elastica, all give rise to somewhat the same clinical signs, which may affect mainly one duct and its acini, or many ducts and acini, or in some instances the clinical appearances may suggest the affection of the whole breast, or of both breasts

* See *Diagnosis of Early Breast Tumours, based on their Clinical History, their Gross and Microscopic Picture at the Exploratory Incision* By Dr J C Bloodgood of Baltimore.

* See *Hyperplasia of Epithelial and Connective Tissues of the Breast and its Relation to Fibro-adenoma and other Pathological Conditions*

SIR G LENTHAL CHEATLE HYPERPLASIA OF BREAST TISSUES

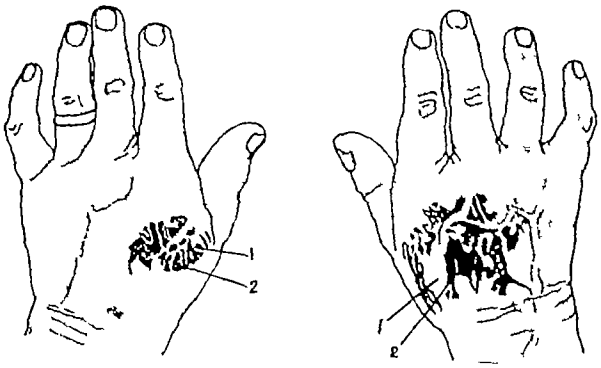


FIG 1.—The hands of a woman aged 72. The skin of the backs of the hands is shiny, smooth and inelastic. The subcutaneous veins are almost subepithelial. There is profound pigmentation in parts (2) and there is also complete loss of pigment in parts (1) leaving the skin white. The condition is symmetrical and is most marked on the backs of the second metacarpals.

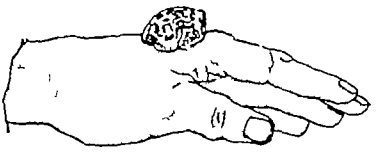


FIG 2.—Carcinoma of the hand beginning in the skin on the back of the second metacarpal. This patient was a gardener.

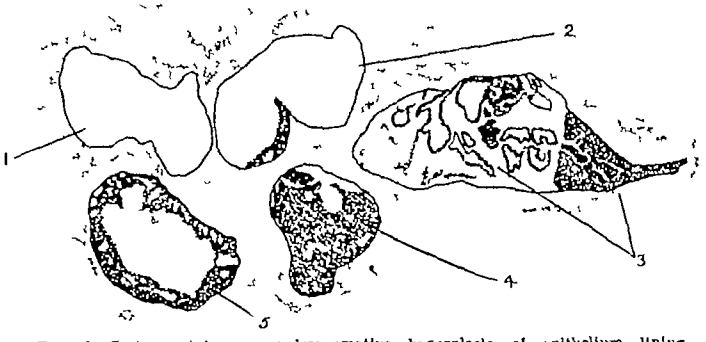


FIG 4.—Cysts containing non-desquamative hyperplasia of epithelium lining a duct at 3 which contains papillomatous and laciform types of proliferation. Acinus cysts 2, 4 and 5 with different degrees of epithelial proliferation. 1 Unaffected cyst.

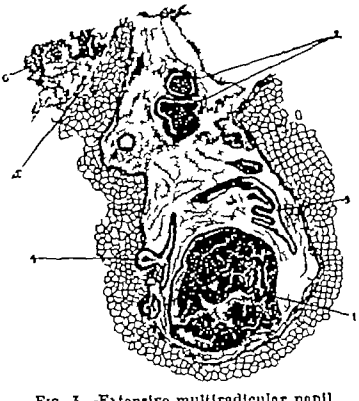


FIG 3.—Extensive multiradicular papilloma. 1 and 2 in a duct which leads directly into the carcinomatous area 5 and 6. 3 and 4 normal ducts.



FIG 5.—Highly malignant form of same type of tumour represented in a less malignant condition in Fig 4. 1 and 2 are parts of the same duct which is distended and its coats ruptured by the contained papillomatous carcinoma. Carcinomatous acini are seen in 4 and 5. 3 Carcinoma infiltrating connective tissue.

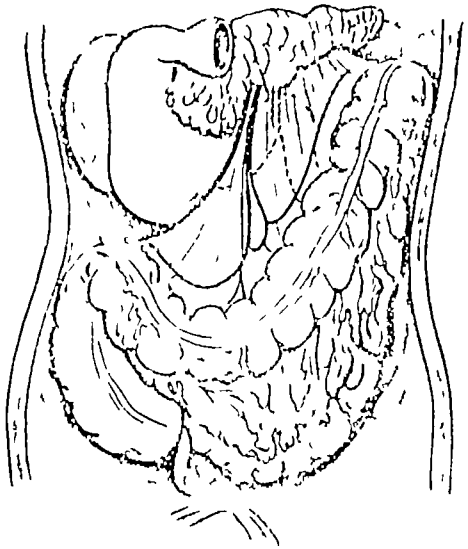


FIG. 7.—Semidiagrammatic figure showing obstruction of the duodenum by the mid-colic blood vessels. (After Duval and Gatellier.)

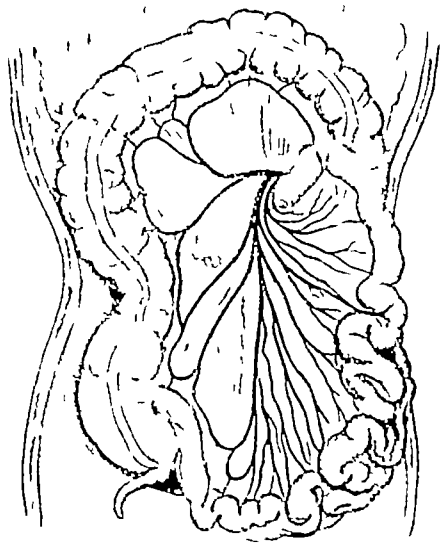


FIG. 8.—Semidiagrammatic figure showing obstruction of the duodenum owing to the drag of the mesentery. (After Duval and



FIG. 6.—Drawing of a specimen showing an extreme degree of dilatation of the renal pelvis and kidney owing to an aberrant renal blood vessel and band of fibrous tissue.

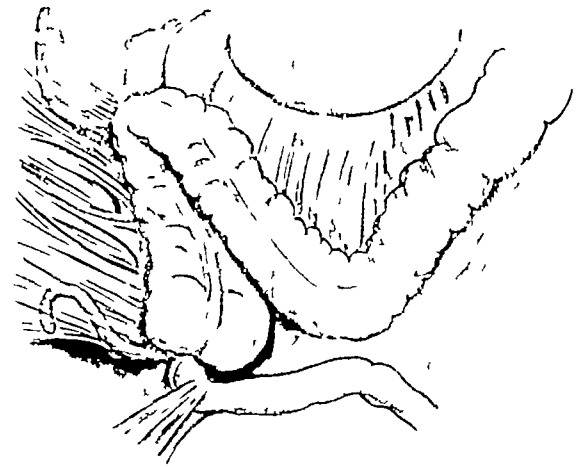


FIG. 9.—Semidiagrammatic figure showing right-sided ptosis. (After Hurst.)

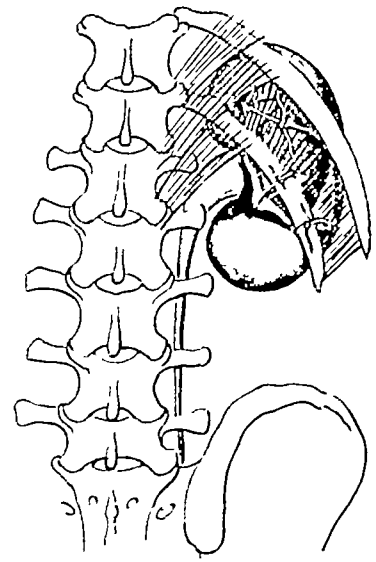


FIG. 12.—Operation of nephropexy. Sutures from the two *lower* flaps of kidney capsule each pass round the last rib; sutures from the two *upper* flaps pass through the last intercostal space.

The clinical signs to which these various conditions give rise are an enlarged ampulla, and enlarged, painful, and convoluted condition of the ducts, and enlarged and painful lobules of the glands The question now arises, Can one detach any clinical signs which may be regarded as so serious as to indicate operative interference? I am confident that it is possible I regard as serious the presence of one painful and tortuous duct which can be felt irregularly enlarged and communicating with an enlarged ampulla, the rest of the same breast and the opposite breast being normal Two or more ducts in the same state that lead to the same segment of the breast or different segments also indicate a dangerous state of the breast The question arises, What ought one to do with a breast with these few clinical signs that have been given such vast importance? Unless these ducts lead to a part of the breast to which the skin be adherent, when carcinoma would be certainly present, this breast should be carefully observed during a menstrual period and midway between two periods, and the difference of its appearance noted Should the signs markedly improve midway between the periods, I should not hesitate to do more than keep the breast under careful observation, and remove the plugs in all the duct outlets and give the breast sufficient support, keeping the nipple free from pressure It is not possible to say the exact conditions of the ducts and acini in this curable state, but my impression is that they are in an early condition of desquamative hyperplasia of epithelium

Should the single duct, or the two or three ducts, remain enlarged and painful, or accompanied by a constant discharge of serum or blood from the nipple, and show no sign of improvement by the treatment I have recommended, then I am sure the breast ought to be removed

Let me describe a breast a surgical friend of mine asked me to see recently It was the left breast of a woman aged 42, recently married He had watched the breast for eight months Once, four months ago, blood had been discharged from the nipple I found an enlarged ampulla and duct leading to the outer and upper quadrant, and advised removal at once The ampulla contained a small papilloma and its duct many smaller papillomata, and a small infiltrating carcinoma existed in the peripheral distribution of the duct No lymphatic glands could be felt This is a very striking example of the importance that should be attached to the clinical signs disclosed It is also an example of the presence of papillomata in a duct distribution that contains a carcinoma

Position during Clinical Examination

A great deal depends upon an efficient clinical method of *examination A person whose breasts are to be examined* should lie flat on her back and a small pillow should be placed behind the shoulder blades to thrust the chest forward and to make the breasts prominent and the axilla more easily palpated It is instructive to note how much the proper placing of the pillow helps in making a correct diagnosis I cannot exaggerate the importance of this properly placed pillow

The contour of the breast should be carefully observed, and any flattening or irregularity of its curvature should be compared with the corresponding part in the opposite breast *A movable dark background renders the curves* of the breast more obvious The ducts and ampulla of the breasts should be carefully palpated by the tips of all the fingers in a row, following the radiating lines of the ducts

Finally, it must be understood that every nodular breast is not necessarily in a pathological state A breast may be nodular and ducts made easily distinguishable by the absence of adipose tissue Here the ampulla and the ducts would be regular in size and the gland painless But I have seen this normal state diagnosed as being in a state of "chronic mastitis" on account of its nodularity only This normal nodular breast may be painful when there are irregularities in the pelvic viscera, correction of which cures the breast pains, or it may be painful during the periods and painless midway between the periods On insertion of a barbed needle into nodules of a nodular breast many of the nodules have proved to be merely prominent *fat lobules that contained no glandular elements*

An Address ON KINKS OF SURGICAL IMPORTANCE.

DELIVERED AT THE CLINICAL CONGRESS OF THE AMERICAN COLLEGE OF SURGEONS IN CHICAGO, OCTOBER 24TH, 1923,*

BY

A. E. WEBB JOHNSON, C.B.E., D.S.O., F.R.C.S.Eng. F.A.C.S. (Hon.)

SURGEON TO THE MIDDLESEX HOSPITAL AND DEAN OF THE MEDICAL SCHOOL

(*With Special Plate*)

I HAVE chosen "Kinks of surgical importance" as the subject of this address because such extreme views have been expressed with regard to some aspects of the subject that the time has come when we should try to arrive at a definite opinion about it The truth is hard to find, and we may well bear in mind Descartes' advice and "Give unqualified assent to no propositions but those the truth of which is so clear and distinct that they cannot be doubted"

I propose to confine my remarks to kinks of the ureter, kinks of the gastro-intestinal tract, and finally with another variety which, it may be, is the most important of all

In discussing kinks of the ureter we may confine our attention practically to the region of the renal pelvis and first part of the ureter Kinks of the ureter may be caused by adhesions or lack of support distorting its course, by abnormal blood vessels crossing it, or by undue mobility of the kidney

In recent years a method of investigation has become available which has thrown much light on the actual conditions present in cases of kinking of the ureter Pyelograms and ureterograms may be said to have proved or confirmed the following points

1 When the kidney is in its normal position the upper calyces are opposite the last rib (see Fig 1), but in some cases the ureter is so short that it would be impossible for the kidney to occupy that position In some of these cases the kidney is much lower than the normal position (see Fig 2), but if there is no kink of the ureter nephropexy is not called for, and certainly the kidney could not be fixed high enough to be safe from injury

2 The kidney may be very loose and liable to injury, but with no evidence of acute kinking of the ureter, which pursues a tortuous course with bold curves, and no acute bends A kidney so placed is often better fixed out of danger, even though there may be no kinking of the ureter, but the condition must be considered with due regard to any *associated ptosis of* other viscera

3 The ureter may be so kinked in nephroptosis that operation is absolutely essential if the kidney is to be saved from gradual destruction (see Fig 3)

4 Though the kidney be not unduly mobile the ureter may be kinked by adhesions, or from some developmental or other cause, or by abnormal blood vessels crossing it (see Figs 4, 5, and 6)

An operation for the correction of a kink of the ureter, with or without undue mobility of the kidney, must remove every cause contributing to the kinking of the ureter, or obstruction of the outflow from the renal pelvis The operation must therefore include the complete exposure of the renal pelvis and upper part of the ureter, the division of all adhesions tending to the perpetuation of a kink, the division of any abnormal blood vessels obstructing the renal pelvis or ureter, and lastly, in the case of undue mobility, the fixing of the kidney in such a position that the ureter runs a practically straight course

We must not, however, think of the kidney only Ptosis of the kidney, usually the right, is sometimes associated with general visceroptosis, often, or probably always, with right-sided ptosis—that is, failure of fixation of the caecum and ascending colon, hence the gastro-intestinal symptoms This associated visceroptosis must prevent us from directing treatment to the urinary tract only, except in those cases in which symptoms are entirely referable to that tract Here we see one of the dangers of too much

* The address was illustrated by numerous lantern slides.

specialism in surgery In many cases operative intervention by the urologist is confined to the urinary tract, and that by the abdominal surgeon to the gastro-intestinal tract, whereas the treatment of the two should be combined in a number of cases of visceroptosis

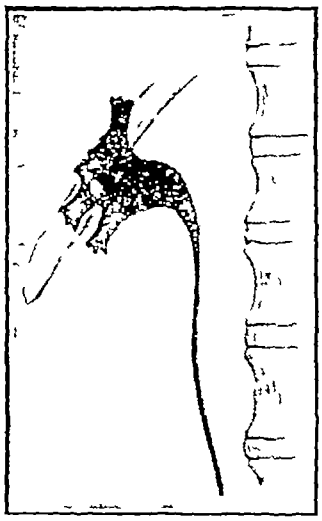


FIG 1.—Tracing of pyelogram showing the normal position of the right renal pelvis and calyces

The kinks that have been described in the gastro-intestinal tract may be called legion, for they are many They are necessarily considered in connexion with peritoneal adhesions, visceroptosis, and intestinal stasis, for they arise, as a rule, as the result of retaining adhesions, bands, and membranes, and these bands only produce kinks when the viscera tend to be displaced by ptosis, or when they are over-distended or overloaded—in fact, without either stasis or a tendency to ptosis the bands produce no symptoms, but perform a useful function by helping to maintain the viscera in their normal positions

The observations of various workers bring out clearly certain facts with regard to the origin of bands and membranes Many of those which have been described have been observed in the foetus and in young children, and are necessary for the support of the viscera These bands are undoubtedly exaggerated in patients with intestinal stasis, and in many patients with a tendency to visceroptosis In some cases there are unmistakable signs of an inflammatory origin, or at least of the supervention of inflammation in bands or membranes already present Other bands and adhesions which are obviously due to inflammatory causes may arise at any part of the intestine, most commonly from periduodenitis, appendicitis, and pelvic inflammation

Many kinks are described as the result of these bands in association with ptosis In gastroptosis the stomach becomes U-shaped and develops a sharp bend at about the middle of the lesser curvature, and another at the pylorus Rovsing has pointed out that "hour-glass" stomach occurs as a rule in association with ptosis, and he therefore maintains that it is due to ulceration at the site of the bend Lane maintains that the cystico-duodenal fold tends to pull upon and kink the pylorus at the point of junction with the duodenum The sharp kink which occurs at the duodeno-jejunal flexure is caused by the way in which the first part of the jejunum is fixed in position by a membranous band attaching it to the mesocolon But there are many varieties of obstruction of the duodenum, and they are not all directly or solely due to ptosis Some are due to the arrangement of the colic and mesenteric blood vessels (see Figs 7 and 8) and others to periduodenitis and other causes

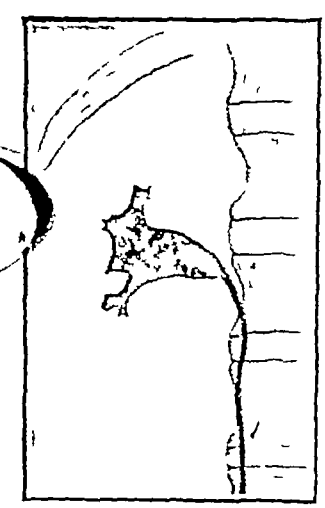


FIG 2.—Tracing of pyelogram showing the right renal pelvis and calyces in an atrophic kidney lower than usual with no kinking of the ureter

The next kink to which attention has been forcibly directed is Lane's ileal kink, a few inches from the ileo-colic junction and the kink of the appendix resulting from the drag of a heavy loose caecum Many varieties of angulation of the colon are described Adhesions between the gall bladder and hepatic flexure, and adhesions binding the two limbs of the colon together at the hepatic flexure or the splenic flexure, may cause kinking Inflammatory adhesions distorting the pelvic colon are common

One of the commonest situations for kinking to occur is at the termination of the mobile pelvic colon—"Lane's last kink" Lane states that at no part of the intestine is reduction of the lumen so marked as at this "first and last kink" He regards this kink as "the prime factor in the causation of disease in the several portions of the gastro-intestinal tract"

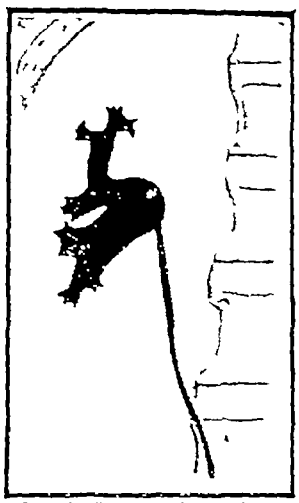


FIG 4.—Tracing of a pyelogram showing an acute kink at the junction of the renal pelvis and ureter after nephropexy had been performed and the kidney fixed at too low a level.

While there is no doubt of the existence of definite kinks of the alimentary tract, there is considerable doubt as to whether they are of such importance as some surgeons would have us believe It is necessary to get a clear idea of the pathology and significance of these kinks if we are to adopt rational lines of treatment The protagonists of various theories of the origin and results of kinks have not hesitated to base on them surgical operative treatment, sometimes of a most drastic nature The operations which have been recommended include division of bands and membranes, fixation of viscera, operations to alter the cavity of the abdomen, plication of viscera, short-circuiting operations, the establishment of artificial openings for purposes of lavage, plastic operations, and the removal of part or the whole of the colon

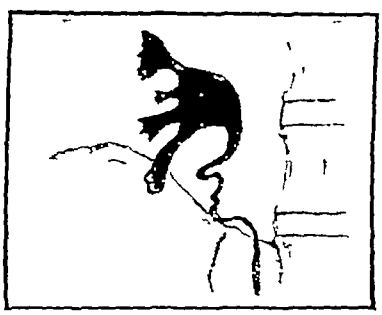


FIG 3.—Tracing of pyelogram showing the renal pelvis calyces and the ureter with numerous acute kinks in it, in a case of movable kidney

In my opinion, it is not possible to fix all prolapsed viscera which may be at fault, nor is it reasonable to remove them As Spenser wrote, "It would seem very evil surgery to cut off every unsound part of the body, which being by other due means recovered, might afterwards do good service" My own belief is that visceroptosis is the mean cause of kinking, but that it is not reasonable to ascribe all gastric and duodenal obstruction and ulceration to ptosis There are certainly other causes, even if we admit that ptosis is one

General visceroptosis is a general condition and requires general treatment, not local surgical treatment, except when there is definite obstruction at some part of the urinary or alimentary tract But there is a distinct variety of visceroptosis which is not associated with the widespread changes seen in the general condition It is confined to the right side It does not arise from general lack of support or general atony, but is developmental

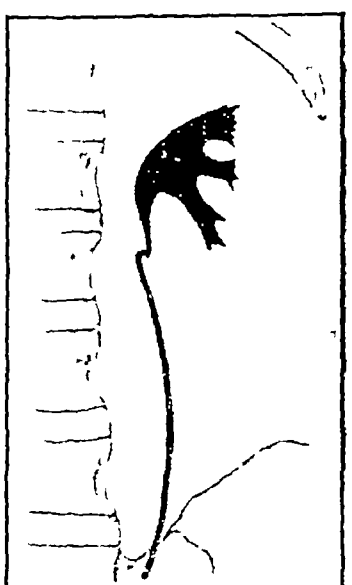


FIG 5.—Tracing of a pyelogram showing a kink of the ureter due to an aberrant renal blood vessel.

and results from failure of fixation of the caecum and ascending colon and is often associated with undue mobility of the right kidney (see Fig 9)

But we must not ascribe all abnormal conditions of the stomach, duodenum, and gall bladder to ptosis As already pointed out, many cases of duodenal obstruction are primarily due to the anatomical arrangement of the colic and mesenteric blood vessels, to periduodenitis, and other causes

Some surgeons have taken extreme views They have, however, done good service by directing attention to this condition, and a reasonable and judicial attitude must lead surgeons as a body to a correct line of treatment This need not be heroic, nor must it lead to surgical neglect by ignoring conditions which are obviously present and demanding treatment It must lead to surgical intervention on reasonable lines In my view, those which should meet with general acceptance are the division of bands when leading to local obstruction, short-circuiting operations when the obstruction cannot be overcome in any other way, and the fixation of viscera on the right side the mobility of which is due to the failure of Nature to establish the usual anchorage This is a surgical possibility, and the fixation of the caecum, ascending colon, and right kidney will in many cases, though not in all, do much to relieve obstruction of the duodenum

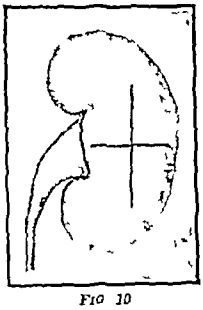


FIG 10

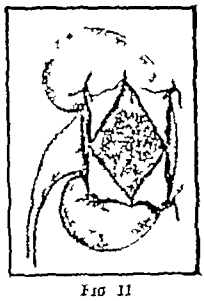


FIG 11

OPERATION OF NEPHROPEXY

FIG 10.—Incision in the capsule of the kidney
FIG 11.—Four flaps of kidney capsule reflected.

In those cases in which obstruction of the duodenum is caused by the root of the mesentery or the superior mesenteric vessels, fixation of the caecum and ascending colon will not give relief Moreover, the weight of the small intestine cannot be taken off the root of the mesentery, and only a short-circuiting operation—either a gastro-jejunostomy, or, probably better still, a duodeno-jejunostomy—will give reasonable prospect of cure

In operating for right-sided ptosis I make an incision, some eight to ten inches long, about an inch below and parallel with the line of the last rib At the vertebral end this incision is curved upwards parallel with the erector spinae muscle, and a flap is reflected to expose the muscles covering the region of the last rib and last intercostal space The peritoneum is opened in the front part of the incision, the condition of the caecum and ascending colon ascertained, and the appendix removed The kidney is then delivered from the wound, and the renal pelvis and upper part of the ureter are freely exposed The ureter and renal pelvis are carefully examined, any kinks are corrected, and adhesions or abnormal vessels causing kinks are divided The ureter being now free and easily put in a straight position, the kidney is fixed In my opinion, this should be done at a higher level than that usually practised, for pyelograms show that the upper calyces generally lie on the line of the last rib I therefore make a crucial incision through the capsule of the kidney and reflect four flaps of capsule (Figs 10 and 11) Sutures from the two *lower* flaps are tied round the last rib, holding the kidney up in a high position, sutures from the two upper flaps pass through the last intercostal space and hold the kidney steadily back (see Fig 12) The caecum and ascending colon are then sutured to the posterior abdominal wall below the lower pole of the kidney, and in this way not only is fixation of the kidney rendered more secure, but the associated ptosis of the caecum and ascending colon is also corrected

And now I will venture to deal with that other class of kinks to which I referred at the beginning of this address Lexicographers tell us that the word "kink," besides being used in the sense in which I have used it in referring to the ureter and gastro-intestinal tract, is also applied to a crotchet, a whim, a caprice, or an odd and unreasonable notion Surgeons are no more immune to this class of kink than other men and women They may have acute or chronic mental kinks in one direction or another, which may lead them either to advance odd doctrines or to oppose the introduction of any new ideas or methods of treatment These extreme views are taken by different classes of surgeons The first class I would call pioneers, though others, their strong opponents, might give them another name Their opinions are often not accepted, but the expression of an extreme view startles people into thought, and it may be that in surgery, as in politics, the preaching of a startling doctrine is one of the surest ways to stimulate progress But we have to bear in mind that what is newest is not necessarily best

As opposed to the pioneers, we have the other extreme class whom we may call conservative surgeons, though their views are sometimes so negative that they give the impression that they have a habit of mind which refuses to accept anything new

The general body of surgeons maintain a wise conservatism, a very different thing from "old fogyism" As Osler forcibly pointed out, the motto of the one is, "Prove all things and hold fast that which is good," and of the other, "Prove nothing, but hold fast that which is old" But most surgeons are level-headed and wait to see the result of clinical experience before committing themselves, realizing with Paget that that alone is true which is proved clinically, and that which is clinically proved needs no other evidence For medicine is the art of healing no less than the science of disease Operative technique has now been so perfected, and such remarkable surgical feats can be performed with comparative impunity and trifling risk, that this very perfection has become a danger unless operative procedures are based on sound judgement Where previously the risk would have deterred, now surgical judgement must control We must be ever on the watch to prevent that judgement being biased, either by the odd and often ill founded recommendations of surgeons with kinks of exaggeration and enthusiasm, or by the attitude of the "old fogies" who would have us close our ears to anything new For—

> 'Alas! what years you thus consume in vain
> Ruled by this wretched bias of the brain —CRABBE

TUBERCULOSIS OF THE BREAST

BY

NATHAN RAW, C.M.G., M.D., M.R.C.P. LOND.,

LORD CHANCELLOR'S VISITOR HONORARY CONSULTING PHYSICIAN, PRESTON HALL COLONY FOR TUBERCULOUS EX-SERVICE MEN

ONE of the most remarkable facts in the study of primary pulmonary tuberculosis is the extreme rarity of tuberculous mastitis The breast tissue seems to be almost immune to attack by the *human type* of the bacillus In progressive and advanced cases the lungs may be firmly adherent to the chest wall, with great involvement and thickening of the pleura, so that *post mortem* it is impossible to remove the lungs, yet the breast tissues are rarely involved In the course of observations of tuberculosis during the last thirty years I have only met with seven cases of proved tuberculous mastitis—four in the female and three in the male They were all very carefully investigated, and animal inoculations proved them to be tuberculous In no case have I seen tuberculous mastitis associated with primary pulmonary tuberculosis

According to Cornet, the infection rarely enters through the ducts of the glands, more often the bacilli enter by an excoriation, and are conveyed by the lymphatics, which accompany the galactic ducts The infection, which is almost always unilateral, is followed by abscess formation with resulting sinuses

In cows suffering from bovine tuberculosis the reverse is the case, tuberculosis of the udder is a very frequent

complication, with resulting contamination of the milk by living bacilli

The following is a very brief account of my seven cases:

CASE I

A girl, aged 17, well nourished and robust, was admitted to hospital with extensive tuberculous glands on both sides of the neck She had been operated on several times for removal and abscess formation, but the infection proceeded downwards to the axillary glands, and on the surface of the chest wall, towards the breast, which became hard but not painful In a few weeks an abscess formed which was opened and scraped A persistent sinus resulted, which only healed after a long course of human tuberculin The girl made a good recovery, all the glands subsided, the sinuses and ulcers healed, and she was discharged from the hospital after ten months' treatment, apparently cured

On examination of pus no tubercle bacilli could be demonstrated under the microscope, but scraping from the breast tissue showed them in large numbers An emulsion inoculated into a rabbit produced an acute general tuberculosis, and growths from the rabbit's spleen showed typical bovine cultures

CASE II

A woman, aged 37, seen in consultation She had suffered from tuberculous neck glands for over twenty years, healing up and breaking down at intervals A year ago she noticed the right axillary glands to be enlarged, the infection spreading to the right breast The lungs were apparently healthy Two large sinuses were seen in the lower quadrant of the breast, discharging greenish yellow pus

Examination of the pus showed tubercle bacilli, and animal inoculation (rabbit) produced a general tuberculosis with typical bovine cultures I advised amputation of the breast, but she declined, and I have not been able to learn what happened to her

CASE III

A girl, aged 19, was admitted to hospital with very extensive tuberculosis of the right neck glands She had been brought up in Canada and had drunk a very large quantity of cow's milk during the last twelve years The infection had spread by direct lymphatic extension to the axillary glands, which had suppurated, and thence to the breast which was in a condition of general tuberculous mastitis with five sinuses discharging a large amount of pus daily

The sinuses were scraped and packed with iodoform emulsion, and she was put on a course of human tuberculin After a prolonged suppuration—ten months—they gradually closed, and she was sent to a sanatorium almost well After a residence of six months, during which time she increased over 2 st in weight, she was discharged with all sinuses and ulcers soundly healed, and she has remained quite free of the disease to the present time

CASE IV

A woman, aged 33, was admitted to hospital with extensive mastitis of the breast, numerous discharging sinuses, and a very fetid discharge

History.—At the age of 11 she first developed tuberculosis of the neck glands which had been treated by incision and scraping on several occasions There were several sinuses in the posterior triangle on the right side, the left side of the neck was quite clear For over twenty years the glands had been more or less active and she had lost weight during the last six years The infection had spread down the superficial lymphatics of the right side of the chest over the clavicle and direct to the breast Numerous ulcers and scars were present over the chest wall

Treatment.—The sinuses were opened up and scraped and the cavities cleansed with a strong antiseptic, and afterwards packed with thymol She was given a prolonged course of human tuberculin, and very soon began to show improvement The progress was slow but progressive, and after a residence in hospital of fourteen months she was discharged, soundly healed, and has remained quite well up to the present time

CASE V

A male aged 27 was admitted to hospital suffering from tuberculosis of the shoulder (left) The head of the humerus had been excised seven years before, but the wound had never healed He complained of pain, especially on pressure over the left breast There was a uniform swelling of the breast tissue 3 inches in diameter with the nipple as the centre There was fluctuation and a needle showed thick pus, over an ounce was withdrawn and found to be quite sterile No tubercle bacilli could be seen under the microscope

Animal Inoculation.—A guinea pig and a rabbit were inoculated with 1·2 c.cm. each of the pus under the skin of the abdomen Both animals developed progressive tuberculosis and died in four months

Post mortem the rabbit showed a generalized tuberculosis of all the organs with enormous caseation of the mesenteric glands The guinea pig showed a generalized infection, with deposits in liver and spleen but no affection of lungs Cultures made from the spleen of the rabbit on glycerin agar showed after six weeks a typical growth of bovine tubercle

Progress of Case.—The abscess was evacuated with a trocar on three subsequent occasions and disappeared The patient left the hospital in two months and I have not been able to trace him since

CASE VI

A man aged 23 has had tuberculosis of neck glands for seven years and involvement of axillary glands for two years The glands had been excised extensively, but repeated recurrences had involved further operations and scrapings On admission he was thin and wasted, with all the appearances of lardaceous disease His neck was one mass of ulcers and sinuses The left axillary glands had suppurated and had been drained, leaving discharging sinuses The left breast was enlarged, tender, but not suppurating

Treatment.—The sinuses were treated antiseptically, but it was impossible to attempt anything of an operative character The mastitis, however, gradually subsided, the pain on pressure disappeared, and the breast became normal in size He gained weight, and left the hospital, but I have been unable to trace him since his discharge

CASE VII

A male, aged 22, seen in consultation, complaining of pain in the abdomen, right knee, and right breast He had suffered from tuberculosis of the knee-joint, tibia, and ankle, with abscess formation two years previously The abscesses had all been opened and drained, and when seen all the sinuses were discharging pus Two months before his right breast became large and very tender On examination there was general mastitis, the swelling was uniform there were no nodules, and no fluctuation The chest was apparently normal

Treatment.—The breast was treated twice daily with iodex inunctions, and a general outdoor life with rest and tonic prescribed In addition he was given a course of twelve injections of human tubercle vaccine in increasing doses He was seen again three months later, when a great improvement was apparent The breast was normal in size, there was no tenderness, the sinuses (with the exception of one over the ankle) had quite healed, and he had gained 22 lb. in weight As there was no suppuration of the breast, it was not possible to prove its tuberculous origin, but I have no doubt it was a case of early tuberculous mastitis which was arrested He is continuing to improve, and his doctor informs me that he is leading an ordinary life, and has returned to duty

General Conclusions

From a long clinical observation of tuberculosis in all its forms, embracing over 10,000 cases in hospital and private practice, I have formed the following conclusions

(1) Tuberculosis of the breast is always caused by the bovine bacillus

(2) It is never primary, but is the result of lymphatic extension from the glands of the neck or axilla (excepting in the rare cases of general miliary infection)

(3) In common with all other forms of surgical tuberculosis caused by the bovine bacillus, it responds readily to treatment by a tubercle vaccine prepared from an attenuated culture of *human* tubercle bacilli The treatment must, however, be continued for a long period until an active immunity is established

HAEMATEMESES "WITHOUT LESIONS"*

BY

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PHYSICIAN TO VICHY THERMAL HOSPITAL

I REPRESENT here the association of the Paris Faculty of Medicine for the furtherance of medical relations It is our great desire to keep in touch with our British confreres We will never forget the years we lived shoulder to shoulder

International medicine has its organizations—the congresses—but times are hard, and we have been wondering if we might not find a simple bond of union by discussing simultaneously the same subject in the medical societies of the different countries It is for this reason that I am bringing before you a question which is being discussed at the present time by the Gastro-enterological Society of Paris, and is shortly to be brought before the Cercle Médical of Antwerp The best proof I can give of the opportunity of a working liaison between our countries is the fact that when I went through the literature of the subject I found that it had been very thoroughly investigated and discussed by our British colleagues

I am seeking your criticisms and advice in answering the two questions Is there such a thing as haematemeses without lesions? and, if so, how are such cases to be explained, and how should they be dealt with? In 1815 Latour published in Orleans a book—*Histoire philosophique et médicale des hemorraghies*—in which he recognized gastric bleeding *sine materia*, and quoted cases from Portal, Franck, Hoffmann, van Swieten, Baldinger, and Warton The question had been raised at an even earlier date (1803) by Dalché In

*A paper read to the Medical Section of the Royal Society of Medicine.

our day, when presumptions give way to facts, Sir William Hale White, in a lecture published in 1906, relied only on facts proved on cases where diagnosis was established either by operation or by autopsy He collected twenty nine cases published in this country He pointed out that such cases were very rare in males, whereas deaths from haemorrhage due to ulcers are far more frequent in males than in females, he concluded either that "the outlook of gastric ulcer in women is much more favourable than it is in men, or many cases occurring in women and classified as gastric ulcer at the bedside are really instances of some other undescribed malady" To such a malady Sir William Hale-White gave the name "gastrostaxis" To his twenty nine cases let us add a few recent ones observed in Paris hospitals I will quote three reported to the Society of Gastro-enterology by Professor Pierre Duval and Dr J Ch Roux, but not yet published All three patients were women

CASE I

A woman, aged 24 complained of painful dyspepsia of nine years duration and for a year of haematemeses of 2 to 3 ounces

First Operation—She was operated on at the age of 16 and the appendix was removed (as is often the case with this type of patient) A blood count showed 4 900 000 red cells Bleeding time three minutes coagulation time twenty minutes The screen showed an elongated stomach (mark this fact) and stagnation in the second portion of the duodenum

Second Operation—*As medical treatment gave little result an* operation was performed and slight adhesions were found around the gall bladder

Third Operation—Three weeks later there was a new crisis—severe haemorrhage per anum Red blood corpuscles 2 500 000 The surgeon thinking that he must have overlooked a duodenal ulcer operated again The duodenum was opened from end to end *but no lesion was seen* Gastro-enterostomy was performed and the patient again made a good recovery

Fourth Operation—Three months later there was fresh haemorrhage (slight) Four months after this the patient was admitted again for severe pain She was operated on for the fourth time The surgeon opened the jejunum no ulcer was found but an unabsorbed stitch was removed Since then the patient seems to be cured

CASE II

The patient complained of late pains after food She had *an acute attack of haematemesis* Professor Duval *opened the stomach* from cardia to pylorus The duodenum was carefully inspected but no lesion whatever was found

CASE III

A patient aged 32 was operated on and the appendix removed seven years ago She was admitted for haematemesis which appeared at the time of menstruation An *x* ray plate showed stenosis of the third portion of the duodenum At the second operation a mesocolic band was found pressing on the duodenum but no ulcer Duodeno-jejunostomy was performed and she recovered

Here, then, are three recent operations where ulcer was diagnosed but was not present In two cases there was oozing or perhaps microscopical erosions In the third case the bleeding was from congestion due to duodenal stenosis

M Basset, a well known Paris surgeon, has recorded three very similar instances on which he operated, and Professor Duval also has recently had two cases in which he thought to find ulcers He operated and found nothing, both his patients recovered once for all

M Robineau, surgeon to the Necker Hospital in Paris, records the story of a patient, aged 39, who had haemorrhage so profuse that the blood count numbered 950,000, with 25 per cent haemoglobin *The patient gave no actual history of syphilis*, but stated that she had had hemiplegia which responded to intravenous injections After a long and difficult examination under *x* rays a diverticulum of the fourth portion of the duodenum was found M Robineau dissected out the small pouch, the operation was prolonged owing to excessive bleeding from the gut Neither macroscopically nor microscopically was any lesion to be found, a *submucous angioma was not present* *The patient recovered* normally and has not since been troubled by haemorrhage

Our cases support the demonstration that Sir William Hale White and Lord Dawson have given, and the question of the causes of such haemorrhages arises I think we may eliminate chlorosis—an ailment which, for obscure reasons, is losing ground every day We hesitate, too, to call them vicarious They do not follow the rhythm of normal periods, *and we do not find that our cases report suppressed haemorrhoidal bleeding* Hind relates the case of a woman who suffered from haematemeses once a week for nine consecutive years

I have to admit that the cases collected in France lack precision, the reason being that all were urgent, and that we do not admit a diagnosis of gastrostaxis unless direct proof be given In cases not operated on the diagnosis of the ulcer is maintained

Shall we find a possible cause in some nervous disorder? The well known French *gastrologist Mathieu used to describe* two varieties of nervous gastric haemorrhage The first he called hysterical, the second emotional, and he recorded the case of a man who, after being startled by the report of a gun, had profuse gastric haemorrhage But the lack of direct control does not allow any conclusion to be drawn from it

The research work of Professor Latarjet of Lyons may perhaps throw *some light on this question of etiology* We are indebted to this anatomist for the most accurate study of the gastric nervous supply He has performed many resections of the nerves of the stomach in cases of gastric crisis due to tabes, ulcer, and various gastralgias Experimenting on dogs, he found that the resection of the proper nerves of the stomach is followed by very marked vasodilatation of the gastric wall, of the omentum, and of the peritoneum (*going as far as* ecchymoses), but the *mucous* lining did not partake in the phenomenon Vaso-dilatation of the mucous lining is perhaps under the control of local centres, but we do not know at present what may be the track followed by the afferent nerves These facts open up the question of the pathogeny of haematemeses—a vast field yet to be explored We may admit that gastrostaxis is due to some perturbation of the normal reaction of the general nervous system on the visceral system, and we may also suppose that there are local circulatory circuits regulated by and, maybe, disturbed by the neighbouring organs Thus might be explained haematemeses in cases of appendicitis and cholecystitis We trust that physiologists will give us a key to the meaning of at any rate some of these cases

We owe to Müller the location of sympathetic vasomotor centres in the tractus intermedio-lateralis of the medulla A short time ago Mariano Castex, at the Paris Academy of Medicine, showed that the same centres command vasotrophicity (as has been proved in cases of purpura) We may admit disturbance *of these nuclei, or of the nerve* ganglions, or nerve endings, as a cause of haematemeses In the present poor condition of our knowledge we can but mention the problem

I am a disciple of the late Frantz Glénard, and therefore must be expected to mention hepatism as a possible cause of gastrostaxis This great Vichy clinician, a worthy follower of Murchison, taught us the part played in pathology by *small defects* in liver-cell adequacy Hepatism accounts for many forms of haemorrhage due to slight alterations of the vessels

Further, if we admit that the *immense majority* of patients suffering from Glénard's disease are in fact what he himself called "des hepatiques," then we cannot fail to be very struck by the figures given by Mr Walton in his recent paper on chronic dyspepsia in women Mr Walton writes "*Haematemesis* is a frequent symptom in the gastric type, especially in women In my own experience 50 per cent of the cases have had a sharp loss of blood at some time or other of the disease *The loss of blood* is manifestly due to the supervention of small gastric erosions in a dropped stomach" How pleased my old master would have been to read these lines! Mr Walton adds "Are such patients suffering from an organic lesion as well as their *chronic dyspepsia*? and if it be certain that they have no organic lesion, should they be treated by operation?"

These small erosions recognized by Mr Walton in ptosis were described by Professor Dieulafoy, who, however, contrary to the British surgeon, used to teach that these minute ulcerations ran a rapid and acute course Haemorrhage is the first symptom

In one of the cases recorded above the possibility of *syphilis* is mentioned It is often a cause of bands and kinks, and consecutive stenosis might quite likely be a cause of gastrostaxis—a fact to be kept in mind

Prognosis is good *Out of 7,500 post-mortem* examinations at Guy's Hospital Sir William Hale White found only four deaths due to gastrostaxis I have not been able to find

any French statistical data, but the best proof of the benignity of the symptom is that none of the old authors, speaking of vicarious gastric haemorrhage, ever considered it to be a very serious matter

As regards treatment we have to distinguish the treatment of the condition and the treatment of the symptom The treatment is surgical or medical Neither Sir Berkeley Moynihan nor Lord Dawson recognizes any marked improvement due to operation, but Professor Duval's patients grew very much better A curious explanation was offered It was said that his incision happened to cut across a small ulcer which was afterwards stitched up without being recognized! It is difficult to admit the explanation in one case, and in two cases it is impossible It has also been suggested that a long cut through the stomach wall produces enervation of the stomach—the operation of Latarjet This might be admitted, and as a matter of fact in one of Latarjet's cases the patient, who suffered from haematemesis, was cured after gastric enervation We might accept as a working rule in practice that if x rays do not give any definite information no operation is justified, at any rate in our present state of knowledge Furthermore, a patient who has had a severe haemorrhage is in poor condition to stand the shock of any operation

The medical treatment, as has been shown by Sir William Willcox, consists primarily in complete rest Dr Hurst gives a striking statistical table showing the low mortality of the condition As the question has been exhaustively discussed in this house this very month, it seems useless to insist I am only sorry that hydrologists did not have a word to say as regards preventive treatment This side of the question might be the object of some interesting remarks

CONCURRENT VICIOUS CIRCLES

BY

JAMIESON B HURRY, M A, M D,

READING

THE morbid process known as the vicious circle, or *circulus vitiosus*, is widely recognized as playing a role of fundamental importance in pathology It leads to the aggravation of disease, to the destruction of organs, and frequently to a lethal exitus Recent medical literature abounds in references to this process, which frequently elucidates obscure phenomena in disease, and permits of more rational therapeutics

Medical writers, however, usually confine their attention to some single and isolated operation of this circular process in any disorder under consideration Thus they may draw attention to the reciprocal interaction of anaemia and disordered haemopoiesis, of anoxaemia and exhaustion of the respiratory centre, of varicose veins and thinning of the vein wall, of gastroptosis and kinking of the duodenum, of retroversion of the gravid uterus and retention of urine, of glaucoma and blocking of the filtration angle, etc As a rule, however, such succinct statements only represent one out of a series of concurrent reciprocally acting factors, the processes of disease are much more complex than such summary sentences might indicate In truth there are usually numerous simultaneous circles which unite in perpetuating the evil and frequently convert what would otherwise be a simple and self-limiting disorder into a grave and complicated one As a stream

I *Cardiac Failure*

Cardiac failure may involve—						
1 Impaired coronary circulation	→	Anaemia of myocardium	→	Weakened systole	→	Cardiac failure
2 Pulmonary congestion	→	Anoxaemia	→	Enfeebled myocardium	→	Cardiac failure
3 Bronchitis	→	Paroxysms of coughing	→	Enfeebled myocardium	→	Cardiac failure
4 Venous stasis	→	Hepatic congestion	→	Malnutrition of myocardium	→	Cardiac failure
5 Gastritis	→	Fermentation and flatulence	→	Embarrassed cardiac action	→	Cardiac failure
6 Nephritis	→	Ascites	→	Embarrassed cardiac action	→	Cardiac failure
7 Arrhythmia	→	Retarded circulation	→	Malnutrition of myocardium	→	Cardiac failure
8 Anoxaemia of bulb	→	Peripheral vaso constriction	→	Increased cardiac effort	→	Cardiac failure
9 Auricular fibrillation	→	Lowered blood pressure	→	Malnutrition of myocardium	→	Cardiac failure
10 Tachycardia	→	Lowered blood pressure	→	Malnutrition of myocardium	→	Cardiac failure
11 Persistent palpitation	→	Anxiety neurosis	→	Insomnia	→	Cardiac failure
12 Restricted exercise	→	Obesity	→	Increased cardiac effort	→	Cardiac failure

II *Pulmonary Tuberculosis*

Pulmonary tuberculosis may involve—						
1 Cough	→	Loss of sleep	→	Lowered resistance	→	Pulmonary tuberculosis
2 Cough	→	Dispersal of bacilli	→	Infection of fresh foci	→	Pulmonary tuberculosis
3 Haemoptysis	→	Blood pressure raised by anxiety	→	Renewal of haemoptysis	→	Pulmonary tuberculosis
4 Haemoptysis	→	Anaemia	→	Lowered resistance	→	Pulmonary tuberculosis
5 Pyrexia	→	Emaciation	→	Lowered resistance	→	Pulmonary tuberculosis
6 Pyrexia	→	Dryness of mouth	→	Anorexia	→	Pulmonary tuberculosis
7 Formation of cavities	→	Mixed infection	→	Suppuration	→	Pulmonary tuberculosis
8 Absorption of toxins	→	Retarded haemopoiesis	→	Lowered resistance	→	Pulmonary tuberculosis
9 Tuberculous laryngitis	→	Dysphagia	→	Emaciation	→	Pulmonary tuberculosis
10 Hyperhidrosis	→	Physical discomfort	→	Restriction of exercise	→	Pulmonary tuberculosis.
11 Loss of strength	→	Unemployment	→	Malnutrition	→	Pulmonary tuberculosis.

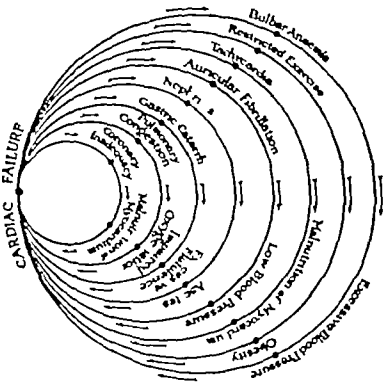
III *Obesity*

Obesity may involve—						
1 Extra demands on heart	→	Cardiac hypertrophy and dilatation	→	Restricted exercise	→	Obesity
2 Deposit of fat in mediastinum	→	Weakened respiratory activity	→	Retarded oxygenation	→	Obesity
3 Deposit of fat in liver	→	Hepatic enlargement	→	Loss of active habits	→	Obesity
4 Deposit of fat in mesentery	→	Sluggish peristalsis	→	Excessive absorption from ingesta	→	Obesity
5 Hypothyroidism	→	Low basal metabolism	→	Diminished katabolism	→	Obesity
6 Sense of exhaustion	→	Boulimia	→	Overnutrition	→	Obesity
7 Muscular weakness	→	Restricted exercise	→	Saving of calories	→	Obesity
8 Increased somnolence	→	Increased hours of sleep	→	Saving of calories	→	Obesity
9 Tendency to hyperhidrosis	→	Physical discomfort	→	Restricted exercise	→	Obesity
10 Increased body weight	→	Tendency to flat-foot	→	Restricted exercise	→	Obesity
11 Diminished energy	→	Self indulgent habits	→	Restricted exercise	→	Obesity

IV *Habitual Constipation*

Constipation may involve—						
1 Absorption of water from faeces	→	Formation of scybala	→	Dyschezia	→	Constipation
2 Dilatation of rectum	→	Weakness of muscles of rectum	→	Dyschezia	→	Constipation
3 Anorexia	→	Diminished ingesta	→	Diminution of faecal matter s	→	Constipation
4 Haemorrhoids	→	Painful defaecation	→	Postponement of defaecation	→	Constipation
5 Fissure of anus	→	Painful defaecation	→	Postponement of defaecation	→	Constipation
6 Loading of colon	→	Coloptosis	→	Dyschezia	→	Constipation
7 Looping of sigmoid	→	Kinking of sigmoid	→	Dyschezia	→	Constipation
8 Formation of rectal diverticula	→	Obstruction of rectum	→	Dyschezia	→	Constipation
9 Restricted exercise	→	Weakened peristalsis	→	Dyschezia	→	Constipation
10 Irritation of intestinal mucosa	→	Spasm of intestinal walls	→	Arrest of faeces	→	Constipation
11 Absorption of toxins	→	Weakening of intestinal muscles	→	Arrest of faeces	→	Constipation
12 Coprolith	→	Defective action of levator ani	→	Dyschezia	→	Constipation
13 Absorption of toxins	→	Hypothyroidism	→	Myxoedematous infiltration of intestine	→	Constipation
14 Anxiety neurosis	→	Perversion of mechanism of defaecation	→	Dyschezia	→	Constipation
15 Anxiety neurosis	→	Resort to quack remedy	→	Irritation of intestinal mucosa	→	Constipation

increases in strength, *ceteris paribus*, with the number of its affluents, so do simultaneous and concurrent *circuli vitiosi* exert a cumulatively potent effect The result of such concurrence may often be observed both at the bedside and on the *post mortem* table, indeed, a large proportion of deaths are the direct consequence of such cumulative action The analysis of a few disorders may emphasize this aspect of disease, the procedure once understood can



Concurrent Circles in Cardiac Failure.

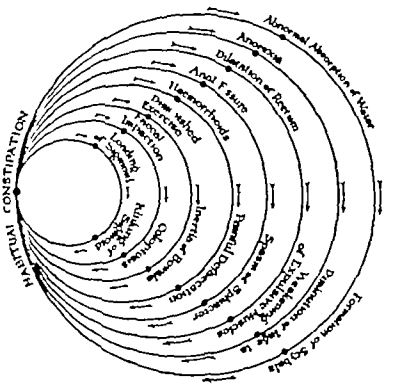
readily be applied in other conditions We shall select as illustrations

(1) Cardiac failure
(2) Pulmonary tuberculosis
(3) Obesity
(4) Habitual constipation *

A tabular arrangement will give the most complete survey of the morbid processes in operation, although the graphic representation of the circular process will leave a more durable impress on the memory than printed words can do

Such tabular statements allow the best panoramic survey of the hostile forces that have been mobilized, and yet they do not reveal all the intricacies of disease Each of the injurious reactions may in its turn give birth to other circling eddies or raging whirlpools Such is the result of the intimate and far reaching correlations existing in highly specialized organisms

But a still more impressive, because more living, representation of the subtle interrelationships is secured by actually depicting the circular process, as has been done in the two accompanying diagrams The limitations of space and of typography forbid an exhibition of the entire series of complications, but a sufficient number have been given



Concurrent Circles in Habitual Constipation.

to illustrate the principle Any reader can, on a larger page, supplement the list

There are many disorders that can be studied by this method, and it will be found a profitable exercise to resolve them into their constituent circular processes Neurasthenia, Graves's disease, dyspepsia, and anaemia may be suggested as eminently suitable for the purpose

Happily the circular processes mentioned above are never simultaneously present *The alert physician, however, will* be on the look-out for their development and be prepared to adapt his therapeutics accordingly

From the dawn of medicine the primary reactions of a disorder have absorbed universal attention, while the reciprocal influence of those reactions on the primary disorder have, *mirabile dictu*, been almost wholly neglected, and yet such influence may be of immeasurable import as regards the evolution, the progress, and the termination of disease

* Fuller details of these reciprocally acting processes will be found in *Vicious Circles in Disease* by J B H.

THE X-RAY TREATMENT OF HYPERTHYROIDISM

BY

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As a radiologist with over fourteen years' continuous clinical experience in the *x*-ray treatment of hyperthyroidism, I can bear witness to the undoubted value of *x* rays in this condition

By the term "hyperthyroidism" I mean all types of thyroid activity in which there is excessive or disordered thyroidal secretion The term therefore includes a simple mild hyperthyroidism without any macroscopic enlargement of the gland, up to an acute and severe hyperthyroidism with all the accompanying physical evidences and symptoms of Graves's disease Three out of every four female patients in whom the disease has not lasted long enough to produce myocardial degeneration recover their general health and good functional activity of the gland, I stress the word "female" because in my experience males do not as a general rule respond so readily to the treatment *In some cases which fail to respond to radiation* I believe other endocrine glands are probably involved; it is in any case wise to include the area of the thymus gland in the field of radiation The intimate association of the ovarian and thyroidal functions is well known, and it is interesting to learn that Dr C M Wilson and Mr A W Bourne of London found speedy relief of symptoms from *x* ray applications to the thyroid in women suffering from so-called functional menorrhagia—that is, a type of menorrhagia in which there were no pelvic signs to account for the loss and which cases generally resisted curettage or other treatment [1]

I have found determination of the basal metabolic rate useful in the diagnosis of doubtful cases of hyperthyroidism, and I do not advocate the radiation of doubtful cases unless the basal metabolic rate has been carefully estimated and is definitely in favour of the condition being one of hyperthyroidism It is also useful as a guide to the progress of a case, and should be more systematically undertaken

Although the enlarged thyroid gland may not be reduced in size by radiation, and although the exophthalmos frequently remains, the pulse rate becomes slower, and the breathlessness, tremors, excessive perspiration, sleeplessness, and the general malaise gradually disappear and the patient gains in weight The weight goes up as the pulse comes down, and a careful record of these factors serves as a practical guide to progress

I was recently astonished to read Mr A J Walton's statement "I have no evidence that *x* rays can overcome hyperthyroidism even to the point of myxoedema, as is sometimes claimed, but, on the other hand, I have never found that it makes a future operation more difficult on account of the fibrosis If I had evidence that it produced any fibrosis I should believe that it would control the hyperthyroidism" I welcome his statement that he has not found operative treatment rendered more difficult by

fibrosis caused by previous radiation treatment, but it is difficult to reconcile this statement with the diametrically opposite expressions of other surgeons I think it is regrettable that surgeons, who have necessarily only a limited experience of the effects of x-ray treatment on the general health of patients suffering from hyperthyroidism, should publish opinions which are in direct contradiction to the general experience of men daily carrying out such treatment Radiologists do not dispute the undoubted good results obtained by operative measures because occasionally patients present themselves for radiotherapy after operation has failed to cure the condition

Having observed the undoubted value of carefully applied x-ray treatment in Graves's disease, I consider that unless radiotherapy has been given a fair trial and has failed to bring about a definite improvement in the condition, the operative treatment of Graves's disease ought not to be undertaken in view of the risks entailed In Graves's disease, as in other diseases, the best results are obtained by team work, and close co-operation between physician, surgeon, biochemist, and radiologist is essential

I have found the following technique give good results I use a Coolidge tube, backing up a 9-inch spark gap, and give either a two-thirds or three-fourths Sabouraud B, measured after filtration through 2 mm aluminium, as a dose to each side of the neck once a week Only one side of the gland is radiated at one sitting, as in some cases there may be a temporary increase of the hyperthyroidism if a heavy radiation is given and both sides are radiated simultaneously I prefer the fractional dose, spread over a course of twenty to thirty radiations, to a massive dose given, as at Erlangen, in only one or two sittings The latter method may have the advantage of quicker results, but is, I think, risky In a case of true Graves's disease the average number of radiations necessary to produce good results is about twenty-five, and although in some cases treatment at intervals of three to six months, or even a year, may be required, yet, in my opinion, the period of the disease is shortened by radiation treatment I think, moreover, cases of mild hyperthyroidism should have a course of x-ray treatment as a prophylactic measure against the development of true Graves's disease, as I believe that the full development of the condition has been prevented by this course of action in some cases which have come under our care

Illustrative Cases

In about 75 per cent of all the cases treated, I believe great improvement occurred, and about 50 per cent have ceased to have symptoms of hyperthyroidism Only one patient developed any serious skin lesion, this patient was treated about twelve years ago before our technique was as good as it is to-day

The following notes on a few cases are typical of the results obtained in 50 per cent of the cases submitted to radiation treatment

1 A severe case of Graves's disease in a female who weighed 8 st ¾ lb Treatment commenced on March 1st, 1922 and continued to May 19th Steady improvement in health resulted and on July 4th the patient weighed 8 st 10 lb, all symptoms of hyperthyroidism had disappeared

2 A patient with fourteen years' history and the usual symptoms, and pulse rate 135 commenced treatment on September 9th By September 22nd improvement was noticeable, and by October 10th the pulse rate had fallen to 104 On November 28th the pulse was 92 and the treatment ceased on December 1st

3 A very severe case of exophthalmic goitre in a female who was carried into my consulting room unable to walk The ankles were swollen the pulse rate was 135-140 The patient was rapidly going downhill and a grave prognosis was given by the physician in charge She commenced treatment on May 9th 1917, and improvement commenced on the 26th On June 6th the pulse was 116 on the 13th a gain of 4 lb in weight was recorded, and on July 2nd another 8½ lb gain coincided with a very marked general improvement The swelling of the legs had disappeared by July 16th and the patient was able to walk on the 19th No more severe paroxysms of tachycardia occurred, and the treatment came to an end Her improvement steadily continued after cessation of treatment and early in 1918 she had completely recovered her health and was working on the land

4 A severe case of hyperthyroidism in a female, to whom treatment was given from February 2nd to April 20th 1922 The weight in this case diminished during the treatment but the general health gradually improved, and by August 31st she was practically well When seen in November, 1922, the patient had increased in weight and improved so much in appearance and health that we did not know her

5 A severe case of Graves's disease in a male, with a very rapid pulse, and weight 9 st 1 lb He commenced treatment on July 2nd, 1917, and by August 13th had gained 7 lb in weight On August 27th there was a further gain of 4 lb, and on September 5th the pulse was 80 By September 24th the weight was 10 st 3½ lb, the pulse 76, and there was very marked general improvement in health After a few further treatments given in December the patient weighed 11 st, and returned to work on the railway

6 A male with seven years' history of severe Graves's disease, thyroid very much enlarged, pulse 120, marked tremors and exophthalmos Treatment commenced on December 29th, 1919 On February 5th, 1920, the pulse was 102, on April 7th it was 80, and there was a general improvement in health Three courses of treatment were given between December 29th, 1919, and August 17th, 1920 The patient steadily improved in general health and the enlarged gland returned to an almost normal size

We do not know how the x rays produce their effect and cure hyperthyroidism, but as the function of the gland apparently becomes normal again it is highly probable that, apart from any local action such as thickening of the intima of the blood vessels and an increase in the fibrous tissue elements of the gland, other changes occur which affect or modify the quality or quantity of the gland secretion It must be borne in mind that radiating so vascular an organ as the thyroid may produce changes in the blood serum which may also influence the gland I have only personally seen myxoedema produced in two cases of Graves's disease, and as in one of these cases only a very few radiations had been given and the other had received no more than the usual amount of radiation, it seemed highly improbable that the radiation was the cause of the myxoedema in either case Both patients did exceedingly well under thyroid treatment It is our practice to stop radiation before the heart frequency comes down to normal, as the effect of radiation is cumulative and continues for some weeks after actual treatment has ceased

Some patients who have still symptoms of hyperthyroidism on completion of their first course of treatment present themselves some few months later without any symptoms of the disease I have not found radiation treatment satisfactory in cases in which symptoms of hyperthyroidism have supervened upon an old large parenchymatous, adenoparenchymatous, or cystic goitre These cases should be referred to the surgeon, especially if there is pressure on the trachea If the condition of the patient precludes surgery radiation treatment must be tried, as improvement in the patient's general health sometimes occurs, although the gland is not obviously reduced in size

REFERENCE.
1 BRITISH MEDICAL JOURNAL November 11th, 1922, p 911

AN ANTIDOTE FOR ARSENIC, BISMUTH, AND MERCURY POISONING

BY

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ALL the larger venereal clinics and not a few practitioners are occasionally faced with the anxiety incidental to cases of arsenical jaundice and dermatitis, and more commonly with the problem of treating stomatitis due to bismuth and mercury It is the purpose of this communication to draw attention to the value of intravenous injections of sterile solutions of chemically pure sodium thiosulphate in combating the toxic effects of these drugs

A preliminary report in 1920 by P Ravaut[1] was followed in 1922 by a more detailed account by McBride and Dennie,[2] whose clinical results, based as they are on seven cases of severe arsphenamin dermatitis, seem to me to justify their claims and to warrant trial on a more extensive scale

Their conclusions, shortly stated, are that the course of the dermatitis is shortened from months to weeks, that intravenous injections of the salt are preferable to all other

methods of administration and are non toxic up to a dose of 2 grams, and that acute and chronic mercurial poisoning is rapidly controlled

For the purpose of trial in my clinic Messrs May and Baker (manufacturers of *novarsenobillon*, etc.) were good enough to prepare a quantity of chemically pure dehydrated sodium thiosulphate, and to put it up in doses varying from 0·2 to 1·5 grams in sealed ampoules. A short experience has convinced me that both the larger and the smaller doses are unnecessary, and the stock now available in the department is limited to doses of 0·45, 0·6, 0·75, and 0·9 gram.

The number of instances of drug toxæmias has been very small during the past few months, but such as it is it affords considerable ground for the belief that in sodium thiosulphate we have a specific, safe, and rapid antidote for stomatitis due to mercury and bismuth, it also offers a hope that the course of arsenical poisoning, both in the skin and the liver, can be controlled and in some degree shortened by its administration.

The action of the salt when injected into the circulation containing a metal or an arsenical derivative is an interesting biochemical problem. I find it difficult to accept the theory that an insoluble sulphide is formed. Such an explanation ignores the probable effect of a heavy precipitate on the capillary meshes of the brain, kidneys, etc., where infarction would seem inevitable. Whatever the chemistry, there is no doubt that the distressing symptoms of mercurial and bismuth stomatitis are effectively and rapidly relieved. Three to four injections of 0·45 to 0·6 gram, given intravenously in 5 c.cm. of water on alternate days, were found sufficient (in our four mild cases) to clear up the fetor and salivation, and permit of early dental treatment to insure against a recurrence.

CASE I.—*Bismuth Stomatitis.*

A male (5277), aged 26, contracted syphilis in 1919 and developed jaundice during his treatment. Bismuth was therefore substituted and in October, 1923, he began a course of intramuscular injections of trepol. After the fourth injection he developed soreness of the gums and salivation. On November 26th he received 0·45 gram of sodium thiosulphate intravenously and 0.5 gram on the 28th. The salivation and tenderness of the gums cleared up immediately, and no further injections were given. After dental attention he was able to resume his course of trepol and he showed no further symptoms of intolerance.

CASE II.—*Mercurial Stomatitis.*

A male (4897), aged 36, developed mercurial gingivitis after three injections of mercurial cream. Three injections of 0·45, 0·6, 0·75 gram on alternate days, cleared the symptoms of fetor and salivation within a week, and the patient, after a brief rest and dental treatment, was able to continue his course.

CASE III.—*Bismuth Salivation.*

This was a mild example of the condition and yielded to a single injection of 0·45 gram.

CASE IV.—*Mercurial Stomatitis.*

A woman (5361), aged 24, developed severe gingivitis with fetor and salivation after taking hydrargyrum cum creta from September 18th to October 16th, 1923. On the later date 0·45 gram of sodium thiosulphate was given intravenously, and 0·6 gram on October 18th. Bleeding of the gums and bad taste in the mouth ceased after the second injection. Two more doses of 0·6 gram on October 23rd and 25th cleared up the symptoms.

CASE V.—*Arsenical Jaundice.*

A male (5224), aged 33. *The symptom appeared within twenty* four hours of receiving the last of the following series of six intravenous injections of novarsenobillon each at an interval of three weeks from the preceding: 0·45, 0·45, 0·45, 0·6, 0·6, and 0·75 gram. On admission the temperature was normal, the tongue furred, and the liver just palpable below the right costal margin. The patient complained of nausea and depression, and stated that he had had several bouts of severe shivering and vomiting. There was no itching of the skin. The urine, which had contained no albumin when, at each of the above injections, it had been examined, now contained a trace, together with bile and a few granular casts.

As time is all important in these cases an intravenous injection of *0·75 gram of sodium thiosulphate in 10 c.cm. of water was* immediately given, and the detailed pathological investigation postponed to the following morning. I am greatly indebted to Dr. P. O. Ellison, Assistant Pathologist to the Royal Northern Hospital and V.D. Department, for his painstaking work, the results of which are worthy of a detailed consideration. The levulose tolerance was as follows:

When fasting the blood sugar was	0·115 per cent.
½ hour after 35 grams of levulose	0·155 "
1 hour "	0·2 "
1½ hours " " "	0·19 "

These figures in Dr. Ellison's opinion indicated severe hepatic inadequacy, and were further supported by the blood content of lipase—namely, 0·4 c.cm. N/10 Van den Bergh's test suggested jaundice of the haemo-hepatogenous type. The history and pathological findings left no doubt in my mind as to the etiology in this case, and I continued to inject daily doses of sodium thiosulphate (0·45 to 0·5 gram) from February 6th to February 15th, until a total of 4·7 grams of the salt had been given. No symptoms of intolerance supervened, and from the very first dose the subjective manifestations of icterus—namely, nausea and depression—were stated to have improved, while the icteric tint never very pronounced, faded visibly from day to day, and the stools regained their normal colour. Dr. Ellison submitted a second report on the levulose tolerance on February 19th, and a comparison with his former result is interesting and appears to tally with the clinical progress of the case:

Levulose Tolerance	February 7	February 19
Fasting blood sugar	Per cent. 0·115	Per cent. 0·12
Half an hour after levulose	0·155	0·15
One hour after levulose	0.2	0.15
One and a half hours after levulose	0·19	0·14

The latter estimation is approaching the normal figure. The blood lipase test gave a reading of 0·35, and the van den Bergh's test a negative result. The patient was therefore discharged from the ward, free of all symptoms, on the thirteenth day from his admission.

Although the results were suggestive of a specific antidotal action in this case, they are by no means conclusive, as mild cases of arsenical jaundice clear up without any further medication than small doses of calomel. For proof of specificity more cases and more serious types are necessary. If, as is presumed, the action of the thiosulphate is to neutralize the arsenic, good results can only be confidently expected if treatment is commenced immediately the toxic symptoms are apparent, as was done in this instance. If actual tissue destruction has already occurred and so-called yellow atrophy of the liver is in progress, a favourable issue is hardly to be expected. The importance of early recognition and treatment of such cases cannot therefore be overemphasized.

CASE VI.—*Acute Dermatitis after two Sulpharsenol Injections.*

A nursing sister, aged 47, was admitted for chronic psoriasis which had previously involuted under intramuscular injections of some arsenical compound. Following the second injection of 0·36 gram of sulpharsenol intravenously, an acute irritable eruption appeared, mainly on the trunk and arms and resembling a serum urticaria in type. There was no rise of temperature, nor a history of previous dermatitis of any kind, and we were therefore compelled to assume that the sulpharsenol had produced it. An injection of 0·5 gram of thiosulphate was immediately given, and the following morning the pruritus had subsided, and the above dose was repeated. Slight desquamative reaction supervened forty-eight hours later, and the patient made an uninterrupted recovery in five days.

The rapid clearance of symptoms in this case after only two injections of thiosulphate can be explained only on the theory of direct neutralization, which is extremely probable, as not more than an hour elapsed between the appearance of the rash and the injection of the antidote. It would not have been possible in an out-patient. If the diagnosis was correct—and that of course is a matter of opinion—there could scarcely have been a more valuable illustration of the importance of instantaneous action. McBride and Dennie (loc. cit., Case 6) report an irrefutable example of this point in a woman who swallowed 7½ grains of perchloride of mercury with suicidal intent, and was brought to the hospital four hours later with acute abdominal symptoms and haematuria. The administration of 15 grams of thiosulphate by the mouth and 0·45 gram intravenously checked the pain and diarrhœa in a short time. Eight hours later 0·9 gram more was given and the following morning 0·45 gram. The patient made a complete recovery in a week, and although eight months pregnant did not abort.

It would be difficult to produce more convincing evidence of the value of thiosulphate in metallic poisoning, and such a case is a strong argument for its accessibility in a convenient form in all casualty departments and surgeries where such emergencies are likely to be met with. The rationale of administration by the mouth in the above case

is self-evident, and the salt probably reacted *in situ* with the perchloride My own experience of oral administration is confined to a single case, in which it produced severe colic and diarrhoea when given in drachm doses twice daily

CASE VII —*Mercurial Stomatitis and Eruption*

In this case the condition followed the intravenous injection of 1/16 gram of mercury perchloride for severe septicaemia The patient was certainly saved by the heroic measures adopted to combat the infection, but the resultant mercurial poisoning, which only supervened a fortnight after the injection, was a troublesome sequel At the time I had no experience of the intravenous method, and in view of the patient's dread of further injections I ordered the thiosulphate in a mixture The stomatitis began to improve at once, and the rash showed signs of involution and began to desquamate slightly on the fourth day, but the patient developed severe colic and the treatment was abandoned

The dose (1 drachm three times a day) was probably too large, although the amount mentioned in McBride's sixth case—namely, 15 grams—is actually four times greater (the *B P* allowance of dose is up to 1 drachm) This experience has somewhat biased me against administration by the mouth, and in future cases I intend to rely on the more rapid and evidently less toxic intravenous route

Local Antidotal Properties of Thiosulphate

CASE VIII

On March 5th a male patient, aged 23, received 0 6 gram of novarsenobillon in 10 c cm of water into the left antecubital vein The injection was given by an assistant who was operating for the first time In spite of careful control the needle slipped through the posterior wall of the vein, and the last part of the barrel contents (about 2 c cm) formed a distinct tumescence subcutaneously The patient complained of severe burning pain and fainted The syringe was disconnected, leaving the needle *in situ*, and 8 c cm of distilled water, containing 0 75 gram of sodium thiosulphate, were injected so as to mix with and dilute the novarsenobillon solution When I saw the patient again, on March 12th, there was no trace of local infiltration to be seen, and apparently no pain on deep pressure over the site of the injections, which was still marked by the presence of a bruise, where blood had escaped from the perforated vein This is the first time in my clinic that an extravenous leak of novarsenobillon has escaped the sequela of painful subcutaneous infiltration

Whilst fully conscious of the shortcomings of this communication, based as it is on only seven cases in early stages of metallic or arsenical intoxication, I feel justified in claiming that my results confirm those of the American authors, and support their view that sodium thiosulphate given intravenously is a potent antidote for mercurial and bismuth stomatitis, and of real value in counteracting the serious effects of acute arsenical toxaemia It may be found, furthermore, to be an indispensable adjunct in the treatment of all cases of acute metallic poisoning

REFERENCES.

[1] Ravaut, P *Presse Médicale*, 28 73 January, 1920 [2] McBride and Dennie *Arch Derm and Syph*, vol. 7, No 1, January 1923, p 63

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

"SLIPPING RIB"

I HAVE lately had under my care a patient suffering from the condition described by Mr Davies Colley in the BRITISH MEDICAL JOURNAL of March 8th, 1922, under the above name As he remarked, it is more than likely that if the condition was described in the textbooks more cases would be recognized and relieved of their disability Still, it apparently is not a common complaint

My patient was a lady aged 26 There was no history of injury Eight years ago she began to feel pain in her back when playing golf, and the pain has got steadily worse It was always much increased by any exercise such as golf, tennis, or riding, and during the last year it has been very severe, practically preventing games and sometimes even preventing sleep The pain was always in the dorsal region and the left costal margin Her husband had noticed that she held herself crooked and walked "like a crab" She had been treated for a supposed movable kidney by a belt, without any relief, and was contemplating going to England to have the kidney operated on

Examination on several occasions failed to discover a palpable kidney, but on the left costal margin at about the level of the tenth costal cartilage was a movable tender object about the size of a hazel nut, which on palpation slipped away with a sensation resembling crepitus, to reappear on almost any change of the patient's position The diagnosis of "slipping rib" was made

At operation the cartilage was found to be in place at the moment, but it was easily displaced, and was seen to be freely movable About two inches of the distal end was excised The patient had considerable post-operative pain for a few days For three weeks there was a dragging pain in the wound and the old backache persisted for nearly three months, but with gradually decreasing intensity The backache was almost certainly muscular in origin and due to the habitual faulty attitude she had assumed

The operation was done over three and a half months ago, and the patient expresses herself as being now entirely free from pain or discomfort, and able to enjoy as many as five sets of vigorous tennis in the afternoon

Alexandria, Egypt E N RUSSELL, M D Cantab

REPAIR OF RECURRENT INGUINAL HERNIA BY A GAUZE FILIGREE

THE principle involved in this case is at present under trial for the radical cure of femoral hernia After tying off and removing the sac the femoral canal is filled by a gauze plug and held in position by a few catgut sutures

J P, a pastrycook aged 25, was admitted to St James Hospital, Balham on March 10th, 1923, with a recurrent right inguinal hernia He had been operated on three years previously He was thin and undeveloped, with a marked impediment of speech *He had a bulging scar in the right inguinal region* The hernia was about the size of a pigeon's egg, and as it interfered with his comfort he was very anxious that something should be done to relieve him

On March 12th the scar of the aponeurosis of the external oblique, which was found to be three-quarters of an inch wide, was excised and the sac exposed and dealt with in the usual way It was impossible to do a radical repair after Bassini's method, as the internal oblique was thin and friable and separated from the lower border of Poupart's ligament by about one and a half inches Some ordinary sterile absorbent unmedicated roller gauze, which is prepared from cotton and is used in all operating theatres, was folded three times and cut to fill the inguinal canal In this case it was about two and a half inches long and one and a half inches wide The gauze was saturated with flavine and tucked under the lower border of the internal oblique and behind Poupart's ligament It extended forwards and inwards to the usual situation of the external abdominal ring The cord was not displaced in any way The aponeurosis of the external oblique was united over the gauze with catgut sutures, and the skin closed by a continuous silk suture It may be added that the strictest aseptic and antiseptic precautions were taken during the whole of the operation

The patient made an uninterrupted recovery and has been under observation for more than twelve months The wound is firmly healed, there is no discomfort, and no evidence of recurrence of the hernia

It is too early at present to form an opinion as to the ultimate results

London, S W D O'DONOVAN, B Sc, MRCS, LRCP

DISCHARGE OF ASCARIS LUMBRICOIDES THROUGH APPENDICITIS SCAR

WHEREAS formerly it was believed that *Ascaris lumbricoides* was a harmless intestinal parasite, there is now a growing list of more or less serious complications from its presence in the human body Crowell[1] in a classification of the pathological effects of this parasite, mentions that it has several times been found in the appendix vermiformis, and in the case we now record five ascarids made their escape through the scar after an operation for appendicitis, they had kept up a persistent sinus for four months

A girl aged 12 was admitted to the Bristol General Hospital on October 8th, 1923, suffering from diffuse peritonitis of forty-eight hours' duration The abdomen was at once opened by one of us (D G C T), and a diffuse peritonitis of the pelvis and both sides of the lower abdomen from a perforated appendicitis was found The appendix was seen to have perforated and to be sloughing throughout its entire length It was removed and the stump ligatured and buried by a purse string suture The free pus was mopped out with gauze swabs and the pelvis drained by a rubber tube No ascarids were seen, nor were they thought of The tube was removed in forty eight hours, and convalescence was quite satisfactory the child being discharged from hospital on November 5th, 1923, with the wound nearly healed

After discharge from hospital the child remained in the care of the other of us (A S C), who found that she complained of

[1] *Amer Journ. Med. Sci.*, March, 1920, p 380

slight itching constantly in the wound with some serous discharge This continued until February 10th 1924 when two adult ascarids were discharged from the lower part of the scar where the tube had been Santonin (gr 3) was given nightly for four nights and on February 12th another worm (male) was extruded Two days later two small female ascarids were taken from the scar and the following day an adult female worm was passed dead from the rectum. The patient is now well, and the wound is soundly healed

It is interesting to speculate on the relation of the worms to the attack of appendicitis In all probability, whilst present in the small intestine, they had no connexion with the onset of appendicitis They certainly did not cause the perforation, as in the mopping out of the peritoneal exudate they could hardly have been missed Crowell suggests the possibility of the worms being able to force their way through minute openings, as from stitches in the bowel wall, and we can only suppose that in this case they made their way through the appendix stump and then gradually found an exit along the track of the drainage tube

ARCHIBALD S COOK, M B,
Ch B Class Bristol
D G O TASKER, M S Lond,
F.R C S Eng Assistant Surgeon
Bristol General Hospital.

XANTHOMA DIABETICORUM

XANTHOMA DIABETICORUM is a skin disease of sufficiently rare occurrence to warrant the recording of the following details of a case which came under my observation in the skin department of the Kasr-el-Aini Hospital

The patient was a man aged 45, healthy looking, and with no family history of particular medical interest Twelve years ago tumours began to appear on the elbows and knees some times they became very prominent and sharply defined, and at other times they subsided somewhat They caused very little irritation, and the patient only came for treatment because of their unsightly appearance The eruption was most marked on the elbows knees, and buttocks, and was present also to a less degree on the extensor aspect of the forearms the legs, hands, fingers, feet, chest, and abdomen It consisted of papular or nodular growths, each of which showed an outer hyperaemic reddish halo and a yellowish white fatty central area The nodules were hard and resistant to pressure When newly formed the central yellowish part was hardly distinguishable, but became more marked with the increase in size of the papules and the coalescing of several to form a pyramidal mass. When the chain of papules began to break down and the papules faded, a dark reddish patch formed

Sections of the papules were stained by Sudan III, and showed fat present, mostly as very fine granules, similar to those seen in fatty necrosis. In some parts of the section the remains of round cells, connective tissue cells, showing fatty degeneration, appeared in a network of fine fibrous tissue The photomicrograph of the section showed an inflamed area which had undergone fatty degeneration

When first admitted to hospital the patient was passing two and a half litres of urine during the twenty four hours, and sugar was present to the amount of 10 per cent , acetone was also present. He was put on Allen's diabetic diet, and the urine decreased in quantity, the sugar diminished, and the growths began to fade away After four weeks treatment they were much less marked and some had entirely disappeared

Kasr-el-Aini Hospital, Cairo M AZER, M D, Ch B

RHEUMATISM AND ERYTHEMA NODOSUM

THE following case may be of interest in view of the disputed connexion of rheumatism with erythema nodosum

Mrs C, aged 30, was seen by me on January 23rd with a slight attack of follicular tonsillitis She went to bed on January 28th feeling 'quite well, but was unable to get up next morning owing to pains in her limbs I saw her two days later There were, on the front of the right leg four raised round red spots about the size of threepenny pieces Behind the right elbow there was one about the size of a five-shilling piece The whole of the dorsum of the left foot was red and swollen. There was some effusion in the left knee with tenderness, but no redness. All the spots were very tender and the patient was unable to move A few days later some effusion appeared in the left wrist but without redness. The whole condition cleared up within three weeks The heart and lungs appeared normal and there was no albumin in the urine. The temperature did not rise above 100° F at any of my visits

There was a history of rheumatic fever in childhood

Birmingham. ROBERT ANDERSON, M D

Reports of Societies.

TREATMENT AND FUNCTIONAL RESULTS OF TUBERCULOUS HIP DISEASE

AT the meeting of the Section of Orthopaedics of the Royal Society of Medicine on April 1st a discussion took place on the treatment and functional results of tuberculous disease of the hip-joint The President, MR R C ELMSLIE, was in the chair

DR GORDON PUGH referred to the value of an open air life in the treatment of tuberculous disease and the importance of constitutional treatment In the contest of the patient with the bacillus every influence tending to improve his vitality must be applied, for the greater the reaction of the tissues the greater the success that would attend the surgeon's efforts He dealt with, first, the urgency of early treatment, secondly, the deformities which might result from ineffective treatment, and lastly, the mechanical methods that had been applied His remarks were illustrated by lantern slides It was impossible, he said, to discuss hip disease without mentioning the name of H O Thomas Thomas said that in hip disease early diagnosis seldom was of benefit to the patient, because of the erroneous policy which directed the treatment and the inefficiency of the appliances used To-day, although the defects in the mechanical treatment to which Thomas referred had been to a great extent corrected, still in many instances early diagnosis did not give the patient the benefit of the early constitutional treatment which legislation had made available for all such cases in London It was a remarkable fact that the majority of cases admitted to the country hospitals of the Metropolitan Asylums Board had been kept under treatment in town institutions or at home for months, or sometimes years, after the diagnosis had been arrived at According to the accepted pathology tuberculous disease of the hip-joint usually began in the red marrow near the femoral or acetabular epiphyseal lines, where the circulation was most active and the newly formed bone least resistant If the local resistance could be sufficiently increased the disease might be confined to the interior of the bone Otherwise it found its way into the joint, and the granulation tissue spread under and over the cartilage and destroyed it While the disease was still limited to the interior of the bone the joint showed evidence of sympathetic inflammation, the synovial membrane was congested, and the synovia increased in quantity, resulting in limp and slight limitation of movement At this stage intensive constitutional treatment was urgently called for Among the deformities which might result from ineffective treatment was genu recurvatum, if the patient were recumbent for long periods To avoid this the knee should be kept slightly flexed Genu valgum occurred from defective method in applying extension For an ankylosis of the hip-joint he thought 35 degrees of flexion was the best position For correction of adduction he recommended tenotomy and plaster, with a perineal band to hold up the pelvis Tuberculous abscesses of the hip should be aspirated, dissolving solutions should not be injected It was good treatment sometimes to open tuberculous abscesses Sinuses should be slit up and allowed to heal from the bottom Mechanical methods of treatment included Taylor's traction splint, used in America, and the long Liston, or the extension splint of Thomas Friction must be avoided Thomas said that if friction was avoided spasm and pressure would go It was necessary to immobilize and use traction to avoid tonic contraction Plaster was sometimes used (though bony ankylosis in children was difficult to obtain) or a splint with traction and outward pull, Jones's splint prevented friction and spasm In another model friction was prevented by having the limb in a tin trough on wheels Tuberculous ankle cleared up completely under constitutional treatment alone, resulting in free movement of the joint At Carshalton the condition of tuberculous hip joint was treated as soon as possible by extension a frame being used with a perineal band and a "slipper", there was no compression of the chest, and the sound leg was exercised

This was followed by subsequent removal of the slipper, and massage was given, both legs exercised, and a celluloid spica put on The patient was provided with crutches and a patten It was necessary to keep the patient recumbent until the hip was able to bear pressure When there was good hip movement the spica was removed and a "walking Thomas" applied The patient had then to be seen at least once a week during the first few months, in case slight flexion occurred

Mr T P McMURRAY said that tuberculous disease of the hip was a disease without an age limit It was usually brought under care at an early age before abscess formation and ankylosis in a bad position had appeared When tuberculous arthritis was diagnosed, the disease had already affected the joint surfaces, and the protecting muscle spasm —Nature's guard against irritation—indicated the treatment Fixation of the joint, immediate and complete, was essential This was recognized from early times and mentioned by Pliny This fixation should be in the recumbent position, and accompanied, in the more acute stages, by extension, which relieved the pressure in the diseased articular surfaces and diminished reflex muscular spasm round the joint This could be accomplished in a frame in which extension and counter-extension were fixed The period of recumbency varied from eighteen to twenty four months If pain and signs of acute inflammation were absent—the former being absent for at least six months—and if there was no irregularity of temperature, some other form of fixation, such as plaster, could be substituted He thought that a long plaster spica was not so good as a frame, because extension could not be applied, and exposure to the sun was not so complete The angle of fixation was of the greatest importance, because any shortening present should be compensated for by abduction of the ankylosed hip, but, equally the diseased leg should not be fixed in too great abduction The angle could be roughly judged by the real shortening the greater the shortening the greater the abduction, if the shortening did not exceed 2 to 3 inches *Non-operative treatment* had been adopted because of the tragedies which followed operative interference—wide opening up and erasion of the joint, excision of the femoral head, excision of the whole joint, disarticulation at the hip, and arthrodesis Fatal results occurred at the time of the operation, or later from lardaceous disease or from spread of the infection Ford wrote in 1794 that few patients died of this complaint unless there was an external wound communicating with diseased bone This was the speaker's experience Sinus resulted from abscess, and this in turn from movement If there was danger of bursting of the abscess, aspiration or evacuation through a small incision should be performed, otherwise removal of the contents was unnecessary A detached carious femoral head should be removed Injections of various materials into tuberculous abscesses and sinuses was unnecessary Open air and sunlight were of paramount importance, particularly the former Artificial light rays had been utilized with marked benefit Complete restoration of the joint cavity could not occur when the bone was eroded Fibrous tissue stretched and rendered the joint liable to trauma and pain, necessitating rest The termination of the disease to be aimed at was the formation of a sound bony ankylosis in a good position Movement of the joint at any stage of treatment was therefore not advisable Bony ankylosis in a bad position demanded osteotomy, preferably transtrochanteric, unless division of the bone would be too near to the site of the disease and possibly cause a lighting up of the old trouble A sharp lower end of the upper fragment projecting under the skin of the groin should be avoided If perfect movement resulted from treatment the diagnosis of tuberculous hip was wrong

Mr LESLIE did not agree that the diagnosis was wrong if full movement was obtained from treatment He pleaded for accuracy of diagnosis For instance, tuberculous disease of the joint must be distinguished *from a cyst, which could* be cured by crushing of the wall Going through the records, he had found that excisions tended to give a bad functional result The best results were from bony ankylosis (arthrodesis)—a line of treatment requiring careful experiment especially in adolescents and adults, and where there was much destruction, but not in the acute stages

Sir HENRY GAUVAIN said that spasm did not disappear on fixation It was difficult to correct adduction in thin patients, but patients could be fattened by constitutional treatment Sea bathing was beneficial An abscess should be aspirated Bad results came from poor technique Fluid injections were recommended in selected cases He emphasized the importance of constitutional treatment and flexing the knee, and declared that full function could return in a case of tuberculous hip

Mr FAIRBANK said that the disease often started outside the hip-joint altogether, and early diagnosis was therefore all the more imperative Mr ACTON DAVIS thought that the worse the apparent result the better the function, as to excision, he preferred the joint fixed in a bad position to a movable joint in a good position

ACUTE INFECTION OF THE UTERUS

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on April 3rd, with the President, Dr CUTHBERT LOCKYER, in the chair, Dr REMINGTON HOBBS read a paper on the causes of acute infection of the uterus, including puerperal sepsis and septic abortion, and their treatment by drainage

He said that statistics of uterine infection were fallacious as *many cases were diagnosed as appendicitis, pneumonia,* etc The genital tract was the place of entry and pathway of the organisms Surgeons taught that symptoms and signs of obstruction in any viscus should be followed by opening and draining With an apparently normal amount of lochia diagnosis in the early stages was difficult When a rational treatment was evolved for proper drainage of acute uterine infections the safest way would be to drain as soon as constitutional signs were established The technique must not injure the tissues and the drug used must not add a further barrier In chronic cases the safe way must avoid the risk of dilatation and curetting The alleged cause of puerperal sepsis was organisms in the uterus *Investigations carried out* by Dr R Donaldson at St Mary Abbott's Hospital on patients who were pregnant or suffering from puerperal sepsis, by means of cultures from the vagina and cervix and urine, proved that staphylococci predominated in the vagina and cervix, next came streptococci, and then coliform bacilli The last named were present in the urine of 23 per cent of cases Infection of the bladder alone with coliform bacilli was rare Organisms in the vagina were ready to enter the uterus when the door was unsealed unless Nature had means of *prevention* Another factor besides infection of raw surface was suggested by variations of temperature—for example, by a fall after defaecation, a rise if lochia was suppressed and a fall when it was re-established, a fall after uterine irrigation, a rise with foul lochia, a fall with escape of pus and after removal of perineal stitches, a fall on removal of debris from the cervical canal Without imperfect drainage retention of septic products did not cause pyrexia, whereas vaginal plugging for uterine haemorrhage might cause a rise of temperature

Puerperal pyrexia was due to absorption from the genital tract, and the practitioner's first duty was to ensure drainage Constitutional disturbance might be the only indication of early puerperal infection Thorough examination should be made In primary haemorrhage the uterus, if not retracting, should be investigated for the removal of any retained piece of placenta, exploration for membrane or blood clot was unnecessary Secondary haemorrhage was easily dealt with by drainings and intrauterine treatment with glycerin and iodine If it was essential to explore, drainage should follow Dr Hobbs believed that exploration of the uterus for the removal of retained products was dangerous, they were expelled as the result of drainage, and if presenting at the os could be removed with suitable forceps In a case of long-drawn-out puerperium with persistent red lochia, if the uterus was not thoroughly drained before it became involuted the patient might be left with periodical attacks of pain and fever—subinvolution fever—which condition could be cured by intrauterine injections of glycerin (or glycerin and iodine) given between the menses In septic abortions no attempt was made to remove retained products The retained septic secretions were

responsible for the rise of temperature, which fell on draining even before the expulsion of the retained products Severe haemorrhage was the only symptom that might demand emptying of the uterus In acute endometritis it had generally been held that no treatment should be directed to the cavity of the uterus In the experience of the speaker, however, these cases cleared up on the same treatment—intrauterine injection of sterilized glycerin and drainage Such treatment in a case of pelvic peritonitis might aid diagnosis and obviate a laparotomy if performed during the preliminary preparation of the patient Acute endometritis presented all the symptoms and signs of an obstructed viscus

The method was to insert a small india rubber terminal-eyed catheter lubricated with glycerin into the uterus Glycerin caused a profuse outpouring of lymph and stimulated the uterine muscle, where secretion was free a preliminary irrigation with 5 per cent saline wa all quantity of tincture of iodine, added to the muscle and arrested moderate haemorrh s were removed the rectum emptied, and no attempt made to dilate the cervix the semi Fowler position was adopted The instruments required were catheter introducer, india rubber terminal-eyed catheter modified Sims speculum anterior vaginal wall retractor and a Record syringe Technique consisted in washing the external vulva and the vagina with soap and water and saline introducing the Sims speculum and the vaginal retractor, and manipulating the cervix to a central position The lubricated catheter was then passed to the upper part of the uterus, into which sterilized glycerin was syringed the syringe was detached and fluid allowed to flow out the catheter was then gently pushed to the fundus and a tape attached for removal in three to six hours the patient was put in the semi Fowler position and given plenty to drink treatment being repeated as often as necessary Nulliparae might require a hypnotic or general anaesthetic

During four years over 3,000 intrauterine treatments had been given In acute endometritis relief of pain was rapid All moderate haemorrhages were controlled, but it was necessary in twelve instances to explore the uterus and drain Inflamed tubes were not removed Dysmenorrhoea following subinvolution (the result of septic miscarriages or puerperal sepsis) had been relieved and normal periods established after drainage Histological *post mortem* examinations, made by Sir Bernard Spilsbury and Dr E H Kettle, showed that in most cases the superficial tissues of the interior of the uterus were free from infection, whilst streptococci were found in the deeper tissues

In the course of the discussion which followed this paper it was suggested that the treatment described by Dr Hobbs did not touch the deep infection of the uterine wall, and that retained products should be removed

A short paper was read by Dr GILBERT STRACHAN on a case of combined carcinoma and tuberculosis in the uterus, the case was illustrated by lantern slides The tuberculous lesion affected the wall of the uterus, the cervix was carcinomatous, whilst normal tissue separated the two The case was one of extreme rarity

The PRESIDENT remarked that to find carcinoma and tubercle in the same organ was not uncommon, but to discover them in the same organ, separate and distinct, was very exceptional The tuberculous focus was not typical, which might be accounted for by the fact of its being an old lesion which had been attacked by progenic organisms

Dr EVERARD WILLIAMS suggested that the infection of the uterine wall was purely progenic It was agreed to submit specimens to the Pathological Committee

Professor LOUISE MCILROY demonstrated an apparatus for measuring the newborn infant, and short communications were made by Drs HEWITT and EVERARD WILLIAMS

NEW GROWTHS

AT a meeting of the Manchester Pathological Society on March 12th the following specimens of neoplasms were shown

Mr GARNETT WRIGHT showed a large recurrent fibrosarcoma of the abdominal wall removed from a man, aged 40, from whom a similar growth had been removed from the same situation four years previously The tumour originated in the posterior sheath of the left upper rectus muscle, had penetrated the muscle and the anterior sheath, and was involving the skin He regarded the tumour as similar to the dermoid tumours which occurred in women generally in the posterior sheath of the right lower rectus muscle He also showed a specimen of primary carcinoma of the appendix removed from a little girl, aged 9 years, after two acute attacks of appendicitis The appendix was found to be distended with mucus, and the block in the lumen was found to be produced by a small tumour, about the size of a pea, in the proximal third of the appendix Microscopically this tumour had the appearance of a typical carcinoma He showed a third specimen of a polypoid papilloma of the stomach growing from the *mucosa, the other coats being free* The tumour was removed by gastrotomy with an ellipse of mucous membrane around it

Mr JOHN MORLEY showed a specimen of myoma of the ileum forming the apex of an intussusception The intussusception was of the ileo colic variety, and occurred in a man of 30 It was irreducible, and so the ileo-caecal region was resected and a lateral anastomosis performed with a temporary enterostomy The patient made a good recovery

Mr L E HUGHES demonstrated a dermoid cyst of the left testis. The patient was a boy, 13 years of age, in whom the enlarged testis had been noted from birth As it had given rise to no trouble, no action was taken until he was seen by a school medical officer The testis was many times larger than normal and showed uniform enlargement It was absolutely devoid of testicular sensation, and its consistency was elastic except for some hard, bony areas An *x* ray examination confirmed the presence of bone, which was arranged in an irregular whorl The testis was removed by the inguinal route, and microscopic examination showed it to be a multilocular cyst, there was no trace of testicular structure For the most part the cysts contained colloid material, but one cyst contained hairs and sebaceous material

Dr J F WARD and Mr MORLEY showed a specimen of megacolon (Hirschsprung's disease), involving the lower half of the pelvic colon, in a boy aged 5 At the operation the dilatation and hypertrophy were found to involve the rectum as well as the lower half of the pelvic colon, and no mechanical cause, *such as partial volvulus or* stricture, was discovered The pelvic colon was resected and the upper and lower ends stitched to the abdominal wall It was intended to close this double colostomy by making an end-to-end union some months later, when, owing to atrophy of the distal end, less disparity in size between the two ends of the colon might be anticipated

COMPARISON OF SIGMA AND WASSERMANN TESTS

A MEETING of the Section of Pathology of the Royal Academy of Medicine in Ireland was held on March 28th, the President, Dr J T WIGHAM, in the chair

Dr J W BIGGER read a communication on a comparison of 1,000 Sigma and Wassermann tests, illustrated by lantern slides He pointed out that the Sigma test involved a flocculation reaction between the patient's serum and an antigen, whereas the Wassermann test made use of the reactions between complement, red blood cells, and a haemolytic serum Further, the Sigma test required less apparatus and manipulation He drew a brief comparison between the results obtained in each reaction, pointing out that the Wassermann reaction was limited to a range of from 0 to *plus* 4 (full positive), but in the Sigma test there was a range of from 0 to 949 units In the Sigma test the time taken was directly proportional to the number of tests done, whereas in the Wassermann an addition of a dozen or more tests did not materially increase the time required Dr Bigger went on to explain his basis of comparison between the two methods In 824 out of 1 000 cases complete agreement was found, in 176 cases there was some measure of agreement, and in 16 there was disagreement After allowing for errors in technique which had occurred, there was 86 9 per cent agreements and 13 1 per cent disagreements, most of which occurred in cases with a weak Wassermann result and a positive Sigma reaction The d s-

agreements were then considered in more detail Dr Bigger said he believed that the Wassermann reaction became positive before the Sigma in early syphilis, and was therefore probably superior as regards an early diagnosis Of the 112 disagreements where the Wassermann was negative and the Sigma positive, most were in patients under treatment, and he thought that in such the Wassermann fell to 0 more rapidly than the Sigma, but a negative reaction did not indicate a cure The results of tests performed on the same patient's blood at frequent intervals and for a considerable time were then shown in graph form In some cases the Wassermann fell to 0 with a persistence of the Sigma units Attention was drawn to the "step" manner in which the Sigma curves fell, and also to the fact that in the Sigma reaction a provocative effect was very easily seen as a definite sharp rise in the curve

Dr W D O'KELLY suggested a re-analysis of Dr Bigger's figures—taking 1 6 Sigma units as representing a definite positive Wassermann reaction, instead of the 1 5 units which was taken as standard in the cases shown Such re-analysis should show the number of patients in which there was a disagreement rather than the actual number of such disagreements He mentioned the value of a quantitative Wassermann test Dr G P MELDON pointed out the value of recognizing a steady fall in the Sigma units while a patient was under treatment, even though the Wassermann reaction remained fully positive

Dr T P C KIRKPATRICK thought care was necessary in drawing conclusions from either test He had seen several patients in whom both tests were negative, and who yet had developed syphilitic lesions, with no apparent reinfection Others, who gave a continual high reading with both tests, had gone away for a time, but when they returned their blood had come down to 0 No treatment had been given in the interval

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At a meeting of the Brighton and Sussex Medico Chirurgical Society held on April 3rd, Dr ELIOT CURWEN, the President, in the chair, Dr D HALL read a paper on electro cardiographic records Dr Hall exhibited lantern slides of normal and abnormal electro cardiograms, the latter including various forms of premature beats, sino auricular block, right and left sided preponderances, auricular flutter, and auricular fibrillation Diagrams were also shown illustrating the anatomical relationships of the conducting apparatus within the heart He said that this method of investigation was particularly useful in analysing accurately the different types of irregularity of rhythm, and in determining whether or no abnormalities of rate were caused in a rapid heart by an ectopic focus of stimulation, or in a slow heart by some degree of heart-block The ventricular complexes gave information about the state of the myocardium which was not to be obtained by ordinary clinical methods Electro cardiographic records gave information as to diagnosis, prognosis, and treatment, and especially as to which cases were or were not likely to be improved by the use of digitalis Too often in arrhythmia or in tachycardia digitalis was employed when its administration was useless, if not indeed actually harmful With the precise knowledge afforded by an electro cardiographic record this error could be avoided

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At a meeting of the Bath Clinical Society held at the Royal United Hospital on March 7th, with Dr W P KENNEDY, the President, in the chair, Dr VINCENT COATES read a paper on biochemical observations in relation to certain diseases of obscure origin He discussed in particular the basal metabolic rate, the glucose tolerance test and the levulose test for hepatic efficiency, and the calcium content of the blood serum. After a brief summary of the findings of other observers, especially those of Gaidner Hill, Means, and Tierney with regard to the first test those of Maclean and Tallerman in the sugar tests, and those of Vines in the third, particulars were given of cases of endocrine imbalance, rheumatoid arthritis, and gout under his personal observation to which these tests had been applied No attempt was made to dogmatize on the results obtained but the findings in certain selected cases were of sufficient interest to stimulate similar investigation in a larger series The lowered basal metabolic rate added another possible deficiency to the already abnormal biochemical make up obtaining in true rheumatoid arthritis, as might liver made watery The finding of an increased calcium content of the serum in the case of acute gout, and the knowledge that tophi contained a big percentage of calcium carbonate, seemed to be important in view of Links recent suggestion that an acute attack of gout was a phenomenon of absorption, not of formation

Reviews.

TRAUMATIC SHOCK

No one is better fitted to write on the subject of *Traumatic Shock*[1] than Professor W B CANNON His high critical faculties, his experience of laboratory work, combine, with the observations carried out by him in France during the world war, to render him particularly apt for the task And, indeed, the reader will find in this volume very fairly and lucidly set out the various phenomena of shock, together with their physiological interpretations Professor Cannon has chosen a wise course in discussing in several short and well documented chapters the observed facts of shock (the low blood pressure, diminished blood volume, reduced flow, etc) before proceeding to discuss the various theories which have been brought forward in explanation Most of the medical world of to-day has been educated in the theory of vasomotor exhaustion, and the idea that shock is not necessarily of nervous origin may not at once gain a hold Indeed, in a book which is largely committed to the pronouncement of a toxic theory of shock, it is perhaps unfortunate that on page 1 the author should have chosen to give Fischer's account of a shocked patient This is certainly a classical description of the clinical appearances, but there was in this case no discoverable sign of injury, the inference, therefore, that it was of reflex nervous origin is irrestible, and confirms immediately in the reader's mind an idea the author later on takes some trouble to negative For the benefit of those whose minds are fixed on the nervous idea we may refer to the experiments of Bayliss and Cannon (pp 144-150) They found that after division of the nerves to a limb or after transection of the cord shock could still easily be produced by traumatization of the denervated area On the other hand, shock did not appear if the vessels to the limb were first ligatured, but could be produced at will by the later removal of the ligatures or clamps Several clinical cases on all fours with these experiments are described It will be remembered that the importance of the tourniquet tightly applied above a hopelessly mangled limb came to be fully recognized by medical officers in France towards the close of the war The tourniquet was applied as close as possible to the wound and amputation performed above it without loosening the band In this way any flooding of the veins with toxic substances was avoided Further, it is certain that shock does not generally appear immediately but takes some little time to develop Immediate shock is much less common than delayed shock, save perhaps in head injuries, and this difference in time of onset may represent two different shock groups

The general reader will turn with interest to the pages devoted to a criticism of Crile's theory of polyglandular exhaustion He will find that Crile's conceptions of the mechanism of shock do not wholly suffice The cell changes in brain, adrenal, and liver which he has so often described may all be produced experimentally by reducing the blood flow to these organs A diminished flow we know to be constant in shock, owing to diminution of the volume and pressure of the circulating fluid and increase in its viscosity It is therefore a perfectly just attitude to refuse any primary importance to these cell alterations in cerebellum and so forth, and to regard them as something other than primary institutors of the shock state Cannon quotes the experiments of Forbes and Miller, who showed that in the deeply anaesthetized decerebrate animal no deviation of the string galvanometer occurred in response to stimuli when the electrodes were led off from the cut surface of the mid-brain If this is confirmed then the foundations of the shockless operation and of "anoci-association" are shaken We cannot help feeling, however, that there are some elements of truth in Crile's conception, and that he has done very valuable work in the perfecting of surgical technique, in insisting on a minimum of trauma and the avoidance of frightening procedures As for the vasomotor theory, it is now known that in shock the vessels are constricted and not dilated The blood is certainly not in the mesenteric veins

[1] *Traumatic Shock* By Walter B Cannon A M M D New York and London D Appleton and Co 1923. (Sup roy 8vo, pp xv + 201, 20 figures.)

The injection and engorgement of the abdominal vessels seen when manipulation of the intestine (still the easiest and surest way) produces shock, is a picture peculiar to this method of shock production

Professor Cannon has interesting chapters on the problem of the lost blood, on diminished blood volume and blood flow, on capillary engorgement in the skin and intestine, and on acapnia and acidosis The book closes with three valuable chapters on the treatment of shock, there is nothing very novel in these last, but they will be found to express the practical application of remedial measures of proved physiological efficiency We note with pleasure the denunciation of the head-down posture—an uncomfortable and worthless procedure

We can recommend this work to all and sundry as a dispassionate, clearly expressed, and admirably worded exposition of present-day knowledge of shock Indeed, it is Professor Cannon's devastating clarity of mind which, unless we have misread him, leaves him at the close without any cast-iron theory The fact remains that there is more than one method by which a shock-like state can be produced, and the aggravating and sustaining factors are so varied that many roads, as it were, may converge on one Rome

G J

INTRAVENOUS THERAPY

DR W F DUTTON's book, *Intravenous Therapy*,[2] gives an account of all therapeutic efforts which have to do directly with the blood stream, and therefore deals with venesection, transfusion of whole or modified blood, and the introduction of saline or other tonic solutions into the circulation as well as with medication by the intravenous route In writing the author has been actuated by the belief that though there are numerous books on blood transfusion, serum therapy, salvarsan therapy, and so on, yet details of all varieties of intravenous therapy have not hitherto been collected into one volume The book is divided into two portions, the first gives a detailed account of the various procedures mentioned, and the second of the various forms of intravenous medication arranged according to the disease in which they are employed

Dr Dutton begins with a short history of intravenous therapy, and gives an interesting account of the extraordinary things that were done in the late seventeenth and early eighteenth centuries, when, for example, the blood of lambs and other animals was injected intravenously into men, so also were all kinds of drastic drugs dissolved in water or spirits, all without any aseptic precautions The amazing thing is that apparently many of the patients survived The account given of the details of venesection, transfusion, and intravenous injection is full of detail and illustrated with numerous drawings and photographs

The second part consists of an account of over one hundred conditions in which intravenous medication may be employed This portion, which occupies nearly three hundred pages, might, we think, have been condensed considerably without lessening the value of the book

A number of tables are given at the end of the book showing dilutions in avoirdupois weight and apothecaries' measures and their metric equivalents Unfortunately, as far as English clinicians are concerned, these tables are chiefly of value as furnishing a striking argument for the abolition of all measures other than the metric The weights are given in avoirdupois measures, and the ounces and grains are the same as those in popular use in England, but the liquid measures used belong to the apothecaries' measure, and the minim and fluid ounce referred to are both about 3 per cent larger than the corresponding imperial measures in use in this country, while the pint contains only 16 oz , and is thus about 16 per cent smaller than the ordinary imperial pint All the figures given in the tables for dilution with popular measures are therefore incorrect for employment with the measures in general use in this country We have referred to this point at some length because serious errors might easily arise if these reference tables were used in this country

[2] *Intravenous Therapy Its Application in the Modern Practice of Medicine* By W F Dutton M.D Philadelphia F A Davis Company 1924 (Med 8vo pp xi + 542 59 figures. 6 50 dols net.)

DISEASES OF THE KIDNEYS, URETERS, AND BLADDER

THE title of this book, already well known, *Diseases of the Kidneys, Ureters, and Bladder, with special reference to the Diseases in Women*,[3] is carefully chosen to indicate its scope and limitations Approaching their subject through gynaecology, in which province the authors hold the principal teaching positions at Johns Hopkins, they have, probably wisely, avoided the consideration of any portions of the urinary tract peculiar to the male This omission—which, by depriving their treatise of some of the most important sections of urology, such as urethral stricture and prostatic diseases, makes the work unsuitable for the student who requires a general textbook on urology—has nevertheless the advantages of its limitations, in that a very large amount of space is available for lengthy discussion of the remaining provinces

The anatomy is very fully treated, as will be appreciated when it is stated that 170 pages and 108 figures are given to pure anatomy of the kidney and ureter, whilst another 40 pages are devoted to their surgical anatomy Corresponding space is allowed to the anatomy of the bladder Based on this anatomical teaching is an excellent account of the operative procedures appropriate to affections of the urinary tract, it forms one of the best guides on this subject which we have met, save that we must take exception to the prominence given to the vaginal route for cystotomy, as, for instance, in the removal of a stone impacted in the lower end of the ureter This route may be satisfactory in the hands of operators accomplished in vaginal surgery, but would be hazardous in those of the general surgeon, or of occasional operators

Dr Kelly, so far back as 1893, in a day when the modern telescopic instrument was still young and comparatively imperfect, did pioneer work in female urology by the invention of his endoscopic tubes To this method he devotes the greater of the space given to cystoscopy, and it is interesting to have a description of their use from the originator of the method, these tubes are of undoubted value, and have a particular field in operative endoscopy in the female, but they are not likely to dislodge the now firmly established telescopic instrument used in this country, applicable as it is either in the male or female It is a fault of the book that a description of Kelly's tubes monopolizes the section on cystoscopy, the better recognized instrument receiving scant attention

As this work emanates from authors who are primarily gynaecologists, we look with expectation for a well written section on that province in which the two subjects overlap, such as cystocele, urinary incontinence, and on the effect of physiological and pathological conditions of the uterus on the bladder In this we are doomed to disappointment, save for a good description of the operative treatment of vesico-vaginal fistula Deficient also is the attention given to radiology, while pyelography is almost conspicuous by its absence

The two volumes are beautifully and profusely illustrated by 628 drawings and photographs, the former from the skilled pen of Max Broedel This work, though uneven, is one of great importance, and should be in the hands of every serious urologist

[3] *Diseases of the Kidneys, Ureters, and Bladder, with special reference to the Diseases in Women* By H A Kelly M D LL.D and C F Burnam, M.D In two volumes Second edition New York and London D Appleton and Co (Roy 8vo Vol I pp viii + 682 274 figures 1 plate. Vol II pp xvi + 652 354 figures 63s net the two volumes)

THE MEDICAL ANNUAL

THE forty second number of the *Medical Annual*[4] has just been published To many this will be enough they will straightway make haste to purchase it for themselves To the others, however, who are more cautious, who may deliberate carefully on the advantages and disadvantages likely to be sustained through its non acquisition it may be said without any hesitation, "Go, and do thou likewise" Wherefore? Because not only is it an up-to-date encyclo-

[4] *The Medical Annual 19* Edited by Carey F Coombs M D F R C P and A. Rendle Short M.D B S B Sc F R C S Forty second year Bristol John Wright and Sons Ltd London Simpkin Marshall Hamilton Kent and Co Ltd 1924 (Demy 8vo pp lxxxiv + 691 242 figures 54 plates 20s. net.)

praedia of medicine and surgery, but because it is an encyclopaedia of a particularly high standard of excellence It is impossible to read even a few extracts from it without realizing how much care, discrimination, and patience have been expended on its production Certain subjects—as is only right—have been treated much more fully than others, depending on the amount of attention which has been bestowed upon them during the past year or so For instance, there is a lengthy account of asthma, giving in detail the progress which has been made in the elucidation of its etiology, particularly with reference to protein hypersensitiveness

The editors remark that the tendency of the whole work is towards the prophylaxis of disease This is exemplified over and over again In the past too much attention has been devoted to the bacteria associated with pathological states, too little to the environmental conditions which the bacteria require before they can display their pathogenic effects One of the most important steps which will be taken in the future is the definition of these conditions Already there is a movement in this direction Gye and Kettle, for example, have demonstrated the deleterious effect which silica has on the human organism in its resistance to the tubercle bacillus Similar work on the relation between vitamin deficiency and susceptibility to bacterial infection is already in progress The whole tendency of cancer investigation is likewise directed towards the conditions in the cellular environment for the development of abnormal modes of division

There is but one fault which we would find there is not sufficient criticism of the work which is abstracted and recorded in the volume Many of the recent findings are retailed as though their accuracy were undoubted Apart from this, however, which is a deficiency rather than a fault, the volume is excellent The illustrations and the plates are of a very high standard, and the whole work is a credit to those who have been associated in its production

A CRAZY POISONER

THE latest volume of Notable British Trials[1] recalls a case of murder which thirty years ago shocked the London public, while it had and has a special interest for the medical profession, of which the criminal was a member

Unlike some other trials in the series, this presents no difficult detective problems, no story of patient following up of faint or fragmentary clues, for the case against the prisoner was so clear that the jury only took ten minutes in deciding on their verdict

Cream was a Canadian of Scottish origin, who took a degree in medicine at Montreal and soon after came to London and became a student at St Thomas's Hospital Having failed as a candidate at the primary examination for M R C S Eng he betook himself to Edinburgh, where the examiners of the Royal Colleges were more kind to him, so that he was able to return to Canada with their double qualification in 1878 In London, Ontario, he seems to have made his first essay as an abortionist, murderer, and blackmailer, but although the strongest suspicions were aroused he escaped prosecution and went to Chicago

In that city he carried on an unsavoury practice in the same line, which, however, was abruptly ended by his being sentenced to penal servitude for life for the murder of the husband of a woman who was his paramour He was released after serving ten years of his sentence, and having inherited some money from his father he soon after came to London (England), where he called himself Dr Neill and under that name perpetrated a number of cruel and motiveless murders for one of which he was tried and executed He appears to have murdered four prostitutes and to have attempted to murder two others, who luckily for them did not swallow the drugs he offered In each case the poison used was strychnine and in no case was there any known motive for the crime

He wrote blackmailing letters in which he accused totally innocent persons upon whom it seems morally impossible that he could have fastened any suspicion, but he did not follow up these letters by any further action One these was addressed to Dr (afterwards Sir) William Broadbent, at that time one of the best known physicians in London, whom no sane man would have accused of the murder of a prostitute in Lambeth These half-hearted attempts at blackmail—if indeed they were really attempts and not simply expressions of a morbid vanity—led to Cream's detection and conviction He was arrested on a charge of blackmail and it was a statement in one of the letters, that a certain woman had died of strychnine poisoning, which was one of the most damning pieces of evidence at his trial for she had died and been buried without any suspicion of poisoning having been raised, and until the body was exhumed and a large quantity of strychnine found in it Cream and Cream only knew the real cause of her death Further, in one of the letters he asserted that a certain Lou Harvey had been killed by strychnine, but this woman had only pretended to take Cream's medicine She came forward and gave evidence at his trial Altogether six women and one man were almost certainly murdered by Cream and at least six of them by the administration of strychnine, the seventh died after criminal abortion and the exact cause is not stated

Perhaps the most remarkable fact about this trial is the absence of any reference from first to last to the mental condition of the prisoner It is true that after his conviction an attempt was made to obtain a remission of sentence on the strength of evidence of insanity which was to come from America Mr Shore does not tell us if this evidence was submitted to the Home Secretary, but if it was it made no impression upon him Yet it came out in evidence that he was an extremely libidinous person, who was fond of showing pornographic photographs to his acquaintances, who told one of his temporary mistresses that he only lived for women, and who confessed or perhaps boasted that he took morphine, strychnine, and cocaine for their aphrodisiac properties An insane pleasure in the sense of power conferred by the knowledge that his victims must be suffering the protracted agonies of a particularly painful death was probably the only motive for his London crimes With all these women he had recently had sexual intercourse, and therefore we may be justified in classifying him as a sadist and the imperfect analogy of the Whitechapel murderer "Jack the Ripper," must at once occur to us, although the latter undoubtedly witnessed the death of his victims instead of only gloating over them in imagination as Cream probably did Moreover, the poison which he chose was one that, as his medical training must have told him, produced very characteristic symptoms, and he must have known that there were other poisons far more difficult of detection and therefore preferable, had his object been only to kill with impunity

Had he been put to death for the murder of Stott in Illinois in 1881, or had the sentence of penal servitude for life been fully carried out, a good many lives would have been saved and much suffering avoided, but in 1892 Broadmoor would have formed a more appropriate conclusion of his sordid career than the scaffold and the drop in Newgate

[1] *Trial of Thomas Neill Cream.* Edited by W T Shore Notable British Trials Series London and Edinburgh William Hodge and Co Ltd 1923 (Demy 8vo pp x + 297 Plates 16 Price 6s net)

NOTES ON BOOKS

"MADAME" Elizabeth Charlotte, wife of "Monsieur" the Duke of Orleans, was a strange figure to find in the court of Louis XIV, coarse in mind and body, but honest and outspoken—qualities that won the respect and regard of the King, for whom they had perhaps the charm of the uncommon—she was voracious of gossip, and probably wrote more letters and longer letters than any one who ever put pen to paper Not all of them have been published, but a good many volumes have been printed, and from these Mrs SCOTT STEVENSON has made a very judicious selection, translated them into agreeable fluent English, provided them with an index and a few helpful notes, and published them in a volume entitled *The Letters of Madame*[1] Madame was married in 1670, and the letters in this volume come down to 1708, seven years after the death of her husband She was the great granddaughter of James I of England and VI of Scotland, and from the age of 5 she was brought up by her aunt Sophia of Hanover, mother of George I of England Her

[1] *The Letters of Madame* The Correspondence of Elizabeth Charlotte of Bavaria, Princess Palatine Duchess of Orleans called "Madame" Translated and edited by Gertrude Scott Stevenson M A Vol I London Chapman and Dodd Ltd 1924 (Demy 8vo pp 283 9 plates 18 net)

letters, many of them written to this aunt, show her to have been a woman of strong intelligence, who, though afflicted with the prejudices of her rank and age, strove to be impartial She had many digs at the court physicians and surgeons, but she must have been a difficult patient After she had become a widow and old enough to know better, she wrote to her sister, "When I chose my doctor, I warned him that he must not expect blind obedience from me I would allow him to express his opinion, but he must not get angry if I did not always follow it My health and my body are my own, and I expect, as I told him, to rule these after my own fashion" The letters have a certain importance to history, but are read because they are amusing

Dr ALFRED ADLER of Vienna, originally an adherent of Freud, is the founder of one of the post-Freudian schools of psychopathology, and his teachings in regard to the causation of neurotic illnesses differ considerably from those of psychoanalysts His work is not so familiar to medical psychologists as Freud is, but it is of interest and importance, and English readers will no doubt welcome a volume entitled *The Practice and Theory of Individual Psychology*,[7] which contains a translation of a number of Adler's essays written during the years 1911–22 These essays do not provide a systematic account of the author's views on organ inferiority and its compensation, but they cover a variety of topics and serve to demonstrate how his fundamental principles assist towards the elucidation of many individual and social problems

In *Studies in Evolution and Eugenics*[8] Dr S J HOLMES professor of zoology in the University of California, expresses his own views on some aspects of these subjects, but makes no pretence at furnishing a complete textbook Some of the chapters originally appeared as articles in American periodicals, and although there is no definite underlying scheme in the book, yet the author's views on present tendencies in evolutionary theory, birth control, and heredity should be of interest to those engaged in these studies

Miss FLORA KLICKMANN, the editor of *The Girl's Own Paper and Woman's Magazine*, has written a homely little book entitled *Mending Your Nerves*,[9] which contains much practical and common sense advice for women and girls who are nervous and depressed There must be many such in these days when women are subjected to so much strain, and a few hopeful and reassuring words by one who understands may do much to dissipate those fears which are apt to arise in moments of fatigue The simple suggestions made in this book might in some cases prevent a severe nervous breakdown, and we can thoroughly recommend it to the working girl or woman A short preface is provided by Mr Albert Carless, who comments favourably upon the religious atmosphere which pervades the work

Dr T W E MORETON, in his little book *Field Sports of the Month*,[10] revives a series of pleasantly written sporting articles appropriate to each month of the year Thus, in January and February he deals with pike fishing, in March with making a fishery, in April with a sportsman's wardrobe and outfit May, June, and July are devoted to trout fishing, August to wood pigeon shooting, September to partridge shooting A sportsman's library is considered in October, fox hunting in November, and pheasant shooting in December The articles originally appeared in the *Chester Courant* and are written in a very pleasant manner The book should appeal to the sportsman who is poor in the sense of possessing few worldly goods, but yet takes an interest in all that appertains to sport

A manual of human embryology, entitled *The Development of the Human Body*, by Professor MCMURRICH of Toronto has long been well known to students both in America and in this country A seventh edition[11] has just been published The text has been carefully revised so as to embody all recent additions to knowledge without increasing the bulk of the volume Improved trade conditions have made it possible to use better paper, so that the illustrations are clearer and the text easier to read

Estudios médicos,[12] the official organ of the Royal Academy of Medicine of Murcia, of which the January number has been sent us, contains an article by the late Dr Fermín Muñoz Urra on the development of the optic sensory tract, with numerous beautiful coloured drawings and microphotographs, a thesis by Dr Jose Avoca y Garcia on the intestinal changes in achlorhydria from the coprological aspect, and an address by Dr Pablo Martinez Torres on medicine and music The supplement contains abstracts from current literature, society intelligence, and medical news

[7] *The Practice and Theory of Individual Psychology* By Alfred Adler (Vienna) Translated by P Radin, Ph D Associate Professor of Anthropology at California University London Kegan Paul Trench Trübner and Co Ltd. New York Harcourt, Brace and Co Inc 1924 (Demy 8vo pp viii + 352. 18s. net.)

[8] *Studies in Evolution and Eugenics* By S J Holmes Ph D London G Routledge and Sons Ltd. 1923 (Demy 8vo pp v + 261. 12s 6d.)

[9] *Mending your Nerves* By Flora Klickmann With a Preface by Albert Carless, C B E. M.B., M.S F R C S London Religious Tract Society 1924 (Cr 8vo pp 136 3s 6d net)

[10] *Field Sports of the Month for Poor Sportsmen* By T W E Moreton B A Cantab., M.R C S., L.R.C P Chester Phillipson and Golder Ltd. 1924 (Cr 8vo pp 102. 1s. net.)

[11] *The Development of the Human Body* By J Playfair McMurrich A.M., Ph D LL.D Seventh edition revised and enlarged London Henry Kimpton. 1924. (Demy 8vo pp x + 507 with 290 illustrations several of which are in colour 18s.)

[12] *Estudios médicos* Año II 2a Epoca Enero 1924 Núm. 1. Murcia, Barcelona M. Marin. (Yearly subscription Spain 40 pesetas abroad, 50 pesetas.)

MEDICAL AND SURGICAL APPLIANCES

Safety Guard for Poison Bottles

MESSRS FURNESS AND RICHARDSON, of 61, Tweedy Road, Bromley, have patented a mechanical metal cap on a spiral spring to be fitted over the corks of poison bottles When it is desired to remove the cork the cap must be depressed first, this safety guard should diminish the risk of confusing poison bottles with others The price of this simple and ingenious apparatus is 6d The accompanying illustration shows its method of operation



Nova et Vetera.

MRS JEM'S ATTACK OF SWINE-POX

IN *Pepys's Diary* are to be read the following entries

January 9th 1660
Thence to Mrs Jem's and found her in bed and she was afraid that it would prove the small pox

January 11th
I went to see Mrs Jem who was in bed and now granted to have the small pox

January 13th
I went to Mrs Jem and found her up and merry and that it did not prove the small pox but only the swine-pox, and so I played a game or two at cards with her

Mrs Jemimah, or Mistress Jem, was the eldest daughter of Sir Edward Montagu, afterwards Earl of Sandwich, and Pepys seems to have been charged by Montagu to have an eye on his daughters during their father's absence from London

What, then, was the disease from which the lady suffered, and which was feared to be small pox, but turned out to be swine pox? Well, in the first place swine-pox has no more to do with swine than chicken-pox has with chickens In the seventeenth and eighteenth centuries, perhaps also earlier, various names ending with the word "pox" were given to skin eruptions, no doubt accompanied at their onset by the febrile symptoms which made Mistress Jemimah fear she had small pox The terms horn-pock, mirle-pock stone pock, wind pock, water-pock, chicken pock, and swine-pock are all to be met with In those days the belief was very general, if not universal, that small pox could be taken only once in a lifetime, one attack absolutely protecting against a second Jenner appears to have had that impression when he began vaccination, but in course of years, when indubitable cases of post-vaccinal small pox began to occur, he sought for their explanation in the fact that inquiry and investigation proved that in a few instances a second attack of small pox did occur He remained convinced that cow pox, being small-pox of the cow, gave the same protection as small pox itself, which protection he regarded as lifelong Therefore he held that these occasional recurrences of

small-pox after vaccination found their explanation in the same kind of idiosyncrasy—though doubtless he never used that word—as made a few individuals liable to small-pox after small-pox In short, he made the one notable mistake of his life in failing to realize that the protection conferred by cow-pox was shorter than that conferred by small-pox, altogether independently of any analogy with cases of liability to a second attack of small-pox Something is to be said in explanation of his error In his *Inquiry into the Causes and Effects of the Variolae Vaccinae* he gave a number of examples in which attempts to inoculate small pox failed where the subjects had previously suffered from cow-pox The intervals between the cow-pox attack and the resistance to small-pox ranged from a few months up to 10, 20, 25, 30, 37, and 53 years But milkers, who were the usual victims of casual cow-pox, were not infants or young children They were adolescents or adults, and their protection had its analogy in revaccination, not in primary vaccination The immunity conferred by casual cow-pox on a dairymaid or other milker would, indeed, be normally lifelong

Reverting to the various poxes mentioned above, the cases probably differed in their nature After, in childhood, an unquestionable attack of small-pox of average severity, leaving an obvious pitting—*variolosus in facie*, as a writer of the tenth century is said to have termed it—any second attack in late adult life would presumably be much modified in character, running a mild and shortened course The current view being that small-pox came only once in life, and it being known that the patient had had small-pox in infancy or childhood, the comparatively trivial attack in later years would be called by some such name as horn-pox or stone-pox if the eruption did not reach the vesicular stage, or chicken-pox or swine-pox if it did On the other hand, if an adult had an ordinarily severe attack of the classical disease, certainly variolous, and if he himself or friends who had known him in childhood recalled the fact that he had then been affected with an eruption which had been denominated small-pox, the opinion might well be expressed that, the man having undoubted small-pox, the disease of childhood could only have been water-pox or some other such trivial malady, as it was well known to everybody that no one ever took small-pox twice

Many cases may be accounted for on these lines, but it is safe to suppose that then, as now, true chicken-pox prevailed as well as true small-pox, and that there was some confusion in nomenclature The question with which we started, as to what was the disease which seized Mistress Jemimah, is not very easily answered One patent fact is that she had not previously suffered from recognized small-pox—otherwise she would not have been in the least afraid of the threatened attack being variolous Possibly, however, she had some very mild attack of small-pox in childhood or infancy which had not been so regarded, and if so the adult visitation might also have been variolous, but much modified by the mild infection in childhood The quick change which the symptoms exhibited between the visits by Pepys on January 11th and on January 13th would rather agree with this view There were the comparatively severe early indications, leading to the fear of small-pox Then there would be the appearance of a few pimples or vesicles, with the customary return to normal temperature and feeling of well being, so that, disregarding the spots, she was up and merry, and played a game or two in her light-hearted relief from the threatened danger Otherwise the "swine-pox" may have been severe chicken-pox, with the same speedy improvement when the rash came out It is impossible to say now, and it does not matter, as the lady and Pepys are gone long ago, but the speculation is not without interest The apparent indifference of her visitor to any risk of infection on his own account is, however rather striking He could not have been protected by small-pox inoculation, which was not introduced into England till sixty years later by Lady Mary Wortley Montagu It Pepys had already had small-pox *his freedom* from anxiety would be accounted for, but the present writer has no information on that point He wonders if anyone else happens to know

J C M

THE INTERNATIONAL HEALTH ORGANIZATION OF THE LEAGUE OF NATIONS

I

THE Health Committee of the League of Nations, which for the last three years has been acting as a provisional Committee of the Health Section of the League, has just held at Geneva its first meeting as a committee of a permanent International Health Organization, established at the end of last year by agreement between the Council of the League of Nations and the Paris Office International d'Hygiène Publique The time is therefore opportune for reviewing the position of international health activities, as since the war there has been a considerable amount of overlapping, if not actual confusion, in the work of the various official and voluntary organizations which have been dealing with international health problems

INTERNATIONAL HEALTH WORK PREVIOUS TO THE WAR

Previous to the war the international Congresses of *Hygiene and Demography* and of *Medicine* helped to maintain friendly and scientific communion between the sanitary experts of different countries, and were recognized by Governments by the appointment of official delegates The permanent officials of the Medical Department of our Local Government Board constantly studied and kept in touch with the progress of epidemics in all parts of the world through consular and diplomatic agencies and by other sources of information Similarly the Medical Department of our War Office was in possession of information regarding the health of armies in other countries from the published statistical reports, in connexion with which an international statistical code, suggested by Dr J Billings of the United States, had been accepted by Governments An international nomenclature of causes of death in the case of civil registers had also been agreed upon

International Sanitary Conventions

All this helped to maintain a certain amount of international exchange of information regarding health conditions in different countries There was, however, no co-ordinated effort on the part of responsible Governments to deal with health problems internationally until the introduction of International Sanitary Conventions, the first of which was signed in 1892 and has been revised and modified from time to time, notably in 1897, 1903, and 1912 Bills of health for sea-borne traffic, which appear to have been introduced in the seventeenth century in consequence of plague in the Near East, were previously the defence, associated with quarantine, against the introduction of epidemics into British and other ports The International Sanitary Conventions were framed with a view to avoiding unnecessary restrictions on sea-borne traffic imposed by quarantine regulations, and at the same time safeguarding Europe from the danger of plague and cholera being brought by sea from Eastern countries In the more recent conventions of 1903 and 1912 yellow fever was included, while there is now before Governments a proposal for a new convention which will include typhus, relapsing fever, and small-pox, and the control of overland routes and inland waterways

The Office International d'Hygiène Publique

One of the results of these Conventions was the establishment of a central international health office, supported by contributions from the contracting Governments, for the purpose of collecting information as to the progress of infectious diseases from the health authorities of the States signatory to the Convention An article to this effect was introduced into the Convention of 1903, and subsequently effect was given to it by a Convention signed in Rome in 1907, in accordance with which the Office International d'Hygiene Publique was organized and established in Paris

The Rockefeller Sanitary Commission

There were the measures taken by responsible Governments before the war for dealing internationally with health problems But voluntary investigations into the distribu-

tion and prevention of disease from an international standpoint had been initiated by the Rockefeller Foundation Mr Rockefeller in 1909 organized a Sanitary Commission for the eradication of hookworm disease in the United States, and the success of its work induced the Rockefeller Foundation to create in 1913 an International Health Commission, the designation of which was changed in 1916 to International Health Board, in order "to extend to other countries the work of eradicating hookworm disease and, so far as possible, to follow up the treatment and cure of this disease with the establishment of agencies for the promotion of public sanitation and the spread of knowledge of scientific medicine"

INTERNATIONAL HEALTH ORGANIZATIONS AFTER THE WAR

During the war the work of the Office International d'Hygiène Publique was carried on, so far as was compatible with world conditions, by an inter allied hygiene committee, which met periodically in Paris After peace was declared an entirely new situation in connexion with international health problems came about, and a period of overlapping and confusion, now happily ended, arose The Office International d'Hygiène Publique resumed its functions, but the Covenant of the League of Nations encouraged the formation of new international and voluntary organizations for the welfare of peoples and the prevention of disease

The League of Red Cross Societies

The first response was the creation of the League of Red Cross Societies, financed by a large grant of money from the American Red Cross Society, which had amassed huge sums after America had entered the war The League of Red Cross Societies established itself in Geneva, with the late Sir David Henderson as its director general and Colonel Strong of the United States Medical Services as its medical director It entered enthusiastically into the work of preventing diseases, such as typhus, relapsing fever, cholera, and venereal diseases, which were widespread in consequence of the war Collection and distribution of information, health propagandism, child welfare, and other social reforms were also included in its activities It was duplicating in fact, some of the work of the Office International d'Hygiène Publique The extent, however, of its undertakings gradually became more and more restricted as funds decreased, and the attempt to combat by voluntary effort the extensive epidemics of typhus and other diseases in Eastern Europe was manifestly impossible The work of the League of Red Cross Societies, which has now its headquarters in Paris, consequently gradually dwindled so far as it affected problems of international health, until now it is chiefly confined to health propagandism, child welfare work in backward countries, and the training of nursing services in them The League acts as a clearing house for information and guidance of national Red Cross Societies in these spheres of work All these activities constitute useful work in themselves, and are now associated with the International Health Organization in creating amongst nationalities that are less advanced than Western European States an atmosphere favourable to the reception and application of sanitary regulations by municipal and State authorities

Health Section of League of Nations

While the League of Red Cross Societies was thus ceasing to become an effective agency for dealing internationally with serious outbreaks of epidemic disease, the Council of the League of Nations was taking active steps in matters of international concern, entrusted to it by Article 23 of the Covenant, for the prevention and control of disease, and created a Health Section as one of its three technical organizations It summoned in April, 1920, an international conference of health experts to draw up the constitution of a Health Organization of the League At that time typhus and relapsing fever epidemics had spread into Poland from Russia, and were becoming a serious menace to Western Europe

Pending the constitution of an International Health Organization to deal with the situation, the Council of the League appointed an Epidemic Commission to work with the local health administrations in Eastern Europe The draft of a constitution for the Health Organization of the League was accepted by the first General Assembly in November, 1920 It contemplated making the Office International d'Hygiène Publique, with a larger number of members and wider powers, the supreme council or conference of the League's Health Organization, with an executive committee elected by it, and a secretariat as a section of the Secretariat-General of the League Owing, however, to an objection by the United States, which is a member of the Office International d'Hygiène Publique but not of the League of Nations, the constitution of a permanent international health organization was postponed, but a provisional health committee, composed to a great extent of members of the Office International and thus in a position to co-operate with it, was appointed by the Council of the League in 1921

The International Organization of the League of Nations

A further step was taken in September, 1922, when the Third Assembly of the League expressed a desire to see the Health Organization placed on a permanent basis, "with a constitution which would prevent overlapping with other institutions created for similar purposes" This led to a mixed committee of the Office International d'Hygiène Publique and the provisional Health Committee of the League of Nations being appointed for the purpose of drafting the constitution of an International Health Organization to meet those requirements The mixed committee met in Paris in May last and drew up a constitution which was accepted by the Fourth Assembly of the League in September and by the Office International d'Hygiène Publique

The International Health Organization of the League of Nations, thus constituted on a permanent basis, consists of an advisory council, an executive committee, and a secretariat The Office International d'Hygiène Publique, while retaining all its previous organization and functions in accordance with the statutes of the Rome Convention of 1907, acts as the Advisory Council The League's provisional Health Committee becomes the Executive Committee, and is composed of the chairman and nine members of the Office International and six members appointed by the Council of the League of Nations The Health Section of the General Secretariat of the League becomes the secretariat of the organization, with Dr Ludwig Rajchman as its director, assisted by a technical and clerical staff

II

THE WORK OF THE INTERNATIONAL HEALTH ORGANIZATION

In the first part of this article the course of events which led up to the formation of the International Health Organization was traced We will now give an account of the work which its various elements have been and are engaged in carrying on

It is of a wide and varied character The Office International d'Hygiène Publique, with its headquarters in the Boulevard St Germain in Paris, has been revising the Articles of the International Sanitary Convention of 1912 with a view to framing a new convention on the lines indicated above It is collecting information on the incidence of cancer mortality in different countries, the incidence of goitre and its treatment, the effect of anti-typhoid vaccinations in countries such as Rumania and Bulgaria, the epidemic prevalence of disease in various parts of the world, and matters of importance internationally in connexion with health problems and the prevention of disease It is also considering questions connected with the standardization of bills of health and of prophylactic and therapeutic serums, with the control and preparation of antisyphilitic remedies in different countries, and with the revision of the international nomenclature of causes of death, as well as other subjects

The Health Committee of the League of Nations has been carrying out executive work in connexion with many of these subjects For example, it has arranged for serological standards and tests to be centralized in the State Serum Institute in Copenhagen under the direction of Dr

Madsen, who is president of the committee as well as a member of the Office International It has been suggested that this central laboratory shall receive periodically from serological institutes of other countries specimens of their antitoxin products, examine them at least once a year, and send samples of the international standard to national laboratories, at the same time drawing attention to variations from it in the specimens received from these laboratories National serological institutes are thus linked up through the Health Committee in a manner which will ensure uniform standards and tests throughout the civilized world The standardization of a variety of biological products, such as insulin, pituitary and thyroid extracts, and potent drugs, is also being investigated The Medical Research Council in this country acts as a clearing house for these investigations, the results of which will be examined by a technical conference with a view to submitting proposals for international agreements between the Governments of different countries

But the most important work hitherto carried out by the Health Organization of the League of Nations has been that undertaken by its Epidemic Commissions The object of these commissions was not so much the control and eradication of epidemics by the League of Nations' own experts as the development of a mutual understanding between the health administrations of the countries concerned, helping them to establish suitable quarantine stations, hospitals, and means of cleansing and disinfesting, and supplying them with food, clothing, motor transport, and other necessaries where required

The Eastern Europe Conventions of 1922

The first Commission, composed of Dr Norman White, Dr Rajchman, Dr Gautier, and others, went to Poland in 1920 and continued its work until the end of last year, when it closed down [illegible] It extended its activities to Latvia and Russia, opening offices in Moscow and Kharkov Poland was the key point of the sanitary defence of Central Europe, and the work of this Commission was the first experiment in effecting international sanitary co-operation on a large scale The Commission succeeded in strengthening and supporting the efforts of the public health services of the States concerned, including Soviet Russia This work was further developed in 1922, when the Council of the League of Nations placed the services of its secretariat and Health Organization at the disposal of the Polish Government for holding a Health Conference at Warsaw Some of the recommendations of this Conference for stamping out the epidemics which had their origin in Russia fell through for want of funds, but effect was given to recommendations for strengthening the medical personnel, training public health officers, and framing sanitary conventions between the border States and Germany, Czecho-Slovakia Hungary, Austria, Yugoslavia, and Bulgaria Rumania had formed its own defence by means of a military cordon These conventions are of great value and importance Not only do they strengthen the sanitary defences, but they also promote collaboration between the health administrations of the respective States, who notify one another direct, instead of through the diplomatic channels the incidence of diseases and the measures taken to combat them Where differences arise as to the interpretation or application of the conventions the contracting parties report to the Health Organization of the League as mediator

Greek Refugees

In 1922 also the Greek Government applied to the League of Nations for the help of its Epidemic Commission in dealing with the large number of refugees pouring into Greece from Asia Minor, estimated to be equal in number to one fifth of the total population of Greece Two centres of work were organized—one at Athens and the other at Salonika The Commission organized Greek doctors, medical students and sanitary inspectors into ten vaccination columns and distributed them amongst the refugee camps Some 500 000 (60 per cent.) of the refugees were in this way vaccinated against small pox, cholera, and enteric fever

East Mediterranean, Black Sea, and Mecca

Another Commission, composed of Sir G Buchanan, Dr Ricardo Jorge, Dr Madsen, and Dr Jitta, was sent to inquire into international arrangements for the prevention of epidemics in the Eastern Mediterranean and Black Sea ports, and its report emphasized the need of revising those parts of the International Sanitary Convention of 1912 which are concerned with the Mecca pilgrimages, so as to control the spread of epidemics by annual pilgrimages to Moslem holy places in Palestine and the Hedjaz along overland routes, which are becoming now more and more commonly used

Far East

A third Commission, of one member only, Dr Norman White, was sent last year to the Far East, on the suggestion of the Japanese member of the Health Committee, to study the different methods in force, with a view to considering measures for the control of the spread of epidemics by seaborne traffic in Eastern waters Dr White returned with a mass of information, which will be of value in framing a sanitary convention for co-ordinating sanitary and anti-epidemic work in Far Eastern countries

Other Activities

While these activities indicate briefly the chief and more important work of the International Health Organization, its Committee has been active in various other directions, mainly through subcommittees One of these has undertaken an inquiry into the average amount of opium and dangerous drugs required annually in each country for medical and scientific purposes A Waterways Subcommittee is associated with the League of Nations Technical Transit Committee in drafting a convention for the sanitary control of inland waterways, and a Malaria Subcommittee is examining the incidence of malaria throughout the world, and especially in Europe In this connexion Dr Haigh, a member of the Epidemic Commission, was sent to make a preliminary study of the malarial situation in Albania, and the Greek Government has applied for technical advice in organizing an antimalarial campaign in Greece The Health Committee also co-operates with the International Labour Organization, as part of the machinery of the League of Nations, in matters concerning the health of industrial workers

THE INTERNATIONAL HEALTH BUDGET AND THE ROCKEFELLER GRANT

The money required for carrying on all these activities of the International Health Organization is provided in a budget passed annually by the Assembly of the League of Nations The sum allotted for the year 1924 amounts approximately to £33,600 But the Rockefeller Foundation has supplemented this by a grant of over £19,000, of which £12,540 is for the purpose of interchange of public health personnel and individual fellowships The Rockefeller International Board of Health has allotted sums for this purpose for three years, and the first interchange of public health officers took place at the end of 1922 by visits to Belgium and Italy under the auspices of the Health Organization of the League Twenty-one public health officers, chiefly from Eastern European countries, participated in these visits The second interchange took place early in 1923, when thirty medical officers from fifteen European countries and from Japan and the United States visited England and followed a programme of work organized by the Society of Medical Officers of Health They subsequently visited Austria A third interchange was to Italy in May and June last year for the study of malaria by malarial specialists This was followed by visits of bacteriologists and laboratory assistants to the Institutes of Tropical Medicine in London and Holland, and of twenty-four medical officers of health to the United States in September Four collective interchanges have been arranged for this year—one, which is now taking place, to Great Britain, a second to the Netherlands and Denmark, a third to Switzerland, and a fourth to the Far East, in addition there will be two special interchanges of experts in tuberculosis and school hygiene

The balance of the sum granted by the Rockefeller Foundation to the International Health Organization of the League of Nations is for the purpose of establishing and maintaining in its Health Section at Geneva an epidemiological intelligence service Sums are granted for this purpose for five years, and Dr Sydenstricker of the Public Health Service of the United States was appointed early last year to take charge of this section of work The scheme proposed for carrying it on encroaches to some extent on the work of the Office International d'Hygiène Publique, and how far the two bodies will co-ordinate their functions without duplicating and overlapping has yet to be ascertained

CONCLUSION

In all this work of establishing an International Health Organization of the League of Nations in agreement with the Office International d'Hygiene Publique, British representatives have taken an active part Sir George Buchanan, of the Ministry of Health, has represented the British Government, and until recently Sir Havelock Charles the Indian Government, both on the Office International and on the Health Committee Dr Granville acted as chairman of the Mixed Committee which drafted the constitution, and represents the Conseil Maritime et Quarantenaire of Egypt on the Office International and also on the Health Committee South Africa is represented on the former by Dr P G Stock, and Australia by Dr P Norris *Canada, so far, has not appointed a representative*

As the Executive Committee has power to co opt the services of experts in all branches of its work, we may confidently look forward to a marked advance in future in the control of epidemics, and in the general prevention of disease by regulated and co-ordinated international effort throughout the world There is no attempt to force the pace unduly In any case the measures already taken, and the methods adopted by the International Health Organization, will go far towards promoting mutual confidence and respect amongst nations It thus forms an important element in achieving the objects for which the Covenant of the League of Nations was framed

BRITISH EMPIRE EXHIBITION

MEDICAL SECTIONS

THE Wembley Exhibition would be only an incomplete record of the history and achievements of the Empire did it not include some demonstration of those researches into the prevention of disease and the ingenious contrivances of sanitary science, without which in many places there could have been but little European colonization In the Government Pavilion, therefore, side by side with the representations of great historical victories won by the fighting forces, there will be a scarcely less dramatic portrayal of conquests over disease during the last twenty-five years in particular The object of the whole Exhibition is by recording the past to envisage the future, and the medical exhibits are especially worthy of attention, since, by tableaux, models, specimens, charts, and descriptions, the lines of research that are illustrated point not uncertainly to further triumphs in the future In so large an area of exhibits it would be inevitable that the visitor, uninstructed in advance, should overlook some, and so we propose during the next week or two to describe those of more particular medical interest, including those relating to tropical diseases, sanitary engineering at home and abroad, improvements in health administration generally, and the new and improved weapons that are being forged in laboratory and workshop for the use of the doctor of to-day In this present article one section only will be considered

Tropical Health Section

The elaborate exhibition which deals with tropical health has been organized by a committee, of which the President of the Royal College of Physicians of London (Sir Humphry Rolleston) is the chairman, and the Director General A M S (Sir William Leishman) the deputy chairman Specimens and illustrations have been supplied by various individuals and the following institutions Natural History Department of the British Museum, the Liverpool School of Tropical Medicine, the Royal Army Medical College the Royal Naval College the Wellcome Bureau of Scientific Research, the Imperial Bureaux of Entomology and Mycology

The Tropical Health Section is situated in the building belonging to the Overseas Branch of the Board of Trade, and on the other side of the court, which contains the large sunken map of the world showing the trade routes, are the royal apartments The general secretaries are Dr S H Daukes (Tropical Diseases) and Lieut Colonel Clemesha (Tropical Hygiene)

The Tropical Health Section may be said to consist of four parts at the entrance to it on each side of the door is a tableau—the one on the left representing an English explorer twenty five years ago dying of malaria, outside a native hut in the tropical jungle, a sluggish weed covered stream wandering across the foreground to illustrate the breeding place of the mosquito The second tableau, on the right, represents a similar spot twenty five years later, when the discoveries illustrated within the section have been applied and have so remedied the conditions that the river has ceased to breed mosquitos, improved sanitary native huts replace the primitive "beehive" type, the white man has a bungalow well protected against an occasional mosquito, and has even dared to bring out his wife The second part of the disease section includes twenty seven diseases, each of which is described by pictures photographs, models, and specimens, and a short printed summary in each case gives the main points of interest so that the visitor will know exactly what to look for Amongst the diseases thus illustrated are malaria, yellow fever, plague, relapsing fever, intestinal infections, including typhoid and cholera, food deficiency diseases such as scurvy, beri beri, and pellagra, whilst yaws and leprosy are very fully displayed In the case of malaria models of the different stages of development and actual specimens of anopheles are shown Both yellow fever ("yellow jack") and dengue are spread by *Stegomyia*, the domestic mosquito which breeds in collections of water in rubbish and tubs rather than in streams The attempt to control these diseases by the introduction of certain small fish to eat the larvae is shown

The plague exhibit contains some specimens of historical interest, including two lead crosses which were buried with plague corpses, the costume worn by the doctor in attendance on plague cases, and the reproduction of some ancient pictures relating to this disease

The value of preventive inoculation against typhoid fever is particularly well shown in an illuminated statistical comparison of the South African war with the recent war Representations of preventive measures against sun stroke and Malta fever illustrate different lines of prophylactic treatment Each of these diseases is one in which skilful hygienic precautions bring about a certain measure of prevention, and in each case these methods are indicated and are still further elaborated in the hygienic section

An attempt to meet the difficulty of persuading visitors to take any interest in statistics which yet have such value in showing what has already been done in preventive work, has been made by the use of an ingenious system of illuminated devices The model of an Assam tea garden shows the way in which bungalows can be designed so as to secure as much coolness as possible, and to keep out various infections Illustrations of town planning and housing will also be shown including the treatment of oriental bazaars, the precautionary measures adopted in the case of pilgrimages and marine quarantine are also set out

The fourth part of the section dealing with plant diseases, though on a smaller scale is yet of considerable interest since it deals with those diseases which affect the plants that are of special importance to human health

A book describing the whole section will be on sale it will contain a full account of the various diseases illustrated and the methods of prevention and will enable visitors after seeing this Exhibition to recall to their memory at home the interesting points that have been demonstrated.

British Medical Journal.

SATURDAY, APRIL 12TH, 1924

RADIOTHERAPY IN CANCER

THE Ministry of Health has issued to local authorities in England and Wales another memorandum on cancer It is by Professor Lazarus Barlow, and deals with the effects of radium and *x* rays upon normal and cancerous tissues It shows very clearly the great strides radiotherapy has made since it was first discovered that *x* rays had an action upon the tissues of the body The value of this new development is emphasized by the fact that, of a number of memorandums the special committee dealing with cancer intends to issue, this is the second on the list, it is to be followed by a third dealing with the surgical aspect of the cancer problem The general aim of the memorandum is to give expert information upon the interesting and difficult problems encountered in cancer investigations, and in the main the effort is successful In such a controversial subject it would not be difficult to select points on which great differences of opinion exist amongst research workers The progress of radiotherapy has been steady, the use of *x* rays was at first confined to diagnostic work, and it was by the occurrence of skin reactions, and later malignant growths, upon the skin of operators and patients exposed during these examinations that the nature of the therapeutic action of the rays was discovered, several years elapsed before radiations were actually employed experimentally in the treatment of new growths Apolant in 1904 was one of the first to study the effects of the rays from radium upon tumours in mice Contamin in 1910 exposed tumours in mice to *x* rays under various experimental conditions, and reported some interesting results A large number of experimental workers recorded observations, and soon the groundwork of radiotherapeutics was laid out The knowledge acquired from animal experiments was quickly applied to growths met with in man, and from the early days to the present time a great deal of progress has been made, and the subject is now emerging from the empirical stage into that of scientific accuracy, particularly in regard to the physical measurements of the radiations and the dosage The perplexing factor is still the biological action of the tissues to the radiations, and no real progress will be made until this factor is more clearly understood

The outlook is, however hopeful, for in recent years distinct progress has been made Systematic experimentation on tissue response *in vitro* and *in vivo* will undoubtedly further knowledge, while biological and biochemical work is now in progress which, when carried to a conclusion may throw much light upon the biochemical changes induced in the tissues and plasma of subjects exposed to radiations Changes in the tissues are observed when pieces of the tumour are removed and sections are cut, but the more intimate changes induced in the cells are more easily observed when artificial cultures of the cells are prepared Strangeways and Oakley have recently published a valuable paper on the action of radiation applied to such a culture A further extension would be an intimate study of changes in blood cells exposed to radiations, much valuable work has already been published in this direction, but the subject is worthy of a more intensive investigation

An interesting point for discussion raised in the memorandum is the question of the stimulation of cells by radiation Authorities differ on this matter, the more recent opinions being decidedly against the theory of stimulation, particularly in regard to the cancer cells Dr Ewing, of the Memorial Hospital, New York, is decidedly of opinion that stimulation of the cancer cell by radiations is most unlikely, and Continental authorities who have written on the subject recently agree with his conclusion The question is still undecided, and might profitably be the subject of thorough investigation Another point of interest raised is as to the presence of radium in cancer growths, and in gall stones in association with cancer in the region of the gall bladder Definite statements are made on this matter, and it is said that radium has been found in gall stones with the presence of which cancer has been associated, and it is suggested that the presence of radium may be a causative factor in the development of cancer This suggestion was, we believe, first made in the Croonian lectures given by Professor Lazarus-Barlow before the Royal College of Physicians of London in 1909 and published in our columns at that time (vol i, p 1465) So far as we are aware, however, no investigators have corroborated the findings, though a number have tried to detect the presence of radio active bodies in gall stones The subject is well worthy of further investigation, radium rays and *x* rays are akin to light rays, differing chiefly in their greater penetrative power and wave length Has anyone so far suggested the possibility of the rays from the sun being a causative factor in the production of cancer? The experiments of many workers in the investigation of chronic irritants, notably tar and arsenic, would indicate the probability of chronic irritation being a predisposing factor in the production of cancer, but has anyone proved that it is the direct exciting cause? Gall stones removed from the patient have been most thoroughly tested for evidence of radio activity, with a negative result, the effect of gall stones upon a photographic plate has also been investigated, with a like result Further experiments will be carried out with cancer growths, especially those associated with the presence of gall stones If a positive result is established in these experiments we may have seriously to reconsider the whole question of radio activity in relation to the treatment of cancer

The relationship of radiology to surgery is important, so far, radiologists in this country, with few exceptions, have inclined to the view that in all operable conditions surgery must be the first choice in an attack on the growth, with this we are in cordial agreement Radiotherapeutic measures alone as at present practised do not offer the patient so good a chance of freedom from the disease as surgery, radiations should be used to supplement the effort of the surgeon by diminishing the tendency to recurrence—and undoubtedly in this field radiations have achieved a measure of success It may be that in the future a better knowledge of the action of radiation and a more thorough technique will improve the results, but in our opinion that time has not yet come We have urged, however, that, to give the patient the best chance of continued freedom from the disease, surgery should be supplemented by a thorough course of radiations in the hope that recurrence may be prevented, and from this position we see no cause to recede The

best possible treatment in the majority of cases of cancer at the present time is a combination of surgery and x rays or radium rays, or even a combination of the three The suggestions of combined treatment in the memorandum are sure to meet with approval

It is interesting to note a further suggestion in this direction An attempt has been made to induce immunity in another way This is based upon the accumulating evidence—(1) that the body in cancer possesses some power of protecting itself against the disease, (2) that the production of immunity is in some way bound up with the cancer cells, and can experimentally be induced by irradiating cancer cells within the body, (3) injurious effects of radiations within the body are to be avoided

To attain these ends a method has been introduced which, briefly, is as follows The growth is removed surgically, minced with strict precautions, and given a suitable dose of radiations, the resulting pultaceous mass is introduced beneath the skin The hope is that in this way a degree of immunity in cancer patients may be induced, and the attempt deserves very careful consideration Ultimately success in the treatment of cancer may come by the use of some such method, but it is difficult to see now how the procedure described can induce any further degree of immunity in patients with advanced disease, who in all probability have already responded as far as possible to the presence of a vigorous and well developed cancer growth If such a method is to be tried surely the type of case selected should be an early cancer or even the precancerous stage, not cases admittedly far advanced and already presenting secondary growths scattered throughout the tissues

THERAPEUTIC SUBSTANCES BILL

IN 1920 the Council of the British Medical Association expressed the opinion that the position which obtains in this country, where no legal authority exists to enforce the testing of certain potent and dangerous chemical or biological products, commonly used for hypodermic and intravenous injection but not susceptible of standardization by simple processes of analysis, is unsatisfactory The Ministry of Health was accordingly urged to rectify this anomaly by such legislation or administrative action as would ensure for this country the control of these preparations which already exists in other countries Shortly afterwards the Minister of Health (Dr Addison) appointed a small committee to consider and advise upon the legislative and administrative measures to be taken for the effective control of the quality and authenticity of such therapeutic substances, offered for sale to the public, as cannot be tested adequately by direct chemical means The outcome of this committee's inquiries was the Therapeutic Substances Bill 'to provide for the regulation of the manufacture, sale, and importation of vaccines, sera, and other therapeutic substances,' which was introduced on July 19th, 1923, into the House of Lords on behalf of the late Government by Lord Onslow, Parliamentary Secretary to the Ministry of Health Having passed all its stages in the Lords, the bill was read a first time in the Commons on August 2nd, but made no further progress in that Parliament It has now been reintroduced into the House of Lords by Lord De La Warr on behalf of the present Government

The preparations to which the bill applies are defined as follows in the schedule 1 The substances commonly known as vaccines, sera toxins antitoxins and antigens 2 The substance commonly known as salvarsan (dioxy diamino arseno benzol di hydro chloride) and analogous substances used for the specific treatment of infective disease 3 Preparations of the specific antidiabetic principle of the pancreas, known as insulin 4 Preparations of the posterior lobe of the pituitary body intended for use by injection Other substances the purity or potency of which cannot be adequately tested by chemical means may be added from time to time to the schedule by regulations The bill forbids any person to manufacture for sale any scheduled substance without a licence, but excludes from these restrictions any registered medical practitioner who prepares such substances either for his own patients or for those of another practitioner Restrictions are also imposed on the importation of such therapeutic substances

The bill provides that for the framing of regulations and the securing of uniformity of standards a joint committee shall be set up, consisting of the Minister of Health, the Secretary for Scotland, and the Minister of Home Affairs for Northern Ireland, each of whom may be represented by a deputy For the assistance of this joint committee an advisory committee of six would be appointed, the chairman being nominated by the Minister of Health and the other members by the Scottish Board of Health, the Minister of Home Affairs for Northern Ireland, the Medical Research Council, the General Medical Council, and the Council of the Pharmaceutical Society of Great Britain The bill prescribes also the purposes for which regulations may be made by the joint committee after consultation with the advisory committee

We may express the hope that this bill, which is designed to carry into effect a reform urged in the public interest by the organized body of the medical profession, will soon succeed in reaching the Statute Book But in these days of triangular party politics the expectation of life of a bill, or indeed, of a *Parliament, is a speculative quantity, and we must be* prepared at any moment for the sacrifice of useful measures by a Government in difficulties

THE LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

THE charter of the London School of Hygiene and Tropical Medicine received the Royal approval on April 1st, and has now been issued It rehearses the gift of the Rockefeller Foundation intended to provide a School of Hygiene in London, to be associated with the University of London, subject to an order to be made by the Board of Education under the Charitable Trusts Acts, it provides for the transfer to the School of Hygiene of the London School of Tropical Medicine The School of Hygiene and Tropical Medicine, on complying with the statutes of the University of London, is to be a recognized school of the University in the Faculty of Science and in the Faculty of Medicine, for the purpose of promoting the study of and education in public health, hygiene, State medicine, and tropical medicine A court of governors and a board of management are to be constituted for the school The charter prescribes that the court of governors shall consist of thirty-five persons The first board of management of the London School of Hygiene and Tropical Medicine is to consist of the Minister of Health for the time being, Viscount Burnham, Sir Arthur Clark, K B E, Sir Walter Fletcher, K B E, M D, F R S, Lieut.-Colonel F E Fremantle, F R C S, F R C P, M P, Sir Harry Goschen, K B E, Sir George Newman, K C B, M D, Sir Cooper Perry M D, F R C P (Principal Officer of the University of

London), and Sir Arthur Robinson, K C B (First Secretary, Ministry of Health) They will hold office for eighteen months, and thereafter the board will consist of nine persons, three appointed by the court of governors, three by the Minister of Health (one of whom is to be appointed on the nomination of the Royal Society), two by the Senate of the University, and one by the Seamen's Hospital Society Three members selected by lot will retire at the end of each three years The board of management will have the sole control and supervision of the London School of Hygiene and Tropical Medicine, including the appointment and payment of officers and servants and the management and disposition of the property of the school, subject to the regulations of the University of London with regard to the appointment of professors and readers The board of management will make statutes for the regulation of the school and elect its own chairman It will report annually to the court of governors, and will submit a financial statement yearly to the Senate of the University of London The Seamen's Hospital Society, as the trustees of the London School of Tropical Medicine, has made application to the Board of Education for the order referred to above, and this will now be issued Upon the issue of this order the School of Tropical Medicine will be amalgamated with and form part of the London School of Hygiene and Tropical Medicine, which will take over the work and functions of the existing School of Tropical Medicine, together with its equipment, laboratory, library, and museum, the new school will allocate a part of its premises for these purposes The staff of the existing School of Tropical Medicine will be given the option of being transferred to the new school on terms and conditions not less favourable than those enjoyed by them under their agreement with the Seamen's Hospital Society So long as the Seamen's Hospital Society maintains a hospital for the treatment of tropical diseases at Endsleigh Gardens or elsewhere the London School of Hygiene and Tropical Medicine is to make use of this hospital for the clinical instruction of students in tropical medicine The charter contains no clause specifically providing for the admission to the new school of any other existing body, and the final clause provides that any future application for a supplemental charter submitted to the Privy Council must have the assent of the University of London

LUNACY CERTIFICATION MEDICAL RESPONSIBILITY

THE hearing of the appeal by Dr Hubert Bond and Dr Adam against the judgement in the Court of King's Bench last month, as reported in our columns of March 8th (p 449 et seq), was opened by the Attorney-General for Dr Bond on Monday last We publish elsewhere (p 692) a report of the proceedings of that day The Attorney-General said it had gone out to the world that Dr Bond was a dishonest man, the Board of Control felt that it could not leave the position as it was, and the Attorney-General expressed the hope that counsel for the respondent would make clear the real facts of the situation The jury had, as a matter of fact, accepted one of the two views put forward by Mr Justice Lush—namely, that Dr Bond could not have acted honestly if he did not see Mr Harnett before the telephone message was sent by Mr Dickinson from the Lunacy Commissioners' offices to Dr Adam's home to take Mr Harnett back The Attorney-General uttered a strong protest against the way the learned judge in the court below had pilloried the medical witnesses produced by counsel for Dr Bond It might fairly be said that each one of the medical superintendents of each of the institutions at which Mr Harnett had been detained had been upon his trial but none of them could be represented Indeed torture was not fought and was not intended to be fought, yet they all seemed to stand condemned as having been responsible for illegally, improperly, and negligently detaining Mr Harnett in their control They had been condemned on evidence which was not relevant, which was not admissible, and was not desirable, yet whether they were negligent or not did not matter at all in deciding the question whether Dr Bond was liable The greater part of the second day's proceedings was occupied in reading the summing up in the Court of King's Bench, but at the end, as will be seen, the Court put a number of questions to the Attorney-General

THE INTERNATIONAL CONTROL OF OPIUM AND COCA

WE understand that the Preparatory Committee formed to draft the programme for the conference to be held next November on the limitation of production of opium, morphine, cocaine, etc, met at Geneva last month The committee consisted of M Bourgois, Sir M Delevingne, Mr Van Wettum, Mr E Neville, Sir J Jordan, and M Bremer Mr Neville, as representing the United States, put forward proposals to prevent any increased production or State encouragement of or receipt of revenue from the cultivation of opium or coca Persia, India, and possibly the Dutch East Indies and China, may have something to say in regard to these proposals In the matter of transport, too, the American representative urged more drastic measures, including the right of search on the high seas, which may occasion international difficulties The conclusions of the Preparatory Committee will now be circulated to all the Powers which are members of the League of Nations or parties to the Opium Convention of 1912 The November conference may then be in a position, either by way of a further convention or otherwise, to implement the aims of the Opium Convention to stop the abuse of dangerous drugs and restrict the use of morphine, cocaine, heroin, etc, to medical and legitimate purposes only In a work just published in New York, entitled *The Ethics of Opium*, by Ellen La Motte, we notice that the Opium Convention is spoken of somewhat disparagingly, and the part played by British India with severity, while an amiable complacency suffuses the references to the role of America's representatives There seems to be reasonable expectation that Switzerland, which has long delayed ratification of the Opium Convention, will shortly do so, since under Articles 31 and 69 of its constitution it is held by jurists that narcomania may be regarded as a disease "particularly dangerous to man," and that freedom of commerce in drugs of addiction may accordingly be controlled by the sanitary police

RESEARCH ON DISTEMPER

MANY of our readers will be interested to hear of the progress of the research into the cure and causes of distemper which is being conducted by the research committee appointed jointly by the *Field* Distemper Council and the Medical Research Council It will be remembered that the editor of the *Field* started a movement to raise a large sum of money for this research it was estimated that a sum of £25,000 would be needed for the three years 1923, 1924, and 1925 At the close of the year £9,518, or a little more than a third of the sum required had been received A similar sum will, of course, be required each year, and the organizers of this work are not failing to keep their requirements before the public eye Subscriptions have been received from all parts of the United Kingdom and from America, amongst the most generous supporters being the Masters of Foxhounds Associations The first necessity of a research of this nature was a special establishment, including kennels for breeding pups and for housing

animals under experiment in which the chances of cross-infection during the experiments could be excluded, together with adjacent laboratories and accommodation for those tending the dogs Such an installation has been designed and built upon land occupied by the field laboratory of the Medical Research Council These buildings are now completed, and it is hoped that they may be ready for occupation before May The general policy is to attack first the question of the causation of the disease As has been mentioned before in drawing attention to this research, the opinion of veterinary surgeons and pathologists is not unanimous with regard to the nature of the causative organism, some favour the view that the disease is due to an ultra microscopic virus, whereas others hold that a bacillus is either directly responsible or at least plays an important part in producing symptoms and sequelae This question has already been tackled The second report of the Technical Scientific Committee gives an account of preparatory work which has been carried out on filtrable viruses in general, on an investigation into the bacteriology of distemper, and certain supplementary inquiries Little can be said at present on the preparatory work necessary for the study of filtrable viruses, it would seem that the research workers have been engaged in familiarizing themselves with the previously described methods for the isolation, cultivation, and study of filter-passing organisms whilst waiting until the new building is ready for their use They have devised and perfected some new methods appropriate to the particular problem of canine distemper Pathological and bacteriological investigations have been undertaken on twenty three dogs dying naturally from distemper, material from living cases has also been examined Particular attention has been given to the part possibly played by *Bacillus bronchisepticus canis*, regarded by Ferry and others as the true causative organism of the disease It was not found frequently either in *post mortem* examinations or in specimens from the respiratory organs of affected animals So far the results seem to suggest that this bacillus plays the part of a secondary invader, comparable to the staphylococci, streptococci, etc, which are also found It appears often to be absent in undoubted cases of canine distemper Certain supplementary inquiries have been started as to the best methods of studying the epidemiology of distemper by statistical means Thus it will be seen that much is afoot Medical pathology will wait with keen anticipation for any new light which may be shed on this disease and on filter-passing microbes in general, for the favourable auspices under which this research is being prosecuted are denied to those who are studying the virus diseases of man

CANCER AND LUBRICATING OILS

CANCER of the scrotum is sufficiently common among a certain class of cotton spinners to be known by the name of mule spinner's disease The condition was described and illustrated in our columns in 1922 (vol ii, p 971) by Mr A H Southam and Dr S R Wilson from experience gained at the Manchester Royal Infirmary An examination of the hospital records for the years 1902-22 contained reports of 141 cases of cancer of the scrotum, and of these no fewer than 69 occurred in mule-spinners The growth is usually situated on the anterior aspect of the left side of the scrotum, and believed to be due to chronic irritation The left side of the scrotum is exposed to friction against a "faller" bar The bar is lubricated, and it has been suggested that the oil has something to do with the production of the disease An action of considerable importance, because it is regarded as a test case the decision of which will govern some hundred other similar claims, is being heard in the Ashton under Lyne County Court Mr Wingate Saul, K C, who appeared for the claimant, said that epithelioma had been added to the list of diseases to which the Act applied, and asked the judge to make a declaration of liability as well as to award compensation The secretary of the Ashton Spinners' Association was called as a witness, and said that the spinner "pieced" with his left hand and stood on his left foot, with his left side at the groin coming in contact with the faller bar, which was coated with oil The result was that the spinner's pants became impregnated with oil In cross-examination by Dr Eastham, K C, he denied that the amount of oil was infinitesimal Mr A H Southam gave evidence that in the process of mule-spinning the scrotum came against a part of the machinery which was covered with oil, 80 per cent of cases in mule-spinners occurred on the left side, and it was the left side of the body that came into contact with the bar In cross-examination by Dr Eastham, he said that at the Manchester Royal Infirmary there was an average of seven cases of epithelioma of the scrotum a year, and about one-half of these were mule-spinners He was further cross-examined as to the influence of predisposition In the case of cancer of the mouth in a man who smoked a clay pipe he agreed that it was probable that the person attacked was predisposed to the disease, but that smoking the clay pipe was the actual cause At this point the hearing was adjourned

LIEBERKÜHN S MICROSCOPE

THE catalogue of instruments in the Museum of the Royal College of Surgeons of England includes several microscopes used by eminent surgeons The most recent is the student's monocular microscope by the aid of which Sir Ronald Ross first detected the presence of the malarial parasite in the mosquito In the recent rearrangement of these instruments attention has been directed to a relatively ancient contrivance—namely, the little Lieberkühn's instrument, twelve samples of which are packed into two drawers in an elegant highly finished wooden cabinet They were constructed in the middle of the eighteenth century and were described and figured by Mr Quekett, when conservator to the Museum, in his *Practical Treatise on the Microscope*, third edition, 1855 The microscope appears as a brass drum about one inch in length and diameter, mounted on a straight ebony handle It contains beautiful stained sections of the mucosa of the alimentary canal of the vertebrata, which Lieberkühn studied so minutely It is generally believed that he invented the silver speculum or reflector which bears his name, but, as Quekett points out, Leeuwenhoek appears to have devised a similar contrivance at an earlier date The Royal Society once possessed this latter authority's microscopes, but, while Lieberkühn's are preserved in the College Museum, Leeuwenhoek's have been missing from the Royal Society for over one hundred and ten years, and all trace of them has been lost

OPHTHALMOLOGY IN EGYPT

THE association of Mr A F MacCallan with ophthalmic work in Egypt has become so familiar that it is inevitable that there should be a feeling of surprise on learning that, with the issue of the tenth annual report on ophthalmic hospitals in Egypt for the year 1922, the work which he has done in that country for the last twenty years is ended When he went to Egypt there was little if any provision for the treatment of eye diseases, which are excessively prevalent in that country Now the country has an effective ophthalmic hospital service, a school of ophthalmology, and some seventy to eighty Egyptian surgeons, trained for the most part in the country, and devoting their services exclusively to the practice of ophthalmic medicine and

surgery That is a record which must be a matter for satisfaction to the man who has had control of the work for so long, and who has had the responsibility of initiation and direction along those lines which have brought the scheme to its present state of autonomy From the abstract of the report which has been issued it appears that it deals for the most part with local matters, such as hospital arrangements in various parts of the country But there are two points of more general interest The author of the report states that he looks on loss of vitreous in cataract operations as an exceedingly serious event, and one to be avoided by every means in the power of the operator, as in a large number of cases detachment of the retina occurs either as an immediate or as a delayed sequel of the operation The selection of that operation which best suits the operator, which can be performed within the minimum of time with the minimum of disturbance of the tissue, and which is least likely to be followed by loss of vitreous, is considered to be obviously the best line to take In most of the cases operated upon in Egypt the capsule of the lens was opened by a needle and peripheral iridectomy performed There is a hospital problem for the fairly large city of Cairo It is considered that in the event of increasing the facilities for ophthalmic relief in that city, it is desirable to build small hospitals at low cost in the outskirts rather than build at any one place a single expensive hospital which it will be difficult for the inhabitants of even the immediate suburbs of Cairo to visit For the school of ophthalmology the existing hospital and laboratory at Gizeh will be amply sufficient

COPPER IN VEGETABLES

THE absorption of copper following the consumption of vegetables containing copper sulphate was discussed in a paper contributed to a meeting of the Society of Public Analysts on April 2nd by Professor J C Drummond, Miss M G Palmer, and Miss D E Wright Metabolism experiments were made on rats maintained on diets containing a high proportion of peas to which copper was added It was found that, as recorded by previous observers, most of this copper is not absorbed, but is excreted by the alimentary tract Definite evidence was obtained that some small proportion of the copper may be absorbed into the blood It may be in part retained for a time by the liver, and is excreted by the kidneys Rats maintained for two to three months on diets containing a high proportion of copper peas grew normally and did not suffer in health Close examination of the tissues at the end of the experiment showed *no abnormality which could be attributed to the copper* absorbed from the food

"SUMMER TIME

SUMMER time begins this year in the early hours of tomorrow, Sunday, April 13th On Tuesday, April 8th, a public meeting was held at the Mansion House in the City of London, under the presidency of the Lord Mayor, to secure a permanent Summer Time Act, so that summer time should extend from the first Sunday in April to the first Sunday in October every year The meeting was held under the auspices of the Early Closing Association, and its immediate purpose was to support a bill to be introduced in the House of Commons on April 11th by Sir Kingsley Wood, M P A resolution in support of this bill was moved by Lieutenant Basil R Willett, R N , son of the late Mr William Willett the originator of summer time, and it was seconded on behalf of the British Medical Association, by Mr Bishop Harman, who made a very effective speech It will be remembered that the Representative Body of the Association passed last year at Portsmouth a resolution expressing the opinion that summer time was beneficial to the health of the nation Mr *Harman dealt especially* with the case as it affected children, and in this he was supported by Dr R A Lyster, medical officer of health for Hampshire Many other interests were represented by supporters, and the resolution was passed unanimously

INFLUENZA AND MEASLES

THE mortality attributed to influenza in the great towns of England and Wales continues to decline Last week there were 557 deaths (627 in the previous week) in the whole of the great towns, and 49 in London (83 in the previous week) The epidemic is not yet over in the north west, five county boroughs in Lancashire returned more than 10 deaths, and in each case last week's record was *higher than that of the previous week (shown in brackets)* Manchester 44 (21), Burnley 28 (18), Blackburn 16 (12), Preston 19 (11), Liverpool 14 (8) Sheffield still returns more than 10 deaths (13 and 14 in the last two weeks) There were fewer notifications of pneumonia—2,515 compared with 2,666 in the previous week—in spite of some increase in Wales The mortality from measles has now begun to decline, 153 deaths were recorded in the great towns—33 fewer than in the previous week We are now at the season of the year when there is normally some increase of influenza, and the weather has been, in London, abnormally cold, there is, however, *no indication of a* recrudescence of the epidemic in London, or indeed in those parts of the country which have been seriously affected

ENDOWMENT OF MEDICAL RESEARCH

THE Royal Society has received from a donor who desires to remain anonymous a gift of £10,000 for the prosecution of original research in medicine for the prevention of disease and relief of suffering, with special attention to tropical disease in British possessions and to cancer and tuberculosis The Society has received also from Messrs Brunner, Mond, and Co a gift of 500 guineas to be used for the publication of the results of scientific research in chemistry, physics, and similar sciences The Society has given notice that it will appoint a second Foulerton research professor, whose duty it will be to conduct original researches in medicine or the contributory sciences calculated to promote the discovery of the causes of disease and the relief of human suffering The appointment will be tenable in the first instance *for five years, but may be* extended for further periods of five years Applications, which may be from members of either sex, must be received not later than September 30th, 1924 Copies of the regulations can be obtained from the Assistant Secretary, Royal Society, Burlington House, London, W 1 Further particulars will be found in our advertisement columns The gift of Messrs Brunner, Mond, and Co is a new departure, and one which will be welcomed *The proper presentation* in print, with the necessary illustrations, of the results of scientific research is often very costly It will be remembered that the Royal Society recently came into possession of a fund bequeathed it by Dr Ludwig Mond which it is estimated will yield an annual income of about £2,500

DR JAMES R KAY, M O H West Riding of Yorkshire, was presented, at the meeting of the Yorkshire branch of the Incorporated Society of Medical Officers of Health on March 28th, with a silver tea-tray in appreciation of his many years' valuable services to the society

NEW ZEALAND BRANCH

ANNUAL MEETING

THE annual meeting of the New Zealand Branch of the British Medical Association, which was held this year at Auckland, was largely attended by members resident in the Dominion and also by some visitors from Australia, by Sir John Lynn-Thomas as the representative of the Association at home, and by a delegation from the United States of America

CIVIC RECEPTIONS

The members and visitors were received at the Town Hall at noon on Friday, February 29th, by the MAYOR, who recalled that it was ten years since a similar meeting had been held in Auckland On behalf of his fellow citizens he desired to pay a public tribute to the magnificent work of the medical profession and to welcome the members of the Association, and in particular Sir John Lynn-Thomas, to whom he conveyed the assurance of New Zealand's high appreciation of all the services the homeland had rendered for many years to the people of the young New Zealand nation which had grown up under the British flag He also welcomed the American delegates headed by Dr W J Mayo, and said that the British people were bound to the American nation by indissoluble ties The members of the profession in New Zealand had done wonderful work during the war, they had made great sacrifices and their ranks had been sadly depleted He recalled also the immense services rendered by the profession of New Zealand during the great influenza epidemic of 1918 The high regard in which the profession in New Zealand was held was illustrated by the honour of knighthood recently conferred on Sir Henry Lindo Ferguson, Dean of the Medical Faculty of the University of Otago

Dr F G GIBSON of Christchurch, the retiring President of the New Zealand Branch, in returning thanks on behalf of the New Zealand members, paid a high tribute to the Mayor, especially for his activity in connexion with the Harbour Board, and referred to the amazing progress of the city of Auckland and to the plans still further to increase its amenities

Sir JOHN LYNN-THOMAS also thanked the Mayor for his welcome, and said that the cordiality of his reception reminded him of his native Wales, he was glad to meet with it in a country governed in great measure by Scotsmen

Dr WILLIAM MAYO, who also replied, expressed the belief that the war had strengthened the bonds between the home country and the United States It was a union of spirit, not politics, which enabled the two countries to stand together and accept the world's challenge, the men that New Zealand had sent had won the heart of the American soldier

Address by Governor-General

A civic reception was given at the Town Hall in the evening, and afterwards a meeting was held at which Dr F G GIBSON was in the chair The Governor-General, LORD JELLICOE, said that the conference was of special importance owing to the presence of so many distinguished representatives from overseas As a sailor he was proud of the work of the British Medical Association in seeking out the cause and the development of the treatment of tropical diseases, a work of particular importance to an empire so large a part of which lay within the tropics

PRESIDENT'S ADDRESS

Mr CARRICK H ROBERTSON, F R C S, surgeon to Auckland Hospital, was then installed as President, and delivered an address in the course of which he dealt with the importance of diagnosis, for it meant, he said, successful treatment The patient often came with a ready-made diagnosis and merely desired treatment for what he supposed to be the matter with him If treatment were prescribed in accordance with the patient's diagnosis he might be satisfied and probably pleased with the medical recognition of his acumen, but if medical men were to act in that way they would cease to be scientists For instance, if the patient's diagnosis was that his liver was out of order, the real diagnosis might be appendicitis, chronic renal disease, or even an affection of some distant organ, such as the eye in glaucoma or the teeth in pyorrhoea The doctor had to use his every faculty in following up a clue, and must not rely too much on laboratory diagnosis, which encouraged him to shift the responsibility to someone else His keenest pleasure was when, in the course of his diagnosis, he laid bare the hidden cause of the disease The hope that the experience men gained in the war would lead to the better appreciation of the value of scientific healing had been disappointed Haphazard methods seemed to be as popular as ever, and men poured into the consulting rooms of the self styled healers and others who had no scientific training but carried on oblivious of the accumulated experience of organized science "There is no such thing," Mr Robertson continued, "as a secret cure, no curative drug whatever which is not well known to orthodox pharmacy It is not claimed that medical science is complete—it never can be, there is still, and there probably always will be, a certain territory of disease closed to the healer To any who would unfavourably criticize medical science for the large territory of disease still unconquered, I would quote Dr Johnson, who, in the famous preface to his English Dictionary, says, 'In this work, when it shall be found that much is still wanting, let it not be forgotten that much also has been accomplished"

Mr Robertson referred also to some of the special conditions of medical practice in New Zealand, in spite of the undoubted value of the team work demonstrated by medical units in the later part of the war, medical men had still to be numbered among the most pronounced individualists This was specially true in a country like New Zealand where so many doctors had to carry on their practice entirely isolated in sparsely populated districts The New Zealand country doctor was rarely in partnership, normally he was alone He was, indeed, a soldier—a soldier of science—in the forefront of the great battle waged against disease, but he fought almost invariably as a detached unit But he "listened-in," so that he was able to pick up messages which told of the fortune and tactics of the far flung battle line He was keen to listen for, pick up, and apply any new experience, and every new development The position of the city doctor was not the same, but in spite of a good line of communication he too, worked mainly as a detached unit, with an inevitable tendency towards a pronounced individualism It was in the highest degree essential, therefore, that there should be occasions such as the present when the solitary watchers withdrew from their isolated posts to refresh their minds and to enlarge their ideas The advantage of conferences was not merely for the members of the profession—indeed, it chiefly concerned the public As the medical profession existed for the conquest of disease and physical pain, everything that consolidated the phalanx of healers was a benefit to humanity Moreover the opinions expressed by experts at such meetings and published in the press, had an educative value for those outside the profession

Sir JOHN LYNN THOMAS and Dr W J MAYO congratulated the President on his address

WELCOME BY THE GOVERNMENT

Sir MAUI POMARE, K B E speaking for the Government, welcomed those present in English and Maori, and then read a report by Dr Hugh Short on a trial of Dreyer's diaplyte vaccine at the Pukeora Sanatorium, as follows

Dreyer's Vaccine against Tuberculosis

The possibilities of Dreyer's vaccine have been tried in a number of cases at the Pukeora Sanatorium during the last three to five months and this report is intended to convey merely the immediate result arising from this form of treatment only As to its ultimate usefulness it is of course much too early to express any opinion whatsoever So far as the administration of the

vaccine has progressed, and having regard to the period which has elapsed since the commencement of injections in individual cases, it may be stated generally that (1) No remarkable evidence of improvement has been forthcoming (2) Cases without pyrexia have done infinitely better than cases with pyrexia (3) Pyrexial cases have, in the main, made no progress whatever (4) The good results achieved are not notably greater than those which might have been expected using ordinary sanatorium measures without vaccine therapy, though it must be said that in a small percentage of cases the vaccine does appear to have achieved more than would have been expected with the ordinary sanatorium methods alone

A brief summary of the results is as follows

Thirty one cases have received a course of three months and upwards Of these, 14 were advanced cases, 14 cases were moderately advanced, and 3 were early cases

Of the 14 advanced cases, 3 with pyrexia retrogressed and 5 showed no progress, of the 3 without pyrexia 2 improved and 1 showed no progress, of the 3 cases with pyrexia at first and subsequently followed by non pyrexia, 1 has improved and 2 have shown no progress Of the 14 moderately advanced cases, 2 pyrexial cases have shown no progress, 8 without pyrexia have decidedly improved, and 3 without pyrexia have shown no progress, 1 case with pyrexia at first, and now without pyrexia, has definitely improved

Of the 3 early cases, all of which were non pyrexial, marked improvement has been noted Complications arising in this series have been of a minor nature, 2 cases only of minor haemoptysis being worthy of inspection The history of one case precludes any relationship between the haemoptysis and the vaccine

Seven cases, more or less advanced in the disease, were commenced on a course of treatment and the course determined through lack of progress, increased pyrexia, or one or other of the following complications (*a*) profuse haemoptysis (the haemoptysis in this case being so great and the dosage of vaccine so small as to suggest no relationship between the two, (*b*) bronchopneumonic consolidation, (*c*) empyema, (*d*) tuberculous abscesses of the hip joints

The work of the Sections began on the following day

We have a brief note from Sir John Lynn-Thomas speaking of the hospitality shown, it was, he says, almost continuous, and included a dinner given by the Governor-General at Government House on February 29th

PUERPERAL MORBIDITY AND MORTALITY

ENGLAND AND WALES

WE referred briefly last week (p 637) to a report[1] on maternal mortality by Dr Janet Campbell, Senior Medical Officer for Maternity and Child Welfare, Ministry of Health Two other reports by Dr Janet Campbell bearing on the matter were published last year, one dealt with the education of the medical student, and the other with the training of the midwife The new report is concerned with the general subject of the causes of an excessive maternal mortality and the means of its reduction The subject is reviewed from its public health rather than from its clinical aspects, although these are touched upon, and Sir George Newman in his prefatory note states that it is intended to make several of the matters with which it deals the object of a further inquiry "In this problem, as in so many other major public health questions," he says, "we must begin at the beginning It is futile to leave the issue to the eleventh hour and to the chance and hazard of the occasion We must prevent, and we can only prevent by preparation" He goes on to observe that "The death of a woman in childbirth seems to many minds to be remote from the control of the whole period of her pregnancy and even more remote from her adolescence and childhood" The facts, well known to the medical profession, and very admirably brought together in this report, prove that these statements are really quite obvious As he aptly says, "It is a trite platitude to say that the girls of to-day are the mothers of the new generation But its truth must be woven into our whole conception of preventive medicine if we really mean to build a healthy race of mothers, the source of a nation"

One of the recommendations of the report is that there should be an "investigation by the medical officer of health of all maternal deaths due to childbirth, and of all cases of puerperal infection, whether fatal or not In view of the unsatisfactory results of the present notification of puerperal fever," it is added, "it should be considered whether amendments are desirable in the existing legal provisions for notification in order to increase its practical utility"

Dr Janet Campbell begins by pointing out that on an average some three thousand women have died annually from conditions directly connected with childbirth during the last ten years, and that these conditions are in the main preventable Dr Campbell, in her analysis, endeavours to ascertain whether the mortality is declining with the general advance of knowledge, where the responsibility for the high mortality lies, and what remedies can be suggested

THE MORTALITY RATE

The number of deaths of mothers per 1,000 births was 4 81 in 1900, 3 56 in 1910, and 3 58 in 1922 Thus, there was improvement in the first decade but none in the second A similar result is obtained if deaths from sepsis alone are considered, the figures being 2 18 for 1900, 1 42 for 1910, and 1 46 for 1922 During the same period (1900-22) the general death rate fell from 18 2 to 12 8, and the infant mortality rate from 154 to 77 The conclusion drawn is that the woman in childbirth has derived no benefit from the general measures of sanitation and social hygiene which have had so satisfactory an effect upon the death rate as a whole A possible fallacy should, however, be mentioned As the fertility rate per 1,000 women has declined since 1891 from 268 8 to 162, the proportion of primiparae has probably increased and with it the general risk in childbirth, which is greater in primiparae This would tend to raise the mortality rate and obscure any improvement due to improved sanitation and methods It is thought, however, that this increased risk is compensated by the decline in the proportion of eighth and later confinements which would result from the fall in the fertility rate, the risks associated with these later confinements exceeding those of primiparae

CAUSES OF MATERNAL MORTALITY

Geographical—The highest mortality rates are found either in the rural and sparsely populated areas or in industrial and mining districts In the rural districts this is probably largely due to the ignorance of the women, who often prefer the unqualified maternity "help," approved by their grandmothers, to the trained midwife Further, where the population is sparse and the means of communication limited, it is inevitable that it may be difficult always to obtain medical assistance in emergencies

Quality of the Professional Attendance—No other condition, it is held, compares in importance with competent medical assistance This however, every woman is not yet able to obtain Several instances of what is judged to have been mismanagement are quoted in the report (p 31)

Between 50 and 60 per cent of all midwifery cases are attended by midwives, and the average death rate with them is lower than in doctors' cases, owing, presumably, to their being precluded from operating and being engaged for normal cases only Advantage is gained where doctor and midwife co-operate, since the latter has time to watch the case and facilitate natural delivery The advantage is lost, however, if the doctor is summoned merely to apply forceps with the sole object of expediting the labour Restriction in the time and attention given to midwifery cases is noticeable in contract medical practice (colliery districts), conducing to a certain carelessness as to elementary

[1] Reports on Public Health and Medical Subjects No 25—Maternal Mortality By Janet M Campbell M D M S London H M Stationery Office to be obtained through any bookseller (Pp vi-111 Price 1s net)

precautions and leading to a low standard of requirement on the part of both patients and their attendants

Abortion and Miscarriage.—The prevalence of abortion is a factor which is likely to influence the maternal death rate. Syphilis has probably not much influence, except as leading to abortion, but gonorrhœa may be a factor of importance, especially in districts where casual prostitution is rife.

Rickets.—This is far less prevalent and serious than it was, but fifteen or twenty years ago it was both common and severe in industrial districts, and many of the present generation were exposed to the risks of rickets in infancy.

Employment.—It is probable that the type of factory work now engaged in is seldom such as to exercise a directly adverse influence. It is the women who work because they must and who cannot always choose their occupations who are most liable to suffer. They have to bear the double strain of industrial work and of the care of the family.

General Sanitation.—It has been conclusively proved that insanitary surroundings have a less injurious effect than might have been expected, and a woman delivered without internal examination and in the most deplorable surroundings will often make a perfect recovery. On the other hand, defective sanitation adds enormously to the risks of operative interference.

Puerperal Infection.—This is the principal cause of the high maternal mortality. Infection is usually introduced during parturition by an attendant (doctor, midwife, nurse, or handy-woman), and is derived from the clothing, person, or instruments of the attendant, or the vulva or ano-perineal region of the patient. The vast majority of cases of puerperal infection are preventable. Ante-natal examination will enable foci of infection such as oral sepsis and vaginal discharges to be removed before the time of confinement. An efficient aseptic technique for all confinements is a matter of the greatest importance. A full surgical technique is out of the question in most normal confinements in private practice, but the following have been laid down as the minimum requisites in such cases. A proper supply of clean sheets and towels, a trained nurse, the vulva of the patient and hands of the doctor to be surgically clean. Gloves are recommended, if properly sterilized and correctly used, also a sterilized gown or washable coat. A special danger is associated with the hazardous operation of removal of a retained placenta, since the hand comes directly into contact with the open vessels at the placental site. It is alleged that it is frequently undertaken in private practice without due appreciation of the danger and without sufficient antiseptic precautions. In the operations that become necessary in *abnormal labour* complete antiseptic and aseptic precautions are necessary, yet every day these operations are performed under conditions which are fraught with danger, and often with insufficient skill. The remedy for this state of things is for the doctor in all cases to make an ante natal examination, which will enable him to forestall the dangers, make suitable preparations in time, or make arrangements for the patient to be taken to a hospital for the confinement. The improvement in the maternal mortality from infection will obviously be promoted by avoiding all unnecessary operations, and this applies more especially to the application of forceps merely for the purpose of expediting delivery. Dr. Campbell cites cases illustrating the disastrous results that not infrequently follow this practice.

Causes other than Puerperal Infection.—Under this heading the toxæmias of pregnancy, difficult labour, hæmorrhage, and heart disease are briefly considered.

Methods of Prevention

In the matter of education the resolutions recently passed by the General Medical Council cannot, it is considered, fail to have far-reaching effects upon the results of midwifery practice. Much has also been done to improve the standard of practice among midwives. The Central Midwives Board, moreover, is considering the desirability of again extending the period of training in order to enable this wider curriculum to be more adequately taught. It is suggested that greater co-operation between doctor and midwife would be of advantage to both. The well equipped midwife would find it safer and more satisfactory if every expectant mother were under the care of a medical practitioner, while the latter might well leave the normal cases to the midwife, thus his time would not be unduly taxed by his midwifery practice.

The main efforts of the local authority should be directed towards encouraging the effective ante-natal supervision of all expectant mothers, and to this end maternity centres should be established for ante-natal examinations. Further, it should be the aim of the local authority to see that maternity beds are, as far as possible, available for women whose circumstances or condition render home treatment unsuitable. Another important point for consideration is how best to ensure a sufficient supply of competent midwives.

Conclusions and Recommendations

The report ends with a summary of the conclusions which it is considered may be drawn from the facts, and certain recommendations are made, given under the three following heads:

(1) That there should be an improvement in the quality of professional attendance by means already mentioned—*namely*, the better education of medical students in the principles and practice of obstetrics and gynæcology, and the better training of midwives by a longer period of teaching prior to certification and of periodical post-certificate courses of *instruction*. It is *also* thought that the trained midwives should be employed for maternity nursing, with a consequent disappearance of the unqualified handy woman, that there should be closer co-operation between the medical practitioner *and the midwife* and between them and the local authority is desirable.

(2) The recommendation with regard to action through the public health department of the local authority is as follows:

> 'Preventive midwifery under the local authority should comprise the ante-natal and post natal care of all pregnant women by the professional attendant as far as possible, but also through the establishment of maternity centres and the provision directly or by means of a subsidy of maternity beds (including observation and isolation beds) for the treatment of complicated cases of midwifery and for the accommodation of women whose circumstances do not enable *them to be confined* safely and suitably at home.
>
> For the benefit of women confined in their homes there should be a sufficient service of competent midwives the adequacy of which service may be secured by paying when necessary, the whole or part of the salaries of midwives in sparsely populated districts, or by assisting the formation of district nursing associations the attendance of a midwife the assistance of a trained nurse and the advice and treatment of a medical practitioner should be available for all necessitous patients requiring *such* services.
>
> There should be investigation by the medical officer of health of all maternal deaths due to childbirth and of all cases of puerperal infection whether fatal or not. In view of the unsatisfactory results of the present notification of puerperal fever it should be considered whether amendments are desirable in the existing legal provisions for notification in order to increase its practical utility a matter in which it would be useful to consult a competent medical body such as the Obstetrical Section of the Royal Society of Medicine.

(3) The nature of the social and educational measures recommended has already been indicated.

Dr. Janet Campbell concludes her report by observing that many of the suggestions are already in operation, but often to a partial or imperfect degree. 'It is recognized," she continues, "that the establishment of a comprehensive and efficient maternity service designed steadily to improve the standard of midwifery, and thus to eliminate the avoidable risks of child bearing, is largely a matter of administration and finance."

The report is of great interest to the medical profession, and has been published at the very reasonable price of one shilling.

A departmental committee appointed by the Scottish Board of Health to investigate puerperal morbidity and mortality has, we understand, concluded its labours, and it is expected that its report will shortly be published.

England and Wales.

KING EDWARD'S HOSPITAL FUND FOR LONDON

At the annual meeting of the General Council of King Edward's Hospital Fund for London to receive the accounts and report for 1923, held at St James's Palace on April 1st, the Earl of Donoughmore took the chair in the unavoidable absence of the Prince of Wales The balance sheet for the year ending December 31st, 1923, gave particulars of entries classified under two headings the proportion of the amounts received from the Combined Appeal, which had been distributed through the King's Fund, and, secondly, the ordinary receipts and distributions of the Fund The Combined Appeal, opened in April, 1922, resulted in a total of just over £418,000 The special distribution to hospitals through the King's Fund amounted to £365,000, of which £115,000 was distributed in 1923 The income of the King's Fund benefited by the receipt of a considerable sum in dividends from the bequests of Lord Mountstephen and Sir Thomas Sutherland, and there was an increase in the annual subscriptions The invested funds had been augmented by a further £175,000 received from the estate of the late Sir Thomas Sutherland, £11,000 from the estate of Mr H H Wills, and £2,000 in smaller sums Other legacies amounted to £48,000, which was rather smaller than the sum received in 1922 The total receipts of the Fund for the year were £575,396, and a sum of £235,000 had been provided for ordinary distribution entirely out of the receipts, this was an increase of £15,000 over the figure for 1922 Since the foundation of the Fund in 1897 the total net amount of £4,636,854 had been distributed During the last year the amount spent on the administration of the Fund was £8,904, or £2 1s 4d per £100 of the total received (apart from the Combined Appeal) The annual report showed that in respect of income and expenditure, omitting the special distributions, the financial position of the hospitals had shown a steady improvement, the net aggregate annual deficit for 113 hospitals in London having been reduced from £383,000 for 1920 to £210,000 for 1921 and to £174,000 for 1922 Every eligible hospital which applied for a grant out of the ordinary distribution had been inspected and reported upon, as hitherto, by two of the Fund's visitors—one medical and the other lay The annual statistical report of the Fund contained comparative figures by which each hospital could see for itself where it had succeeded or failed, and the distribution committee was enabled to take into account, as one of the factors in the Fund's distribution, the energy shown by the hospital itself The report showed also in what directions the hospitals were developing their revenue, and three points emerged (1) the increase in voluntary contributions in spite of post-war difficulties, (2) the growing importance of the contributions made by patients themselves, either directly or through mass contributions, and (3) the varying proportion in which the annual aggregate surplus or deficit was divided between different hospitals and even different groups of [illegible]s The chairman read messages from the King [illegible]e Prince of Wales In the latter the Prince drew [illegible]tion to the satisfactory progress of the Fund and [illegible] the hospitals connected with it The gap between income and expenditure, taking all the London hospitals as a whole, was closing year by year, and though the figures for 1923 were not yet available it was already clear that there had been [illegible] ago observe that [illegible]ent in this respect With the aid o[illegible]seems to many minds to[illegible]legacies in two or three [illegible]of the whole period of her pregel aggre- even more remote from her adolescence and chgap for The facts, well known to the medical profession, and admirably brought together in this report, prove that statements are really quite obvious As he aptly [illegible]pointed is a trite platitude to say that the girls of to-d[illegible]the King

[1] Reports on Public Health and Medical Subjects [illegible]eport to the Mortality By Janet M Campbell M D M S Lond [illegible]ods at present Obtainable to be obtained through any bookseller (Pp [illegible]commodation is [illegible]an and neighbouring areas for accident cases requiring admission, and on the proposal that daily reports of vacant beds should be supplied to the police and ambulance authorities and to make such consequential recommendations as they may consider desirable" It has now published a report containing a summary of the evidence obtained from the Ambulance Service of the London County Council, several voluntary hospitals, the Ministry of Health, the Metropolitan Police, Poor Law infirmaries, St John's Ambulance Society, and the Metropolitan Asylums Board, together with the Committee's recommendations The Committee felt it necessary to study all the various methods and agencies at present employed in dealing with cases of accident or illness from the time of their occurrence until their reception in institutions where appropriate treatment could be given From the evidence the Committee gathered that no intimation is usually sent to an institution that an accident case requiring admission is on its way thither, the ambulance attendants only receiving instructions to transport any sick or injured person to the nearest hospital or similar institution where a medical officer is available The order, moreover, is subject to provisions or reservations in the case of about thirty out of eighty institutions, so that there is no uniformity in procedure, although an experienced ambulance attendant familiar with the locality and rules of the institutions with which his station is associated will not encounter much difficulty in securing admission In so far as emergency treatment is concerned the Committee found little difficulty or delay reported in the case of voluntary hospitals A large proportion of ambulance cases do not require in patient treatment, and it is only in connexion with bed accommodation that difficulty may arise In most of the larger voluntary hospitals special beds or wards are allocated to accident cases, and even if the hospital is full special effort is made to accommodate a serious case Nevertheless, nearly all such hospitals have occasion at one time or another to send patients to other institutions on the ground either that no bed is available or that the patient is considered unsuitable to be kept in a voluntary hospital With regard to Poor Law infirmaries, the Committee gathered that no urgent case was ever sent away on the ground of there being no vacant bed, but sometimes this happened if the patient did not reside in the parish to which the infirmary was attached, or if the site of the accident was not within the parish, or in case of transfer from the hospital, or if the hospital was not within the parish, or if an order had not previously been obtained from the Union relieving officer As regards emergency treatment, the Committee found that all infirmaries were not suitably staffed or equipped to deal with street accidents, and that refusal of some cases at some infirmaries would probably be more frequent if it were not for the fact that the ambulance attendants knew the practice of each infirmary and acted accordingly The London County Council Ambulance Service is responsible for the transfer of patients from one institution to another, and during the year ending March 31st, 1923, no fewer than 3,316 cases (equivalent to 14 per cent of the total calls) were thus removed This implied the withdrawal of ambulances with their attendants from the more pressing service of attending upon street accidents, and it might be worthy of consideration whether the removal of patients in response to a subsequent call might not be effected by means of a less costly type of ambulance, less fully equipped with first-aid appliances and attendants, thus liberating the regular service for its primary function In connexion with the proposal that daily reports of vacant beds should be supplied to the police and ambulance authorities, the Committee finds that the weight of evidence is adverse to the suggestion on the grounds of impracticability and inutility It was pointed out that the list, if furnished, would rapidly become obsolete by reason of admissions after the information had been supplied, that the ambulance attendant might be misled and so be unable to make use of a nearby institution, which, although it had reported no empty beds, would yet have found means of accommodating an urgent case brought to the door, and that the time and trouble involved in collecting and conveying the information from some eighty institutions to the police and ambulance authorities on the one hand, and distributing it to the different stations and

individual constables on the other, would not be balanced by any real advantage The suggestion that telephonic inquiry should be made of a hospital whether a bed is available before taking a case to it was also condemned since it is the practice of most hospitals to make a special effort to deal with any urgent case received The recommendations of the Committee are as follows

1 That King Edward's Hospital Fund, in making its annual grants should take into consideration whether hospitals which deal with cases of accident or sudden illness occurring in streets or public places provide (*a*) a reasonably sufficient number of beds for such cases (*b*) a reasonably sufficient number of observation beds or beds attached to the casualty department in order to avoid, as far as possible, transfer to another institution of any patient whose condition might be likely to be prejudiced by such transfer

2 '(*a*) That it be represented to the police and ambulance authorities that no institution which is not equipped for the reception and treatment of serious cases of accident or illness should be retained on the list of institutions to which ambulance cases should in the first instance be taken (*b*) That it be suggested to the authorities that in drawing up the list of such institutions the co-operation of the Ministry of Health be sought in the case of infirmaries, and of King Edward's Hospital Fund in the case of hospitals

3 That it be represented to the Ministry of Health that in the case of street accidents or sudden illness brought to Poor Law institutions (including removals from the casualty department of a voluntary hospital) (*a*) No question of residence of the patient or site of the accident or site of the transferring hospital should be raised prior to reception and treatment (*b*) No such cases should be transferred to another institution if their condition might be likely to be prejudiced by such transfer (*c*) The charge for treatment of such cases should be a common metropolitan one and not fall on the Union receiving and treating such patients (*d*) Such patients should not be subject to any disability arising out of technical pauperization as the result of their reception and treatment

THE CANCER HOSPITAL, LONDON

Mr W Ernest Miles, senior surgeon, took the chair at the dinner given by the medical staff of the Cancer Hospital (Free) at the Langham Hotel on April 2nd There was a "goodly company" of representatives of the medical profession, and all the laymen present were deeply interested in voluntary hospitals The senior surgeon of St Bartholomew's Hospital Mr H J Waring, proposed the toast of the Cancer Hospital He referred to its surgical work and the gradual evolution at the hospital on scientific lines of the abdomino-perineal operation, now more generally known as "Miles's operation" After commenting on the buildings which he had visited in the afternoon, and on the plans of the new operating theatres, which are being erected as a memorial to the late senior surgeon, Sir Charles Ryall, Mr Waring remarked on the uses of radium and *x* rays in the treatment of cancer, and then drew attention to the research work which the Cancer Hospital had inaugurated in 1910 as the second branch of its activities Mr Miles, in reply, explained that the work of the Cancer Hospital was mainly surgical, and that was so because the most effective method yet found for the cure and treatment of cancer, in spite of the great developments of treatment with radium and *x* rays, was chiefly by surgery At the same time, there could be no doubt that in the Research Department some very important observations were being made by Dr Leitch and his staff, and there was every reason to hope that these would prove to be of great scientific value Sir Thomas Horder, in proposing the health of the guests, pointed to the very pleasant relations that obtained between the lay committee and the medical staff, and paid a graceful tribute to the personal work of General Marsdin Newton Lord Cave, replying as the principal guest, referred to the British Empire Cancer Campaign, in which he hoped there were now united representatives of all the great bodies engaged and interested in cancer research, including the Royal Society and the Medical Research Council Sir William Hale-White, who followed, dealt with the subject from the point of view of the physician Captain Dyer, also replying, as Chief Officer of the Metropolitan Fire Brigade, told a series of most amusing stories, which were thoroughly enjoyed Mr R H Jocelyn Swan then proposed the health of the chairman, and referred to the hopes entertained by all Mr W Ernest Miles's friends of his candidature at the forthcoming election to the Council of the Royal College of Surgeons Thus ended a very pleasant entertainment, which was a complete success, well deserved by those who had spent so much time and care in its skilful organization

ROYAL VICTORIA INFIRMARY, NEWCASTLE

The annual report of the Royal Victoria Infirmary, Newcastle upon Tyne, illustrates the growth and expansion of the work in this institution during the last seventeen years, as well as the advances made in 1923 The admissions have risen 88 6 per cent since 1907, and in 1923 were 12,159, as compared with 11,411 in the previous year The number of operations had risen from 5,678 in 1907 to 11,755 in 1922 and 12,256 in 1923 The work of the special *x* rays, ophthalmic, and gynaecological departments had also increased materially during the last year, but the length of the waiting list had been appreciably reduced from 1,716 at the beginning to 963 at the end of the year The pathological department had been considerably extended and another story had been added to it At the annual court of governors on March 29th, Sir Joseph Reed, chairman of the Finance Committee, in seconding the adoption of the report which had been moved by the Lord Mayor, drew attention to the financial position At the close of last year there had been a credit balance of over £3,000, but the overdraft on the orthopaedic buildings had reduced this to £1,500, and at the present time there was an actual overdraft of over £2,000, which would be increased to about £4,000 by the quarterly accounts The expenditure for the first two months of this year had exceeded the income by £2,000 The maintenance of the institution last year had cost over £87,000, less than £7,000 was received from endowments, but the workmen's subscriptions had reached the magnificent total of £45,000 During the difficult period three years ago it had been necessary to part with £20,000 of securities, but Sir Joseph Reed hoped that they would be able to restore this money to investments

Scotland.

LOCHMABEN SANATORIUM

THE Right Hon William Adamson, Secretary for Scotland, opened on March 22nd a sanatorium at Lochmaben for tuberculous patients from the three southern counties It has accommodation for fifty patients and cost £19,000, and has been erected by the county councils of Dumfries, Kirkcudbright, and Wigton and the burghs of Dumfries and Maxwelltown Mr Adamson said that the clear duty of the State was now felt to lie in the direction of doing everything in its power to provide its citizens with a healthy environment The death rate from tuberculosis in Scotland had fallen from 193 per 100,000 of the population in 1890 to 86 per 100,000 in 1920, but it still remained one of the most serious diseases It was essentially the result of a combination of evils—poverty, poor feeding, and bad housing The better housing of the people was one of the most vital issues, and the Government was taking steps to secure an adequate supply of houses of a quality that would ensure the highest possible standard of health Bad housing and widespread unemployment, which diminished the ability to purchase the amount of foodstuffs necessary for physical welfare, were the outstanding disabilities in our social life to-day The practice of keeping stall fed cows within city areas was beset with dangers because the transmission of bovine tuberculosis could be traced to the milk given to city children The grading of milk was a step in the right direction, but unfortunately it cost more and consequently it was non graded milk which was bought by the poorer classes

DEACONESS HOSPITAL, EDINBURGH

At the twenty ninth annual meeting of the Church of Scotland Deaconess (Lady Grisell Baillie Memorial) Hospital, Lord Sands, chairman of the board of management, in submitting the report for 1923, said that 771 patients were admitted to the hospital, and 41 were receiving treatment at the close of 1922, making 812 in all

The number of operations performed under anaesthesia was 700, as against 509 in the previous year, the number of out-patients being 4,936, involving 18,872 attendances The district nurses visited 246 persons in their own homes, of these 114 were maternity cases Children to the number of 158 had been admitted during the year A large number of children had attended the out-patient department The total number of outdoor and indoor patients was 6,152 The hospital had sustained during the year a serious loss in the death of Professor Alexis Thomson Mr W J Stuart, who had been surgeon to the hospital for twenty years, having been appointed to the Royal Infirmary, he had been succeeded by Mr James M Graham, for fourteen years assistant surgeon The congratulations of the board were offered to Dr J W L Spence, for fifteen years radiographer to the hospital, on being awarded a medallion and annuity by the Carnegie Hero Fund Trustees, on account of his devotion to research, as a result of which his health had suffered considerably The receipts for the year amounted to £5,706 and the expenditure to £5,674 The cost per bed was now £109 a year, as against about £50 before the war It was necessary to raise about £6,000 a year to make provision for the work of the hospital Dr *Haig Ferguson, in moving the adoption of the report,* paid a tribute to the memory of Professor Alexis Thomson In view of the controversy regarding voluntary hospitals it was a pleasure to find one like this flourishing on the good will of the Church and the people As chairman of the Central Midwives Board for Scotland he could vouch for the excellence of the candidates presenting themselves from the hospital for examination

MERITORIOUS ATTENDANCE ON THE INSANE

The treasurer of the Royal College of Physicians of Edinburgh, on the recommendation of the Morison lecturer for the year 1924 (Dr John Thomson, F R C P), has awarded Morison prizes to Nurse Margaret Ross, District Asylum, Elgin, and to Attendant Angus MacIntyre, District Asylum, Inverness Each prize consists of a silver medal, a certificate, and a sum of £3

Ireland.

PUBLIC HEALTH IN DUBLIN

AT the inquiry into the administration of the Dublin Corporation, Dr M J Russell, medical officer of health for Dublin, recently described in detail the amount of work done in recent years by the Public Health Committee The death rate, which in 1918 was 25 per 1,000, had gradually gone down, and was 15 per 1,000 in 1923 The number of cases of *infectious diseases had declined in a* similar manner There had been numerous convictions under the Food and Drugs Act, etc, and fines imposed year after year until, in 1923, 3,336 samples were taken, 189 convictions obtained, and £404 imposed in fines Dr Russell also gave a record of the work done by the various departments of the committee The present committee had made great improvements as regards the inspection of dairies, and, in his opinion, had the best staff that could be found No meat could leave the abattoir without being scientifically examined by an expert, and the veterinary staff attended the cattle markets Slaughterhouses were also minutely inspected So far as the abattoir was concerned the people had every reason to know that they were getting good meat He could not quite guarantee the private slaughterhouses, and the committee was doing all it could to do away with them A licence was granted for a *private slaughter*house some years ago, and when the owner died the Corporation refused to continue it for the unexpired period

The housing conditions at the present time were, Dr Russell said, appalling, and were getting worse each year If the Government, private builders, tradesmen, and others did not adopt a great housing policy, overcrowding in a couple of years would be terrible In dealing with tenement houses, the Public Health Committee did its best, but unfortunately the worst class of tenements were owned by the poorest landlords If the committee proceeded too drastically with this class of landlord, if they were asked to do too much, they abandoned the houses, and the committee had to go to a great deal of expense in keeping them clean The owner found it difficult to get any rent, but the occupants continued on Could better housing be obtained much could be done to decrease infantile mortality and effect other reforms

A DEATH FROM DIPHTHERIA

At Ballinrobe Quarter Sessions a remarkable action was heard when the parents of a girl who had died from diphtheria sued her employer for £50 for, as alleged, the wrongful act of the defendant The deceased was a domestic servant in the defendant's employment, and in February, 1922, she contracted diphtheria, and counsel for the plaintiff alleged that the defendant sent her home in an open motor car The girl was taken into the house of a farmer on the wayside in an unconscious state, and died the next day Her sister, who subsequently took away her clothes, also contracted the disease, and died after a brief illness For the defence the point was raised that as the proceedings were taken under Lord Campbell's Act the action should fail when proceedings were not taken within twelve months after the death Apart from that, it was pleaded that defendant had a good case on the merits, and whilst regretting the girl's death everything was done on the doctor's advice The judge admitted the validity of the point raised and dismissed the case without prejudice

MEDICAL FEES AND SALARIES IN COUNTY ANTRIM

At a recent meeting of the Ballymoney Guardians a letter was received from the Ministry of Home Affairs in reference to an entry on the minutes to the effect that it was the duty of the clerk, when called upon by the medical officer in writing, to endeavour to procure the latter such medical assistance as might be necessary It was decided to reply that the clerk stated that he declined to comply with the request of the medical officer because he had been informed by Dr McKinney, medical officer, the nearest medical practitioner, that he would not assist at an operation for the fee sanctioned by the Ministry of Home Affairs in its letter of October 17th, 1923 At the same meeting letters were read from Drs Miller (Dervock), J Waller (Castlequarter), and McKinney (Ballymoney), returning cheques sent to them for assisting at operations in the hospital, which they could not see their way to accept in settlement The guardians were of opinion that they had paid the fees sanctioned by the Ministry of Home Affairs

A letter was read from the Ministry of Home Affairs approving the temporary appointment of Dr Mooney for the Kilrea dispensary district at £4 4s a week, and stating that the guardians should await their sanction to the proposed salaries before advertising for applicants for the medical officerships of Kilrea and Garvagh dispensary districts The clerk said the Civil Service Commissioners had sanctioned the retirement of Dr Adams (Garvagh) According to the procedure laid down by the Officers' Superannuation Act each guardian must receive four weeks' notice of the meeting at which superannuation would be fixed He would, therefore, call a special meeting for that day five weeks Unless he was otherwise instructed by the guardians, he would calculate Dr Adams's superannuation on 28½-sixtieths of his present salary and emoluments *On this basis* Dr Adams would receive £132 12s 4d, and also £11 17s 6d as medical officer of health under the rural council—a total of £144 9s 10d The clerk informed the guardians that owing to the length of Dr Adams's service they could add up to ten years for professional or meritorious service, but if they decided to do so it should be considered at a special meeting At a subsequent meeting some of the guardians were for adding ten years to Dr Adams's service, whilst others objected to any addition to the actual years of service Eventually, it was agreed, as a compromise, to add five and a half years to the service, thus giving 34-sixtieths of Dr Adams's salary and emoluments at the date of his resignation

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

National Insurance

THE National Health Insurance (Cost of Medical Benefit) Bill was taken in Crand Committee in the House of Commons on April 8th, Mr A Short presiding The Minister of Health made a brief explanatory statement, and the clauses were passed without alteration, two or three amendments being withdrawn after discussion

The Royal Commission

On the motion that the bill be reported to the House Sir Kingsley Wood again raised the question when the terms of reference to a Royal Commission in regard to Health Insurance would be available and when the personnel of the Commission would be announced

Mr Wheatley (Minister of Health) said that negotiations were very well advanced The Ministry had submitted the terms of reference to the approved societies and to the doctors, both of whom had agreed to them but they had to be submitted also to another body He did not anticipate that much time would be occupied in reaching a conclusion and hoped to have the Royal Commission operating without delay Asked as to whether the members would be chosen from persons with independent views or would be representative of parties concerned the Minister declined to be drawn remarking that was a matter upon which he might very easily slip if he spoke prematurely

Sir W Joynson Hicks thought it was very important to make the Commission or Committee—whichever it might be—impartial If representatives were appointed thereon the liability would be to split into groups and for these to act as advocates He mentioned that before he went out of office as Minister of Health he obtained the consent of a man—not of his own party—but one under whom all would be proud to serve to undertake the duty of chairman if so desired That name had been passed on to the present Minister

Mr Falconer held that it was most desirable that those who served should have real knowledge of insurance Otherwise they might get a body of men who were excellent but without the acquaintance with a complicated subject which would enable them to tackle it satisfactorily Mr Tillett hoped the Commission would not be made up of experts It would be far better to have common sense men and to allow the experts to be called as witnesses Mr Masterman rather agreed with the last speaker but urged there was still another consideration This was to secure men able to give sufficient time so that they could report to the House within a reasonably short period

Dr Fremantle said he was not qualified to speak for the insurance practitioners but he was in touch with them They would not wish to have an expert Commission but if it was decided it should be one of experts they would of course wish to be so represented All the doctors desired was to be treated perfectly fairly They had confidence in the justice of their case

Mr Wheatley in reply said he could not promise that the Commission however constituted would get through its work in a very short time The questions to be considered were very delicate and would take more time in the circumstances than might be desired He added with dry humour that however the Commission was appointed he was certain of one thing—that a storm would break about his ears

Administrative Expenditure on Health Insurance.

Mr Wheatley stated, on April 3rd, that the amounts expended on National Health Insurance administration in England and Wales in 1922 were as follows Approved societies £2,913,000, Ministry of Health and other Government departments, including National Insurance Audit Department and Government Actuary s Department, £1,010,000, Insurance Committees, £378,000 Excluding Government grants in aid received during the year from the actual contributions and expenditure of Government departments on administration, the ratio of administration expenditure to contributions from all sources was 12¾ per cent

Therapeutic Substances Bill.

In the House of Lords, on April 9th, Earl De La Warr, on behalf of the Government moved the second reading of the Therapeutic Substances Bill, which he said was non contentious The provisions of the bill are discussed in a leading article this week (p 677) The second reading was given without division

National Health Insurance.—Mr Nixon asked on April 2nd if the Minister of Health would arrange that the question of providing medical benefit under the national health insurance system for the wives and children of insured persons should be included in the inquiry by Royal Commission to be set up The Parliamentary Secretary (Mr Greenwood) replied that the Minister had no doubt that the subject referred to would be comprehended in the reference

Workmen s Compensation Cases.—The Home Secretary stated on March 27th that statistics of cases of accidents coming under the Workmen s Compensation Act for 1923 are not yet available In 1922, according to the Home Office statistics, the total number of workmen s compensation cases in the seven groups of industries required to make returns was 379 590 Of these 171,721 were disablement cases lasting less than four weeks—excluding cases where lump sums were paid The number of cases in mines under the Coal Mines Act was 201 832 The percentage of cases in each industry to the total was as follows Mines under the Coal Mines Act 53 17 metalliferous mines 0 16 quarries 1 03 shipping 1 31 factories 36 67, docks 2 62 constructional work, 1 28 and railways, 3 76

Lunacy Laws Inquiry.—In reply to Mrs Wintringham on April 2nd the Parliamentary Secretary to the Ministry of Health stated that it was not intended that the body appointed to inquire into the lunacy laws should be composed of representatives of interests The aim of the Government would be to set up a small impartial body of persons qualified to deal with the legal and medical issues and the questions of public policy involved

Village Settlements.—The Parliamentary Secretary states that the grants to the village settlements at Papworth and Preston Hall for tuberculous ex-Service men amounted to £10 000 The Joint Finance Committee of the British Red Cross Society and the Order of St John of Jerusalem had voted the sum of £10 000 for cottages at the East Lancashire tuberculosis colony at Barrowmore The Minister of Health had called for a report as to the present position at Barrowmore and the need for any further development

Matrimonial Causes Bill.—Dr Spero moved on April 2nd, under the ten minutes rule to bring in a bill to amend the Matrimonial Causes Acts by providing that a petition to dissolve marriage might be brought on the grounds of separation for five years and upwards under a court order or under the terms of a mutual deed of separation and also that the fact that any husband or wife had been absent from their home for seven years and nothing had been heard of them should be reasonable ground for a court petition for dissolution of marriage He said that there were over 500 000 married couples representing a million of people, who had been separated for a period During the course of his practice he had found that perpetual separation with the desire for happy remarrying or at least the chance of remarrying had undermined the health of people to such a degree that they had become neurasthenic Major Birchall opposed the bill, pointing out it would mean as it stood that divorce would be obtainable by mutual consent after five years notice On a division consent to bring in the measure was refused by 151 to 142

Cancer Inquiries.—Mr A T Davies asked the Minister of Health whether he would encourage other places to follow the example of Birmingham in appointing a special committee to inquire concerning the prevalence of cancer the facilities for treatment of the disease and the steps which might usefully be taken by the local council to help cancer sufferers Mr Wheatley said the departmental committee on cancer was in touch with the medical officers of health of several other towns with a view to the prosecution of similar inquiries either through special committees or otherwise as might be most suited to the area concerned The formation of such local committees had his cordial approval He called attention to the suggestions of this point contained in the memorandum on cancer issued by his predecessor to all local authorities in England and Wales in August of last year

Sale of Milk.—The Minister of Health will consider the desirability of obtaining powers for local authorities administering tuberculosis regulations to prevent persons suffering from infectious tuberculosis from dealing directly with the distribution and sale of milk

Notes in Brief

The Minister of Health has stated that if chilled meat treated by formaldehyde were imported, and if the port medical officer of health was satisfied that the meat was fit for human consumption it would no doubt be placed on the market in the usual course The departmental committee on preservatives in food proposed to arrange for the inspection of the meat and investigation of the process

Inquiries in East Lothian and elsewhere in Scotland have not disclosed any further cases of spirochætosis The Home Secretary has under consideration the question of including the disease in the schedule under the Workmen s Compensation Act

The Minister of Pensions has stated that the number of empty beds in Richmond Hospital was 36 and in Orpington Hospital 67 all, however, were allocated to patients about to begin treatment It might not be necessary to retain the hospital at Richmond Park after next autumn but there was not at present any prospect that the accommodation at Orpington would not be required by the department

The Minister of Health has received representations as to the constitution of the Milk Advisory Committee jointly appointed by himself and the Minister of Agriculture and Fisheries and is considering the desirability of adding to the Committee representatives of the workers in the dairying industry and of the consumers interests

The Scottish Board of Health is collecting information regarding the pollution of rivers in Scotland It is proposed that the Scottish Board of Health and the Fishery Board for Scotland should confer after the tabulation of the returns is completed to consider the whole matter of river pollution in Scotland

The number of calves vaccinated week by week at the Government lymph establishment varies according to the demand for lymph and the supplies in stock The lymph at present used is a strain of what was obtained many years ago and has been carried on by repeated transference from calf to calf

The number of milk licences in operation at the end of 1923 was as follows Certified—producers 55 shops 598 Grade A (tuberculin tested)—producers 46 bottling establishments 26 shops 118 Grade A—producers 50 bottling establishments 24 shops 115 Pasteurized—pasteurizing establishing 57 shops 107 With two exceptions these figures were issued by local authorities and the numbers given may possibly not be quite complete.

Correspondence.

RICE IN RELATION TO BERI-BERI

SIR,—In his closely reasoned paper on rice in relation to beri-beri (March 8th, p 414), Lieut Colonel McCarrison, I M S , claims that vitamin deficiency is rarely the sole agent in causation, that endemic areas exist (which he exhibits in a map*) wherein residents are subjected to a poison peculiar to certain places or evolved in such individuals, the operation of which is possible in the presence of vitamin deficiency or ill balanced starch and protein The nature of that poison he holds is open to surmise, "since if it is to be found we must have some line of thought on which to work" As I have dealt with these areas before the theory of vitamin deficiency was placed at the disposal of the sanitarian, this end may be assisted by reference to practical observations made at a period when the doctrines of Pekelharing, Takaki, Bentley, and Manson had their respective supporters

If endemicity be granted (as it has been since the days of Malcolmson both by the laity and the profession in the Madras Presidency), deductions made by Lieut -Colonel McCarrison from his experiments would be strengthened by reference to conditions when rice was not a factor of its present importance in the districts concerned Malcolmson treats of beri-beri as found in 1835 It was not till the irrigation schemes of Sir Arthur Cotton for the Godavery and Kistna districts were in working order, subsequent to 1853 and 1854 respectively, that rice could have competed in extent of use—even in the delta land—with the dry grains, cholam (*Sorghum vulgare*), ragi (*Eleusine coracana*), and cumbu (*Penicillum spicata*)

To this day—especially in the Kistna district—so far as the labouring population is concerned, rice is merely a luxurious addition to dry grains Rice mills whose capability was restricted to "husking" were introduced between 1890 and 1895 Those fitted for "polishing" did not exist till 1898 Since that date their increase has been considerable The use of polished rice is limited to the wealthier of the middle classes † Lieut -Colonel McCarrison shows that he is aware that, whilst within the endemic area prisoners may not be protected from beri-beri when using dry grains, instances of the disease do not originate in prisoners on the same class of diet elsewhere Malcolmson held that "The comparative cheapness of all grains in the Circars, and the easy circumstances of many of the native soldiers who suffered, are fatal to any supposition of the disease depending on deficient and unhealthy diet" Whilst not ascribing true beri-beri to parasitic infection of grains, he asserts that "symptoms like beri-beri have been caused by their use" At the same time he adverts to immunity of eaters of wheat, to the use for curative measures of that grain by native physicians, and, by a European physician, the increase of nutritive value of diets by milk

As affecting the points at issue, I would refer to statements from time to time as to beri-beri having appeared in the Madras Presidency during the famine of 1876-78 Practically no grain, beyond rice imported from Burma, was at disposal The conditions in sufferers were those of acute or chronic deprivation of all sources of nutriment—not merely an ill balanced diet In the famine of 1896-97 the dry grains solely were employed Early organization prevented starvation, but distress sufficed to upset normal diet constituents and quantities In both famines I inspected the physical conditions of thousands of sufferers, and saw no case that could be classed as true beri-beri

The most arresting of Lieut Colonel McCarrison's experiments shows that true beri-beri in pigeons followed the use of "raw" rice of high vitamin value and forming part of the stock used by human beri-beri subjects The problem thus presented might lead to several laborious and divergent lines of research Hence, as a desirable preliminary to embarking on so heavy a task, I would suggest discarding, till further knowledge of the subject is gained a rigid distinction between polyneuritis columbarum and beri-beri (notwithstanding pathological differences so marked as atrophy in the organs of one and increase in those of the other), having regard to the fact that, so far as the human subject is concerned, no connexion has been traced between grain exported from the endemic area and incidence of the disease elsewhere, and that, within the area, beri-beri exhibits symptoms from trivial to grave intensity in individuals In one subject the sensory, in another the motor, in another the vasomotor systems exhibit the chief symptoms, the pathognomonic enlarged heart and liver are found only in the severe and exceptional cases, the pathology of the mild cases, which predominate, is blank Assuming metabolism is involved in the one case and a specific virus in the other, in both polyneuritis results, but the pigeon of experiment lacks several factors which may determine major results in man If, then, for the time being, the results of that experiment be put aside for later inquiry, it becomes possible to accept the theory of a local poison—the operation of which is favoured under the conditions noted by Lieut -Colonel McCarrison To these conditions I would add, "and under any circumstances of personal or communal hygiene tending materially to affect health"

In 1896, in an official memorandum on beri-beri in the Rajahmundry Central Jail, I stated "If the contention that resistance to this disease is to be measured by hygienic surroundings, and especially in case of diet, it follows that in a large population, even if the full traces of beri-beri symptoms may not exhibit themselves, there may result a general lowering of the health and the modified conditions due to the action of this virus" It was not till an epidemic of beri-beri in 1898 proved the necessity of this warning that the several remedial measures then advised were effected I believe no general outbreak has since occurred

Any of the numerous theories of beri-beri causation might be supported by data gathered in equally diverse areas In offering data which may aid Lieut -Colonel McCarrison's suggestion as to "lines of thought for further research," it is essential to confine observation to peculiarities ascertained in the endemic area of the Northern Circars Each statement can be verified by official records I, of course, leave deductions to the research worker

Dampness of dwellings and their surroundings is evident the local method of storage of grains has peculiarities, lack of phosphatic contents in delta soil, as shown by the Pusa Research Institute, has been dealt with by Lieut Colonel McCarrison Both his statistics and those of Malcolmson show that Mohammedans suffer more than Hindus The essential difference, in the poorer classes, is not in favour of the Hindu as to the nutritive value of diet, the Mohammedans habitually wear more clothing and bathe the whole body less frequently, whilst their dwellings are more likely to be ill ventilated and lighted in the effort to preserve—even in a minor degree—the purdah system

In 1865 66 the medical officer in charge of the District Jail, Rajahmundry, reported, Anasarca—44 admitted and 26 died, which usually prove fatal by effusion into the chest and pericardium" He removed two inches thick of old accumulation of whitewash and plaster from the walls, and stated, 'Since the plaster has been removed from the walls both diarrhoea and anasarca have entirely disappeared" In the Rajahmundry Central Jail, in the period preceding epidemic beri beri of 1898, clothing made of jute bags was used as a degradation to minor delinquents, and was transferred from man to man without washing In 1899, at Vizianagram the 19th Regiment M I inhabited lines notorious in previous years for beri beri Cases were admitted to the hospital which long had served these lines, with symptoms which varied from mere pretibial oedema and painful calf muscles to spastic paraplegia Three medical officers of the I M S examined them One of these, a non-European non resident in the endemic area, then in sound health, spent several hours during three days making microscopical blood examinations in the same ward as the sick He was subsequently attacked with beri beri

Epidemics and relapses in subjects of the disease are seasonal Removal from the endemic area greatly favours

* In a nosological map of the Madras Presidency (prepared after consultation of all district medical and sanitary officers) published with my Annual Report for 1913 the areas agree with the exception of the distribution in the Ganjam District and isolated spots inland elsewhere

† It is advisable to ascertain whether the cured or parboiled rice of the present day corresponds in vitamin quality with that prepared formerly where in spent germination after soakage in cold water was effected at a lower temperature than inherited by subjection to high pressure steam a process practised under the mill system now but however rare in the evidence available so far to show that any deprivation has occurred

recovery, notwithstanding continuance of the diet of the same class, but at times cases do not cease to progress gravely After infection the virus is slow in operation—so much so that its results may exhibit themselves for the first time long after removal from the endemic area Its action, however, may be precipitated by *any cause lowering* the general health—notably chill At origin of infection many cases exhibit fever, but of so mild a nature as not to attract the attention of a subject accustomed to tropical conditions To examine the blood of advanced cases of beri beri for organisms is apparently futile, this is *possibly* not true of cases recently attacked —I am, etc,

W G KING,
Colonel I M S (ret)

Hendon, N W 4 March 31st.

RADIATIONS IN THE TREATMENT OF MALIGNANT DISEASE

SIR,—I was pleased to read the letter from Dr F Hernaman-Johnson (April 5th, p 648) as, after twenty years' experience in the application of the *x* rays by older and well tried methods, I have yet to be convinced that what is known as deep *x* ray therapy, as practised at Erlangen, is as superior as some of its votaries would have us believe

Whilst I freely admit that the cautious methods practised in the past are open to considerable modification, it must be borne in mind that we early workers were hampered at every turn in our endeavours to progress, and, as it most frequently happens in all advances made in the realms of medicine, the profession at large is loath to take things seriously until some foreigner (distinguished or otherwise) takes the lead

Dr Robert Knox has recently reminded us that *x* ray therapy did not originate in Erlangen, and that radiologists in this country have developed a technique of their own on perfectly sound lines

In the early days of *x* ray treatment of malignant disease the administration of small doses, at frequent intervals, through thin filters was a cautious proceeding based upon the fact that destruction of the superficial tissues could be brought about by overexposure, but during the last few years many radiologists have adopted methods based on scientific observation, whereby with suitable filtration comparatively large doses can be given without danger of injuring the superficial tissues, whilst the necessary treatments are less frequent in number and the intervals between them longer

There can be no doubt that research in the application of *x* rays to disease has been greatly hampered by the statement that small doses act as a stimulant and tend to accelerate the growth rather than to retard it This statement undoubtedly arose from the fact that many of the early workers contracted a form of epithelioma as a result of long-continued exposure to soft radiations Yet as showing how little we know of the question, it is a curious fact that in some instances an apparent cure of *x* ray epithelioma has been brought about as the result of a large dose of hard rays administered under different conditions Only quite recently a gentleman consulted me with a severe *x*-ray dermatitis on both hands, a small portion of which on the right hand had all the appearance of an epithelioma, notwithstanding which he assured me that he had quite recently cured a somewhat similar growth on the left hand by the administration of a large dose of hard rays scientifically filtered

During my experience at the General Hospital, Birmingham, and in private practice, I have noted the following facts as the result of the administration of small doses of the rays at intervals

1 In nearly all cases relief from pain has been secured
2 In many instances the patients have gained in weight general health and spirits
3 In tumours of the breast the growths have diminished in size have become less diffused and have been rendered altogether more operable
4 *The discharge (if any) has diminished in quantity* and in some instances the ulcerated surface has decreased in size and in rare instances disappeared
5 The lives of the patients even in absolutely inoperable cases have been considerably prolonged, and their mental outlook improved.
6 In no cases have deleterious results been brought about, *whilst the patients have looked forward to their periodic exposure* to the rays with pleasure instead of with horror as they do with the lengthy and large exposures as administered to-day

Having read the report published in your columns of the meeting of the Section of Electro Therapeutics of the Royal Society of Medicine held on March 21st last, and many other articles on deep *x* ray therapy which have appeared in recent issues in the medical journals, I would like to ask whether or no the results produced by the Erlangen method are better than those which were brought about under the old regime It appears to me that the Erlangen method is only fully justified by those who accept the "cancer dose," and that some time must necessarily pass before its superiority can be established

Whilst I am confirmed in the belief that in the *x* rays we have a modality of enormous power for good in the treatment of malignant disease, the ideal method of application has yet to be established

Professor Wintz, in an article published some few months back in the *American Journal of Roentgenology*, drew attention to the dangers of his own methods, these dangers are largely overcome by him by virtue of his having at his disposal a special hospital where control is exercised under conditions almost unknown in this country We have yet, however, to be assured that these dangers do not exist here, where the deep *x* ray therapy apparatus is frequently used under any but perfect conditions

I have been informed on reliable authority that, notwithstanding the fact that quite a large number of public institutions have installed the Erlangen apparatus, in but few of them is the Erlangen technique rigidly adhered to The reasons for this I am unable to state, but, to revert to the discussion above mentioned, I would like to ask what Dr Mitchell (Bradford) means by stating that "at the end of the first year forty-one cases had ceased attending for reasons unfavourable to the treatment"? Are we to understand that the vitality of the patients became so depressed that it was unwise, if not dangerous, to continue the treatment?

I can recall at least a dozen cases of recurrent carcinoma of the breast in which the far from perfect treatment, by means of small doses of the *x* rays administered at intervals, has prolonged the lives of the sufferers from a few weeks or months into years—in one instance over twelve, notwithstanding the fact that when this patient was first sent to me for treatment I was informed by a surgeon that she could not live three months

At the present moment I am treating an unmarried lady, whose breasts have both been removed by an extensive operation, since which three or four smaller operations have been undertaken for the removal of recurrences She has now been under *x* ray treatment at intervals for over three years, there is no sign of any recurrence, and the only inconvenience from which she suffers is a limited oedema of the right arm, which was present on her first seeking treatment I may say that I think her condition has been greatly helped by her exposing her chest to sunlight and fresh air during two or more weeks each year

I quite agree with Dr Hernaman Johnson in his opinion that in many cases the Erlangen technique has nothing more to offer than that which can be obtained from a much less costly and less dangerous outfit in the hands of a skilful operator —I am, etc,

J HALL-EDWARDS

Birmingham April 5th

SIR,—Dr Curtis Webb in his paper published last week (April 5th, p 622) writes "As I *mentioned* two years ago, in the Wertheim Klinik in Vienna operations on malignant disease of the cervix and uterus have been largely given up in favour of deep therapy" There is not a vestige of truth in this statement, for Wernher and Graf (Professor Kermauner rarely operates), the active heads of the Wertheim Klinik, operate upon every case of cancer of the uterus which offers any chance of complete removal Deep *x*-ray therapy is only used as a palliative measure in inoperable cases, and then never with the Erlangen technique, a method which they have long since abandoned —I am, etc,

SIDNEY FORSDIKE

London, W April 8th

MILD SMALL-POX IN THE SUDAN

SIR,—In the BRITISH MEDICAL JOURNAL of December 1st, 1923, there was a leading article on "Alastrim and mild small-pox," and in the last paragraph you ask for someone to compare epidemics in other countries with the mild form of small-pox recently met with in England

I regret I cannot do this, but in 1922 I was in charge of a very curious and somewhat extensive outbreak of small-pox, an account of which I included in my annual report for the year ending September 30th, 1922

I have no doubt in my mind that I have seen an epidemic which has passed through these three stages (1) indistinguishable from chicken-pox, and that often of a mild type, (2) alastrim, and (3) finally typical small-pox

In the past it has been upheld that chicken-pox and small-pox were but different forms of the same disease, but I think every medical man of the present day, if he takes into consideration the scientific investigations of the last fifty years, will consider this is a mistaken view, and that the two diseases are separate entities, but, personally having been through this epidemic, I can fully realize how this view was upheld in the days gone by

I am now convinced small-pox can appear in such a form that any doctor would diagnose it as chicken-pox, basing his diagnosis on distribution, the appearance in crops, the presence of all stages of the eruption at one and the same time, and the absence of severe constitutional or pyretic symptoms, in patients unprotected by previous vaccination That chicken-pox and small-pox were running concurrently was most carefully considered and ruled out of court Further, the mild chicken-pox types, in previously unvaccinated persons, though treated with and next to undoubted small-pox cases, failed to take small-pox, and further failed to take vaccination from potent lymph

Since writing my report I obtained strong evidence that the mild chicken-pox type of case, mentioned in the Kadaru outbreak, had been in contact and communication with the labouring population [illegible] first case, a Sudanese soldier, who died of confluent small-pox

I may say I have had a fairly extensive experience of small-pox in the past, and that chicken-pox is a very common disease in the Sudan —I am, etc,

L BOUSFIELD, M A, M D Cantab, D P H

Medical Officer of Health's Office,
Khartoum, March 16th

THE TREATMENT OF GENERAL PARALYSIS

SIR,—Owing to the method adopted by Gerstmann in reporting on his cases of general paralysis treated by malaria, it is strictly true, as Sir James Purves-Stewart has noted (BRITISH MEDICAL JOURNAL, March 22nd, p 508), that in no case is it stated that the cerebro-spinal fluid has returned to normal, but a consideration of the following figures may lead to a different interpretation

Gerstmann[1] states that the blood Wassermann became negative in 10 per cent of 76 cases, the reaction of the cerebro-spinal fluid negative in 12 per cent of 82 cases, and the lymphocytes reduced to 5 and under in 24 per cent of 110 cases No mention is made as to the number of cases in which these changes occurred concomitantly, but it can scarcely be doubted that in some at least this was so, and it is confirmed in a later report,[2] when he states that, in a number of cases in which the blood and cerebro-spinal fluid were unaffected in the beginning, little by little in the course even of years both became fully negative the lymphocytes being the first to show improvement the blood serum next, the cerebro spinal fluid remaining positive for the longest period

It may be that the intracisternal injection of salvarsanized s[illegible] may bring about this result in a much shorter period, but that it does occur in cases not so treated leads one to reconsider ideas as to the way in which malaria acts in this condition

That it produces its effects simply by a quickening of metabolism is doubtful, particularly when we compare the very transitory and incomplete results in the treatment by malaria of such varied conditions as dementia praecox[3] and disseminated sclerosis The more successful results obtained in the latter condition, using typhoid vaccine as a means of inducing pyrexia, are of indirect etiological significance and lead one to ascribe greater importance to the biological relationship existing between the *Plasmodium malariae* and the *Spirochaeta pallida* as explaining the success of the treatment in general paralysis. —I am, etc,

Bristol, March 24th. W L TEMPLETON, M B

[1] *Zeit f d Ges Neur und Psych*, lxvi, 1922.
[2] Ibid, lxxx, 1923

CONTRACTED PELVIC OUTLET

SIR,—The answer to Dr Gibbon Fitzgibbon's question (BRITISH MEDICAL JOURNAL, March 29th, p 599) is in the affirmative I thought I had made it clear in my previous letter that I had myself measured the pelvis of the patient mentioned The following are the figures

Relative to the brim Intercristal = 10½ in, interspinous = 9½ in., external conjugate = 7½ in, diagonal conjugate = 4¾ in
Relative to the outlet Transverse = 2¾in, posterior sagittal = 3¼in

With regard to the last paragraph in Dr Gibbon Fitzgibbon's letter I would point out that the shape of the baby's head is not in question —I am, etc,

W BLAIR BELL

Liverpool, April 5th.

THE LISTER WARD

SIR,—The recent meeting of the Presbytery of Glasgow, and the strong speaking on its resolution for preservation of the Lister Ward sent to the managers, has brought the matter to closer grips, for the questions there asked were those which have been asked from the beginning and denied answer—namely "What are the reasons compelling destruction?" and "Is there no alternative?"

To apprehend what may in some measure lie behind the silence of the board of managers, a summary of the conversation which I had with the chairman in July, 1922, [illegible] showed that the chairman is strongly may be helpful [illegible] against preservation, that he resents intervention, and that, the working men on the board being solid for destruction, he must respect their opinion The recent meeting, however, of the workers in all departments of Stewart and Lloyd's great works, one of the large works subscribers to the infirmary, and their unanimous resolution for preservation, leads to the thought that the chairman may have misapprehended the working men on the board, or that they do not represent the spirit of working men in general It was a Labour member who raised the question of preservation in the House of Commons, and it was a Glasgow Labour member who supported him When I told the chairman twenty months ago that among the prominent men supporting preservation was Sir Hector Cameron, Lister's old-time assistant, he lightly replied, "Oh! he's a great Listerite" An apt commentary reached me from an American surgeon a few days ago "Throughout the civilized world 'Listerian' bears the same relation to surgical science as does 'Shakespearean' to the world of poetry and drama"

The pulling down of the Lister block has now almost reached the memorial ward, and men still marvel at the hardihood of those who deliberately set aside the opinion of the whole world of reverence and the authoritative and commanding voice of science to follow only their own insistent self-will One of the managers wrote to me what a misfortune it would be if, in pressing for preservation, it led to the resignation of the chairman, but how the preservation of a great world shrine could possibly be construed into a personal question passes comprehension The issues are far too great for any feeling, be it personal, material, or utilitarian, to find place, and all such should be put aside by men of large mind, for although the locus of the ward is Glasgow, yet the tragedy of destruction is the world's, and in that wider field even the greatness of Glasgow holds but infinitesimal place

The BRITISH MEDICAL JOURNAL made the suggestion some weeks ago that, failing preservation by the managers, something might yet be done towards preserving and re-erecting

[3] *Journ Mental Science*, January, 1924.

Lister's ward, "not necessarily in Glasgow" Although much of the stonework has in part already been used as old building material, it may be of interest to state that careful measured drawings of the whole ward and its adjuncts have been made, together with copious notes and several photographs Data, therefore, exist, not only for a model of the ward, but also for a replica of it, should such ever be desired in this or in other lands —I am, etc,

Ayr April 5th JAMES A MORRIS

Obituary

HETTY ETHELBERTA CLARMONT, M S Lond, I R C S Eng

A PREMATURE end to a professional career so full of promise as that of Miss H E Claremont is particularly saddening She died on March 27th from bronchopneumonia complicating typhoid fever By broadcasting through the London wireless station efforts were made to obtain a suitable subject for blood transfusion, several offers were received, but unfortunately too late to be of any avail It seems so short a time since Miss Claremont began her medical studies at the London (Royal Free Hospital) School of Medicine for Women Her extremely youthful appearance at that time even evoked comment, but her independence of thought, concentration, and great perseverance soon gained for her the respect of all who could appreciate a character so set on thorough and honourable achievement

Hetty Ethelberta Claremont was the daughter of Mr A W Claremont, J P, and many of her relations were members of the medical profession Possibly, the ideals of other members of her family in the profession inspired her to work with such laudable pertinacity that she became a Fellow of the Royal College of Surgeons in 1920, when she was only 27 years of age, and a Master of Surgery of the University of London before she was 30 She was educated at King Alfred School, Hampstead, and proceeded immediately to the School of Medicine for Women, ultimately completing her studies at St George's Hospital She was awarded the John Hunter gold medal In 1916 she took the Conjoint Diploma of the Royal Colleges, and a year later the M B, B S Lond

Among the appointments which she held were those of house-surgeon, house-physician, resident anaesthetist, and surgical registrar at St George's Hospital, as well as casualty officer and assistant in the venereal disease department After the valuable experience gained through these appointments she went to Zurich, where she spent a year as voluntary resident surgeon to the university clinic Her considerable linguistic abilities enabled her to take full advantage of the experience offered by such a post Before returning to England she visited clinics and gained a variety of useful knowledge at Vienna and Budapest, then Frankfurt, and lastly Madrid

After her return to England Miss Claremont held appointments as surgeon to the Bermondsey Medical Mission, surgical registrar to the London Temperance Hospital, and clinical assistant at the out-patient department of the South London Hospital for Women She was also for a short time clinical assistant to the Women's Lock Hospital

Miss Claremont was in private practice as a consulting surgeon, and the thoroughness which characterized her student and post-graduate work was revealing itself in the steady growth of a reputation as a diagnostician Among her friends, professional and otherwise, and her patients she will be sorely missed, not only for the fervour with which she co-operated in work which advanced knowledge in the profession, but for the broad sincere sympathy and understanding she showed to one and all

CHARLES CARTER MOXON, M R C S, L R C P, Pontefract

COLONEL CHARLES CARTER MOXON, C M G, D S O J P, of *South Milford, Pontefract*, died, aged *59*, on March *20th*, in a nursing home at Leeds, of septicaemia following a slight wound received while conducting a *post mortem* examination on a young man who had died of malignant scarlet fever He was the younger son of the late Mr Richard Moxon, four times Mayor of Pontefract, and was educated at St Thomas's Hospital, taking the M R C S and L R C P Lond in 1891, afterwards he went into practice at Pontefract He was an enthusiastic Volunteer, and had *risen to the rank of surgeon major when the South* African war began He then resigned his medical commission and went to Africa as a lieutenant in the York and Lancaster Regiment, serving throughout the year 1900 and receiving the Queen's medal with three clasps After the South African war he continued to serve in the Volunteers, and when the Territorial Army was started joined the 5th Territorial (Doncaster) Battalion of the King's Own Yorkshire Light Infantry, he attained the rank of lieutenant-colonel on October 8th, 1912 When the late war began he was in command of that battalion, and went with it to France, where he took part in the sanguinary fighting round Ypres Later he was transferred to the command of the 4th Territorial Battalion of the Wiltshire Regiment He was *mentioned in dispatches in the London Gazette* of January 1st, 1916, and December 21st, 1917, and received successively the D S O and the C M G After the war he did not resume private practice, but retained the posts of medical officer to the Pontefract Rural District Council, the Knottingley Urban District Council, and the Pontefract Joint Hospital for Infectious Diseases It was in an autopsy at this hospital that he received the infection which proved fatal, after he had gone through the long campaign in France without a wound He leaves a widow and one young daughter

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DR HENRY VENABLES PALIN of Wrexham died on March 26th, at the age of 73 He was the son of William Palin of Stapleford Hall, Cheshire From the Birkenhead Collegiate School he went to the University of Edinburgh, where he graduated M B, C M in 1872 he took the diploma of L R C P and S Edin and L S A in 1873 He then joined his uncle, Dr John Dickenson of Wrexham, in practice, and on his death in 1887 succeeded to it In 1884 he was appointed honorary surgeon to the Wrexham Infirmary and continued in that office till 1901, when he was appointed consulting surgeon, subsequently he became honorary consulting physician to the institution He took great interest in local affairs had served as a member and alderman of the Wrexham Town Council, and was mayor for 1889-91 Dr Palin was a member of the Denbigh and Flint Division of the British Medical Association, and held office as president of the North Wales Branch in 1898-99

The death occurred on March 5th of DR CHARLES BANNATYNE of Salsburgh Lanarkshire, at the age of 56 He was the elder son of the late Mr John Bannatyne, ex-Provost of Cumnock and was educated at the Ayr Academy and the University of Glasgow he graduated M B, C M Glas in 1890 He was keenly interested in everything pertaining to the Highlands, for he was a descendant of an old Bute family which migrated to Arran towards the middle of the seventeenth century Dr Bannatyne composed many bagpipe marches, strathspeys, and reels, and often appeared as a vocalist at charity concerts He was a member of the Lanarkshire Division of the British Medical Association

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DR JOHN WILLIAM ROBERTS of Knayton, Thirsk, who died recently, was born in 1859, and received his medical education at Guy's Hospital, taking the diplomas of M R C S Eng and L R C P Lond in 1888 After holding the posts of obstetric resident, and clinical assistant at Guy's Hospital he eventually started practice at Knayton, in the North Riding where for the last thirty years he had carried on a large and widespread country practice At the time of his death he held the appointments of medical officer under the Thirsk Union, and public vaccinator and medical officer under the Northallerton Union A stained-glass window to his memory is being erected in St Mary's Church, Leake, with which he had been closely associated He leaves a widow, one son Dr W L Roberts, and one daughter, who is also taking up medicine as a career

The death is announced of Dr JOHN PATCHETT of Great Harwood, in his 75th year Born in 1849, the fifth son of the late Dr Richard A Patchett, he received his medical education at Anderson College, Glasgow, and took the diplomas of L R C P Edin and L R F P S Glas in 1875 After assisting his father in his practice at Ribchester he removed to Great Harwood, where he founded a large practice, embracing some fifteen townships and villages For forty-seven years he was medical officer of health to the Great Harwood Urban District Council, and was medical officer and public vaccinator for the Great Harwood and Billington districts of the Blackburn Union Before taking to the use of a motor car he visited his patients in a light trap, having four change horses to do the work He was a great horse lover and had been president of the local agricultural society Dr Patchett was a member of the Blackburn Division of the British Medical Association At the funeral service on April 1st Bishop Vaughan officiated

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Dr E CLAUDE TAYLOR, who died at his residence at Selly Oak, Birmingham, on March 29th at the age of 53, received his medical education at Guy's Hospital Medical School He graduated M B, B S Lond with first-class honours in obstetric medicine and honours in medicine in 1894, took the M D in 1895, and the M S in 1897 He became F R C S Eng in 1896 He served as house-surgeon and resident obstetric officer at Guy's Hospital and assistant medical officer at the London Temperance Hospital, and subsequently he became surgeon to the Hampstead Military Hospital and temporary surgeon to the Hampstead General Hospital In consequence of overwork during the war his health broke down, and he removed further afield to Wylde Green, Sutton Coldfield, and finally to Selly Oak where he was living at Hampstead he was a member of the borough council and took great interest in child welfare and the preservation of open spaces

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Dr DOUGLAS ARTHUR REID, J P, formerly assistant surgeon in the Army Medical Department, died in London on March 22nd, aged 90 He was educated at King's College, London, and at Edinburgh, where, in 1854, he graduated M D, and took the M R C S and L S A He entered the army in that year, and was appointed to the 90th Foot, now the 2nd Battalion of the Scottish Rifles He served with that regiment in the Crimea, receiving the Crimean and Turkish medals He resigned his commission two years later, as soon as the war was over After filling the post of resident clinical assistant at the Brompton Hospital, he settled at Tenby, where he was for long medical officer of health, and was a justice of the peace for the borough He retired from practice many years ago He was the author of *Memories of the Crimean War*, published in 1911 It is seventy years this year since the Crimean war began, and survivors must now be few The *Army List* shows two medical officers who served in the Crimea as still surviving, on the retired list It is possible that there may still be one or two men alive whose names have disappeared from the *Army List* owing to their having resigned their commissions early, like Dr Reid

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Professor LEOPOLD RETHI, a well known Vienna laryngologist who had devoted much attention to the physiology of the voice, has recently died at the age of 67

Dr SENGERT professor of clinical surgery in the Strasbourg faculty of medicine and corresponding member of the Academie de Medecine has recently died

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Dr ALFRED SOKOLOWSKI professor in the Warsaw faculty of medicine and an authority on diseases of the respiratory tract has recently died

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Dr EUGENE DUPUY formerly vice-president of the Societe de Biologie of Paris and assistant to Brown Sequard at the College de France has recently died at the age of 77 He was the author of several publications on epilepsy and diseases of the nervous system

Medico-Legal.

LUNACY LAW AND ADMINISTRATION

HARNETT v BOND AND ADAM

Dr Charles Hubert Bond and Dr George Henry Adam, against whom Mr William Smart Harnett obtained £25,000 as damages for alleged conspiracy, assault, and false imprisonment in an action tried before Mr Justice Lush and a special jury (the case, which lasted eighteen days, is reported in the BRITISH MEDICAL JOURNAL of March 8th, 1924, p 449 et seq) applied for judgement or a new trial in the Court of Appeal on Monday, April 7th

The jury in the Court of King's Bench assessed the damages at £25,000 as against both defendants jointly, but, at the request of the judge, made the following alternative assessments £5,000 as against Dr Bond for the detention of the plaintiff at the offices of the Commissioners in Lunacy, and £20,000 as against both defendants jointly, on the assumption that they were liable for the whole period during which the plaintiff was detained in asylum after asylum, or £17,500 as against Dr Bond and £7,500 as against Dr Adam, assuming that the wrongful acts were separate torts, or £7,500 as against Dr Bond and £2,500 as against Dr Adam, assuming that the defendants were only liable for the plaintiff's detention until he was transferred from Malling Place to Croydon on February 22nd, 1913 Upon consideration Mr Justice Lush gave judgement against Dr Bond personally for £5,000 for the detention at the Commissioners' offices, and against both Dr Bond and Dr Adam jointly for £20,000 for the whole of the period during which the plaintiff was detained in the various asylums The Attorney General (Sir Patrick Hastings, K C), Mr Harold Morris, K C, and Mr W Bowstead appeared for Dr Bond Sir Douglas Hogg, K C, Mr Neilson, K C, and Mr T Carthew appeared for Dr Adam, Sir John Simon, K C, Mr J B Matthews, K C, Mr Sydney Davey, and Mr S Cope Morgan appeared for the respondent Mr T Simpson Pedler held a watching brief for the British Medical Association

The Attorney General's opening lasted the whole of the first day The grounds of appeal, he stated, were these

1 That the verdict was against the weight of the evidence
2 Misdirection
3 That the damages were excessive
4 That the damages were not recoverable in law as being too remote

This appeal, he said, raised a question of the very greatest public interest A very important point to be borne in mind was that the only occasion on which Dr Bond saw Mr Harnett was at the offices of the Commissioners in Lunacy in Victoria Street on December 14th, 1912 On that occasion Mr Harnett, who had been allowed out temporarily on a month's probation, came to the Commissioners' offices for a purpose Dr Bond thought he was still insane and, in consequence, communicated with the private asylum at Malling Place in which Mr Harnett had been confined As a result a motor was sent from the home and Mr Harnett was taken back by two attendants on the same day He remained in lunatic asylums from December 14th, 1912, until he escaped in October, 1921 During the time he was in these homes he was under the care of a very large number of medical practitioners, and was visited in the ordinary way by a large number of official visitors Although Dr Bond never saw him again and had nothing further to do with him, Dr Bond had had judgement entered against him for £25 000 on the ground that he was responsible for Mr Harnett's detention—in fact, for everything which followed from the detention on December 14th 1912 The real importance of this was that it would be, practically speaking, impossible ever again to get a medical man to be a party to sending a person whom he thought a lunatic to an asylum if the law truly be that if he acted negligently in causing such a person to be sent to an asylum he would be responsible for all the damages which might flow therefrom for however many years The Attorney General submitted that it was very difficult to see how the alleged negligent act of Dr Bond could make him responsible for the negligence of others

What was relevant was the state of mind of the plaintiff on December 14th 1912, and the only evidence which was important was that of a few witnesses who spoke of the events on or about December 14th, coupled with certain documents written by the plaintiff One of these documents was a letter the plaintiff had written to postal officials at Newington, in which he said "Jesus has touched my eyes," and which he signed "Simple man" Counsel felt bound to say that it was apparent as the case had progressed in the court below that a feeling of indignation was growing up and that the jury were going to find that whatever else happened in the case the plaintiff had been detained too long It appeared that in 1912 the plaintiff had been suffering from a catarrhal complaint that doctors had not been successful in treating him and that he had then gone to a quack who had injected him with tuberculin as the result of which he became ill and delirious The case centred on what happened in October, November, and December, 1912 While living with his wife the plaintiff developed a delirious condition, and was put under the care of a medical attendant, Dr Penfold His brother, Mr Arthur Harnett was then sent for, and he formed the opinion that the plaintiff was insane No doubt, floating through this case

there was an atmosphere of discord between husband and wife, but this was not gone into at the trial We regarded the brother, then was no suggestion of any ill feeling, but as the brother had caused the plaintiff to be certified the brother was said to be the tool in the hands of plaintiff's wife and also of Dr Penfold who was now dead The plaintiff said that from the end of October, when his delirium disappeared he was a sane man Undoubtedly he was a man of real ability and his explanations of many things that he did were clever The date of certification by the late Dr Penfold and Dr Fisher was November 10th 1912 A strong piece of evidence which to his mind seemed quite conclusive as Mr Harnett's insanity at that time, was a happening on November 6th 1912 On that date Mr Harnett wanted to hire a motor car to visit the Governor of Borstal Prison because he wished to pray for those who were under sentence of death The motor car was not hired The plaintiff gave a detailed explanation of the incident saying he saw nothing unusual in it but counsel submitted that to any impartial mind this was evidence of insanity Another strong piece of evidence was the telegram that Mr Harnett dictated in which he spoke of having seen in a dream the spectre of his mother

Mr Harnett was taken to Malling Place on November 10th 1912 and was under the care of Dr Adam until December 12th 1912 Dr Adam in his evidence stated that the plaintiff was insane when he went to the home that he was so much better on December 12th 1912 that he (Dr Adam) thought he might be allowed out on probation that Mr Harnett came back on December 14th, 1912, very much worse, and that he was properly detained after that date Nobody could suggest that Dr Adam was anything but honest and Dr Adam's view was that Mr Harnett was properly sent to the asylum on November 10th and that he was properly returned to the asylum on December 14th The events of December 12th 13th and 14th 1912 might be shortly stated On December 12th Dr Adam thought Mr Harnett might be allowed out on probation under Section 55 of the Lunacy Act 1890 which permitted the patient to be absent for such period as may be thought fit He was allowed out under the charge of his brother, but counsel did not know how much Mr Harnett then knew of the terms upon which he was allowed out with his brother The brother desired to look after him but Mr Harnett had a great antipathy to going with his brother in the same railway carriage Consequently Mr Harnett and his brother travelled to London in separate compartments on December 13th, and upon reaching Victoria he gave his brother the slip Mr Harnett spent December 13th alone in a peculiar manner He was engaged in changing his doctor and seeing a solicitor He saw Dr Webster, and the learned judge in his summing up said I need not trouble you at all events at any length about Dr Webster's evidence because I do not think it could be said that his evidence was very strong but upon referring to his notes he added Oh! it was stronger than I thought' Counsel submitted that when the learned judge dealt with an important witness's evidence in that way it did not give the jury a very encouraging view of that doctor's evidence As a matter of fact Dr Webster who was a complete stranger formed a very decided opinion that Mr Harnett was of unsound mind and that it was not in Mr Harnett's own interest that he should be at liberty

And so, counsel complained my unhappy witnesses were brushed aside as though they were stupid or dishonest or had said nothing You cannot wonder at the jury not paying much attention to evidence of perfectly honest and impartial witnesses Mr Harnett's first words to Dr Webster when he saw him in his consulting room were Do you believe in Jesus? —a most unusual introduction in a medical consulting room The next medical witness Dr Cooper was pilloried if he (counsel) might use the expression, by the learned judge because in his examination in chief he did not give an account of Mr Harnett's discussion about his wife whereas Mr Harnett throughout a whole day of his evidence in chief never mentioned that he went to Dr Cooper at all Dr Cooper said he thought Mr Harnett absolutely insane and that he telephoned to Mr Booth Hearn a solicitor to whom Mr Harnett told him he was going and who as a matter of fact was not produced by the other side Counsel submitted that the learned judge almost told the jury that Dr Cooper was not telling the truth In fact his witnesses were knocked down one after the other like a lot of pins That was how the learned judge dealt with the evidence of Dr Cooper who like Dr Webster had not seen Mr Harnett in his life before both saw him within a day of Dr Bond seeing him The evidence upon which they had relied was swept aside again and again as not appearing credible

Counsel, returning to the events of December 13th 1912 said that that night Mr Harnett stayed at some hotel unknown to him without any luggage without even pyjamas or tooth brush and the following morning visited a hop merchant in the Borough with whom he did business and drew a cheque for £30 the proceeds of which he put into a bag and took with him to the offices of the Lunacy Commissioners so that they might send a policeman or some official to stay with him for a month to watch a plot he alleged existed between his brother and his wife to send him back to an asylum The plaintiff was seen first by Mr Dickinson the secretary to the Commissioners and then by Dr Bond Dr Bond in his evidence, said that he found a man who did not know at what hotel he had stayed the night and possessing no luggage jingling coins in a bag Dr Bond could not make head or tail of what Mr Harnett was saying He knew from a telephone communication that Mr Dickinson had with Malling Place that Mr Harnett had been allowed out on probation and had given his brother the slip and he honestly came to the conclusion that Mr Harnett was insane and that it was in the best interests of Mr Harnett that he should be sent back to the asylum Dr Bond thought the best thing to do was for Dr Adam to see him again to see whether his (Dr Bond's) view was right or wrong for that he had to pay £25 000 There was a controversy as to whether Mr Dickinson communicated with Dr Adam at one point of time or another The learned judge said that in his view it was possible that Dr Bond had permitted Mr Harnett to be sent for before he (Dr Bond) had seen him and that if this were so, Dr Bond could not be said to have honestly believed that Mr Harnett was a lunatic when he sent him back The question here was whether Mr Dickinson telephoned to Malling Place before or after he saw Mr Harnett There was no telephone message until Mr Harnett had been in the offices some time Consequently in answer to the question Did Dr Bond honestly believe the plaintiff was of unsound mind? the jury replied No, and it looked very much like a finding that Dr Bond had acted dishonestly Whereas really, the jury accepted one of the two views put forward by the learned judge as to the time when Mr Dickinson telephoned to Malling Place and what they really said was that Dr Bond could not have acted honestly if he did not see Mr Harnett before the telephone message to Malling Place Counsel hoped that counsel for Mr Harnett would emphasize this fact as there was not the slightest ground for the interpretation which the public had placed upon the jury's finding The Board of Control felt it could not allow the position arising out of this question and answer to remain, and that something must be done to clear Dr Bond's reputation as to the impression on the public mind that Dr Bond was a dishonest man

Counsel said the effect of the judgement, if it stood would be that nobody would ever take the risk of certifying a man as a lunatic again, and the place would be flooded with gentlemen who ought to be in asylums What happened at the trial was that the jury were in effect asked to decide whom they believed—the plaintiff or the defendants and the sympathy evoked for the plaintiff was so great that no jury could find otherwise than they did As regarded the period after 1918 a great deal of evidence had been called on behalf of the plaintiff to show that he was sane, and the result was that the incidents and occurrences of December 14th, 1912 which alone concerned Dr Bond were swamped

Then too each one of the doctors who gave evidence had been on his trial The superintendent of each of the institutions at which Mr Harnett had been detained had been tried None were represented It was impossible for them to be represented If they had been instead of the trial lasting eighteen days it would have lasted eighteen weeks To cover all those eight or nine years hundreds of witnesses could have been called They had been tried and condemned in a case in which they were unrepresented and could not have been represented Each doctor's case was not fought or intended to be fought All was done in order that in the end it might be said that Dr Bond was responsible There never was a case which caused such grievous injustice as this The community was shocked Each witness stood condemned as having been responsible for illegally improperly and negligently detaining an alleged lunatic in his control Not one of these cases had been properly separately tried They stood condemned and held up to every form of obloquy Each one had been cross-examined for a day upon evidence which was not relevant or admissible and certainly not desirable for whether or not any of them had been negligent had nothing to do with the case which was being tried

Counsel also referred to Dr Fisher's evidence Dr Fisher had said that it would be a delusion if Mr Harnett said he (Dr Fisher) had previously attended Mrs Harnett In cross examination Dr Fisher admitted, on being shown a receipt that he had attended Mrs Harnett But added the Attorney-General, it was twelve years before and it was only for a guinea, and Dr Fisher was driven out of court by the judge with contempt because he went so far as to say that it would have been a delusion for Mr Harnett to say he had attended Mrs Harnett before

The Attorney General then referred to the Lunacy Act 1890 as to the form and effect of a reception order and called attention to the safeguards provided by the Act and to the absolute obligation to discharge a patient when he recovered He submitted that the long detention was not the direct consequence of the act of Dr Bond There was a novus actus intervenions, and the chain of causation was broken Mr Justice Lush he submitted, was wrong in saying there was no novus actus intervenions The learned judge's view of what constituted such an act was wrong As to joint liability on the verdict of the jury counsel submitted that it was impossible to enter a joint judgement at all The allegation of a joint tort contained in the amended pleadings had been negatived by the jury The £20 000 damages were too remote owing to the principle of novus actus intervenions As to the £5 000 damages against Dr Bond it was excessive if it referred only to the detention at the offices and if it referred also to the subsequent detention to which the plaintiff had been subjected the damages were too remote As to the weight of the evidence, he submitted that from the evidence it was overwhelmingly clear that Mr Harnett was temporarily deranged At the close of his opening the Attorney General answered a number of questions put him by the Lords Justices

Scrutton L J Do I understand in your view Dr Bond did commit an illegal act in detaining Mr Harnett?—I In my opinion he did so far as I can see upon the assumption that Mr Harnett was not a lunatic at all

Scrutton L J But if he was of unsound mind?—I Then it would be a difficult question as to whether he would or not

Bankes L J Assuming Mr Harnett was sane yet under a reception order and under an order giving leave of absence would Dr Bond be acting illegally in detaining him —I That is a difficult question There was a reception order in existence and a leave of absence order signed by the visitors but it is doubtful whether anyone but Dr Adam had power under that permission unless the visitors had to require Mr Harnett to go back The order said We, the undersigned two visiting justices hereby

sanction leave of absence, but this sanction is revocable by us at any time" So it seemed only revocable by the two signatories The view I have taken is that the only people who could affect Mr Harnett so long as this order was current was Dr Adam or the two visiting justices

Bankes, L J And suppose Dr Bond detained Mr Harnett until Dr Adam came?—*A* Technically I doubt whether any person has a right to do what every properly minded person would do—detain a lunatic in his bedroom until he is certified The only legal right such a person had would be to act in self defence or he might conceivably satisfy the court that he reasonably believed that in detaining the lunatic he was saving the life of some other person or of the lunatic Even if a man were to interfere to restrain another from throwing himself over Waterloo Bridge, he would run the risk that the other might say he was only jumping over to swim In law a person either has or has not the power to detain, and, in this case, Dr Bond was in the same position as an ordinary citizen Supposing Dr Bond said to himself, "This man is a lunatic If I detain him I am liable to immeasurable damages, so I will not" And supposing the lunatic goes out and seizes a child and throws it under a bus The jury would say "You, a Commissioner, knowing this man a lunatic, yet let him go and commit this crime" So it is almost as bad for Dr Bond in the hypothetical case I have just put as in the other case

Bankes, L J All Dr Bond did was to ask him to wait in a room?—*A* - There was a detention, so the jury found, I have no doubt that Dr Bond thought he would not be doing his duty if he let him go Probably he was morally doing right, but legally not

The second day of the hearing was mostly occupied by the reading by Mr Harold Morris, K C , of the summing up of Mr Justice Lush, after which the questions to the jury were referred to

Bankes, L J , said it appeared that no question had been asked specifically as to any want of care on the part of Dr Adam after he had received the plaintiff back By their answers the jury had suggested that Dr Bond was alone responsible, which, of course, disposed of the joint tort

Mr Morris said as the result of their answers the jury found Dr Bond alone responsible for what happened on December 14th, and although after that date Dr Bond had no more control over the plaintiff, yet a verdict had been entered against him jointly with Dr Adam for £20 000 It was a curious form of judgement to enter upon such a verdict

Bankes, L J First you have to find which of the alternative findings of the jury is right in law There is no finding of the jury against Dr Adam for £20 000, but there is one for £25 000 Yet the judgement against him is for £20,000 The jury apportioned £7,500 against him by one of their findings, and that was the most which could be given against him

Mr Morris Yes Unless there was a joint tort

This concluded the second day's hearing

The Services.

TERRITORIAL DECORATION

THE Territorial Decoration has been conferred upon the following officers of the Royal Army Medical Corps Lieutenant Colonels R E Bickerton, D S O, J W Kemp, A A W Merrick, and W A Thompson, A A Ross (deceased) Majors E W Herrington ret A G Lovett Campbell, ret , W A Valentine, H F Wilkin, M C, and G T Willan

DEATHS IN THE SERVICES

Surgeon Rear Admiral William Eames, R N (ret), died on March 27th, after a short illness, at his residence at West Southbourne Bournemouth He took the M R C S and L R C P Edin in 1881, after which he entered the navy, he attained the rank of Surgeon General on May 11th, 1913 and retired after the war He served in the Egyptian war of 1882 as surgeon of H M S *Sultan* when he was present at the bombardment of Alexandria on July 11th, 1882, and landed in medical charge of the Royal Marine detachment at the surrender of Aboukir forts, and as surgeon of H M S *Grappler* at Suakin and during the blockade of the Red Sea coast in the Sudan campaign of 1885, he received the Egyptian medal, with clasp for Alexandria and the Khedive's bronze star After his retirement he gave ungrudging and unwearied service as honorary surgeon to the Portsmouth branch of the Royal Surgical Aid Society

Surgeon Commander Frank Harold Stephens O B E, R N, died suddenly on March 26th at the Royal Naval Hospital, Haslar He was educated at St Mary's Hospital, took the M R C S and L R C P Lond in 1903 and then entered the navy he attained the rank of surgeon commander on May 12th 1920 He served in the recent war and received the O B E in 1919

Surgeon Captain Ernest Sydney Tuck R N (ret) died at Bookham Surrey on March 14th aged 53 He was educated at Guy's and after taking the M R C S and L R C P Lond in 1894 entered the navy attaining the rank of fleet surgeon on November 12th 1909 and retiring with a step of honorary rank as surgeon captain on January 1st 1923 He served in the recent war

Lieut Colonel Charles Langford Josling P A M C (ret) died in a nursing home at Hastings on March 12th, aged 62 He was educated at Charing Cross Hospital taking the M R C S and L S A in 1883 and the L R C P Lond in 1885 He entered the army medical service on 1st Dec 1885 became lieutenant-colonel after twenty years service, and retired on May 4th, 1910 He served for a long time on the West Coast of Africa where he took part in the operations against the Sofas and in the Gambia expedition against Fodeh Silah in 1893-94, he was mentioned in dispatches in the *London Gazette* of May 4th, 1894, and received the West Africa medal with a clasp He also served in the Ashanti expedition of 1895-96, receiving the star given for that campaign and in the operations in Sierra Leone in 1898 99 He was employed for three years (1899 1902) in South Africa, first on special service as principal medical officer of the Rhodesian Field Force, in the operations in Rhodesia in 1899-1900, and later in operations in the Transvaal, Cape Colony, and Orange River Colony, receiving the King's medal with two clasps He rejoined for service in August, 1914, and served throughout the late war

Universities and Colleges

UNIVERSITY OF LONDON

MEDICAL HYDROLOGY

A COURSE of lectures on medical hydrology arranged by the University Extension Board in co-operation with the Committee for the Study of Medical Hydrology in Great Britain, will begin at the University of London on Tuesday, May 6th Lectures will be delivered in the morning and afternoon of that and the following day, May 7th , on May 8th there will be two lectures in the morning, and in the afternoon the party will visit Bath, staying there until the evening of Friday, May 9th The fee for the course is £2 12s 6d Further information can be obtained from Dr W Edgecombe, care of University Extension Department, University of London, South Kensington, S W 7

UNIVERSITY OF BIRMINGHAM

MR WILLIAM BILLINGTON, M B , F R C S , has been appointed joint professor of surgery and Dr Harold Black lecturer in radiology

UNIVERSITY OF DURHAM

AT the convocation held on March 29th the following degrees and diplomas were conferred

M B B S—Sarah B Allan R B Allen Alfreda M Beadle D C Bell I F H Bell R L Bell N Capstaff J B S Gus I A Hislop W A Hogg J S Johnson J F van W Krige I H Laydon L V McNabb G M Miller H C Reed S D Rowlands G F Smith T F Stoker Phyllis M Walker

B Hy and D P H—E T Colville

UNIVERSITY OF LIVERPOOL

Examination List, March, 1924

THE following candidates have been approved at the examination indicated

DIPLOMA IN TROPICAL MEDICINE—J C Carson B L Chopra M I Hardy F J C Johnstone J J Kelrans G Maclean W C Mathur Elizabeth M Theron

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

SURGEON VICE ADMIRAL JOSEPH CHAMBERS, M D Dubl , C B , C M G , Honorary Physician to the King, Director General of the Medical Department of the Royal Navy was on April 4th admitted an honorary Fellow of the Royal College of Physicians of Ireland

The following candidates have been admitted Licentiates in Medicine and Midwifery T G Brown R G F Cookson J C Fitzgerald, W D Martin, G C Phipps, J Smith, G L Wilson

Medical News.

A SERIES of post-graduate demonstrations arranged by the Clinical Board of the University of Birmingham will be given from April to August at the General and Queen's Hospitals, Birmingham, on Tuesdays and Fridays respectively, from 3 30 to 5 p m , commencing on April 25th at the former institution, and May 6th at the latter The fee for the course—which includes demonstrations in medical, surgical, and gynaecological cases, skin diseases, ophthalmic cases, children's diseases, urinary diseases, the use of digitalis, etc —is one guinea

A SERIES of post graduate demonstrations arranged by the University of Bristol will be given at the Hereford General Hospital, under the auspices of the Hereford Division of the British Medical Association, on Wednesdays, at 3 p m The first will be given on May 7th by Dr Carey Coombs, who will deal with treatment of rheumatic carditis in children, and the last of the series by Professor I Walker Hall on blood, digestion, and excretion in ailing children The fee for the course is £2 2s , and is payable to Dr Herbert Jones, Tower Road, Hereford

AT the thirty seventh congress of the Societe française d Ophtalmologie, to be held in Paris from May 12th to 15th, there will be papers on refraction, the eyelids, and lacrymal apparatus ocular troubles of dental origin, and other subjects of ophthalmological interest

DR O W RICHARDSON, Wheatstone Professor of Physics at King's College London, has been appointed the third Harrow Research Professor of the Royal Society He is the other two Harrow professors he will continue to work in the laboratory he has hitherto directed Both the other Harrow professors are also concerned with physical science

A DEPUTATION from the boot operatives' union waited upon the Home Secretary on April 4th calling attention to the high rate of pulmonary tuberculosis among boot operatives, and made a number of suggestions concerning lighting, air, and floor space The Home Secretary, in reply, stated that the Home Office will shortly present a factory bill, and that endeavours would be made to include therein some of the suggestions put forward by the deputation

IN reply to a deputation which waited upon the Minister of Health on April 3rd, urging that steps should be taken to give effect to the recommendations of the Departmental Committee on smoke abatement, Mr Wheatley said that the Ministry would consider how far it was possible for the department, by encouraging and facilitating educational work in the provinces, to help forward the smoke abatement movement Sympathetic consideration would be given to the request of the deputation that an effort should be made to prepare and submit to Parliament a further bill at an early date

DR JOHN BROWN of Blackpool has issued in pamphlet form a reprint of his paper entitled "Cancer Suggestions and conclusions relative to its prevention," which he read at Scarborough, and published in the *Journal of State Medicine* for September, 1923 It is published by H Maxwell and Co, Ltd Blackpool, at the price of 1s

"NATIONAL BABY WEEK" is being held as usual this year during the first week in July, and "Imperial Baby Week" at Wembley during the fourth week in July The National Baby Week Council is drawing special attention this year to the size of the family and its economic circumstances considered in relation to the welfare of the child under 5 years of age The council is also considering particularly the welfare of the child from 1 to 5 years of age, since it would appear that at present the death rate of these children is slightly on the increase Annual competitions for school children and older girls are being organized

PROFESSOR GILBERT of Paris has been appointed president of the permanent executive committee of the Association of Thalassotherapy in place of Professor Albert Robin, who has been made honorary president

THE seventieth anniversary of Ehrlich's birth was celebrated at Frankfort on March 14th when an address was delivered by his successor, Professor Kollo

THE German Central Committee for Combating Tuberculosis will hold its annual meeting at Coburg from May 26th to 28th

DURING the winter session at Berlin University there were 1,907 medical students, as compared with 2,943 at Vienna

THE March number of the *Veterinary Journal* is devoted entirely to foot and mouth disease, and contains several original articles of particular interest The recent epidemic in this country is considered fully and accounts of the disease in the army generally and in India also appear The January number was given up to toxicology, and this *Journal's* new departure in creating special numbers is receiving support that indicates that the policy is approved

THE German Minister for "Volkswohlfahrt" has issued a decree (*Deut med Woch*, March 14th, 1924 p 350) requiring persons wishing to carry out Wassermann's and similar reactions in the diagnosis of syphilis to obtain a special licence if they wish to take payment for these tests All doctors who continue to advertise on their plates that they undertake examinations of the blood are informed that these and similar announcements will be removed by the police unless they hold the special licence for the purpose

THE trustees of the Lila Sachs Plotz Foundation give notice that they are prepared to receive applications for grants in aid of work "on problems in practical medicine and surgery, preventive medicine, and the medical sciences Plans for concerted attack by a group of investigators, either at one centre or working in different places, will be especially welcomed" Grants may be used for the purchase of apparatus and supplies needed for special investigations, and for the payment of unusual expenses incident to such investigations, including technical assistance, but not for apparatus or materials ordinarily a part of laboratory equipment Stipends for the support of investigators will be granted only in exceptional circumstances Applications should be addressed to the Secretary of the Executive Committee, Dr Francis W Peabody, Boston City Hospital Boston, Mass The present available annual income is 10,000 dollars

THE late Dr T W Thursfield of Leamington Spa has left estate of the gross value of £78 272, with net personalty of £76,803 He has bequeathed £600 to the Warneford and South Warwickshire Hospital, Leamington, the income from which is to be applied to the improvement of the teaching of the nurses trained in the hospital by lectures bearing his name, to be given by qualified medical men preferably on the honorary staff of the hospital Any balance is to be used for a medal or prize bearing his name to the nurse passing the best examination His medical works, instruments, etc, not selected by his son James are also bequeathed to the hospital To the University of Aberdeen he has left £450 the income from which is to be applied for a Dr Thursfield gold medal (or other award) for the best thesis for the degree of M D

DR J G DE LINT of Gorinchem has been appointed privat-docent in the history of medicine in the medical faculty of Leyden

DURING the exhibition which is to be held next summer at Toulouse a medical congress will take place under the auspices of the Toulouse faculty of medicine

PROFESSOR F ZINSSER, director of the Cologne skin clinic, has been appointed dean of the Cologne medical faculty

THE total number of applications received for licences under the Dyestuffs (Import Regulations) Act during March was 551 Of these 420 were granted 83 were referred to British makers of similar products, and of 26 reparation supplies were available

THE United States Health Service has arranged, in conjunction with Columbia University and the Universities of California, Michigan, and Iowa, to conduct public health summer schools this year, and several thousand medical practitioners and health workers have signified their intention of attending them

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager 429 Strand W C 2 on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager 429 Strand London W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429 Strand W C 2

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL *Aitiology Westrand, London*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand London*
MEDICAL SECRETARY *Mediocra Westrand London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin) and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone 4361 Central)

QUERIES AND ANSWERS

RAIN WATER

"OVID" asks Can any country colleague who drinks rain water advise me? My main catch is from tiles and passably good but I have outhouse roofings of (1) galvanized iron (2) lead (3) zinc Is there any paint with which these three can be covered and the water drunk with safety?

LETTERS NOTES ETC

HOSPITALS AND INSURANCE

LORD SOMERLEYTON (Honorary Secretary King Edward's Hospital Fund for London) writes It has come to the knowledge of King Edward's Hospital Fund that a circular addressed to Employers of Labour Tradesmen and Philanthropists' has been issued by the 'United Kingdom Free Hospital Insurance Fund 17 Ironmonger Lane, E C The second paragraph of the circular

reads 'In a speech on the 13th April, 1921, the Prince of Wales expressed a desire that the King Edward's Hospital Fund should be assisted through some means of insurance and the present scheme has been outlined by the copyright holder of free insurance, the success of which has been phenomenal, as evidenced by all the leading newspapers of to day" No such statement was made by His Royal Highness The King's Fund published on April 13th, 1921, a report which mentioned insurance as a method that should be thoroughly explored The King's Fund has since declared itself in favour of the general principle of schemes of mass contributions as suggested by Lord Cave's Committee and this principle has already been adopted by various hospitals and by the Hospital Saving Association But the scheme of the United Kingdom Free Hospital Insurance Fund is not one which the King's Fund could approve

BLOOD INJECTION IN INFLUENZA

DR CHARLES RICHARD WILLS (Matlock) writes I was called recently to see a young man in the early stage of influenzal bronchopneumonia with much haemoptysis I gave him a quarter of a grain of morphine and also a subcutaneous injection of one and a half cubic centimetres of blood withdrawn from his mother During the following half hour only one spot of blood was brought up in some phlegm, but his lips were cyanosed, his cough troublesome, and his general condition poor With the exception of some calcium lactate and a simple mixture containing tinct camphor co no other treatment was given No more haemorrhage occurred, and the next morning the temperature, pulse, and respiration were normal Some physical signs persisted in the lungs for a day or two, but the patient was out of bed in three days' time, and in a week was completely restored to health, and indeed better than he had been for a long time He had had chronic chest trouble of a non tuberculous nature I wonder whether the maternal blood, injected as a haemostatic, may perhaps have had some further beneficial effect

AN IMPOSTOR AT LARGE

THE two stories related below by Mr Porter and Dr Distin have so many features in common that we think they may perhaps refer to the same individual

MR E M PORTER (Secretary, Nelson Hospital for Wimbledon, Merton, and District) writes —Acting upon the advice of the Registrar of the General Medical Council, I beg to bring the following to your notice On March 17th a man came to the hospital and said he had met with a motor cycle accident He gave his name as John Bland Sutton, aged 28 years, and stated he was a medical practitioner and a nephew of a noted London surgeon (not Sir John Bland Sutton) In view of this he was given preferential treatment and given a private ward, etc After being under observation for ten days it was found to be an imposture, further, the man attempted to leave the hospital unobserved I bring this matter to your notice that other hospitals may be forewarned

DR HOWARD DISTIN (Enfield) writes I think it advisable to bring to the notice of the readers of the JOURNAL an experience which has just befallen me About 9 p m on March 29th a young man called on me, having met with a cycle accident I saw him a few minutes later and he introduced himself as "Dr Burke,' adding that he had been playing on the Bart's ground Winchmore Hill (about two miles from here), after which he had had a bad spill through getting mixed up with the hockey stick attached to his cycle He described his symptoms in correct medical terms and appeared to be suffering from slight concussion I offered him a bed in our local hospital, which he accepted and I put his cycle in my garage On visiting him the next day (30th) when he remained in bed, he informed me he had two uncles in the profession, mentioning two well known London consultants (brothers), both of whom, by a strange coincidence, were old hospital friends of mine Subsequently one of these 'uncles" repudiated all knowledge of him Early on the morning of the 31st by means of a trick "Burke" absconded from the hospital On hearing this I immediately consulted the police concerning the cycle retained by me, and was told its description (with hockey stick attached) corresponded to one reported stolen in Enfield Town on the evening of the 29th It was shortly afterwards identified by its owner A day or two later I discovered that an address book was missing from my consulting room and I have no doubt it was appropriated by "Burke" during the short time he was alone there So if any member of the profession is interviewed by a short clean shaven young man speaking with a very marked Irish accent and possibly (with the help of the address book) claiming to be a friend of mine I trust he will be on his guard I might add that in the hospital admission book he is described as the Hon Bernard Burke aged 24 St Bartholomew's Hospital"

THE INVENTION OF TINCTURE OF OPIUM

DR W BRUCE OLMI writes from Algiers under date of April 5th The BRITISH MEDICAL JOURNAL of March 29th has just reached me in which I have read with surprise the note by Dr G Arbour St phens (Swansea) headed "The Invention of Tincture of Opium" Being without books of reference of any kind I speak entirely from memory but surely there is something wrong with his quotation 'Crush the seed of the poppy in wine in order to make a man sleep,' for the alkaloids of opium are conspicuous by their absence from the poppy seed, so much so that in India several varieties of sweet cakes for children are made with poppy seeds

THE CHAMPION BEGGAR

A BILL to regulate the exhibition and training of performing animals was read a second time in the House of Lords on April 3rd The subject was considered by a Select Committee of the House of Commons, and a bill founded on its recommendations was introduced into the House of Commons last year, read a second time, and sent to Grand Committee, where it underwent certain modifications, so that it might almost be considered an agreed measure It was, however, opposed by Lord Raglan last week, who made play with the defining clause which says that the expression "animal" includes bird, reptile, and fish, he suggested that this would prevent a conjurer from bringing a bowl of goldfish out of his hat This brought up Lord Knutsford, who claimed to be both a trainer of animals and a conjurer by profession He maintained that when he produced a bowl of goldfish from a hidden pocket behind his coat it was he who was performing, not the goldfish, and so with the rabbit he might produce out of another pocket, it was he and not the rabbit who was performing We do not gather that he actually performed these tricks in the House of Lords, but he protested that he had a dog so fond of going into the water when it saw anything splashing in it that it always landed his fish for him, he asserted also that he had a dog that would not eat cake unless it was called a "Banbury cake," "but" he continued, "there are cruelties perpetrated that we ought to have registered I actually know a ruffian now who is training a dog, and whenever he says 'Knutsford' the dog sits up and begs A man who can perpetrate a crime like that should be registered" It is on account of this last—shall we say story?—that this note is written

THE POST MORTEM EXAMINATION ON KING CHARLES II

MESSRS SOTHEBY'S catalogue for April 11th included a manuscript volume containing, among other documents of medical interest, a contemporary account in Latin of the last illness and death of Charles II and a report of the *post mortem* examination of the body, presumably the information was derived from one of the physicians in attendance Another part of the same volume contains reports of 140 cases, apparently from St Thomas's Hospital, about the year 1670 On April 14th and 15th the same firm are cataloguing several more old books of medical interest In one black letter volume are bound together the four parts of "The Secretes of Maister Alexis of Piemount, contayning excellent remedies agaynste divers diseases," 1566–69 That infant welfare is no new idea seems to be proved by Richard Mulcaster's "Positions wherein those primitive circumstances be examined, which are necessarie for the training up of children, either for skill in their booke or health in their bodie," first edition, 1581 From the same press in 1583 was published the first edition of Philip Barrough's "Method of Physicke, conteyning the Causes, Signes, and Cures of inward diseases in man's body from the head to the foote" The auctioneers describe this copy as "extremely rare"—it is possibly unique, as hitherto the edition of 1590 has been the earliest recorded Andrew Boorde's "Breviarie of Health," 1575, is bound in a piece of a fifteenth century manuscript it is a black letter volume in two parts No author's name is given to the "Enchiridion Medicum" containing an "Epitome of the Whole Course of Physicke," 1612, this sounds like a modern student's aid compendium, but probably is more ambitious Another lot of six books includes Glisson on Rickets, 1650, and Frénus on Flatulence, 1592 A very rare book indeed, and of interest also because the author is emphatic on the dangers of the abuse of blood letting in treatment, is Simon Harward's "Phlebotomy, or A Treatise of letting of Bloud Fitly serving, as well for an aduertisement and remembrance to well minded Chirurgians, As also to give a cavent generally to all men to beware of the manifold dangers, which may ensue upon rash and vnaduised letting of Bloud," 1601

A DIABETES TREATMENT CHART

MESSRS H K LEWIS AND CO., LTD., have published a chart designed by Dr O Leyton for the purpose of recording in graphic form the dosage of insulin in the treatment of diabetes, the quantities of protein, fat, and carbohydrate constituents of the food, as well as the calories, in relation to body weight, and the progress of the patient as shown by the changes in the blood and urine The price of the charts varies with the number purchased, 25 cost 2s

CORRECTION

IN Mr G Massie's description, in the JOURNAL of March 29th (p 581), of an apparatus for the transfusion of whole blood, the name and address of the maker of the apparatus were incorrectly given They should read Mr A Charles King, 63, Ronalds Road, London, N 5

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 28, 29 32, and 33 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *168*

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

286 Tuberculosis and Carcinoma associated with Syphilis

PAUCOT and DESTOUNIS (*Lyon méd*, January 13th, 1924, p 53), at the session of the Société Médicale des Hôpitaux de Lyon of June 26th, 1923 showed specimens and described the following case of tuberculosis associated with carcinoma and syphilis A man aged 52, had always had good health, he had served in the war and denied having had syphilis During the winter of 1921-22 he had his first attack of bronchitis, in October, 1922, this recurred, with muco purulent sputum, night sweats, and definite emaciation On admission to hospital, there was bilateral bronchitis and emphysema, and in the right infraspinous fossa some dull ness and subcrepitant rales A skiagram showed a dense shadow extending from the lung hilus to the apex The heart was normal and the blood pressure low (96 mm Hg) The patient continued to have an irregular temperature (93° to 101 1) for seven months but there was little change in his condition, except that four months after admission he expectorated a little blood stained sputum which contained tubercle bacilli Four months later crises of dyspnoea, accompanied by cyanosis and pink coloured sputum, super vened, and after ten days the patient died Necropsy findings left pleural effusion (200 to 300 c cm), moderate left pulmonary oedema, the lower lobe consolidated with a few old calcareous tubercles In the right lung there was similar evidence of old tuberculosis and at its hilus a neo plasm was present as large as a Tangerine orange, and with prolongations locally and into the upper lobe The heart was dilated and hypertrophied with exterio-syphilitic plaques on the posterior cusp of the aortic valves and in the aortic arch Histological examination showed (1) definite tuberculous caseation with giant cells, (2) an epitheliomatous neoplasm—whether primary or secondary could not be determined (3) definite evidence of syphilitic processes in the lung The authors cite three previously recorded cases

297 Subcutaneous Injection of Arsenobenzol in Recent Syphilis

F BALZER (*Paris méd*, December 1st 1923, p 448) states that as a general rule subcutaneous injections of arsenobenzol should be given daily or every other day in cases of recent syphilis, so that the weekly dose should amount to 60 cg for a man and 50 or 45 cg for a woman The smaller the dose the more likely are the tissues at the site of injection to tolerate it A single dose should range from 10 to 20 cg It is best, however, always to begin with the smallest dose—namely, 10 cg, dissolved in 1 c cm of a solution of glucose or distilled water In children the total weekly dose varies (according to the age, height, and weight of the patient) from 15 to 30 cg given in three to six injections The total quantity required for the treatment varies from 1 to 2 grams In the newborn the dose depends upon the weight of the child, varying from 7 5 to 15 mg per kilo, so that the average total amount required for the course of treatment is between 30 and 50 cg As a rule the injections are given twice a week for six weeks or two months

298 Ovarian Opotherapy in Enlarged Thyroid

E COULAUD (*Ann de Méd*, December, 1923, p 516) states that every stage in the feminine sexual life is marked by some degree of thyroid hypertrophy Heldenreich first described thyroid hypertrophy preceding the first appear ance of menstruation in 1844, others have observed this phenomenon at the commencement of every menstrual period Pregnancy and the menopause are also associated with thyroid enlargement The obvious physiological con nexion between the ovary and the thyroid gland and the initial success of thyroid opotherapy raised hopes of a similar success in treatment by ovarian extract Coulaud remarks that many physicians have abandoned that treatment because the definite syndrome of exophthalmic goitre, accompanied by amenorrhoea, has not yielded in a few days to ovarian opotherapy, he claims, however, some success in early cases of Basedow's syndrome Sainton and Delherm recorded 10 cases and found that only those patients benefited by ovarian treatment whose symptoms were directly related to either puberty, menstruation, pregnancy, or the menopause Coulaud has treated 152 cases of goitre by ovarian opotherapy, and has complete records of 100 patients under observation for at least eight months In 6 cases there was no improvement, in 9 there was softening of the goitre, although the circumference of the neck did not decrease, in 59 cases the circumference was reduced by 1 to 3 cm , in 17 cases the reduction amounted to from 3 to 7 cm in 9 cases all deformity of the neck disappeared Coulaud states that in obese patients who had passed the menopause there was a reduction of weight of 4 to 5 kilos in three months, but that, in younger patients, administration of ovarian powder did not reduce the weight In cases exhibiting symptoms of Basedow's disease there was an almost invariable increase in weight of from 1 5 to 2 kilos, 38 of these patients had early symptoms of Graves's disease, while 3 others were definite cases of exophthalmic goitre All forms of goitre benefited under this treatment, the patient s age appears to make no difference There are no contraindications, even menorrhagia (a frequent complication) is often relieved by ovarian opotherapy

299 Acute Articular Rheumatism following Dental Caries

J TROISIER, RAOUL, and LEBOUCHER (*Bull et Mém Soc Méd des Hôp de Paris*, January 3rd, 1924, p 1828) refer to the attention paid for many years in America to the possible connexion between chronic rheumatism and dental disease It is less certain that acute articular rheumatism is definitely due to dental disease The authors relate details of two cases (1) a girl aged 18, who had had four attacks of rheumatism since the age of 12, each attack preceded by a generalized toothache in both jaws (2) a boy of 17, who had had indefinite attacks of toothache recurring annually between the ages of 7 and 14 years, the teeth were elongated and so painful that he could not eat solid food Both patients had extensive dental caries but no evidence of pyorrhoea, the boy, however, had a cyst beneath a carious bicuspid the dental lesions were not more severe than those usually found in hospital patients The authors observe that the alveolar and articular inflammation in both cases was of a non suppurative type, they consider that this indicates simi larity of origin, and the disappearance of toothache when an arthritis supervened suggests a true metastasis They consider that these observations confirm the opinion that the rheumatic virus is constantly present in the upper digestive tract They add that "the large number of edentulous Anglo Saxons who frequent our spas is an indication for conservative treatment rather than for wholesale dental extractions

300 Statistics of Infantile Scurvy

M MIYAKE (*Journ of Oriental Med* November 1923 p 163) records observations on 25 cases of infantile scurvy Of these patients 17 showed traces of hereditary disease—tuberculosis in 9 instances 19 belonged to the middle classes 5 to the poor the youngest patient was 8 months old and the oldest 3 years and 2 months, 16 were male 9 female In no case did the same complaint occur among the brothers or sisters Twenty three of the children were poorly developed—8 physically, 9 mentally, and 6 in both respects In all there had been either absence or limitation of breast feeding cow s milk being the substitute in 22 cases and condensed milk in 3 The author leans to the view of Funk that infantile scurvy is due to a lack of vitamin C consequent on insufficient variety or freshness in the diet He notes that the personal factor of the resistance to disease influences the incidence and that the vitamin contents in milk vary with the season and the feed given to the cows Dried milks are stated by him to be relatively antiscorbutic, and emphasis is laid on the fact that it is the duration and not the degree of heating which destroys vitamin in milk Vitamin can resist boiling for five minutes and pasteurization at 60° C for thirty minutes therefore, milk should be boiled only for a short time In 15 of the cases under review there was a history of previous disease, such as the exanthemata, respiratory disturbances, dyspepsia. [illegible] respira tory defects, [illegible] brances also loss of appetite, malaise and anaemia [illegible] ubation period appeared to be from six days to five months Pain in the limbs was present in all cases, swelling in two thirds both occurred chiefly in the lower parts of the legs and when unilateral, more frequently on the left side Bleeding varied and occurred from the gums, nose conjunctivae urinary tract, bowel, and skin but in some of the cases there were discoloration and swelling of the gums without actual haemor rhage Digestive and respiratory disturbances were con [illegible]

and a low type of fever was present in about half the cases Most of the children showed delayed teething, and a liver smaller than normal The blood picture presented the usual features of diminished red cells and haemoglobin with poikilocytosis, and the author notes as previously unrecorded a tendency for the polymorph leucocytes to approach the lymphocyte in type A ray examination showed the "crushed layer" in all cases and subperiosteal haemorrhages in one third In treatment, besides giving fresh boiled cow's milk, 120 grams of mother s milk and over 15 grams of orange juice were administered, it was found that lesser amounts of the latter postponed cure The best results were obtained when mother's milk and orange juice were given together In every case under this treatment, symptoms disappeared in one week, though the *x* ray picture showed that cure was not yet complete

Surgery.

301 Treatment of Varicose Veins

M DURAND (*Lyon Méd*, January 27th, 1924, p 93) describes his method of operating for varicose veins The results are satisfactory, and he urges that operation should be undertaken earlier, before the appearance of complications Such operations as simple ligature of the vein he considers insufficient, and for twenty five years he has adopted a modified form of total removal of the saphenous vein He starts by removing the terminal portion of the internal saphenous vein at the base of Scarpa's triangle, with ligature of its tributaries He next removes 8 or 10 cm of the vein above the internal condyle of the femur and ligatures all branches in this situation The third step is the complete removal of the vein in its whole length in the leg—a long and tedious procedure, but essential for a successful result Sometimes it may be necessary to excise the external saphenous vein as well, but this is not often the case General anaesthesia is always employed, and if both legs are affected it is best to arrange for two operations The operation, although long, is without shock or operative mortality, and the immediate results are good Haemorrhage is avoided by careful ligature of all vessels encountered, particularly of the internal saphenous where it joins the femoral vein Infection is guarded against by careful asepsis Thrombosis and emboli occur as occasional complications, but are rarely serious The final results are very good in simple cases without complications, but when ulcers are present the results vary, after healing the ulcers may break down again On the whole, however, the results are encouraging The operation is in the majority of cases most satisfactory, and the best security for good results is to operate early.

302. Sarcoma of the Rectum

CRESCENZI (*Rif Med*, January 14th, 1924, p 25) reports the case of a man, aged 56, who complained of increasing rectal trouble for the previous eight months—constipation, pain on defaecation, tenesmus, inadequate relief after action of the bowels, increased frequency of and occasional difficulty in micturition His general condition was good By rectal examination a well defined mass, the size of a large nut, was discovered in the anterior wall, the mucous membrane was movable over it and there was no sign of ulceration The prostate was slightly enlarged, but the urine was healthy and there was no residual urine The growth was removed and found to be a spindle celled sarcoma, non pigmented There was no evidence of infiltration, and there was sound tissue outside the area of the growth, so that an extensive resection was unnecessary As sarcoma of the rectum is uncommon, the author decided to publish this case

303 Surgery of the Biliary Apparatus.

L LAZZARINI (*Arch Ital di Chirurg*, December, 1923, p 541) gives his experiences in 119 cases of operation for biliary trouble Dealing more particularly with the later sequels, he finds that subsequent trouble (relapses, fistulae, etc) are much more common after cholecystostomy than after cholecystectomy Even after cholecystectomy calculi may (though very rarely) be formed, but more often calculi are overlooked at the first operation Pain is usually due to post operative adhesions Examination of the gastric juice showed that it was normal in 8 cases, there was hypochlorhydria in 15 cases, and hyperchlorhydria in 50 cases of the total 119 cases, 45 were traced later Of the 14 in whom the gall bladder was merely opened, only 4 remained quite cured (one of these for twelve years), in 5 more or less typical attacks of biliary colic had been noted, and in 5 others dyspeptic symptoms were present In another series 6 required further operative treatment for persistent biliary fistula or colic On the other hand, of 19 patients after cholecystectomy, 18 were definitely cured, and only one had some trouble, which was probably due to adhesions Of the 18 who were cured, the only trouble was slight digestive disturbance in the early months and a tendency to constipation Of 4 cases associated with appendicectomy, definite cure resulted in 3 Choledochotomy also gave good results Post-operative hernia was seen in 3 cases There was only one death (and that two years after choledochotomy), which could be perhaps traced to the operation

304 Endothermy in Neoplastic Conditions

J A WYETH (*Annals of Surgery*, January, 1924, p 9) defines endothermy as the localized production of heat in the tissues as a result of the many oscillations of a high frequency current, a sharp pointed active electrode is used This treatment is better than removal with the knife in that it destroys malignancy before removing it Its greatest field of usefulness is in the treatment of accessible malignancy and precancerous conditions, and it may be used successfully for tuberculous lesions of the skin and mucous membranes Warts, moles, naevi, and chronic ulcers respond rapidly to the treatment A current of high voltage and low ampèrage is used The first procedure is to desiccate in the healthy tissues a ring of necrosis round the malignant area, which can be then safely destroyed Blood vessels and lymphatics are thus shut off and the destruction of the sensory nerves brings about alleviation of pain After destruction the lesion is removed by curetting and the base scared There should be no bleeding, and secondary haemorrhage rarely occurs In epithelioma and mouth cases endothermy is of the highest possible value Bony structures also can be treated and removed, whilst bladder tumours can be destroyed and removed with a good chance of eradication The method is quick and clean, and it reduces the dangers of metastasis, the cosmetic results are good—an important matter in cases of facial neoplasms.

305 Electro-coagulation of Papilloma of the Bladder

N FALBING (*Ugeskrift f Laeger*, January 24th, 1924, p 81) has treated fifteen cases of papilloma of the bladder with electro coagulation, using Loewenstein s urodiathorm, and he has come to the conclusion that this treatment is superior to operative treatment, because the latter is not without serious dangers at the time, and is apt to implant new growths in the operation wound Further advantages of electro coagulation over operative treatment are the former's suitability for both recent and advanced cases, its far greater simplicity, and its ability to cope with relapses In every one of the author's fifteen cases the immediate results were excellent, the growths being removed in their entirety Three of the patients were so debilitated at the time that they could hardly have tolerated an operation, whereas diathermy scarcely inconvenienced them Only in one case was it necessary during the first two applications to give a general anaesthetic on account of pain due to cystitis There were thirteen men to two women, and in the case of the women the treatment was very easy on account of the shortness of the urethra

Laryngology and Otology.

306. New Method of Draining Cerebral Abscess

E J MOURE (*Rev de Laryng, d'Otol et de Rhinol*, February 15th, 1924, p 81) comments on the frequent difficulty of diagnosing and localizing a brain abscess, especially when on the right side When found and opened troubles do not end, as these abscesses are very difficult to drain Many different devices have been employed, including rubber tubes, perforated and unperforated, with or without a terminal opening, with or without a central piece of gauze, silver drainage tubes, tubes in pairs like a double barrelled gun or even in groups of three All these have been repeatedly tried, and after a day or two have either been extruded from the wound or been blocked by inspissated pus The author has recently devised an instrument which resembles a long bladed nasal speculum, with two slightly concavo convex blades joined by a weak spring This serves as a drain and can be left *in situ* with the blades in the cavity of the abscess and the spring on the surface The pressure of the spring keeps the blades apart and prevents the opening of the abscess from closing, allowing a continuous flow of pus and permitting of adequate inspection or washing of the cavity The author has recently found this very useful in a case in which a cerebral abscess had been drained three years previously and had continued satisfactory since Recently a new abscess had formed in the site of the old one This was opened and drained, but the tubes could not be kept open until this new drain was employed, when perfect drainage was established and the abscess rapidly healed.

307 Total Removal of the Inferior Turbinate.

O STRANDBERG (*Journ of Laryngol and Otol*, February, 1924, p 65) considers that when lupus of the lateral nasal wall is restricted to the inferior turbinal bone the treatment must be outire removal of that process Complete removal is difficult, and portions of the anterior pole and the middle third are often left, it is in these parts that recurrence takes place The author makes a long incision in the mucosa, starting on the lateral wall just above the mid point of the upper border of the process, and continues it forwards to make a wide sweep of the anterior pole, practically reaching the cutaneous border of the anterior naris, and then passing along the lateral wall to just below the mid point of the turbinal With a periosteal separator the muco-periosteum is pushed back towards the process until an excellent view of the attachment of the process to the ascending process of the maxilla is obtained With a very short-bladed pair of scissors the turbinal bone is removed from its attachments throughout its whole length The short-bladed scissors are useful in that the varying curves of the attachment can be followed accurately The removal is carried out under local anaesthesia and rarely causes any troublesome haemorrhage In over a thousand cases of complete removal of the turbinate process the author has not seen a single case of complication by ozaena

308. Recurring Nasal Polypi of Children.

CANUYT and TERRACOL (*Rev de Laryngol, d Otol et de Rhinol*, January 15th, 1924, p 7) describe a type of polypus to which they give the title of recurring and deforming nasal polypus Nasal polypi are rare under the age of 14 or so, but when they do occur they are constant in type They are bilateral and usually occur in the middle meatus They recur very rapidly after removal, and are usually accompanied by ethmoidal necrosis and a deformity of the upper bony part of the nose, resulting in a separation of the nasal bones and the nasal processes of the maxillae In the deformity produced by the polypi of adults the cartilages and soft parts of the nose only are affected The polypi are large and numerous they are scantily supplied with blood vessels, and do not appear to be inflamed, there is abundant mucous discharge The nasal obstruction is complete and there is usually an absolute loss of sense of smell After removal the polypi recur, they are removed again, and increasingly radical operations are performed up to an external ethmoidectomy The necrosis of the ethmoid mass is such that all the delicate intercellular walls disappear, leaving a single large cavity filled with debris and polypi The authors consider in this respect the analogy with the tropical condition known as "gunda" or "big nose," which occurs in East and West Africa, and is associated with ethmoidal necrosis This condition has been ascribed variously to infection with fly larvae and to syphilis The authors suggest that these recurring polypi in children may be due to congenital syphilis, and report that some of the patients have positive Wassermann reactions and that others show Hutchinsonian stigmata They put congenital syphilis forward as a possible cause of the recurring polypi of children

309 Carcinoma of the Larynx.

J S FRASER and D WATSON (*Journ of Laryngol and Otol*, February, 1924, p 79) describe 14 cases of laryngeal carcinoma of which 6 were private and 8 were hospital cases only 2 of the patients were females The ages varied from 36 to 76 years, the oldest has survived four years and the youngest has died of a recurrence The prominent symptom was hoarseness which had lasted less than four months in 6, between four and nine months in another 6, and two years in each of the female cases Some pain was complained of in most of the cases and dysphagia in only one—a bilateral case In 10 cases the growth was on the right cord, in 3 it was on the left cord, whilst in the last case it had involved both cords The growths included papillomatous masses, sessile warty growths, and ulcers with deep infiltration In 8 cases the cord was movable, in 3 the movement was limited, and in 2 the cord was fixed Diagnosis was made by indirect laryngoscopy and was confirmed by microscopical examination before operation Thyrotomy was performed, and was followed in two of the cases which recurred by laryngectomy which did not produce ultimate cure Seven have recovered and have lived from one to seven years after operation, one patient died of apoplexy, three of pulmonary complications, and three of recurrence The authors conclude that only cases where a single cord is involved and is freely movable are suitable for thyrotomy, the rest require laryngectomy The growth tends to spread between the thyroid and cricoid cartilages and renders anything less than laryngectomy futile, whilst any type of pulmonary lesion contraindicates operation

Obstetrics and Gynaecology.

310. Extrauterine Pregnancy

L D EERLAND (*Nederl Tydschr v Geneesk*, January 26th, 1924, p 326) states that 116 patients were admitted to the Coolsingel Surgical Clinic at Rotterdam between 1915 and 1922 for extrauterine pregnancy Seven died—a mortality of 6 per cent Eighteen were treated by conservative methods, with an average stay in hospital of forty two days, and 98 by operation with an average stay of twenty three days All the fatalities occurred among the operation cases The ages of the patients ranged from 18 to 43, but the majority were between 25 and 40 Forty nine were nulliparae or primiparae, 62 were multiparae, and in 5 no information was given In 44 cases the site of the extrauterine pregnancy was on the left, in 57 on the right, and in the others uncertain No instance of bilateral extrauterine pregnancy occurred The exact site of the ovum in 81 cases was as follows Pars uterina (isthmus) 18 cases, middle of tube 28, ampulla 13, interstitial tissue 4, tubo-ovarian pregnancy 3, uterine cornu in uterus bicornis 1, whole tube 14 Thirty one cases had suffered from previous abdominal or pelvic disease which may have been responsible in part for the extrauterine pregnancy—such as appendicitis, intestinal obstruction tuberculous peritonitis, ovarian cyst pelvic peritonitis and salpingitis In five cases extrauterine pregnancy occurred twice in the same woman, the interval between the two pregnancies varying from eight and a half months to seven or eight years Only one of these five women gave birth to a child normally between the two extrauterine pregnancies

311 Case against Axis Traction Forceps

J C HIRST (*Journ Amer Med Assoc*, January 26th, 1924, p 295) deals with the case against axis traction forceps, and argues that in many cases, by taking careful pelvic and foetal measurements beforehand, the timely induction of premature labour will obviate difficulty In the case of measurements which do not justify this procedure an elective Caesarean section one week before term is indicated When however, the patient is first seen while in labour, then the plan recommended is to watch for a time to see how far the head may be moulded and enter the pelvis without artificial aid, the use of forceps may be justifiable below the level of the ischiatic spines, but not above it. If the child be living a low cervical Caesarean section will secure its delivery with a greater degree of safety, both to mother and child, than an axis traction delivery requiring the usual amount of force There is less risk of sepsis, none of haemorrhage, the child is not uselessly mutilated, and a subsequent normal delivery is not precluded if the pelvic measurements permit it In the case of a dead child craniotomy is indicated The author gives a long list of the direct injuries to the mother which he has known to occur with the use of axis traction forceps and also records the maternal after effects in support of his belief that a method of delivery capable of such consequences ought not to be tolerated, except, perhaps, as an instrument of diagnosis to determine whether under moderate traction the head can be made to descend to the level of the ischiatic spines He adds a list of the possible injuries to the child

312. Pregnancy and Syphilitic Manifestation

F J BROWNE (*Journ Obstet and Gyn of British Empire*, vol 30, No 4, 1923, p 519), from a series of 100 syphilitic births comes to the conclusion that a history of syphilis in the mother is absent in a large number of cases, nor are any signs of syphilis present This is extremely common in multiparae, among whom only 2 per cent gave a history or showed the signs of syphilis, whereas in primiparae 70 per cent gave a definite history or showed signs of the disease As regards the Wassermann reaction the author states that there is no evidence showing that it is especially modified during pregnancy, and in all the instances in which the woman had a negative reaction, and yet gave birth to a seemingly syphilitic foetus, spirochaetes were not found in the tissues of the children, even though the liver and spleen were enlarged and other so-called definite signs of syphilis were present In all cases where spirochaetes were found in the tissues of the children the mothers had always a strongly positive Wassermann reaction. He insists that only the presence of spirochaetes in the tissues of the infant is positive proof that the disease is syphilis The umbilical cord blood is regarded as reliable for testing purposes the reaction differing little from that of the mother's blood though it tends to be slightly less strong This may be due according to the author, to the fact that the blood from the umbilical vein is arterial, and thus purer than that from the mother's vein

313. The Corpus Luteum and Menstruation

G COTTE (*Gynécol et Obstét*, 1923, viii, 6, p 517) remarks that it has been generally accepted, although on insufficient grounds, that menstruation is governed by the periodical action of an internal secretion of the corpus luteum This view is based on (1) the finding that menstruation does not coincide with, but occurs about twelve days after, dehiscence of an ovarian follicle, (2) the report by Fraenkel and others that destruction at operation of the corpus luteum is followed by suppression of the next ensuing menstruation Cotte, on the contrary, in 15 out of 16 patients has found that excision of an ovary containing a Graafian follicle in the course of evolution or removal of a well developed corpus luteum is not followed by suppression of the next menses but leads to the premature appearance, within one to three days, of a menstrual period On these grounds he concludes that an internal secretion of the corpus luteum cannot play a preponderating part in the induction of menstruation, which, if due to the influence of a hormone, is rather to be ascribed to that produced in other ovarian elements He thinks that this acceleration of menstruation is probably due to direct stimulation of adjacent nerves, since it is of constant occurrence and is unaffected by the point of time in the intermenstrual period at which the intervention takes place

314. Primary Chorion Epithelioma of the Broad Ligament.

BERGERET and P MOULONGUET (*Gynécol et Obstét*, 1923, viii, 6, p 528) describe three cases of primary chorion epithelioma of the broad ligament Two patients were multiparous, one a primipara aged 22, in all there was a history of abortion in the early months followed by placental retention treated by curetting In two cases a considerable degree of pyrexia accompanied the later stages of the condition, and two cases were characterized by persistent irregular bleeding The characters of the tumour led to re operative diagnoses in the respective cases of pelvic abscess of softened fibroid, possibly with adnexal inflammation, and of angioma of the broad ligament In one case which came under the observation of the authors the lateral fornix was encroached on by an immovable tumour the size of the fist, palpation of the upper portion gave a well marked thrill, and on auscultation a systolic murmur was heard Cystoscopy showed pulsation of several small arteries in the vesical mucosa The youth of the patient (aged 22) and the fact that the Wassermann reaction was negative were taken to exclude the diagnosis of aneurysm The uterus, which was removed, was normal, a thrombus in process of organization was demonstrated microscopically in a uterine vein near the isthmus cervicis Histologically the tumour was composed of conspicuous angiomatous elements, among which scanty cancerous trophoblastic cells were recognizable The tumour speedily recurred after removal

Pathology.

315. Increase of Virulence of Pneumococci

AN inquiry has been conducted by L D FELTON and K M DOUGHERTY (*Journ Exper Med*, January, 1924, pp 137 and 155) into the changes in virulence which occur when the pneumococcus is grown in different media In order to allow the organisms to grow as rapidly as possible and to maintain their growth at its maximum over a long period, an automatic apparatus was devised by means of which a fresh supply of medium could be supplied to them at definite intervals Continued growth in plain broth resulted in a very marked fall in the virulence of the organisms, as tested by intraperitoneal injection of mice This fall was more evident in media of a high hydrogen ion concentration than in those of a low one, but it occurred inevitably in all The addition of 1 per cent dextrose to the broth, however, had the effect of keeping the virulence constant Similarly, it was found that peptone could neutralize to some extent the deleterious action of meat infusion It was further found that if the organism was grown in a simple 2 per cent peptone solution of *p*H 7 4 the virulence remained at its initial height, or even actually increased The most surprising results were obtained by growth of the pneumococcus in skimmed milk An avirulent strain after sixty transfers at eight hour intervals in this medium was found to have acquired almost maximal virulence for mice By growing the organism in meat infusion and thus allowing the virulence to diminish, and then transferring it at two hour intervals through milk, it was found possible to restore the virulence to its previous height This recuperative effect of milk on the virulence of the organism is largely destroyed by autoclaving the medium previous to use, a direct relation was found between the degree to which the milk was heated and its loss in recuperative value A pure strain of pneumococcus, starting from a single organism, by growth in milk with a four hour interval of transfer, increased in virulence *10 million fold*—that is, at the start of the experiment 10 million organisms were required to kill a mouse, whereas at the end, after 150 transfers, a single diplococcus was fatal on injection This is the first time that such an increase in virulence has been brought about by *in vitro* methods

316 Thrombosis and Embolism

W D BARRETT (*Canadian Med Assoc Journ*, February, 1924, p 129) summarizes some experiments which he has made on dogs to elucidate the mechanism of thrombosis It was found that simple crushing of a vein, either once or repeated at intervals of forty eight hours, does not lead to the formation of a clot, what it does do is to cause a thickening of the coats of the vessel, fibrous tissue is formed, but the intima itself remains smooth and glistening Nor did the introduction of a sterile thread into the vein, so suspended as to leave one end free to move about in the blood stream, give rise to a thrombus, but when a similar thread, infected with staphylococci or colon bacilli, was introduced, a thrombus formed in four or five days This thrombus was not large enough to occlude the lumen, but it was able to enlarge in the direction of the blood stream In clinical practice thrombosis is met with in the course of infectious diseases and following surgical operations In the latter instance infection can never be completely excluded Arguing from these facts, the author considers that not only injury, leading to necrosis, but infection, too, must be present before a thrombus can be formed

317 Acids Produced by Streptococci

B LANGWILL (*Journ of Bact*, January, 1924, p 79) has made a study of a large number of strains of streptococci from different sources to determine whether any difference is noticeable in the extent and nature of their acid production The organisms were grown in infusion broth to which 1 per cent of glucose, lactose, or sucrose was added The acid produced was titrated each day and the flasks then brought back to their initial reaction of *p*H 7 2 It was found that during the first twenty four hours of growth in a sucrose or lactose broth the acid production was nearly twice as great with the non haemolytic streptococci as with the haemolytic varieties, but after the complete termination of growth the values were much the same in both cases—that is to say, that whereas the non haemolytic organisms grow rapidly and produce their acid quickly, the haemolytic ones grow more slowly and take a longer time to produce the same quantity of acid The proportion of volatile to non volatile acid was also estimated, and it was found that the amount of volatile acid produced by the non haemolytic streptococci was lower than that produced by the haemolytic strains As regards the nature of the acids formed, the non haemolytic strains gave rise to formic, acetic, and a possible trace of butyric acid, whereas the haemolytic ones formed acetic and propionic acids, but no trace of formic acid No difference was found in the behaviour of the haemolytic streptococci isolated from milk and those isolated from pathogenic sources

318 The Diagnosis of Mediterranean Fever

As Mediterranean fever appears to be becoming fairly common in France, L NATTAN LARRIER (*Clinique et Laboratoire*, December 30th, 1923, p 249) has considered it worth while to give an account of the methods employed in diagnosis Apart from the clinical aspect, three important procedures can be followed (1) The agglutination reaction, which becomes positive at the tenth or twelfth day, when the titre of the serum rises to 1 in 100 or higher, a titre of 1 in 50 or less has no significance (2) Blood culture is of especial use in the early stages of the disease, as it is possible to obtain the micro organism from the blood from the second day onwards, it is positive in about 80 per cent of cases (3) The intradermal reaction, for this the filtrate of a twenty day broth culture of the *Micrococcus melitensis* is employed The inoculation is made into the skin of the arm 4 inches above the elbow, using a tenth to a twentieth of a cubic centimetre In typical cases the reaction is positive within six hours and persists for about two days At the site of injection there appears a slightly raised plaque, round or oval in shape, fairly well defined, and about 4 to 6 cm in diameter, the colour varies, but is always different from that of the surrounding skin This reaction, which is claimed to be more specific than the agglutination test and more constant in its results than the blood culture, is very simple to perform and should be of real value to the clinician when he is confronted with cases of unexplained pyrexia It is important to note, however, that it does not become positive till the seventh to the eleventh day, it persists for about ten months after recovery

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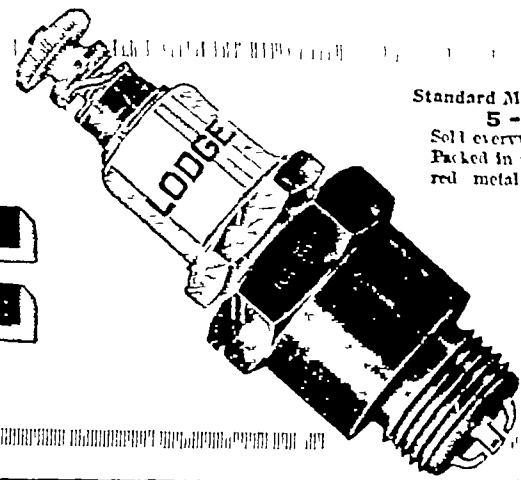
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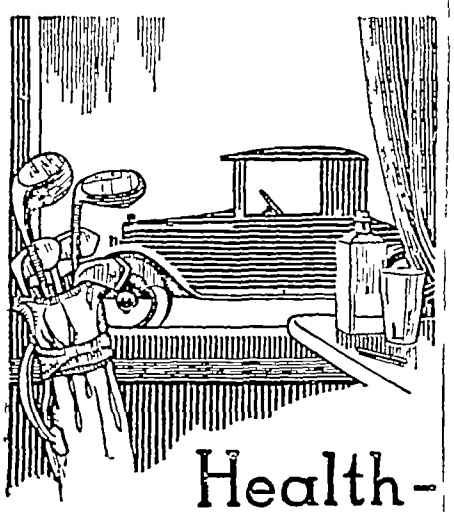
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Under special circumstances the rates of payment may be reduced by the Committee

The MANOR HOUSE for Ladies only which is entirely separate from the Hospital and standing in its own grounds is utilised exclusively for voluntary patients

For further information apply to ARTHUR TOWNSEND M D the Medical Superintendent

Home

for the care and treatment of

Mentally Afflicted Ladies.

OTTO HOUSE,

47, North End Rd, West Kensington, W. 14.

The Home stands in large grounds close to West Kensington Station.

For Terms, apply to Miss BRODIE,
Resident Lady Superintendent.

Telephone Hammersmith 1091.

MRS. SUTHERLAND

(Licensed Proprietress.)

Telegrams "RELIEF OLD CATTON" *Telephone* 290 NORWICH.

THE GROVE, OLD CATTON.

NORWICH.

A High-class Private Nursing Home for Ladies desiring **Curative Treatment** for Nervous Affections **Hysterical** and **Borderland Cases** in the early stages and those suffering from **Incipient** mental trouble are received as **Voluntary Boarders** Apply to the Misses McLINTOCK or to Dr S BARTON 31 Surrey Street, Norwich, Visiting Physician

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion especially adapted for the reception of a limited number of ladies and gentlemen mentally affected.

For particulars apply DR. SANKEY

BAILBROOK HOUSE,

BATH.

A PRIVATE HOME for the care and treatment of persons with mental and nervous disorders

TERMS: from 3½ guineas a week, according to requirements

Mansion on outskirts of Bath with 20 acres of grounds (see MEDICAL DIRECTORY page 2160)

Apply to NORMAN LAVERS M D Resident Physician Telephone No: Bath 49

HEIGHAM HALL, NORWICH.

Telephone: **For Upper and Middle Classes.** *80 Norwich.*

A Private Home for Cure of Ladies and Gentlemen suffering from Nervous and Mental Diseases Extensive pleasure grounds Private Suites of Rooms with Special Attendants available Boarders received without certificates

Terms from 4 guineas weekly Patients sent for

Apply Dr G STEVENS POPE or Mrs POPE, Resident Licensees

THE GRANGE,

NEAR ROTHERHAM

A HOUSE licensed for the reception of a limited number of ladies of unsound mind. Both certified and voluntary patients received This is a large country house with beautiful grounds and park 5 miles from Sheffield Station Grange Lane G C Railway Sheffield. Telephone No 8 Rotherham Resident Physician—GILBERT E MOULD L R C P M R C S Consulting Physician—CHOCHLEY CLAPHAM M D F R C P E.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted Voluntary Boarders received. Situated 1,200 ft above sea level facing S; 14 acres of ground.—For terms apply to the Resident Medical Superintendent W W HORTON M.D Nat. Tel. 139

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

This Registered Hospital for **MENTAL DISEASES** with its seaside branch Glan y Don Colwyn Bay is for the treatment of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES Voluntary Boarders received

For terms etc apply to the Superintendent J A C Lor M B or he may be seen at 72 Bridge Street Manchester on Tuesdays and Fridays from 2 to 3 Telephone 153 GATLEY

THE MOAT HOUSE,

Tamworth, Staffs

Established 1816 For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS Voluntary patients received

For terms apply to the LICENSEES or the MEDICAL ATTENDANT Telephone: 168 Tamworth

"Collingwood," Cheltenham Spa.

AN IDEAL HOME for Infants and small children, highly recommended by local doctors large airy nursery central heating Limited number only Trained Sister Inclusive fees from 110 guineas Prospectus Miss DUTTON (Higher Cert, N F U)

Telephone & Telegrams Haynes Brentwood 1

Littleton Hall, Brentwood, Essex.

Large grounds. 400ft. above sea. HOME for LADIES Mentally Afflicted Voluntary Boarders received Stations: Brentwood 1 mile; Shenfield 1 mile Liverpool Street, 20 minutes—Apply, Dr HAYNES

BUSHEY LODGE MATERNITY HOME

TEDDINGTON, *MIDDLESEX*



The above Home has been entirely reorganised for the treatment of maternity and gynæcological cases and diseases of pregnancy

Scopolomine morphine narcosis (twilight sleep) is administered by the resident surgeon when desired

In addition to the private rooms there are two small wards for the accommodation of patients of limited means.

Bushey Lodge is situated in 10 acres of beautiful grounds, overlooking Bushey Park It is 3 minutes walk from Teddington Station, and 25 minutes from Waterloo

There is a Hostel in the grounds for prospective patients and their friends

Resident Surgeon and Accoucheur

Telephone KINGSTON 1807



YARROW CONVALESCENT HOME

BROADSTAIRS.

For CHILDREN of WELL-EDUCATED PEOPLE OF VERY LIMITED MEANS

Charge 10/- a week for each Child

This fee is subject to addition or deduction according to Parents' means.

100 Beds. Boys, ages 4 to 12. Girls, ages 3 to 14.

The usual stay is four weeks, but some wards are reserved for serious cases requiring special treatment, and for these a lengthened stay may under some circumstances, be granted, and the age limit raised to 14 for Boys and 16 for Girls.

The Home faces the sea, and is open all the year being as well adapted for winter as for summer residence.

PARTICULARS CAN BE OBTAINED FROM THE SECRETARY 116 VICTORIA STREET WESTMINSTER LONDON S W 1.

THE OLD MANOR, SALISBURY.

TELEPHONE 51

A PRIVATE HOSPITAL FOR THE CARE AND TREATMENT OF THOSE OF BOTH SEXES SUFFERING FROM MENTAL DISORDERS.

Extensive Grounds Detached Villas Chapel Garden and Dairy Produce from own Farm.

Terms very moderate *Illustrated Brochure on application to The Secretary*

BRISLINGTON HOUSE near BRISTOL.

ESTABLISHED 1804

A PRIVATE MENTAL HOSPITAL for the care and treatment of persons of the upper and middle classes of both sexes The House is situated on an estate of 200 acres and has extensive pleasure grounds and a Farm connected with it. It lies between Bristol and Bath 3 miles from Bristol Station and within 2½ hours' journey from London

In addition to the main building there are several villas completely detached and pleasantly situated in their own grounds where there is accommodation for suitable cases Patients can be received without certificates as Voluntary Boarders,

For terms and further particulars apply to the Medical Superintendent *Tel* Fox, Brislington" *Telephone* "No 2 Brislington"



NORTHWOODS HOUSE,

WINTERBOURNE, near BRISTOL.

For PRIVATE TREATMENT OF MENTAL DISEASES,

Situated in a large park in a healthy and picturesque locality easily accessible by rail vid Bristol, Winterbourne, Patchway or Late Stations Uncertified Boarders received.—For further information see Medical Directory page 2177, *Terms* moderate —Dr J D THOMAS and Dr J R P PHILLIPS, *O B E.*, *Resident* Physicians and Licensees

CAMBERWELL HOUSE,

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Telegrams: "Psychella London" *Telephone* New Cross 2300—2301

For the Treatment of Mental Disorders.

Completely detached villas for mild cases. Voluntary Boarders received. 20 acres of grounds, with extensive allotments on which gardening is encouraged. Cricket pitches hard and soft Tennis Courts croquet, squash racquets, and all indoor amusements, including Wireless and other Concerts Daily Services in Chapel

Senior Physician FRANCIS H. EDWARDS, M.D *M.R.C.P* *An Illustrated* Prospectus, giving full particulars and terms, may be obtained on application to the Secretary

HOVE VILLA, BRIGHTON.—A Convalescent Branch of the above to which all Suitable Patients may be sent on Holiday

The work hitherto carried on at

DUFF HOUSE, BANFF, SCOTLAND,

has been transferred to

RUTHIN CASTLE,

NORTH WALES,

which is now opened as a PRIVATE HOSPITAL for sufferers from any non-infectious INTERNAL DISEASES who need investigation or treatment

Special arrangements are made for carrying out the preliminary tests needed for the proper administration of INSULIN in Diabetes

Application should be made to the Secretary

SMEDLEY'S HYDRO,

MATLOCK [*Established* 1853

LARGEST AND MOST COMPLETE.

Resident Physicians { G C R HARBINSON M B B Ch B A O (R U I)
{ R. MacLELLAND M D C.M (Edin.)

Unrivalled suites of Baths for Ladies and for Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage, Plombières treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Nauheim Baths, etc. Special provision for Invalids Milk from own farm. Large Winter Garden Night attendance. Rooms well ventilated and all bedrooms warmed in Winter A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs and Attendants

Prospectus and full information on application to **H. CHALLAND, Managing Director**
Telegrams— "SMEDLEY'S MATLOCK." Telephone—No 17

BEN RHYDDING HYDRO,

on the Yorkshire Moors, near ILKLEY.

Ideal for Neurasthenia, Convalescence and Rheumatic Affections The most modern Electrical Treatment and Massage.

For terms, apply MANAGER.

Resident Physician G COOPER, M.D

PEEBLES HYDRO.

Beautifully situated 600 feet above sea level Facing South, completely sheltered from North and East. 22 miles from Edinburgh

All modern Baths, Douches, Massage and Electrical treatments. Resident Physician: K. R. COLLIS HALLOWES B.A., M B B Ch. B A O

IDEAL WINTER RESORT

Electric Light, Central Heating, Electric Lift three Billiard Tables, Ball Room, Winter Garden Swimming Bath Hard and Grass Tennis Courts Croquet Lawn Golf Course.

Prospectus from Manager

BOURNEMOUTH HYDRO.

With finest Sun lounge and Marine Balcony on the South Coast.

Every kind of Bath Plombière Lavage.
Every kind of Massage.
Every kind of Electricity
Every kind of Diet
Carlsbad and Vichy Waters &c
High Frequency Electric Lift

Prospectus from Secretary *Telep* 341
Resident Physician:—W JOHNSON SMYTH, M.D

SHROPSHIRE ORTHOPÆDIC HOSPITAL,

OSWESTRY

(Station Gobowen, G.W R.)

OPEN-AIR WARDS.

PRIVATE WARDS, 5 Gns per week, exclusive of Surgeon's fees, but inclusive of X Rays, splints, plasters massage and gymnasium.

A limited number of beds are available in the GENERAL WARDS at 2½ Gns per week, inclusive

For particulars apply the Superintendent.

DROITWICH

For Spa Treatment of

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Famous Natural Brine Baths. Golf, Music, etc.

Illustrated Booklet etc free from Baths Manager

J H HOLLYER,

15, Corbett Estate Offices, Droitwich (Worcs)

COMPLIMENTARY FACILITIES TO MEDICAL MEN

Doctor and wife (both Univ. Grad) are willing to receive a few CHILDREN aged 4—8 P N E U methods Trained Governess and Norland Nurse kept Well appointed house and nurseries in S of Eng Own cows, poultry Highest references exchanged —M D, c/o Fuller's Advertising Offices, 99, New Bond Street, W 1.

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Specially built for the Open Air Treatment o Tuberculosis and opened in 1901 Bracing mountain air Elevation 860 feet above sea level Sheltered situation in pine wood. Graduated walks.

Electric light throughout building and in shelters, Fully equipped X Ray Plant Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night *A few rooms are now reserved for* **Surgical Cases not requiring immediate operation.** Terms 4 to 6 guineas per week. Medical Superintendent, FELIX SAYE M.B., Ch B

For particulars apply to the Secretary

WESTMORLAND SANATORIUM.

Meathop, Grange over Sands.

Established 1900 Phone: Grange-over-Sands 51

For the Curative Treatment of moderately early cases of Pulmonary Tuberculosis

(Non pulmonary cases not requiring operative treatment also received including children)

Bracing situation on N Shore of Morecambe Bay, beautiful surroundings Heating in bedrooms dining halls and recreation rooms electric light throughout. Terms £2 8s per patient per week, or £120 per bed per year Vacancies for patients of o ther sex Medical Superintdt: O FERGUSON WALKER, B A. M D B S Lond D P H Manch

Grove House, All Stretton,

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A Private HOME for the care and Treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing

Medical Superintendent Dr McCLINTOCK

Doctor would like to hear of a SMALL MENTAL INSTITUTION in East Surrey (country district) suitable for a certified female case with mild suicidal tendencies Moderate terms —Reply to Dr STEVENSON, Sanderstead, Surrey

Home School for Backward and DELICATE CHILDREN (estab 1901) Specialists Patients received Modern educational methods and handicraft training Horticulture, garden games and occupations Entire charge if desired Elder girls admitted. Terms moderate — Apply Principal Hatherley Brake Cheltenham

Small Private Residential SCHOOL, established 21 yrs for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS Special Department Pupils over school age. Under Medical supervision — Prospectus Mrs MEIKLEJOHN Principal St Paul's House Upper Maze Hill St. Leonards-on Sea.

MENDIP HILLS SANATORIUM

Specially built facing South 300 acres of Sanatorium grounds—meadow and woodland, sheltered pine avenues Altitude 850 feet, magnificent view for miles south, hot water radiators and electric light in each room and chalet

Graduated exercises, inhalation and electric treatment, &c Individual attention

For particulars apply SECRETARY, Hillgrove, Wells, Somerset

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DARTMOOR SANATORIUM

750 FEET ABOVE SEA LEVEL

Within easy reach of the Moor Radiographic Installation Central Heating Electric Light Efficient Treatment combined with Individual Comfort and Minimum Restrictions Res Phys C H BERRY M R C S L R C P Miss M V SAUL, M I C S L P C P —Illustrated Prospectus on request, C H BERRY M R C S, Dartmoor Sanatorium, Chagford, Devonshire Tele 11 Chagford

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FOR THE OPEN-AIR TREATMENT OF

PULMONARY TUBERCULOSIS and ALLIED DISEASES

At BANCHORY and MURTLE

Medical Director - - DAVID LAWSON, M A, M D, F R S E

These Sanatoria are situated amongst **Ideal Surroundings** in **Middle Deeside**, the reputation of whose **Climate** in the treatment of Lung Diseases is well established

Both Institutions are well equipped with **Research Laboratory, Throat Room, Dental facilities,** and powerful **X-Ray Plant Full Day and Night Nursing Staffs** are employed

Special Treatment by artificial **Pneumothorax** (with X ray control), the various **Tuberculins,** and Autogenous **Vaccines** etc, is available without extra charge



NORDRACH-ON-DEE

At BANCHORY, near BALMORAL.

Physician

Dr IAN STRUTHERS STEWART

Assistant Physician Dr J C LORRAINE

For particulars apply SECRETARY



TOR-NA-DEE SANATORIUM

AT MURTLE, ABERDEENSHIRE

Senior Physician Dr J M JOHNSTON

Assistant Physicians Dr JAMES LAWSON & Dr A. C FOWLER

The Scottish Branch of the British Red Cross Society is prepared to contribute towards payment of the fees of ex-Officers and Nurses recommended by the Society and such Officers and Nurses obtain priority of admission.

Inclusive terms, **7 Guineas a week.**

For further particulars, apply SECRETARY

THE COTSWOLD SANATORIUM.

A Private Sanatorium opened in 1898 for the treatment of Pulmonary Tuberculosis It is situated on the Cotswold Hills, seven miles from Cheltenham 870 feet above sea level, in grounds of 40 acres surrounded by 1 000 acres of wooded common land, sheltered from north and east S S W aspect

The rooms are specially built of one story only opening on to wide verandahs have radiators hot and cold basins electric light X Ray Installation Throat Room All special forms of treatment available Full Day and Night Nursing Staff.

Resident Physicians ARTHUR H HOFFMAN, M D, and GEOFFREY A. HOFFMAN M B

Apply THE SECRETARY The Cotswold Sanatorium Cranham Gloucester *Telephone 22 Painswick Telegrams "Hoffman Birdlip"*

VALE OF CLWYD SANATORIUM.

This Sanatorium is established for the treatment of Tuberculosis of the Lungs and of the Pleural Cavities. It is situated on the midst of a large area of park land at a height of 450 feet above sea level on the south west slopes of mountains rising to over 1 800 feet which protect it from north and east winds and provide many miles of graduated walks with magnificent views.

Trained nursing staff day and night. X Ray apparatus. Treatment by Artificial Pneumothorax in suitable cases. Electric lighting in every room. Heating by Radiators

For particulars apply to the Medical Superintendent, H MORRISTON DAVIES, M.D M Ch.Cantab F.R.C.S., Llanbedr Hall, Ruthin, N Wales

NORDRACH-UPON-MENDIP SANATORIUM

FOR THE TREATMENT OF TUBERCULOSIS

OPENED IN JANUARY, 1899

This SANATORIUM was the first to be established in England for carrying out treatment on Nordrach lines Patients are received for open air, inoculation or operative treatment, the latter under X ray control Full Nursing Staff. The Sanatorium stands in gardens and private grounds of 65 acres at an elevation of 862 feet above sea level surrounded by woods and moorland, the rooms are heated by hot water pipes and lighted by electricity ROWLAND THURNAM M D, DANIEL KENNEDY L.R.C.S L.R.C P

Telegrams: "Nordrach Blagdon"

For full particulars apply to THE SECRETARY, Nordrach upon Mendip Sanatorium, Blagdon near Bristol

PALACE SANATORIUM, MONTANA-SUR-SIERRE

Tuberculosis Cure Station, 5,000 feet high, SWITZERLAND.

Accommodation for 100 Patients

Principal Resident Medical Officer BERNARD HUDSON M D (Cantab) M R C P

Late Physician to the Queen Alexandra Sanatorium Devas Plat.

Full particulars from the Secretary 5, Endsleigh Gardens London N W 1.

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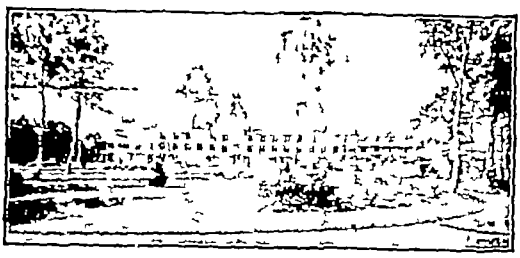
At BANCHORY and MURTLE.

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For full particulars apply to THE SECRETARY, Nordrach upon Mendip Sanatorium Blagdon near Bristol Telegrams 'Nordrach Blagdon'

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Full particulars from the Secretary 5, Endsleigh Gardens London, N W 1.

UNIVERSITY OF BIRMINGHAM

FACULTY OF MEDICINE

(Associated with the General and Queen's Hospitals for Clinical Teaching)

The following Hospitals are also associated with the University The Department of Midwifery and Diseases of Women at the Dudley Road Hospl (Birmingham Board of Guardians) The City Mental Hospital; The City Infectious Diseases Hospital The Birmingham and Midland Eye Hospital T Royal Orthopædic and Spinal Hospital Birmingham The Birmingham and Midland Ear and Throat Hospital The Children's Hospital The Matern Hospital of the Birmingham Lying-in Charity The Birmingham and Midland Hospital for Women.

SCHOOL OF DENTISTRY. (University of Birmingham and Birmingham Dental Hospital)

The Dental Hospital is built on modern lines and is situated close to the Medical Faculty Buildings of the University, and has a large and well Clinic. It is fully equipped for the training of Students in Mechanical, Prosthetic, and Operative Dentistry

THE SUMMER SESSION will commence on TUESDAY, APRIL 29th, 1924

The University grants Degrees in Medicine, Surgery and Public Health, and a Diploma in Public Health also Degrees and a Diploma in Dental Surgery The Courses of Instruction are also adapted to meet the requirements of other Universities and Licensing Bodies

HOSPITAL APPOINTMENTS

A large number of Resident hospital appointments in Birmingham and District are open to qualified students of the school.

PRE-MEDICAL COURSES

The necessary pre-Medical Courses of Instruction in Chemistry Physics and Biology may be attended in the University

RESIDENCE FOR UNDERGRADUATES AND OTHER STUDENTS

There is a Hostel for men students and one for women students. A Register of approved lodgings is also kept by the Secretary of the University For Prospectus and further information apply to **WILLIAM F HASLAM, F.R.C.S., Dean.**

ST. MARY'S HOSPITAL MEDICAL SCHOOL,

PADDINGTON, W 2

A Course of EIGHT ADVANCED LECTURES IN PHYSIOLOGY will be delivered by Professor COLLINGWOOD O B E M D, on Tuesdays and Fridays, at 5 p m, beginning Tuesday, May 6th 1924.

SYLLABUS

(1) The Action of Enzymes in Digestion
(2) Urea in the Urine and Blood The Structure of the Urea Molecule
(3) Carbohydrate Metabolism and the Action of Insulin
(4) The Chemistry of Acidæmia Methods of Estimating the Alkali Reserve of the Body
(5) Arterial Blood Pressure and the Work of the Heart
(6) Basal Metabolism and its Variations
(7) The Function of the Endothelium of the Capillaries
(8) Oxidative Changes in the Tissues

FEE FOR THE COURSE £3 3s

Apply to the School Secretary, St Mary's Hospital Medical School, W. 2

ST. MARY'S HOSPITAL MEDICAL SCHOOL,

PADDINGTON, W 2
(University of London)

The SUMMER SESSION will begin on April 29th, 1924 The Medical School provides courses in Preliminary Intermediate and Final Subjects and Students can join at once after matriculation

SITUATION Between a large population providing clinical material, and one of the best residential districts, thus enabling students to live in close proximity to their work

CLINICAL UNITS IN MEDICINE AND SURGERY Certain members of the Medical and Surgical Staff devote their whole time to teaching and research

NEARLY 1 000 BEDS available for teaching—additional clinical material being provided by affiliation to other Institutions.

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1 200 are awarded annually

APPOINTMENTS varying in value up to £750 per annum open to students after qualification

For further particulars and illustrated prospectus apply to the School Secretary

O M WILSON (*M C*) M D F R.C.P , Dean

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The Rev G O MORGAN SMITH

Headmaster

The Rev G O MORGAN SMITH M A Ph D, F C S (St Catharine's College Cambridge Lille University France)

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The School stands in its own magnificent grounds of 18 acres Own farm Beautiful climate healthy situation Every modern convenience Electric light

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Apply for Prospectus &c to the Headmaster Dr MORGAN SMITH.

THE LONDON SCHOOL OF DERMATOLOGY.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN,

49, LEICESTER SQUARE, W C 2

Summer Course of Lectures

Date	*Lecturer and Subject.*
Tuesday, May 6th—	Dr WHITFIELD: Principles of Local Treatment
Thursday, May 8th—	Dr KNOWSLEY SIDLEY: Alopecia.
Tuesday, May 13th—	Dr ADAMSON: Affections of the Nails
Thursday, May 15th—	Dr GRIFFITH: Pemphigus and Bullous Eruptions
Tuesday, May 20th—	Dr WILFRED FOX: Naevi and Moles
Thursday, May 22nd—	Dr MACCORMAC: Rodent Ulcer
Tuesday, May 27th—	Dr SEQUEIRA: Lupus Erythematosus
Thursday, May 29th—	Dr GRAHAM LITTLE: Dermatitis Herpetiformis
Tuesday, June 3rd—	Dr BUNCH: Lupus
Thursday, June 5th—	Dr BARBER: Tuberculides
Thursday, June 12th—	Dr HALDIN DAVIS: Acne.
Tuesday, June 17th—	Dr KNOWSLEY SIDLEY: Electro-Therapeutics
Thursday, June 19th—	Dr GRIFFITH: Primary lesion of Syphilis
Tuesday, June 24th—	Dr GRAY: The 'Eczemas" of Infants and Children
Thursday, June 26th—	Dr DORE: Psoriasis
Thursday, July 1st—	Dr MACLEOD: Leprosy
Thursday, July 3rd—	Dr HANNAY: Lichen Planus
Tuesday, July 8th—	Dr HANNAY: Lichenification

The Lectures are given each day at p m

The Fees for the Course including two attendances at the Out Patient Clinics per week is Two Guineas payable in advance to the Secretary of the Hospital.

M S HANNAY M D, Dean

University of Birmingham.

CLINICAL BOARD

A Course of POST GRADUATE DEMONSTRATIONS will be given at the General Hospital Birmingham, on Tuesdays from 3 30 to 5 p.m and at the Queen's Hospital Birmingham on Fridays 3 30 to 5 p m April-August 1924, commencing on April 25th at Queen's Hospital and on May 6th at General Hospital The Course will be given by Members of the Medical and Surgical Staffs and will include Demonstrations on Medical Surgical and Gynæcological Cases Skin Diseases Ophthalmic Cases Children's Diseases Urinary Diseases Use of Digitalis etc

Medical Practitioners may obtain detailed timetables of Demonstrations and Ticket of admission *on payment of the fee for the Course £1 1 0, which should be sent to the Clerk to the Clinical Board University, Edmund Street, Birmingham*

LONDON HOSPITAL MEDICAL COLLEGE AND DENTAL SCHOOL.

(University of London.)

THE HOSPITAL is the largest in England 800 beds of which number 832 are in constant use last year In patients 17,97 Out patients, 119 7 Dental patients 5 77

THE MEDICAL COLLEGE AND DENTAL SCHOOL essentially modern with large laboratories equipped with the latest and most approved appliances the various departments are under the direct control of University Professors or Lecturers, who devote their time entirely to work in their departments and whoare assisted by a number of Demonstrators

FEES.—Medical Intermediate and Final Course Entrance Fee, 20 guineas Annual Fee 40 guineas

Final Course Entrance Fee 10 guineas Annual Fee, 40 guineas

Dental Full Course £240 in four equal annual instalments

Hospital Course £130 in two equal annual instalments

Medical and Dental (Six years course) £

SPECIAL COURSES are held for all University Examinations and for the Primary and Final Fellowship Examinations of the Royal College of Surgeons

HOSPITAL PRACTICE.—Exceptional opportunities are offered to qualified Practitioners wishing to attend the General Practice or the Practice of Special Department of the Hospital

SCHOLARSHIPS AND PRIZES —Scholarships and prizes amounting to £1,58 are awarded annually

APPOINTMENTS are more numerous than at any other Hospital in the Kingdom over 170 being made annually from students of the College recently qualified

RESEARCH FUNDS of over £20 000 give unrivalled facilities for medical research

ATHLETICS RESIDENCE etc —A Club Ground with an Athletic Ground of 17 acres Students' Hostel on Hospital Grounds College Dining Hall etc. (Men Students only are eligible for admission)

For Prospectus and particulars apply to the Dean (Professor WILLIAM WRIGHT, M B B S F R C S), who will be pleased to make arrangements for anyone wishing to see the Medical College and Dental School.

Mile End E 1

SCHOOLS for BOYS and GIRLS, TUTORS for ARMY and ALL EXAMS.

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Seamen's Hospital Society

LONDON SCHOOL of TROPICAL MEDICINE

Endsleigh Gardens, N W 1.

Sessions will commence 2nd April and 2 September 1924

For Prospectus and further particulars apply The Secretary London School of Tropical Medicine Endsleigh Gardens N W or to the Head Office Seamen's Hospital, Greenwich, London S E.

EDINBURGH POST-GRADUATE COURSES in MEDICINE

IN CONNECTION WITH THE

UNIVERSITY AND ROYAL COLLEGES.

The following POST GRADUATE COURSES will be held during the Summer of 1924 —

A.—A COURSE IN OBSTETRICS AND GYNÆCOLOGY from 14th July to 9th August Fee £10 10s
B.—A COURSE IN DISEASES OF CHILDREN from 14th to 26th July Fee £6 6s
C.—A GENERAL MEDICAL COURSE from 11th August to 6th September Fee £10 10s. or £6 6s for first or second fortnight
D.—A GENERAL SURGICAL COURSE from 11th August to 6th September Fee £10 10s or £6 6s. for first or second fortnight

A series of SPECIAL LECTURES open to all Graduates will be delivered during the period of the General Courses (C and D) Three Lectures on subjects of general Medical and Surgical interest will be given each week

In addition to the above the following SPECIAL COURSES have been arranged —

During the SUMMER TERM (MAY—JULY)—CLINICAL THERAPEUTICS TUBERCULOSIS SURGICAL PATHOLOGY DIAGNOSIS and TREATMENT of RENAL DISEASE INSULIN THERAPY RADIOLOGY and OPHTHALMOSCOPY during the SUMMER TERM (MAY—JULY) and AUTUMN TERM (OCTOBER—DECEMBER)—DISEASES OF EAR NOSE AND THROAT and VENEREAL DISEASES and during the period of the GENERAL COURSES (AUGUST—SEPTEMBER)—EXAMINATION of the BLOOD VACCINE THERAPY and PHYSIOLOGICAL and BIOCHEMICAL METHODS IN CLINICAL MEDICINE

Further particulars as to the Courses may be had on application to the HON SECRETARY POST-GRADUATE COURSES IN MEDICINE UNIVERSITY NEW BUILDINGS EDINBURGH Early entry is advisable as some of the Courses are limited

UNIVERSITY EXAMINATION POSTAL INSTITUTION.

17 RED LION SQUARE, LONDON, W C 1

Telephone CENTRAL 6313

Principal Mr E. S WEYMOUTH M A. (Lond.)
POSTAL OR ORAL PREPARATION FOR ALL MEDICAL EXAMINATIONS
(Forty years experience in Postal Tuition)
SOME SUCCESSES

M.D.(Lond.), 1901 23 (8 Gold Medalists during 1913-23) **271**
M.S (Lond) , 1902 23 (including 3 Gold Medalists) **18**
M B ,B S (Lond) *Final* 1906-23 (Completed Exam.) **154**
Primary F R.C.S (Eng.), 1906 23 **112**
Final F R C S.(Eng) , 1906-23 **79**
M.R.C.P.(Lond.), 1914 21 **75**
D.P.H. (Various) 1906-23 (Completed Exam) **216**
F R C S (Edin), 1918 23 **21**
M R C S,L R C.P *Final* 1910 24 (Completed Exam.) **214**
M D (Dur.)(Practitioners) 1906-23 **32**
M D. Various By Thesis Numerous successes.
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F.R.C.S (FINAL) COURSE.

For further particulars apply to Mr H J Simson Dean West London Hospital Hammersmith W 6.

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19, WELBECK STREET, LONDON, W 1
Telephone LANGHAM 1166

PROVIDES HIGHLY SUCCESSFUL ORAL AND POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS

Special Preparations for all Surgical Qualifications

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And all other Surgical Degrees and Diplomas

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- Both at the Primary and Final F R C S England the majority of our Students are successful at the first attempt, and Candidates who have failed at these Exams on several previous occasions get through without difficulty after going through our courses.
- The Surgical Tutors of the College all hold either the M.S Lond or F R C S England or both and are highly experienced teachers
- The Postal Courses are thoroughly clear concise and up-to-date and the test questions are carefully selected from those set at previous Examinations so as to embrace all parts of the subject. By working systematically through the Course the Student is brought up to the examination standard in the minimum time and much unnecessary reading is saved

VALUABLE BOOK

How to Pass the F.R.C S" free on application to the Secretary

DIPLOMA IN
PSYCHOLOGICAL MEDICINE.
Diploma in OPHTHALMOLOGY

Short Intensive Postal Revision Courses in Preparation for the above Diplomas —Apply to the SECRETARY Medical Correspondence College 19 Welbeck Street London W 1

NORTH EAST LONDON POST GRADUATE COLLEGE,
PRINCE OF WALES'S GENERAL HOSPITAL N 15

The Practice of the Hospital is limited to Medical Practitioners Particulars and Prospectus from J BRIGHT BANISTER M D Dean

F R C S (Edin)

A TUTORIAL CLASS for the next Examination commences shortly
Particulars from CHAS. R WHITTAKER, F R C S Anatomical Department Surgeons Hall, Edinburgh

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THE ROYAL INSTITUTE of PUBLIC HEALTH

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Assistant Director of Chemical Laboratories; ALAN WEST STEWART D Sc A.I C Public Analyst for Windsor Boston &c
Lecturer on Bacteriology; ARTHUR COMPTON M B., D Sc late of the Institut Pasteur Paris
Lecturers on Public Health &c ; ALBERT E. THOMAS M A. M D Oxon D P H Oxon Barrister-at-Law Medical Officer of Health for the Borough of Finsbury; GEOFFREY E OATES M D Lond D P H Camb M R C P Barrister at Law Medical Officer of Health for the Borough of Bethnal Green

The Course of Instruction can be commenced at any time
The Principal will be pleased to interview intending candidates for the purpose of advice
Further particulars can be obtained from the Secretary 37 Russell Square W C 1
Telephone: MUSEUM 166

DOMESTIC SCIENCE
FOR ELDER GIRLS
ON THE SOUTH COAST

Large beautifully appointed [illegible] pleasure grounds and [illegible] sea Girls from 16 years [illegible] training in Domestic [illegible] studies in Fine Art Music Violin Singing Elocution Drawing Painting and Dancing —Full particulars on application to Dept c/o J & J PATON 113, Cannon Street, London E C 4.

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BEHNKE METHOD Estab 1862 Cases non resident treated at 39 Earl's Court Square S W and in residence in the Summer holidays at Miss BEHNKE's house on the Chilterns

Pre-eminent success in the education and treatment of stammering and other speech defects. —*The Times*
Thoroughly physiological principles —*The Lancet*
"The method is scientifically correct and perfectly effective —*Guy's Hospital Gazette*

STAMMERING, CLEFT PALATE SPEECH LISPING 39 Miss BEHNKE, 39 Earl's Court Sq S W 5

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COUNTRY OPEN AIR WARDS 200 BEDS

GIRL STUDENTS WANTED to learn Orthopædic Work and prepare for the Conjoint Examination of the C S M L G Three years training Salary first year £16 second year £20 all found, uniform —Apply Miss HUNT R R C

Preliminary Examinations

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March June September and December For Regulations apply to the Secretary College of Preceptors Bloomsbury Square London W C 1.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION

1, Wimpole Street, London, W. 1.

Telephone No MAYFAIR 2236

(By kind permission of the Royal Society of Medicine)

Post-Graduate Courses in the Associated General and Special Hospitals are arranged for May in the following subjects Diseases of Children, Laryngology, etc, Opthalmology, Proctology Psychological Medicine Venereal Diseases, and a fortnight's Intensive Course

Further particulars of these Courses, with the Bulletin giving information of the clinical opportunities at the London Hospitals, may be had from the Secretary

HERBERT J PATERSON, M C., ARTHUR J WHITING, M D, Hon Secretaries.

UNIVERSITY of LONDON, UNIVERSITY COLLEGE
DIPLOMA IN PUBLIC HEALTH.

Professors—HENRY R KENWOOD, C.M.G, M.B, D P H F R S E.
Lecturer (Diseases Common to Man and the Lower Animals)—A. G R FOULERTON F R C S D P H
Lecturer (Epidemiology and Vital Statistics)—M GREENWOOD M.R C P, M R C S
Lecturer (Industrial Hygiene) —T M. LEGGE, C B E, M B, D P H
Lecturer (Bacteriology) —F H. TEALE, M.D, B Sc. F R C P
Assistant Lecturer and Demonstrator (Bacteriology) —D EMBLETON M A., M.B, L R C P
Assistant—M. E DELAFIELD M.B, L R C P, D P H
Demonstrator—F T MARCHANT, M R San I.

Courses have been arranged to meet the requirements of candidates under the New Regulations Parts I and II

The Next Course under the New Regulations will begi on **Tuesday, April 29th**

COMPOSITION FEE (excluding, the fees for the Fever Hospital Courses and for the work with the Medical Officer of Health) for the Courses required for Parts I and II 34 Guineas

Particulars may be had on application to—WALTER W SETON Secretary, University College London (Gower Street), W C 1

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC,
Queen Square, W.C 1

MEDICAL SCHOOL

A POST GRADUATE COURSE on DISEASES OF THE NERVOUS SYSTEM will be held at the above Hospital from May 3rd to June 27th, 1924

The General Course will consist of CLINICAL LECTURES and DEMONSTRATIONS TEACHING in the OUT PATIENT DEPARTMENT and PATHOLOGICAL LECTURES and DEMONSTRATIONS

The fees for this Course will be £5 5s

A COURSE OF LECTURES on the ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM will be arranged if there are sufficient applicants

Fee £2 2s

A COURSE OF CLINICAL DEMONSTRATIONS chiefly on METHODS OF EXAMINATION OF THE NERVOUS SYSTEM will be given

Fee £2 2s.

A limited number of students can be enrolled as WARD CLERKS or as CLINICAL ASSISTANTS in the Out patient Department

Applications should be addressed to the Secretary Medical School National Hospital for the Paralysed and Epileptic Queen Square London W C 1

J G GREENFIELD Dean

Tickets entitling to attend the Out patient Clinics only (£2 2s for three months) may be obtained from the Secretary

University of Durham
COLLEGE OF MEDICINE, Newcastle-upon Tyne

The SUMMER SESSION will be commenced on Tuesday April 15th 1924

Degrees in Medicine Surgery and Hygiene Diplomas in Public Health and Psychiatry and Licence in Dental Surgery —Six Degrees two Diplomas and one Licence are conferred by the University of Durham—viz the Degrees of Bachelor of Medicine and Bachelor of Surgery Master of Surgery Doctor of Medicine Bachelor of Hygiene Doctor of Hygiene Diploma in Public Health Diploma in Psychiatry and Licence in Dental Surgery

The degrees &c are open to both men and women

Particulars with regard to Examinations &c and all other matters connected with the College may be obtained from Professor HOWDEN Registrar College of Medicine Newcastle upon Tyne

In consequence of the lease of ASHDOWN HOUSE, Hampstead having expired Miss BULLOCK has moved her School for SPEECH and LIP READING for DEAF Children and for the cure of SPEECH DEFECTS in HEARING Children to the larger detached residence standing in its own grounds known as KINGSFIELD HOUSE Oxhey Watford

Royal College of Surgeons of ENGLAND

ELECTION TO THE COURT OF EXAMINERS

Notice is hereby given that the Council, on the 8th May next, will proceed to the election from the Fellows of the College of a Member of the Court of Examiners in the vacancy occasioned by the expiration of the period of office of Sir CUTHBERT S WALLACE, who is eligible for re-election

Fellows of the College desirous of becoming Candidates for the office must make application in writing to the Secretary on or before Wednesday, April 30th.

S FORREST COWELL,
12th April 1924 Secretary

The Royal Society

FOULERTON RESEARCH PROFESSORSHIPS

Subject to candidates of sufficient distinction presenting themselves the President and Council of the Royal Society of London propose to appoint a second Foulerton Research Professor

The duties of the holder will be to conduct such original researches in Medicine or the contributory sciences on lines approved by the President and Council as shall be calculated to promote the discovery of the causes of disease and the relief of human suffering

The Professorship will be tenable in the first instance for five years but may be extended for further periods of five years Members of either sex are equally eligible

Applications must be received not later than September 30th, 1924 Copies of the regulations governing these Professorships can be obtained from the Assistant Secretary of the Royal Society, Burlington House London W 1

April 1924

University of Belgrade, Serbia

FACULTY OF MEDICINE

CHAIR OF HYGIENE
CHAIR OF ROENTGENOLOGY
(Diagnostic and Therapeutic Use of X Rays)

Candidates desirous of competing for either of the above appointments are requested to forward their applications to the Dean of the Faculty by May 15th They must enclose copies of their scientific papers state their qualifications and experience mentioning the languages in which they are proficient, and specify the office (ordinary professor extraordinary professor docent) they desire to hold

The Rector of the University

Belgrade March 15th 1924

General Nursing Council for ENGLAND AND WALES

The General Nursing Council for England and Wales wish it to be understood that applications for EXAMINERSHIPS whether from Medical Practitioners or Nurses will still be received and considered

It is intended to keep the lists open and to appoint from time to time as required from the candidates on the lists.

For particulars and application forms apply to the Registrar General Nursing Council for England and Wales 12 York Gate Regent's Park N W 1

Liverpool School of Tropical MEDICINE

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th —Prospectus from the Hon DEAN School of Tropical Medicine University of Liverpool

Bradford Royal Infirmary

HOUSE SURGEON (Male) wanted for 1st June 1924 Candidates must be single and legally qualified Salary £150 per annum with board residence and washing There are 210 Beds and six Resident Officers

Applications stating age qualifications and previous experience (if any) with copies of recent testimonials to be received by the undersigned not later than Tuesday 2nd April 1924

J J BARRON Secretary Superintendent.

Government of the Union of SOUTH AFRICA.

VACANCIES FOR ASSISTANT PHYSICIANS IN THE UNION MENTAL HOSPITAL SERVICE

SALARY —£460 per annum, plus free board, lodging, fuel light and washing plus such local allowance (if any) as may from time to time be prescribed

ENGAGEMENT —In the first instance for two years on written contract with prospect of extension or appointment to pensionable establishment of the Public Service and subsequent promotion therein

QUALIFICATIONS —Applicants must be British subjects about 30 years of age Preference given to candidates with previous experience in mental work and possessing diploma in psychological medicine Married women not eligible

TRANSPORTATION —Free 1st-class rail and steamer fares from residence in United Kingdom to destination in South Africa, plus half salary on voyage No payments made in respect of travelling expenses of wives and families

GENERAL.—Successful candidates will be required to produce Birth and Health Certificates (the latter on forms obtainable from the High Commissioner)

Applications and copies of testimonials all in duplicate must reach the Secretary Office of the High Commissioner for the Union of South Africa, Trafalgar Square, London, W C 2 (from whom form of application may be obtained) not later than 1st May April 1924

West London Hospital, Hammersmith Road W 6

Applications are invited for the post of HONORARY MEDICAL REGISTRAR for a period of one year eligible for re election annually The holder of the post must hold no appointment at a general teaching hospital during his term of office The duties include the preparation of the Medical Registrar's report for the year and the supervision of the records of cases

The candidate appointed must be available as substitute for the Physicians and Assistant Physicians when required and be prepared to undertake such teaching for the Post Graduate College as may be desired

Candidates are required to be registered under the Medical Act to send applications so as to reach me not later than Wednesday 23rd April next to attend the Medical Council Meeting on Friday, 25th April at 4 3 p m and prior to that date to call upon and send copies of application and testimonials to each member thereof to abstain from canvassing but nevertheless to send copies of application and testimonials to each member of the Board of Management at whose meeting on Tuesday 29th April at 5 p m candidates must be in attendance

H A. MADGE Secretary

County Borough of Croydon

DENTAL SURGEON

Applications are invited from male Licentiates in Dental Surgery for the post of whole time Dental Surgeon Salary £600 rising by £25 per annum to £700

The person appointed will be in charge of the dental arrangements under the supervision and control of the School Medical Officer The duties will consist chiefly in the inspection re inspection, and treatment of children attending the elementary schools of the Borough but will also include dental work under the Council's Maternity and Child Welfare and Tuberculosis schemes The person appointed will also be expected to give instruction in Dental Hygiene as and where required

Previous experience in the dental treatment of children is essential

Application on a form to be obtained from the undersigned accompanied by copies of not more than three recent testimonials must be received by me not later than Monday the 28th April 1924, endorsed "Application Dental Surgeon"

Town Hall JOHN M NEWNHAM
Croydon 8th April 1924 Town Clerk

Royal Chest Hospital, City Road E C 1

(Royal Northern Group of Hospitals)

CLINICAL ASSISTANTS required in the Out patients Department on Thursdays at 2 p m

Apply to the Secretary, Royal Northern Hospital, Holloway Road N 7

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

CONTRACT PRACTICE.

ENGLAND

Town or District
MIDDLESBOROUGH (*Medical Aid Associations or Workmen's Clubs.*)
SOUTH BANK & ESTON (*Medical Aid Associations or Workmen's Clubs*)

WALES

Town or District
ABERTRIDWR, GLAMORGAN *Windsor Colliery (Medical Scheme.)*
EBBW VALE MON (*Workmen's Medical Society*)
GILFACH GOCH GLAMORGAN (*Workmen's Medical Scheme*)
LLWYNYPIA CLYDACH VALE, PENYGRAIG GLAMORGAN (*Workmen's Medical Scheme*)
MARDY GLAMORGAN (*Workmen's Medical Scheme*)
OAKDALE MON (*Medical Officer for Medical Aid Association*)
OGMORE VALLEY, GLAMORGAN (*Llynfhans Colliery Medical Aid Society*) (*Workmen's Medical Scheme.*)
TONDU & ABERKENFIG GLAMORGAN (*Workmen's Medical Scheme.*)

PUBLIC HEALTH.

Town or District
BARNSLEY: COUNTY BOROUGH (*Assistant Medical Officer of Health and Assistant School Medical Officer*)
EAST SUFFOLK ADMINISTRATIVE COUNTY (*Assistant Tuberculosis Officer*)
LEEDS: EDUCATION COMMITTEE. (*Assistant School Medical Officer*)
LINCOLN: CITY AND COUNTY BOROUGH (*Medical Officer of Health.*)
MORAY: EDUCATION AUTHORITY (*Assistant School Medical Officer*)
NOTTINGHAMSHIRE (*County Medical Officer of Health*)
OLDHAM: EDUCATION COMMITTEE (*Assistant Schools Medical Officer*)
SELKIRKSHIRE (*Medical Officer of Health.*)
SOUTHWARK METROPOLITAN BOROUGH (*Tuberculosis Officer*)
STOKE-ON-TRENT: EDUCATION COMMITTEE (*Assistant School Medical Officer*)

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou, St Vincent and St. Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District.	Hon Sec of Division or Branch	Town or District.	Hon Sec. of Division or Branch	Town or District.	Hon. Sec of Division or Branch
NEW SOUTH WALES. (*All Friendly Society Appointments.*)	Dr R H TODD (Hon Sec. New South Wales Branch) B M A Building 30-34 Elizabeth Street Sydney N S W	QUEENSLAND (*Brisbane Associated Friendly Societies' Institute.*)	Dr R MARSHALL ALLAN (Hon Sec Queensland Branch) Adelaide Street Brisbane	VICTORIA (*All Institutes or Medical Dispensaries.*)	Dr FRANK DAVIES (Hon. Sec. Victorian Branch) Medical Society Hall E Melbourne Victoria.
				WESTERN AUSTRALIA. (*Contract and Lodge Practices.*)	Hon Sec. Western Australian Branch No 6 Bank of New South Wales Chambers, St. George's Terrace Perth

Address 429 Strand, W C 2.
April 9th 1924

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

County Mental Hospital,
Rainhill.

ASSISTANT MEDICAL OFFICER. Age not to exceed 35 years Salary £300 per annum Emoluments £150 plus Civil Service War Bonus (at present £140 17s 1d) Total value of appointment, £590 17s. 1d.) subject to a 3 per cent deduction under the Superannuation Act.

The emoluments comprise partly furnished house light, coal and laundry valued for superannuation purposes at £100 per annum, and the balance of £50 will be paid in cash. Facilities for Laboratory and Research work.

Applications with testimonials and full particulars to be sent to the Medical Superintendent as soon as possible

Colonial Service

GOVERNMENT MEDICAL OFFICER required for service in the BRITISH GUIANA DIAMOND FIELDS Salary £500 with station allowance £200 private practice computed at £350 and free transport and quarters. Appointment for 3 years renewable and with option of being made pensionable from beginning if service satisfactory £40 each way provided for passage. Candidate should be bachelor aged between 25 and 33.

Further information may be obtained from the Assistant Private Secretary (Appointments) Colonial Office Downing Street

Metropolitan Hospital,
Kingsland Road E. 8.

There are vacancies for the following:—
(a) A SENIOR HOUSE PHYSICIAN
(b) A SENIOR HOUSE SURGEON,
(c) A JUNIOR HOUSE PHYSICIAN
(d) A JUNIOR HOUSE SURGEON
(e) Two CASUALTY OFFICERS
(Male) Salary £100 per annum

Appointments in the first place, will be for a period of six months dating from 1st May 1924

Candidates must possess a registered Medical and Surgical qualification of the United Kingdom.

Applications, and copies of three recent testimonials together with a certificate of ability to administer Anæsthetics from a teacher of a recognized Medical School to be in the hands of the undersigned not later than Wednesday the 23rd April 1924

Two members of the Resident Staff are candidates for the two Senior Appointments

HERBERT F RUTHERFORD
Secretary & House Governor

Shropshire Orthopædic
HOSPITAL, Oswestry

Wanted a WARD SISTER, fully trained £60 per annum rising by £5 per annum or £60 for 2 years and free training in C S M M G after 2nd year —Apply to MATRON

Cumberland Infirmary,
Carlisle.

OFFICE OF HONORARY ASSISTANT SURGEON

Applications are invited for the above vacant office Particulars respecting the qualifications of Candidates and the duties of the Office can be obtained from the undersigned by whom applications accompanied by copies of three testimonials must be received by Monday 28th April 1924

The appointment will be made 10th May

Personal canvassing on the part of any Candidate will constitute disqualification.

By order
J G HOWITT Secretary

Carlisle. 2nd April 1924

Willesden General Hospital,
Harlesden Road N W 10 (75 Beds)

Wanted HOUSE SURGEON to take up duties 1st May Male unmarried. Salary at the rate of £100 per annum with board residence and laundry in addition. The appointment is for six months Every candidate must be registered under the Medical Acts

Applications, stating age and other particulars with copies of testimonials (not more than three) are to be sent to the Secretary not later than Wednesday 16th April

Wanted, an outdoor qualified ASSISTANT, married preferred, in a Panel and Colliery Practice (South) Wales) Usual bond —Address giving age references and all essential particulars No 1815 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted in Colliery District, strictly reliable ASSISTANT good anæsthetist motor cyclist preferred Indoors all found £400 per annum — Apply Messrs KIRKBY & THOMAS, Physicians and Surgeons, Maesteg

Wanted Assistantship, with view to Partnership in large town Cash available, also car Good experience hospital and private —Address details in confidence to No 1822 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted, a qualified indoor ASSISTANT, in a Glamorganshire Colliery district Usual bond Would suit a recently qualified man Salary £300 per annum —Address giving age and references No 1814 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2.

Wanted — Part-time Work in London, by M B (Camb), M R C S Experienced in General Practice 3 years Hospital *appointments. — Addr ss, No* 1719 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2

Wanted by lady (28), SECRETARIAL WORK, mornings, good typist, fair knowledge shorthand, good at figures, particularly statistical Professional man or woman preferred, temporary or permanent London.—No 1831, B M J Office 429 Strand W C

Assistantship wanted by M B Ch B at present assisting a Doctor in Birmingham to whom reference can be made Two years qualified, experienced panel and private practice Single aged 26 years, abstainer Good testimonials Free 1st May —Add No 1802 B M J

Assistantship required by M.B Ch.B (Edin) woman aged 24 post grad exper ence in midwifery experience in panel and private practice good knowledge dispensing Good testimonials —Address, No 1812 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Advertiser would like to communicate with young Graduate who has finally decided to take up Country Practice (with *small town)* Excep tional opportunity of permanency to right man North of England —Add, No 1803 BRIT MED JOUR Office Strand W C 2

Indoor Assistant required in South Wales Colliery District Newly qualified man entertained. Usual bond Salary £300 per annum —*Address* giving full *particulars age* experience &c, No 1740 BRITISH MEDICAL JOURNAL Office 429, Strand W C 2

M B (woman), requires ASSISTANTSHIP in May or June Young energetic cyclist Experience in large panel and *private practice Very moderate salary Will those* who replied to this advt No 1615 in the issue of March 9 h, kindly do so again as the replies were mislaid—Address No 1832, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Medical Officer with British Degree required immediately for Group of Rubber Estates in North Borneo Salary £750 rising by £25 annually to £800 per annum. Passage out and home paid Plainly furnished quarters Three years agreement —Apply to the Secretary, BRITISH NORTH BORNEO (CHARTERED) COMPANY) 3 Threadneedle Street London E C 2

Part-time Assistantship required in London by M B Ch B (Hons) in return for hospitality during May June and July while doing Post graduate Course Experienced motorist —JAMES Nevill Road, Bishopston, Bristol

Part or whole-time Assistant wanted in London Practice in pleasant locality half an hour from Charing Cross Ample *time for reading and hospital work* Non-dispensing Possible interest offered later State age terms and full particulars to No 1833 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Reliable Doctor wants ASSISTANTSHIP or LOCUM work Active *abstainer young cyclist Good accoucheur and* anæsthetist Excellent recent testimonials and references Terms moderate —Address No 1817 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Sanatorium.—Wanted post as MEDICAL OFFICER by M B 29 Experienced *in General Practice, 3 years Hospital appointment* Good anæsthetist Permanency preferred but Locum entertained — Address, No 1811 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Woman M B., Ch B, aged 25, desires ASSISTANTSHIP or LOCUM. Experienced *general practice dispensing hosp work* anæsthetics Good testimos. Cyclist can drive Car At present resid nt Lond. Interview there or elsewhere as arranged.—No 1810 B M J 429 Strand.

Woman, D P H., M D, etc, very capable and experienced desires *TEMPORARY WORK, immediately Would take* post as Locum or Assistant.—Address No. 1715 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C

Doctors requiring Lady DISPENSERS should write to Mr J E WALDEN Westminster College 112, St. George's *Road S W 1 (only address) No fees to Doctors* 25 years experience Daughters and other relatives of medical men always in training

Dispenser, lady (Hall) desires POST with Doctor Good experience in book keeping and dispensing Young and quick, good references —Address, No 1824 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Dispenser — Woman, experienced, Hall Certificate sole Dispenser at London Dispensary requires post with doctor or at hospital. Leeds district, London, or Home County —Address No 1820 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Dispensing and Pharmacy for Women For particulars of Training or for qualified Dispensers apply the Principals GORDON HALL SCHOOL OF PHARMACY FOR WOMEN 15 Gordon Square W C 1. Phone: Museum 3930

Lady with Coupé Car, could drive Doctor take *Patients out daily, or act* as Companion. Town or Country Easy terms — Apply E S SYMONDS "Henwick, Ray Park Avenue Maidenhead

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43, BEDFORD STREET, STRAND, W C.2.
Telegraphic Address:
Positions Westrand, London."
Telephone: Regent 229

Wanted by M B. B Ch. (woman) LOCUM or ASSISTANTSHIP Experienced in private and panel practice Disengaged at Easter Nominal salary —Address No 1813 BRITISH MEDICAL JOURNAL Office 429, Strand W C 2

Medical Man —Experienced and reliable desires LOCUM TENENCIES Good references and testimonials Terms from £5 5s per week, and single rail fare as from *London —Address No* 1825 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

M.B, Ch B (woman), 3 years' experience desires LOCUM or ASSISTANTSHIP London —Address No 1834 BRITISH MEDICAL JOURNAL Office 429 Strand, W C

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Locum Tenency desired by an experienced Doctor in Panel and Private who has had his own practice 6 Gns per week London preferred, not essential Well received by patients Good references recent Locums —Dr ROBIN ON Pinged Hill Kidwelly South Wales

Locum Tenens for Easter (or after) Also Assistants Partners *Nurses,* Only first-class reliable men and women sent Practices and Institutions sold Patients placed WESTERN TRIPLE AGENCY (Principal: Dr BAZETT), Woodfield Rd Torquay (P 906; T Triple Torquay)

Wanted —Private Practice, in or near London, yielding £1 500 a year or more; or unopposed Country Practice of same value Good house —Apply PEACOCK & HADLEY, 19, Craven Street, Strand, W C 2 (No charge unless sale effected)

Wanted —Practice or PARTNERSHIP London or within 30 miles. £1 000 to £1 500 a year Panel immaterial but preferred Ample capital available — Apply, No 3423 c/o PERCIVAL TURNER 4 Adam *Street Strand W C 2*

Wanted — Practice (or PARTNERSHIP) with at least 1 0 0 on panel Purchaser can pay £1,000 cash down and the remainder by agreed instalments —Address No 1837 BRITISH MEDICAL JOURNAL Office 429, *Strand W C 2*

Wanted —Good Practice of about £1 000 p.a. with a good panel in non hilly district in South of Scotland or North of England Not scattered Opposition not strong Country town near city would suit —Address No 1703 BRIT MED JOUR. Office 429 Strand W C 2

Wanted — Practice in London or within easy access Cash and Panel Income from £500 upwards House to rent No charge unless sale effected —Dr T c/o W H GRANT 50 Wigmore Street W 1

Wanted — Practice or PARTNERSHIP in Home Counties £1 000 to £1 500 a year House 4 to 5 bedrooms Purchaser has capital available and can negotiate at once —Apply No 4132 c/o PERCIVAL TURNER 4 Adam Street Strand W C 2

Wanted, a Practice yielding £500 to £1 000 or more a year in Cheltenham or within 10 miles of that town Replies should give detailed information with regard to the house. Panel not objected to A good price will be paid —Address No 1807 BRITISH MEDICAL *JOURNAL* Office, 429, Strand W C 2

Wanted —Country Practice or PARTNERSHIP, North of England, £1 200 to £1 500 a year Cumberland or Westmorland preferred but not essential Purchaser can negotiate at once —Apply No 4381 c/o PERCIVAL TURNER, 4 Adam Street Strand W C 2

Wanted —General Practice, including good panel in London or any large town Receipts from £1,000 to £3 000 a year Good house —Apply PEACOCK & HADLEY 19 Craven Street, Strand W C 2 (No charge unless sale effected)

Wanted —Non-panel, non- dispensing PRACTICE or PARTNERSHIP, *residential district, between 10 20 miles from* London, returning £1,500-£3 000 Small panel not objected to —Address, No 1835 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted a good-class general PRACTICE in a Country or County Town in England with fair size house to rent Principals or their solicitors only No agents —Address No 1836 BRITISH MEDICAL JOURNAL Office, 429, Strand W C 2

Wanted by M B., age 37, a middle and working-class PRACTICE of £1 500 or more with good panel in London or the South or Midlands Now free and can pay cash — Apply BLENDELL & Co., —, Craven Street Strand W C 2

Wanted—Small Practice or NUCLEUS with panel in North London or neighbourhood with good house to rent.—Address No 1628 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted by M B, Ch B, D P H Edinburgh a good-class PRACTICE or PARTNERSHIP within easy reach of London; *experienced Physician and Bacteriologist* Good house with garden essen Advertiser is free to buy immediately—Address No 1609 B M J Strand, W C

Country Town Practice in Eastern Counties Average £838 Panel and appointments Nice roomy house with garden. Rent £60 Hospital appointment in six months Price 1½ years purchase—Apply HERBERT NEEDES 71 Bedford street Strand W C 2

Death Vacancy—London, N W Residential Suburb About £2 000 a year Held by late incumbent over 5 years. Non-panel Visiting fee 5 5 upwards Corner house 3 reception, 4 bed bathroom etc Garage.—Apply No 7527 c o Mr PERCIVAL TURNER, 4 Adam st. Strand W C 2

For Sale—Industrial Practice, Lancashire. Panel colliery work appointments and general practice. Receipts average over £2,000 *Price asked, £4 000* including book debts. Terms arranged genuine purchaser Principals only —Address, No 1727 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

For Disposal—A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised—Full information free on application to 4 Adam St. W C 2.

East London—Cash and Panel PRACTICE. Total receipts (including Branch Surgery) £2,700 Panel 3 000 Eight *roomed residence Branch Surgery* (lock up) doing £1 000 a year Panel 1 000 Sold separately if desired Premiums 1½ years purchase—Apply PEACOCK & HADLEY 19 Craven St Strand W C 2

Lancashire—Large City—Old-established Private and Panel PRACTICE Receipts over £2,100 Panel over 1 900 Expenses small Freehold house excellent position Premium payable part own and remainder by instalments LEE & MARTIN Ltd 71, Temple Row Birmingham

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North Wales Coast Town—NUCLEUS Receipts £6 per week Small panel Ample scope Population largely increased in summer House available in June Practice carried on at present Low premium for quick sale—LEE & MARTIN Ltd. 71, Temple Row Birmingham

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Lancs—Old-established PRACTICE in pretty district, owner retiring Nice house excellent garden tennis lawn garage. Receipts nearly £1,200 Panel 800; appointments £280; very compact and easily worked. Price £4,000 House and Practice. Large mortgage on property arranged—MANCHESTER MEDICAL AND SCHOLASTIC ASSOCIATION Ltd., 88 King Street

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Old-established good-class PRACTICE in a large residential town on the South Coast. Visiting fees 5/ to 10 6. Practice is capable of expansion as vendor has no panel and has not taken midwifery recently The large and well situated house would be sold with the Practice or apart The Practice could only be transferred to an experienced purchaser preferably 35 to 50 years of age—Address No. 1809 B.M.J Office, 429 Strand

Required at once, Practices and PARTNERSHIPS—Mr W S ATKINS (late of ARNOLD & SONS, London) has a large number of Clients who are seeking Practices and Partnerships and wish to settle down at once.—Send full particulars in confidence, to ATKINS Medical Transfer Agency 43 Bedford Street Strand W C

To Purchasers—Do not Buy without expert assistance With 40 years experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4 Adam Street Strand W C.—Telephone: Gerrard 399 Telegrams: Epsomian London."

X-Rays—A share in good-class X ray and Electrotherapy Practice in Residential Town for sale to gentleman with some years experience in Medicine and Surgery as well as in this special subject.—Address, No 1804, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted, Partnership (non-panel) about £1,000 p.a. in good class practice Health resort or hospital town by M.B. C M, Ac Oxon H S St Thomas's public schoolman married, age 33 capital Indian appt at present—Add No 1830 BRIT MED JOUR. Office 429 Strand

Wanted—Partnership or ASSISTANTCY with view with man or woman by Woman Doctor (young) Ex House Physician, Aural House Surgeon and Ophthalmic H S Experience in G.P panel and private Good Anæsthetist.—Add No. 1826 B.M.J 429 Strand

Wanted, Doctor as Partner in Rest Cure Home. Suitable furnished house ready Beautifully wooded grounds on Essex Hills.—Address No 1820 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Lancashire—Partnership worth £1,100 to £1,200 2 5 panel and 3/5 private, in industrial area with scope Good house available Purchaser should have necessary capital 1 remium 1½ years purchase—Address No 1617 BRITISH MEDICAL JOURNAL Office 4.9 Strand W C

Partner (Sleeping), required with £800—£800 capital to invest in a firm of West End Tailors well known to the professi n to develop colonial and foreign trade If desired would turn into a private limited company—Add No 1736 BRIT MED JOUR Office 429 Strand W C

Partnership wanted in large Provincial Town well received by Patients Englishman. Good cash price for sound proposition willing to travel for interview—Address details in confidence to No 1718 BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2.

Partner wanted shortly in old-established PRACTICE in large prosperous town on S E. Coast to replace partner wishing to retire Good fees No panel Previous experience and capital necessary Average receipts over £4 000—Address, No. 1819 B M J Office 429 Strand W C

Bournemouth—In local Harley Street CONSULTING ROOM and use of Waiting Room to Let. Dark room available. Suitable for radiologist or other specialist.—Address No 1805, *BRITISH MEDICAL JOURNAL* Office 429 Strand, W C.2.

For Sale—£1,375 buys free-hold SEMI DETACHED VILLA with good Practice to be picked up by Resident Medical Man in delightful growing suburb of fashionable town.—Address, No 1808 BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2

Golders Green—For Sale, vacant—Centre high-class residential district Imposing RESIDENCE main road at bargain price—Freehold or Leasehold. Ideal for Nursing Home and Practice Mortgage for greater portion. Price arranged. Exceptional opportunity—Apply HERBERT CHESTER, Burroughs Parade Hendon, or Phone Hendon 1430

Harley Street—Medical woman desires to SHARE her CONSULTING ROOM with another Rent £150 Name plate use of Waiting Room etc—Address No 1827 BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2

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Kent and Canterbury HOSPITAL, Canterbury

The X RAY APPARATUS which has been in use for some years but has now become insufficient for the Hospital's needs is FOR SALE The Apparatus might be of great utility to a small Hospital or to a Medical Practitioner The apparatus may be seen at the Hospital on application to the Secretary to whom offers should be addressed

Extremely comfortable WHEELED CHAIR by Ward, perfect condition, cost £30 accept £10 View by appointment—Box 1131, c/o SCOTTERS, 1 Belgrave Mansions, S.W 1

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To Medical lovers of Art—To be Sold at Christie's Auction Rooms on or about Easter Tuesday a grand TEMPERA PAINTING of St. Panthaleo the Patron Saint of Physicians by PINTORICCHIO which is an early Sienese portrait of Rafaelle with whom Pintoricchio painted the cupola of Siena Cathedral and also the decorations of the great Cardinal Piccolomini Library there The Owners have never offered the picture previously and a moderate price only will be accepted

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Queen Anne Street—Unique opportunity of acquiring at very moderate rent a fine RESIDENTIAL SERVICE SUITE, comprising with use of Consulting Room and plate on door Suitable for only—Address No 1702, BRITISH MEDICAL JOURNAL Office 429 Strand W C.

Piccadilly (within a few yards of) LEASE for Sale of Doctor's well arranged House with ground floor consulting room and certain living rooms available, other consulting room and garage well let The residence has many attractive features of the old Mayfair House and may be acquired a bargain. *Lease 12 years*: Rent only £140 per annum —Apply Owner's Agents WINKWORTH & Co, 48, Curzon Street Mayfair W

Park Crescent, Portland Place.—To Let, TWO ROOMS at present furnished and equipped as Consulting Room and Clinical Laboratory Use of Waiting Room Rent £230 p.a. Occupier, retiring through ill health open to negotiate for furniture and equipment if also desired —Address, No 1818 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2.

Park Crescent, Portland Place facing Ornamental Gardens Spacious HOUSE to be Let on Lease for approved professional residence or for conversion into good maisonettes. —*Apply to Mr JOHN MURRAY, F S I., 11, Suffolk Street Pall Mall, S W 1*

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Notice is hereby given that STANFORD CADE of No 86 Harley Street in the County of London, F R C S, heretofore known as Salomon Kadinsky being a Naturalised British subject, has by Deed Poll dated the Twenty first day of March, 1924, which has been enrolled in the Central Office of the Supreme Court of Judicature renounced and abandoned his names of *Salomon Kadinsky* and has assumed and adopted the names of Stanford Cade and intends on all occasions hereafter and in all deeds actions, proceeding matters and things to use the names of Stanford Cade in lieu of his former names of Salomon Kadinsky

Dated this Second day of April 1924

TROLLOPE WINCKWORTH,
Solicitors for the said Stanford Cade formerly Salomon Kadinsky
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Manchester Education COMMITTEE.

ASSISTANT SCHOOL MEDICAL OFFICER (WOMAN)

Applications are invited from fully qualified medical women for the post of Assistant School Medical Officer Experience in refraction and children's diseases desirable Salary £600 per annum rising by yearly increments of £25 to a maximum of £750 There is no bonus Yearly travelling expenses of £ 0 are allowed. Application form may be obtained by sending a stamped addressed envelope to the undersigned and all applications must be received at these offices no later than Wednesday noon Practical reading and hospital work. Next Possible Interest offered later State age terms and full particulars to No 1833 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Reliable Doctor wants ASSISTANTSHIP or LOCUM work Active abstainer young cyclist Good accoucheur and anæsthetist Excellent recent testimonials and references Terms moderate —Address No 1817 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C

Bethlem Hospital, Lambeth Road, S E

Wanted, 2 RESIDENT HOUSE PHYSICIANS (gentlemen unmarried), recently qualified in Medicine and Surgery The term of residence is for six months *from 1st May, apartments, complete* board and laundry being provided, and an honorarium at the rate of £25 per quarter will be paid They will be under the direction of the Physician Superintendent, to whom they must present themselves *previous to the date of election.*

Copies of the duties can be obtained from the undersigned and applications, with testimonials, are to be forwarded to the Treasurer Bridewell and Bethlem Hospital New Bridge Street E C, before 28th April endorsed 'House Physician"

Candidates must attend at Bethlem Hospital on Wednesday 30th April at 11 30 a m when the *Sub Committee* will make the appointment.

Bridewell Hospital, New Bridge Street, E C 4. JOHN L. WORSFOLD Clerk, &c.
April 1924

City of Birmingham

The Public Health Committee invite applications for one of the posts of ASSISTANT MEDICAL OFFICER for public health duties Candidates *must* be qualified medical practitioners and possess a degree or diploma in Public Health or Science *Age not to exceed 35 years The candidate appointed* will be required to join the Birmingham Corporation Superannuation Scheme, and for this purpose to pass a medical examination The appointment will be terminable by one month's notice on either side Salary £750 per annum Applications endorsed 'Assistant Medical Officer of Health, and to be accompanied by copies of three recent testimonials to be made on a form to be obtained from the Medical Officer of Health, the Council House Birmingham, and returned to him on or *before* April 28th 1924 Canvassing will disqualify

City of Birmingham

The Public Health Committee invite applications for the post of WOMAN *MEDICAL OFFICER* for Maternity and Child Welfare work Applicants must have had experience in this work Age not to exceed 35 years Salary £600 per annum The candidate appointed will be required to join the *Birmingham Corporation Superannuation Scheme,* and for this purpose to pass a medical examination The appointment will be terminable by one month's notice on either side Applications, endorsed "*Woman Medical Officer and accompanied by* copies of three recent testimonials, to be made on a form to be obtained from the Medical Officer of Health the Council House Birmingham and returned to him on or before April 28th 1924 Canvassing will disqualify

Nottingham Children's HOSPITAL

Applications are invited for the post of RESIDENT HOUSE PHYSICIAN (woman)

Previous hospital experience essential The salary will be at the rate of £150 per annum, with *apartments* board and laundry The appointment will be for six months, and the duties will commence as from 7th May, 1924

Applications together with testimonials stating age, qualifications and experience to be sent to F PRAGNELL, The Honorary Secretary, 1 King John's Chambers Bridlesmith Gate, Nottingham, by 22nd April 1924.

Selected candidate will be required to attend at the Hospital for a personal interview on 29th April, when the appointment will be made

Manchester Royal Infirmary. Central Branch Roby Street, *Manchester*

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RESIDENT MEDICAL OFFICER £200 per annum with board, residence and allowance for washing

ASSISTANT *MEDICAL OFFICER, £100* per annum with board, residence, and allowance for washing

The Board of Management of the Mancheser Royal Infirmary invite applications for the above appointments The appointments are tenable for six months commencing 1st May 1924

Applicants must state age and send twelve copies of their application and testimonials to the undersigned by Saturday 19th April 1924

FRANK G HAZELL
7th April 1924 Gen Supt. & Secretary

Young Medical Practitioners wanted for the TERRITORIAL ARMY, R.A.M.C.—
LEEDS 4.
YORK 3
BRADFORD 2
DONCASTER 3
ROTHERHAM 1.
Particulars from ADMS 49th (W R) ASSISTA Harewood Barracks Leeds.
BRITISH MED.

The Staffordshire General INFIRMARY Stafford

Applications are invited for the post of HOUSE PHYSICIAN (Male) Salary at the rate of £150 per annum with board laundry &c.

The appointment to be held for at least six months from 1st May Candidates must be duly qualified and registered under the Medical Acts

The duties include work in the Outpatients' Department as well as in the Wards, and the administration of Anæsthetics

Applications stating age accompanied by copies of three recent testimonials, should reach me by Tuesday, the 15th inst

A E COLLINS Secretary
Stafford 7th April 1924

City of Bradford.

Applications are invited for the post of ASSISTANT SCHOOL MEDICAL OFFICER Salary £600 per annum

Candidates should possess the D P H have three years experience since qualification and have some knowledge and experience in Refraction work

Preference will be given to candidates with special experience in infectious diseases and in the diseases of children

Applications on forms to be obtained from the Medical Officer of Health Town Hall Bradford, *should be sent to me on or before April 22nd*

Bradford N L FLEMING
5th April 1924 Town Clerk

Hospital for Epilepsy & PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale London, W

TWO ASSISTANT PHYSICIANS REQUIRED

The Committee of Management are about to appoint Two Assistant Physicians. Candidates must be Fellows or Members of the Royal College of Physicians and Graduates of a University

Applications, giving age and full particulars must be accompanied by copies of three recent testimonials and must reach me by 19th April

An Honorarium is attached to each post

H W *BURLEIGH Secretary & Gen Supt*

City of London Hospital for DISEASES OF THE HEART AND LUNGS, Victoria Park E 9
('Bus, tram & rail Cambridge Heath, L. & N E Rly)

Applications for the post of HOUSE PHYSICIAN (Male) with copies of recent testimonials are invited to be sent to the undersigned by Monday, 12th May 1924

The appointment will be for six months from about the 25th May

Salary at the rate of £125 per annum with board, residence, and laundry provided

GEORGE WATTS Secretary

Kensington, Fulham, and CHELSEA HOSPITAL, Richmond Road, Earl's Court, S W 5

Applications are invited for the posts of SENIOR and JUNIOR RESIDENT MEDICAL OFFICERS

The appointments are for 12 months and 6 months respectively from July 1st 1924

Salaries £100 Senior and £75 Junior

Applications stating age, with copies of three recent testimonials should be forwarded to the undersigned on or before April 25th 1924

FREDERICK J JONES Secretary

East London Hospital for CHILDREN & DISPENSARY FOR WOMEN, Shadwell E 1

Applications are required for the post of AFTERNOON CASUALTY OFFICER (Male) non resident. Salary £120 per annum with tea The post is for six months, subject to re appointment by the Board Applicants must be duly qualified and registered and will be expected to attend the Meeting of the Selection Committee

Applications, with testimonials to be sent to the undersigned not later than Saturday, April 19th, 1924 W M WILCOX Secretary

East London Hospital for CHILDREN & DISPENSARY FOR WOMEN, Shadwell E 1

Applications are invited for the post of HOUSE PHYSICIAN (Male) The appointment is for six months from May 1st, 1924 Board residence and laundry are provided. Salary at the rate of £125 per annum

Applications with testimonials to be sent to the undersigned not later than Saturday, April 19th, 1924 W M WILCOX *Secretary*

The Royal Buckinghamshire HOSPITAL, Aylesbury desire to appoint an HONORARY RADIOLOGIST Applications should be addressed to the Secretary Royal Buckinghamshire Hospital Aylesbury

Birmingham Union.

DUDLEY ROAD HOSPITAL.

OBSTETRICAL & GYNÆCOLOGICAL RESIDENT

Applications are invited from fully qualified medical practitioners for the above appointment

Candidates must have had previous hospital experience of a similar nature and should possess senior qualifications

The present Hospital accommodation is approximately 750 beds, divided into Medical and Surgical Gynæcological and Obstetrical sections and there are completely equipped Pathological and Biochemical Laboratories X ray Electrical and Massage Departments

Salary £500 per annum together with full residential emoluments furnished apartments, rations laundry and attendance

The Gentleman appointed will be required to assist in the training and lecturing of Nurses, and should occasion arise to attend at any of the other Institutions under the control of the Guardians

Further particulars of the appointment may be obtained from the Chief Medical Officer F W ELLIS M D., F R.C.S at the Hospital.

Applications stating age experience and qualifications accompanied by copies of recent testimonials should be forwarded to me at once

Union Offices, Edmund Street Birmingham
JAMES COURTIS Clerk to the Guardians
7th April 1924

Northampton General Hospital.

HONORARY PHYSICIAN

The Board of Management invite applications for the post of Honorary Physician which will be vacant on the 6th May next

Candidates must be graduates of Medicine of one of the Universities of the United Kingdom, and Fellows or Members of the Royal College of Physicians of London Provided that the Board may subject to confirmation by a Quarterly or Special Court, appoint provisionally as Physician for twelve months and no longer a candidate otherwise qualified who is neither a Fellow nor a Member of the Royal College of Physicians of London on such candidate undertaking to become a Member of the Royal College of Physicians of London during the period of his provisional appointment

Full particulars of the appointment can be obtained from the Secretary Superintendent and applications with testimonials, must reach him not later than the 22nd April The election will take place on Tuesday, the 9th April

Canvassing is not allowed.

C S RISBEE
25th March 1924. Secretary-Superintendent.

West Ham Union

The Guardians invite applications for the following appointment at their WHIPPS CROSS HOSPITAL, Whipps Cross Road Leytonstone, E.11

FIFTH ASSISTANT MEDICAL OFFICER (RESIDENT) at the salary of £350 per annum rising by £25 annually to a maximum of £400 per annum with a bonus at present of £84 per annum and the usual residential allowances Candidates must possess qualifications both in medicine and surgery and preference will be given to those having previous hospital experience Intending applicants should communicate with or call on the Medical Superintendent, who will furnish information as to the duties The successful candidate will be required, should occasion arise to act in any other Institution under the control of the Board

Forms upon which application must be made, can be obtained at my Office or will be forwarded upon receipt of a stamped and addressed foolscap envelope and must be returned not later than 10 a.m. on Tuesday the 22nd April, 1924.

Canvassing the Guardians, either directly or indirectly is prohibited and will disqualify

By Order of the Board.
THOMAS SMITH Clerk
Board Room, Union Road, Leytonstone E 11
3rd April 1924.

The Infants Hospital,

Vincent Square Westminster

CLINICAL ASSISTANT required for the Department of Hello-Therapeutics (Mornings)

Applications to be addressed to the undersigned from whom further information may be obtained

ALFRED J SMALL, Secretary

Eastern Dispensary,

Leman Street, E.1

Applications are invited for the post of DENTAL SURGEON to this Institution The Committee of Management will meet on Wednesday April 16th to fill the appointment. Applications should be accompanied by copies of three recent testimonials, and should reach the undersigned by Monday April 14th.

GEORGE W ILSLEY Secretary
5th April 1924.

Ebbw Vale Education

COMMITTEE

The above Authority invites applications for an OPHTHALMIC SURGEON for refraction work at their Clinic A salary of £7 7s. 0d per session (inclusive) will be paid for 20 cases per session

Applications, stating qualifications etc must reach me not later than Monday the 21st day of April, 1924

Applications should be endorsed "Ophthalmic Surgeon

Dated this 2nd day of April, 1924

W A. JONES Secretary
District Council Office Ebbw Vale

East Sussex County Mental

HOSPITAL Hellingly

PATHOLOGIST

Wanted at the above Hospital a Pathologist Salary £500 a year with lunch and tea daily Appointment subject to the Asylums Officers Superannuation Act 1909 For full particulars apply to the Resident Physician and Medical Superintendent, to whom applications should be forwarded not later than Friday 18th April.

The Elizabeth Garrett

ANDERSON HOSPITAL, 144 Euston Road.

Wanted, fully qualified Medical Woman to act as ASSISTANT RADIOLOGIST

Attendances Monday Wednesday Thursday afternoons and Friday mornings. Honorarium at rate of £100 per annum Appointment for one year eligible for re-appointment

Applications, with testimonials to be sent to the Secretary not later than 26th April.

IMOGEN H MURPHY Secretary

Norfolk & Norwich Hospital,

Norwich

Required Male ASSISTANT RADIOGRAPHER (not medical man) Must have had experience in Radiography and X ray treatment

Apply with full particulars and stating salary required to the Secretary

Huddersfield Royal

Infirmary

RESIDENT HOUSE SURGEONS, 2nd and 3rd wanted this month Salary £200 board etc Candidates must be fully qualified and registered Applications stating age accompanied by copies of testimonials, to be sent to F G EVENDEN Secretary

West Herts Hospital,

Hemel Hempstead, Herts
(24 miles from Euston—162 Beds)

Wanted RESIDENT MEDICAL OFFICER (only one kept) to commence duties the beginning of May Preference given to male candidates Salary £200 with rooms board and laundry Particulars to be obtained of and applications stating essential particulars and enclosing copy of recent testimonials to be sent at once to ROBT. L BUTTERFIELD Clerk to the Hospital

IRISH MEDICAL AGENCY,

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Reliable Assistants and Locums supplied at short notice All Doctors employed T T s
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Particulars on application to Secretary

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(Mr A. HADLEY)
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LOCUM TENENS and ASSISTANTS supplied

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Partners:
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J R. LOWNDS (B.A.Cantab L.R.C.P.)
43, BEDFORD STREET, STRAND, W C.2,
(A few doors from "The Lancet" Office).
Telegrams: Positions, Westrand, London.
Telephone: Regent 229
LOCUM TENENS and ASSISTANTS supplied

FOR DISPOSAL:

LONDON S W —A middle-class PRACTICE situated in a growing suburb Receipts £600, ample scope, small panel. House containing 6 bedrooms, &c. Rent £60 p.a. Prem. £900 - Folio 650

DERBYSHIRE —A General PRACTICE situated in an industrial district. Receipts about £800, Panel 600 Good fees Nice house containing 8 bedrooms &c at rental Premium £1,000.—Folio 659.

YORKSHIRE —A General PRACTICE, situated in a country district. Receipts £2 500 Panel 1,500 Fees 5/ upwards Excellent house, &c. Rent £52 p.a. Premium £3,500 —Folio 645.

SUSSEX.—A General PRACTICE situated in a charming district Receipts £1,400 Fees 4/ to 21/- Cottage hospital and scope for surgery Excellent double-fronted house, containing 6 bedrooms &c Prem 1½ years purchase.—Folio 593.

LONDON W —A General PRACTICE situated in a good district. Receipts nearly £1,000 Panel 1 300 Fees 5/ upwards No midwifery, plenty of scope Nice house in central position containing 4 bedrooms, &c. Rent £110 per annum. Premium £1,800 —Folio 651.

LONDON, N W —General PRACTICE in thickly pop. district Receipts £350 p.a. plus panel of 3,000 Ample scope Nice house in central position Rent £52 p.a Premium for good will and lease £3,750 —Folio 656.

SUSSEX.—PARTNER required for Country Practice. Receipts £1,500 Scope for increase Share value £1,000 for 4 years at 2 years purchase with view to succession.—Folio 599

GLAM.—PARTNER required for General Practice in thickly pop district on Coast Receipts £1,700 Fees 3/- upwards Shipping 5/ to 21/ Panel 600 Considerable scope Convenient house, containing 4 bedrooms etc Rent £50 p.a Premium for half-share 2 years purchase or the whole Practice can be secured.

Purchasers stating their requirements can have details of other Practices not advertised

THE MEDICAL AGENCY,

WATERGATE HOUSE,
York Buildings, Adelphi, W C 2.
Managing Director: J A. REASIDH.
Telegrams: "TUBERCLE, LONDON" Telephone: GERRARD 8931.

The Agency undertakes the Transfer of Practices, Introduction of Partners, Investigations for Purchasers, Valuations Negotiation of Terms the Supply of Locum Tenens and Assistants, and Medical Accountancy

Telephone Langham 2728.
Telegrams: "Assistamo, London."

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TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL AND FEVER CASES.

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(In conjunction with the MALE NURSES' ASSOCIATION)
29, York Street, Baker Street, London, W 1
(Mrs.) MILLICENT HICKS Superintendent.
W J HICKS Secretary

ST. LUKE'S HOSPITAL.

ESTABLISHED 1751.

PRIVATE NURSING STAFF DEPARTMENT.

TRAINED NURSES for MENTAL and NERVOUS CASES can be had immediately Apply to LADY SUPERINTENDENT, 19, Nottingham Place, London, W 1. Telephone: Mayfair 5439

NORTHERN BRANCH —Apply LADY SUPERINTENDENT 57 Clarendon Rd., Leeds. 'Phone: Leeds 2616

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Printed Prospectus of Terms, etc., post free on application

Lancashire — About £1,350 a year Old-established Panel 1,300 Fees 3/6 up. Detached house 2 reception 6 bedrooms consulting, etc Scope for Surgery — Apply No 7528.

London, W — Practice £700 a year, increasing Visits 3/6 to 7/6 Small panel No midwifery scope Good house part let Net rent very low Suitable for a lady —Apply No 7525

East Coast — Favourite Resort. Small PRACTICE Panel about 150 Visiting fees 3/6 to 5/- Excellent corner house.—Apply, No 7524

Within 100 miles.—Country PRACTICE about £900 a year Old established No resident opposition Appointments about £65 Panel 530 Good house with 2 recept 4 bedrooms, bathroom Surgery, etc Garden and Garage. Rent £45 p.a., on lease. Premium £1,350 —Apply, No 7520

Home County —Partnership in very old established Practice share producing about £1 000 a year Good panel and appointments —Apply, No 7505

South Coast — Partnership Share about £800 a year Good fees Partner should be about 35, and a good all round man — Apply, No 7440

Midland City —About £1,400 to £1,500 p.a Cash and Panel Old established No midwifery Panel about 1 700 Quarter house good accommodation. Rent £35 — Apply No 7515.

West County —Partnership About £2 800 a year Very old established Panel 800 Good fees Quarter or one third share for disposal. Very moderate premium. Apply, No 7500

Riverside Suburb —Nucleus about £500 a year Small panel Fees 5/ to 7/6 Increasing district. Good house and garden to rent Apply No 7474

Open Air Sanatorium, £6,000 a year Old-established Splendid premises lease Every investigation Net profits over £1 500 Premium very moderate Personally known.—Apply No 7426

Scotland — Seaside Resort. About £3 800 a year Panel 850. Good fees Very few midwifery cases Cottage Hospital. Nice house and garden —Apply No 7494

Midlands —£800 a year, Industrial Town. Panel 850 easily worked no Car House with large garden, lawn and orchard Sell or Let Premium for practice £1,000 —Apply No 7483

Northern Town —About £1 200 a year Vendor retiring Appointments £ 80 Panel 800 Good house —Apply No 7449

Cheshire — £3,500 a year, PARTNER wanted Good Suburb of large Town with Hospital. Good fees Panel £1 000 a year Good house available Half share for sale — Apply No 7444

Wales Coast —Over £900 a year Good general PRACTICE Small panel Good house and large garden Residential Seaside Resort. Prem. £1000 —Apply No. 7419

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LOCUM TENENS provided at short notice

FOR SALE.

BIRMINGHAM — Middle and working class established 12 yrs Income £2 100 p a Panel 1 700 Premium £2 500 (cash) House to rent £125 p a 21 years lease

MANCHESTER (South) — Old-established G P, situated on main road Excellent house Panel 1 000 Income £3 000 p.a. Fees 3/ upwards Premium £4 000

LONDON —WEST END — Old-established, high class non panel Income £1 700 p a Prem £2,500

LONDON —DEATH VACANCY —Suburb (N W) Old establ shed good-class non panel Income approx £2 000 Big midwifery Practice Nice house Garage Premium £3,000

GLOS —Small Cash G P, situated in Country Town. Panel. Income nearly £700 p a. Prem £1 050 Scope.

NURSING HOMES —We have several Nursing and Convalescent Homes situated in London and Provinces

DERBYSHIRE —Old-established G P Panel over 600 Income nearly £800 Premium £1 000 Scope for increase

LONDON N E —Old-established G P Panel nearly 400 Average cash receipts £950 p a. No midwifery, scope Premium £3 000 to include freehold house

LANCS —Old-established G P situated in country town. Very pretty country Large house (6 beds) garden and garage. Panel over 800 Two appointments Income £1,460 Premium to include house £4 000

YORKS — Old established Country Town G P Panel 1 500 Income £2,500 Three appointments Detached house with garden and garage, to let on lease Premium £3,500

Purchasers, stating their requirements will be sent particulars of suitable Practices and Partnerships for sale, free of charge

Please address all communications to the Manager, Mr W H. GRANT, Medical Transfer and Insurance Department.

THE MANCHESTER MEDICAL AND SCHOLASTIC ASSOCIATION, LTD,

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LOCUMS SUPPLIED

Peak District —Practice of £1 500 including appointments £100 and Panel 1,400 Good school. Station. House available

Near Manchester — Old-established PRACTICE of £1 350 including good Panel. Excellent house can be bought.

London, S W —Nucleus of £300 increasing Panel over 200 Suit Lahelor or lady doctor

West London —Practice of £1 250 including 1 200 panel and fine position for working up a large income House on long lease at reasonable rent

S.W. County —Partnership Half share of £2,000 in country town with a cottage hospital Appointments and panel £850 Good schools. House can be obtained.

Within 80 miles —Safe unopposed PRACTICE of £1 500 Panel and appoints. £800 Good house with large garden Rent £50 Prem 3 years purchase

Home County —Partnership. Half share of £2,000 in beautiful country town Small panel. Appointments £200 House available

Birmingham —Cash and panel PRACTICE of £1 500 Panel 1 700 No midwifery Rent £35.

Death Vacancy —Middle and working class PRACTICE of £850 in densely populated district Panel 580 Great scope Rent £45 Premium 1 yrs purchase

Home County —Practice of £3 500 suitable for two in industrial place Panel and appointments about £1 500 Nice house, rent £53

Cornwall — Unopposed PRACTICE of £900 in village on fine coast Good visitors in summer Excellent golf etc Well built house with good garden. Price of house and practice only £1 750

North Wales —Practice in beautiful seaside place Receipts £550 Small panel Cottage hospital Good house and garden rent £50 on long lease Garage. Premium £650

N E Coast — Partnership Half share of £2,800 including £1 800 from panel Suitable living accommodation Premium 1½ years purchase.

Lancs —Practice of £1,500 in manufacturing town Panel 1 100 Appointments £120 Rent £60 on lease Reasonable price

Residential Suburb in S E London Old established middle class PRACTICE of £1 150 Appointment £240 No panel Good house with tennis court can be bought

Lincs — Unopposed Practice of £650 Panel and appointments £200 Small house can be rented

London, S.W —Practice of nearly £600 in pleasant suburb Great scope as vendor has been doing other work. Panel 350 House can be rented for £60

Surrey —Rapidly increasing PRACTICE of £500 in residential suburb House and Practice can be bought for £1 400 Practically no panel

Liverpool — Suburb, near open country Receipts £1 400 Panel 1 100 Appointment £90 Opposition slight Great scope as vendor has been handicapped by illness Rent £50

X-Rays Practice of £800 in select seaside place. Good house can be rented

South Devon —Nucleus and RESIDENT PATIENT connexion in beautiful seaside place Large house and garden

Purchasers stating their requirements can have Particulars of other Practices not advertised.

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PRACTICES AND PARTNERSHIPS FOR SALE.

1 LONDON N W —DEATH VACANCY —Very old-established good *middle-class PRACTICE* held by the late Incumbent 25 years Average income for the last three years about £2 000 No appointments and no panel. Consultations from 3/6 visits 5/ House contains 3 reception rooms 4 bedrooms dressing room etc with small garden Locum in charge Prem £3 000 payable by arrangmt

2 PARTNERSHIP —LONDON NORTH —The fourth share (with option of purchase up to one-third on October 1st next) in an old established good middle-class Practice producing about £3,200 per annum including 1 000 panel patients and appointments worth £00 is for negotiation Visits 5/ to £1/1/0 Midwifery £5/5/0 upwards, about *10 cases* yearly Good house available with ample accommodation which must be purchased. Price £1 250 or near offer Premium for share £1,600

3. ESSEX.—MARKET TOWN, within 20 miles of London Old-established General PRACTICE, comprising all classes of patients, and held by the Vendor many years Steady average income of about £1,375 No appointments Panel of 500 Advice and medicine 3/6. Visits 5/ 10/ to £1/1/0 About 20 midwifery cases a year at 4 to 8 guineas. Very convenient corner house with large garden Rent £100 Premium £2,000 payable part by arrangement.

4. RIVERSIDE TOWN —Within 50 miles of London —PARTNERSHIP A one-third share (with succession to a half in five years) is offered in an old-established general Practice situated in a clean prosperous town. Income for last year £2,000 and rapidly increasing Fees from 5 upwards About 20 midwiferies at 5 gns A house can be obtained on lease at about £70 a year Good sport and excellent schools. Purchaser must be young and energetic. Premium £1,000, payable £500 cash and balance by instalments.

5. SOUTH WEST OF ENGLAND —COUNTY TOWN —A ONE-THIRD SHARE producing £800 is offered in a good-class non panel and non-dispensing Practice, with a considerable amount of surgical work There is a good Hospital in the town, and the incoming partner (who must hold the F.R.C.S.) will eventually be elected to the Staff Premium £1,600

6 WEST LONDON —Old-established mixed general PRACTICE. Income for the last year approximately £3 000 including panel of 2 000 Advice and medicine 2/ upwards Visits 3/6 to 5/ About 6 midwifery cases a year at from 2 to 10 guineas. Ten roomed house, with small garden, on lease Rent £100 Partnership introduction for 12 months or longer if desired Premium £4,000

7 PARTNERSHIP —KENT —A HALF SHARE of an old-established first-class unopposed *Country Practice, amidst pretty surroundings* Worth about £1,600 per annum including panel about £450 and Union and Vaccination appt £50 A number of country houses *farmers shopkeepers*, etc Suitable arrangements can be made as regards a house Sport of all kinds, cricket, tennis etc. hunting Premium for share 3 years purchase. Excellent scope.

8 DERBYSHIRE —HOSPITAL TOWN —Old-established PRACTICE held 13 years by present Incumbent who is relinquishing on account of ill health. Cash receipts for the past 3 years average £3,000 per annum including about £1,500 from panel Fees 3/6 to £1/1/0 About 50 cases of midwifery a year at 2 to 5 guineas Centrally situated house (2 reception rooms, consulting and waiting rooms bedrooms bathroom etc) on lease at £100 a year Premium 1½ years purchase Good scope for surgery and Vendor is on the staff of the Hospital

9 BRISTOL.—Very sound middle and working-class PRACTICE held nearly 25 years by present Incumbent, who is relinquishing on account of ill health Average cash receipts over £1,200 a year including several small appointments and a panel of over 1 700 Visits 3/6 to 10/6 Midwifery from 3 guineas about 30 cases Very good house, specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance, 5 bedrooms, etc Garden Premium £1,800

10 LONDON S E —RESIDENTIAL SUBURB —A THIRD SHARE is offered in an old-established general Practice. Income for last year approximately £2 200 Practice offers large scope with the aid of a suitable Partner No appointments Panel of 00 Fees from 3/6 upwards. Little midwifery Choice of houses or suitable rooms can be obtained Premium 2 years purchase Cambridge Graduate preferred

11 NORFOLK —Unopposed Country PRACTICE Very old-established and situated in a very pretty part of the County Practice is for *Immediate disposal owing to the ill health of the Vendor* Receipts for the past 3 years average £1,500 per annum including appointments and panel of about 1 000 Very little midwifery Good house with ample accommodation Small garden Rent £54 Premium to prompt purchaser £1,450 Sport of all kinds; tennis club etc. Efficient introduction given

12 SOUTH SEA ISLANDS —In a Capital City a well-established lucrative and increasing PRACTICE averaging over £1,200 per annum Good climate, malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards *Midwifery from 5 guineas.* Dispensing optional Practice can be worked on foot. Good bungalow residence in excellent position with ¼ of an acre of garden Electric light etc Rent £10 a month on lease. Premium £800 Income Tax 1/ in the pound over £500

13. MONMOUTHSHIRE.—SMALL TOWN —PARTNERSHIP A one-third share for disposal The patients are of all classes Income for the last financial year £2,220 this being a drop on the average due to strikes and lock-outs. There is a panel of over 2 000 and several Collieries pay at the rate of 2/ in the £1 on the men's wages. Fees 2/6 and 3/6 visits 2/6 to 7/6 medicine extra. Very little midwifery No motor-car is required. Small but convenient house; rent £40 Premium £1,250 half by instalments

14. INLAND HEALTH RESORT —Old-established practically unopposed PRACTICE in very pleasant town (resident population 1 400 which is much augmented by visitors) amidst beautiful scenery Estimated income nearly £1,800 a year including appointments of £50 and panel of 500 Visits up to £1 1s 0d Very little midwifery. Excellent residence in its own grounds of ¾ of an acre Ample accommodation Price £3,000 (£2,500 on mortgage at 4 per cent) Premium for practice £3 000 Exceptional future prospects. Tennis, golf hunting shooting etc

15 OUTLYING SUBURB OF LONDON (South) —*Old-established good* middle-class PRACTICE doing at present at the rate of £1,200 a year Vendor has no panel, but there is a very large scope in this direction. Visits 5/ upwards Very little midwifery and nothing under £5 5s. Exceptionally attractive residence with good accommodation garden etc. It is the Vendor's Freehold. Price £2 000 a good part of which can remain on mortgage. Premium for Practice £1,500

16 NORTHERN SUBURB —Old-established PRACTICE producing an income of about £1 400 a year including appointments worth £320 Small panel of 350 but this can be largely increased if desired Visits and medicine 3/6 to 7/6 Midwifery from 2 to 5 guineas Practice is very easily worked with no conveyance Nice house in good decorative repair with fair garden. Premium for Practice and house £3 250

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NORTH WALES —(9) ASSISTANT required (with view to early Partnership) in Country Practice Share offered (after 2-3 months) to suitable man who must speak Welsh

ESSEX —(10) NUCLEUS of Practice in Industrial Village Panel and Midwifery refused Detached house (4 bedrooms and 2 attics) with garden Premium, Practice and House £900 Plenty of scope

LONDON —(11) Pleasant Residential Suburb Well-established PRACTICE over £3 000 per annum. Panel 2,000 Excellent well situated house Particularly suitable for a Catholic

CAPE COLONY —(12) Compact unopposed PRACTICE in attractive part. Receipts (1923) nearly £750 Excellent house with 4 bedrooms. Large garden and paddock. Premium £400

SOUTH MIDLANDS —(13) JUNIOR PARTNER required in old-established practice in first-rate Residential Town Share worth about £800 p a. at first at two years purchase Partner should be aged 28 to 35 and unmarried preferred.

SOUTH-EAST COAST —(14) Well-established PRACTICE averaging over £2 200 in favourite Watering Place Panel over 1,500 Well built house (4 bedrooms). Rent £60 on lease

SOUTH OF ENGLAND —(15) Well-established Anæsthetic and General PRACTICE about £1 000, in pleasant Seaside Town Large detached house (7 bedrooms &c) with acre garden (or smaller house) to be bought. Purchaser must be experienced anæsthetist Prem. £1 600

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SOUTH-WEST OF ENGLAND —(21) PARTNER required in very old-established Country Practice in beautiful residential neighbourhood in one of the finest hunting centres. Convenient and pleasant house (4 bed and 2 dressing rooms) Garden and orchard Share worth about £1 150 per annum at two years purchase

SOUTH OF ENGLAND —(22) PARTNER required in very sound old-established Practice in Seaport Town Panel under 3 000. Share worth £700 to £800 at two years' purchase Partner must be keen and energetic and not much over 30

COUNTY DURHAM —(23) Well established unopposed Country PRACTICE near important Town. Income between £950 and £1,100 per annum. Panel about 700 House to rent. Moderate premium

ESSEX.—(24) Well-established middle class PRACTICE, averaging £657 per annum in pleasant district Panel 400 Excellent double fronted house (5 bedrooms) with good garden Premium £900

MIDDLESEX —(25) PARTNER required (after preliminary Assistantship) in very old-established and lucrative practice over £4 500 per annum, in industrial district Panel 4 000 Small house (4 bedrooms) Rent £52 Premium one-third share two years purchase

SOUTH OF ENGLAND —(26) PARTNERSHIP in an old-established PRACTICE of £2 000 in beautifully situated Country Town. Panel 1 100 Very good educational advantages Cottage Hospital One-third or one-half share at 2 years purchase

SOUTH OF ENGLAND —(27) Seaport Town PARTNERSHIP in old-established Practice averaging over £2,000 p a capable of great extension. One-third share with option to increase up to one-half

SOUTH MIDLANDS —(28) PARTNERSHIP (with view to Succession) in old established Country Town Practice about £1 100 per annum Small panel Premium one half share one and a half years purchase

MANCHESTER —(29) Old established and increasing middle-class PRACTICE over £1 400 per annum in Suburb with Hospital and opportunities for Surgery Small panel Good house (8 bed rooms) in excellent position Rent £90 Premium one and a half years purchase

SCOTLAND NORTHERN HIGHLANDS —(30) PRACTICE averaging over £1 600 per annum, in a Town No panel House (5 bedrooms &c), in best residential part, for sale. Ample scope for midwifery and panel Premium £1 200

SHROPSHIRE —(31) PARTNERSHIP in Country Practice, nearly £1 350 per annum Detached house (6 bedrooms) with nice garden, Rent £65 Cottage Hospital Premium one-half share £1 000

DEATH VACANCY, CAMBRIDGESHIRE —(32) Old-established unopposed Country PRACTICE averaging £1 680 per annum Panel 700 Good house (6 bed and 2 dressing rooms) with large lawn and garden about an acre

SOUTH-EAST COAST —(33) Favourite Health Resort, PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1 750 including appointments £170 (about) No panel. Premium two-fifths share two years purchase and up to one half in two years Partner should be 28 to 30, single. Preliminary Assistantship

NORTH OF ENGLAND —(34) Cathedral City, PARTNERSHIP (with view to succession) in old-established Practice about £1,100 per annum (practically all from Panel Clubs and Appointments) One-half share at one and a half years purchase Very considerable scope

SOUTH OF ENGLAND —(35) PARTNERSHIP in a good class non panel practice of £2 400 per annum, in beautifully situated Country Town near the coast. One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate not over 35, and preferably F R C S England. Preliminary Assistantship Salary £500 p a

EAST COAST —(36) Old-established good-class PRACTICE £1 700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double fronted house (6 bedrooms) Rent £55 Premium one and a half years purchase

MIDLANDS —(37) PARTNERSHIP in old established Practice over £3 200 per annum in excellent Country Town Panel about 1 400 Premium one-third share one and a half years purchase

SOUTH COAST —(38) Good class general PRACTICE of £2,000 per annum Excellent house, Rent £80 Premium one year purchase only

SOUTH-WEST OF ENGLAND —(39) Very old-established middle and better-class PRACTICE over £4 200 in important Seaport Town No Panel or Appointments Commodious house in excellent position Rent £100 Premium one and a half years purchase

MIDLAND TOWN —(40) Old-established PRACTICE about £1,100 per annum in Residential Suburb. Panel 700 House contains 8 rooms Large garden Price £1,750 Premium for Practice £1 600

NORTH-WEST COAST —(41) Well-established middle class PRACTICE about £2 400 No appointments. Conveniently situate house to rent. Premium £2 900 part by instalments.

NORTH OF ENGLAND —(42) Old established PRACTICE of £1 400 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds two acres Premium practice, house and grounds £4 000 Mortgage could be had on house

FAVOURITE HOME COUNTY —(43) PARTNERSHIP in good-class Country Practice about £3 200 per annum in delightful residential district. Visits up to £2 2s. Excellent modern detached house bed and dressing rooms) in grounds of three and a quarter acres, to be sold Cottage Hospital Premium one half share two years purchase

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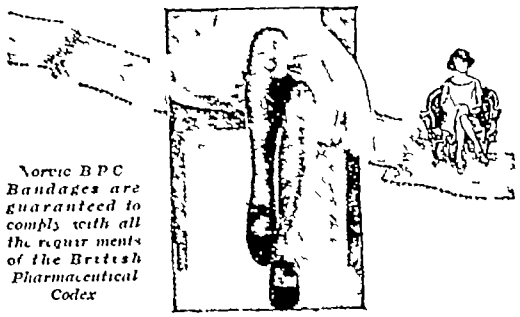
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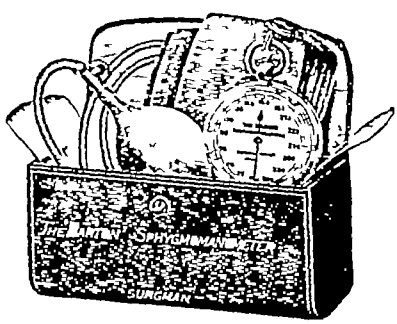
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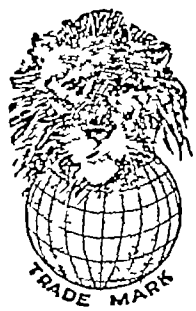
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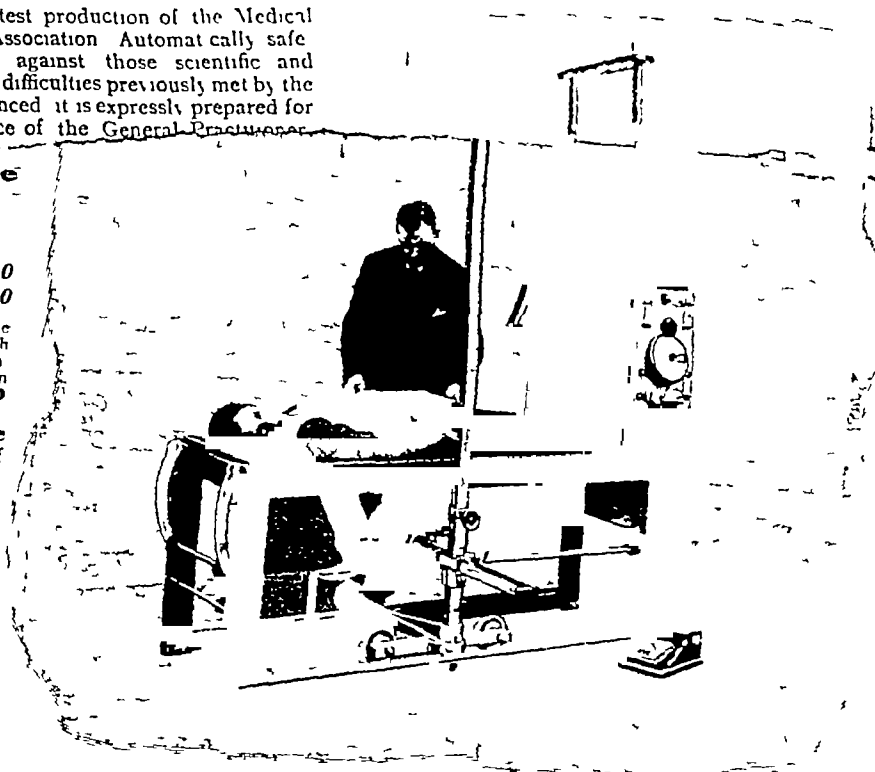
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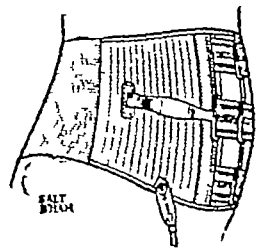
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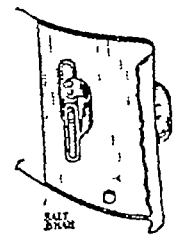
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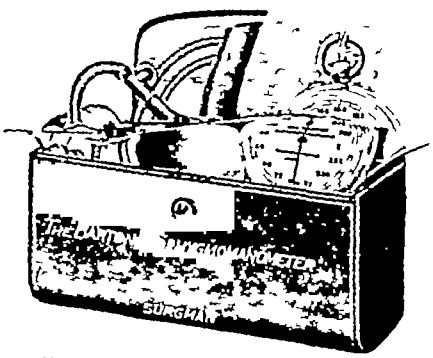
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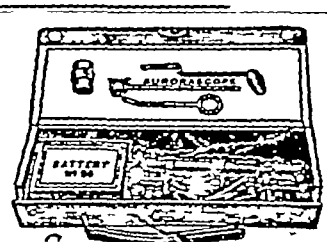
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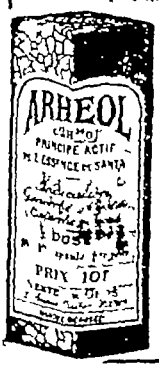
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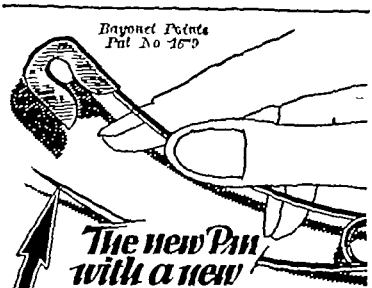


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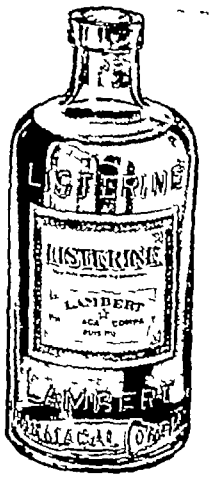
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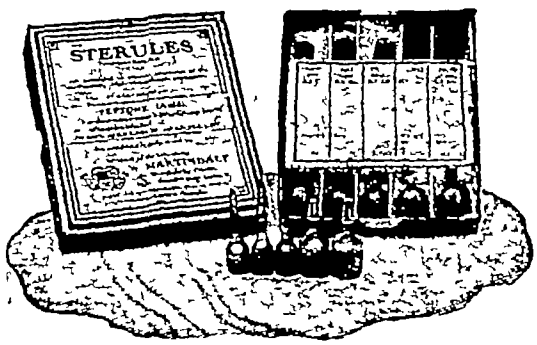
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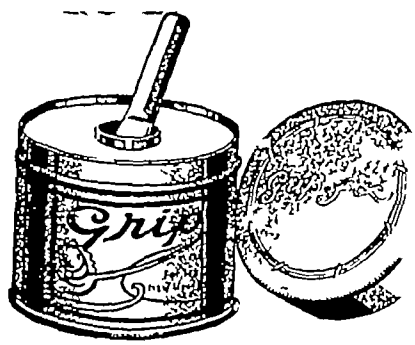
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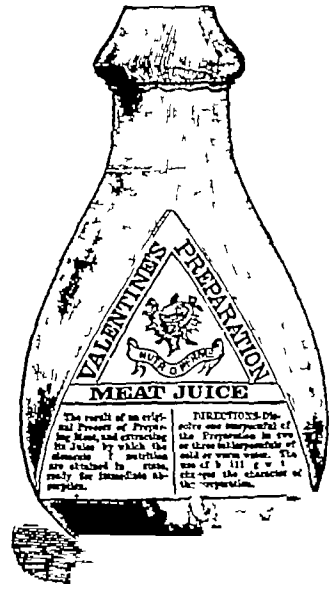
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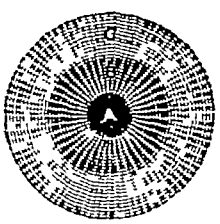
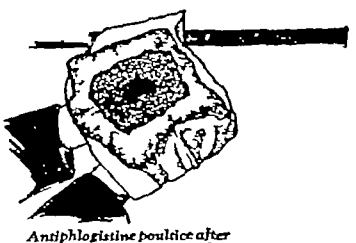


Diagram represents inflamed area. In zone "C" blood is flowing freely through underlying vessels. This forms a current away from the Antiphlogistine, whose liquid contents, therefore, follow the line of least resistance and enter the circulation through the physical process of endosmosis. In zone "A" there is stasis, no current tending to overcome Antiphlogistine's hygroscopic property The line of least resistance for the liquid exudate is therefore, in the direction of the Antiphlogistine. In obedience to the same law exosmosis is going on in this zone, and the excess of moisture is thus accounted for



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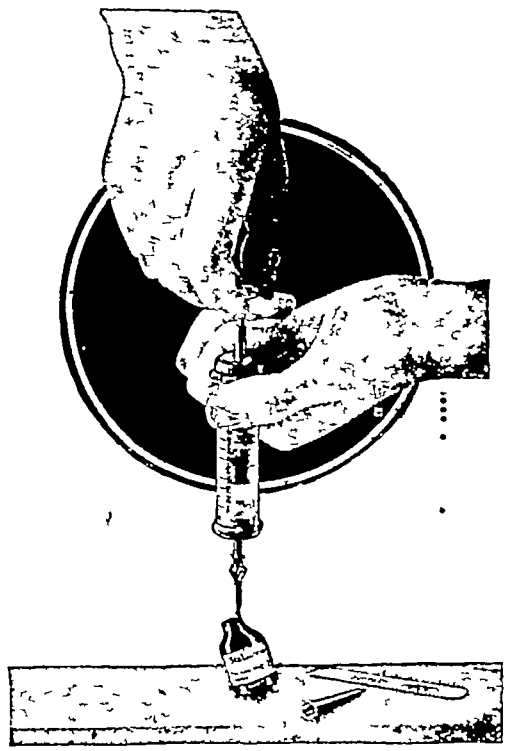
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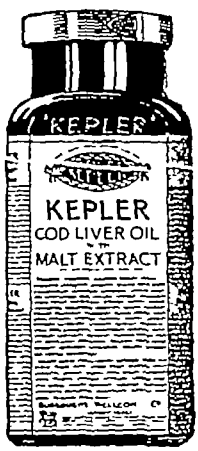
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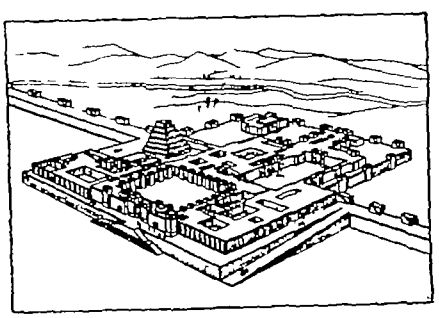
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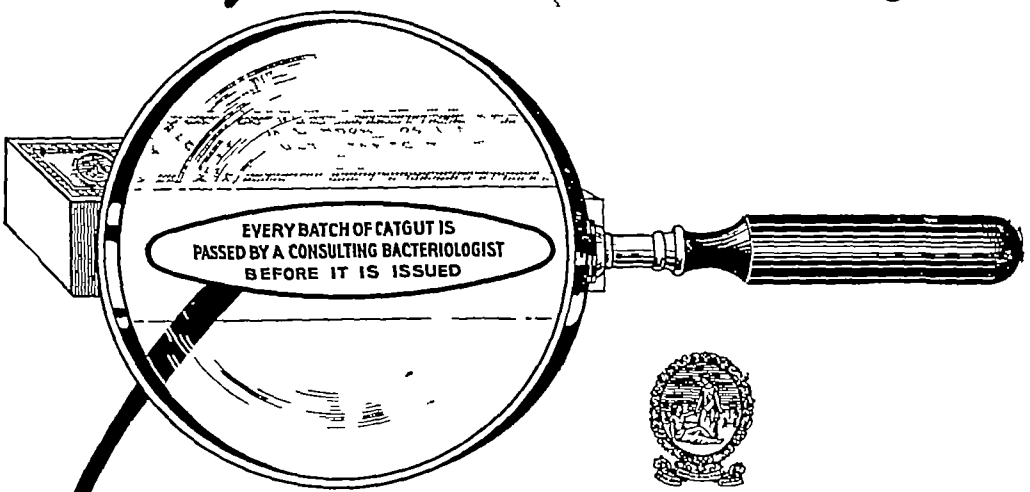
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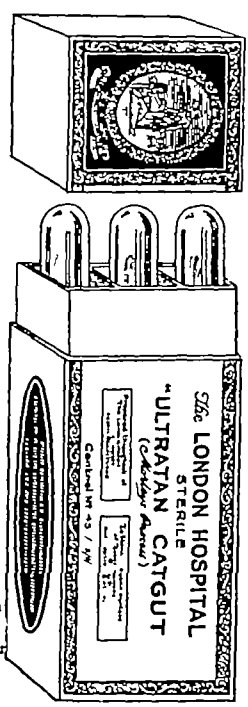
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With an introduction by FRANK ROMER, M R C S, L R C P,
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"The Lancet," January 5th, 1924, review —

This treatise is written to show the utility of the author's ambulatory extension splints, which have been applied for some 20 years in this country for diseases of the joints and fractures, and the value of the apparatus is proved by the fact that in medical literature, both in treatises and in journals, the merits of these splints have been recognized freely while far the greater part of the contents consists of reprints from medical journals or of communications to the author written by practitioners and patients who have had good reason to be pleased with the application of his splints, or with the use of an ingenious extension table to be employed in the manipulation of diseased joints under anaesthesia The majority of these tributes —which are, by the way, not systematically arranged—include photographs and radiograms of patients *before and after treatment, thus conveying different messages of encouragement* And it should be stated clearly that he works only with the *medical profession, and not as one who offers a substitute for* medical services

---

"International Journal of Medicine and Surgery," New York City, U.S A February, 1924 (page 68) —

This is a book by a man who has been largely responsible for making the successful mobilization treatment of fractures and diseased joints possible

For some time now the fact has been recognized by progressive surgeons that mobilization of fractured and diseased joints, in many instances at any rate, if the method can be carried out successfully, should produce better results by far than the time-honoured mode of immobilization The war brought the matter to a head, and experience gained thereby induced rapid changes of views with regard to the surgical treatment of wounds in joints The results obtained by Willems, the distinguished Belgian surgeon, by the spontaneous mobilization of suppurating joints, which enabled those suffering from them to move them freely within a few days of the receipt of the injury, clearly showed that this method of treatment, when properly carried out, was right The principle is that sufficient extension should be exerted to take pressure off the opposing articular surfaces of the affected joint If this can be done movement is frequently most beneficial, and many diseased joints can be kept in functional use with obvious advantages For example, if the diseased articular surfaces of an injured or diseased leg can be kept apart, and if the means for accomplishing this do not interfere with the functioning of the diseased joint, a plan of treatment is provided with which the old plan of complete rest cannot compare

Mr Hoefftcke's apparatus, according to the testimony of some of the best known British surgeons and some American surgeons, does all this As its use permits the patient to freely move the joints of the injured leg and to lead an active life, the nutrition of the muscles is not impaired, and there is no muscle wasting, which invariably happens when fixation splints or other means for immobolizing a joint are employed for a prolonged period In the treatment of rheumatoid arthritis the value of Hoefftcke's splint is often strikingly demonstrated for the reason that by its use *the joint surfaces are kept apart and the destruc*tion of cartilage produced by mutual friction is avoided Mr Hoefftcke describes the designs and construction of his apparatus in the book, and the interpretation of the text is greatly aided by a large number of graphic illustrations

An introduction is written by Mr Frank Romer, the well known London surgeon, *and articles in praise* of the apparatus are included in the book from Sir Arbuthnot Lane, Sir Watson Cheyne, and other leading British surgeons Dr J F Binnie, of Kansas City, has recently referred in high terms of praise to the method in Binnie's 'Surgery' The book should be of service to English speaking surgeons everywhere

A British Medical Association Lecture

ON

ENDOCRINOLOGY FROM THE PHYSICIAN'S POINT OF VIEW.*

BY

A. E. GOW, M.D., F.R.C.P.,

ASSISTANT PHYSICIAN ST. BARTHOLOMEW'S HOSPITAL, LONDON

ENDOCRINOLOGY is a subject to which I lay no claim to speak with special authority, but as the ductless glands play their part, and a very important part, in all phases of physiology, a knowledge of their main functions is essential to the rational carrying on of our work, whatever the branch in which we may be particularly interested.

In no department of medicine has the output of literature been so profuse or voluminous during recent years as in that concerned with the ductless glands, but we are still in the dark as to the true functions of many of them. They, like the blood forming tissues, are situate, with few exceptions, in inaccessible parts of the body, and the interaction of one with the other is so intimate, yet variable in different species, that the correct interpretation of results of experimental research presents great difficulty. Over-enthusiasm in the medical profession has been seized upon and absorbed by many of the manufacturing chemists, who have also rushed into print urging practitioners to add this or that extract to their armamentarium long before any therapeutic value could be rightly assigned to it, and this in turn has influenced the public—"My doctor prescribes so-and-so, I have great faith in him, and therefore it must be good stuff." Hence our great individual responsibility in the matter. Harvey Cushing said in 1921:

> We find ourselves embarked on the fog bound and poorly charted sea of endocrinology. It is easy to lose our bearing for we have most of us little knowledge of sea faring and only a vague idea of our destination. Our motives are varied; some unquestionably follow the lure of discovery; some are earnest colonizers; some have the spirit of missionaries and would spread the gospel; some are attracted merely by the prospect of gain and are running full sail before the trade winds.

One island securely charted since that time is insulin, and many are now engaged in preparing a survey of the land. With changes in some of the glands—thyroid, suprarenal, pancreas, pituitary—we know certain diseases are associated, and we also know that extracts from these same glands and the parathyroids, administered by appropriate routes, produce definite physiological results. It would seem certain that the balance of the endocrine glands determines our growth, development, and general characteristics. Puberty and the menopause are but the outward and visible sign of the readjustment of the endocrine balance, but of what that adjustment really entails we have few facts though many fancies. It is the fashion nowadays to classify individuals according to their endocrine type; phrenology has been completely adopted by certain endocrinologists—the bumps and depressions no longer correspond to benevolence and veracity, but are dependent merely on the whim of the pituitary or thyroid. The isolation of the active principle of the endocrine glands presents great difficulties, and there is reason to suppose that each gland may contain more than one hormone. The chemical composition of adrenaline and thyroidin has so far been determined, but extracts of the thyroid, pancreas, pituitary, parathyroid, and suprarenal medulla have a definite pharmacological action of the greatest interest to the physician.

THE PREDOMINANT FUNCTIONS OF THE INDIVIDUAL GLANDS

The Pituitary Gland

The anterior lobe of the pituitary controls skeletal and muscular growth; overactivity before the epiphyses join results in gigantism, after fusion of the epiphyses in acromegaly. A lesion of the pars intermedia in early life may be associated with Frohlich's dystrophia adiposo genitalis syndrome. The posterior lobe is concerned with sugar metabolism and possibly with that of salt and water. Adiposity, infantilism, somnolence, and impotence are consequences of underactivity of the gland. If the condition begins before adolescence the body fails to grow, though the child may increase in weight because of the deposit of fat in the tissues. Sexual development is interfered with and the secondary characteristics fail to appear. In boys the pubic hair does not extend up to the umbilicus, the beard does not develop, whereas the hair of the scalp grows profusely. The skeleton remains of the female type, and a broad pelvis, rounded limbs, and small feet and hands are often observed. Sugar tolerance is usually high, which may explain the adiposity, sugar being converted into fat. When hypopituitarism does not develop until after adolescence, dryness of the skin, loss of hair, obesity, and the tendency of the male to adopt certain of the female characteristics as regards build and distribution of hair may be seen.

The Pineal Body

The pineal body is credited with the promotion of sexual development, and is opposed by the thymus, whose function would seem to be in some way concerned with the maintenance of the characteristics of childhood.

The Thyroid

The thyroid is the great regulator of metabolic rate in general, exerting an influence on protein, fat, and carbohydrate. In overactivity of the gland the metabolic fires burn high, the basal metabolic rate is increased, and the clinical signs of tachycardia, tremors, "nervousness," sweating, loss of flesh, and perhaps fever, appear. In many infective processes we see a slight enlargement of the thyroid, possibly as an immunity reaction. Hyperactivity with the production of an abnormal secretion gives rise to the syndrome of Graves's disease—the hyperplastic toxic goitre. Underactivity, congenital or acquired, results in cretinism and myxoedema respectively. It is of interest to note that of the various glandular extracts, when given by the mouth, thyroid extract alone furnishes a true replacement, and the thyroid is the gland which used to discharge its secretion via the thyroglossal duct into the alimentary canal.

The Suprarenal Glands

The suprarenal glands have two distinct functions. The cortex develops from the Wolffian body and is closely related to sexual development and masculine characteristics—witness the "infant Hercules" type of premature development associated with certain overgrowths of the cortex. The infant Hercules with congested dusky complexion is hairy, muscular, and rarely obese. In female children with cortical overgrowth the breasts hypertrophy, hair appears on the mons veneris, and menstruation may occur—the patient resembling a stout little woman. At the other end of the scale are those rare cases of progeria where we find side by side the signs of infantilism and of premature senility—baldness, shrunken wizened features, arterio sclerosis—"a decrepit old dotard at 5." In pregnancy the cortex becomes hypertrophied and it is ill developed in sexual deficiency. The development of the cortex cerebri is also bound up with the adrenal cortex in anencephalic monsters this part of the gland may be wanting. It is apparently the cortex and not the medulla which is essential to life.

The medulla, the smaller part of the gland but more richly supplied with blood for its size than any other tissue in the body, arises as an outgrowth from the ganglia of the sympathetic cord. It is built up in the main of chromaffin cells—so called from the fact that their granules stain with chromic acid—which secrete adrenaline, these chromaffin cells are not confined to the suprarenal medulla but are scattered throughout the ganglia of the sympathetic system. Destruction of sufficient chromaffin cells leads to Addison's disease, characterized by asthenia, muscular weakness, low blood pressure, vomiting, and pigmentation. The last mentioned sign has its origin in the fact that adrenaline is formed from tyrosin, a product of protein metabolism, when tyrosin can no longer be converted into

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adrenaline owing to destruction of chromaffin cells melanin results, which is laid down in the skin and mucous membranes

The Parathyroid Glands

The parathyroids are intimately concerned with regulating calcium metabolism, and the recent work of Grove and Vines has focused attention on these small glands In the normal individual calcium is present in the circulating blood in two forms—ionized and combined After coagulation the calcium in the serum is all ionized Vines found that in certain ulcerative processes some of the calcium in the serum was present in the combined form and that by administering parathyroid extract by the mouth the ionic calcium content of the serum was increased and healing of the process favoured He concluded that a toxic substance produced by the ulcer in some way injured the parathyroids and the calcium balance of the blood was upset Parathyroid administered by the mouth in suitable cases appears to strengthen the resistance of the tissue cells by restoring the normal calcium balance in the plasma Destruction of the parathyroids, or their removal, leads in man and in experimental animals to tetany This, fortunately, is a rare complication of operations on the thyroid gland The inferior parathyroids are the larger and lie one on each side close to the posterior border of the lateral lobes of the thyroid near where the inferior thyroid artery divides before entering the gland Dunhill has found the intravenous injection of 4 grams of calcium lactate in solution completely effective in the two cases in which he has seen tetany as a post-operative complication

The Pancreas

The pancreas is a compound gland, the acinous portion secreting the pancreatic juice, which is discharged by a duct into the duodenum and the islets of Langerhans, which pass their secretion into the portal vein The islet tissue comprises only about one-hundredth part of the gland, and the islands, though embedded in, are completely shut off from, the acinous portion, having their own blood and nerve supply The cells of the islands when resting contain granules which Allen has shown to have a close relation to carbohydrate metabolism Feeding with carbohydrate causes the granules to disappear from the cells of the islets These cells furnish insulin, whose special function appears to concern the storage of sugar in the liver and muscles This internal secretion of the pancreas is inhibited by the pituitary, adrenaline interferes with the rage mechanism by causing the liver to turn out its re of glycogen

The Sex Glands

The internal secretion of the gonads exerts an important influence on the development of secondary sex characters, but rather as a stimulus to their growth than as the source of their origin Blair Bell accords to the ovary the post of liaison officer between the needs of the reproductive system and the other endocrine glands Gonad fatigue is made up for by overactivity of the thyroid and pituitary Enlargement of the thyroid is common during pregnancy and at each menstrual period, especially at puberty—in the latter case as a temporary hyperplasia, subsiding between whiles, where the ovaries have not yet developed full activity and supplementary action is required to establish menstruation This transient physiological enlargement associated with scanty menstruation must be distinguished from a primary pathological lesion not infrequently seen about the time of puberty in which the thyroid enlargement persists between the periods at which menstruation is often profuse, this colloid goitre may develop into the hyperplastic toxic goitre with its symptomatology of Graves's disease As puberty in the female is so often associated with increased thyroid activity, so the menopause is not infrequently accompanied by atrophy of the gland—and a like condition may follow operative removal of the ovaries

The transient swelling of the pituitary at each period may account in part for the headache to which some women are liable at this time, but it is not the only factor, for in pregnancy the anterior lobe increases in size never again to subside to the virgin state, and such enlargement is by no means always accompanied by headache Pituitary head aches are supraorbital or temporal in distribution cannot vouch for the statement that they may be relieve by feeding with pituitary gland

The claim of the interstitial cells of Leydig—polygon epithelial-like cells, containing lipoid granules—to be th structures responsible for the influence of the testis on th development of the male sexual characteristics, though lon supported by numerous pseudo-scientific facts, has bee assailed recently by K M Walker He maintains th the function of the interstitial cells is the storage nutritive material for the use of tubular epithelium, th they are trophic rather than secretory, and that t internal secretion of the testis is produced not in the int stitial cells of Leydig but in special cells—the cells Sertoli—in the tubules The internal secretion of t testis is only one factor concerned in the regulation the development of the secondary sex characteristics—t influence of the pituitary and suprarenal cortex has alre been mentioned—and in many cases of eunuchoidism it unlikely that the testis alone is involved, and too mu must not be expected from treatment by testicular graf If the operation of grafting the testis into another part the body is successful the seminiferous epithelium generates after a time, but the interstitial cells rem alive, this may account for the temporary "rejuvenation effect of the Voronoff operation Steinach's operation ligaturing the vas, and so putting an end to sperma genesis, has a limited sphere of usefulness in the treatm of high blood pressure

THE REGULATION OF BLOOD SUGAR

The interdependence of certain of the endocrine gland well exemplified in the mechanism regulating the bl sugar Except for the temporary rise after a meal c taining carbohydrate, the blood sugar remains fairly c stant between 0 08 and 0 12 gram per 100 c cm of blo the total amount of sugar in the blood of a man weigh 10 st is about 5 grams There are four ductless gla concerned with the regulation of the blood sugar—thyr pituitary, suprarenal medulla, and pancreatic islands increase in the activity of the three former leads to a in blood sugar, a diminution in sugar tolerance, perhaps glycosuria The islets of Langerhans occupy other pan of the balance, for decrease in function prod lowering of sugar tolerance and glycosuria How t glands produce their action is still not fully underst The injection of adrenaline causes an increase of l sugar, and this explains how fear and anxiety may in temporary glycosuria Langdon Brown has pointed that stimulation of the sympathetic nervous system duces a series of effects calculated to facilitate violent a in the direction of flight or fight The pupil dilates blood pressure rises, and the pulse increases in frequ The skin sweats to cool the body, and the blood sugar owing to turning out of glycogen from the liver, the l to feed the active muscles Stimulation of the sympat excites the production of adrenaline, and adrenalin creases the sympathetic response Adrenaline may b active agent which keeps constant the amount of sug the blood, but how the supply of adrenaline is regu is not clear Graham suggests that the need for reacts in some way on a centre in the brain from impulses pass by way of the splanchnic nerves to the renals, which furnish more adrenaline, which in causes the liver to turn out more sugar into the blood mechanism of the thyroid influence is less clear In l thyroidism sugar tolerance is generally reduced, a myxoedema there is a great increase in the sugar tole The administration of thyroid extract lowers the tolerance and may actually produce glycosuria if a amount is taken With regard to the pituitary, i crease of blood sugar and occasionally glycosuria may in the early stages of acromegaly—an affection o anterior lobe—but this may be due to pressure on th of the fourth ventricle or on the posterior lobe, it v remembered that the anterior lobe arises as an outg from the roof of the pharynx, and just as portio thyroid may occur in the neck anywhere betwe

foramen caecum of the tongue and the thyroid isthmus, so groups of the pars glandularis of the pituitary may be found between the pharyngeal vault and the sella turcica Destruction of the posterior lobe, which arises as a downgrowth of the floor of the third ventricle, increases sugar tolerance, and feeding with posterior lobe will reduce sugar tolerance Graham has found that the blood sugar curves obtained when sugar is given to patients with hyperpituitarism resemble those of mild cases of diabetes mellitus

DIABETES MELLITUS

The introduction of insulin as the result of Banting's researches has altered the whole outlook of the patient with diabetes mellitus, and is the greatest contribution of the present century to medical science But how best to use insulin, and for how long its administration must be continued, are questions which cannot yet be answered It is clear that every case of glycosuria does not require it, cases of renal glycosuria in which the kidney threshold for sugar is low and in which the *small quantity of sugar* constantly present in the urine is uninfluenced by diet, and the elderly obese glycosuric whose sugar is easily controlled by restricting the carbohydrate intake, are examples

In our treatment of diabetes mellitus our object should be to rest the damaged islet cells in the hope that they may recover their lost function, and, in the case of children, that new cells of growing islets may develop free from strain There is reason to believe that these cells are stimulated by a high sugar content of the blood, and we should try, therefore, so to adjust the dietary and the dose of insulin that the blood sugar is maintained on the low side of normal—that is not above 0 10 per cent One effect of the injection of insulin is a lowering of the blood sugar, the maximum fall occurring from three to six hours after the injection, the effect passing off in from ten to sixteen hours It is clear, then, that the fasting blood sugar will be at its highest level twenty-four hours after an injection and as it is this highest level with which we are concerned in watching the progress of a case under treatment with insulin in which one daily dose only is given before breakfast blood for sugar estimation should be taken just before that meal *Though it is advisable to estimate the blood* sugar immediately it is collected it is not essential, Graham has devised a means whereby the blood can be preserved for two or three days—5 c cm of blood is withdrawn by venepuncture and a pinch of powdered potassium oxalate added to prevent coagulation, and one drop of 40 per cent formalin to prevent glycolysis If the condition of the patient in general and his urine in particular are carefully watched frequent blood sugar estimations are not essential, though occasional estimations are of the greatest value as a check The healthy kidney allows sugar to pass if the blood sugar rises above 0 19 or 0 20 per cent , if the diabetic as a result of treatment is sugar-free throughout the twenty-four hours it is probable that at no time does the blood sugar rise above 0 19 per cent But a blood sugar of 0 19 per cent is believed to be stimulating the islet cells, and we have no means other than by direct estimation of telling how much below 0 19 per cent the blood sugar may be Treatment of a diabetic, other than in coma, should be started by an attempt to get him sugar-free by alimentary rest days and the ladder diet according to Graham's plan, meanwhile any septic focus should be sought for and efficiently dealt with If in spite of rest in bed the patient does not remain sugar-free at the top of the ladder which represents a diet containing 16 grams of sugar in the form of vegetables with a calorie value of 1,300, 10 units of insulin should be given before breakfast If the dose is not sufficient, sugar will be present in all specimens of urine and it must be cautiously and slowly increased until each specimen passed in the twenty four hours is sugar free Symptoms of overdose of insulin—sweating, a fear of impending disaster, diplopia, great 'slackness," aphonia, drowsiness, and eventually coma—appear to be due more commonly to rapidity of fall in blood sugar than to the actual decrease, if the reduction takes place slowly no symptoms may appear till it falls below 0 04 per cent Symptoms, if mild, are speedily relieved by food of any sort—a tomato, for instance—but if severe, a hypodermic injection of adrenaline (which turns glycogen out of the liver) or the giving of sugar by the mouth will be required

Diabetic coma must not be mistaken for coma following an overdose of insulin In the former sugar is present in the urine, in the later there is no glycosuria In diabetic coma the Rothera reaction and ferric chloride test for diacetic acid are strongly positive *and the breath may* smell of acetone, in "insulin coma" these tests are not strongly positive, and it is unlikely that the odour of acetone will be present in the breath In diabetic coma the intraocular tension and blood pressure are low and the pulse small and weak, in insulin coma there is no fall in intraocular tension and the pulse is full and bounding Diabetic coma is associated with deep respiration, possibly *of the "air hunger" type, and the alveolar* CO_2 *is low* insulin coma has no such effect on the character of respiration

The urine should be sugar free for several weeks at the top of the ladder diet before further carbohydrate is added The longer this period, within limits, the better for the patient, and especially if he can be kept in bed When further carbohydrate is added it may best be given as 4 oz of milk—spread over the day—and if this has no ill effect 1/4 oz of bread is added, given as hot buttered toast at breakfast The quantity of bread or its equivalent in other forms of carbohydrate, may be cautiously increased every other day until sugar appears in the urine, or, better still the effect on the fasting blood sugar is seen When glycosuria occurs the bread should be cut down by at least half an ounce

Insulin is seen at its best in acute cases and particularly in coma in diabetes of long standing its effect is apt to be disappointing In impending or developed coma all food should be stopped, the bowels opened by *turpentine* enemata and oil, and 30 units of insulin injected forthwith Provided the urine is not sugar-free in three hours the dose may be repeated, and as much as 100 to 150 units may be required in the twenty four hours

Any minor ailments which may arise must be taken seriously—a cold, for instance, will cause a rise in blood sugar The instability of the sugar regulating mechanism in some diabetics is well illustrated by the case of a boy aged 18 His diabetes had an acute onset while he was convalescing from an abscess in May of last year He was put on strict dietetic treatment six weeks later, during which time he had lost 1½ st in weight He has apparently responded well to diet and insulin, though he is now allowed only 4 oz of milk and 3/4 oz of bread extra, his weight has increased by nearly 3st in the six months and he is leading an active country life He travelled up to London during the recent railway strike for periodical overhaul and adjustment The journey of 100 miles took him ten hours, some of which were spent waiting about at a station—and in a cinema—and he was thoroughly tired out on reaching the nursing home The following morning, before his injection of insulin and his breakfast his blood sugar was 0 17 per cent , two days later it had fallen to 0 12 per cent , and two days later still to 0 106 per cent On the strength of this it was decided that no addition should be made to his dietary or any decrease in the insulin for another three months At one time he required 30 units of insulin a day but for the last three months 10 units in the morning has sufficed to keep his blood sugar well within normal limits Can this be taken as an indication *that his islet cells are recovering* their lost function? Much yet remains to be learned about the use of insulin in diabetes mellitus and it is likely there are rocks ahead One that is already casting a shadow concerns symptoms *that may arise in the process of* withdrawal, but of its nature it is yet too early to speak

THE RELATION BETWEEN THE ENDOCRINE GLANDS AND THE NERVOUS SYSTEM

The viscera are innervated by both subdivisions of the vegetative nervous system These subdivisions are anatomically distinct and physiologically antagonistic, and are termed *sympathetic and parasympathetic* or autonomic respectively The sympathetic proper consists of two chains of ganglia ted cords made up of cells and involuntary

nerve fibres which pass to glands, blood vessels, and non-striped muscle fibres The autonomic system (or extended vagus) consists of nerve fibres with peripheral ganglia arranged in plexuses near the viscera to be supplied, the chief of which are the cardiac, solar, and hypogastric plexuses Stimuli conveyed by the sympathetic and autonomic systems are mutually antagonistic, thus, for example, stimulation of the sympathetic increases pulse frequency, whereas stimulation of the vagus slows the heart, the vagus is motor and secretory to the stomach, and its stimulation causes an increase in the amount and acidity of the gastric juice, contraction of the stomach, and relaxation of the pyloric sphincter, whereas excitation of the sympathetic inhibits peristalsis and contracts the sphincter It is the balance of these two sets of stimuli which regulates the functioning of the various organs People may be divided into two groups according to the dominance of their sympathetic or autonomic sensitiveness, the autonomic or vagotonic person is staid and unemotional, with an infrequent pulse, *small pupils, deep-set eyes, and* cool skin The sympathicotonic individual, on the other hand, is emotional and excitable, with frequent pulse, *dilated pupils, and warm skin, they are specially sensitive* to adrenaline, which intensifies these characteristics Sympathicotonia may be relative owing to diminished activity of the vagotonic system, or actual from increased excitability of the sympathetic system, and in like fashion diminution of adrenal function induces vagotonia

As the clinical syndromes of autonomic and sympathetic stimulation have many symptoms found in definite endocrine disturbance, it is perhaps justifiable to assume a close connexion between them, though it may not be possible to determine whether such symptoms are due to a disturbance which arises primarily in the endocrine glands or in the nervous system Adrenaline intensifies sympathetic response, and the suprarenals help to maintain the normal activity of the sympathetic ganglia, whereas the autonomic or vagus system is activated perhaps by the post-pituitary and alimentary glands It is of interest in this connexion to compare the physiological action of adrenaline and pituitrin Adrenaline is more rapid in its action, but the effect is of shorter duration, both raise blood pressure, pituitrin strengthens the force without increasing the frequency of the heart beat, adrenaline accelerates the heart Pituitrin constricts the coronary and pulmonary vessels, on which adrenaline has no effect Pituitrin dilates the renal vessels and acts as a diuretic, *whereas adrenaline constricts the renal artery* Pituitrin stimulates the intestine, bladder, and puerperal uterus, adrenaline inhibits Pituitrin acts directly on muscle fibre, adrenaline stimulates the sympathetic nerve fibre Pituitary secretion is increased by the injection of ovarian extract (Dixon)

It may be that many of the so called functional diseases —that is, diseases in which no structural lesion is demonstrable with the means at our disposal—are due to disturbance of endocrine function, we are accustomed to speak of various "neuroses," which term implies the idea of an underlying instability of the nervous system as the *fons et origo mali* But is it the nervous system which is always primarily at fault? We are frequently called upon to treat "gastric neuroses"—cases of dyspepsia in which peptic ulcer, carcinoma, cholelithiasis, or *chronic appendicitis* can be certainly excluded The outstanding symptom may be referable to disturbance in the motor, secretory, or sensory function Vagotonia is *associated with a high stomach*, vigorous peristalsis, and hypersecretion, sympathicotonia with a low and often large viscus, delayed emptying, and hyposecretion Gastric neuroses present varying clinical pictures, but in not a few of the hyperchlorhydric type evidence of vagotonia may be found if carefully looked for, whereas hypochlorhydria is not infrequently associated with thyroid deficiency, and such patients will derive benefit from small doses of thyroid extract given by the mouth

Neurasthenia is not infrequently a sequel to an infective disease in which the suprarenal glands may have suffered damage with consequent lowering of function, or it may develop after a *prolonged period of strain or anxiety* which calls in the first place for increased production of adrenaline with subsequent adrenal exhaustion The irritant effect of air raids or of physical or mental trauma does not find expression in neurosis until endocrine exhaustion occurs—then obsessions, fears, and anxieties gain the upper hand, overflowing the lowered threshold of control or in another group the adrenal check on the thyroid is lifted and Graves's disease ensues The neurasthenic is unable to control the functions of the nervous system in a normal manner, and the recognition of disturbed endocrine activity helps in understanding the symptomatology, and restoration to health will coincide with the readjustment of endocrine balance In many cases there is doubtless psychic element also, to which great importance has been attached in some quarters, but the elimination of this feature by itself is but rarely sufficient to effect a cure

THERAPEUTICS OF ENDOCRINE GLANDS

The majority of extracts of ductless glands, as at present prepared, have no obvious effect when administered by the mouth Animal experiment up to the present has shown that tissue extracts in general, when injected intravenously, have much the same effect as any other foreign protein, and, with few exceptions, are in no way specific Glandular extracts which have a definite action when given by the appropriate route are thyroid, parathyroid pituitary, pancreas, and adrenal, extracts of intestinal glands given by the mouth in cases of atonic constipation may be helpful But of these, thyroid and pancreatic alone afford true substitution therapy There is no evidence that any extract other than thyroid and parathyroid is absorbed as such from the alimentary tract, adrenaline, for example, is only employed by the mouth as an astringent or to inhibit peristalsis in the stomach in cases of haematemesis and vomiting, but no "substitution effect" in Addison disease is obtainable by feeding with or injection of the gland Yet in adrenaline we have a valuable remedy as haemostatic in shock, in asthma, and other spasmodic affections such as cardiospasm, urticaria, and angioneurotic oedema Pituitrin, when injected, in no way replaces hypofunction of the pars nervosa from which it is prepared but of its value as a stimulant to the failing myocardium especially in toxic myocarditis, all will bear witness It is useful also in intestinal distension not obstructive in origin in asthma, and above all, I am told, in the third stage of labour

If any advance in therapeutics is to be made with glandular extracts of doubtful action the practice of giving multiple extracts as a sort of blunderbuss, in the hope that one among the many may hit the mark, must be checked Before organotherapy is employed we must be sure of our target and spend time and thought in charging our gun

THE DIFFERENTIAL DIAGNOSIS BETWEEN ACUTE THORACIC AND ACUTE ABDOMINAL LESIONS*

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It is well known that thoracic disease frequently causes pain which is referred to the abdomen, and most experienced practitioners will agree that there is no class of case which causes greater anxiety and difficulty in diagnosis than those in which it is doubtful whether the cause of an acute abdominal pain lies in the thorax or the abdomen It is imperative to make the diagnosis quickly, for a few hours delay may cost the *patient's life*, yet a wrong decision to operate may be equally fatal The bacteriologist and haematologist are of little help at this stage, and decision has to be made *on clinical grounds*

The difficulty in diagnosis lies for the most part in discriminating between conditions immediately above and below the diaphragm—parietal or diaphragmatic pleurisy, pneumonia, cardiac or pericardiac disease on the one hand, and cholecystitis or a leaking duodenal or gastric ulcer on the other *Frequently appendicitis and other diseases aris*

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from lower parts of the abdomen may give rise to doubt as to the possibility of the pain being referred from the lower chest Since pleurisy and pneumonia are the commonest acute thoracic diseases, most of these remarks will have special reference to them

A thorough physical examination must be undertaken in every case Many general practitioners are now doing a great deal of abdominal surgery, will they deem it presumption on a surgeon's part to remind them always to apply the stethoscope to the chest in a case of abdominal pain?

Previous History

Since most acute conditions in the upper part of the abdomen arise in or from the alimentary tract it is common to learn of some warning in the form of either colicky pains, indigestion, constipation, or diarrhœa In pulmonary conditions there is frequently the history of a previous common cold or chill, or it may be that there has been exposure to infection from others in the same house It is true that fulminating appendicitis may come without any warning, and a gastric or duodenal ulcer may perforate without giving a typical history of previous indigestion Constipation is not of any great significance since it is common in people who apparently suffer no great discomfort Diarrhœa is much more frequent with abdominal than with thoracic lesions

Onset

The onset of many acute abdominal conditions is accompanied by collapse, which is unusual with pleuropneumonia More important is the fact that with very few exceptions acute abdominal cases show no fever at the start, whilst acute pulmonary conditions usually exhibit several degrees of fever from the very beginning At the onset of an attack of acute pancreatitis, or immediately after the perforation of a gastric ulcer, or for some hours after the perforation of a gravid Fallopian tube, or during an attack of biliary colic, or at the very beginning of the pain of an acute attack of appendicitis, the temperature is either normal or subnormal, but it is unusual to find the temperature less than three degrees above normal at the onset of pleurisy or pneumonia (except in old people) If at the onset of a case of acute appendicitis the temperature be taken every two hours it will be found to go up slowly till about 101° F is reached after about twenty-four hours Of course, fever is seen in the reaction stage of most abdominal crises The main exception is acute pyelitis If a patient has acute pain referred to the abdomen and the temperature is 103° or 104° at the onset, one naturally thinks of pneumonia and pyelitis, and in most cases one or other lesion will be found For the temperature to be a guide it is necessary to see the case very soon after the onset of pain A persistently low temperature with acute abdominal pain is almost always indicative of acute abdominal disease

The occurrence of a rigor is more common with pleuropneumonia than with abdominal disease, though pyelitis again furnishes an exception, and a few cases of appendicitis and biliary infection may be heralded by a rigor

Vomiting is customary with most acute abdominal lesions, but is less frequent, except perhaps in children, with thoracic conditions Abdominal pain accompanied by frequent vomiting or retching is nearly always due to an abdominal condition, but many serious abdominal lesions may not cause serious vomiting till late Faeculent vomiting is always due to intestinal obstruction If vomiting occurs at the onset of the illness, then abates, and afterwards recurs, the condition is almost certain to be abdominal True bilious vomit usually indicates an abdominal lesion

The character of the pain and the situation of any referred pain are always of importance In acute abdominal disease the pain is either continuous or occurs in spasms, whilst in pleurisy the pain is more frequently felt on taking a breath One must however, also remember that the pain of a leaking duodenal ulcer is worse on taking a breath and that biliary colic sometimes causes inhibition of the diaphragmatic movement If pain which starts in the upper abdomen shifts later to the right iliac fossa or hypogastrium one can count on an abdominal origin In chest conditions there is frequently tenderness on pressure over the chest wall over the lesion Cough is usually indicative of thoracic disease

Examination of the Patient

It is frequently possible to tell the origin of the trouble as one approaches the bedside Flushed cheeks with herpes on the lips and an obvious working of the alae nasi sufficiently indicate a pulmonary condition, whilst a pale or livid face with an anxious expression and sunken eyes usually mean a late stage of an abdominal catastrophe But a doubtful case gives no such obvious indications The alae nasi should always be carefully watched, for a slight respiratory movement there is frequently seen in the very early stage of pleurisy or pneumonia even when few or no signs are present in the chest It is very unusual for the alae to be seen moving in the early stage of acute abdominal lesions, though such an action may occur with a lesion, such as an acute subphrenic abscess, which impedes the diaphragm and causes basal lung congestion

The position which the patient assumes in bed may assist in diagnosis If the dorsal decubitus be assumed and one or both legs be drawn up there is generally an abdominal lesion With pleurisy or pneumonia the lateral decubitus is more common, whilst with acute cardiac conditions the patient may prefer to be propped up in bed If the skin feels dry and hot to the touch, indicating considerable elevation of temperature, the chest and urine should be particularly examined With severe abdominal colic, or at the onset of fulminating abdominal lesions, the skin may be cold and clammy though this passes off as the reaction occurs The value of the temperature may be summed up as follows A normal or subnormal temperature is generally indicative of an abdominal lesion, a high temperature usually points to the chest or kidneys as the source of disease, a moderate degree of fever is of no help in differentiation

Examination of the pulse is not always of great value If it be normal in frequency, volume, and regularity, any accompanying abdominal pain is usually abdominal in origin The reaction stage of many acute abdominal conditions is accompanied by abnormal pulse When the pulse rate is rapid more information is to be gained from its volume, for a small rapid pulse is more frequently met with in peritonitis The respiration rate is generally increased to a greater extent in thoracic lesions but it is of importance to remember that rigidity of the abdominal wall is frequently accompanied by a compensatory increase in the rate of respiration Of greater value is the ratio between pulse and respiration Normally about 4 to 1, this ratio is reduced considerably in pneumonia, and a ratio of 2 to 1 almost always indicates pulmonary disease In the later stages of peritonitis the impeding of the diaphragm may cause a great increase in rate of respiration, but it is common to find a pulmonary lesion—basal congestion or pulmonary collapse—in such cases

In abdominal disease it is usual to find that the parietal muscular wall is held rigid over the inflamed part, whilst in pulmonary conditions the chest wall on the affected side does not move so well on respiration Abdominal rigidity cannot always be interpreted so simply It is well known that the muscles of the abdominal wall may be very rigid as the result of pleuropneumonia, whilst it is very common to have serious intra abdominal disease with a flaccid abdominal wall Rigidity may be tested in two ways—either by feeling the resistance with the applied hand or by watching the respiratory movement The first method is most commonly practised, and, generally speaking definite and persisting rigidity of any segment of the abdominal wall to the applied hand indicates underlying disease The more limited the rigidity the more localized the disease If the rigidity be due to thoracic disease it may be found possible to overcome it by patient palpation, but in the case of abdominal disease continued palpation over the inflamed area is likely to increase the stiffness, since the tenderness is greater the deeper the palpation

Immobility of the abdominal wall on respiration is of great value in diagnosis This chiefly applies to the lower abdomen, for the upper abdominal wall is usually immobile when there is an inflamed area either immediately above or close beneath the diaphragm When only the lower abdominal wall is rigid there is usually hypogastric peritonitis in such a case a characteristic condition is often seen in which on inspiration the region below the umbilicus

appears to recede Normally, and especially in the male, the lower abdomen is protruded during inspiration along with the upper abdomen When the hypogastric wall is rigid the upper abdomen is still pushed forward when a breath is taken, but the stiffening of the lower abdominal wall on the increased intra-abdominal pressure causes an apparent recession Rigidity of the diaphragm, as indicated by immobility of the upper abdomen, is seen with both supra- and sub-phrenic conditions, so that diagnosis between the two has to depend on other symptoms

I attach greater value to phrenic shoulder pain or pain referred to the top of the shoulder owing to irritation of the terminations of the phrenic nerve in the diaphragm The phrenic comes from the third, fourth, and fifth cervical nerves, but chiefly from the fourth Irritation of the terminations of the phrenic nerve may cause referred pain over the area of the shoulder supplied by the descending cutaneous branches of the third and fourth nerves This pain is usually referred to the shoulder on the same side as the lesion The pain is generally felt in the supraspinous fossa if the back of the diaphragm be irritated, in the clavicular region if the front part of the muscle be affected The deltoid and acromial region may be affected by any lesion of the dome The importance of this statement lies in the fact that certain parts of the diaphragm are more likely to be affected by particular lesions When a duodenal ulcer perforates, the region of the right crus is irritated, and pain is felt in the right supraspinous fossa Perforation of an ulcer on the anterior surface of the stomach is likely to irritate both domes of the muscle and thereby cause bilateral shoulder pain Such a bilateral pain is seldom found with thoracic disease On the other hand, diaphragmatic pleurisy often causes pain in the clavicular and subclavicular region This is, I think, due to the fact that friction is more likely to persist in the anterior part of the cul-de-sac between chest wall and diaphragm, for fluid would tend to gravitate posteriorly and prevent friction Whether this explanation be true or not I have been observing carefully for the past three years, and have so far found that nearly every case of abdominal pain with accompanying subclavicular pain had its origin above the diaphragm This I consider an important diagnostic point not previously noted As an example of the diagnostic value of this point take the following

Mrs C, aged 50, who for a week had been troubled with a cold in the head and pains in the limbs, was seized with sudden pain in the right hypochondrium on December 30th, 1922 At the same time she experienced pain on top of and in front of the right shoulder, including the subclavicular region Vomiting occurred on several occasions The temperature on December 31st was 100°, the pulse 120, but there was no dullness on percussion of the chest, nor could any adventitious sounds be heard There was a slight cough Tenderness in the right hypochondrium was elicited, but there was no rigidity Nothing abnormal was detected by the rectum The alae nasi were noted to be moving Chiefly on the situation of the shoulder pain diaphragmatic pleurisy was diagnosed Two days later a report from the patient's medical attendant said "I can hear a short catchy rub at the right base" Recovery was uninterrupted

Cutaneous hyperaesthesia due to visceral disease has often proved of value in diagnosis, but its reliability is by no means absolute Areas of hyperaesthesia above the umbilicus may be caused by reference from the lower thorax or upper abdomen, but so far as I have observed (in many hundreds of cases) hyperaesthesia of the skin below the level of the umbilicus is always of abdominal origin The intestines and peritoneum are innervated from the tenth, eleventh, and twelfth dorsal nerves, and disease of those viscera may cause increased sensitiveness of the skin in any part of either iliac triangle I consider this a very valuable differentiating point It was of use in the following case

A man was admitted to St Mary's Hospital in February this year complaining of pain on the right side of the abdomen He said that a few days previously he had coughed up some blood Examination showed the scar of a large gunshot wound at the back of the right lower chest There was tenderness but no definite rigidity in the right iliac fossa, and hyperaesthesia to pin-stroke extending upwards from Poupart's ligament for two or three inches There were rales in the chest, but no definite sign of pneumonia The temperature was normal on admission The lesion was thought to be abdominal (and probably appendicular) on account of the position of the hyperaesthesia and also because there was slight pain in the testicle An anaesthetic was administered but this provoked such a severe haemoptysis that it was stopped and the patient sent back to bed In three days time the right spermatic cord swelled and a lump could be felt in the iliac fossa This was incised under local anaesthesia and a large abscess evacuated and drained The abdominal condition did well but the chest symptoms became worse X ray examination showed much shrapnel in the chest Bronchopneumonia caused death in two weeks Autopsy showed that the abdominal lesion had been a retroperitoneal abscess, for which no cause was discovered

There are several other little devices by which it may be proved that abdominal pain is due to abdominal disease With a unilateral pain of thoracic origin there is usually no tenderness on the other side of the abdomen and no pain is elicited by pressing the fingers deep in the unaffected side with abdominal disease such pressure causes pain, since it affects the diseased focus

There are two muscular tests which, if positive, prove the presence of intra-abdominal disease—the psoas and the obturator tests They depend upon the fact that when a muscle is moved pain is caused if there be any contiguous inflammatory condition If pain be felt in the iliac fossa upon flexion or extension of the corresponding thigh, it may be assumed that there is an inflammatory condition adjacent to the psoas muscle Sometimes hyperextension of the thigh is needed to bring about the pain The obturator test is performed by rotating the flexed thigh internally, thus puts the obturator internus on the stretch, and pain results if there be a contiguous pelvic abscess Neither of these tests is positive in abdominal pain due to thoracic disease Another symptom which is never produced by thoracic disease is pain referred to the testicle

Finally, a rectal examination is often of the greatest value in determining abdominal disease, for tenderness of the pelvic peritoneum or a bulging in that region cannot be simulated by thoracic disease

The guides I have given are meant for those doubtful cases where the signs in the chest are equivocal or in which it is possible that disease is present in both cavities In this connexion we must emphasize the unfortunate fact that not infrequently an abdominal disease leads quickly to pulmonary complications, and there are certain cases in which disease starts simultaneously in both thorax and abdomen

A general rule I have formulated for myself as the result of some bitter experiences is that if, after thorough examination of both chest and abdomen, doubt remains as to the site of the disease it is generally in the abdomen

I append a comparative table of symptoms

ABDOMINAL	THORACIC
Previous History	
Indigestion, colicky pains, constipation, diarrhoea	Common cold or "chill", exposure to infection
Onset	
Acute without fever (except pyelitis)	Acute with fever at start
Rigor unusual (except pyelitis)	Rigor common
Vomiting usual	Vomiting less common
Pain often shifts downward	Pain thoracic as well as abdominal
Examination	
Appearance	
Varies from normal to 'abdominal' facies	Cheeks flushed alae nasi working, sometimes herpes on lips
Skin	
Cold or clammy or normal	Skin may be hot and dry
Pulse Respiration	
No sure guide	Pulse respiration ratio less med
Abdominal Wall	
May be rigid	Less commonly rigid
Phrenic Shoulder Pain	
Common, but seldom below clavicle	Common, especially below clavicle
Skin Hyperaesthesia	
Common	Rare and never below level of nasel
Psoas Test	
Often positive	Always negative
Obturator Test	
Sometimes (rarely) positive	Always negative
Testicular Pain	
Sometimes present	Never present
Rectal Examination	
May elicit tenderness or demonstrate lump	Negative
Examination of Chest	
Frequently slight rales in upper abdominal lesions	May be a rub or dullness or bronchial breathing but sometimes nothing definite at onset of symptoms

CARBUNCLE AND ITS TREATMENT BY MAGNESIUM SULPHATE

BY

THE LATE ALBERT E MORISON, F R C S,
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CARBUNCLE may be defined as a form of localized infective gangrene As a rule it is found in parts of the body whose blood supply is poor which have been exposed to slight trauma It has for this reason its most common site on the extensor rather than the flexor aspect of the body Its usual location is the nape of the neck In this situation the blood supply is limited in amount There is the possibility of exposure to irritation from a roughened linen collar, and organisms of a low type of infection find entrance into the ill nourished subcutaneous tissues through a small abrasion of the skin

It is specially frequent in elderly people suffering from some blood dyscrasia such as diabetes, in them the presence of sugar in the blood impoverishes its nutritive properties Any slight breach of continuity of the skin in such subjects favours the entrance of organisms and produces conditions favourable to their growth In these circumstances gangrene of the tissues occurs with all the typical signs and symptoms of an infective or moist gangrene

The course is somewhat as follows The patient has for some days noticed an itching and stinging sensation in the back of the neck, followed by stiffness and swelling of the skin in that region The part soon becomes raised and painful, and keeps the patient awake at night The temperature may not be raised more than one or two degrees, but there is a general feeling of restlessness and malaise A rigor sometimes occurs Very soon (in the course of twenty-four or forty eight hours) a white spot of pus appears in the centre of the raised and reddened area Infection of the surrounding skin results and other centres of suppuration form Very little pus escapes, but a white or dull grey gangrenous area of subcutaneous cellular tissue is seen in each of the openings Constitutional symptoms become more marked as more and more tissue becomes involved and the natural barriers of defence are broken down, pain is very constant and severe, sleep is obtained only in snatches, and loss of appetite and rigors may ensue

Spread of the disease is only limited by the powers of the surrounding tissues to set up an obstructing area of defence round the infected area When this fortunately occurs a large slough, consisting of skin and all the deep tissues down to the bone, is thrown off, and a large sunken area often as large as a soup plate, with purple, undermined, oedematous edges, is left to be gradually filled in by granulation tissue and covered later by cicatrization or by skin grafting When such a condition is seen diabetes should always be suspected and repeated examinations made of the urine and the blood

TREATMENT

Many forms of treatment have been suggested, such as crucial incisions into the affected area excision of the whole mass by a circular incision round it and down to the muscle injections of pure carbolic acid into various parts of the broken down mass and excision and incision by the actual cautery The fact that so many remedies are recommended and practised points to the difficulties of treatment and their ineffectiveness

During the last six years I have treated twenty eight cases of carbuncle by a very simple method with no deaths Most of the cases occurred at the nape of the neck or on the back but whatever the situation the treatment is the same This consists in applying to the whole of the inflamed area a paste of magnesium sulphate

Method of Preparing Magnesium Sulphate Paste

With 1.5 lb of dried magnesium sulphate are mixed 11 oz of glycerin acid carbolic or pure glycerin The dried magnesium sulphate is in the form of a fine white powder which contains 12 per cent less water than the ordinary commercial Epsom salts The glycerin is put in a hot mortar and the sulphate added, slowly stirring and mixing with a warm pestle all the time The result is a thick white cream so hygroscopic that if exposed to the air it rapidly absorbs moisture and becomes fluid It must therefore be preserved in a covered jar

The carbolic acid was first added because of its analgesic properties, as it was thought that without it the application would be painful We found this precaution to be unnecessary, the only discomfort of which the patients complain when carbolic is not present is that the paste feels cold for a short time after its application In the case of carbuncle the soothing effect of the paste is very marked

Method of Application

The paste is spread thickly on a piece of sterile white lint sufficiently large to cover the whole of the inflamed area A piece of jaconet is put over the lint to cover it entirely, and cotton wool in abundance over and round the part A profuse discharge of serum takes place, and the dressing is left unchanged for twelve or twenty-four hours and then renewed Within a few days the central slough separates and a raw granulating surface is left The relief to the patient after one or two applications is very great Pain is abated, constitutional disturbances disappear, and sleep comes naturally

As soon as the slough has separated the crateriform ulcer is dressed with the paste until all signs of sphacelating cellular tissue have disappeared and a healthy granulating surface is seen The cavity is then packed daily and the undermined edges supported with strips of sterile lint about 1¼ in wide, wrung loosely out of a saturated solution of magnesium sulphate made by dissolving 40 oz in 30 oz of boiling water and 10 oz of glycerin and sterilizing in an autoclave The whole area is then covered with a double layer of lint saturated with the solution, over which a piece of jaconet and then cotton wool is placed, and fixed loosely by a bandage

This dressing is renewed daily until the healthy firm granulation tissue is level with the surrounding skin margins It can then be covered with Thiersch skin grafts or allowed to epithelialize from the edges if the surface is not too extensive

The following case is typical of the majority of those cases I have treated

A married woman aged 51 was admitted into the Sunderland Royal Infirmary on August 3rd 1919 complaining of a painful swelling between her shoulders She had had a stroke eight months earlier which paralysed the left side of her body About three days before admission she felt a painful pricking sensation between her shoulders which made her very uncomfortable and kept her from sleeping As it continued to get worse she consulted Dr Hogg of Easington who sent her into the infirmary under my care When admitted she looked ill and haggard between her shoulders was a large inflamed area about 6 by 6 in in the middle line of the back In its centre were several small necrotic patches with grey bases but very little pus exuded from them The temperature was 101 6° and the pulse 88 The urine contained neither sugar nor albumin

Magnesium sulphate paste was applied and the back ordered to be dressed twice daily

On August 6th the temperature was 98 4° and the pulse 72 The patient was much improved was sleeping well and taking liquid nourishment freely The zone of inflammation was less and the central slough was beginning to separate On August 20th the wound was clean and healthy and was being dressed with magnesium sulphate solution once daily

On September 3rd the wound was closed except for a small area about 1½ in in diameter and the patient was allowed up She was discharged with the wound healed on September 16th

The advantages of this method of treatment are

1 No surgical interference is required

2 Its application is simple and dressing infrequent—once or at most twice a day

3 The combined osmotic action and its inhibitory effect on the growth and development of the staphylococcus cleanse the wound and assist in the separation of all sloughing and unhealthy tissue

4 The granulations formed are firm and solid and lend themselves admirably as a base for a superimposed skin graft

THE CORRECT TECHNIQUE OF THE "INJECTION METHOD" OF TREATING HAEMORRHOIDS, AND ITS ESSENTIALS

BY

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THE treatment of haemorrhoids by interstitial injections, usually of carbolic acid, has a definite place and value when the right type of case is selected Correct technique and sound clinical knowledge are essential for success, while faulty technique may cause very painful ill effects for which the treatment and not the doctor is usually erroneously blamed It is not my intention to enter on a comparison of the surgical and injection methods of treatment Most rectal surgeons agree that in some types of cases treatment by injection is especially indicated, and in some operation is contraindicated I will assume for the purpose of this article that the treatment of the latter type of case is alone under discussion

From the beginning I was much impressed with the good results to be obtained by injection treatment, and a lengthy experience both at St Mark's Hospital and in private practice has convinced me that failure is nearly always due to faulty technique and lack of experience in the treatment of rectal complaints The technique which I recommend includes the following procedures (1) Preparation of patient, (2) position of patient, (3) arrangement of instruments, swabs, and lotions, (4) lighting arrangements, (5) external perianal examination, (6) digital examination, (7) gradual dilatation with rectal dilators, (8) examination with proctoscope or anoscope, (9) injection of haemorrhoids

1 *Preparation of Patient* —The patient should take a mild purgative (strong purgatives are to be avoided) the evening before the day of injection If, on examining a patient before injection, the bowel is found to contain faeces, an enema should not be given—it is too messy—but a glycerin suppository should be inserted and the patient allowed to go to the water closet, when the rectum will empty itself in a few minutes If the rectum shows traces of faeces on subsequent examination with the proctoscope, it can be swabbed clean through the latter

2 *Position of Patient* —The left lateral position will be found suitable for all cases It was at first my custom to examine the men in the knee elbow position and the women in the left lateral, but I now employ the latter position for both sexes With the patient in this position, the buttocks being well elevated by a large sandbag underneath the left hip, and the knees well drawn up, all the advantages of the knee elbow position are obtained, and the sensitive patient is spared the embarrassment which the latter position frequently causes An ordinary plain couch will suffice for purposes of examination and injection, the buttocks should come well over its edge The injection is given by the doctor seated on a chair at the left side of the couch facing the buttocks

3 *Arrangement of Instruments, Swabs, and Lotions* —The instruments and other essentials should be laid out within easy reach of the hand and in the order in which they are likely to be needed, the necessary withdrawal of the proctoscope whilst getting up to fetch some instrument or dressing, and then its reinsertion, entails much extra discomfort for a nervous patient All instruments should be sterilized before using The instruments and other essentials necessary for the efficient carrying out of the injection treatment are

(*a*) A proctoscope or rectal speculum The proctoscope is a special rectal speculum provided with an obturator, and is made in sizes varying from 3 to 5 inches in length When selecting one, it is important to see that there is no elevated ridge on its distal end at the point where it meets the head of the obturator as this ridge frequently acts as a troublesome obstruction to the smooth passage of the proctoscope The edge must not be sharp If the proctoscope is to be used only for examining the rectum the injections being carried out through the anoscope it is best to use a proctoscope 5 inches in length as a greater extent of bowel can then be examined If the proctoscope is to be used both for examination and injection the best size is one 3 inches in length

(*b*) An anoscope The anoscope is an anal speculum 1½ inches in length without the obturator with the obturator in place the instrument should be 3 inches long The advantages of the anoscope are (1) When fully inserted the pile-bearing area comes exactly into the lumen the commonest mistake in injecting and one entailing most painful consequences—namely injecting in the wrong position too low down—can thus be avoided (2) The lumen being larger than that of the proctoscope, a bigger field for injection is brought into view, and the exact size and number of the haemorrhoids present and the best site for injection can be more easily ascertained The anoscope is not suitable for very fat patients

(*c*) A syringe of the dental type with special needles, Messrs Arnold and Sons (Bell and Croyden) have made to my specification an all glass one graduated in minims

(*d*) Rectal dilators A metal set, hollowed out so that they fit one inside the other and thus take up little room, in a case, has been made for me by Messrs Arnold and Sons (Bell and Croyden)

(*e*) The solution for injection That which I always employ and which I have found most efficacious, is the following Liquefied carbolic acid 48 minims, glycerin 2 drachms, distilled water 2 drachms mix (this is a 20 per cent solution of carbolic acid) If there should be pain after the first injection with the above solution, a 15 per cent or 10 per cent solution should be used for the next one, after first examining the patient to exclude all other possible causes of pain I have tried various other solutions, but I now employ this one exclusively

(*f*) A long forceps for the application of swabs to the interior of the rectum

(*g*) A haemostatic clamp in case of troublesome bleeding I have been fortunate up to the present in not having to use this

(*h*) A basin containing a weak antiseptic solution (1 in 2 000 biniodide), at about body temperature, in which to heat the proctoscope or other instruments, and in which are placed swabs for cleaning the rectum and haemorrhoids before injection

(*i*) Thin rubber finger-cots cotton wool swabs vaseline, tray for soiled swabs and instruments, scissors, and flexible probe

(*j*) Morphine or cocaine and adrenaline suppositories should be at hand to deal with any complications that may arise

4 *Lighting Arrangements* —Good illumination is essential An electric head lamp or light from an electric bulb mounted on a stand will suffice

5 *External Perianal Examination* —Before exploring the interior of the rectum the perianal region should be examined for any abnormal condition which may contraindicate or complicate treatment of the piles The commonest pathological conditions met with in this region are

(*a*) External thrombosed and inflamed haemorrhoids

(*b*) Skin tags or cutaneous piles—bits of hypertrophied skin due to overstretching of the perianal skin from repeated prolapse of internal piles, or due to former attacks of external piles or the result of a previous surgical operation on internal piles

(*c*) Sentinel pile—really an inflamed and oedematous skin tag with usually a fissure at its base

(*d*) The openings of fistulae

(*e*) Venereal lesions, such as gonorrhoeal warts and syphilitic condylomata

(*f*) Ischio rectal and perianal abscess

(*g*) Prolapsed internal piles, prolapsed polypi prolapsed enlarged anal papillae, and prolapse of the rectum Prolapsed piles should always be returned into the bowel before injection, they should first be bathed with weak antiseptic and covered with vaseline

(*h*) Fissures Most often the fissure will be found just inside the anal opening posteriorly, and when present is usually so painful that not only is it impossible to pass the proctoscope but even digital examination is rarely possible If the fissure is of recent origin, palliative treatment until it heals will be necessary before injection can be carried out if the fissure is of old standing, it is best to advise operation for the fissure and haemorrhoids together a course which is also to be advised when fistulae and polypi are present

6 *Digital Examination* —The object of digital examination is to ascertain the presence of pathological conditions in the anal canal and interior of the rectum, and not for the purpose of diagnosing haemorrhoids, it is almost impossible to diagnose even very large haemorrhoids accurately with the finger Most rectal lesions—for example, fistula openings, ulcer, fissure, polypi, etc —are found in the lowest inch and a half of the bowel—that is, in the anal canal A thin rubber finger cot, well lubricated with vaseline, should be placed on the examining index finger, the anal canal and exterior of the anus should also be lubricated It is advisable to use plenty of lubricant when making any form of ano rectal examination, as otherwise cracking or fissuring of the anal lining and margin is liable to result Having examined the anal canal, the finger should then be passed as high up as possible into the rectum Cancerous and other growths can often be detected by this method Displacements of the uterus should be excluded before diagnosing rectal growths in women by digital examination

7 *Gradual Dilatation with Rectal Dilators* —This is a procedure which I have not seen recommended by others in this country, but its adoption will be found most advisable In some cases gradual dilatation is not necessary, but for routine purposes, especially when examining a nervous patient for the first time, it is always advisable to pass first one dilator of a calibre smaller than the proctoscope, as it greatly facilitates the passing of the latter An even more important point in favour of gradual dilatation before injection is that it causes diminution or cessation of bleeding from piles In several cases where haemorrhage was one of the most troublesome symptoms and where on examination the sphincters were found to be very tight, I have only dilated the sphincters and

did not inject any of the haemorrhoids at the first consultation I found at a subsequent visit that the haemorrhage had considerably diminished, and in some cases had ceased This result is not surprising when it is remembered that forcible divulsion of the sphincters with the fingers under anaesthesia is often practised by many surgeons as the sole treatment for small piles where haemorrhage is very troublesome, and that haemorrhage seldom persists after this treatment It was the recognition of this fact that led me to adopt dilatation as a help to injection in the treatment of bleeding piles

The beneficial effects of dilatation are probably brought about as follows In any ano rectal condition where discomfort and pain are prominent symptoms spasm of the internal and external sphincter ani muscles becomes marked and the expulsive power of the rectal and other muscles used in defaecation becomes reflexly diminished As a result the bowel never empties itself completely and faeces accumulate, causing pressure on the piles and haemorrhage Dilatation overcomes the spasm of the sphincters, the bowels act more freely, and pressure is thus removed from the varicose condition Dilatation gives the best results when the piles are of the venous type and permanent cessation of bleeding with complete disappearance of the haemorrhoids sometimes results from dilatation alone when veins only are present in the haemorrhoids, and when the latter are small All internal haemorrhoids begin as venous piles, it is only in the later stages that arteries and capillaries enter When arteries or capillaries are the principal vessels in the haemorrhoids, dilatation may still cause cessation or diminution of bleeding, but the effects are only temporary, as in these cases it is the veins in the piles that are principally relieved, the arterial structures being affected to a much lesser extent Sometimes the original veins become thickened, thrombosed, or may even become obliterated so that arteries or capillaries are practically the only vessels left in the haemorrhoids Where systematic gradual dilatation is not employed, it is probable that it is the dilatation caused by the passing of the proctoscope which is largely responsible for the rapid temporary disappearance of the bleeding which frequently results after the first injection when only one or two piles have been injected Experience, however, has taught me that the haemorrhage would soon return in most cases if the injections were discontinued before the disappearance of all the piles In a few very rare cases dilatation fails to give satisfactory results When gradual dilatation is carried out with the object of relieving haemorrhage and overcoming spasm of the sphincters, dilators up to a size larger than the proctoscope should be passed

8 *Examination with Proctoscope*.—The proctoscope, previously sterilized, should be dipped in weak antiseptic lotion warmed to body temperature well lubricated with vaseline, and gently passed to its full length into the rectum the obturator should then be withdrawn Two points now present themselves for consideration

(*a*) Examination of interior of rectum to exclude any other abnormal conditions that may coexist with haemorrhoids, such as fistulae, polypi, ulcers, fissures growths The necessity of a thorough rectum in treating haemorrhoids or any other ano rectal lesion cannot be too strongly emphasized as these lesions are frequently only a symptom of or may coexist with some more serious trouble, such as cancer of the bowel The lower bowel (rectum and sigmoid) is one of the commonest sites in the body for the occurrence of cancer Unfortunately, however almost every complaint of the anus and rectum is generally attributed by the public to piles, and it is a sound axiom of rectal practice that Every patient who complains of bleeding from the bowel should be suspected of suffering from a cancerous growth until a careful examination has proved the suspicion to be groundless In cases of suspected lesions higher up the bowel the sigmoidoscope should be used for purposes of diagnosis

(*b*) *Accurate diagnosis* of the haemorrhoids, their number and position in the bowel To ensure an exact diagnosis it is well to remember that the anal canal is about 1 to 1½ inches long and that the pile bearing area—that is the site of origin of internal piles—is situated at the junction of the rectum and anal canal just above the sinuses of Morgagni and anal papillae external piles occur below this area Thus about 1 to 1½ inches must be traversed before the true pile-bearing area is reached and before the haemorrhoids are injected The anal canal, being richly supplied with nerves, is very sensitive whilst the area above the upper limit of the anal canal—that is above the sinuses of Morgagni and anal papillae—is almost insensitive for injection purposes There should therefore be no injecting in the lower area if pain is to be avoided, and this latter complication should never occur if the anoscope, and not the proctoscope, is used The anoscope is 1½ inches long and when in position the actual pile bearing area prolapses into the lumen, it may sometimes be necessary to withdraw the anoscope half an inch before the piles prolapse into its lumen The anal canal is lined by modified skin which merges into mucous membrane at its junction with the rectum proper It is beneath this anal lining that external haemorrhoids occur, and they are due to dilatation and varicosity in its veins External piles are covered with skin and internal piles are covered with mucous membrane there should therefore be no difficulty in distinguishing between them External piles cause no symptoms and are scarcely visible until they become thrombosed and inflamed internal piles are plainly visible on examining with the proctoscope, and except in their late stages are seldom thrombosed and inflamed External thrombosed and inflamed or blind piles appear as black or blue black hard swellings at the edge of the anus and are usually very painful and tender In no circumstances should external haemorrhoids or any structures covered by true skin be injected, or sepsis and much pain may result The best treatment for external thrombosed piles is to snip the top off under aseptic conditions with a scissors and turn out the clot

9 *Injection of the Piles*.—The following points present themselves for especial consideration

(*a*) Number of haemorrhoids to be injected at each sitting For routine treatment it is advisable that not more than two haemorrhoids should be injected at one sitting If the haemorrhoids are very large, only one should be injected experience will teach when it is wise to inject more than two A large haemorrhoid can be described as being the size of a medium sized chestnut, anything above this size can be classified as very large A small haemorrhoid I would describe as anything smaller than and up to the size of an ordinary raspberry Medium sized haemorrhoids would be anything between the above mentioned standards Some doctors inject all the haemorrhoids at one sitting and get excellent results in many cases, but they are experienced proctologists, and long practice has taught them the types of case suitable, the amount of fluid to be injected (this frequently varies for each haemorrhoid to be injected), and many other points which only experience can teach Mr Morley who has had much success with injections advises and practises injection of all the haemorrhoids visible at each consultation Despite the excellent results obtained by some who adopt this procedure it is probable that the results would be even better still, and the few cases of severe pain, sloughing and irritation of the bladder which are reported when all the haemorrhoids are injected together would be unknown or exceedingly rare, if not more than two or three were injected at a time Moreover, when all the piles are injected together a feeling of heat and heaviness or aching usually persists for several hours, and may cause loss of sleep I consider this a complication especially since this trouble can usually be avoided by injecting only two or three haemorrhoids at one time Pain varying in intensity from slight to very great and sloughing are much more liable to occur when all the piles are injected at one sitting Since giving up this latter practice I have not had a case where great pain was an after effect and it is most unusual to find that a patient even complains of discomfort Mr Eadie who has also had much experience and success with this form of treatment injects not more than three at one time and this is a procedure I myself usually adopt The advantages claimed for the injection of all the haemorrhoids together are that fewer consultations will be necessary and that symptoms disappear quicker—distinctly attractive points for patients who live at a distance and to whom the trouble and expense of frequent journeys may be of much moment When in doubt, however as to whether to inject all or only two haemorrhoids, I think one should be guided principally by the consideration of what procedure is least likely to cause results, such as pain, which would necessitate the patient having to lie up This complication is distinctly awkward when the patient lives at a distance When all the haemorrhoids are injected together it is advisable to have an interval of one week between injections when not more than three are injected, an interval of three clear days between injections will suffice so that although more injections will be necessary in the latter case, the time elapsing until cure is complete will be the same in each instance The advantages claimed for injecting all at one sitting are thus only superficially attractive The average patient would willingly elect to attend for a few extra injections rather than run even a slight added risk of painful complications

(*b*) Selection of haemorrhoids. The lower piles should always be first injected If the upper ones are selected and it is then found necessary to inject the lower at the same sitting, oozing from those first injected may obscure the latter

(*c*) Site of injection The haemorrhoids having been swabbed with antiseptic lotion the needle is thrust into the centre or apex of the selected pile If the pile is a large one the needle, which is about half an inch long should be plunged in right up to the shoulder if the pile is a small one, the needle should

not be thrust fully in, but care should be taken not to inject too superficially, or sloughing of the mucous membrane covering the pile will result practice alone will teach the correct depth I usually allow a drop of carbolic solution from the syringe to fall as an antiseptic on the spot at which I intend the needle to enter and then puncture through it I prefer this to my previous practice of touching the pile at the point of entry with pure carbolic acid, as the latter is liable to cause slight sloughing and discomfort It is doubtful, indeed, if either procedure is of much advantage provided that haemorrhoids are well swabbed with bimiodide lotion When very large haemorrhoids are injected and their disappearance seems to be slow, it is a good plan to make the later injections well above the point of entry of the original one and the last ones slightly below, being careful not to inject too low, or too much fluid

(*d*) *The amount of fluid to be injected* This depends on the size of the pile, and can only be learnt by experience A safe rule is to inject 5 minims for each large haemorrhoid and 3 minims for smaller ones when in doubt, always inject the lesser amount I have on occasions injected 10 minims with no ill result If when the needle is inserted the patient complains of pain, and the pain increases when a drop of fluid is injected, it is fairly certain that the injection is being made too low down, and the needle should be withdrawn immediately The anal canal is richly supplied with nerves and is therefore very sensitive, moreover, the tissue lining the anal canal is cutaneous in character, and should the carbolic solution be injected beneath the anal lining severe pain lasting many days, and possibly abscess with subsequent fistula formation, may result The real pile bearing area just above the papillae is almost insensitive and injections here are scarcely felt The carbolic solution should be injected slowly drop by drop, and the needle should not be withdrawn from the pile until half to one minute has elapsed If the needle is withdrawn immediately after injection, some blood will escape and with it much of the injected fluid The pile swells up after injection and assumes a whitish colour, at least this is what usually happens and is what one wishes to see, because it is a sure sign that the injection has been successfully effected Should this whitish appearance not result, however, as not infrequently happens, it does not follow that the injection will be unsuccessful On no account should a further amount of fluid be injected in the hope of producing this white appearance of the pile The same procedure is adopted for each pile should pain result from any injection, further treatment should be deferred till all pain has disappeared

How many Injections should be given?

Injections should be given until all troublesome symptoms have disappeared and there is no prolapse into the speculum, even when the patient coughs It is seldom that more than six visits for treatment are necessary, frequently two or three are sufficient, but it naturally depends on the number of haemorrhoids present It is probable that when experienced practitioners do not get completely satisfactory results it is because they have not given enough injections to the larger haemorrhoids One should not take the patient's word that he is cured because bleeding and obvious prolapse have disappeared, proctoscopic examination as indicated above is the real test of cure If any trace of the haemorrhoids is left, recurrence is most likely to happen

Contraindications to Treatment

Haemophilia is practically the only contraindication to the treatment of "uncomplicated" haemorrhoids by injection Piles complicated by the presence of fistulae, fissure, polypi, prolapse of rectal wall, or any other abnormal rectal conditions which may need operative treatment, should be removed by operation (the ligature operation for choice) at the same time that the latter conditions are being treated Patients suffering from cirrhosis of the liver, nephritis, cardiac disease, abdominal tumours, enlarged prostate, displacement of the uterus, and constipation, frequently suffer from piles, and these complaints should be remedied or relieved as much as possible before treatment of the haemorrhoids can be successful

Complications

When the treatment is properly carried out only one complication is liable to occur, and even this is not due to the treatment, but to failure of the patient to carry out instructions after injection This complication is prolapse of the piles with subsequent strangulation and sloughing, and it occurs as follows after injection the piles swell up and are liable to prolapse, when prolapsed, if they are not pressed back immediately into the bowel, the sphincter is liable to contract, preventing their return and causing them to become strangulated and sloughed The patient should always be warned after each injection that prolapse is likely to occur, and that, in the event of it happening, the haemorrhoids should be covered with vaseline and pressed back into the rectum Neglect to observe this precaution causes the very painful complication mentioned above Other complications which may occur on rare occasions, and which are nearly always due to faulty technique, are

(*a*) *Pain*—The causes of pain are (1) thrombosis, (2) injecting too much fluid, or using too strong solution, thus causing sloughing and thrombosis, (3) injecting too low down in the anal canal, (4) rough digital manipulation causing fissure, (5) prolapse and strangulation of the piles (6) injection of inflamed piles When piles are inflamed injection should be deferred until the inflammation has subsided

(*b*) *Sloughing*—This is usually due to injecting too superficially, or injecting too much, or a too strong solution Part of the mucous membrane covering the pile, or the whole pile itself, may slough away, and considerable pain result, depending upon the extent of sloughing, which may last several days, but is usually the only ill effect Sedative suppositories or sedative enemata and local cold or warm applications should be employed to deal with any troublesome ano-rectal pain

(*c*) *Abscess Formation*—I have never had a case of sepsis resulting from injection in my own practice, but I have seen a few in the practices of some general practitioners who were attempting the treatment for the first time In most of these cases the haemorrhoids had been injected too low down, in two cases skin-tags had been injected, and in another an attempt had been made to inject a thrombosed external pile Perianal abscess of varying size resulted in each case, and the condition was very painful and distressing These unfortunate results were obviously due to gross errors of technique

(*d*) *Haemorrhage*—I have fortunately never encountered, in several thousand injections, a single case of troublesome bleeding as the result of injection, but on a few occasions haemorrhage has continued for some minutes Formerly I used to insert a suppository of adrenaline in such cases, but I have now abandoned this practice, I find it unnecessary, as bleeding usually stops spontaneously in a few minutes The patient should not, however, be allowed to leave until one is sure all bleeding has ceased Should a case be encountered in which haemorrhage persists despite the use of adrenaline, the bleeding point should be examined through the speculum and a haemostatic clamp applied for a few minutes The type of bleeding (oozing, flowing, or spurting) depends on whether capillaries, veins, or arteries predominate in the pile

(*e*) *Frequency of Micturition and Slight Pain in the Genito-urinary Tract*—This is probably due to irritation of the prostate and urethra by the carbolic injection I now make it a practice never to inject all the haemorrhoids in this region at one sitting, and since adopting this procedure I have not encountered the above-mentioned complications Complete retention of urine after surgical operation on piles is not an infrequent complication, but I have never seen or heard of this occurring from injection

Manner in which Injections cause the Disappearance of Haemorrhoids

The carbolic acid sets up a mild inflammation resulting in the formation of fibrous tissue, and the latter by contraction eventually causes gradual occlusion of the blood vessels, thus cutting off the blood supply to the pile It is most probable that coagulation takes place within the vessels of the haemorrhoids during this gradual process of occlusion, and this coagulation is probably aided by a mild phlebitis set up by the solution Sometimes the carbolic solution, instead of setting up a mild inflammation, gives rise to very acute inflammatory changes When this occurs the coagulation necrosis or thrombosis in the vessels becomes most marked and pain ensues, varying in intensity according to the degree of inflammation This complication is usually

due to injecting too much or a too strong solution Except for the pain and discomfort I have never known any other complication arise as the result of thrombosis, nor have I heard of any in the practices of other doctors Embolism and empyema are theoretically liable to occur, but happily in practice they do not happen, or only with great rarity

What Type of Case is Suitable for the Injection Treatment?

There is much divergence of opinion on this point, and I can only give my own experience and method of classification For purposes of injection I divide haemorrhoids into three classes (1) Those in which I expect and usually obtain a completely successful result Under this heading I include every case of internal piles irrespective of size and extent of haemorrhage, *provided that they are uncomplicated by* fissure, fistula, sloughing, ulceration prolapse of normal rectal mucous membrane, and are not markedly fibrous or polypoid (2) Those where as a rule only partial success is obtainable although occasionally a completely successful result may ensue *By partial success is meant the* disappearance of troublesome symptoms such as bleeding, but prolapse may still exist to some extent Under this heading I class partly fibrosed piles, haemorrhoids complicated with varying degrees of prolapse of the normal rectal mucous membrane, and those which from frequent prolapse have dragged the cutaneous lining of the anal canal down with them, the latter covering the lower part of the prolapsed pile like a cowl, when seen for the first time they may be mistaken for a polypus Care is necessary in treating these two latter types of haemorrhoids since there is danger of the fluid spreading under the skin if the injection is made low *In the treatment of this latter type of case the com* plication of sepsis (perianal abscess) is most likely to occur, and unless the patient strongly objects, it is probably best to advise operation, as satisfactory results from injecting this kind of haemorrhoid are uncertain (3) Those cases in which injections should never be attempted and for which surgical operation alone should be advised—for example, gangrenous, ulcerated, and sloughing piles, haemorrhoids almost or completely fibrosed, and those complicated by any other abnormal conditions for which operation will be necessary, such as chronic fissure, fistulae, polypi, and benign or malignant growths As an operation will be necessary to remedy these conditions the haemorrhoids should be operated on at the same time

Instructions to Patient

During treatment a daily action of bowels is essential, and a gentle laxative should be taken daily if necessary, to ensure that the motions will be soft The patient need not lie up after injection, and may carry on his usual routine work, but strenuous exercise such as cycling horse-riding or dancing should not be indulged in on the day of injection Black coffee and meals immediately after injection should not be taken Alcohol should be avoided or only used very sparingly When treatment is completed the habit of regular daily evacuation of the bowels at a fixed hour should be advised Straining at stool should be avoided and a mild laxative taken regularly if necessary

I have described the technique of injection in detail as it is intended to be helpful to those practitioners who are employing this method of treatment for the first time, it is only by great attention to detail that successful results can be assured and ill effects avoided Although a simple matter to those accustomed to ano-rectal work and only taking a few minutes to accomplish, yet for the beginner the difficulties attending the acquisition of the special technique attaching to the practice of ano rectal work are similar to those encountered in other specialties, such as ophthalmology It is advisable, therefore, that as much practice as possible under skilled tuition in the out-patient department of a general or special hospital should be obtained before attempting injection in private practice

Messrs Arnold and Sons (Bell and Croyden) have made to my specification an outfit for the injection treatment of haemorrhoids which contains everything necessary for the actual injection and for dealing with any complications that may arise

A Lecture ON BRAIN AND MIND *

BY

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BETWEEN the primitive type of central nervous system, with its purposeful reflex unconscious actions, as seen in the earthworm, and the highly complex brain of man, with its manifestations of speech, thought, reasoning, delayed reaction to the stimulus memory, and so on, there is an immense gulf So much so, indeed, that it is not uncommon to find the human mind spoken of as though it were something which had no physical basis The truth is that all mental phenomena depend strictly on physical construction, and that the elementary basis of such construction is always the neuron

The nervous system is everywhere built up of a series of long conducting neurons, connected by a series of shorter neurons The former comprise the receptor and effector neurons the latter the internuncial Medical and physiological attention has been chiefly devoted to the long conducting neurons, because lesions occurring therein have been fairly obvious and are of everyday frequency In the study of the phenomena of mind and its aberrations it is however, *the short internuncial neurons which become of* supreme importance In the human cerebrum a sufficient number of such neurons are massed together to give those special reactions to the environment which we term "mind", all mental phenomena are entirely conditioned by a highly complex series of neurons linked together in series of arcs

Structural Elements of a Neuronic Arc

Neurons are always linked together, for functional purposes in neuronic arcs A neuronic arc of the simple type found in the segments of the earthworm, consists of

(1) A sensitive receiving organ (receptor or sense organ)

(2) A conductor—that is a receptor sensory or afferent neuron which transmits the stimulus received in the form of a nerve impulse in an inward or central direction

(3) Short adjustor internuncial neurons usually limited to the grey matter of the central nervous system and found in the case of the earthworm in the neuropile of *each segment and in the* case of man in the association areas of the human brain

(4) A second conductor—that is an *effector motor or efferent* neuron which transmits the nerve impulse in an outward or peripheral direction to—

(5) The effector apparatus which comprises the muscles, glands or other organs of response and the terminals of the efferent nerves upon them

In the earthworm these elements of a neuronic arc are found in every segment The receptor or sense organ is in the cuticle When suitably stimulated it causes the receptor neuron to transmit a nerve impulse to the neuropile within the ganglion of the segment The impulse is then conveyed to the internuncial neurons, and may pass thence in one of two directions Assuming for the moment that the impulse is confined to the segment concerned, then the effector neuron is aroused to a discharge of nerve energy, and so the effector apparatus—the muscle of the segment —is stimulated to contract, and there is thus a direct reflex response to the original stimulus Such an action is an unconscious purposeful reflex action

In the common earthworm there is no "brain" The so-called "end brain" of the earthworm is merely a fusion of certain ganglia, which dominate the local activities of the several segments and enable the animal to react, as a whole, to the external and internal bodily stimuli The histological construction of this "end brain" of the earthworm does not differ structurally from that of the neuropile of the segments, except in so far as it contains a larger number of integrating internuncial neurons

* The lecture was delivered last year as an introduction to a course of neurology in the University of Melbourne and has been slightly curtailed for publication.

The purposive character of the reflex actions seen in the earthworm, or as obtained experimentally from the spinal frog, has sometimes lead to the belief that such animals—spinal cord animals—have a guiding intelligence "At the present time we recognize that every reaction of a living being must be purposive, in the sense of being adapted to the preservation of the species, if the latter is to survive in the struggle for existence The question as to whether we are justified in predicating the existence of even a germ of consciousness or volition in the spinal animal must be decided in the negative" (Starling) As Sherrington expresses it, "where even simplest ideas are not, there cannot be consciousness" Consciousness, then, like all mental phenomena, primarily depends on a relative sufficiency of neurons at the cephalic end of the neural tube, in which the memories of previous receptor impulses may be stored up, and these the earthworm does not possess

Specialization of Internuncial Neurons

As increasing functional demands are made upon the nervous system in accordance with the increasing rises in animal intelligence, from purposeful unconscious reflex actions to complete voluntary and conscious control over these actions—that is, the power of delaying or inhibiting the effector responses to the receptor stimuli—the internuncial neurons not only increase in numbers and complexity of connexions, but they begin to be specialized for such purposes as correlation, association, and integration Further, they tend to be collected together, as their numbers increase, into cerebral vesicles, at the cephalic end of the neural tube

Transitional Types of "Brain" between the Earthworm and Man

The immense gulf between the primitive nervous system of the earthworm and the complex brain of man, both structurally and functionally, is bridged by living and intermediate animal forms If the central nervous system of such living animal forms as the earthworm, [illegible] be regarded in series, [illegible] tinually being added to it, from the teleostean fish, alligator dog [illegible] lamprey, tube addition [illegible] anthropoid ape, and man be [illegible] disappeared and the [illegible] will be observed that there is con- [illegible] when the patient is [illegible] on to the cephalic end of the neural [illegible] six visits for [illegible] additional numbers of neurons linked together in series [illegible] three additional numbers of neurons are developed [illegible] arcs, and that these additional neurons are developed within successively added cerebral vesicles The last one of these to be added in each animal form constitutes the "end-brain"—a somewhat misleading term, because it does not follow that the end-brain of one animal is the same as the end-brain of a higher animal In fact, it is not As each one of these new end-brains is added there is a shifting forwards to it of the higher functions of which the animal is capable, and the last added assumes control over all the older ones This process of shifting forwards of cerebral function to a newly added end-brain is known as "telencephalization" The histological construction of these successively added end-brains involves the additions of an increasing complexity of internuncial neurons, so that comparative anatomy compels the conclusion that, no matter what may be the behaviour or mentality of the animal, its physical instrument is always the neuron

Five Epochs of Neuronic Arcs

Every living animal reacts to its environment in accordance with the structural evolution of its nervous system—that is to say, its motions or behaviour must be strictly adapted to its requirements If the environment be simple, little adaptation is needed and motion is correspondingly simple Cajal recognizes five epochs or types of neuronic arcs through which centralized nerve control has passed These are as follows

1 The epoch of irritability as in the sponges
2 The epoch of the reflex arc as in the coelenterates or sea anemone
3 The epoch of the intersegmental reflex arc as in the earthworm
4 The epoch of the suprasegmental reflex neuron, as in the lower mammals
5 The epoch of the psycho associational neuron, as in man

1 *The Epoch of Irritability*—In the Porifera or sponges a stimulus, chemical or physical, received by a receptor cell on the surface of the organism, is transmitted directly to an effector or motor cell, which contracts immediately in response to the stimulus This is the epoch of irritability, and is the primitive functional basis of the nervous system of all animals, man included As there is no immediate tissue whatsoever between the receptor and the effector cell, a stimulus is immediately followed by a local reaction, and the exact nature of the response to the stimulus can be predicted with certainty

2 *The Epoch of the Reflex Arc*—In the coelenterates—for example, the sea anemone—the receptor stimulus from a limited area of reception is transferred, through a neuronic reflex arc of the very simplest type, to an extensive area of reaction This stage, in which several parts of the body may be made to react in response to a single stimulus, is a very significant advance in the evolution of a nervous system, and necessitates the introduction of an intermediate element, the evolution of which results in the appearance of the rudiments of the nervous system One cell becomes specialized for the receiving of impulses, and another for their transmission The former eventually develops into the receptor system, the latter into the effector, whilst the two together form a neuronic reflex arc, which is the structural basis of all nerve phenomena, mind included

3 *The Epoch of the Intersegmental Reflex Neuron*—Where the animal body becomes definitely segmented, as in the earthworm, there is a further development, which assumes the form of a new neuron interposed between the receptor and effector elements of the neuronic arc This new element may be tentatively termed the "internuncial neuron" By its agency incoming stimuli may be passed on to the effector neuron of the segment, or may be transferred to the head ganglion, where the receptor stimuli from all the segments may be co-ordinated and welded into a harmonious whole These internuncial neurons are, in the earthworm, found in the neuropile and the head ganglia [illegible] several thousand [illegible] By their means incoming stimuli may be brought into [illegible] reaction" [illegible] other segments relationship with their own as well as

4 *The Epoch of the Suprasegmental Reflex Neuron*—In all segmented animals, such as most vertebrates lower than the mammal, the reflex arc and the intersegmental reflex internuncial neuron suffice to regulate the motor reactions in the behaviour of the animal All motions are immediate responses to the stimulus—that is, they are reflex actions, consequent on the translations, without any delay, of receptor stimuli into motor responses In all such animals the behaviour will be in strict accordance with the stimulus The combinations of these stereotyped performances will be limited in their scope and rigid in their form In the higher animals immediate response to the stimulus would often be disadvantageous to the animal's welfare, and it becomes, therefore, essential to the well being of both mammals and man to have a period of latency between the receipt of the stimulus and the motor reaction The new element which so produces the period of latency by holding in check the motor response to the stimulus until the most favourable moment has arrived for its accomplishment provides the important factor of inhibition, which has attained its highest development in the brain of the normal man The neuronic machinery by which this is brought about consists in the addition of an enormous number of suprasegmental neurons collected together into successively added end-brains Behaviour is then no longer a matter of instantaneous impulse, but is made subject to a certain degree of supervisional review, guided by a primitive form of judgement which may be taken to mark the beginning of psychic life

5 *The Epoch of the Psycho-associational Neuron*—The final step in the centralization of the nervous mechanism enabling it to attain the consummation of its function capability, is reached with the addition of the psycho associational neuron, and attains its highest development in man By this means numerous associations are made possible between the various types of sensibility, including somaesthetic sense, vision, hearing, taste, and smell, o

of which the individual is constructed and upon which the foundations of all the higher faculties rest (Tilney and Riley)

Logical Deductions from Brain Structure

The inevitable and only logical conclusion is that the neuron, particularly the short interpolated or internuncial neuron, is the physical instrument of mind, and that consciousness, memory, speech, thought, and reason can only manifest themselves when there are a sufficiency of neurons for the purpose If, in the human being—in whom it is estimated there are 9,280 million neurons in the cerebral cortex—these neurons should be markedly deficient from any cause whatsoever, there are produced equally marked aberrations of intelligence and mind

Other Factors in the Production of the Manifestations of Mind

Although stress has been laid upon the importance of the neuron in all mental phenomena other factors are concerned Time will not permit of their discussion at the moment, but among them are

1 The state of development and physiological condition of the neurons.

2 The number and nature of the receptor impulses transmitted to the central nervous system

3 The potential energy developed by the neurons

"One of the most striking characters of the neurons, at all events in the higher vertebrates is that, contrary to the cells of other organs, the whole of those which the adult animal is to possess are present at birth gradually taking on functional activity There is no evidence of any regeneration after destruction or death of any individual neuron' (Bayliss) "In the case of medullated nerves, the acquiring of the fatty or medullary sheath is the sign that the neuron is ready to transmit impulses' (Harris) Without that sheath the neuron will not transmit impulses—that is, until development is completed the neuron cannot function Notwithstanding that, physiologically, little is certainly known as to the functions of the myelin sheath in medullated nerve fibres, it appears to be certain that myelination is essential to a correct and normal functioning of the central nervous system as opposed to the autonomic nervous system But the anatomist is not unmindful of the fact that the whole of the white medullary centre of the cerebral hemisphere is entirely made up of many million myelinated association, commissural, and projection fibres, all lying in the closest juxtaposition, and he asks himself Supposing those fibres should remain partially undeveloped—that is, only partially myelinated throughout the whole of life—can there be a normal mental functioning of the brain? Is it not more reasonable to suppose that under such conditions the nerve impulses will undergo dissipation before arriving at their correct destination and so give rise to hysterias and other mental conditions characterised by irresponsible reaction to the environment? Because as Starling says, the main nerve tracts cannot be shown to be functional before the date at which they acquire their medullary sheath

Again, the vast importance of temporary or permanent exhaustion of the nerve cells—that is chromatolysis—in altering the mental reactions is not sufficiently realized Sherrington's work has familiarized us with the incoming to the brain of enteroceptive impulses from the viscera and internal bodily world generally, of proprioceptive impulses from tendons, muscles joints, and exteroceptive impulses from the external world around us but whether the real significance and profound influence of these impulses on brain structure and the manifestation of mind are equally well understood is another question As Fladd and Hill remark, "exteroceptive, proprioceptive, and enteroceptive impulses stream into the central nervous system from the time of its embryonic development until death, ceaselessly modify the pattern of its structure, lay down the pathways of reflex actions and establish habits" That splendid instance of scientific observation and logical deduction, Dr J S Bolton's *The Brain in Health and Disease* contains many examples of actual neuronic alteration in brain structure—and therefore in mentality—as a result of a deprivation of incoming receptor impulses Most of us who are called upon to study the aberrations of the human mind are fully and painfully aware of the fact that "in the case of children deprived of the senses of hearing and vision from birth there results the condition known as 'idiocy from birth from deprivation of the senses' They experience fewer sensations than healthy children, and are therefore mentally deficient, and have fewer fully developed cortical neurons" No explanation of emotions, passions, and moods, or of their appropriate motor or effector responses or inhibitions, can be accepted which is not equally applicable to all living animals in accordance with their position in the evolutionary scale and their nervous systems Such explanations must be further applicable to all conditions of health and disease under which those emotions are displayed, and this, in my judgement, is where psychology fails Its explanations almost invariably forget these essentials, and its exponent almost equally invariably introduces his own personality into that of others One's own individuality is compounded of one's own receptor impulses, and it is frankly impossible to believe that some other individual has experienced precisely the like impulses, or has had the same neuronic patterns for those impuses to traverse, and the same number of nerve cells for their storage

What is nerve energy? Just as the physicist uses the term "gravity" to denote a force which he can measure, and the influences of which he can observe, but of whose nature he knows little or nothing, so has the neurologist to employ the term "nerve impulse" or "nerve energy" to denote a phenomenon of which he knows little beyond its observable effects, and yet there are many nervous diseases where it is not improbable that there is an altogether abnormal and irregular discharge of nerve energy

The elements of a neuronic arc are, certainly in all higher vertebrates, structurally discontinuous—that is to say, there is a break between any two of the three elements, termed a synapse or neurosynapse, which the nerve energy generated by a neuron has to cross in order to stimulate the next neuron Now "nerve cells are constantly generating, receiving, or storing up nerve impulses" whilst another function 'of the nerve cell is the delivery or transmission of impulses which it generates, receives, or stores up' (Tilney and Riley)

The mammalian cerebral cortex is built up on an infragranular basis (Watson) and a trilaminar arrangement of nerve components with the granular cells (Golgi Type II and others) on the exterior, whilst the human cerebral cortex is extended by the addition of two other layers outside the granular layer—that is to say it is a five-laminar cortex The whole construction of the vertebrate nervous system is such as to compel the conclusion that the innumerable short cortical cells of the human cerebral cortex particularly those within the association areas are the physical storehouses of memory and hence of speech reason and thought When therefore a well known English medical man writes that 'nothing but hopeless confusion can result from the mixture of brain cells and ideas," I would rather state that it is exactly this divorce which is responsible for the hopeless confusion, and that the sooner we begin to visualize all mental phenomena in terms of cerebral neurons the more rapid will be our progress If the ideas are not in the brain cells where are they? And why is the human microcephalic idiot so hopelessly devoid of ideas if it is not because he is so grossly lacking in brain cells?

Speech

The whole phenomena of the acquisition of speech and the allied arts of reading writing and so forth as well as their loss or impairment by disease, are much more nearly related to numbers of neurons than has been supposed Marie urges that in true aphasia intellectual impairment is invariably present He considers that the notion of intellectual impairment should dominate the doctrine of aphasia On neurological ground alone it is difficult to see how anyone can fail to be of Marie's opinion

Man is the only animal gifted with the powers of

speech, with large association areas and an adequate supragranular cortex, and even then his neurons have to be laboriously taught to acquire those properties of speech, reading, and writing which go to make education possible If he is under-neuroned from the outset the acquisition of these properties is correspondingly difficult, and his intellect or mind will be correspondingly impaired

The conception, which has so long been held in medicine, that there is some particular part of the cortex, such as Broca's area, which is the one and only area concerned in speech, is erroneous At the best the occipital end of the third frontal convolution can be little more than the place of origin of, perhaps, the final common effector pathway In the acquisition of speech many of the neurons of the association areas are vitally concerned, and it is by no means impossible, or even highly improbable, that many of these neurons are the physical storehouses of words and phrases In accordance with neurological principles these neurons are parts of complicated neuronic arcs, and hence speech is often reflex or automatic in its manifestations

Examples are common in which the mechanism of language is employed in a purely mechanical manner Imbeciles can at times learn by rote long paragraphs of the meaning of which they are quite ignorant Children learn a large portion of their lessons in the same unintelligent way Many word complexes are often gone through in a purely mechanical manner, whilst the individual repeating them is thinking of something else In the majority of persons the word vocabulary in daily use is very limited, and the phrase vocabulary is both extremely limited and remarkably stereotyped, and is often quite automatically employed

Whilst it is extremely likely that there are, in the association areas of the human brain, regions where there is a convergence of neuronic arcs concerned in certain educational functions, such as writing, reading, and so on, it is most improbable that these are absolutely restricted areas, and consequently we should never expect, on neurological grounds, to find the same lesion producing precisely the same results in all cases, because there is the second position of the lesion to be considered, its depth, the numbers of neurons possessed by the individual, and the number actually destroyed by the lesion Hitherto clinical medicine seems only to have taken into account the precise site of the lesion, and seldom the depth, hence much of the confusion

In the human brain the purely physical portions of the human neopallial cortex—that is, those concerned with sight, hearing, taste, general sensibility, voluntary motion, etc—remain much as in other mammals, except that they are more richly endowed with supragranular cortical neurons linked up with each other and with other portions of the cortex by internuncial neurons, whereas the association areas become greatly extended Comparative anatomy, evolution, and histology, all compel the conclusion that the association areas of the human brain are the suprasegmental equivalents of the neuropile of the common earthworm It is, therefore, the neurons of the association areas which form the physical instruments of speech, thought, reason, and the higher mental faculties, and the additions of these faculties is always strictly in accordance with additions of neurons linked together in complex arcs, until, according to Herrick, the sum total is reached, in the human cerebral cortex, of 9,280 million neurons—a number immensely in excess of that possessed by any other animal

Summary

In concluding this brief and necessarily imperfect account of the dependence of function—that is, mind—upon structure—that is, the neuronic arc—I am necessarily compelled to set forth certain apparently dogmatic statements, leaving the evidence upon which they are based to a later part of the course These are as follows

1 The mode of cortical association between the conducting limbs of neuronic arcs would appear to be a much more important subject than has been supposed, and to play a vital part in all mental phenomena A close study of the structural details by which this is brought about seems to lead to some quite new conceptions of memory, mind, and speech

2 The cerebral cortex is a vast collection of neuronic arcs, with a complex series of internuncial neurons between the limbs of these arcs In everything but simplicity these conform to the type found in all vertebrates

3 In the more recently evolved suprasegmental portions of the nervous system the mode of union of conducting limbs of neuronic arcs appears to differ from that of the relatively simple type of the older segmented portions

4 These differences in the mode of union appear to be strongly suggestive of the fact that it must be the many short neurons of the suprasegmental portions of the nervous system which have, as their special properties, the storing up, transformation, and dispersal of nerve impulse or nerve energy, and consequently the granular and association neurons of the cerebral cortex must be the physical storehouses of memory This appears to harmonize with known neurological evidence, to throw much light on many mental processes and functional nervous disorders, and to be not inconsistent with physiological opinions as to the possible functions of the neurosynapse

5 The association areas of the human brain are the fields for all the higher mental functions—such as thought, memory, reason, and speech The capabilities of the human individual in these directions will differ according to the number and mode of connexion of fully developed functioning neurons within these areas "Special talents are due to differences in organization of special parts of the cortex" (Howell) These areas—particularly the pre-frontal—are underdeveloped in low-grade aments (idiots and imbeciles) and to a lesser extent in high-grade aments (mental defectives) (Bolton) The importance of all this is that we are now beginning to know and to be able to prove that there are quite a number of human individuals who, from some cause or another, do not possess their fair share of cortical neurons Dr Bolton's work—as well as that of others—affords ocular and indisputable proof of this, and yet we go on expecting these unfortunate people to react to their environment in a normal manner, and deludе ourselves with the idea that psycho-analysis can replace nature As "bricks cannot be made without straw" neither can a brain deficient in cortical neurons give a normal reaction to the environment From the neuronic standpoint all human individuals may be divided into three great groups the cerebral aments who swell the ranks of our prisons, gaols, reformatories, and asylums, though I must not be supposed to imply that all such are aments—normal neuronic individuals who constitute the vast majority, and the multi-neuronic geniuses with more than their fair share of neurons As a matter of fact there are far more cerebral aments outside these institutions than in them, and many of them find their way into our consulting rooms, where they remain largely unrecognized, or drift into the hands of cranks or quacks who are not improbably as under-neuroned as their victims

6 Man is the only animal with highly developed association cortical areas He is the only animal to speak, think, and reason, and he does so because he has not fewer than three times as many cortical neurons as any other animal hence, a study of brain structure is an essential first step in the study of mind and its aberrations

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

LINIMENTUM CALCIS CHLORINATAE IN THE TREATMENT OF BURNS

NOTWITHSTANDING the great advances made during the war in the treatment of infected wounds, the present-day treatment of burns leaves much to be desired This arises chiefly from the fact that where any considerable area of skin has been removed by burning the antiseptics commonly employed in treatment are quickly rendered inert by the discharge from the wound, or if used in sufficient strength to prevent suppuration are liable to cause symptoms of poisoning from absorption

In pre-antiseptic days the most popular and satisfactory treatment for burns was the linimentum calcis (*B P*) It was soothing and emollient and prevented the bandages from sticking to the wound, thus diminishing the pain of dressing and facilitating the ingrowth of epidermis over the denuded area But the preparation had the serious defect that it was not antiseptic and burns treated with it, especially if large, suppurated freely To obviate this various expedients were from time to time adopted, such as adding eucalyptus oil or carbolic acid to the liniment, but without any marked success

Having a few months ago to treat a case of scalding, it occurred to me that a liniment could as easily be made with a solution of chlorinated lime (liquor calcis chlorinatae *B P*) as with a solution of ordinary lime (liquor calcis *B P*) and that the liniment thus made must possess, in addition to its other qualities, the great antiseptic virtues of the hypochlorites Such a liniment gave results so satisfactory in the case mentioned that I approached the medical officers of two large iron manufacturing concerns, where numerous cases of burns of varying degree are constantly under treatment They now report that burns of all kinds, when freely treated with this liniment, heal rapidly without pain, suppuration, or rise of temperature, that sloughing, dead, or decomposing material quickly disappears, and that, in short, the liniment possesses all the antiseptic qualities of the hypochlorites together with the original virtues of linimentum calcis (*B P*)

Should the liniment in any instance prove too strong, the liquor calcis chlorinatae can be diluted before mixing with the oil with the necessary quantity of ordinary liquor calcis, but this has not been found necessary in India where, owing to climatic conditions, chloride of lime decomposes rapidly seldom containing more than a maximum of 20 per cent of available chlorine

Since all preparations of the hypochlorites deteriorate on keeping it is suggested that the stock solution of liquor calcis chlorinatae for making the liniment be made up freshly at least once a week unless the chlorine content be proved satisfactory by titration that, like eusol, it be kept in stoppered glass bottles away from light, and that equal parts of this stock solution and the oil be mixed together on the day of use

Asansol Bengal J W TOMB, O B E, M D, D P H

SECONDARY HAEMORRHAGE FOLLOWING ACUTE MASTOIDITIS

THE following case is one of the few unfortunate results following the operation for enlarged tonsils and adenoids in a well nourished and robust child

The patient a boy aged 5 underwent the usual routine operation for the removal of tonsils and adenoids at the school clinic The child was allowed to proceed home afterwards in a closed car and was put to bed apparently every care was taken

Ten days after operation he was admitted to the Manchester Ear Hospital with a swelling below the left ear and temperature of 102° F The tympanic membrane was bulging in its postero and superior quadrant and there was slight oedema over the mastoid process The throat was quite clean and the tonsils and adenoids completely removed The membrane was incised and a bead of thin muco pus flowed from the middle ear On opening the mastoid thin yellow pus was found generalized through the cells and in the antrum The lateral sinus was exposed but did not appear to be thrombosed Thin pus had tracked to the neck by way of the sinus groove to a large deep Bezold abscess The sinus groove was followed down and a counter-drainage made in the neck

The temperature did *not* settle after the operation and the child looked extremely ill but the post-aural wound and incision in the neck were discharging freely The second evening after operation there was profuse haemorrhage from the post aural wound and the child died almost immediately A *post mortem* examination was refused but an examination of the wound showed that haemorrhage had come from the jugular bulb

It is interesting to note the rapidity of infection to the mastoid cells and the course of infection to the neck by way of the sinus groove The almost complete lack of resistance is shown by the absence of any granulation tissue on the sinus wall or dura mater, and the fact that there was no previous ear trouble

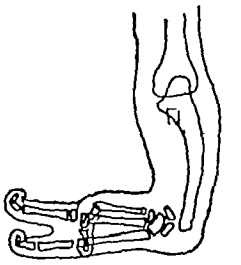
I am indebted by Dr F G Wrigley, who performed the operation, for permission to record these notes

Manchester Ear Hospital L D MERCER, F R C S Ed

CONGENITAL DEFORMITIES OF FOREARM, HAND, AND LEG

THE rarity of the congenital deformity shown in the diagram justifies this communication

The patient is a girl, aged 11 years, in whom the right radius is almost completely absent, and there is no ulnar half of the right hand The radial half of the right hand, which is the part usually affected when a deformity of the hand coexists with congenital absence of the radius, is normal A skiagram shows a shadow at the upper end of the forearm, which is the only evidence of the right radius Some of the right carpal bones are missing, but those present cannot be identified The left radius is completely absent



Right forearm and hand (from a skiagram)

Both hands are "clubbed," but their function is good, the patient being able to write well (left-handed) and to brush her own hair

There was also complete absence of the right tibia, the fibula articulating with the popliteal surface of the femur, the two bones forming an acute angle This leg was worse than useless, and amputation was performed through the above-mentioned articulation An excellent stump has been obtained The left leg and both feet are normal

I am indebted to Mr Acton Davis for permission to publish this case

H ELWIN HARRIS Jun, M R C S,
House-surgeon East London Hospital for Children.

PAROXYSMAL TACHYCARDIA

THE following case, met with in general practice a short time ago, seems worth recording by reason of the comparatively insignificant subjective symptoms

A man aged 38 employed in a flour mill on entering my consulting room complained in the first instance of a septic abrasion of the hand when this had been attended to he mentioned—almost it appeared as an afterthought—that for the past six weeks he had experienced at intervals an aching pain over the upper half of the chest accompanied by a stinging sensation radiating down both arms as far as the hands these sensations together with a feeling of weight in the upper half of the chest had just come on again after his walk up to my house His appearance in no way differed from normal and there was no respiratory distress The pulse rate however was 180 but the patient was quite unaware of any such disturbance Auscultation of the heart revealed the same rate of systolic contractions The sounds approximated very closely to those of the foetal heart There was no irregularity of rhythm

I decided to try to reduce the rate by one of the various devices described in textbooks as sometimes producing the desired result The first and simplest was unexpectedly successful I asked him to take a series of very deep inspirations and the heart rate at once dropped to 90—that is half its former rate

Three days later I was present again during another paroxysm This time however, a series of deep inspirations failed to produce the desired effect the pulse rate actually increased from 180 to 186 The patient continued to have one or two paroxysms a week for about six weeks but at no time was there respiratory distress or any acute subjective symptoms There was no detectable valvular lesion Rest and treatment with digitalis gradually brought about a complete cessation of the attacks

The patient returned to work and has not since complained of anything which would suggest that he is the subject of myocardial degeneration

H L K REYNOLDS, B.A M B Cantab.

York

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS

CHICHESTER AND WORTHING AND HORSHAM DIVISIONS

Treatment of Glycosuria

AT the combined meeting of the Chichester and Worthing and Horsham Divisions held at Chichester on April 3rd, DR W LANGDON BROWN, physician to St Bartholomew's Hospital, London, gave an address on types of glycosuria and their treatment by insulin and other modern methods He said that the aim in the treatment of diabetes should be to work out a plan which did not impose too great a strain on the patient's time and intelligence, yet which fulfilled the indications of keeping the blood sugar normal and the urine free from sugar and diacetic acid Generally, if the first indication were fulfilled the others would be automatically secured But if diacetic acid were present when the blood and urine were normal as regards sugar, the patient was being dieted too strictly If both sugar and diacetic acid were present in the urine of an untreated patient, we might be sure there was excess of sugar in the blood Hyperglycaemia was a defensive measure to prevent the loss of a valuable foodstuff, but it had many disadvantages, one of the most serious of which was the damage it produced in the cell islets, as recently shown by Allen Although he did not believe that all cases of diabetes were pancreatic in origin, it was clear that wherever the trouble started the structure of the pancreas would ultimately become involved Therefore anyone with a resting hyperglycaemia was a potential diabetic

After discussing renal glycosuria, which he did not believe to be a very rare condition, DR Langdon Brown went on to discuss endocrine glycosuria, summing it up as follows Disturbance of carbohydrate metabolism produced through the thyroid first expressed itself in increased basal metabolism, pituitary disturbance the action of insulin, adrenal disturbance in a breakdown of hepatic glycogen into sugar The source of thyroid disturbance must be looked for in toxic foci and emotional states, of pituitary disturbance in organic lesions of the gland itself or in the gonads, of adrenal disturbance in anxiety neuroses The underlying importance of the sympathetic nervous system was obvious

The lecturer then went on to discuss the internal secretion of the pancreas and the steps leading up to the discovery of insulin, pointing out that nearly all cases of clinical diabetes show no other signs of pancreatic disturbance except as affecting the internal secretion In diabetes the metabolism of carbohydrates was deranged first and foremost, but in time all the other foodstuffs were involved, and the rationale of treatment by alimentary rest was to reduce metabolism to a lower level in the first instance After discussing the relative advantages of Allen's and Graham's method of applying this principle, he pointed out the main defect in the method—that is, that it was merely conservative, and that too often the blood sugar continued to rise in spite of it This was just where insulin was such a help, for by keeping the blood sugar within reasonable limits it allowed of adequate nourishment, while the cell islets had the chance of recovery He described cases, chiefly recent ones, in young subjects where this appeared to have occurred He then detailed the plan he usually employed, which allowed of estimations of blood sugar being reduced to a minimum He believed that it was unwise to add carbohydrate to the diet of a patient on insulin until the urine had been free from sugar for two or three weeks He had never had to resort to the administration of dextrose for hypoglycaemic symptoms, and thought that with carefully controlled dosage this should seldom be necessary The method of going about with a syringe full of insulin in one hand and a stick of barley-sugar in the other carried its own condemnation with it But in cases of impending coma insulin must be used boldly It would be found that sufferers from chronic diabetes with a high renal threshold would not stand a rapid reduction of their blood sugar It was not justifiable to use insulin merely to make it possible for a greedy patient to indulge himself freely There were few diseases in which the temperament of the patient played so large a part in determining prognosis, though he had seen the control of hyperglycaemia by insulin have a marvellous effect on the morale, so much did character depend on the efficiency of the endocrine system He strongly objected to the statement so freely made in the lay press that once a patient started insulin he must continue it for the rest of his life Many sufferers from diabetes were now opposed to starting insulin treatment, believing that their last state would be worse than their first if they ever abandoned it This was certainly untrue It was, of course, true that in the present state of our knowledge a diabetic required treatment indefinitely, and it was too early to say that insulin altered this But in young children, in whom the pancreas was still growing, it was not too much to hope that insulin might shield the new cell islets from damage by hyperglycaemia until they were able to undertake their metabolic duties Even in young adults he had seen the urine remain free from sugar and the blood without any excess of sugar when treatment by insulin had been discontinued The early treatment of diabetes by combined alimentary rest and insulin was now full of hope.

Reports of Societies.

EMBOLISM AND THROMBOSIS

A MEETING of the North of England Obstetrical and Gynaecological Society was held in Liverpool on March 14th, the President, DR A DONALD, in the chair

The discussion on Professor Glynn's paper on pulmonary embolism and primary pulmonary thrombosis (reported in our columns February 23rd p. 323), postponed from the last meeting, was opened by Professor BLAIR BELL, who stated that this question was of special interest to gynaecologists, since in their clinics throughout the world this disaster had occurred more often than in the clinics of general surgeons Professor Glynn would, however, be the first to deny that the idea of primary pulmonary thrombosis was a new one It had frequently been discussed during the last fifty years, during which time there had been much division of opinion not only as to whether primary thrombosis in the pulmonary artery was commoner than embolism of the vessel, but also concerning the relation of thrombosis in the systemic veins to clots in the pulmonary vessels, and, moreover, whether clotting in the pulmonary artery was centripetal or the reverse Nevertheless, Professor Glynn's name would always be associated with the pathology of the subject because he had based his views on strict pathological investigation, a method not adopted by the earlier writers Professor Blair Bell thought the main pathological contentions submitted by Professor Glynn could hardly be controverted Professor Glynn stated that he had performed 35 consecutive autopsies on cases of pulmonary embolus and thrombosis, and in 30 (85 per cent.) of these he had found that the fatal lesion was primary pulmonary thrombosis He adduced as evidence of primary thrombosis not only the presence of blood clots, which might be found in all lobes of both lungs, but also proof that they were of *ante-mortem* formation, for age changes, such as deposition of blood pigment, had been demonstrated in nearly all, and commencing organization found in the clot in one-third of the specimens—conditions that could not possibly have developed in the few minutes generally supervening between the onset of the lethal seizure and death The question of the comparatively rare pulmonary embolus did not require special consideration, for the cause and mechanism were easily understood The discussion of Professor Glynn's paper really centred on the problem of the causes and prevention of primary pulmonary thrombosis, and it was probable that the greater frequency of this condition after gynaecological operations was attributable to two causes (*a*) injury to large veins, (*b*) proximity of large vessels

to septic foci Injuries might be produced in several ways, the chief of which were the temporary application of compression forceps to big vessels like the ovarian, and the stripping free of large veins from the surrounding tissues, in which circumstances actual clotting or preclotting changes might more readily be produced in the blood contained within the lumen of the vein The second factor was no less important, since the proximity of large vessels to a septic area was conducive to changes in the blood stream by the passage of toxins or organisms through the vessel walls If the sepsis was severe actual thrombosis might occur in the pelvic veins, in which case a pulmonary embolus was a contingency to be remembered and avoided by suitable measures, such as rest If the sepsis were mild local thrombosis did not occur, but the toxins which reached the blood stream were predisposing factors of pulmonary thrombosis Professor Blair Bell next classified the other predisposing or determining factors of primary pulmonary thrombosis in the following groups (1) Abnormalities in *the blood before operation* Bacterial toxaemias toxaemias due to malignant disease, and anaemia from loss of blood might all, in one way or another lead to conditions in the blood favouring clotting In addition, loss of water from the tissues of the body by excessive preoperative purging must be considered a definitely predisposing cause (2) Abnormalities in the blood after operation After *operation the changes in the blood that predisposed* to clotting were due to loss of fluid from the tissues and the effects of anaesthesia The latter produced in the blood changes that favoured intravascular clotting Many years ago Professor Blair Bell had found that *in vitro* chloroform produced haemolysis much more readily than ether, and he had no reason to doubt that the same might occur *in vivo* Acidosis also, which often supervened on anaesthesia, was a state favouring clotting of blood Deficient oxygenation, the result of inactivity during convalescence, was a factor of the greatest moment (3) Abnormalities *in the rate and force of the flow of blood after operation* During convalescence with the patient bedridden, all mental and physical incitements to a rapid flow of blood, an increase in the blood pressure and a high degree of oxygenation of the blood, were reduced to a minimum How important as determining factors of intravascular clotting the resulting alterations might be would have been *realized from Professor Glynn's remarks about the statistics* of Professor Blair Bell's own cases Nevertheless an endeavour had been made to eliminate as far as possible all predisposing and determining causes, for in regard to intravascular clotting absolute safety could only be obtained by the abolition of all possible influences, and not only of one or two

The various procedures which assisted in preventing the terrible catastrophe were therefore summarized (1) *Preoperative precautions* In cases, especially of fibromyomata, in which the patient was very anaemic, blood transfusion should be practised immediately prior to operation Preoperative purging and starvation were quite unnecessary, and robbed the patient of fluid from the tissues In operations planned in connexion with malignant disease, blood transfusion might greatly improve the state of the patient's blood *In septic cases operation should be delayed, if there* was no danger to life, until some immunity in the patient had been established (2) *Operative methods* In connexion with the operation itself, care should be taken as far as possible to avoid stripping bare the great veins on the wall of the pelvis Clamps should not be placed on large vessels, such as ovarian, prior to ligation, they should be tied cleanly, and then divided This was specially important in hysterectomy for fibromyomata In dealing with torsion of the pedicle of an ovarian tumour in which thrombosis had already occurred, the ovarian vessels should be tied as high as possible, and not merely at the site of the twisted pedicle Septic areas in which organisms were alive should be drained it was a wise procedure to drain all pelvic abscesses not enclosed in the uterus, tubes, or ovaries, which could be removed Loss of fluid was prevented by careful haemostasis, and by avoidance of the undue exposure of the peritoneal surface (3) *Post-operative care* With regard to post-operative measures designed to lessen the risk of pulmonary thrombosis a few only could be mentioned Loss of fluid, which was to some extent unavoidable during an abdominal operation, was made good by rectal salines to which glucose had been added to reduce the condition of acidosis that followed the administration of all anaesthetics, but more especially chloroform, which was still used by some Fluid and food by the mouth should be given soon after operation Intestinal distension, which impaired the movements of the diaphragm, could be effectually treated by the use of infundibular extract followed by turpentine enemata The blood pressure could be raised, if necessary, with infundibular extract Finally, the use of systematic exercises accompanied by deep breathing were of the highest value in the prevention of pulmonary thrombosis Since the adoption in January, 1916, of these, only one patient in the gynaecological wards at the Royal Infirmary and one in private practice had been lost from pulmonary thrombosis The first, a much blanched patient with organic heart disease, died ten days after hysterectomy for fibromyoma The sister in charge decided, on her own initiative, that the patient was not strong enough to practise movements The other patient died on the fifth day after operation, and there was some doubt whether she also was not considered by the sister in charge too ill to perform the exercises—in fact, it was almost certain that she did not do them Naturally in the presence of thrombosis in the pelvic and femoral veins exercises should not be practised lest an embolus be detached, but deep breathing should be employed

From what had been said it would be realized that modern surgical practice included many if not most, of the preventive methods emphasized, and this might have accounted for the fact that death from pulmonary thrombosis was not so common as formerly, when patients were purged, chloroformed, and subsequently starved Nevertheless, the statistics of Professor Glynn showed that the exercises first described in detail by Professor Blair Bell in the third edition of his *Principles of Gynaecology* (1919), and employed since January 1916, had reduced the gynaecological wards at the Royal Infirmary from the head of the list in regard to both the number and the percentage of deaths from pulmonary thrombosis to the bottom Methods that had effected such an improvement over a period of eight years could not be lightly criticized

Professor BRIGGS (Liverpool) said that close co-operation between the general pathologist and gynaecologist cemented the foothold in the steps from shock to sepsis and onwards over "heart-clot" to sepsis and pulmonary stasis Many general pathologists had found it difficult to believe that the uterus and the pelvis were often surgically clean, although they admitted that pus tubes were sterile in quite half the cases, they, like the gynaecologists were still unable to give the cause of death from pyosalpinx if left alone Physical exercises were not likely to be despised He asked whether the primary pulmonary thrombosis was derived from a local lung infection It was insufficient to adopt the ten or twelve-day limits in considering sudden death with clinically identical features before and after operation early and remotely in relation to operation these surprises had not yet been fully explained by the general pathologists, extraneous explanations by operators were too prone to be looked upon as inventions—that is, if made after operations In a case of fibroid tumour or of a pyosalpinx awaiting operation, embolism or primary pulmonary thrombosis surely might have arisen then rather than ten days after operation and in either case anatomical proof might be lacking The path based on necropsy findings was larger than the older one of "heart-clot" or embolism

Mr K W MONSARRAT (Liverpool) thought that pulmonary embolism and primary pulmonary thrombosis should be considered separately He believed that pulmonary embolism was usually due to the detachment of clot in wounds not sterile With regard to pulmonary thrombosis he considered an explanation had not yet been given of the tendency to the formation of the clot in the pulmonary artery in his opinion it was probably related to a variety of conditions in the lung which tended to chronic stasis in the pulmonary circulation—as, for example, post anaesthetic bronchitis He had found that ammonium carbonate was of some value as a prophylactic

Miss IVENS (Liverpool) had had five cases of sudden death in a series of 2,500 cases of abdominal section In one case of death on the eighth day the necropsy revealed as a cause only a much enlarged thymus In the second, a robust young lady of 25, with a gangrenous appendix, death occurred as she stepped out of bed on the fourteenth day In the third, an elderly lady with prolapse, two small fibroids, and a chronic appendix, death occurred suddenly on the ninth evening after operation In the fourth, an anaemic woman of 37 with uterine fibrosis and infected cervix, death occurred nine days after a panhysterectomy In all these cases the temperature chart and pulse rate were normal, but sepsis could not be excluded Two were private cases and *post-mortem* examinations were unobtainable In the fifth, a married woman of 30, a right tarry ovarian cyst had been removed A subnormal temperature was noted on the seventh day, with normal pulse On the ninth day, in the early morning after an action of the bowels, intense pain in the back occurred, and the patient became livid with rapid thready pulse A violet coloration appeared over the abdomen and thorax and death took place in four hours, consciousness persisting almost to the end Miss Ivens thought it possible that in this case thrombosis had spread up from the ovarian veins, induced perhaps by toxins absorbed from the ruptured tarry cyst The bacteriological findings were negative, but no necropsy could be made Miss Ivens stated that in none of her cases had exercises or massage been advised She attached importance in prophylaxis to an aseptic technique, to the avoidance of bruising of the tissues, and to the dilution and diminution of toxins, whether bacterial or the products of tissue death, which tended to cause vascular degeneration

Mr FRANK JEANS (Liverpool), speaking from the point of view of the general surgeon, said that two factors were important in the production of the condition (*a*) Slight (not severe) sepsis He had known pulmonary thrombosis to occur after a breast operation in which a serous effusion had been aspirated on the eighth day and proved sterile on culture—a severe test of asepsis—but one which did not preclude a minute infection (*b*) Lack of movement on the part of the patient His impression was that the condition always occurred in the case of the placid patient patients who got excited and waved their arms and got out of bed did not get thrombosis For this reason he favoured exercise and agreed with Professor Blair Bell

Mr WRIGLEY (Manchester) had had a few unexpected and sudden deaths following operation which had been attributed to pulmonary embolism, but for various reasons *post-mortem* examination had not been possible Thirteen years ago he operated on a middle-aged woman for extensive varicose veins in the leg, a few hours after the operation she sat up in bed, became very dyspnoeic, and died in a few minutes This he regarded at the time and still believed to be a pulmonary embolism In several other on or about the tenth day following laparotomy the had suddenly complained of pain in the chest with difficulty in breathing, followed by haemoptysis The oms had persisted for a few days, gradually lessening finally disappearing These symptoms he believed to be due to thrombosis in the systemic circulation resulting in the minute emboli in the lungs His house surgeon at the Manchester Royal Infirmary had taken considerable pains to investigate *post-mortem* records of the Infirmary for the past five years During that period nine patients had died after operation, and in each case death was attributed to pulmonary embolism Full details of the clinical features of these cases were not available, but in all of them the operation wound was stated to be nearly healed, so that some days at least must have elapsed between the day of operation and death In six of these cases the necropsy had revealed thrombosis either of the main pulmonary artery or of one or both of its branches In the three other cases *post-mortem* examination showed acute dilatation of the heart and in no case was there an embolism, which bore out Professor Glynn's statement that primary thrombosis of the pulmonary artery was much more common than embolism It had been suggested that pulmonary embolism and thrombosis were due to two chief factors mild sepsis and pulmonary stasis If mild sepsis was an important factor, why was it more usual to get thrombosis or embolism after operations on the pelvis and abdomen, and so after operations on the head, neck, and arms, unl sepsis was due to some organism which normally in only the abdomen, such as the *Bacillus coli*? If pulmonary stasis, why did it not more frequently operation such as radical amputation of the breast, one side of the chest must have its movements imp On the other hand, after abdominal operations one expect thoracic breathing to be much exaggerate thought there must be many other factors at work as these two He had never ordered routine exerci patients, but had encouraged them to move and to t them position from the day of the operation, with th of preventing bronchitis and pneumonia Professor Bell suggested that one predisposing cause might b stripping of large veins in the pelvis, but if this w case, why was it not more frequent after operatio removal of malignant glands from the neck and the where the large venous trunks were dissected free their sheath for a distance of some inches?

Dr FLETCHER SHAW discussed one factor in the duction of thrombosis which previous speakers had looked—namely, anaemia from long-continued haemorr He had had three cases of sudden death attribut embolism or thrombosis, all following hysterectom fibroids Two of these occurred within a few weeks of other, and the shock had caused him to investigat matter fully In two years he had performed hysterec for fibroids on 135 patients, and five of these were s as suffering so severely from the effect of haemorrhage they were kept under treatment for some time before o tion was undertaken Of these five anaemic patients t died—two from embolism or thrombosis, and one from l failure, while amongst the other 130 patients there only one death, and that from acute nephritis w probably had nothing to do with the operation He thou this profound anaemia before operation should be phasized as a contributory factor in the production thrombosis

The PRESIDENT was in full agreement with Dr Flet Shaw in attributing great importance to profound anae as a contributory cause of thrombosis From the record 830 abdominal operations in his nursing home, he had fo that three patients had died as the result of thromb or embolus In each case the operation was for a la fibroid tumour and all the patients were profoun anaemic He thought that in every case of thromb there was some infection or toxaemia, and yet the curi fact remained that thrombosis seemed rarely to occur cases of acute pelvic abscess He had never seen it follo ing operation for pyosalpinx or abscess of the ovary T organism must be of a type which favoured clotting of t blood He thought that in most of these very anae patients with fibroid tumours there was a certain amou of toxaemia The essential point in the preventi of these cases was the most scrupulous, and ev exaggerated, attention to aseptic technique in all tumou associated with much haemorrhage He felt sure that t cases were not nearly so common in recent years as th had been Blood stasis might have some effect, but it on played quite a secondary part

Dr M J COHEN believed that sepsis was the main fact in the causation of pulmonary thrombosis In 22 cas investigated at the Thompson Yates Laboratories, 11 showe definite sepsis at site of operation, in 11 cases where weigh of spleen was noted the average was 7 oz., as compare with the normal 4 to 5 oz In 18 cases bacteria were demon strated in systemic or pulmonary clots, or in the lungs in some they were found in all three places, and in 11 o these cases streptococci were prominent Pre-existing lun lesions such as emphysema, recent or old pleurisy, o quiescent tubercle were demonstrated in 16 cases Th temperature charts in all cases showed abnormalities although in several the temperature was but slightly raised The reason why thrombosis was commoner in the pulmonar than in the other arteries appeared to be the fact tha although the pulmonary artery was such by name and structure, yet it functioned as a vein The blood conveyed was of a more venous character than in any vein in the body It was rich in carbon dioxide, in septic products, and in

Miss IVENS (Liverpool) had had five cases of sudden death in a series of 2,500 cases of abdominal section In one case of death on the eighth day the necropsy revealed as a cause only a much enlarged thymus In the second, a robust young lady of 25, with a gangrenous appendix, death occurred as she stepped out of bed on the fourteenth day In the third, an elderly lady with prolapse, two small fibroids, and a chronic appendix, death occurred suddenly on the ninth evening after operation In the fourth, an anaemic woman of 37 with uterine fibrosis and infected cervix, death occurred nine days after a panhysterectomy In all these cases the temperature chart and pulse rate were normal, but sepsis could not be excluded Two were private cases and *post-mortem* examinations were unobtainable In the fifth, a married woman of 30, a right tarry ovarian cyst had been removed A subnormal temperature was noted on the seventh day, with normal pulse On the ninth day, in the early morning after an action of the bowels, intense pain in the back occurred, and the patient became livid with rapid thready pulse A violet coloration appeared over the abdomen and thorax and death took place in four hours, consciousness persisting almost to the end Miss Ivens thought it possible that in this case thrombosis had spread up from the ovarian veins, induced perhaps by toxins absorbed from the ruptured tarry cyst The bacteriological findings were negative, but no necropsy could be made Miss Ivens stated that in none of her cases had exercises or massage been advised She attached importance in prophylaxis to an aseptic technique, to the avoidance of bruising of the tissues, and to the dilution and diminution of toxins, whether bacterial or the products of tissue death, which tended to cause vascular degeneration

Mr FRANK JEVNS (Liverpool), speaking from the point of view of the general surgeon, said that two factors were important in the production of the condition (*a*) Slight (not severe) sepsis He had known pulmonary thrombosis to occur after a breast operation in which a serous effusion had been aspirated on the eighth day and proved sterile on culture—a severe test of asepsis—but one which did not preclude a minute infection (*b*) Lack of movement on the part of the patient His impression was that the condition always occurred in the case of the placid patient patients who got excited and waved their arms and got out of bed did not get thrombosis For this reason he favoured exercise and agreed with Professor Blair Bell

Mr WRIGLEY (Manchester) had had a few unexpected and sudden deaths following operation which had been attributed to pulmonary embolism, but for various reasons *st-mortem* examination had not been possible Thirteen rs ago he operated on a middle-aged woman for extene varicose veins in the leg, a few hours after the operaion she sat up in bed, became very dyspnoeic, and died in a few minutes This he regarded at the time and still believed to be a pulmonary embolism In several other cases on or about the tenth day following laparotomy the patient had suddenly complained of pain in the chest with great difficulty in breathing, followed by haemoptysis The symptoms had persisted for a few days, gradually lessening and finally disappearing These symptoms he believed to be due to thrombosis in the systemic circulation resulting in the minute emboli in the lungs His house-surgeon at the Manchester Royal Infirmary had taken considerable pains to investigate *post-mortem* records of the Infirmary for the past five years During that period nine patients had died after operation, and in each case death was attributed to pulmonary embolism Full details of the clinical features of these cases were not available, but in all of them the operation wound was stated to be nearly healed, so that some days at least must have elapsed between the day of operation and death In six of these cases the necropsy had revealed thrombosis either of the main pulmonary artery or of one or both of its branches In the three other cases *post-mortem* examination showed acute dilatation of the heart and in no case was there an embolism, which bore out Professor Glynn's statement that primary thrombosis of the pulmonary artery was much more common than embolism It had been suggested that pulmonary embolism and thrombosis were due to two chief factors mild sepsis and pulmonary stasis If mild sepsis was an important factor, why was it more usual to get thrombosis or embolism after operations on the pelvis and abdomen, and so rarely after operations on the head, neck, and arms, unless the sepsis was due to some organism which normally inhabited only the abdomen, such as the *Bacillus coli*? If due to pulmonary stasis, why did it not more frequently follow operation such as radical amputation of the breast, when one side of the chest must have its movements impaired On the other hand, after abdominal operations one would expect thoracic breathing to be much exaggerated He thought there must be many other factors at work as well as these two He had never ordered routine exercises for patients, but had encouraged them to move and to change their position from the day of the operation, with the idea of preventing bronchitis and pneumonia Professor Blair Bell suggested that one predisposing cause might be the stripping of large veins in the pelvis, but if this was the case, why was it not more frequent after operations for removal of malignant glands from the neck and the axilla where the large venous trunks were dissected free from their sheath for a distance of some inches?

Dr FLETCHER SHAW discussed one factor in the production of thrombosis which previous speakers had overlooked—namely, anaemia from long-continued haemorrhage He had had three cases of sudden death attributed to embolism or thrombosis, all following hysterectomy for fibroids Two of these occurred within a few weeks of each other, and the shock had caused him to investigate the matter fully In two years he had performed hysterectomy for fibroids on 135 patients, and five of these were not as suffering so severely from the effect of haemorrhage that they were kept under treatment for some time before operation was undertaken Of these five anaemic patients three died—two from embolism or thrombosis, and one from heart failure, while amongst the other 130 patients there was only one death, and that from acute nephritis which probably had nothing to do with the operation He thought this profound anaemia before operation should be emphasized as a contributory factor in the production of thrombosis

The PRESIDENT was in full agreement with Dr Fletcher Shaw in attributing great importance to profound anaemia as a contributory cause of thrombosis From the records of 830 abdominal operations in his nursing home, he had found that three patients had died as the result of thrombosis or embolus In each case the operation was for a large fibroid tumour, and all the patients were profoundly anaemic He thought that in every case of thrombosis there was some infection or toxaemia, and yet the curious fact remained that thrombosis seemed rarely to occur in cases of acute pelvic abscess He had never seen it follow operation for pyosalpinx or abscess of the ovary The organism must be of a type which favoured clotting of the blood He thought that in most of these very anaemic patients with fibroid tumours there was a certain amount of toxaemia The essential point in the prevention of these cases was the most scrupulous, and even exaggerated, attention to aseptic technique in all tumours associated with much haemorrhage He felt sure that these cases were not nearly so common in recent years as they had been Blood stasis might have some effect, but it only played quite a secondary part

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products of disintegrating tumours if sepsis or neoplasm was present, it was also rich in kinase if thrombokinase was liberated in the tissues All these were potent factors in the formation of a thrombus

THERAPEUTICS AND PHARMACOLOGY

THE annual meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine was held on April 8th Professor A J CLARK, who was in the chair, was unanimously re-elected President

Symptoms following Simultaneous Use of Adrenaline and Cocaine

Dr SYMES THOMPSON cited some cases from the literature and described others which had come under his observation in which disquieting symptoms had arisen after an injection of adrenaline and novocain in the extraction of teeth In one such case administration was followed immediately by signs of mental agitation, severe palpitation, panting, respiration, and tremor in arms and legs The severer manifestations quickly passed off, though after the dental operation was over the patient had difficulty in standing Recovery was uneventful and the patient was in her usual health next morning This patient had given a positive reaction to Graefe's test for hyperthyroidism, but the dentist was not aware of this at the time It appeared that she had had similar experiences previously when adrenaline was given, though not to so marked an extent as on this occasion Certain persons showed toxic effects as the result of receiving quite small doses of adrenaline, and these effects were increased if certain local anaesthetics were given simultaneously The toxic manifestations following the use of adrenaline in dental practice might be eliminated if dentists were to avoid giving stronger solutions of the drug than 1 in 100,000 instead of 1 in 20,000 or 1 in 40,000 as at present With the larger doses, such as those used in surgical practice the danger of toxic symptoms was greater Such manifestations might be avoided by giving a preliminary injection of a smaller dose of adrenaline than was proposed to be given at the operation, if idiosyncrasy to adrenaline were discovered, a general anaesthetic should be employed He preferred synthetic adrenaline to the natural product The use of adrenaline was contraindicated in conditions in which hyperthyroidism was known to exist The practicability of using large quantities of a dilute solution of novocain might render it possible to discontinue the use of adrenaline with it

Dr H H DALE considered that there was no real basis for the preference for the synthetic as opposed to the natural product so far as he knew the action of both was the same On several occasions he had received injections of adrenaline and novocain for dental extractions, and never missed experiencing quite definite symptoms of raised blood pressure throbbing and rapid pulse The range of susceptibility to the effects of adrenaline was wide In the early days he submitted himself to an experiment in which 1 c.cm of 1 in 1,000 adrenaline was injected under the skin of the forearm The symptoms were extremely unpleasant the blood pressure showed a material rise, the heart beat was quick and there were dropped beats, and he was left with a tired and washed-out' feeling for the rest of the day The visceral sensations disposed to extreme fear He thought that a large psychological element also was involved During the war when 'soldier's heart" was being studied, one worker told him that although a minute dose of adrenaline injected in the vein would in a normal person produce a perceptible acceleration of the heart and a rise in blood pressure, the person was almost unconscious of it but if the same quantity were injected in a case of "soldier's heart" it would not only produce rather more pronounced cardiac excitation and rise of blood pressure but would cause the patient to fall gasping on the bed in obvious distress or even in terror Therefore he thought there was in addition to the physiological reactions, a considerable latitude in psychological reaction

The CHAIRMAN said that from conversations with dentists he was convinced that novocain was not to all people an entirely harmless substance, and as a rule people sensitive to adrenaline absorption were sensitive also to novocain absorption If adrenaline were discontinued it would be necessary to use a much larger quantity of novocain to secure the requisite anaesthetic action, and therefore trouble might arise in this other direction

Use of Atropine in Conjunction with Digitalis

Dr P HAMILL said that in some persons orthopnoea at night persisted after the heart rate had been steadied by digitalis In these cases the basal congestion was slow to clear up, and sometimes there was a wheezy type of respiration For the full digitalization of a patient it was necessary to approach rather closely to the limit at which vomiting was about to begin, and it seemed possible that just as digitalis stimulated the vomiting centre it might also stimulate the vagal centre and cause bronchial constriction If that was so a dose of atropine ought to relieve the condition, and one patient who had suffered in this way from digitalis was able to lie flat, although the following night, when he did not have atropine, the orthopnoea returned Experiments on animals supported the conclusion that an intravenous injection of digitalis would cause bronchial constriction, which could be relieved by atropine

Administration of Digitalis in the Form of Powder Leaf

Dr E C ANDRUS described a scheme of digitalis therapy which had been studied at Johns Hopkins Hospital at Baltimore for three years It was an attempt to control digitalis dosage in advanced cardiac disease All patients, except those obviously in *extremis* on admission, were kept for four or five days without digitalis in order to obtain constant conditions After several unsuccessful attempts to develop a standardized dosage on the basis of tinctures of digitalis, it was decided to use the dried leaf The scheme of dosage was based upon two principles (1) that the primary indication for digitalis therapy was the degree of cardiac failure, regardless of the cause of that failure and (2) that, given the indication for its use, the drug should be employed in sufficient quantity to produce either some conspicuous therapeutic effect or one of its toxic symptoms The initial dose was 0·3 gram, and 0·2 gram was administered every four hours thereafter This dosage was maintained until there was evidence of pronounced clinical improvement or until some of the minor toxic symptoms of digitalis developed. The first subjective symptom noticed was usually loss of appetite This was taken as an indication for stopping the drug, at least temporarily The amount required to produce definite evidence of physiological action was surprisingly uniform It had previously been found that over a large series of cases a definite tincture dose could not be established but with the dried leaves definite evidence of therapeutic effect had been found in 95 per cent of the cases after a dose amounting to 1·5 grams per 100 lb of body weight Symptoms of intoxication at doses below that amount had never been observed After a control period of five days during which clinical improvement was slight or wanting the administration of digitalis leaves to the amount of 1·5 grams per 100 lb of body weight was often followed by pronounced improvement

Dr H H DALE believed that the tincture was generally used in this country but from the experimental point of view there was nothing very much to be said for it It did not represent the whole activity of the drug used as its production it was not stable and from many points of view there was a good deal to be said against it When the International Conference on Biological Standards met in Edinburgh last July the question of fixing on some standard preparation which could be used internationally for reference was raised after a vigorous discussion, in which the possibilities of using as a standard some stable principle such as one of the strophanthidins, were explored the conference, which represented pharmacologists of all countries, unanimously fixed on a preparation of dried digitalis leaves as being the best standard which could be devised for digitalis, since it certainly contained all the active principles of the drug and according to the available evidence was an exceedingly stable preparation. At the same time the discussion showed that on the continent of Europe the tincture of digitalis was falling

increasingly into disfavour as a method of administration, and now it appeared that the same was true of some hospitals in the United States He wondered whether anything in defence of the tincture could be urged from the clinical side

Dr G A SUTHERLAND believed that Sir James Mackenzie had declared that in all his experimental work at Mount Vernon Hospital the tincture of digitalis was equal to any other preparation, but in the speaker's experience it was one of the most unreliable preparations in medicine, and he had discarded it for any work in which precision was necessary The powdered leaf was used in this country, and there were other preparations He suggested that evidence was wanting that digitalis had any action upon the heart other than a slowing action

LOCALIZATION OF CEREBRAL AND SPINAL TUMOURS

AT a meeting of the Section of Neurology of the Royal Society of Medicine held on April 10th a discussion took place on the value of x rays in the localization of cerebral and spinal tumours, with especial reference to ventriculography and lipiodol injections

Mr PERCY SARGENT confined his opening remarks to the use of lipiodol injections, of which he said that he had now had a considerable experience He described the principles of the technique by which the lipiodol was injected into the cisterna magna by puncture after the method of Ayer This operation he performed with the patient in the sitting posture, the patient was then wheeled into the x-ray room and photographs of the whole of the spinal column taken He demonstrated a series of slides illustrating first the normal appearances and then the appearances seen when the lipiodol was arrested at various points in the spinal theca by various lesions which had caused compression of the cord or the whole thecal sac He pointed out that the method was of the greatest value in the exact localization of the site of the compression While injections into the cisterna magna would give the highest level of the compression, injections could also be given into the lumbar region of the theca at the usual site of the ordinary lumbar puncture By the use of the latter route the lower level of the lesion could be diagnosed very exactly—a point of great value, since neurological examination could as a rule only give the upper level He stated that he had seen no bad results from this procedure, and felt that in the method we had a new diagnostic agent of the greatest value

Mr GEOFFREY JEFFERSON spoke on the uses and value of radiograms of the skull both with and without the injection of air into the ventricular systems of the brain He showed a very interesting series of radiograms of the skull, illustrating the normal appearances and those seen in various pathological conditions, such as hydrocephalus and intracranial tumours He stated that his own experience of injection of air into the ventricles was small, being confined to fifteen occasions in ten patients While insisting that the procedure was not without risk, he considered it a method capable of giving in certain cases most valuable information as to the site of intracranial lesions when no definite localization had been obtained by the ordinary methods of neurological examination With regard to the technique, he said that it was very desirable to withdraw cerebro-spinal fluid before attempting to introduce any air He had introduced as much as 25 c.cm of air into each ventricle, but thought the ventricle was probably capable of taking 40 c.cm The interpretation of the radiograms was a matter of difficulty, and he emphasized the necessity of having the best stereoscopic pictures obtainable

Sir JAMES PURVES-STEWART described his method of injecting air into the subarachnoid space through an ordinary lumbar puncture, and showed a series of "pneumo-radiograms" obtained in this way He considered it to be a useful method in cases of tumours of the brain above the tentorium, for tumours below the tentorium he thought it was too risky Like many other methods a negative result was of no value, but a failure of the ventricle to fill with air was a positive sign of importance He showed a further series of radiograms of the spinal column demonstrating arrest of lipiodol at various levels in cases of compressi of the spinal cord One interesting picture showed a "b result" where the lipiodol injected into the cisterna mag had passed along the base of the skull and had produced facial paralysis, which, however, recovered perfectly I agreed with Mr Sargent that the method was one of gre value

Mr MCCONNELL confined his remarks to the technique a interpretations of ventriculograms—that is, of radiogra taken after the injection of air into the ventricles of t brain He advocated the injection into the lateral ve tricles by way of Keen's point, injection into the poster ventricles was more dangerous and often impossible ten out of fifteen cases he had obtained positive resul The operation was attended with an undoubted risk, two his patients had died It was important to avoid sudd changes of pressure in the ventricles and to inject the a very slowly, keeping a careful watch on the blood pressu all the time Cerebro-spinal fluid should always be wit drawn first The lumbar injection, in his opinion, gave l information

Dr WILFRED HARRIS, vice-president of the Sectic expressed his doubt as to the wisdom of puncturing t brain in doubtful cases of intracranial tumour He w on the other hand, very favourably impressed with t results obtained by the injections of lipiodol into t subarachnoid space

Dr SYMONDS asked if the injection of lipiodol in cases compression of the spinal cord gave earlier information th could be obtained by an examination of the protein conte of the cerebro-spinal fluid

In conclusion, Mr PERCY SARGENT, Mr JEFFERSON, Sir JAMES PURVES-STEWART, and Mr MCCONNELL replied various points raised in the discussion

Reviews.

SURGICAL UROLOGY

IN his *Introduction to Surgical Urology*[1] Mr WILLIAM KN IRWIN has collected and re-edited some papers which ha already appeared in another form in various medic journals These have been supplemented by additional se tions, such as those dealing with the anatomy of the genit urinary tract, and with methods of examining a patie suffering from urinary symptoms The result is a concr work which serves as an introduction to the subject urology and is intended for the use of general practitione who are indisposed to study larger works

Two preliminary chapters are followed by seven sectio in which the chief genito-urinary symptoms—frequenc incontinence, difficult micturition, retention, genito-urin pain, haematuria, and pyuria—are discussed from th point of view of causation, diagnosis, and treatment In concluding chapter the subjects of glandular enlargemen and malignant disease of the prostate are handled

On the whole this arrangement is satisfactory, and th fact that it involves a certain amount of repetition can no be regarded as a disadvantage The introduction of a fe illustrations into the text might possibly have been useful but it may well be that the publishers have avoided th with a view to keeping down the cost of production Th book is clearly written and practical in its outlook

The American school of urology is energetic, and its ou put of literature is very considerable Dr EDWARD L KEYES, Professor of Urology, Cornell University, has writte a new textbook[2] It is well turned out and lavishly illu trated, indeed, so numerous are the plates in certain po tions of the book that one wonders whether so many illu trations are strictly necessary, and whether sometim photographs have not been reproduced merely because th author possessed them and not because they were necessar

[1] *An Introduction to Surgical Urology* By William Knox Irwi M D Aberd, F R C S Edin London Baillière, Tindall and Cox 192 (Cr 8vo pp viii + 183) 7s 6d net)

[2] *Urology* By Dr Edward L Keyes M D Harvard M A Yale Ne York D Appleton and Co 1923 (Med 8vo, pp viii + 781 170 figure 35s net)

to the text, but there are some excellent plates in the chapter on radiography. Although the author, rightly, appreciates the great value of pyelography in the diagnosis of renal lesions, he lays considerable emphasis on the necessity for caution in employing the method. In his opinion solutions of sodium bromide of greater strength than 15 per cent. are apt to irritate the pelvis and should not be used, moreover they do not yield better pictures than the weaker solution. He lays down the following useful rules for the use of this method of diagnosis: (1) Never pyelograph both kidneys simultaneously. (2) Never pyelograph a large hydronephrotic kidney unless prepared to operate promptly. (3) Never inject by means of syringe. (4) Stop the inflow of fluid as soon as it ceases to run easily and before the patient complains of pain. Keep the patient in bed for at least four hours afterwards. Although the subject of gonorrhœa in women is rightly omitted from a textbook on urology, male infections of the urethra receive notice. The author agrees with those who consider that the gonococcus always disappears from the prostate within three years of infection and as a rule within eighteen months. What is true of the prostate he believes also to be true of the urethral glands, having seen only one case in which gonococci persisted for three years in the urethral secretion and not more than three or four in which they persisted for over two years. In dealing with the surgery of the genital tract, Dr. Keyes shows no particular enthusiasm for vesiculectomy, especially for vesiculectomy as a treatment for tuberculosis. In this he differs from some of his fellow countrymen. A useful though short chapter is that dealing with diseases peculiar to the female bladder. This subject is often neglected in textbooks. There are certain features in the pathology of the female bladder that differ from those of the male, many cases of mild cystitis occur in the female for which no adequate cause can be found. Some of these are probably caused by an undiagnosed stricture, and Keyes has emphasized the fact that stricture of the female urethra is commoner than is usually supposed. In describing the operation of suprapubic prostatectomy he advocates the simplest technique. The open operation and the employment of bags and packing for diminishing haemorrhage do not find favour in his eyes. Even after ligature of bleeding points post-operative haemorrhage may occur, and in his opinion, whilst the operative shock is greater the final results are no better. However these are points on which authorities differ, but there will be as many to agree with Dr. Keyes's conclusions as to disagree. On the whole he has been remarkably successful in steering a middle course between extremes, and whilst he has included in his work novelties that bid fair to prove sound he has not made the error of running after every new departure in urology.

ORTHOPAEDIC SURGERY

DR. NEWTON SHAFFER of New York is probably the doyen of American orthopaedic surgery and his reputation as a skilful and scientific surgeon has long stood as high as that of any man in America or Europe. In his volume of *Selected Essays*,[1] containing many valuable papers originally published between 1877 and 1902, with some recent comments by the author we find a wealth of surgical wisdom and of sound advice as to treatment. At about the time when Dr. Shaffer began to write, general surgeons enamoured of the new freedom in operating which Listerian principles seemed to offer, and impatient of the slow progress of more conservative methods, were advocating excision of tuberculous joints. But orthopaedic surgeons were not misled so far as to abandon their more tedious yet more sure methods and time has justified them. No one contributed more to the triumph of conservative treatment of tuberculous bone and joint disease than the author of these essays. The battle has now been won, and everywhere rational conservatism practised as far as possible in the open air is recognized as the right method.

Dr. Shaffer added to his clinical experience and acute diagnostic ability a very sound knowledge of mechanics and great skill in devising and applying instruments—a combination which led to remarkable success in practice. So successful was he in his methods that he was loath to admit the necessity for some of the more radical operative procedures which his younger colleagues have from time to time introduced.

Some thirty papers are here grouped into four parts. In Part I the spine, the knee and reflex muscular contraction are the subjects dealt with. Part II treats of hip and ankle joint diseases. Part III of deformities of the foot and Part IV of miscellaneous subjects. Probably the author is best known as having been the first to publish a description of what he not very happily called 'non-deforming club-foot.' This condition has been called among other names "claw-foot," 'talipes arcuatus,' and 'talipes plantaris.' We suppose that no one met with such success in the treatment of this troublesome and obstinate condition as Shaffer, and this success was largely due to his skilful use of the traction shoe which he devised for the purpose. His theory of the etiology of the deformity, which he considered to be due to mild attacks of anterior poliomyelitis, was not always accepted, but is probably correct. As regards flat-foot, Shaffer was one of the first, if not the first, to demonstrate the part played by a shortened tendo Achillis in breaking down the plantar arch. The short paper on elongation of the ligamentum patellae is of considerable interest for the condition is one about which little has been written although Dr. Shaffer says that he is convinced that it is not rare. Its origin is often obscure but it sometimes results from attempts to straighten forcibly a contracted knee when the patella is adherent to the femur. The chapter on the hysterical element in orthopaedic surgery is as valuable as we should expect from an observer of Dr. Shaffer's great experience and perspicacity. The cases here recorded especially those of simulated hip disease, include one of a child of 5 years old, an age at which joint neurosis is not often seen but the sequel proved the correctness of Dr. Shaffer's diagnosis.

The last paper in the book reminds us that Shaffer was a pioneer in urging that the State should assume responsibility for the care of its cripples. It may fairly be claimed that fifty years ago the system of out-patient visiting inaugurated by the New York Orthopaedic Dispensary and Hospital was the forerunner of some of the methods described in a leading article in this JOURNAL of March 22nd of this year. Later in 1893, Shaffer succeeded in arousing such interest in the subject that the New York State Hospital for the cure and education of cripples was established at Tarrytown in that State and this institution he served for ten years as honorary superintendent and surgeon-in-chief. This example has since been followed in Minnesota and other States and there is little doubt that in time the public responsibility for the cure of cripples will be recognized and accepted throughout the Union. Of this achievement Dr. Shaffer has reason to be proud. In the words of the chairman of the board of managers of the hospital:

> There could be no better monument to a scientist philanthropist, and physician."

THE ELECTRO-CARDIOGRAM

IN the preface to his book entitled *A Key to the Electrocardiogram*[2] Professor L. F. BISHOP of New York attempts to disarm criticism by stating that the presentation of a subject in allegorical form puts one at the mercy of a certain class of critics who are educated beyond their intelligence. He suggests that Huxley was thus accused of a lack of technical knowledge when presenting his subject in simple terms. However pleasant it may be to have one's mental diet served up in fanciful word pictures rather than in plain hard facts, we do not think it gives the writer licence to make use of loose and at times inaccurate statements. Whether the author has allowed his style of writing to obscure the depth of his knowledge, or has simply stepped into print before his information has been sufficiently

[1] *Selected Essays on Orthopaedic Surgery from the Writings of Newton Melvin Shaffer, M.D., F.A.C.S., Emeritus Professor of Orthopaedic Surgery, Cornell University, etc.* With forewords by Dr. Lovett and Dr. Fisher and comments by Dr. Cotton, Dr. Nutt, Mr. Blandin and Mr. Hardon. New York and London: G. P. Putnam's Sons. 1923. (Med. 8vo, pp. xxii + 626, with portrait of the author, 14 plates and 51 figures. 5 dols.)

[2] *A Key to the Electrocardiogram.* By Louis Faugeres Bishop, M.A., M.D., Sc.D., F.A.C.P. London: Baillière, Tindall and Cox. 1923. (Sup. roy. 8vo, pp. viii + 56, 33 figures. 15s. net.)

crystallized, we leave it to the reader to determine A few quotations from the book may give a clue to its value For instance, Professor Bishop states that the reason the R wave portrays a sharp intense current is due to the fact that fluid cannot be moved suddenly "If you have ever jumped from a high place and landed flat in the water you have discovered this fact" Such statements or phrases as the following occur "The horizontal lines (on the electrocardiogram) represent millivolts", "The ventricle receives its impulse which occurs at about one-fifth of a second *after leaving the auricle*", "When ventricular extra-systoles occur in series they may do so rhythmically, that is there may be two of them followed by two more, then two more, and so on This is called coupling and gives rise to the well known term pulsus bigeminus" There are a few errors in the text which suggest a need for more careful proof-reading, thus ten times $6\frac{2}{3}$ are made equal to 62, and the rate of the auricle in Fig 11 is about 80, not 60 as stated There are other points which we might have referred to, but we do not think it necessary, as it is unlikely that the work will appeal strongly to readers in this country Numerous graphs are included in the book, which is printed on good paper and well produced

SURGERY OF THE SPLEEN

THOUGH the surgical importance of the spleen must be considered small, Drs POOL and STILLMAN have contrived to write a volume on *Surgery of the Spleen*,[5] which contains between three and four hundred pages Much of the text is too laboured—for instance, the detailed accounts of various microchemical tests The embryology, anatomy, and physiology of the organ are dealt with in detail, and fifteen functions attributed to it are enumerated The authors consider that in the majority of cases of movable spleen the condition is acquired, and reference is made to its association with general visceroptosis they advise splenectomy as the operation of choice They quote a series of cases of removal of malarial spleen in which the mortality was 40 per cent, and conclude that it lies between this figure and 25 per cent

There are some interesting notes on von Jaksch's anaemia in children, and splenectomy is recommended when other treatment has failed Blood transfusion prior to operation is held to be important Splenic anaemia and Banti's disease are dealt with under one head The discussion on this subject is full of clinical material, and the good results of splenectomy well emphasized

In spite of conflicting reports, the treatment of pernicious anaemia is given as (1) repeated transfusions, (2) removal of septic foci, (3) splenectomy Compatibility of blood for transfusion is insisted upon, although the particular grouping is not mentioned, a mortality of 3 in 54 cases obtained by the Mayos is held to warrant splenectomy In the various forms of leukaemia the authors again quote the Mayos, who by preparatory treatment with x rays brought down the operative mortality from 93 per cent to 4 per cent, the procedure, nevertheless, is regarded as questionable, for the cases are not cured The concluding chapters deal with cysts and neoplasms, the history of splenectomy, and operative procedures

The book is good on the clinical side, an immense literature is quoted, and much valuable information is to be obtained from it, although it contains little in the way of original research

NOTES ON BOOKS

DR R H COLE has made a number of alterations through out his book on *Mental Diseases*, the third edition[6] of which has recently been published Some slight modifications have been made in the clinical groupings, the morbid anatomy of general paralysis and the account of the cerebro spinal fluid have been entirely rewritten, and additional matter has been interspersed in the text in many directions The volume is definitely elementary in character and intended to meet the need of the medical student It is difficult to know quite how much to include in a small textbook, but we should have thought more reference might have been made to Mott's recent work on the pathology of dementia praecox It is not merely the facts to which Mott has drawn attention which are important, but the broad principle they illustrate—namely, that insanity is not merely a disorder of the brain but of the organism as a whole The book is clearly written, readable, and fully illustrated, and we have no doubt that it will maintain its popularity as a student's textbook of psychiatry

The concentration of hydrogen ions as a determining factor in chemical reactions of many types is of paramount importance in all questions of biological chemistry Methods for its determination with greater or less approximation to accuracy are now needed in every chemical and physiological laboratory To meet this need Mr W MANSFIELD CLARK[7] has written a book describing the physical considerations underlying the term, the conditions by which concentration is influenced, and the procedure by which its magnitude may be determined The author's abilities as a master of practical experiment surpass his qualities as a teacher His account of the fundamental principles and the theoretical considerations arising from them is not so helpful as might have been desired It is presented in a manner calculated to call for an effort on the part of the beginner to enable him to realize clearly all that he is intended to understand Once he has done this he will find the book a very useful companion in his work It contains all the direction needed to enable him to perform electrometric measurement with standard instruments and gives good advice for the control of error The selection of indicators to serve for approximate determinations, which is a very important branch of the subject, is fully discussed A copious bibliography adds greatly to the value of the work

We have received the first two issues of *Folia Neuropathologica Estoniana*,[8] a neurological journal edited by Professor LUDOVICUS PUSSEP, director of the neurological clinic of the University of Dorpat The first issue contains articles by Professor Pussep on a tumour of the third ventricle with dystrophia adiposo genitalis, and on traumatic war neurosis (illustrated by numerous photographs), by Professor C Schlossmann, on experimental disseminated sclerosis in the rabbit, by Dr W Lindeberg, on chondrodystrophia and pseudo chondrodystrophia, by Dr J Rivès, on lesions of the cerebral cortex in uraemic convulsions and senility, by Dr A Panfiloff, on cerebral tumour with absence of general symptoms, and by Dr W Wadi, on spondylitis following paratyphoid B The second issue, which no longer appears as an independent publication but forms part of the *Zeitschrift fur die gesamte Neurologie und Psychiatrie*, contains an article by Dr E Weinberg on histological changes in the brain during anaphylactic shock, and four articles by Professor Pussep on acute ascending myelitis as a complication of influenza, operation in the region of the sella turcica by the new fronto orbital method, innervation of the prostate, and disturbance of the swallowing mechanism respectively With the exception of three French articles in the first issue all the papers are in German, but we note that articles in English will also be accepted

Two volumes of reports have lately reached us from America One is the *Proceedings* of the Pathological Society of Philadelphia, containing the transactions of the society from January, 1922, to January, 1923 It consists for the most part of short case notes, together with Dr F D Weidman's presidential address The second—a much larger volume—is the *Transactions* of the American Otological Society during its fifty sixth annual meeting held at Atlantic City last May This gives a full account of the various papers read and the discussions that followed them

Mr A E HODGE has written a useful and practical book on *Vivarium and Aquarium Keeping for Amateurs*,[9] which is evidently the result of much experience, and which will prove valuable to those who propose starting a vivarium or aquarium He gives practical details as to how to construct and manage these, and deals with the fishes, batrachians, and reptiles which are most suitable The illustrations are good and clear

[5] *Surgery of the Spleen* By Eugene H Pool M D, and Ralph G Stillman M D New York and London D Appleton and Co 1923. (Sup roy 8vo pp x + 347 72 figures.)

[6] *Mental Diseases A Textbook of Psychiatry for Medical Students and Practitioners* By R H Cole M D F R C P Physician for Mental Diseases St Mary's Hospital. Third edition London University of London Press, Ltd. 1924 (Demy 8vo pp xiv + 356 54 illustrations and plates. 15s net.)

[7] *The Determination of Hydrogen Ions* By W Mansfield Clark M S Ph D Second edition Baltimore Williams and Williams Company 1923 (Med 8vo pp 480 42 figures 5 dols. in United States Canada Cuba, and Mexico 5 5 dols in other countries.)

[8] *Folia Neuropathologica Estoniana* Vol I Fas I, Tartu (Dorpat) 1923. Vol I Fasc II Berlin Julius Springer 1923

[9] *Vivarium and Aquarium Keeping for Amateurs A Practical Guide to the Hobby* By A E Hodge London H F and G Witherby 1924 (Cr 8vo, pp 128 5s. net)

British Medical Journal.

SATURDAY, APRIL 19TH, 1924

EAST AFRICAN POLICY

FOUR years ago the Egerton Committee found that in the past the existence of the Colonial Medical Service had been almost unknown to the bulk of the medical profession This statement was perhaps too emphatic since the British Medical Association had already devoted considerable time and energy to the analysis of the conditions which the profession in general considered detrimental to the development of the services, and the formulation of suggestions for improvement In the interval the Association has endeavoured to keep the claims of the various sections of the services before the Colonial Office on the one hand and the profession on the other and it is unfortunate that in several cases it has been necessary to point out that conditions essential to the efficient working of the services are still lacking Now, however we can record a definite advance for the debate on April 8th (p 728) on the East African colonies and protectorates shows that the House of Commons itself has in some measure appreciated, not only the fact of the existence of a Colonial Medical Service, but its urgent need for the means of development Nor was this a case of the voice of Dr Fremantle crying in a wilderness of parliamentary indifference On this occasion, out of ten members who made material contributions to a debate remarkable at once for concentration on essentials, unanimity of sentiment, and moderation of expression, five stressed the vital importance of the medical services and though the Colonial Secretary himself omitted specific mention of the medical service his remarks and those of the remaining speakers showed general acceptance of the principles enunciated by those who had been more definite

Sir Sydney Henn who introduced the subject by inviting the Government to send a special commission to East Africa to report on the practicability of co ordinating policy and services throughout East African territories put the matter fairly and forcibly He expressed the opinions that not enough of the local revenues were spent on education and medical service among the natives, and that a persistent determination to care for native health and education combined with transport development were the primary necessities for the advancement of East Africa Mr Ormsby Gore freed from the trammels of office was even more vigorous East Africa he said is suffering from the literal starvation of its transport development and medical and educational services Its only hope is to secure one civil service one medical service one veterinary service, one agricultural service and especially one native commissioner service To put into practice our trust for the development of these territories there must be money to build schools and provide doctors and hospitals, railways and roads Lord Stanley drove home the point If we are to live up to our trusteeship he said we have to consider at once spending more money on native education and native medical services This is admirable though we must regret that his succeeding plea for a campaign to diminish infant mortality in Uganda was modified by an apology for mentioning the subject in connexion with the resolution under discussion There is a direct and vital connexion between economic development and the physical health of the community and it is time that the Legislature realized this fact Mr Harris reminded the Colonial Secretary of the implications of the policy which he was accepting It was for him to see that education and the medical services with the security of land tenure were specifically included in the terms of reference to the commission

In accepting the commission of investigation Mr Thomas offered more than he had been asked for He not only agreed to the constitution of such a commission but proposed to set up in this country an advisory committee worthy of Polonius himself It is to be neither a mass meeting nor a debating society, nor a committee of faddists, but 'a real committee with knowledge of the subject non party in character representative of all sections in this House and outside —a large order this last For such a committee, and for the Minister who will be responsible for accepting or rejecting its advice we cannot do better than hope, with Mr Amery, for courage and vision, including financial courage, secure in the knowledge that, at least as regards the most productive of all services—that of public health—the wise exercise of such courage cannot but secure a harvest according to the strictest law of increasing returns The experience of the West African Medical Staff lends weight to the considered opinion of those best able to judge that the medical services must be numbered among the services which most readily lend themselves to co-ordination The Association has long pleaded the necessity as well as the practicability of a complete unification of the East African service on the model of the West African Medical Staff, with a view to the ultimate assimilation of the two and we may fairly hope after this debate for a definite advance in the desired direction We do not doubt that the central body of the Association will take steps to ensure that medicine is adequately represented on Mr Thomas's ideal advisory body and that the Branches will do everything to help the commission to explore every means to a full and fruitful development of the African health services The issue is being carefully watched by the Dominions Committee of the Association with a view to the necessary action

BYRON'S LAMENESS AND DEATH

BYRON might with Pope and perhaps with more justice have described his life as a long disease It was popularly said that he had a club foot but people who knew him differed as to which foot was affected and Trelawny in the first edition of his book said that his furtive glance at the feet after death showed the lower extremities of a satyr Trelawny without doubt wished to tickle the groundlings in a later edition this fustian was struck out and the notion made of a shortening of the Achilles tendon and it has been said by other contemporaries that Byron walked on the balls of his toes That his gait was peculiar is hardly open to doubt at least one observer called it hurrying and the epithet might be applied to spastic paraplegia for though progress is slow the sufferer seems to be making a great effort When Byron woke up to find himself famous and was lionized by London society, he preferred to arrive early before the company had assembled—a practice unusual with social lions—and to establish himself in some corner, from which he did not stray The boots Mr Murray lent to Dr H C Cameron to show at the Royal Society of

Medicine last year were not boots in the ordinary sense, but padded leggings (of soft buff-coloured leather) to be worn under the trousers and visible shoes or boots Altogether Dr Cameron[1] made out a good case for the diagnosis of spastic paraplegia, perhaps more marked in one leg than the other, and probably due to submeningeal haemorrhage during birth

The interest of the matter lies in the effect of the deformity on Byron's attitude to life The hereditary influences did not make for a stable temperament On the paternal side the stock may be called ill balanced, but with one or two individuals of distinction, his father was a harum-scarum rake who dissipated two fortunes and died when his son was less than four years old The mother was a neurotic who scolded and petted her son alternately John Hunter was consulted when the child was quite young, but apparently could do nothing to mend matters, and the mother afterwards took him to a number of practitioners or pretenders, each new one more incompetent than the last Various sorts of apparatus were prescribed, which tortured but did not benefit the patient Between his deformity, the pain he suffered from the means taken to cure it, and the injudicious management of his mother, he had an unhappy boyhood There is evidence of precocity, mental and sexual, and of a very firm determination to do what other boys did in the way of sport in spite of his physical disability, and a resolve not to grow fat like his mother The last point seems trivial, but very possibly was of importance in helping to determine the fatal issue of his final illness He cut down his food almost to starvation point, and had several habits which must have combined to diminish his power of resisting the fever by which he was attacked at Missolonghi on April 9th, 1824

What this fever was is not certain The re examination of the known facts in the article published elsewhere (p 724) has not led to a positive decision, and as we are indebted to the Hon Harold Nicolson for references to the publications on which it is founded it is unlikely that any important source has been overlooked Mr Nicolson has studied the events of the last year of Byron's life in the light of all that has been published and with the help of personal knowledge of the places In the volume he has just published he has drawn a striking picture of the events and of Byron's attitude of mind He was depressed, he saw the faults of the Greek people very clearly, and, though ready to make any sacrifice to help them o freedom, realized that it could not be achieved save through their own efforts The famous lines, "Hereditary bondsmen! know ye not, who would be free, themselves must strike the blow?" had been written a dozen years earlier He had been disappointed in his hope of leading an attack on Lepanto, his troops were undisciplined if not mutinous, and the climate of Missolonghi, bad at all seasons, was at its worst The obvious diagnosis is that the fever was malarial, but Sir Ronald Ross, in the interesting note with which he has obliged our readers, accepts it with some hesitation For the reasons he mentions he rejects acute rheumatic fever, typhoid fever, and pneumonia He is driven by a process of exclusion to malarial fever as the most probable diagnosis It seems impossible to carry the matter any further

Of Byron as a poet it is not for us to write, nor is it necessary to dwell on his industry, extraordinary as in all the circumstances it was, but it is not out of place to insist on the robustness of an intellect that could withstand evil influences such as those which attended his boyhood and youth As Mr Nicolson well says, "the living fascination of Byron arises from the perpetual conflict between his intelligence and his character"

[1] BRITISH MEDICAL JOURNAL 1923 vol i p 564

A CONCENTRATED PREPARATION OF VITAMIN C

VITAMINS as a class are characterized by their instability, and the antiscorbutic vitamin C is the least stable of the known vitamins This instability has caused progress in the concentration and purification of vitamins to be both difficult and slow, in spite of the fact that a very large amount of attention has been directed to this problem Definite progress in the concentration of vitamin C has, however, been attained by Dr S S Zilva, who has shown[1] that lemon juice can be decitrated and concentrated and kept *in vacuo* for at least six months without any appreciable loss of vitamin He has also shown[2] that the sugar present in the concentrated lemon juice can be removed by fermentation without destroying the vitamin, and thus has demonstrated that the vitamin activity of lemon juice is associated with a solid residue which represents about 0 5 per cent of the fresh lemon juice This solid residue consists of substances mainly of a nitrogenous character This work has two important practical applications in the first place a concentrated stable and portable preparation of vitamin C will be of great value to explorers, and in the second place the concentrated preparation may prove of value by rendering possible a more intensive treatment of scurvy Dr Zilva has published[3] an account of a case of scurvy in an infant of 8 months which was cured remarkably rapidly by administration of large quantities of concentrated and decitrated lemon juice The child was given an amount equivalent to about fifteen lemons in the first twenty-four hours, and within ten days received a total amount equivalent to about forty-eight lemons Such quantities would, of course, have been out of the question with natural juice Cod-liver oil represents a fairly concentrated form of vitamin A, and concentrated preparations of vitamin B have been obtained from yeast, but hitherto natural lemon juice has represented the most concentrated preparation of vitamin C available While highly concentrated vitamin preparations may, as already stated, prove of value on account of their portability, and also for use when particularly intensive treatment is desired, it must be remembered that there is no evidence that for a normal individual excess of a vitamin is of any more value than an adequate supply, and consequently there is at present no reason to suppose that the administration of vitamins in medicinal form will, as a general rule, show any advantage over their supply by the natural method of a properly selected diet

[1] *Biochemical Journal* 17, 416 1923
[2] Ibid 18 182 1924
[3] Ibid., 18 186 1924

THE YELLOW PIGMENTS OF PLANTS

THE nature of the substances to which the colours exhibited by organs of plants are due has attracted the attention of chemists from time to time for many years, but owing to the difficulty of obtaining sufficient quantities in a pure state knowledge of their chemical nature is meagre It has generally been assumed that those belonging to various plants differed from each other as profoundly as plant alkaloids A good many fresh investigations have been made in recent years, and the study has been extended to products from many sources The remarkable fact has been established that a great number of the yellow colours produced by plants of widely divergent character all belong

to one group, of which carrotene, the colouring matter of the root of the carrot, which is a hydrocarbon having the formula $C_{40}H_{56}$, is the type. The work done by different investigators being in a disconnected state, and the nomenclature of colouring matters being somewhat confused, a committee of the American Chemical Society resolved to prepare a monograph[1] which should co-ordinate the facts established. The task was undertaken by Leroy S. Palmer, and he has prepared a readable account of the subject. The evidence of the relationship and differences between carrotene, xanthophyll, and other members of the group is critically discussed. Their occurrence and distribution in plants and animals—invertebrates as well as vertebrates—is an interesting story. It appears that many of the yellow animal pigments originally described as lipochromes are identical with or closely related to plant carotinoids, and that they are derived from vegetables which have been consumed as food. The pigments of the corpus luteum, blood serum, egg yolk, and milk fat are reviewed from this aspect, and the facts taken as a whole lead to some interesting speculations on the function of carotinoids in plants. They are not identical with vitamins, and are probably not related to them. Their remarkable powers of absorbing certain rays of the spectrum may be connected in plants with synthetic action. It is found that an animal normally pigmented does not require the pigment for growth or reproduction, but there is a definite correlation between low pigmentation of the visible skin parts of certain breeds of fowls and egg production, the reason is believed to be that selective mobilization of pigment in the ova diverts it from the skin.

OLD CAIRO MEDICAL MISSION

THE biennial report for 1922 and 1923 of the Old Cairo Medical Mission contains several notes of interest. The hospital has 105 beds for men and 53 for women, most of which are reserved for surgical cases; open air pavilions accommodate a further 600 to 800 resident patients suffering from ankylostomiasis or bilharziasis. During the two years 10,975 patients were treated for ankylostomiasis in the pavilion, and, in addition about 80 per cent. of the surgical in patients required this treatment. It is estimated that during the last eighteen years over 100,000 patients suffering from this disease have been cured. Chenopodium oil is the chief drug used for routine treatment, but is found to be effective only when fresh; thymol was used to a smaller extent. Injections of sodium antimony tartrate have proved valuable in dealing with bilharziasis, and 2,053 patients were treated during the two years, if the whole course of treatment was completed cure resulted in practically every case. During the two years 8,319 surgical operations were performed; stovaine anæsthesia was largely used and found very satisfactory. Seventy cases of Egyptian splenomegaly were treated by splenectomy during the last four years, with a total mortality of 11 (15·7 per cent.). There was no serious trouble from haemorrhage, nor any immediate fatalities; nearly all the deaths occurred between the second and fourth days, and were due, presumably, to a form of late shock. One patient, with an apparently normal heart, died of heart failure before the operation began, and it is possible that some of the fatal cases are to be attributed to some unknown factor which predisposes to collapse. A considerable number of old splenectomy cases were traced and examined, and most of the patients were found to be exceptionally strong and well without any sign of ascites. There was much demand for the treatment of vesico-vaginal fistula and for plastic vaginal surgery. The work of the ophthalmic section has surpassed previous records, 3,576 operations were performed during the two years, mainly for trachoma and trichiasis. The x-ray department has been in constant use. During the winter months of the two years a tent hospital was maintained in the Delta; 2,911 patients were treated in the first winter, and 2,478 in the second.

PIRACY AND MEDICINE.

"INDEED, piracy must surely be the third oldest profession in the world, if we give the honour of the second place to the ancient craft of healing." So writes Dr. Philip Gosse in the entertaining and informative preface to his *Pirates' Who's Who*.[1] And there are, it appears, other reasons why it is appropriate that a medical man should compile an authoritative directory of pirates and buccaneers. For instance, one of their earliest historians was Alexander Olivier Exquemelin, himself a sea surgeon to some of the most famous buccaneers, his masterpiece, *Buccaniers of America*, was first published at Amsterdam in 1678, and a good deal of the recorded history of the early sea-robbers seems to have come down to us in notes made by the surgeons who served on board their vessels. The most famous of these was Thomas Dover, of whose exploits Dr. Gosse has previously written.[2] Dover, unlike most of the other pirate doctors, was a fully qualified medical practitioner—a bachelor of medicine of Cambridge University, and (long after he had quitted the sea) a licentiate of the Royal College of Physicians of London. His chief title to professional fame was his invention of Dover's powder, but he was remarkable in other respects; for he won success in the executive branch as a pirate captain, and rescued from the Island of Juan Fernandez Alexander Selkirk, the prototype of Defoe's Robinson Crusoe. One of Captain Dover's first lieutenants was his kinsman "Mr. Hopkins, buccaneer and apothecary," who sailed with him from Bristol in the *Duchess* privateer on August 2nd, 1703. Another surgeon and pirate was George Wilson, who, when serving in his professional capacity in a Liverpool ship was taken prisoner by Bartholomew Roberts and voluntarily joined the pirates; he was tried for piracy at Cape Coast Castle in 1722, found guilty and condemned to death, but whether actually hanged is not quite clear, though he certainly deserved it. Peter Scudamore, like Wilson, was a ship's surgeon captured by Roberts, and came to a bad end largely through his own fault. It was a rule on all pirate vessels for the surgeon to be excused from signing the ship's articles. When the next prize was taken if she carried a surgeon, he was taken in place of their present one if the latter wished to leave. But when Scudamore came on board the *Royal Fortune* he insisted on signing the pirate articles and boasted that he was the first surgeon that had ever done so, and he hoped he said to prove as great a rogue as any of them.' On one occasion he stole the surgeon's instruments and medicines from a captured ship. In the interval between condemnation to death and hanging Scudamore went through the motions of repentance. On the gallows he sang solo the Thirty-first Psalm. Died at the age of 35. A rather more reputable character was Lionel Wafer, surgeon, buccaneer and author of *A New Voyage and Description of the Isthmus of America*, published in London in 1699. William Taylor, who served with the pirate captain Phillips, had no connexion with our profession, but the brief account of the amputation of his leg by the aseptically minded surgeon carpenter is of medical interest. We must confess that until reading Dr. Philip Gosse's particulars of the lives and deaths of pirates and buccaneers our knowledge of piracy was confined to a few nebulous ideas based on the imaginative writings of Robert Louis Stevenson, W. S. Gilbert, and

[1] *Carotin ids and Related Pigments. The Chromolipoids.* By L. S. Palmer, Ph.D. American Chemical Society Monograph Series. New York: The Chemical Catalog Co. (Med. 8vo, pp. 315, 2 plates. 4.50 dols.)

[1] *The Pirates' Who's Who.* Giving Particulars of the Lives and Deaths of the Pirates and Buccaneers. By Philip Gosse. London: Dulau and Co., Ltd. 1924. (Cr. 8vo, pp. 328, illustrated. 10s. net.)

[2] See BRITISH MEDICAL JOURNAL, February 15th, 1922, p. 270.

Sir James Barrie We have tried to indicate the medical flavour of some of his characters, but apart from this it is a book which will be enjoyed by many of our readers, both for its historical interest and for the dry humour which constantly peeps out in the preface and in the terse biographies of bygone sea-villains

TENDENCIES IN MILITARY HYGIENE

At a meeting of the War Section of the Royal Society of Medicine on April 14th, Lieut Colonel J A Anderson, R A M C, opened a discussion on the recent trend of military hygiene He said that the conception of military hygiene had undergone a change during the last twenty years, but especially during and since the war period, which struck much more deeply than the mere introduction of new methods of organization or the necessary adjustment to meet fresh sanitary discoveries, it was a change of outlook and an immense widening of function In the main it was the result of two factors—the first, that hygiene was now able to make use of other and not closely allied sciences, the second, that the combatant branches of the service had now a much more adequate appreciation of the close relation between healthy living and military efficiency Before the war the control of infectious disease was looked upon as the first consideration Measures of control were directed to the sources of the infection, and the susceptible recipient was ignored To-day more attention was being paid to the individual, and the importance of the healthy "susceptible" as a factor in epidemiology had been recognized The tendency was towards physiology rather than sanitary engineering The soldier's body was now regarded as being of at least as much importance as his barracks It was seen during the war that infectious diseases accounted for only a small fraction of total hospital admissions, and the obvious duty presented itself to the medical service of preventing or at least controlling such non-infectious sources of army wastage as trench-foot, shell shock, cardiac affections, dental caries, food deficiencies, and the like Fortunately, this new spirit in military hygiene had survived the war A far wider conception of what constituted preventable disease now obtained, and a case of small-pox might present a less disturbing problem to the medical officer than a number of cases of indigestion, presumably due to faulty feeding Thus the essential aim of hygiene was made clearer, it was not only the prevention and control of disease, it was also the maintenance and improvement of health, and the encouragement in the individual of what might be called a sanitary conscience The sick list represented only a comparatively few men in any unit, and in the past the much greater number who were free from sickness had escaped attention Now there was evidence of a definite orientation towards *health* rather than disease, and the logical extension of this principle was to make the *improvement* of the working efficiency of the *men* the legitimate function of the military hygienist He believed that a new conception of external environment was approaching in which it would appear, not as something to be feared or fought against, but as something which, properly controlled, held important possibilities of increased efficiency and health more abundant The medical officer could no longer afford to limit his concern to those factors in environment which might produce disease, his duty must be to secure the increased working efficiency of the "well" men, the elimination as far as possible of fatigue and energy waste, and perhaps the application of what was known in industrial psychology as "motion study" Colonel Anderson gave instances from different phases of army medical work to prove that this idea was finding acceptance and encouragement, recruits, for example, were now being examined, not solely for their freedom from pathological conditions, but for their positive fitness for their future work Most of those who joined in the brief discussion were in full accord with Colonel Anderson's views, but Lieut-Colonel Sylvester-Bradley brought forward from the Aldershot Command some figures relating, not to new recruits, but to trained soldiers, showing that while the average of constantly sick was 16 86 per 1,000 in 1912 and 16 99 in 1913, it rose, in spite of these new developments in military hygiene and the usurpation by the hygiene branch of the functions of the general duties officer, to 29 59 in 1921 and 21 04 in 1922 Invaliding out, which was 8 45 in 1912, rose to 31 87 ten years later Colonel Anderson, in replying, considered that these figures might be explained, partly by the possibility that post-war recruits were not up to the pre-war standard, and partly by the tendency of clinical specialists to keep men in hospital for longer periods and to invalid out for slighter causes than formerly

TEMPERATURE IN PULMONARY TUBERCULOSIS

A helpful account of the present-day opinions with regard to temperature and pulmonary tuberculosis has been written[1] by Dr C G R Goodwin, medical superintendent of the Barrasford Sanatorium, Northumberland Though he may not have much that is new to tell his fellow sanatorium physicians, his information should prove useful to the general practitioner and the consulting physician alike Dr Goodwin writes "We all know of definite cases who, on seeing some consulting physician or other, have been informed of a perfectly accurate diagnosis, and advised to get away to the hills and get plenty of fresh air, but who were never instructed that the temperature should be recorded, and if found to be raised that the subject should rest religiously if health were to be regained" Many a patient who has followed this advice has, in Dr Goodwin's words, "walked himself into his grave" This state of affairs is the more deplorable as sanatorium experience leads to the conclusion that the slight evening temperature of early pulmonary tuberculosis is, as a rule, amenable to treatment by rest The fate of a patient who has contracted pulmonary tuberculosis is determined rather by what he does not do than by what he does If, guided by his thermometer, he does nothing but stay in bed, he has a far better chance of recovery than he who travels from one health resort to another and samples every new vaccine and serum If, then, we accept the view that rest is the alpha and omega of treatment in febrile cases, it is obvious that we must know when a patient is febrile, but Dr Goodwin has little good to say of the mouth temperature taken in the usual manner It may, indeed, indicate what he calls "gross pyrexia," but unless the thermometer is kept in the mouth for at least fifteen minutes, and the neck and cheeks are kept covered, those finer degrees of pyrexia which it may be essential to discover are overlooked, and the patient who ought to be kept in bed is given exercise, to his undoing Thus, then, is Dr Goodwin's first point when slight degrees of pyrexia are being looked for it is essential that the temperature should be taken in the rectum In his nine years' experience of tuberculosis work he has not known any patient to complain of this procedure, the rapidity and accuracy of which far outweigh any objections which may be raised against it A second point made by Dr Goodwin is "that an isolated temperature record is of no real value in assessing whether a case has active disease or not In a doubtful case records should be taken four times a day for two or three weeks, and the complete chart studied" Advice which is perfectly simple is apt to be held in low esteem, but there is good reason to believe that were the knowledge Dr Goodwin possesses to be common property in the medical profession, and were his

[1] *Tubercle* 1923.

advice to be followed as to the maintenance of complete rest during a slight pyrexia which a thermometer in the mouth fails to register, the toll of tuberculosis would be appreciably diminished. It is not very easy in some cases to distinguish between a normal and a subfebrile temperature: the time of day, the patient's sex, the amount of exercise or rest before the temperature was taken, and many other influences must be considered before a thermometer reading can be judged normal or morbid. The late Professor Saugman used to attach more importance to the early morning than to the evening temperature, because the latter is more influenced by extraneous accidental factors, and he taught that a rectal temperature, taken as soon as the patient awoke in the morning, was morbid if it exceeded 97·7°. Women patients may be allowed some latitude in this respect, a temperature exceeding 97·7° by a few tenths not being necessarily indicative of disease.

ANTIMALARIAL MEASURES

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Sir James Barrie We have tried to indicate the medical flavour of some of his characters, but apart from this it is a book which will be enjoyed by many of our readers, both for its historical interest and for the dry humour which constantly peeps out in the preface and in the terse biographies of bygone sea-villains

TENDENCIES IN MILITARY HYGIENE

AT a meeting of the War Section of the Royal Society of Medicine on April 14th, Lieut-Colonel J A Anderson, R A M C, opened a discussion on the recent trend of military hygiene He said that the conception of military hygiene had undergone a change during the last twenty years, but especially during and since the war period, which struck much more deeply than the mere introduction of new methods of organization or the necessary adjustment to meet fresh sanitary discoveries, it was a change of outlook and an immense widening of function In the main it was the result of two factors—the first, that hygiene was now able to make use of other and not closely allied sciences, the second, that the combatant branches of the service had now a much more adequate appreciation of the close relation between healthy living and military efficiency Before the war the control of infectious disease was looked upon as the first consideration Measures of control were directed to the sources of the infection, and the susceptible recipient was ignored To-day more attention was being paid to the individual, and the importance of the healthy "susceptible" as a factor in epidemiology had been recognized The tendency was towards physiology rather than sanitary engineering The soldier's body was now regarded as being of at least as much importance as his barracks It was seen during the war that infectious diseases accounted for only a small fraction of total hospital admissions, and the obvious duty presented itself to the medical service of preventing or at least controlling such non-infectious sources of army wastage as trench-foot, shell shock, cardiac affections, dental caries, food deficiencies, and the like Fortunately, this new spirit in military hygiene had survived the war A far wider conception of what constituted preventable disease now obtained, and a case of small-pox might present a less disturbing problem to the medical officer than a number of cases of indigestion, presumably due to faulty feeding Thus the essential aim of hygiene was made clearer, it was not only the prevention and control of disease, it was also the maintenance and improvement of health, and the encouragement in the individual of what might be called a sanitary conscience The sick list represented only a comparatively few men in any unit, and in the past the much greater number who were free from sickness had escaped attention Now there was evidence of a definite orientation towards health rather than disease, and the logical extension of this principle was to make the improvement of the working efficiency of the men the legitimate function of the military hygienist He believed that a new conception of external environment was approaching in which it would appear, not as something to be feared or fought against, but as something which, properly controlled, held important possibilities of increased efficiency and health more abundant The medical officer could no longer afford to limit his concern to those factors in environment which might produce disease, his duty must be to secure the increased working efficiency of the "well" men, the elimination as far as possible of fatigue and energy waste, and perhaps the application of what was known in industrial psychology as "motion study" Colonel Anderson gave instances from different phases of army medical work to prove that this idea was finding acceptance and encouragement, recruits, for example, were now being examined, not solely for their freedom from pathological conditions, but for their positive fitness for their future work Most of those who joined in the brief discussion were in full accord with Colonel Anderson's views, but Lieut-Colonel Sylvester-Bradley brought forward from the Aldershot Command some figures relating, not to new recruits, but to trained soldiers, showing that while the average of constantly sick was 16 86 per 1,000 in 1912 and 16 99 in 1913, it rose, in spite of these new developments in military hygiene and the usurpation by the hygiene branch of the functions of the general duties officer, to 29 59 in 1921 and 21 04 in 1922 Invaliding out, which was 8 45 in 1912, rose to 31 87 ten years later Colonel Anderson, in replying, considered that these figures might be explained, partly by the possibility that post-war recruits were not up to the pre-war standard, and partly by the tendency of clinical specialists to keep men in hospital for longer periods and to invalid out for slighter causes than formerly

TEMPERATURE IN PULMONARY TUBERCULOSIS

A HELPFUL account of the present-day opinions with regard to temperature and pulmonary tuberculosis has been written[1] by Dr C G R Goodwin, medical superintendent of the Barrasford Sanatorium, Northumberland Though he may not have much that is new to tell his fellow sanatorium physicians, his information should prove useful to the general practitioner and the consulting physician alike Dr Goodwin writes "We all know of definite cases who, on seeing some consulting physician or other, have been informed of a perfectly accurate diagnosis, and advised to get away to the hills and get plenty of fresh air, but who were never instructed that the temperature should be recorded, and if found to be raised that the subject should rest religiously if health were to be regained" Many a patient who has followed this advice has, in Dr Goodwin's words, "walked himself into his grave" This state of affairs is the more deplorable as sanatorium experience leads to the conclusion that the slight evening temperature of early pulmonary tuberculosis is, as a rule, amenable to treatment by rest The fate of a patient who has contracted pulmonary tuberculosis is determined rather by what he does not do than by what he does If, guided by his thermometer, he does nothing but stay in bed, he has a far better chance of recovery than he who travels from one health resort to another and samples every new vaccine and serum If, then, we accept the view that rest is the alpha and omega of treatment in febrile cases, it is obvious that we must know when a patient is febrile, but Dr Goodwin has little good to say of the mouth temperature taken in the usual manner It may, indeed, indicate what he calls "gross pyrexia," but unless the thermometer is kept in the mouth for at least fifteen minutes, and the neck and cheeks are kept covered, those finer degrees of pyrexia which it may be essential to discover are overlooked, and the patient who ought to be kept in bed is given exercise, to his undoing This, then, is Dr Goodwin's first point when slight degrees of pyrexia are being looked for it is essential that the temperature should be taken in the rectum In his nine years' experience of tuberculosis work he has not known any patient to complain of this procedure, the rapidity and accuracy of which far outweigh any objections which may be raised against it A second point made by Dr Goodwin is "that an isolated temperature record is of no real value in assessing whether a case has active disease or not In a doubtful case records should be taken four times a day for two or three weeks, and the complete chart studied" Advice which is perfectly simple is apt to be held in low esteem, but there is good reason to believe that were the knowledge Dr Goodwin possesses to be common property in the medical profession, and were his

[1] *Tubercle* 1923

advice to be followed as to the maintenance of complete rest during a slight pyrexia which a thermometer in the mouth fails to register, the toll of tuberculosis would be appreciably diminished. It is not very easy in some cases to distinguish between a normal and a subfebrile temperature: the time of day, the patient's sex, the amount of exercise or rest before the temperature was taken, and many other influences must be considered before a thermometer reading can be judged normal or morbid. The late Professor Saugman used to attach more importance to the early morning than to the evening temperature, because the latter is more influenced by extraneous accidental factors, and he taught that a rectal temperature taken as soon as the patient awoke in the morning was morbid if it exceeded 97·7°. Women patients may be allowed some latitude in this respect: a temperature exceeding 97·7° by a few tenths not being necessarily indicative of disease.

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THE CENTENARY OF BYRON'S DEATH

HIS LAST ILLNESS

BYRON died, in the thirty-seventh year of his age, just one hundred years ago, on Easter Monday, April 19th, 1824

He had gone to Missolonghi in a fair state of health early in the preceding January as the representative of the Greek Committee in London, with the object of assisting in the liberation of Greece from the domination of the Turks As the head of that mission he became responsible for its organization and policy, in the execution of his task he was confronted by difficulties of so formidable a kind and so incessant in their recurrence that his health was visibly affected by the anxieties and hardships they entailed

In his habits he was active, and fond of such athletic exercises as his lameness permitted, more especially riding, swimming, and fencing It was his custom to ride on horseback daily, but this exercise was, to the detriment of his health, seriously curtailed at Missolonghi owing to the incessant rains prevailing there in the spring season In his food he was abstemious to an abnormal degree, partly with the intention of counteracting a supposed tendency to corpulency, partly from a determination to share equally in the fortunes and hardships of the Greeks around him The effect of this systematic semi-starvation was unmistakable, and was thought to have materially contributed to the fatal issue of his illness It had long been a practice with Lord Byron, when writing at night, to take alcohol, chiefly in the form of hollands, and there is some evidence that this habit became more confirmed amid the depressing circumstances to which he was exposed

The village of Missolonghi, situated in a low-lying and pestilential district in the Gulf of Patras, stands on the border of a lagoon which is separated from the gulf by extensive deposits of mud In the spring the district is drenched with heavy rains, which, beginning in March, are protracted for weeks in an almost continuous downpour Sanitary measures appear to have been unknown to the villagers, and faecal and other refuse was flung indiscriminately into the streets and lake The climatic and sanitary surroundings in which Lord Byron lived were, therefore, of the worst possible kind

Lord Byron has himself stated that he was very subject to attacks of fever These, however, never caused alarm, and yielded in a few hours to his usual remedy—the bath One severe attack of the kind occurred at Patras during his previous visit to Greece, his recovery he attributed solely to his strong constitution He had been lame from childhood from a congenital defect of one limb, the foot and leg, his contemporaries believed, were somewhat short, the calf wasted, and the ankle-joint weak Upon these statements Dr H C Cameron, as will be pointed out further on, has recently thrown some doubt

The Epileptiform Attacks

Of definite illnesses previous to the final illness, reference should be made to two convulsive seizures, the first occurred in August, 1823, and the circumstances of this attack must be described On the occasion of a visit to a monastery in Cephalonia Lord Byron was formally received by the abbot and monks, who presented him with an address While this was being read he suddenly burst into a paroxysm of rage, poured a torrent of execrations on the abbot, and hurriedly left the room Shortly afterwards he was seized with violent spasms in the stomach and liver, and exhibited great mental excitement, refusing to tolerate the presence of any person in his room, and tearing his clothes and bedding like a maniac He refused all medicine, and Dr Bruno, his personal physician, was expelled from the room by main force, and the door barricaded from within One of the company, volunteering to persuade him to take medicine, was received with execrations and a chair flung at his head A second attempt, however, was successful, and by the following evening, after a day of dejection, Lord Byron's spirits revived and he was to all appearances perfectly well

The second attack occurred at Missolonghi on February 15th, 1824, about eight weeks before the final illness The immediate cause of this was, apparently, mental depression and vexation Lord Byron had set his heart on personally conducting an attack on Lepanto, and that it should have become necessary to abandon the project was a source of the utmost vexation to him He also suffered great annoyance from the behaviour of his native soldiers, and from interruptions from petitions, demands, and remonstrances, which never left him a moment's peace at any hour of the day At 8 o'clock in the evening of February 15th, while laughing and joking with Mr Parry, his artillery officer, over a glass of cider, Lord Byron's manner became constrained, his face flushed, and he complained of strange sensations Rising from his seat, he was unable to walk, staggered a step or two, and fell into Mr Parry's arms In another minute his teeth were closed, his speech and senses gone, and he was in strong convulsions, his face becoming distorted and his mouth drawn to one side The fit was brief, he speedily recovered his senses and speech, and his face, though pale and haggard, assumed its ordinary appearance He subsequently informed Count Gamba, his secretary, that "when he lost his speech he did not lose his senses," and that he suffered great pain at the time

The next day he rose at noon, feeling very weak and with a sensation of weight in the head The doctors then applied eight leeches to the temples, copious bleeding followed, which was arrested, with the greatest difficulty, and after repeated attempts, at 11 o'clock at night Throughout the month of March Lord Byron's health did not appear to be thoroughly re-established, and he frequently complained of slight pains in the head, shivering fits, attacks of giddiness, confusion of thought, and oppression on his chest Before the final illness he is said to have been reduced to a mere shadow

The Final Attack of Fever

On April 9th Lord Byron, not having been on horseback for some days, resolved to ride He was accompanied by Count Gamba When three miles from the town they were overtaken by a heavy rain, and he returned to the town walls wet through and in a violent perspiration Such was the habitually wretched condition of the streets of Missolonghi that it was impossible to ride through them without the risk of breaking one's neck It was therefore Lord Byron's custom to be rowed in a punt along the harbour and canal, and mount outside the town On this occasion Count Gamba advised him to return the whole way on horseback and not expose himself in an open boat This advice was disregarded Two hours later Lord Byron was seized with shuddering and complained of fever and pain of great severity Next day, however, he got up as usual, transacted business, and took a long ride with Count Gamba, during which he appeared to be in good spirits On his return he complained of the saddle having been damp, and as the day wore on he was again suffering from pains and fever Late that night he sent for Dr Bruno, who found Lord Byron complaining of shuddering fits followed by burning intervals and wandering pains all over the body Sudorifics were prescribed, but the patient slept little and restlessly The pulse next morning (April 11th) being strong and irregular, bleeding was advised, but this was refused A hot bath and 2 ounces of castor oil were ordered, and six doses, one every hour, of 15 grains of antimony powder The patient perspired a little during the evening He slept in snatches throughout the night, but in the morning he insisted on getting up and attending to business Bleeding was advised, but refused A hot bath and antimony powders were ordered as before No food was taken except a thin broth with an egg beaten up in it

On the morning of April 13th there were complaints of pains in the head and eyebrows At 3 p m the fever suddenly increased, and Mr Millingen, the surgeon deputed by the London Committee to organize the medical department of the mission, was called in consultation He approved of the measures adopted to combat the "rheumatic fever," and bleeding was again urged, but refused Next day, April 14th, the patient was better.

He got up at noon even suggested riding and was able to transact business Bleeding was again recommended but once more refused One of the usual pills was given and some black-currant tea, which caused violent sickness Sleep that night was disturbed and restless In the afternoon of April 15th the fever increased alarmingly Both Dr Bruno and Mr Millingen made every effort to induce Lord Byron to be bled, but without success The pulse became hourly stronger more intermittent and more fully charged Three pills of calomel and colocynth were given

During the night the patient slept little and had violent fits of coughing with vomiting Spasms in the fingers and toes were noticed during sleep In the morning (April 16th) the patient's condition was distinctly worse He consented to be bled and a pound of blood was withdrawn but no beneficial effect was observed the cheeks remaining flushed and the pulse strong and intermittent Within an hour he was bled a second time This gave some relief and he obtained a little sleep but in three hours the effect had gone off His expression became fixed and there was occasional numbness in the fingers and toes indicating, in the opinion of the doctors that the inflammation was passing to the brain A third bleeding was then suggested, but refused Cold water bandages were applied to the head

The fever increased during the night with periods of delirium In the morning of April 17th the fever still persisted The patient was bled to 10 ounces but the pulse remained forcible About noon he was assisted into the next room for his bed to be made He seemed rational and read for a few minutes but becoming faint was assisted back Dr Treiber Mr Millingen's assistant and Dr Vava physician to Prince Mavrocordato, were called in consultation They and Mr Millingen considered that Lord Byron was now too weak to be bled any more Dr Bruno strongly opposed this view and advised immediate and abundant bleeding in order to ward off inflammation of the brain Shortly after the consultation Lord Byron fainted his pulse became weak and his hands and feet cold China and ammonia were administered after which the patient was seized with convulsions Subsequently he had a cup of very strong decoction of china with some drops of laudanum and then fell asleep

The patient moaned slightly all night The pupils were contracted and motionless the breathing painful In the morning (April 18th) there were indications of collapse A few leeches were applied to the temples and appeared to do some good At 4 p m the patient seemed to be sinking at 6 p m he went to sleep

Lord Byron did not awake from the sleep of the previous evening, but remained unconscious the whole night and could not be roused (Count Gamba states that there was copious bleeding all night from the leeches applied on the previous day) The patient's condition remained unchanged throughout the day, and he died at 6 15 p m on April 19th

Of nursing it is probable that there was none in the ordinary sense Lord Byron was attended by several most devoted companions and servants, whose notions of nursing would be crude If he wished to get up and transact business, he did so if he wished his bed made, he would totter into an adjoining room and be assisted back in a semi fainting condition A few home comforts would have compensated for this in some degree but of these there were none As to diet, we are left with the impression that it was insufficient Mr Millingen mentions the low, debilitating diet recommended by Dr Bruno There would be nothing unreasonable in such a recommendation within certain limits but the faithful old servant William Fletcher deplored that the whole nourishment taken by his master for the last eight days of the illness consisted of a small quantity of broth at two or three different times and two spoonfuls of arrowroot on the day before his death

Dr Bruno has not escaped criticism but he was without experience, having only just qualified and this combined with a certain lack of firmness and a predilection for bleeding rendered him perhaps not the most suitable person for the somewhat difficult post Lord Byron spoke well of him, and the fault if fault there were lay with those who made the choice which in fact was delayed until no choice was possible

The diagnosis unanimously arrived at by the four medical men was that "the complaint was owing to the metastasis (in the brain) of rheumatic inflammation" The term "rheumatic" was, apparently intended to indicate a fever resulting from exposure and not acute articular rheumatism

The Post-mortem Observations

The *post mortem* report was drawn up by Dr Bruno, but valuable additional notes were furnished subsequently by Mr Millingen The two accounts may be combined and condensed The cranial sutures were completely ossified The dura mater was twice as thick as normal and closely adherent to the calvaria and by organized bands to the pia arachnoid The falciform process was tightly adherent to the cerebral hemispheres The pia mater was adherent to the brain substance in many places The dura mater together with the whole system of sanguiferous vessels of the cerebrum and cerebellum, was intensely congested The pia mater was swollen with an exudation of "lymph," and presented the appearance of the conjunctiva on an inflamed eye Dr Bruno states that "the usual effects of inflammation were observable throughout the cerebrum," but omits to state what those effects were The brain without the membranes weighed it is stated, six medical pounds There was about an ounce of "lymph" in the pericardial cavity The heart was enlarged, its walls flabby and collapsed, the muscle pale and the ventricular walls thin The liver was much smaller than normal hard pale and beginning to undergo the alterations observed in persons who have indulged in alcohol The lungs were perfectly healthy, crepitant and free from adhesions The stomach, intestines, and kidneys were healthy

Summarizing the foregoing we find that the dura mater was adherent to the calvaria and brain the pia mater adherent to the brain the brain and dura mater greatly congested and the pia arachnoid oedematous there appear to have been no adhesions at the base of the brain The heart was dilated and fatty or anaemic the liver cirrhotic Inflammation of the brain or meninges must be held to have been absent the term "lymph" probably refers to oedematous fluid rather than inflammatory exudate for it is also used in connexion with the pericardium, where there is no suggestion of inflammation The diagnosis of inflammation of the brain appears to have rested on the intense congestion of the dura and brain and the oedematous swelling of the soft membranes these conditions would readily arise from a failing circulation

The Diagnosis

The symptoms furnish a picture of a febrile attack not caused by any local inflammatory focus and beginning acutely with shivering A temperature chart would probably have shown sharp rises with remissions or intermittences at intervals which the notes do not enable us to define but during which the patient was relatively free from symptoms Towards the end a sudden failure of the circulation occurred with fatal consequences With regard to the nature of the illness it may be surmised that it was one of the febrile attacks (probably of malarial origin) to which Lord Byron was subject brought on by exposure and that its fatality was due to his enfeebled state of health and the circumstances above related As this diagnosis appeared to us very far from certain we consulted Sir Ronald Ross and Dr G C Low Dr Low expresses the opinion that the disease was malaria He points out that in the *post mortem* notes there is no record of the condition of the spleen while there is a statement that the stomach intestines and kidneys were healthy If this be continuous, is worth anything the disorder could not have been typhoid and as he had no articular lesions it could not have been rheumatic fever I should say then malarial fever passing into malarial coma and death This is a very common sequence in malignant malarial infections"

Sir Ronald Ross has been good enough to write us a detailed note which we reproduce below As will be seen, he throws doubt on the diagnosis of malarial fever

Dr H C Cameron has made the suggestion that the lameness was due to submeningeal haemorrhage at birth a condition first described by Little and commonly known

by his name The sufferers from it are prone to convulsive seizures, and it seems probable that the attacks from which Lord Byron suffered, the symptoms of which are not quite consonant with those of epilepsy, were related to this birth condition

Dr Bruno's statement that Lord Byron's brain weighed "six medical pounds" has recently been made the subject of careful inquiry by Professor A Castiglioni of Trieste, with the co-operation of Professor Raimondi of the University of Siena The weight of the pound varied in the Latin countries the Roman pound weighed 367 129 grams that of Spain 345 grams, the Italian pound about 300 grams, although in parts of Italy it varied between 300 and 340 grams The writers of that time give the weight of the brain as 1,807 grams Professor Castiglioni concludes that the pound used by Dr Bruno was probably a little over 300 grams, say 307, which would make the weight of the brain 1,842 grams—a large brain therefore, though larger have been recorded Cuvier's brain is said to have weighed 1,990 grams

The foregoing account is derived from the following sources

Castiglioni A and Raimondi C Unpublished communications
Cameron H C BRITISH MEDICAL JOURNAL March 31st, 1923
Iggulden R *Byron The Last Phase* 1909
Gamba P *A Narrative of Lord Byron's Last Journey to Greece* 1825
Medwin T *Journal of the Conversations of Lord Byron* 1824. (An appendix contains the account given by Fletcher, and Bruno's comments thereon) (London John Murray)
Nicolson H *Byron The Last Journey* 1924
Millingen J *Memoirs of the Affairs of Greece* 1831
Parry W *The Last Days of Lord Byron* 1825

Note by SIR RONALD ROSS, K C B, K C M G, F R S

I have always taken an interest in the final illness of Byron He first contracted malaria in Greece in 1810, and he wrote that, during his voyage home in May, 1811, he suffered from "what Hostess Quickly in *Henry V* calls a villainous 'Quotidian Tertian', it killed Falstaff and may me" (*Lord Byron's Correspondence*, Murray, 1922, i, 32) I think he had numerous relapses after that, but cannot locate references The fatal illness, well summarized in your excellent article, was described at length by Count P Gamba in a letter (*The Works of Lord Byron Letters and Journals*, Murray, 1904 vi 433) You ask my opinion as to the nature of it It began as you state, on April 9th, 1824, after he had been in Greece again for three months at Missolonghi, though he had suffered two curious "epileptiform attacks" in August, 1823, and again in February, 1824, which *may* have been connected with the final sickness The attack of April 9th followed a wetting, and consisted of "a little fever and rheumatic pains" Next day he "was always shivering" On April 11th he was better at first and rode out again, but seems to have relapsed during the night, and kept to his bed on April 12th with "a rheumatic fever" He seems to have been better on April 13th and 14th On April 15th, Gamba says, "The fever continued, but his rheumatic pains and his headaches were gone" Gamba did not see him on April 16th, but on April 17th, "His look alarmed me much," and on April 18th at 6 p m he became insensible, and he died next day at 6 p m

I repeat these details in order to show that there was no *clear* evidence of tertian periodicity in the case The apparent tendency of the temperature to rise every afternoon or evening suggests a continued rather than a malarial fever, and so does the apparent cessation of the rigors and pains after the first few days No cinchona bark was given, and the patient seems to have been remorselessly purged and bled, and to have refused sufficient nourishment At the necropsy the liver appears not to have been congested, the state of the spleen (that fundamental point) was not mentioned, I understand, but the intestines were said to be healthy—and death was too early in the case to suggest enteric, while there were surely no signs indicating what we now call rheumatic fever, and the lungs were reported normal

Clinically, therefore, we can only say that Byron's illness was what I call "malarial fever by residual diagnosis"—a very poor form of diagnosis Epidemiologically however, Gamba says "Missolonghi lies in a low flat—on one side covered by a wide ditch, on the other washed by the salt marshes Our house was on the marshes" Now in Southern Italy, Greece, and India, new cases of *P vivax* infection begin to appear very early in the spring, being probably due to old hibernating mosquitos infected in the previous autumn But if Byron had been reinfected by such agents in March, 1824, other inmates of his house and his numerous retinue should have suffered similarly, and I do not know whether this was the case It is *unlikely* that his last illness was a mere relapse of the tertian infection which he had acquired fourteen years previously—that is, that the parasites had lived in him all that time, but this is not *impossible*, and his life of hard exercise, low diet, and some alcohol, combined with frequent wettings and his medical treatment, would have contributed to the fatal issue Similar cases are still far from infrequent in the tropics I doubt whether the two previous "epileptiform attacks" had any connexion with the final fever if this was really malaria Possibly, however, the whole complex was due to some quite different cause

BRITISH EMPIRE EXHIBITION.

MEDICAL SECTIONS

(*Continued from page 670*)

THE Ministry of Health has prepared a series of exhibits which will be found mainly in the Government Pavilion, between the Tropical Health Section described last week and the exhibit of the Royal Society, it is also responsible for two large town-planning models situated in the Models Section

Town Planning

One of these models represents an industrial riverside town, which has gradually grown up without any intelligent planning—factories are mixed up with dwelling houses and shops with schools, streets wander into irregular labyrinths of back-to-back dwelling houses and blind alleys, the river is polluted by the town, the houses of which crowd upon its banks, and the deposit from the smoke of many chimneys has blackened and injured all except the most modern buildings The second model illustrates the results accomplished by careful town planning on the same spot the factories are grouped to leeward in relation to the prevailing wind, and within easy range of them are houses for workmen The river front is protected by gardens, rapidity of industrial transport is obtained by arranging for railway communication direct with the factories, by well planned roads, and by provision for such air and water transport as may be available Land is reserved for food production near the town, thus avoiding needless transport of food and its deterioration during travel Recreation grounds are carefully placed so as to be easily accessible for the inhabitants in all parts of the town

A set of maps required for a town-planning scheme will be shown also, and a perspective plan of the expected appearance of Margate at some future date, the regions in England and Wales where such town-planning schemes are already being carried out will be indicated on another map Photographs and plans illustrating the ideal arrangement of approved housing estates and also of house designs, selected from different parts of the country, will show how local conditions and the materials available can be used with the greatest benefit A conference of the Town-Planning Institute is to be held from May 5th to 10th

Environmental Hygiene

The Ministry's exhibit in the Government Pavilion is in three portions the first is concerned with environmental hygiene, the second with maternity and child welfare, and the third with the care of the blind

In the first part the following matters are dealt with

(1) *Water Supply*—Devices to ensure a supply of pure water by filtration, chemical treatment, or chlorination are displayed and the methods used to prevent contamination in the water mains, or corrosion of the pipes The Paterson Company have

supplied a chlorinome of the Pulser type, with each part clearly labelled to show how this instrument works in regulating measuring and adding chlorine from steel cylinders to water, for the purpose of disinfection The Pulser in the model serves not only to show that the apparatus is working properly but also acts as a seal between the dry chlorine gas in the instrument and the water supply For the purpose of exhibition this model is operated by means of compressed air so as to avoid any inconvenience due to chlorine vapour The firm has also supplied a small model of a gravity filter and various coloured illustrations The United Water Softeners Company has supplied a small model of a gravity filter a Permutit filter and a demonstration of a lime soda softening plant The Candy firm has supplied a small pressure filter and an apparatus for pumping chemicals whilst the Metropolitan Water Board has sent two model sections of slow sand filters with diagrams, and also an extremely interesting demonstration—prepared by Sir Alexander Houston the director of water examinations to the Metropolitan Water Board—of the method of carrying out the bacteriological examination of water The procedure for recording the information obtained by the Ministry's survey of the water resources of England and Wales is illustrated by maps and diagrams There will be geological models of wells, and also a geological model of the London basin

(2) *Smoke Abatement*—The exhibits dealing with smoke will include illustrations of the amount of this impurity in town air the instruments used for recording air pollution and charts depicting clearly the damage and waste of fuel caused by inefficient combustion A fragment from Westminster Abbey eroded by soot forms part of the exhibit.

(3) *Sewerage and Sewage Disposal*—Various exhibits illustrate the methods adopted for the disposal of sewage A model of sewage disposal works constructed for the Air Ministry will be on view and various static and working models to explain special features of different schemes Large photographs and charts convey further information

(4) *Refuse Disposal*—The disposal of house refuse will probably interest lay visitors to the Exhibition more than the previous exhibits since during each year in England and Wales nine million tons of household refuse are removed at a cost of seven and a half million pounds. The proportion of matter concerned is as follows in tons bones 27 000 glass 97 500 tins 135,000 paper 405 000 bricks 593 500 vegetable matter 720 000 and enormous quantities of cinders and fine dust An exhibit dramatically shows how much of this apparently useless matter can be converted to economic use so reducing the cost of collection from not far short of £1 to 4s per ton The elements in the refuse are separated by special machines of which photographs are shown—the paper snatched up in one direction tins removed by means of magnets and so on—until all the various components of the refuse which can be used are collected into groups, the tins can then be melted down and refined until 90 per cent metallic tin remains cinders can be hardened into briquettes for factory and other use, paper can be pulped and made into cardboard boxes and so on through the remainder of the refuse This exhibit has been devised and constructed by an engineer inspector of the Ministry of Health and will undoubtedly give rise to a good deal of interest Illustrations of refuse disposal centres are shown relating to Southport where ground has thus been reclaimed for recreation purposes Birmingham Blackpool Sheffield and Manchester where at Chat Moss the peat bog has been transformed into first class agricultural country Photographs are also shown of the refuse disposal works of Southwark Stoke-on Trent Hornsey Rochdale Derby and Sheffield In addition to these refuse reclamation procedures there is also an exhibit illustrating the utilization of waste meat collected from public abattoirs Large photographs of sanatoriums occupy a screen in this section

In the maternity and child welfare part there is a model of a maternity home an infant welfare centre and also a model of a small house to show how health and comfort may be economically obtained Show cases also appear of model clothing and a series of meals suitable for children of different ages

The exhibit devoted to the welfare of the blind includes the latest scientific inventions for helping them to make the best of life in the altered circumstances There will also be specimens of various forms of handicraft

THE Association of Hotels and Restaurants—which it is stated represents most of the principal licensed hotels in Great Britain—has issued an edition for 1924 of its guide book which gives particulars of the accommodation provided in each hotel and the tariff It is claimed that the information supplied shows that in spite of Wembley, the charges have not been increased this year in London.

England and Wales.

BRADFORD ROYAL INFIRMARY

THE new x ray department of the Bradford Royal Infirmary was formally opened on April 4th by the Lord Mayor of Bradford who was accompanied by the Lady Mayoress The old x ray department situated in the basement of the building was found unsuitable, and an anonymous donor agreed to defray the cost of rehousing the department in an army hut which has been specially prepared for the purpose, and has already given £1,000 for the work Before the opening ceremony the chairman of the board of governors explained the completeness of the department, and Dr E C Barker assistant radiologist in the absence of Dr W Mitchell through illness, demonstrated the use of the various appliances

NEW CORONER FOR SOUTH LONDON

To fill the vacancy created by the death of Mr G P Wyatt, coroner for the southern district of the County of London the London County Council has appointed Surgeon Commander Arthur Douglas Cowburn, M R C S, L R C P, D P H, barrister at-law The inclusive salary attached to the position is £981 12s a year but the selected candidate will probably be appointed by the Duchy of Lancaster to the vacant franchise district of Clapham at a salary of £59 8s a year making the combined salary £1 041 6s Fourteen applications for the position were received from persons possessing both a legal and a medical qualification

SPECIAL POST-GRADUATE COURSES

During the coming weeks several courses in various specialties will be held in London A month's course in psychological medicine has been arranged at the Maudsley Hospital, Denmark Hill, from May 5th to 30th, it will consist of lecture demonstrations on the psycho-neuroses, practical aspects of mental deficiency, etc A further fortnight's course, at the Hospital for Diseases of the Skin Blackfriars from April 28th to May 10th will include instruction in the out-patient department and venereal clinics A special course in ophthalmology at the Central London Ophthalmic Hospital from May 5th to 31st will deal with subjects of special interest to general practitioners A course in venereal diseases at the London Lock Hospitals (Dean Street and Harrow Road) from May 5th to 31st, will include clinical work daily in the wards and out-patient departments at both hospitals with a special lecture at 91 Dean Street each day At the Infants' Hospital, from May 19th to 24th there will be a special course dealing with infantile diseases, and including clinical demonstrations "round table" consultation and lecture During the same fortnight a course in proctology has been arranged at St Mark's Hospital for Diseases of the Rectum From May 12th to 30th there will be an intensive course in laryngology, rhinology and otology at the Central London Throat Nose, and Ear Hospital and for those desiring it an operative surgery course will be arranged Copies of the syllabus of each of the forthcoming courses can be obtained from the Secretary to the Fellowship of Medicine 1 Wimpole Street W 1

At the National Hospital for the Paralysed and Epileptic Queen Square, a post-graduate course on diseases of the nervous system from May 5th to June 27th will include lectures demonstrations and clinical and pathological work the fee for this course is five guineas There will also be a course of lectures on the anatomy and physiology of the nervous system if there are sufficient applicants, fee two guineas A course of clinical demonstrations, chiefly on methods of examination of the nervous system, will be given, fee two guineas

MANCHESTER RADIUM INSTITUTE

At the annual meeting of the Manchester and District Radium Institute Sir Edward Holt the chairman of the executive committee said that in addition to its curative function the Institute was also engaged in research work, and in the new laboratory recently completed more careful and valuable investigation of the action of radium on pathological tissues could be accomplished During the

last year 908 in-patients had been treated at the hospital, and there had been 5,729 attendances of out-patients, both these figures showed a marked increase over those of the previous year The financial position was not so good, and there was a deficit on the annual working account of £1,734 The hampering influence of this debt on the work was indicated by the fact that although Sir William Milligan had been commissioned some time back to buy £3,000 worth of additional radium, yet he was unable to buy more than £2,000 worth for fear of embarrassing the treasurer At present only £100 a year was being received by the hospital from subscriptions, but it was hoped before long to raise regularly at least £1,000 a year in this way Sir William Milligan described the rapid advance in the work of the Institute and urged its claims to a much greater support, since this work still required to be extended in view of the great ravages due to cancer Very satisfactory results had been obtained and many people were now back at work, having been restored to health by the treatment received The statistics of the Institute showed a fair proportion of cures or cases of relief from symptoms for five years, which they regarded as a cure He therefore hoped that the general public would show an increasing appreciation of this work

Ireland.

VITAL STATISTICS

THE quarterly return of the marriages, births, and deaths registered in the Free State shows that during the quarter ended December 31st, 1923 there were registered in the Free State, comprising 649 registration districts, 14,716 births and 10,223 deaths The number of marriages registered during the third quarter of 1923 was 4,063, equivalent to an annual rate of 5 1 per 1,000 of the estimated population, this rate being 0 8 above that for the corresponding quarter of 1922, and 0 3 above the average for the third quarter of the preceding ten years Of the total number of marriages 3 723 (or 5 3 per 1,000 of the estimated Catholic population) were those of Catholics, and 340 of persons belonging to all other denominations, representing 4 1 per 1,000 of the population other than Catholics The marriage rate among Catholics is 0 6 above and that relating to all other denominations is 1 1 below the average for the third quarter of the ten years 1913-22 Of the births registered in the Free State (14,716) during the quarter ended December 31st last, 7,646 were boys and 7,070 girls, the total being equivalent to an annual rate of 18 6 per 1,000 of the estimated population in the middle of 1923 (3,165,000) This rate is 0 2 below the average for the fourth quarter of the preceding ten years, but 1 1 above that for the fourth quarter of 1922 Of the deaths registered during the quarter 5,165 were of males and 5,058 of females, the total being equivalent to an annual rate of 12 9 per 1,000 of the population and 2 0 under the average for the fourth quarter of the preceding decennium, but 0 7 above that for the fourth quarter of the year 1922

The following statement gives particulars regarding deaths registered in the Free State from the under-mentioned causes for the fourth quarter of 1923, and for each of the eight preceding quarters, also averages for the fourth quarter of the five years, 1918-1922

	Total Registered	Tuberculosis		Cancer	
		Deaths	Rate per 1,000	Deaths	Rate per 1,000
1921					
Fourth quarter	9 849	925	1 17	625	0 79
1922.					
First quarter	13 676	1 288	1 63	607	0 77
Second quarter	12,517	1 285	1 63	538	0 68
Third quarter	8 713	1 016	1 29	541	0 69
Fourth quarter	9 641	893	1 13	560	0 71
1923					
First quarter	11,803	1 101	1 47	597	0 75
Second quarter	11 497	1 230	1 55	553	0 74
Third quarter	8 741	937	1 18	563	0 71
Fourth quarter	10 223	910	1 15	675	0 85
Average — Fourth quarters 1918-22	11 850	1 0 7	1.35	586	0 73

Of the 10,223 deaths registered during the quarter 997, or 9 8 per cent , were those of infants under 1 year of age, and 4,642, or 45 4 per cent , were of persons aged 65 years and upwards The number of deaths of infants was equivalent to 68 per 1,000 births registered, as compared with 74, 63, and 60 for the three preceding quarters

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

East African Territories.

THE desirability that the Government should send out to East Africa this year a special commission to report on the practicability of co ordinating policy and services throughout East African territories was raised on April 8th by a motion made by Sir Sydney Henn The immediate references were to Kenya, Uganda, Tanganyika, Zanzibar, Nyasaland, and North Eastern Rhodesia Mr Ormsby Gore (ex Under Secretary for the Colonies), who seconded the motion, said that East Africa was suffering from the starvation of its transport development and medical education services All three urgently required money, yet the only part that could raise a loan now was Kenya unless, of course, a bill were introduced giving special imperial guarantee Touching the need for unification of services, Mr Ormsby Gore said that there was nothing worse than for a new official to get stuck in an area with no adequate interchange That was what tended to happen now, particularly in Tanganyika The only hope in East Africa was to have one civil service, one medical service, one veterinary service, one agricultural service, and especially one native commissioner service Mr J H Thomas, in reply, said he would recommend the setting up of a committee and the appointment of a commission This would be done without any reflection upon the existing administration or upon any individual There was a difficult and delicate problem which must be faced, and a visit to the spot and an examination by new brains might contribute to a solution

Lunacy Certificates.

Mr Costello asked, on April 9th, if the Minister of Health would furnish particulars of the diagnosis sent in to the Lunacy Commissioners (as required by statute) within seven days after admission by the medical superintendents in the case of the 22 sane persons mentioned in the last report of the Board of Control as having been wrongly certified, also whether he would procure from the Board the invalidation of the certifications and the removal of the names of these persons from the list of the certified and whether he would state under what legal sanction their detention was continued for periods extending in some cases to as much as fifty days Mr Wheatley said that the Board of Control was not authorized to disclose the medical reports furnished to them by medical superintendents with regard to patients under their care But he would supply the honourable member with a statement showing the circumstances in which each of these cases was detained under observation It was not possible to invalidate the certification of the persons mentioned they were sent to the mental hospitals under proper legal authority—by order of a justice in 21 cases, and by warrant of the Home Secretary in one case Their names were, however, removed from the list of certified patients on discharge from the institutions They were detained at the hospitals on the authority of the justices' orders and the Home Secretary's warrant for periods of varying lengths to allow of special observation by the medical superintendents and further reports to the Board of Control

Mr Costello asked what regulations, if any, had been made by the Board of Control to ensure that where no prejudicial certificate had been sent in to them, patients in private asylums who had not been seen by a magistrate should receive the statutory notice of their right of appeal to a judicial authority and that when the manager of the institution had neglected his duty in this respect such neglect, which was described in the Act as a misdemeanour, should in future be followed by a prosecution of the offender Mr Wheatley said that no regulations were required but the Board of Control had drawn the attention of the authorities of institutions receiving private patients to the requirements of Section 8 of the Lunacy Act 1890 He did not consider that a prosecution should necessarily be undertaken in all cases of failure to observe the requirements referred to

Mr Costello inquired whether, in view of the declaration made by the Board of Control that it had been advised that neglect on the part of a medical superintendent to serve a private patient with notice of his right to appeal to a magistrate did not invalidate the reception order under which he was committed, the Minister would take steps to enforce the right of a British subject to have his case heard and investigated by some judicial authority prior to imprisonment Mr Wheatley said the point would no doubt be considered by the Royal Commission which it was proposed to appoint at an early date

Private Lunatic Asylums—In reply to Mr Percy Harris on April 10th Mr Greenwood said there were 56 private asylums in England On January 1st 1924 there were 170 voluntary boarders and 2 797 certified patients resident Information as to how many of the proprietors had diplomas in psychological medicine was not available The proprietors were *not necessarily the licensees* and need not be medical men

Registered Midwives Disciplinary Cases—Mr Greenwood on April 2nd was unable to accept the suggestion by Mr Short that questions as to the contravention of rules by midwives should be determined by area tribunals instead of by the central Board in London Minor cases could be so settled by local supervising authorities but where the removal of a midwife from the roll was involved it must come before the Central Board in London The latter could defray expenses of defence

Epidemic Measles—No complete statistics are available as to the incidence of measles in this country as the disease is no longer notifiable except in a small number of districts The statistics as to certain foreign countries in which the disease is notifiable are not according to the Minister of Health on April 9th such as would afford useful information There are indications of a somewhat widespread increase in the prevalence of the disease in other European countries and in the United States

Sickness Benefit—At the instance of Major Edmondson, on April 9th the Minister of Health explained that under the National Health Insurance Act sickness benefit was payable only from the fourth day of incapacity but any approved society which was found on valuation to have a disposable surplus after providing for the normal benefit might provide as an additional benefit for the payment of sickness benefit from the first day of incapacity Out of 6 659 societies and branches in England which had a disposable surplus on the first valuation only 66 elected to adopt this form of additional benefit An increase of the weekly contributions would be necessary to place societies in a position to pay benefit from the first day otherwise than by recourse to their surplus accounts

After-care Colonies for the Tuberculous—Mr Wheatley said that at present there were three after-care colonies accommodating some 100 married men and their families and 80 single men He knew of two non residential employment centres and one centre partly non residential He was advised that establishments of this kind must be regarded as still in the experimental stage though the results so far obtained were hopeful

Denaturing Methylated Spirits New Order—The Secretary for Scotland stated on April 1st, to a deputation in Edinburgh, that the Government had been most anxious to stop the evil of methylated spirit drinking and he was at last in a position that no previous Secretary had been—of giving a definite promise that after May 1st there would be inserted in all methylated spirit excepting that used for furniture polish something which would make it absolutely undrinkable and yet not destroy its usefulness Legislation would be introduced as early as possible to deal with the distribution of spirit for furniture and if this regulation were not found effective to meet the case further legislation would be introduced The Board of Customs and Excise states that after May 1st the composition of mineralized methylated spirits must be as follows Spirits 90 per cent *wood naphtha* 9.5 per cent crude pyridine 0.5 per cent In addition the mixture must contain three-eighths of one per cent of mineral naphtha *together with a small proportion of colouring matter* (methyl violet)

Notes in Brief

The Minister of Health states that there is no general rule for working hours for asylums staffs but they generally ranged from forty-eight to sixty per week Considerable difference of opinion exists among medical superintendents as to what hours are best for the patients and the nurses and the subject is now under consideration of a departmental committee appointed to consider the *nursing service in county and borough mental hospitals*

Mr Wheatley said on April 9th, that when supplies of M Spahlinger's remedies became available in this country it would be open to the *medical officers responsible for* the treatment of ex-service men to utilize such remedies for their patients if considered desirable

Mr Buxton states that the experimental lactose factory at Haslington near Crewe has been in existence since 1920 during which time investigations into the manufacture of lactose from cheese have been carried on The factory is the property of the Ministry and has so far been controlled directly by the Board of Agriculture It is proposed that experiments should be continued throughout the coming whey season at an estimated cost of £5 000

The Secretary for War is now considering whether the report of the Committee appointed by the Army Council as to the employment of pharmacists in the army shall be published

There are in existence 1 066 school clinics in connexion with the Board of Education Since April 1st 1922 90 new clinics have been established and 7 have been abandoned The Board has further given sanction for the setting up of 5 school clinics and proposals for the establishment of 29 more are now being considered

The Board of Trade proposes to publish very soon a comprehensive report from Mr Butterfield on *fatal accidents due to gas* poisoning It is hoped to safeguard the public without resource to legislation

Mr Clynes states that it will not be possible for the Government to give special facilities to pass into law this session the Ice Cream and Mineral Waters Sales Bill

During 1923 as many as 7¼ 124 appeals were heard by the Pensions Appeal Tribunals for England and Wales, of which 36 864 were disallowed

Correspondence.

BETEL-CHEWING AND CANCER

SIR,—An article on this subject by Mr Spittel of Colombo, in the JOURNAL of January 26th (p 158), makes me wonder whether the writers from India are not having a little too much of their own way on this matter They certainly seem to have proved their case that betel-chewers in India suffer from buccal cancer to such an extent that it is difficult to believe that this is not a matter of cause and effect But if this be so then it only raises the still more difficult problem of racial immunity

Snijders (Report, Far Eastern Association of Tropical Medicine, 1923) says, "Why is cancer of the buccal cavity so frequent in Travancore or Saigon and probably much rarer in Tonkin and the Dutch Indies, though betel-chewing is common in all these countries?"

With my own experience I should put it much more strongly For nearly twenty years I had a large surgical *practice in South Formosa, where* many of the inhabitants chew betel nut The mixture chewed seems to be exactly the same as in India—namely, the nut, lime, and usually a small piece of catechu, the whole wrapped in the leaf of a vine The only point on which I am uncertain is whether *the leaf in which the plug is wrapped* would be the same It is certainly not betel leaf, and I do not understand how such a hard leaf could be used for wrapping Despite this and among a people who are very ready to undergo surgical treatment for new growths, buccal cancer is a comparative rarity Cancer of the cervix *easily takes the first place* in malignant diseases, followed, I should say, by growths of the breast, penis, alimentary tract, and skin, in this order Buccal cancer would in any case come quite low down on the list

Are we to put this down to racial immunity, or is there some unknown factor in relation to the habit of betel-chewing that is operative in India but not in China, such a factor as Dr J Campbell suggests?—I am etc,

JAMES L MAXWELL,
Late of Formosa.

Shanghai March 7th

THE LEFT HANDED CHILD

SIR,—I am interested in the education of a decidedly left-handed child who is just approaching school age and am doubtful how she should be trained The tendency to left-handedness showed itself at a very early age and has become more and more pronounced, so that now all movements requiring skill such as threading a needle drawing and attempts at writing are performed with the left hand

When writing the capital letter of the alphabet without a copy the letters which should turn to the right are turned to the left and vice versa (a B is written ꓭ and E written Ǝ) and when drawing a face in profile the face is made to turn to the right which is quite unusual with right handed children Attempts to use the right hand for drawing etc are very unsuccessful and are made with painful effort She says they make her feel sick

She is an intelligent and cheerful child of the nervous type and her only illness has been an attack of diphtheria followed by extensive paralysis from which she has completely recovered There is no obvious ocular defect

How should the child be trained Should she be made with much tribulation to use the right hand where other children use it or should she be allowed to follow her natural bent and to write and draw with her left hand Is there any danger to the nervous system in compelling the child to use her right hand —I am, etc

H A CLOWES

Hampstead N.W.3 April 14th

RADIATIONS IN THE TREATMENT OF MALIGNANT DISEASE

SIR,—I have read with much pleasure the letter from my friend Dr Hall-Edwards published in your issue of April 12th (p 689) I agree with him entirely in so far as he lays stress on the value of the small repeated dose I think, however, that the converse needs to be emphasized—namely that in certain circumstances better results are obtained

by concentrating into a few days a dosage which would formerly have been spread over many weeks The single massive dose I do not believe in, but we should be grateful to the Erlangen school for teaching us to concentrate dosage The value of this concentration is in no way bound up with the theory of the "cancer dose" To anyone who had given close attention to the cancer problem the theory seemed absurd, and the elaborate tables prepared for the securing of this infallible dose appeared akin to the cabalistic formulae of the mediæval astrologers

Many a valuable therapeutic measure has been damned by a futile theory A course of x rays packed into four or five days often gives excellent results, and therefore has a definite place in radiotherapeutics —I am, etc,

London, W 1, April 13th F HERMAN-JOHNSON

SIR,—In your issue of April 12th (p 689) Dr Forsdike writes that "there is not a vestige of truth" in my statement that "in the Wertheim Klinik in Vienna operations on malignant disease of the cervix and uterus have been largely given up in favour of deep therapy"

I prefaced the above quotation from my paper with the words, "As I mentioned two years ago" It was in January, 1922, that I published the communication referred to, and I then said, "The chief assistant at Wertheim's Klinik, who was at Erlangen at the same time as I, told me that the results of this (deep therapy) treatment in cancer of the uterus or cervix are so good that Wertheim's operation is gradually being abandoned in that Klinik," and that the deep therapy was being used in its place, and it was to perfect herself in the Erlangen technique that this lady, who was chief assistant in the radiological department of that Klinik, had been sent to Erlangen for a long visit I have since been informed that deep therapy is still very largely used in the Wertheim Klinik as a curative, as opposed to merely prophylactic, treatment in cancer of the uterus and cervix, so I considered I was justified in my statement Dr Forsdike's very emphatic correction is interesting —I am, etc,

Cheltenham April 14th J CURTIS WEBB

CONTRACTED PELVIC OUTLET

SIR,—The measurements that Dr Blair Bell has given in his letter in the JOURNAL of April 12th (p 690) confirm me in my opinion that his case was one of generally contracted pelvis of the round type The measurements are almost exactly interspinal 26 cm, external conjugate 19 cm, almost the minimum of what I class as minor degree of contraction The infant he delivered by section weighed 7¾ lb, sufficiently over the normal to bring the proportions into the medium degree of contraction, in which there would be definite indications of disproportion at the brim even before the onset of labour, and the real difficulty would be all through at the brim The posterior sagittal diameter of 3¼ inches renders the outlet with a transverse of 2¾ inches quite compatible with the delivery of a head that can pass the brim and the reduction of the outlet is with the rest of the pelvis If such cases are observed and the labour managed on the lines laid down in my third lecture there is no reason why the case should end in disaster as the result of the infant being somewhat oversized and the pelvis slightly undersized

I have published my lectures as a monograph (London H K Lewis and Co) in the hope that the principles laid down may enable practitioners to observe and conduct such cases with success and benefit to the mothers and infants by resorting to proper treatment at the proper time and not merely trusting to luck and then, when that fails, resorting to force I retain my opinion as stated on contraction of the outlet —I am, etc

Rotunda Hospital Dublin April 14th GIBBON FITZGIBBON

LUNACY CERTIFICATION

SIR —We wish to point out that the question of liability for the medical certification of an alleged lunatic did not arise out of the Harnett trial The certificate of a doctor is regarded in the Lunacy Act, Section 28 as the sworn testimony of a witness, and upon it is founded the reception order signed by the magistrate

For the purpose of arriving at a true judgement, the magistrate ought to hear both sides of the case The alleged lunatic, who may possibly be sane, should be apprised of the allegations made, otherwise it is impossible for him to explain or refute them He should have the opportunity, if he desires it, of testing the adverse evidence through cross-examination by his legal adviser, and of producing, if necessary, rebutting evidence —We are, etc,

PERCY DUNN	J S RISIEN RUSSELL
WILLMOTT EVANS	HARRINGTON SANSBURY
E KNIGHT	AGNES SAVILL
OCTAVIA LEWIN	JANE WALKER.
HECTOR MUNRO	S E WHITE.
W S PATCH	

April 15th

Universities and Colleges.

UNIVERSITY OF LONDON

AT a meeting of the Senate, held on March 26th, Mr O L V de Wesselow was recognized as a teacher of the University in chemical pathology at St Thomas's Hospital Medical School

It was resolved to substitute the following for the second foot note on page 1 of the Regulations for Matriculation, and that it be inserted in the Regulations in Medicine (Red Book, 1923-24, p 219)

> The medical and surgical degrees of this University are registrable qualifications to practise and though desirable it is not necessary that students should register as medical students in order to qualify themselves to enter for the examination for these degrees For the diploma of certain other licensing bodies however registration as a medical student by the General Medical Council is a necessary preliminary and students should obtain particulars from the Registrar to the General Medical Council 44 Hallam Street Portland Place W 1

Applications for tickets for the annual service for members of the University, to be held at Westminster Abbey on presentation day, May 14th, at 5 45 p m, should be sent to the Honorary Secretaries, Westminster Abbey Service Committee, 88, Gower Street, W C 1

A course of four lectures on the development of the human embryo up to the appearance of the primitive segments will be given by Professor T H Bryce F R S, at King's College, on May 15th, 16th, 19th, and 20th, at 5 p m

A lecture on some questions concerning the influence of the tropical climate on man will be given in English at University College by Dr C Eijkman, professor of hygiene and microbiology in the University of Utrecht, on Friday, May 2nd, at 5 p m

Dr J van der Hoeve, professor of ophthalmology in the University of Leyden, will give a lecture in English at Charing Cross Hospital Medical School on accommodation, on Friday, May 9th, at 5 p m

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A QUARTERLY Council was held on April 10th, when the President, Sir John Bland Sutton, was in the chair

Jacksonian Prize

The Jacksonian Prize for 1923 was awarded to Harold Robert Dew, F R C S, of Melbourne, Australia, the subject of the essay being "The pathology and treatment of malignant diseases of the testicle" A certificate of honourable mention was awarded to J Howell Evans F R C S for his dissertation The subject for the Jacksonian Prize for 1925 is "The pathology and treatment of lymphadenoma (Hodgkin's disease)"

Tomes Prize

The John Tomes Prize for 1921-23 was awarded to William Warwick James, F R C S, L D S for his "Scientific work on the eruption of teeth, orthodontics, and the pathology of dental caries"

Election of Fellows

The following members of twenty years' standing were elected to the Fellowship Arthur Longley Whitehead senior ophthalmic surgeon, General Infirmary, Leeds, and Arthur Robinson, professor of anatomy, University of Edinburgh

Begley Studentship

Miss Pera Rosaline Cecilia Crawford, of the London School of Medicine for Women, was appointed Begley Student for the ensuing three years

University of London

Mr James Sherren was appointed to represent the College on the Senate of the University of London, in the vacancy occasioned by the retirement in May next of Mr Raymond Johnson

Lectures

The following lectures will begin at 5 p m on each day on the revised dates —April 28th Mr V E Negus, on the mechanism of the larynx, April 30th Professor W E Gallie on the transplantation of the fibrous tissues in the repair of anatomical defects May 2nd Mr H E Griffiths, on the relation of diseases of the gall bladder to the secretory functions of the stomach and pancreas

Medico-Legal

LUNACY LAW AND ADMINISTRATION

HARNETT v. BOND AND ADAM

THIRD DAY

(*Continued from page 69*)

BANKES L.J. intimated to Mr. Harold Morris, K.C., that he should deal with the question whether or not the verdict for the larger sum could stand. The question whether or not the verdict that the smaller sum could stand depended upon different considerations altogether.

Mr. Harold Morris, continuing his argument for Dr. Bond, that there should be a new trial, said the jury by their answer to Question 13 had *negatived joint negligence*. They had found that Dr. Bond was responsible for false imprisonment on December 14th, 1912, in detaining the plaintiff at the offices of the Commissioners in Lunacy. Dr. Adam they said was not responsible for that imprisonment, but what he was liable for was his lack of reasonable care when he sent two attendants to the offices to fetch Mr. Harnett back.

BANKES, L.J. The jury found that Dr. Adam did honestly believe that Mr. Harnett was insane when he sent the car for him. How did the joint tort happen?

Mr. Morris suggested that Dr. Adam may have been regarded as the agent of Dr. Bond, but BANKES, L.J., replied that that could not be, as Dr. Adam's wrongful act was the lack of reasonable care in sending the car to take the plaintiff back. Yet the jury had assessed damages at £25,000 against the two doctors for a joint tort.

Mr. Morris said the only way was to apportion £7,500 to Dr. Adam and £17,500 to Dr. Bond. At one time he thought the learned judge had acceded to that view.

SCRUTTON, L.J. It appears to me that what happened was this. The plaintiff asked the jury to find that there was a joint tort, but he did not get that. He got the sole liability of Dr. Bond. The learned judge should then have treated the torts as separate torts, and directed the jury that they must find for the wrongful act of Dr. Adam such and such a sum as damages, and for the wrongful act of Dr. Bond such and such damages. But I do not see any such direction by the learned judge.

BANKES, L.J. The lesser sums are mere dealings by the jury with figures after they had fixed the full liability at £25,000. To apportion is wrong.

Mr. Morris. Therefore as there is no finding of a joint tort *there can be no judgement against the two defendants for £25,000.*

Mr. Morris then dealt with the amount of £5,000 damages against Mr. Bond, and submitted that the sum was excessive. No body of twelve reasonable men could have made such an award.

WARRINGTON, L.J. In awarding that sum they took into consideration matters too remote.

BANKES, L.J. I can understand the jury giving very large damages if they thought Dr. Bond did what he did without believing Mr. Harnett was of *unsound mind*.

Mr. Morris said the finding that Dr. Bond did not honestly believe that Mr. Harnett was of unsound mind was based on their acceptance of one of two views put forward by the learned judge that Dr. Bond had not seen Mr. Harnett before a telephone message was sent to Malling Place to take Mr. Harnett back. The evidence given by Mr. Dickinson at the trial was that in recording what had taken place two days later he wrote that the plaintiff was seen by Dr. Bond after they had ascertained by telephone message from Malling Place what the real facts were. Mr. Dickinson however thought that what he had written was a mistake and that Dr. Bond actually did see the plaintiff first and the telephone message was sent afterwards.

BANKES, L.J. But *supposing* Mr. Dickinson saw Dr. Bond and told him about Mr. Harnett's condition and then telephoned and then Dr. Bond saw Mr. Harnett, how is that material to Dr. Bond's honest belief?

Mr. Morris. I think it is equally consistent with honesty.

BANKES, L.J. The only material time is when Dr. Bond made up his mind he would do what was necessary to send or assist in sending Mr. Harnett back, and the question of reasonable belief must have reference to *the time when he made up his mind* that Mr. Harnett ought to be detained.

Mr. Morris referred to the succeeding question and answer that Dr. Bond honestly believed that Mr. Harnett had escaped from his brother.

WARRINGTON, L.J. But that was a reason for his being sent back and not a reason for believing him insane.

Mr. Morris submitted that Mr. Justice Lush was wrong when he said that the reports and certificates of medical men and visitors were not fresh interventions which would break the chain of causation. Mr. Justice Lush had said: What each doctor did was not to do some act to injure the plaintiff but to omit to discover that he had recovered.

BANKES, L.J. *Is that a correct application of the law to the facts in this case?*

Mr. Morris. I submit it is not.

BANKES, L.J. Is there any case that deals with omissions?

Mr. Morris. I don't think there is.

WARRINGTON, L.J. They do not simply do nothing. They make reports that the plaintiff was still of unsound mind.

Mr. Morris. Omitting to find out was not a right way of describing *these reports. They were acts all the same.*

Mr. Morris submitted that Dr. Adam himself was a *novus actus interveniens* and that from the time Mr. Harnett went back and onwards the responsibility of Dr. Bond ceased. In support of his case he quoted Weld Blundell *v.* Stephens [1920] (A.C. 956); Ward *v.* Weeks (7 Bing., 211); Parkins *v.* Scott (1 H. and C. 153).

Sir Douglas Hogg, K.C., submitted for Dr. Adam that obviously in all that he did Dr. Adam was acting in pursuance of the Lunacy Act 1890 *and that therefore he came within the protection* afforded by Section 330 of that Act. It was because of the wording of that section that the questions relating to whether Dr. Adam honestly believed or took reasonable care were left to the jury. He submitted that the burden of proof that Dr. Adam was acting without reasonable care lay on the plaintiff and that the plaintiff had not discharged the burden. On the admitted facts of the case Dr. Adam did act with reasonable care in sending to fetch Mr. Harnett from the Commissioners' offices and it was only with regard to that that there had been a suggestion of lack of reasonable care. In ascertaining whether Dr. Adam acted with any lack of reasonable care the right criteria were what were the facts reasonably believed by or known to Dr. Adam when he acted on December 14th, 1912, and he submitted that the learned judge had not put to the jury that they must try to put themselves in the position of Dr. Adam when he *received the telephone message* and to decide whether he acted unreasonably on the knowledge he then possessed in sending for Mr. Harnett. Counsel referred to Williams *v.* Beaumont (10 T.L.R. 343) and Shackelton *v.* Swift [1913] (2 K.B., 304) to support his contention that unless Dr. Adam had acted without good faith or reasonable care he could not be liable to an action for damages.

BANKES, L.J. The form of pleading is: I have acted under the statute, in good faith and with reasonable care.

Sir Douglas Hogg said there was not a shadow of evidence to justify the jury in saying Dr. Adam was careless in sending for Mr. Harnett on receiving the message from London, in view of knowledge he had that Mr. Harnett's brother had also informed him that his brother had given *him* the slip and also the knowledge of Mr. Harnett's history and mental condition. The learned judge had said to the jury if Dr. Adam chose to act on another's opinion he did so at his own risk. It was a perfectly reasonable thing to do when there had been not merely another's opinion and a medical commissioner's at that but also the history of Mr. Harnett for several weeks. The jury had negatived the suggestion that both defendants agreed on the telephone that Mr. Harnett *should be taken back to Malling Place*. The learned judge had said that if Dr. Adam had ascertained the true facts from Dr. Bond he might never have sent for him at all, but if Dr. Adam had learnt from Dr. Bond about the incoherence of the conversation Dr. Bond had had with Mr. Harnett then that with the additional fact that he already knew, what Dr. Bond did not know, that the brother had telephoned that Mr. Harnett had given him the slip was enough to show that Dr. Adam would have acted just the same if he had made further inquiries. As *to the damages* so far as Dr. Adam was concerned, the tort began and ended by the taking of Mr. Harnett back in a car from the Commissioners' offices to Malling Place. After that Dr. Adam was entitled to keep him there under the express provisions of the order. Mr. Justice Lush's direction to the jury to find damages against the doctors jointly was a hopeless direction because Dr. Adam could not be liable for the detention when the jury had already said it was the act of *Dr. Bond alone*.

BANKES, L.J. I am not quite sure as to the question of the joint tort. The act complained of consisted of the detaining of Mr. Harnett at the Commissioners' offices and of conveying him from thence to Malling Place. That would be a joint tort if the two doctors agreed together to carry out a joint operation. The evidence is capable—is it not—of that construction here and therefore there might be a joint tort.

Sir Douglas Hogg. *There might.*

BANKES, L.J. And once there is a joint tort you cannot divide the damages, each is answerable for the whole.

Sir Douglas Hogg. I could accept that, but although there was evidence on which the jury might have found a joint tort in fact the jury negatived a joint tort by their answer to the question whether the act of detention was that of Dr. Bond alone or really the act of both defendants.

BANKES, L.J. *Supposing we accept that the detention was the act of Dr. Bond alone* and the sending of a car to the office and the conveying of Mr. Harnett back to Malling Place was the act of your client who did not take reasonable care. First of all was the tort on behalf of your client?

Sir Douglas Hogg. My submission is it was not.

BANKES, L.J. Assuming it was, you would still have a joint tort in spite of the fact that the whole of the detention, the whole of the time at the office, was *the act of Dr. Bond*.

Sir Douglas Hogg. The detention at the office was not an act for which Dr. Adam was responsible at all.

Sir Douglas Hogg submitted that the apportionment of the damages was wrong. There should have been a proper direction to the jury as to an assessment for separate torts. Apparently the jury assumed in assessing the damages that the defendants knew at the time they acted that Mr. Harnett would be kept in asylums for eight *and a half years* or that he would be kept twenty-eight days, whilst under the judge's direction the jury knew that Mr. Harnett would never get out unless he escaped. He almost said to them that if a man was once sent to an asylum he would never get out again. That was a misdirection. There was no evidence to justify it, and Dr. Passmore in his evidence said 64 per cent. of his patients had been discharged. As a result of that direction the jury gave those damages against Dr. Adam *jointly with Dr. Bond*.

FOURTH DAY

Sir Douglas Hogg complained that the jury were directed that Dr. Adam could very well have travelled to London on receiving the telephone *message* but did not do so for fear of spoiling his partner's afternoon off, whereas no duty or obligation lay upon Dr. Adam to go to London, and there was no spite or malice proved

which might form a ground for the judge to direct the jury to inflame the damages The learned judge had said that the jury might take into account in assessing damages other things that happened after Mr Harnett had been brought back to Malling Place Counsel quoted Lord Sumner s distinction between a *causa causans* and a *causa sine qua non*, and submitted that the learned judge in the court below was wrong in his direction to the jury that the subsequent detention was due to the bringing of Mr Harnett back rather than the opinion Dr Adam formed of Mr Harnett s insanity after he had been brought back The jury had not been asked to assess damages for the bringing of Mr Harnett back they had assessed damages against Dr Bond for the detention at the offices How could it be said that a judicial decision by the Master in Lunacy that Mr Harnett was incapable of managing his affairs was attributable to the events of December 14th? But that was what the jury had included in the damages at the direction of the learned judge Because Dr Adam when he sent his representatives knew that he was fetching the plaintiff back to the asylum to be detained until he recovered his sanity, therefore the learned judge said he was to be held respon sible not for the drive back, but for the fact that Mr Harnett was detained for nine years at a series of institutions although during that time a series of doctors and visitors made independent reports as to Mr Harnett's sanity The root fallacy was the assumption by the learned judge that everybody knew that doctors and visitors appointed to safeguard the interests of persons detained in asylums would continue to consider patients insane although, in fact they had recovered

Bankes L J The immediate cancellation of the leave of absence order was the natural consequence of the imprisonment Was there any other natural consequence?

Sir Douglas Hogg I submit None Dr Adam did examine him when he came back, and if he had not been insane Dr Adam would have shaken hands with him and let him go But Dr Adam decided that the Commissioner was right and that the man was insane and not fit to be at large To make him responsible for all those years is truly to shake the whole basis of the law of damages and the jury were misled by the judge Counsel sub mitted first, that Dr Adam was protected by Section 330 of the Lunacy Act 1891, and also by Section 35, dealing with the reception order, and secondly that if Dr Adam was not so protected the case should be sent back for a new trial with a proper direction by the court that no damages should be assessed except for the two hours drive from the Commissioners' offices to the home at Malling Place

Case for the Respondent

Sir John Simon, K C for Mr Harnett read the jury's answer to Q 4 Was he of unsound mind on December 14th, 1912?—A No, and proceeded to argue on that assumption The evidence showed that the mental illness from which Mr Harnett suffered was due to toxic poisoning Dr Adam himself had said "I never doubted his insanity was caused by tuberculin" Mr Harnett s mother died of a painful tumour which sent her off her head there was no hereditary taint at all Then there were Mr Harnett's feelings about his wife in the light of a revelation she made to him, and which plainly horrified him and ought not to be treated as a delusion This made an addition to the heavy burden put upon him by the tuberculin trouble Mr Harnett thought he was faced with death and as he had had quarrels with the vicar and the postal officials locally, he wanted to make his peace with them and so wrote the letters referred to by the Attorney General Mr Harnett became very religious, but on December 10th before he got his leave from Malling Place Dr Adam noted that the religious mania had passed off Thereupon on December 12th, having now got well, he was told by Dr Adam "You are better go home and do not dwell too much on religious excitements" Then he left, as he thought at any rate a free man His brother, who came to take him merely so far as his (Harnett s) home, when they got outside the asylum said that if he did not behave himself your friends will put you back again" That revived Mr Harnett's suspicions that he was being victimized as he knew his brother had signed the petition whilst his wife had left him and the doctor who certified him was a cousin So from that moment he determined to get impartial treatment, and he believed the Commissioners to be the very people to protect him It was in these circumstances that he approached Mr Dickinson at the Commissioners' offices Sir John Simon referred to the pro bation order issued under Section 55 of the Lunacy Act, 1890, and in the form settled by the law officers in 1899 which said 'Provided Dr Adam shall at any time before the expiration of that period have power to take back the said patient into the licensed house if his mental condition requires it and submitted, first, that that was not an authority to scour the country in order to capture anybody It was not a warrant of arrest but nothing more than an authority to the medical officer if this patient in fact was returned to him to take him back in the sense of receiving him afresh Secondly the condition which was attached to the provision of receiving him afresh was an absolute condition—not a condition depending upon bona fides reasonable care or state of mind but— if his mental condition requires it ' He was a free man and anybody who interfered with his freedom was liable to an action for false imprisonment unless he had a statutory defence

Bankes L J drew attention to Section 55 subsection 8 of the Lunacy Act 1890 which said that if a patient who had been released on a probation order did not come back at its expiration he may at any time within fourteen days after its expiration be retaken as in the case of escape Section 85 said a patient may be retaken at any time within fourteen days of his escape by the manager of the institution or by any person authorized in writing by the manager of the institution.

Scrutton, L J Supposing the case is that not after but during the twenty eight days probation he is reported of unsound mind?

Sir John Simon I should have thought he had no power what ever to scour the country It may be that a proper authority may bring the patient to him "Have power to take back" in the probation order means, in my view, 'to receive afresh'

Bankes, L J Does that mean the front door? Supposing the lunatic were in the garden?

Sir John Simon said the principle ought not to be affected by the fixing of such a line If within twenty eight days Mr Harnett sued out a writ of habeas corpus, he apprehended a good answer would be, "Yes if your mental condition requires it I have power to receive you afresh," but he did not admit that the proviso gave Dr Adam authority to scour the country

Bankes, L J Then your contention that what Dr Adam did was not in pursuance of the Act you found on the ground that 'take back" means merely receiving into the home?

Sir John Simon I found it also on this, that whatever "take back' may mean, it is still clear that the authority to do so depends upon the condition, "if his mental condition requires it"

Bankes, L J Under Section 330 a person doing an act "in pursuance of" the Act is protected if he does it in good faith and with reasonable care

Sir John Simon On December 12th, when Mr Harnett left the place he left it a free man, subject to this one possibility, that if his mental condition required it he could not complain because Dr Adam had him in his home before the twenty-eight days were over

Scrutton, L J He left it subject to the sanction being revoked at any time within twenty-eight days with a power to the medical officer to take him back

Sir John Simon If the true view is that whatever statutory defence Dr Adam had this is a man whose mental condition did not in fact require that he should be put back in the home then in that event, it may be that the false imprisonment which was to be treated as the act of Dr Bond includes more than it would include if his mental condition really did require his coming back to the home

Bankes, L J That Mr Harnett had his freedom on December 12th is putting it too high, as he might lose it under certain conditions I should like to know whether Dr Adam was still able to defend himself under Section 330, notwithstanding that the mental condition of Mr Harnett did not require his being taken back

Sir John Simon said that did not alter the fact that Dr Bond had no defence, because by Dr Bond's act there was set in motion the confinement of Mr Harnett, which meant depriving him of the liberty he was entitled to enjoy Mr Harnett's freedom was defeasible by the happening of two things (*a*) the revocation of the order, and this did not happen, or (*b*) if his mental condition required it, and by their answer to question 4 the jury had said Mr Harnett's condition did not require it Dr Bond was not only liable for the three hours' detention but also for the direct consequences of the unlawful depriving him of his liberty What was the cause of action against Dr Bond? What was the extent of the false imprisonment Dr Bond inflicted? What was the permissible measure of damage for the false imprisonment which Dr Bond inflicted? These were the next questions with which counsel dealt

Scrutton, L J , said by Section 83 if the patient had recovered Dr Adam's duty was at once to send a notice to the brother and, if the brother did not come to take Mr Harnett away then within seven days of the notice Dr Adam's duty was to discharge the patient Did it follow that the detention for which Dr Bond was liable was not for more than those seven days?

Bankes, L J Dr Bond it is admitted is responsible for all the natural consequences of his act of illegal imprisonment of Mr Harnett

Sir John Simon First then, what is the length of the imprison ment inflicted?

Bankes, L J The length is determined by the first real *novus actus interveniens* The quantum of damages for that period would come next

Scrutton, L J Where is the first thing described as a *novus actus interveniens*? Is it the renewal of the reception order on November 10th, 1913, or the removal of Mr Harnett to Croydon in February, 1913, or is it seven days after the time when he comes back, when if he had recovered there was a statutory duty to let him out?

Bankes L J Or it may be Dr Adam's decision that he should remain in the home when he came back

Sir John Simon Or it may extend until Mr Harnett escaped Wherever the break occurred, it was permissible for the jury in measuring the damages which resulted from the false imprison ment to take into account the subsequent confinement of Mr Harnett the fact that the sending back of a man to an asylum was the very thing that might aggravate his state of mind, that it was caused by Dr Bond the very man to whom he had appealed for protection and that the views of all those doctors who subse quently had him in their custody were coloured by the knowledge of what happened in the Commissioners in Lunacy s offices on December 14th

Bankes L J referring to the Lunacy Act pointed out that a reception order was renewable at the end of the first year That would be one of the occasions when the doctors in the learned judge s summing up, negligently omitted to discover that Mr Harnett had become sane

Sir John Simon The learned judge said, "You may, if you con sider there is no *novus actus interveniens*, take into consideration the whole of the eight and a half years ' counsel submitted that the learned judge was right in so leaving the determination whether there was a *novus actus interveniens* to the jury It it were held

that the renewal of the reception order in October 1913 was a *mere nullity in force* it would not be useful for him to discuss any later one but the jury had found that Mr Harnett was sane on December 11th 1912 and it followed that they legitimately took into account in measuring the damages the effect of what Dr Bond did upon the future that the views of all who had him in their custody thereafter were coloured by what had happened on December 11th 1912 when Dr Bond in fact provided the very evidence which helped the subsequent authorities to say I do not think he had better be released They were all affected by that unhappy story and the person responsible for that unhappy story must take the consequences

Bankes L J But why is it worse for a patient that his medical history should be known? Surely it is better

Sir John Simon It conveys to the doctor this You may think from this man's present behaviour that he is a man to be let out but his past history shows that even though he does create that impression in the asylum he is not as when last he was let out he had to be put back again The evidence of how Mr Harnett was given the charge of other lunatics was introduced into the family circles of the doctors and was allowed to preside over and to address meetings bore out this view

Sir John Simon read Q 5 Did Dr Bond honestly believe that the plaintiff was of unsound mind?—A No This should be read in connexion with Q 6 Did he believe the plaintiff had escaped from his brother's charge If so was that his reason why he was taken back?—A Yes Sir John Simon said Did Dr Bond act because he thought the plaintiff was mad or because he thought he was out under false colours of his brother and had given him the slip? If it were the second then serious as the consequences were to Mr Harnett Dr Bond did not really form the judgement that the man was mad He was so acting because he believed Mr Harnett had escaped from his custodian It would be a very cruel thing to accuse Dr Bond of acting maliciously

Bankes L J The Attorney General in his *speech on Monday* asked you to disclaim that there was any such intention

Sir John Simon Yes but I do say that Dr Bond acted with the grossest carelessness

Bankes L J Ah! That is another matter

Sir John Simon Dr Adam was influenced by the fact that the great Dr Bond had sent him back— who am I that I should let him out?

FIFTH DAY

Sir John Simon again drew attention to the leave of absence order under which the plaintiff was allowed out of the asylum for twenty-eight days and repeated his submission that the order did not give Dr Adam any authority to go to any part of the country and capture the plaintiff and bring him back to the institution It was not a statutory form It was the leave of absence contemplated by the Lunacy Act 1890 but the question arose in the argument the previous day what was to be done if while a patient allowed out of an asylum under that order was at large and wandering about the country he should break down in mental health so that it was necessary for him to go back to the asylum again? The answer was to be found in Section 15 and Section 16 of the Lunacy Act 1890 Section 15 provided that a constable relieving officer or overseer having knowledge that any person whether pauper or not wandering at large was deemed to be a lunatic he could take him before a justice whilst Section 16 provided that the justice should examine him make inquiries and call in a medical practitioner to examine him Here if the doctor certified him in accordance with Form 8 and the justice made an order in accordance with Form 12 the alleged lunatic could be sent to an institution for lunatics The expression wandering at large was dealt with in Morris v Atkins (18 T L R 678) where it was held that when a man was not under proper control and was deemed to be a lunatic he was wandering at large within the meaning of the Act

Bankes L J But does this apply to anybody already under a reception order?

Sir John Simon replied that those sections no doubt applied primarily to persons who had not previously been certified but they were wide enough to apply to persons who were at large on probation There was nothing whatever in the statute to authorize a manager of a licensed house to act as a police officer and arrest people merely because he got a telephone message that they were during the period they were allowed out misbehaving in the judgement of somebody else The method allowed by law prescribed that he should be brought before a justice who should act on skilled medical testimony It was machinery providing for the protection of the subject Mr Harnett should have been brought before a police magistrate upon information laid by Dr Bond and Mr Dickinson Then under Section 16 the magistrate would have called in a medical practitioner and if as a result he was satisfied that Mr Harnett was a lunatic then he might have ordered him to be detained Mr Harnett would in that case have been able to produce his evidence The gravamen of the charge against Dr Bond and Dr Adam was that they turned themselves into judges jury and witnesses and everything else to deprive Mr Harnett of his liberty The Act of 1890 however had interposed a judicial person

Bankes L J But besides the power to take him given by Sections 15 and 16 there is also the jurisdiction retained in Dr Adam under the terms of the order?

Sir John Simon The power to take back contained in the order is nothing more than an authority to receive afresh

Bankes L J But a constable under the statute has no authority to take him back?

Sir John Simon I do not dispute that if some wholly independent person had taken him back to Mulling Place Dr Adam had power to receive him afresh The only remaining condition was If his mental condition requires it Dr Adam however not only played the part of policeman but magistrate too The form of leave of absence order upon my construction of it works perfectly

Sir John Simon proceeded to contend that the protection afforded by Section 330 was lost by Dr Adam because he had not acted in good faith and with reasonable care It was not for the plaintiff to prove that at every material point Dr Adam had acted without reasonable care It was for the defendant to make out this defence but whether he made it out or not was a question for the jury and if there was no answer from the jury as to the whole period there was for the period of two hours and it was against Dr Adam and therefore there was no ground upon which the Court of Appeal could say he must succeed on such a point Q 11 asked Did he take reasonable care in acting as he did and the answer of the jury was No

Bankes L J If a reception order was in existence can it be said that Dr Adam was *not acting with reasonable care in keeping* a person in a licensed house so long as the reception order was in force?

Sir John Simon I think so The defendants entered the court before Mr Justice Lush confidently believing the sky high allegation that Mr Harnett was insane and produced a great deal of testimony that he was suffering from delusions They were shown in that respect to be wrong to the satisfaction of the jury What then was Dr Adam's defence? The application of Section 330 affording him protection if he acted in good faith and with reasonable care But it is wholly wrong to say it was Mr Harnett's business to get the jury to say that at every relevant moment Dr Adam acted with reasonable care It was for Dr Adam to prove that he was *entitled to the protection* of the section and the jury found that he did not take reasonable care in one case

Warrington L J Subsection 2 of Section 330 says there is no cause of action at all if there is no want of reasonable care

Sir John Simon That subsection provides for a stay of such proceedings because plaintiffs who bring this class of action are naturally persons whose mental condition may be open to grave doubt and when an action of this sort is started there ought to be some grounds for it Section 330 Subsection 1 was not a bar for Dr Adam to attack but a shield for him to avoid the blow

Sir John Simon *referring to the point of joint liability* said I am now treated as though I did not establish at the trial that which was really admitted by Dr Adam whether justified or not he was just as much responsible for and was the author of the detention of Mr Harnett at Victoria Street as Dr Bond was The jury were asked by Q 13 Was it the act of Dr Bond alone or of both defendants? And their answer was Dr Bond I do not accept that I say it was admitted by Dr Adam himself with the concurrence of counsel for Dr Bond and with the assent of counsel for the plaintiff it may be lawful or unlawful but what was done was done by both I did join in an arrangement that it should be done

Scrutton L J But Mr Justice Lush put what Dr Adam said *I did not ask to send a car* I volunteered to send a car to the jury and having had that passage and the others you are reading read to them the jury replied that Dr Bond alone was responsible

Sir John Simon Yes that is my difficulty Sir John Simon contended that there was an agreement one man holding Mr Harnett knowing another man was on the way to fetch him back and that other man coming *to fetch Mr Harnett knowing that* the first man was holding him

Scrutton L J Supposing you are right that a private person has no legal right to detain a man whom he thinks is of insane mind and yet does detain him and supposing he telephone to a medical officer who has a right to take him that would not make it a joint tort?

Sir John Simon No but your assumption is based on the power of Dr Adam to scour the country

Sir John Simon referred to Dr Adam's answers to question

Q In your view would it or would it not have been a breach of the leave of absence or the condition to leave his brother charge—I do not necessarily

Q In your view it would not be a breach of the condition if he had left his brother—A No

It was plain to the jury that Mr Harnett was sent back to Malling Place under some misapprehension as to his position in relation to his brother and that that misapprehension might have been removed if a different excuse had been adopted If it had not been removed the jury were entitled to say We are going to weigh that in determining whether Dr Adam's action is consistent with reasonable care The jury took the view that Dr Bond was not merely communicating with Dr Adam so that Dr Adam might *examine him* but was expressing on the telephone the opinion that he was a man who ought to be detained The view the jury took that there was want of reasonable care on the part of Dr Adam could not be set aside in view of the fact that there was substantial evidence to support it The course he took once Mr Harnett was back in the asylum was open to the very gravest animadversions. He did not examine Mr Harnett at all for two or three hours after his return and then he only addressed a remark or two to him as he was going to dinner He never made any further communication to Dr Bond or Mr Harnett's brother or anybody Then on the Sunday night after his return Mr Harnett was awakened by an attendant who removed the string of his pyjamas—a course not resorted to unless a patient was suicidal or dangerous. This excited him and caused him to toss in his bed all night It was that incident which caused Mr Harnett to say to Dr Adam on the Monday morning that he had heard of people trying to drive men mad by giving them drugs So Dr Adam, who only casually saw him on

his return, proceeded to enter in his case book that Mr Harnett was under a delusion that people were driving him mad by giving him drugs

Answering Bankes L J, Sir John Simon said he quite understood the view that the answer of the jury to Q 16 must be treated as limited to the time when Dr Adam received the telephone message and decided instead of going himself to send attendants, but there was another view and it was material to consider how Dr Adam acted afterwards There was the entry in the case book that he was much worse mentally than when he went away and had the delusion that he was going to be injected with various drugs to send him mad Mr Justice Lush said "I was very insistent whether Dr Adam made the entry on the day of his return' The jury had to consider whether Dr Adam's conduct was consistent with reasonable care and this circumstance was corroboration of their view that he had acted carelessly

Scrutton L J Was it an untrue statement or a careless entry?

Mr J B Matthews I abstained from making the harsher suggestion

Sir John Simon Then I assume it was want of care

Sir John Simon said from that time forward delusion after delusion was piled on this man, but in the witness box he disposed of every single delusion alleged against him It was the first delusion that counted and if the fact was and the jury thought it was that Dr Adam with great carelessness had succeeded in putting down in the case book and so handed on and on this first record of delusion when a careful man would have seen no delusion at all then this had a very important bearing on the question whether Dr Adam had acted with reasonable care Surely the careful thing to do was to find out whether it was true, and what was the origin of it Instead of that it went down as a delusion, permanently entered to the debit of the man's sanity and a whole series followed wife difficult to live with, conspiracy, inoculation with tuberculin, missions to save souls—every one of which was found to be an accumulation of mis understandings if Mr Harnett's evidence was accepted And what was more Dr Adam did not repudiate the fact that he may have given the order for the removal of the pyjama strings The grounds of the jury's finding of lack of reasonable care against Dr Adam were, therefore these

1 He did not go to see Harnett on receiving Dr Bond's message

2 When Mr Harnett arrived he did not examine him then, but only asked a casual question as he went to dinner

3 His record of December 14th was not a record of December 14th

4 Whether the record was made of December 14th or December 16th he had debited this man most carelessly with a delusion and what was still more important the first delusion, putting him in the class of delusional lunatics all because he did not take care to find out what happened

As to why Dr Adam did not go to London, Sir John Simon said if the only excuse was that his partner, Dr Gray, had an appointment, then surely his duty to Mr Harnett should be given precedence He submitted that both Dr Adam and Dr Bond were in a complete state of mutual muddle as to the terms on which Mr Harnett had been discharged and there was in fact a period when there was a joint tort

Bankes, L J If Dr Adam was doing nothing wrong in sending for the man he is not committing a tort at all?

Sir John Simon I don't think that is right It is one thing to say that Dr Adam has a statutory defence, though he has deprived a man wrongly of his liberty, but it is another thing to say, as a matter of fact, he was not depriving him of his liberty without cause

Bankes L J Apart from the statute if under the probation order on receiving reasonable information that the person is not fit to be at large, it would be within his power under the probation order to send for him, then Dr Adam would have committed no wrong at all

Sir John Simon If it involves authorizing Dr Adam to take him back then no doubt that would be true but it depends upon the order not being qualified by if Dr Adam bona fide thinks his mental state requires it

Bankes L J If you are right as to the words "if his mental state requires it," what is the position if Dr Adam thinks bona fide though wrongly, that his mental state requires it?

Sir John Simon But there is machinery as I have pointed out, not for doctors at a distance exercising judgement on such information obtained by telephone but for the man, before he should lose his liberty again to be brought before a magistrate Then no doubt if the justice, after a proper inquiry and after a medical man has examined him, thinks his mental state requires it, he may be detained The leave of absence order is not a leave to capture order or a contingent warrant There has never been any intervention of judicial authority, or an independent medical opinion at all in this case

Warrington L J Supposing he had remained under his brother's care and then threatened to commit suicide he would not be 'wandering at large and therefore Sections 15 and 16 could not arise Sir John Simon submitted that that case would be met by Section 13 of the Lunacy Act 1890

Warrington L J There are cases where owing to his mental condition the patient out on probation may be retaken, though he does not come under the reception order?

Sir John Simon I most strongly submit that there is not any ground whatever for construing the proviso in this form settled by the law officers as though it is conferring on the doctor a power of arrest The original reception order does not give him a power of arrest It gives him authority to keep him There is an express section dealing with recapture in the case of escape—Section 25

Mr J B Matthews, K C, followed for Mr Harnett

Obituary

A L MORISON, M B, C M EDIN, F R C S EDIN, M R C S ENG,

Consulting Surgeon, Sunderland Royal Infirmary

Mr A L Morison died suddenly at his own house, on Wednesday, April 9th, at the conclusion of his consulting hour We have the sad privilege of publishing in this issue a paper on the treatment of carbuncle he had sent us a short time ago

Albert Edward Morison, who was 61 years of age, was educated at King William's College, Isle of Man, and graduated in medicine and surgery at the University of Edinburgh in 1884, took the diploma of M R C S Eng in 1886 and that of F R C S Edin in 1889

He joined his brother, Dr James Rutherford Morison (afterwards Professor of Surgery to Durham University), in partnership at Hartlepool in 1884, and took over the practice when his brother moved to Newcastle About sixteen years ago Mr Morison commenced consulting practice in Sunderland and later went to live in that town, at the same time maintaining the closest connexion with the Hartlepools During the whole of his life he was actively associated with Hartlepool Hospital, and at the time of his death was the senior and an active member of the staff He was following most keenly the schemes for hospital development at present engaging the attention of the management of that institution

When he went to reside in Sunderland he became associated with the Sunderland Royal Infirmary and Children's Hospital He was appointed honorary assistant surgeon on May 13th, 1909, and honorary surgeon on March 3rd, 1914 He retired in accordance with the age rule and was appointed honorary consulting surgeon July 27th, 1922 He took the keenest interest in the nursing question, was chairman of the Nursing Committee, 1920-22, and did much to raise the standard of efficiency During his association with the Royal Infirmary he did much pioneer work in connexion with the organization of workmen's contributions

Mr Morison served in South Africa during the Boer war, and during the great war he was overseas for certain periods He held the rank of major, and was especially identified with the Northumberland War Hospital, the Sunderland War Hospital, and the Hamerton House V A D Hospital in Sunderland A feature of his work was his skill in bone surgery After the war he was surgeon to Sunderland Pensions Hospital

Mr Morison was an active member of the British Medical Association, he had served on the Branch Council from 1906 to 1908 and again from 1911 to the time of his death He was president of the North of England Branch in 1909, and during the war (1916-19) acted as honorary secretary of the Sunderland Division In 1920 he became scientific secretary of that Division and held the post until 1922 He was a member of the Hospitals Committee of the Association (1919-21) and a vice-president of the Section of Orthopaedics and Diseases of Children at the Annual Meeting in Newcastle in 1921 He had also been president of the Northumberland and Durham Medical Society

About two years ago Mr Morison's health gave rise to anxiety and he took a long holiday, this, characteristically, he spent in visiting America, where he studied the hospital work of that country After his return he made several valuable communications on the subject

Mr Morison's professional life was very full, he was a surgeon of great skill and natural genius, but the outstanding feature of his life was his work for the youth of Hartlepool It was the first town in England to establish a Boys' Brigade, and Mr Morison threw himself heart and soul into the work from the beginning "Bertie," as he was affectionately called, was Captain, 1st Hartlepool Company, Boys' Brigade, for many years He also initiated and was president of the Hartlepool Old Boys' Institute, which looks after those who have passed through the Brigade and reached the age limit He was keenly interested in Rugby football and had formerly played back for Hartlepool Rovers

In 1826 Mr Morrison married Miss Harriet Appleby, eldest daughter of the late Mr Thomas Appleby, J P He leaves a widow a son, and two daughter

A funeral service was held in Christ Church, Sunderland, on Saturday, April 12th, when there was a large attendance, many of the doctors of Sunderland being present and also representatives of many local organizations After the service the body was conveyed by motor to Hartlepool where another service was held at St Hilda's Church The scene in Hartlepool was most remarkable and impressive, practically the whole town attended the funeral to pay a last tribute to one who had been the devoted friend of the boyhood and youth of Hartlepool for thirty seven years

It is a great comfort to all his friends to think that he died as he would have wished, in harness and with his enthusiasm and powers unimpaired

> This high man with a great thing to pursue
> Dies ere he knows it

ALEXANDER HAIG, M D Oxon F R C P,

Consulting Physician to the Metropolitan Hospital

DR ALEXANDER HAIG died at his residence in London on April 6th, at the age of 71 He was a member of the family of Haig of Bemersyde and the son of Mr G A Haig of Maulesden, Brechin, Forfar He was educated at Harrow, and afterwards went up to Exeter College, Oxford He took second class honours in the School of Natural Science in 1876 and would probably have taken a first class had his health allowed From Oxford he went to St Bartholomew's Hospital, took the diploma of M R C S in 1879, graduated M A, M B Oxon in 1880 proceeded M D in 1888 and was elected F R C P Lond in 1890 He was casualty physician at St Bartholomew's Hospital, as he saw no opening at this school he became physician to the Metropolitan Hospital and also to the Royal Waterloo Hospital for Children and Women, and was consulting physician to both institutions at the time of his death

As has been said, he was not a man of robust constitution he suffered severely from migraine, and this personal affliction caused him to turn his attention to dietetic questions He conducted numerous researches and became convinced that excessive uric acid was the clue to the pathology and treatment of many functional disorders He believed that in the diet of civilized man there was commonly an excess of protein, and worked out a purin free diet which he advocated in season and out of season For a time his theories had a great vogue He wrote a book on *Uric Acid as a Factor in the Causation of Disease* which reached its seventh edition in 1908, and another on *Diet and Food* the sixth edition of which appeared in 1903 He retired from practice some years ago and afterwards took little or no part in medical affairs He married in 1878, his cousin the daughter of the late Mr James Haig, barrister and is survived by his widow and one son and two daughters

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The Services

ROYAL NAVY MEDICAL CLUB

THE annual dinner of the Royal Navy Medical Club will take place at the Trocadero Restaurant Piccadilly Circus W 1 on Thursday April 24th at 8 p m Members who wish to be present are asked to inform the Honorary Secretary Royal Navy Medical Club 68 Victoria Street S W 1

Medical News.

A COURSE of lectures on pathological research in its relation to medicine will be given in the lecture room of the Institute of Pathology and Research of St Mary's Hospital, on Thursday afternoons at 5 o'clock from April 24th to June 12th On the first date Sir Almroth Wright will lecture on the antibacterial functions of the leucocytes, and will be followed on May 1st by Sir Thomas Lewis who will deal with the reactions of the skin to injury Later on Professor A V Hill will lecture on the function of haemoglobin in the body The lecturers for the remainder of the course include Dr Andrew Balfour, Dr Major Greenwood, Dr G W Holmes Mr W Trotter, and Dr W Bateson The lectures will be open to all members of the medical profession and all students of medical schools without fee

A MEETING of the section of the Royal Microscopical Society formed to deal with the industrial application of the microscope will be held at 20, Hanover Square on Wednesday next April 23rd Sir Charles Parsons, K.C.B, F P S, will take the chair at 7 p m

THE annual meeting of the Cremation Society of England will be held at the society's offices 52, New Cavendish Street, London, W on Monday April 28th, at 3 p m, with Dr P Chalmers Mitchell, F R S, in the chair

THE annual award of the Hunterian Society Medal, which for some years has been in abeyance, is to be resumed The medal is awarded for the best essay on any subject which shall be submitted by any general practitioner resident within Great Britain, Ireland, or the Channel Islands "whether Fellows of the society or not Essays should be sent to the Honorary Secretary Mr A E Mortimer Woolf, at 94, Harley Street W 1, not later than December 31st, 1924 The medal will be presented at the annual dinner of the society in February The medallist will be expected to read his essay at the annual general meeting of the society Full particulars can be obtained from the Honorary Secretary

THE late Sir Henry Lucy, who left estate sworn for probate of over £250,000, has bequeathed £1,000 to the Salop Infirmary to endow a cot in his name, £1 000 to the Liverpool Northern Hospital to endow a bed in the name of his mother and £1 000 to Westminster Hospital to endow a bed in the name of Lady Lucy On the death of Lady Lucy the following institutions will each receive £1,000 for the endowment of a cot or bed in the name of Nancy Lucy Alexandra Hospital for Children, Royal Ear Hospital, Royal Eye Hospital, Seamen's Hospital Royal Waterloo Hospital for Children and Women Royal Orthopaedic Hospital Central London Throat Hospital, Liverpool Infirmary for Children, Children's Convalescent Home, West Kirby, Belgrave Hospital for Children, Cancer Hospital, Fulham Road, Charing Cross Hospital Chelsea Hospital for Women, City of London Hospital for Diseases of the Chest, East London Hospital for Children and Women, Evelina Hospital for Sick Children, Guy's Hospital, Hospital for Sick Children Great Ormond Street, King's College Hospital London Hospital Metropolitan Hospital, Middlesex Hospital, North Eastern Hospital for Children, London, North London Consumption Hospital Poplar Hospital, Royal Free Hospital St Bartholomew's Hospital St George's Hospital, St Mary's Hospital St Thomas's Hospital, West London Hospital, and the Victoria Hospital for Children, Chelsea

THE annual returns of lunacy show that the total number of insane patients for whose accommodation the London County Council was responsible on January 1st, 1924 was 18,918 (7 728 males, 11 190 females) an increase of 418 upon the previous year In addition, there were 5 148 chronic harmless lunatics, idiots, and imbeciles maintained by the Metropolitan Asylums Board at the charge of London boards of guardians, an increase of 47 on the year The number of patients admitted to the London county mental hospitals during 1923 (excluding those transferred from out county institutions) was 3,183, the number of patients who died was 1 180, and the number discharged as recovered was 881, the number discharged as relieved 600 discharged as not improved 381, and discharged as not insane 6 One was discharged by operation of law

DR W HARVEY SMITH medical officer for the Meriden district and workhouse of the Meriden Union has been appointed to the Commission of the Peace for Warwickshire

IN 1922 Professor Maurice Arthus invited a party of young biologists to attend the Institute of Physiology in Lausanne in order to obtain training in the method of prosecuting a scientific research He modelled his course on those given by Claude Bernard at the Collège de France The members of the class lived the life of the laboratory and observed the manner in which some particular problem was attacked Professor Arthus took as his subject the experimental study of cobra venom which was investigated purely by the experimental method Encouraged by the fact that sixty six biologists from fifteen different countries attended in 1922, Professor Arthus intends to give another three weeks course, beginning on July 21st Applications, mentioning nationality and previous experience, should be received by Professor Arthus at the Institute not later than June 15th Suitable accommodation in a pension will cost seven Swiss francs a day

PROFESSOR SCHITTELHELM of Kiel has succeeded Geheimrat von Strümpell as director of the medical clinic at Leipzig

IN Berlin during 1922 the deaths exceeded the births by 8,000, in 1923 the deaths exceeded the births by 12 000

AT the annual meeting of the Hospital Saturday Fund held at the Mansion House on April 12th, it was reported that during 1923 the Fund had received £100 765 being £3 363 in excess of the previous year, the sum of £75,775 was awarded

THE second International Congress of Comparative Pathology, which was to have been held in Rome on April 27th, has been postponed to next October

THE eighty eighth Congress of German Natural Science and Medicine will be held at Innsbruck from September 21st to 26th, under the presidency of Professors von Schweidler and Haberer The following papers will be read Constitution and character, by Professor Gruhle of Heidelberg, the problem of body and soul, by Professor Hoche of Freiburg, the "speech" of bees, by Professor v Frisch of Breslau, and the blood and special senses of insects, by Professor Knoll of Prague

THE third International Congress of Military Medicine and Pharmacy will be held in Paris in May, 1925, under the presidency of Inspector General Vincent

A new university has been founded by the Republic of Armenia at Erivan The professors of the medical faculty have mostly been educated in Germany

THE annual Congress of the German Orthopaedic Society will be held at Graz, under the presidency of Professor A Wittich, from September 15th to 18th, when the principal subject for discussion will be the relation of orthopaedics to other branches of medical science

A SOCIETY for racial hygiene has recently been founded at Graz under the presidency of Dr R Pollard, professor of dermatology in Graz University

PROFESSOR HANS SPIEMANN has succeeded the late Richard von Hertwig in the chair of zoology and comparative anatomy in the University of Munich

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager 429, Strand, W C 2, on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429 Strand, London, W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL 429, Strand W C 2

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc), *Articulate Westrand, London*

MEDICAL SECRETARY *Mediocra Westrand, London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street Dublin (telegrams *Bacillus Dublin* telephone 4737, Dublin) and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh*, telephone 4361 Central)

QUERIES AND ANSWERS.

"J R. P" asks whether delusional insanity has been known to result from falls on the head, and, if so, whether there is any possibility of treatment

LETTERS NOTES ETC

APPENDICECTOMY FOR OXYURIS VERMICULARIS

DR GEORGE P BLETCHLY (Nailsworth) writes In the *Medical Annual*, 1924 (p 228), it is stated 'There can be no doubt that the appendix often serves as a breeding ground for threadworms, and that the bowel can be constantly reinfected from it In obstinate and old standing cases in adults removal of the appendix has therefore been suggested in order to root out the parasites but I am not aware that operation has ever actually been done solely with this object' Recently I had a man under my care aged about 21 for threadworms and tried most remedies both 'fore' and aft", he always got better, but always the parasites shortly reappeared, and it was obvious that they had a safe breeding ground somewhere So I advised him to have his appendix removed, and he consented Mr T Carwardine of Bristol performed the operation, and in a letter to me dated September 22nd, 1922, he reported that the appendix was 7 inches long and contained a number of worms He added, "I put some iodoform into the caecum to give the worms a bad time" In this case it is obvious that a cure by any other means was impossible

A SECOND ATTACK OF MEASLES?

DR C B GERVIS (Seaford) writes During a recent epidemic of measles at a girls' school here one of the girls, with a definite history of having had a previous attack, was laid up There was no question about the former illness, as the girl was old enough to describe the epidemic at the school she was then at There were no premonitory symptoms, the rash appeared in the typical manner of measles though rather fainter than usual, but there was no temperature, no cough, and only slight injection of the conjunctivae The whole attack cleared up in a few days It would be interesting to know whether this kind of abortive attack could be in any way infectious

AN IMPOSTOR AT LARGE

SIR CHARLES GORDON WATSON, K B E, F R C S, writes May I take this opportunity of warning medical men and others that for some time past an unknown young man has been going about imposing on people He either alleges that he is a recently qualified medical man or a medical student, and that he is either a relative of mine or my assistant He visits hospitals in various places and states that he has had a motor cycle accident and sustained slight concussion He obtains a bed and anything else he can lay his hands on The police are very anxious to get hold of this young man, and there is a warrant for his arrest on various charges May I request that, if anyone should meet with an individual whose conduct suggests that he may be an impostor of this type, he will, while verifying his statements, endeavour to detain him, so that the police may have the opportunity of an interview

DR. CECIL MCCALDIN (Resident Medical Officer, Kent and Canterbury Hospital, Canterbury) writes Having seen two letters in the BRITISH MEDICAL JOURNAL of April 12th (p 696) with regard to "an impostor at large" I think it advisable to relate a recent experience *On Saturday evening, March 15th*, a taxi drove up to the casualty department of the hospital with a patient who stated that he had had an accident on his motor cycle whilst trying to avoid a child As he seemed to be suffering from "concussion," he was admitted to hospital He gave his address as Dr Bernard Burke, aged 28, of s s *Ordetta*, Albert Docks, London, he stated that when the accident occurred he was proceeding to Margate to visit an uncle of his there He posed as a Fellow of the English College of Surgeons and said that his uncle in London was Sir Charles Gordon Watson As we thought his "uncle" might be anxious about him, we asked for his telephone number, which was fictitious His name was not in the *Medical Directory* for 1924 On admission to hospital he was placed in an ordinary ward, but came down the next afternoon to the R M O 's room We telegraphed to his ship which was found to be non existent His motor cycle (a horizontally opposed Harley Davidson 7-9 h p, incidentally not manufactured) was not at the garage He presented the night superintendent with a hypodermic syringe—no doubt passed on—and he decamped next morning, March 17th, without leave and unobserved There was missing an ophthalmoscope, the ward box, containing under 30s and a bottle of stimulant, leaving as a reminiscence his bowler hat, a stethoscope, and two pairs of dissecting forceps

MEDICAL BIOGRAPHIES.

DR HOWARD M STRATFORD (London, W) writes Some of the most interesting pages in the BRITISH MEDICAL JOURNAL are, and have been for many years past, to be found in those dealing with obituary notices of well known medical men It seems to me that it would be a good thing if some of these could be collected into book form by the Association, with possibly further details of interest obtained from their contemporaries *still living who knew them* personally Short biographies such as these would, I believe, be of great interest to medical men both here and abroad and also to the public The portraits accompanying some of the notices would add to the value of the book, and others, if absent, might be obtained

KANGRI BURN CANCER CORRECTION

DR ERNEST F NEVE (Kashmir, N. India) calls attention to an error in his article on kangri burn cancer, published in the JOURNAL of December 29th, 1923 (p 1255) Paragraph 4 should commence as follows 'The duration of the growth when first seen is on an average fifteen months"—not, as printed, "the duration of life'

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 35, 36, and 37 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *176*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

319. Lead Oxide Poisoning

E HOLM (*Ugeskrift for Laeger* February 7th, 1924 p 123) draws attention to the popularity of lead oxide (PbO) as an abortifacient in Copenhagen, and though he expresses no definite opinion as to its action as an abortifacient he insists that in doses of 1 to 2 teaspoonfuls it will cause serious and prolonged ill health Within a period of two to three months he has treated at his hospital three cases of severe poisoning from this source, and though none of them terminated fatally serious damage was done In the case of a woman who took a single dose of 2 teaspoonfuls, acute plumbism was followed by chronic plumbism characterized by violent colic, vomiting, neuralgic pains in all the limbs, and a lead line in the gums In this case violent vomiting and abdominal pain occurred only a few hours after the drug had been taken whereas in another case, in which only 1 teaspoonful had been taken, there was an interval of a week between the taking of the drug and the onset of nausea, vomiting, and violent abdominal pain The author is doubtful about the wisdom of restricting the sale of this poison, although it is of little commercial importance, and he suggests that a more effective measure is to give publicity to the ill effects to which it can give rise

320. Rat bite Fever

S CIACCIA (*La Pediatria* January 15th, 1924, p 92) reports the case of a child aged 5, bitten on the cheek by a rat on May 5th, 1923 The wound was disinfected with lysoform, and after two or three days the swelling had apparently healed A fortnight later the child complained of severe pains in the site of the injury and the skin became purplish and swollen Shivering attacks occurred and pains in the limbs and face He was admitted into hospital, but under treatment with fomentations the condition cleared up and he was dismissed after a few days The symptoms returned on June 12th with fever, much erythema, pains in the eye, profuse sweating, and enlarged glands, so he was readmitted On July 4th he was given 0 05 gram of neargyrol, this was twice repeated, after which he remained afebrile and was discharged quite well In the urine some spirochaetes were found rather longer than the *Spirochaeta pallida* Before each attack of fever the child became taciturn and depressed, suggesting the possibility of some disturbance of the central nervous system The sweating was most marked in the apyrexial periods, and there were no signs of involvement of the liver or kidneys

321 The Danger of Oil of Chenopodium.

H BRÜNING (*Deut med Woch*, December 7th, 1923 p 1492) records 5 cases of poisoning by oil of chenopodium 4 of which terminated fatally The four patients who died were children, the fifth patient, who recovered was a woman aged 40, who, even six months later still suffered from auditory disturbances In 1919 Preuschoff collected 24 cases of poisoning by oil of chenopodium, among which there were 16 deaths The author s first patient was a child 2½ years old, who was given 9 drops of chenopodium on sugar The second patient was a boy aged 5, who for three or four days was given 20 drops three times a day The third patient was a boy, aged 7, who was given three doses of a mixture containing oil of chenopodium 7, menthol 0 7, in 200 c cm of water two tablespoonfuls were given on each occasion The dose in the fourth fatal case was unknown as some of the drug was vomited These four fatalities were the more tragic as three at least of the children proved not to be suffering from worms The author raises four points in connexion with these cases (1) Anthelmintics should not be given unless it is definitely proved that the patient is suffering from worms (2) The general health must be satisfactory before anthelmintics are given (3) No other drug should be given with the anthelmintic (4) Oil of chenopodium should be given only on a doctor's prescription

322. Chronic Streptococcal Infection Cured by a Vaccine.

C VASILESCO-POPESCU, N LUCHIAN and M POPPER (*Bul' et Mém Soc Méd des Hôp de Bucarest* November, 1923, p 141) record an important case of streptococcal septicaemia An engineer, aged 60 had an attack of acute bronchopneumonia in March, 1922 after which his evening temperature rose persistently to between 101° and 102° F The Bordet Wassermann test was negative, as were also agglutination tests for typhoid fever and for paratyphoid A and B The patient was slightly jaundiced, there was a pleuritic rub at the right base, and the splenic dullness was increased. The first blood culture was negative, but a second, made during a rigor, yielded a growth of short chained non haemolytic streptococci, from which a vaccine was prepared Daily doses of this were given and increased from 125 to 750 million together with intramuscular injections of 20 c.cm. antistreptococcal serum. The latter was discontinued after ten days on account of the appearance of anaphylactic symptoms The vaccine was also discontinued after fourteen days, but, as the temperature rose immediately a further course of injections, each of 1 250 million, was given for a further ten days, when the differential leucocyte count was found to be normal The temperature gradually fell to normal fifty two days after the commencement of vaccine treatment Eighteen months later the patient was in good health The authors consider that the septicaemia originated from the bronchopneumonia and that *S viridans* is not the only infective agent in chronic streptococcal septicaemia

323. Creosote as an Adjuvant in Leprosy Treatment.

J G SAMSON and G LIMKAKO (*Philippine Journal of Science* November, 1923 p 515) give conclusions arrived at from a study of 194 cases of leprosy in some of which creosote was used to supplement the chaulmoogra treatment It was found that the oral administration of creosote in small amounts improved the general condition of the patient and appeared to hasten the effect of chaulmoogra oil, while not affecting the amount of chaulmoogra ethyl ester that could be given intramuscularly If, however, creosote were mixed with the oil in the intramuscular injection, the amount of the latter which could be given without undesirable results was lessened The ordinary local reaction produced by injecting chaulmoogra ethyl ester was intensified and rendered more frequent by the combination with creosote although a certain amount of tolerance appeared to be acquired in the course of treatment A tendency to paroxysmal cough and vertigo was of much more frequent occurrence with creosote, which also produced a quick temporary rise of temperature at first but some degree of tolerance developed later The percentage of improvement was distinctly greater in the cases where the combined chaulmoogra and creosote injection was used than when the former was administered alone The irritation produced by creosote was partly reduced by the addition of camphor to the mixture, but this was less satisfactory with the larger doses of creosote, perhaps because of the correspondingly larger amounts of camphor employed Lepra reaction was evident in a larger number of patients with the creosote preparations than with the plain chaulmoogra oil but the authors did not find the reaction severe or harmful.

324. Late Osteo-arthritic Manifestations in Syphilis.

CH. FLANDIN (*Bull et Mém Soc Méd des Hôp de Paris* December 20th, 1923, p 1732) refers to recent communications by Gilbert H Bénard, and Fatou on hereditary syphilitic polyarthritis in adults, and by Harvier and Decourt on chronic rheumatic deformities in two women suffering from congenital syphilis Flandin contributes four other cases (1) A man of 64 had osteo-arthritis of his right hip, previously diagnosed as gouty, on account of his habits his Wassermann reaction was strongly positive Twenty injections of mercuric oxycyanide completely relieved both the osteo-arthritis and an aortitis (diagnosed by skiagrams) He was able to hunt three times a week after treatment (2) A woman of 63 with chronic osteo-arthritis of both knees rheumatic or neuralgic pain in neck. Skiagrams showed osteo-arthritic changes in the knees and cervical scolio-lordosis as well as polyarthritis of all the fingers She had had a severe iritis soon after marriage, aortitis was now definite, and her husband died of general paralysis of the insane. Though the Wassermann reaction was negative her symptoms were completely relieved by mercuric oxycyanide followed by bismuth injections (3) A woman, aged 59 had aortitis and osteo-arthritis of the right knee Her husband had died of tabes and her Wassermann reaction was positive All symptoms disappeared after antisyphilitic treatment. (4) The previous patient s daughter aged 30, had no stigmata of congenital syphilis and her Wassermann reaction was negative She had however suffered from persistent pain in the cervical region for five years and crepitus was heard and felt on moving the head. She was completely cured by ten injections

Surgery.

325 Fractured Skull associated with Aphasia

J RABÈRE (*Gaz hebd des Sci Méd de Bordeaux*, February 3rd, 1924, p 67) records the interesting case of a man, aged 58, who had received a violent blow with an umbrella on the left upper eyelid It appears that the pointed extremity of the umbrella had penetrated the orbit above the eyeball At the time of the injury the wound appeared of little importance and no special notice was taken of it A short time afterwards, however, the patient found difficulty in speaking Finally he was only able to say "Yes" or "No," but by writing he was able to express his thoughts correctly The wound showed some swelling and ecchymosis round it, but vision in the left eye was normal Six hours after the injury he was in a condition of motor aphasia—he appeared to understand questions but could not answer them The condition was then diagnosed as a fracture of the superior orbital margin with an injury to the Rolandic area, probably of the nature of a slow and progressive intracranial haemorrhage An operation was immediately decided upon, and under general anaesthesia the skull was trephined It was then found that the skull had been penetrated and the dura mater had been opened No damage had been done to the brain, but there was a subdural haemorrhage in the Rolandic region After evacuating the clots this was washed out The wound was finally closed except for a small drain Recovery was satisfactory and speech slowly returned after three days Two months later his condition was normal The interesting points in the case are the complete absence of cerebral symptoms at first, followed by the classical signs of intracranial haemorrhage and the onset of aphasia, finally, the slow and progressive recovery following the operation and resulting in complete cure

326 Etiology and Treatment of Claw-foot.

G P MILLS (*Journ of Bone and Joint Surg*, January, 1924, p 142) shows that in claw foot the deformity which occurs is that which would result from an untreated lesion of the external plantar nerve The front of the foot drops from the mid tarsal joint, the hallux is hyperextended at the metacarpo phalangeal and extended at the interphalangeal joint, the four outer toes, slightly adducted towards the mid line of the body, are hyperextended at the metacarpo-phalangeal, flexed at the proximal, and normal at the distal interphalangeal joints In advanced cases the foot is varoid There is marked absence of any tendency to the valgus position of the hallux The deformity is an acquired one, occurring generally in adolescents and rather more often in males There may be some evidence of preceding paralysis or paresis of the external plantar nerve, generally after an infectious disease, shown by the patient walking badly for a time, but this may escape notice, the patient only seeking treatment for the resulting deformity Shortening of the tendo Achillis is not an essential part of the deformity, but is present as a complication in about a quarter of the cases, being due to a coincident temporary paresis of the anterior leg muscles such as occurs in the independent condition of right angled contraction In early cases of claw foot treatment by right-angle splints and a metatarsal bar in the boot is generally sufficient For moderate cases transplantation of the extensor hallucis on to the fifth metatarsal is satisfactory In advanced cases, when half an inch of each of the four inner metatarsals is removed, it is advisable to divide the fifth as well, otherwise it protrudes painfully into the sole

327 Splenectomy in Severe Purpura Haemorrhagica.

N L BRILL and N ROSENTHAL (*Arch Intern Med*, December 15th, 1923, p 939) discuss the value of splenectomy in severe cases of purpura haemorrhagica (essential thrombocytopenia) and record two cases This disease is characterized by (1) diminution of the number of blood platelets, (2) preservation of the normal coagulation time of the venous blood, (3) prolongation of bleeding time (for example, after pricking the lobe of the ear), (4) positive capillary resistance test—a tourniquet applied to the arm sufficient to prevent the return circulation without obliterating the pulse is followed by petechiae, (5) failure of clot retraction The clinical manifestations are (*a*) apparently spontaneous haemorrhages into the skin and from mucous membranes—continuous or intermittent (*b*) excessive haemorrhage from slight trauma The authors record two very severe cases of this disease in which all known methods of treatment had failed Splenectomy brought about immediate improvement and apparent ultimate cure, and undoubtedly acted as a life saving measure Fifteen other cases have been recorded In all the successful cases the changes after splenectomy were (1) blood platelet crisis (increase in number from 25,000 to 1,500,000), (2) immediate cessation of the haemorrhagic tendency, (3) later return of blood platelets to their previous low level, (4) increase of the haemoglobin and red cells, (5) apparent cure of the condition In some of the patients operated upon the haemorrhagic tendency returned, but it was not so severe as before The authors conclude that splenectomy has a definite curative influence on the haemorrhagic factor of chronic purpura haemorrhagica After splenectomy the quality of the blood platelets is restored, as is demonstrated by the reappearance of clot retraction and diminution of the bleeding time to normal

328 Urethral Stenosis after Prostatectomy

A CASSUTO (*Rif Med*, February 11th, 1924, p 121) reports the case of a man whose prostate had been removed about a year ago and who now complained of retention of urine As it was impossible to pass a catheter through the urethra the bladder was reopened and with much difficulty retrograde catheterism was employed The cause of the obstruction was a dense cicatricial diaphragmatic band at the neck of the bladder and urethral canal This was penetrated and after dilatation eventually cured Although urethral stenosis after prostatectomy is fortunately not very common, several cases have been described, and Thomson Walker, amongst other writers, describes the condition and how to prevent it It seems sometimes to be due to too violent methods at operation, or to not opening the mucous membrane over the prostate at its lowest part Dilatation or internal urethrotomy may sometimes be successful, but in bad cases it becomes necessary to reopen the bladder and proceed as in the author's case He refers to two other cases in which this treatment was required after a prostatectomy

329 Oxyurids and Appendicitis.

W FISCHER (*Deut Zeit f Chir*, November, 1923, p 222) states that among 110 appendices removed at operation, mainly in the Rostock University Surgical Clinic, 46, or 42 per cent, contained oxyurids, 28 of the cases occurred among women, 14 among men, and in 4 the sex was not recorded, 51 were examples of acute inflammation or recurrences, 19 of residues of old inflammation, 1 was a completely obliterated appendix, and 39 were normal appendices, of which 32 contained oxyurids By way of comparison 105 appendices removed at autopsy were examined, and 29 (19 males, 10 females), or 28 per cent, were found to contain oxyurids As regards the contents 17 contained only mucus and 5 showed no naked eye contents Statistics as to the frequency of oxyurids in the appendix vary considerably Fischer himself found them present in 30 per cent of the necropsies at Göttingen, and at Bonn in only 5 per cent Brauch in Freiburg found them in 14 6 per cent, and Rheindorf in 11 per cent of soldiers examined *post mortem* The frequency of oxyurids in the appendix following operation is usually higher Brauch collected figures from various observers ranging from 8 to 49 per cent He attributes these differences in the figures partly to the appendix not always having been as carefully examined, especially with the microscope, as is the routine practice at Rostock

Diseases of Children.

330 Acute Articular Rheumatism in a Suckling

THE subject of this article by PRESTI SEMINERIO (*La Pediatria*, March 1st, 1924, p 281) is a boy, aged 8½ months, the sixth child of perfectly healthy first cousins The paternal grandmother had suffered from goitre and rheumatic mitral insufficiency, from which she died, aged 53 Her four children also had goitres The paternal grandfather was gouty, but otherwise he and the maternal grandparents were healthy Repeated Wassermann tests on both parents were negative, nor was there any history of syphilis The mother had had six full term normal confinements The first child died of croup when 9 months old The second was marasmic, developed sepsis and frequent convulsions, and died at the age of 6 months The third (breech presentation) also had fits and sepsis, and died aged 3 months During the fourth pregnancy the mother had a long course of thyroid treatment with no effect, the child (shoulder presentation) developed convulsions when 3 days old and lived in a semi conscious condition for twenty six months A few months before death the right half of the skull enlarged, but a necropsy was forbidden The mother had a course of antisyphilitic treatment during the fifth pregnancy, in spite of the absence of any evidence of syphilis clinically, serologically, or in the history The child (breech birth), though small, was healthy and survived The sixth, also a breech presentation, was similarly treated antenatally This boy, the subject of the present article, developed normally in every way and was entirely

healthy except for a short bout of malaria, with a few enlarged cervical glands and a just palpable spleen, until he was 8½ months old, when he was suddenly taken ill with pallor, fever drowsiness, and abdominal tenderness Six grains of salicylate temporarily lowered his temperature, the throat and heart were normal After a few days of irregular fever he began to cry when his right arm was moved next day there was swelling and slight redness of the right wrist, with oedema of the hand, subsequently the left wrist became involved to a less degree Salicylates were pushed (12½ grains per diem) and after a fortnight from the onset the child recovered completely A blood count, taken during the illness, showed an anaemia of 3,800 000 red cells and a slight leucocytosis of 10 000 white cells, of which 80 per cent. were polymorphonuclears The urine was normal

331 Tuberculosis of the Tonsils and Adenoids.

P B MACCREADY and S J CROWE (*Amer Journ. Dis Children*, February, 1924 p 113) record a clinical and *x* ray study of fifty cases of tuberculosis of the tonsils and adenoids forty of which were observed for from five to ten years and ten for at least two years after operation Each case had an *x* ray and physical examination every year, and the tuberculous lesion was verified pathologically The infection appears to be due to a bovine bacillus since more than half the cases were under 10 years of age, all were in good physical condition in spite of the cervical and mediastinal lymph glands being frequently involved and there was a low incidence of pulmonary or intestinal complications Unless there are superficial ulcerations on the tonsils or adenoids, secondary to an open pulmonary infection, the condition cannot be diagnosed prior to operation, and its discovery by microscopical examination need not stamp the patient as tuberculous nor interfere with the ordinary routine of life, since most of the patients never develop other symptoms of the disease. Removal of such tonsils and adenoids is desirable as reducing the possibility of secondary infection, although the only tuberculous focus in the body is not thereby removed since the infection is generally widespread in the cervical mediastinal and probably mesenteric glands Ether anaesthesia appears to be most satisfactory, unless for other reasons a general anaesthetic is contraindicated and a latent infection of the tonsils, adenoids, or the cervical and mediastinal glands is no bar to its use

332. Reduced Milk in Infantile Diseases.

CHATIN (*Journ de Méd de Lyon*, February 5th 1924, p 53) reports excellent results from a dietary of 'reduced milk' in infants with diarrhoea vomiting, or stationary weight due to intolerance of cow's milk As recommended by Weill and Gardere, fresh cow's milk is brought to the boil, care being taken to break the albuminous pellicle which forms on the surface the boiling is continued over a reduced flame until reduction by 1/3 1/2, or more is reached Milk reduced by 1/2 can still be given by bottle with a large holed teat, but, still further reduced, becomes of a creamy consistency The prolonged heating appears to have a beneficial action on the milk, especially on the casein It is essential to give a sufficiency of boiled water to replace that lost by evaporation half an hour before each feed Failing this symptoms of desiccation appear evidenced by thirst, dry mouth and skin, depressed fontanelle, rise in temperature, and rapid loss of weight Chatin records many cases of infants up to 2 or 3 months of age who had been either bottle-fed from birth or only partly breast fed and had suffered from frequent attacks of gastro-enteritis etc, when fed on humanized (Backaus) milk, diluted milk dried milk or boiled buttermilk, these infants improved rapidly on reduced milk with previous administration of water The treatment also cured one case of eczema In cases of repeated vomiting and of stationary weight, with or without suspicion of syphilis, routine treatment with mercurial inunctions was employed

333. Infantile Paralysis after the Acute Stage.

A T LEGG (*Journ Bone and Joint Surg*, January, 1924 p 194) urges strongly that orthopaedic treatment should be begun as soon as the acute symptoms of infantile paralysis have subsided Pain, which may last six months, is best treated by rest with hot blanket or electric light baths. When pain has disappeared massage, which improves the circulation in the muscle itself, and muscle training directed towards the increase of strength and function, should be begun Suitable splinting will prevent overstretching of muscles or the development of contractures from overbalance of power or habitual position, and weight bearing without mechanical support should never be allowed if the position assumed favours deformity Partially paralysed muscles will show improvement for an indefinite period (greatest in the first two years) under supervised muscle training, so long as there is no deformity It is advisable to continue treatment in chronic cases, since, if it be discontinued, weak muscles lose power and preventable deformities may develop overexercise, however, is emphatically harmful Pes cavus frequently occurs as a late deformity in feet with no apparent weakness With regard to the operative relief of contracture, this should only be begun when all attempts at stretching have failed. Legg discusses the various orthopaedic operations and recommends open tendon lengthening where there is shortening of the tendo Achillis tenotomy, he says leads to talipes calcaneus, and he prefers stabilizing a foot to astragalectomy, since the latter shortens further by three quarters of an inch an already short limb Tendon transplantation to restore balance round a joint may be begun at the end of the first year before any bony deformities become established but should never be performed without regard to the bony mechanics of a foot.

Obstetrics and Gynaecology.

334. Treatment of Retained Membranes.

H C BRUNNER (*Schweiz med Woch*, January 24th, 1924, p 110) has analysed the figures of the University Maternity Hospital in Lausanne in the period 1911–22 with a view to ascertaining the comparative merits of active and expectant treatment in cases of retention of the foetal membranes after birth In this period there were 8,248 confinements, among which there were 314 cases (3 8 per cent.) of retention of the foetal membranes In 102 of these cases the membranes were ultimately evacuated spontaneously, in 103 cases after slight pressure had been exerted on the fundus of the uterus, and in 104 cases after Crede's method had been practised. In 232 cases only conservative treatment, including the administration of ergot, was given, and in 82 cases digital evacuation of the uterus was effected because more than half of the membranes were retained, or there was severe atonic postpartum haemorrhage, or fever during the puerperium Among the 232 cases given conservative treatment there were only 31 or 13.3 per cent., which became febrile whereas among the 82 treated by digital evacuation there were as many as 18 or 22 per cent., which became febrile All the patients left hospital as cured, but the incidence of febrile cases being higher among the patients treated by digital evacuation than among those given conservative treatment, the author concludes that intrauterine interference should be avoided as much as possible, and that when retention of the membranes is not complicated by haemorrhage it is wiser to leave well alone. If more radical measures are indicated the cervix should be examined through a speculum and any membranes projecting from within the uterus should be extracted slowly with forceps.

335. Obstetrical Sequels of Infantile Paralysis.

A. LAFFONT and E GAUJOUX (*Gynécol et Obstét* 1923 viii 6, p 510), from a study of the obstetric history of thirty seven patients suffering from long standing anterior poliomyelitis with deformity of one or both lower limbs, draw the following conclusions If the disease has led to lameness of one or both legs in the absence of atrophic changes in the bony pelvis any consequent pelvic deformity interferes to a very slight extent with the mechanism or prognosis of labour among twelve patients in this group twenty five labours terminated normally at term Lameness of one leg when productive of pelvic deformity, leads as a rule to flattening on the opposite side of the pelvis In patients showing in addition to pelvic deformity (mechanically consequent on lameness) definite atrophic changes in the pelvic bones of one or both sides pregnancy and labour call for very careful supervision. Both maternal and foetal prognosis are good (no maternal deaths are recorded and only two stillbirths in the labours of fourteen patients) but only five spontaneous deliveries have been noted and premature induction of labour forceps delivery or more rarely Caesarean operation have been required in the majority of cases In a third group of patients there is a combination of atrophy of the bony pelvis on the paralysed side with pelvic flattening (due to excess of pressure on the sound side. In this last group the adverse effect on the mechanism of labour is the most considerable only one spontaneous delivery at term is recorded, and indications for Caesarean section are relatively numerous.

336. Toxaemias of Pregnancy

THEBE were 23 630 admissions to the Glasgow Royal Maternity and Women's Hospital during the ten years 1913–23, and J N CRUICKSHANK (*Journ of Obstet and Gynaecol of the British Empire*, vol 30 No. 1, 1923 p 541) gives detailed statistics of the cases of toxaemias of pregnancy which were admitted.

In 1 2 per cent the reason for admission was hyperemesis gravidarum, and in 2 84 per cent albuminuria The incidence of eclampsia was 3 6 per cent , of these 78 5 per cent had fits either during pregnancy or labour, and 21 5 per cent after the labour had been completed After the correction had been made for the high percentage of primiparous admissions (65 1) it was found that eclampsia was twice as frequent in primiparae as in multiparae The greatest number of cases occurred in primiparae of 19 to 21 years of age, whereas in multiparae they occurred chiefly between 25 and 27 years It was noted, however, that though elderly primiparae seemed more prone to the disease, elderly multiparae were even more so, the number of previous pregnancies having little or no bearing on the matter The maternal mortality was 22 4 per cent —23 5 per cent being the mortality of ante and intra partum cases, and 18 2 per cent of post partum cases In 46 7 per cent living children were delivered, 14 per cent of cases being, however, dismissed undelivered, of these 46 7 per cent 27 per cent died within fourteen days, this being three times more than the general infant death rate Premature births were common, and of these 54 per cent died in fourteen days, stillbirths were three times more common in eclamptic cases than in others The author emphasizes the fact that eclampsia is a frequent cause of foetal and infant death

337 Fibroma of the Ovary

M MASSAZZA (*Ann di Ostet e Ginecol* , January 31st, 1924, p 6) gives clinical and pathological details of fourteen cases of ovarian fibroma, diffuse and circumscribed, studied at a Milan clinic Eight of the patients concerned had passed the fiftieth year of age and four the fortieth , but since ovarian fibroma is a condition in which for many years symptoms may be inconspicuous, this finding is not inconsistent with the generally accepted view that women in the earlier portion of sexual maturity are those generally affected Subjectively the earliest symptom noted was a feeling of weight in the lower abdomen , symptoms due to pressure on the bladder or other viscera were not noted in this series Menstrual disturbances were absent, and the general nutrition did not appear to be influenced by the tumours The fibromata had, as a rule, a ligneous hardness which is said to be of importance in their diagnosis from uterine myoma or other ovarian tumours a reniform outline was also found to be somewhat characteristic It was not always possible to determine by bimanual examination that the tumour was separate from the uterus, this organ was retroverted in all the cases, and frequently was deviated laterally Ascites has been reported in as many as 80 per cent of cases of ovarian fibroma, and in 40 per cent according to the grouped statistics of Peterson , in the present series it was present in 50 per cent Histologically an admixture of fibrous with muscular tissue was found to be quite exceptional, and, although the tumours were notably rich in cellular elements, atypical cytological characters suggesting malignancy were absent Two of the tumours had undergone torsion, which in one case had led to acute symptoms , one other showed calcareous degeneration, and another a condition of diffuse oedema and semi liquefaction

Pathology.

338 The Pathology of Haemophilia

FEISSLY (*Bull et Mém Soc Méd des Hop de Paris*, December 20th, 1923, p 1778) states that recent researches have shown that there are two stages in blood coagulation (*a*) formation of "thrombin," a colloidal substance, followed by (*b*) coagulation of fibrinogen, which passes out of solution as a jelly like substance Thrombin is produced in the presence of calcium ions by the reaction of two substances one is a constituent of plasma (serozyme or prothrombin), the other is of cellular origin (cytozyme or thrombokinase) Bordet has shown that serozyme is not present in blood plasma in a form on which cytozyme can act directly , it must first undergo some transformation Bordet terms the unchanged substance "proserozyme ' Mammalian blood contains all the elements required to coagulate fibrinogen, and certain substances—organic extracts, exudates, and certain snake poisons—are able to accelerate coagulation Others, again—for example, leech saliva, antithrombin of peptone plasma, cobra venom, and salvarsan—have definitely anticoagulant properties, though their mode of action varies There is no proof that haemophilic blood contains excess of antithrombin , haemophilic serum after shrinkage of the clot is quite rich in thrombin, therefore the relatively poor coagulability of haemophilic blood is not due to deficiency of thrombin, but to the extreme slowness of its production Sahli holds that this delay is due to deficiency of thrombokinase of both blood corpuscles and tissue cells If a little normal serozyme be added to haemophilic plasma rapid coagulation occurs , this proves that the deficiency is in the plasma rather than the cells, and it appears that the transformation of proserozyme into serozyme is the stage which is retarded owing either to molecular abnormality of proserozyme or, as Feissly thinks, to the presence of substances antagonistic to the conversion of normal proserozyme The author adds that haemostasis follows (*a*) vasomotor contraction of wounded vessels, (*b*) formation of a plug of blood platelets surrounded by a film of plasma Haemophilic platelets have a greatly reduced agglutinating power, and haemophilic plasma is also deficient in vaso-constrictor substances derived from the destruction of blood corpuscles These substances aid in the fixation of the platelet thrombus, and their absence may account for the frequency and severity of secondary haemorrhages in haemophilics As regards treatment Feissly finds that the transfusion of 20 c cm of normal blood furnishes the patient with sufficient proserozyme to produce normal coagulation , either "whole" blood or thoroughly centrifuged plasma will produce the same result, but the latter is preferable since in one case a patient injected with his father's "whole" blood developed absolute incompatibility in consequence of the formation of a specific agglutinin

339 Action of Adrenaline on the Capillary Circulation.

MANFREDI (*Rif Med* , December 17th, 1923, p 1209), after many observations on the capillaries, states that they have a power of contractility peculiar to themselves and also, as in the case in the muscles of the hollow organs, peristaltic movement can be observed in them He thinks that the capillary system is autonomous—that is, independent of the vasomotor centres and of stimuli derived through the vagus or sympathetic He gives particulars of the effects seen in the capillaries after intramuscular injection of 1 c cm of 1 in 1,000 adrenaline solution, and shows that they vary considerably from time to time not only in a given set of capillaries but in adjoining areas At first there is a stage of capillary hyperkinesis, followed by one of relaxation and asthenia, until the circulation resumes its normal aspect In addition some swelling of the tissue was noted, perhaps due to congestion of the pericapillary lymphatic spaces It may be that adrenaline increases the flow of lymph at the capillary level in addition to augmenting the renal secretion

340 Botelho's Reaction in Cancer

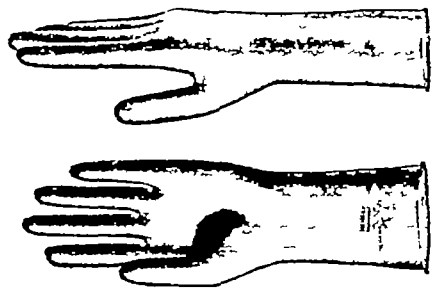
J SABRAZÈS and L MURATET (*Arch des Mal du Cœur, des Vaisseaux et du Sang*, December, 1923, p 841) describe Botelho's discovery of a special reaction in the blood of cancer patients, whose serum contains many abnormal constituents due to the development of the neoplasm Botelho's technique is as follows The serum is diluted with an equal quantity of 0 75 per cent saline solution , 0 5 c cm of this dilute serum is placed in a test tube, and to this is added 2 c cm of a 5 per cent solution of citric acid in distilled water containing 1 per cent of commercial formaldehyde The mixture is shaken, and to it is added 0 7 c cm of a solution containing 1 gram of iodine and 2 grams of potassium iodide dissolved in 210 c cm of distilled water The mixture is again shaken, and remains clear if the test is negative, if positive the mixture becomes somewhat turbid and a more or less copious precipitate is produced Mlle Wilbouchevitch has tested 52 serums from cases of cancer which had been confirmed clinically and histologically , 107 serums sent in for the Bordet Wassermann test were used as controls This observer obtained a positive reaction in 75 per cent , a doubtful reaction in 9 per cent , and a negative reaction in 15 per cent The 107 controls yielded only one positive and one doubtful reaction The percentage of positive reactions was uninfluenced by the patients having received treatment by radium or *x* rays Similar results have been obtained by Cabanis and Ch Foulquier, who, however, substituted a 5 per cent solution of lactic acid for the formol citric acid solution, under the impression that the formol was capable of producing a turbidity or even a precipitate in certain serums In 18 cases they obtained 14 positive results (77 per cent), and in 82 controls there was only one positive reaction In six serums from apparently healthy pregnant women there were four positive reactions Among eight specimens from cases of enteric fever there was one positive reaction The majority of observers record similar results, but P and M Guérin claim 94 per cent of positive reactions Sabrazès and Muratet have found only one positive result in three cases of enteric They conclude that although Botelho's reaction is not a specific test, since it may be positive in enteric fever, in Banti's disease, in certain benign tumours in lymphosarcoma, in chronic myeloid leukaemia, and in chronic lymphocythaemia, yet it is a valuable test in doubtful cases in which these diseases can be excluded

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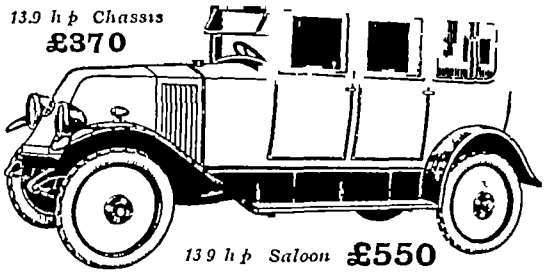
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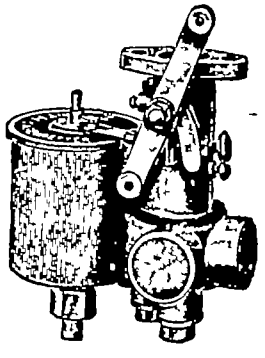
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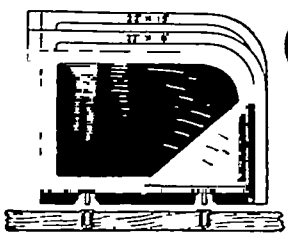
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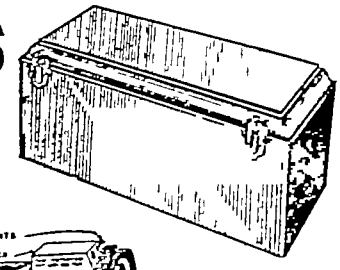
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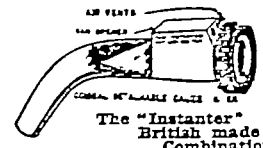


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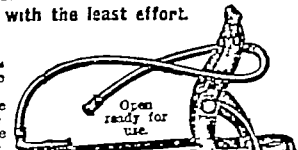
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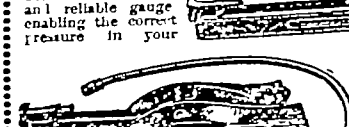
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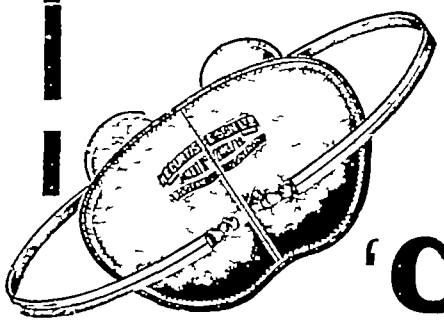
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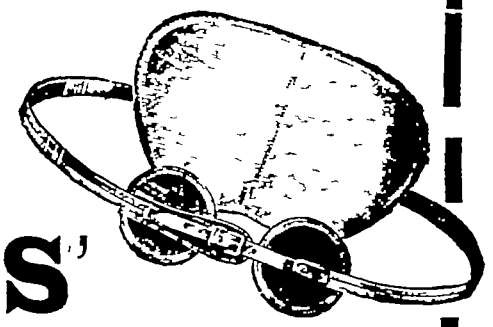
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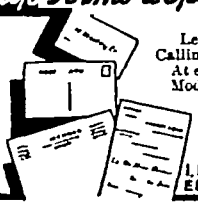
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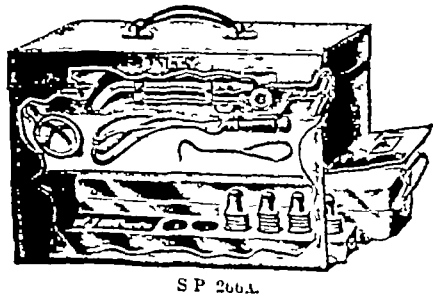
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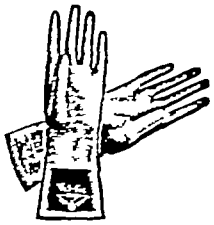
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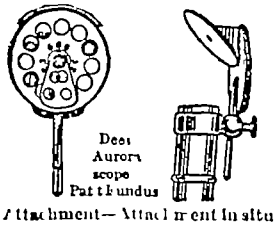
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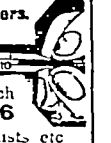


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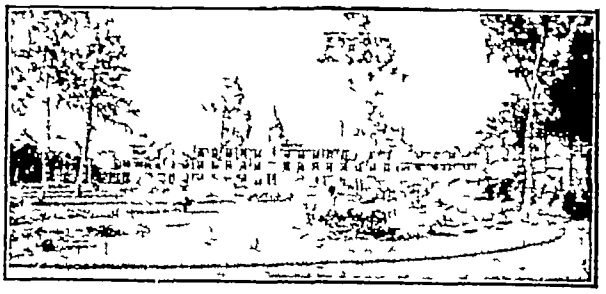
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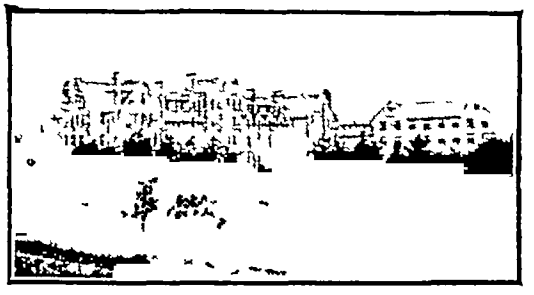
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British Medical Association

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For many years, the Prize has been awarded to the author of the best Essay received in connection with a specific subject, but it has been decided on this occasion to deal with the award of the Prize on a broader basis. The Council of the British Medical Association will accordingly award the Prize in the year 1925 to that person who is adjudged to have submitted to the Association the best contribution on any Ophthalmological subject, whether previously published or not, provided that the contribution shall not have been published or prepared more than three years prior to the date on which applications are receivable in competition for the Prize. The Prize will take the form of an Illuminated Certificate and a cheque for £50.

Contributions in competition for the Prize must reach the Medical Secretary, British Medical Association, 429, Strand, London, W.C. 2, on or before Monday, February 2nd, 1925. The contributions will be judged by Examiners appointed by the Association, and the decision of the Council of the Association will be final.

ALFRED COX, M.B., *Medical Secretary.*

February 19th, 1924.

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Nursing Home—First-class Surgical Medical Nursing Home in Midlands for SALE. Absolutely up-to-date equipment. Excellent Operating Theatre. Accommodation for 27 patients. Large Private Staff on Co-system. Gross Receipts upwards of £8,000. Principals only dealt with.—Address, No. 1918, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2.

North-East Midlands—Old and well-established Country PRACTICE, panel 1,55[illegible]. Receipts for three years over £1,800. Moderate premium. Detached residence with surgery separate from house; three reception rooms, etc.; one acre of ground; belongs to vendor and can be purchased.—Apply REYNOLDS & BRANSON Ltd., Medical Agency Dept., 13, Briggate, Leeds.

North of England—Good class general seaside PRACTICE established 25 years; excellent house; semi-detached; six rooms; moderate rental with lease for seven years; no panel, but panel patients could be easily obtained if desired. Opposition; usual excellent scope for Ophthalmic refraction work. Premium on application.—Apply No. 2113, REYNOLDS & BRANSON Ltd., 13, Briggate, Leeds.

Old-established Lancashire Industrial PRACTICE for disposal. Income approx. £3,000 p.a. Year's purchase price. Absolutely genuine and well recommended by HOUGH, HOSEASON & Co., Ltd.—Apply to "X.Y.Z." c/o HOUGH, HOSEASON & Co., Ltd., 2 Bridge Street, Manchester.

Popular Seaside Summer and Winter Resort (South)—General PRACTICE returning £2,200 a year. Panel 1,400. Good family residence. Rent £60 on lease. Part premium by arrangement.—Apply PEACOCK & HADLEY, 19 Craven Street, Strand, W.C.2.

Required at once, Practices and PARTNERSHIPS.—Mr W. S. ATKINS (late of ARNOLD & SONS, London) has a large number of Clients who are seeking Practices and Partnerships and wish to settle down at once.—Send full particulars, in confidence, to ATKINS Medical Transfer Agency, 43 Bedford Street, Strand, W.C.

To Purchasers—Do not Buy without expert assistance. With 10 years experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4 Adam Street, Strand, W.C.2. Telephone: Gerrard 4[illegible]. Telegrams: Epsomian, London."

£1,380 Glam Practice for Sale. Bills sending never done. Every penny cash and transferable. Feeble opposition. Great prospects. 100 houses being built. Buyer pays part down. First application giving essential particulars—Address No. 1905, B.M.J. Office, 429, Strand, W.C.

Wanted—A Third Partner, in an old established Practice (1850) in Seaport Town in S. of England. Applicant should be young, well-qualified, and a gentleman and good accoucheur. Share worth from £500 to £750 per annum at two years purchase. No Panel or clubs.—Address, No. 1908, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2.

Lancashire—Partnership worth £1,100 to £1,200. 2,5[illegible] panel and 3,5[illegible] private, in industrial area with scope. Good house available. Purchaser should have necessary capital. Premium 1½ years purchase.—Address No. 1617, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.

London Suburb—Partner wanted for middle and working class Practice in densely populated residential district. Share for disposal worth from £800 to £1,000 a year. House or flat can be had. Premium two years' purchase.—Apply PEACOCK & HADLEY, 19 Craven St., Strand.

Partnership wanted in large Provincial Town well received by Patients. Englishman. Good cash price for sound proposition, willing to travel for interview.—Address details in confidence to No. 1718, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2.

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Bournemouth—In local Harley Street CONSULTING ROOM and use of Waiting Room to Let. Dark room available. Suitable for radiologist or other specialist.—Address, No. 1805, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2.

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For Sale—Detached Corner HOUSE 10 rooms, facing Streatham Common. Long lease, vacant July 1st. Electric light and power gas; room for garage. Suit doctor or dentist. £1,600.—Owner, 23, North Side, Streatham Common, S.W.

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Govt Surplus—Record Syringes 2 c.c. 5/-, 5 c.c. 7/6, 10 c.c. 10/- Wool 2 oz. comp. pkt. 1/4 lb. Plaster 1 spool 10d. Scissors from 1/-. Sterilizers 16/- from 12/6. Permanganate tabs. 500 1/3. Pilboxes. Iod. Catgut tubes 1/6.—A. W. AUTY & Co., 62, King's Rd., Willesden, N.W.10.

Handsome pair of genuine £5 5s. polished Ash TENNIS STANDARDS 4 square tops, complete with brass worm winding gear, 3 heavy ground screws and spanner. Perfect condition guaranteed never been used. Accept 49/6. Regulation size heavy waterproof net with steel headline, never used 19/6. Approval against post dated cheque.—GILYARD, Darley Street, Bradford.

For Sale—£1,375 buys free-hold SEMI DETACHED VILLA with good Practice to be picked up by Resident Medical Man, in delightful growing suburb of fashionable town.—Address, No. 1808, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2.

20 h.p. 4 cylinder Daimler LANDAULETTE Mirrlees de Luxe. New May 1922. Been run 18 months by one chauffeur without accident. Since stood idle. Cost £1,209. £650 for quick sale. No less. Can be seen in Regent's Park, London.—Add. No. 1801, B.M.J. 429 Strand.

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Mid-Wales Counties Mental HOSPITAL, Talgarth, Breconshire.

The Visiting Committee invite applications for the post of ASSISTANT MEDICAL OFFICER at this Institution. Salary commencing at £350 and rising by annual increments of £25 to £450 per annum, with (in addition) the following emoluments, valued for the purposes of superannuation at £100 per annum: apartments, board, washing and attendance. The appointment is subject to the provisions of the Asylum Officers' Superannuation Act, 1909. A knowledge of Welsh is desirable but not essential.

Applications, together with testimonials, should be sent to the undersigned as early as possible, but not later than the 28th April.

A. J. ASTBURY
Clerk to the Visiting Committee.

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2

Town or District	Town or District	Town or District
CONTRACT PRACTICE.		
ENGLAND.	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs)*	MARDY, GLAMORGAN *(Workmen's Medical Scheme)*	LEEDS EDUCATION COMMITTEE *(Assistant School Medical Officer)*
SOUTH BANK, & ESTON *(Medical Aid Associations or Workmen's Clubs)*	OAKDALE, MON *(Medical Officer for Medical Aid Association)*	LINCOLN CITY AND COUNTY BOROUGH *(Medical Officer of Health)*
WALES.	OGMORE VALLEY, GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*	MORAY EDUCATION AUTHORITY *(Assistant School Medical Officer)*
ABERTRIDWR, GLAMORGAN *Windsor Colliery (Medical Scheme.)*	TONDU & ABERKENFIG, GLAMORGAN *(Workmen's Medical Scheme.)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
EBBW VALE, MON *(Workmen's Medical Society)*	**PUBLIC HEALTH.**	OLDHAM EDUCATION COMMITTEE *(Assistant Schools Medical Officer)*
GILFACH GOCH, GLAMORGAN *(Workmen's Medical Scheme)*	BARNSLEY COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer)*	SELKIRKSHIRE *(Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG, GLAMORGAN *(Workmen's Medical Scheme.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*	SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer)*
		STOKE-ON-TRENT EDUCATION COMMITTEE *(Assistant School Medical Officer)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District	Hon Sec of Division or Branch	Town or District.	Hon. Sec. of Division or Branch	Town or District	Hon. Sec of Division or Branch
NEW SOUTH WALES *(All Friendly Society Appointments.)*	Dr R H TODD (Hon Sec New South Wales Branch) B M A Building 30-34 Elizabeth Street, Sydney N S W	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R MARSHALL ALLAN (Hon Sec Queensland Branch) Adelaide Street Brisbane	VICTORIA *(All Institute or Medical Dispensaries)*	Dr FRANK DAVIES (Hon Sec Victorian Branch) Medical Society Hall E Melbourne Victoria.
				WESTERN AUSTRALIA. *(Contract and Lodge Practices)* —	Hon Sec. Western Australian Branch No 6 Bank of New South Wales Chambers St. Georges Terrace, Perth

Address: 429, Strand, W C 2.
April 15th, 1924.

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

City of Bradford.

Applications are invited for the post of ASSISTANT SCHOOL MEDICAL OFFICER Salary £600 per annum

Candidates should possess the D P H have three years experience since qualification and have some knowledge and experience in Refraction work

Preference will be given to candidates with special experience in infectious diseases and in the diseases of children

Applications on forms to be obtained from the Medical Officer of Health Town Hall Bradford should be sent to me on or before April 22nd

Bradford N L. FLEMING
5th April, 1924. Town Clerk.

General Infirmary and DISPENSARY Pontefract.—(40 beds)

Applications are invited for the post of RESIDENT SURGICAL OFFICER (male single) Candidates must be fully qualified As the greater part of the surgical work is performed by the Resident Medical Officer applicants must produce evidence of their experience in practical operative surgery A knowledge of X ray work desirable Salary £400 per annum with board residence and laundry Applications, with copies of recent testimonials should be sent at once to H HOLMES Ropergate Pontefract from whom further particulars may be obtained.

City of Birmingham.

The Public Health Committee invite applications for one of the posts of ASSISTANT MEDICAL OFFICER for public health duties Candidates must be qualified medical practitioners and possess a degree or diploma in Public Health or Science Age not to exceed 35 years The candidate appointed will be required to join the Birmingham Corporation Superannuation Scheme, and for this purpose to pass a medical examination. The appointment will be terminable by one month's notice on either side Salary £750 per annum. Applications endorsed 'Assistant Medical Officer of Health' and to be accompanied by copies of three recent testimonials to be made on a form to be obtained from the Medical Officer of Health, the Council House Birmingham, and returned to him on or before April 26th 1924. Canvassing will disqualify

Kensington, Fulham, and CHELSEA HOSPITAL, Richmond Road Earl's Court S W 5

Applications are invited for the posts of SENIOR and JUNIOR RESIDENT MEDICAL OFFICERS

The appointments are for 12 months and 6 months respectively from July 1st 1924

Salaries £100 Senior and £75 Junior

Applications stating age with copies of three recent testimonials should be forwarded to the undersigned on or before April 25th 1924.

FREDERICK J JONES Secretary

City of Birmingham.

The Public Health Committee invite applications for the post of WOMAN MEDICAL OFFICER for Maternity and Child Welfare work Applicants must have had experience in this work Age not to exceed 35 years Salary £600 per annum The candidate appointed will be required to join the Birmingham Corporation Superannuation Scheme, and for this purpose to pass a medical examination. The appointment will be terminable by one month's notice on either side Applications, endorsed 'Woman Medical Officer' and accompanied by copies of three recent testimonials, to be made on a form to be obtained from the Medical Officer of Health the Council House Birmingham and returned to him on or before April 25th, 1924 Canvassing will disqualify

West Herts Hospital, Hemel Hempstead Herts (24 miles from Euston—102 Beds)

Wanted RESIDENT MEDICAL OFFICER (only one kept) to commence duties the beginning of May Preference given to married candidates Salary £200 with rooms board and laundry Particulars to be obtained of and applications stating essential particulars and enclosing copy of recent testimonials to be sent at once to ROBT L BUTTERFIELD Clerk to the Hospital.

West London Hospital,
Hammersmith Road W 6.

Applications are invited for the post of HONORARY MEDICAL REGISTRAR for a period of one year eligible for re-election annually. The holder of the post must hold no appointment at a general teaching hospital during his term of office. The duties include the preparation of the Medical Registrar's report for the year and the supervision of the records of cases.

The candidate appointed must be available as substitute for the Physicians and Assistant Physicians when required and be prepared to undertake such teaching for the Post Graduate College as may be desired.

Candidates are required to be registered under the Medical Act, to send applications so as to reach me not later than Wednesday 23rd April next, to attend the Medical Council Meeting on Friday 25th April, at 4.30 p.m. and prior to that date to call upon and send copies of application and testimonials to each member thereof to abstain from canvassing, but nevertheless to send copies of application and testimonials to each member of the Board of Management at whose meeting on Tuesday 29th April at 5 p.m. candidates must be in attendance.

H. A. MADGE, Secretary

St Bartholomew's Hospital,
Rochester (Kent) Beds.)
Rochester Chatham Gillingham and District.

Applications are invited for the post of RESIDENT HOUSE SURGEON which will become vacant on the 1st June, next.

Candidates must be unmarried qualified, and registered Medical Men. Those who have held a Resident Surgical post preferred. The appointment is for six months, which may renewed for a further period if desirable. Salary is at the rate of £250 per annum with board, residence and laundry.

Applications stating age, qualifications, experience, &c., accompanied by three recent testimonials, to be sent to the Secretary not later than the 5th May.

Hospital for Epilepsy and
PARALYSIS Maida Vale W 9

Applications are invited for the post of HOUSE PHYSICIAN. The salary is at the rate of £100 per annum and the appointment is for six months. The selected candidate will be required to take up duty on 1st May.

Applications, accompanied by copies of three recent testimonials, should reach me by 24th April.

H. W. BURLEIGH
Secretary and General Superintendent.

Westminster Hospital
(Opposite Westminster Abbey)

Applications are invited for the office of SURGICAL REGISTRAR to this Hospital.

Gentlemen desirous of becoming candidates must be Fellows or Members of the Royal College of Surgeons of England and not engaged in the practice of Midwifery or Pharmacy. An honorarium of £150 per annum is attached to this office. Applications should be sent to the undersigned.

By order of the House Committee.
CHARLES M. POWER, Secretary

Westminster Hospital
(Opposite Westminster Abbey)

Applications are invited for the office of MEDICAL REGISTRAR to this Hospital.

Gentlemen desirous of becoming candidates must be registered Medical Practitioners not engaged in the practice of Midwifery or Pharmacy. An honorarium of £150 per annum is attached to the office. Applications should be sent to the undersigned. By order of the House Committee,
CHARLES M. POWER, Secretary

Leicester Royal Infirmary

There is a vacancy for a SECOND HOUSE PHYSICIAN. Appointment for six months. Salary at the rate of £125 per annum with board, apartments, and laundry.

Applications, with copies of three recent testimonials, to be made by the 25th of April, to the House Governor and Secretary of the Infirmary.

County Mental Hospital,
Prestwich.

ASSISTANT MEDICAL OFFICER required. Salary including present bonus, £440 17s. per annum with board, furnished apartments, attendance, and washing. Candidates must be unmarried, and duly registered under the Medical Acts.

Applications, stating age qualifications, etc., to be sent to the Medical Superintendent.

Willesden Urban District
COUNCIL.

HEALTH DEPARTMENT

APPOINTMENT OF RESIDENT MEDICAL OFFICER.

The Willesden Urban District Council invites applications for the appointment of Resident Medical Officer at the WILLESDEN MUNICIPAL HOSPITAL for INFECTIOUS DISEASES situate at Brentfield Road, Neasden N W 10.

The person appointed will be required to act under the direction of the Medical Superintendent of the Hospital and devote the whole of his time to the duties of the office.

The Hospital has accommodation for 150 patients.

Salary £280 per annum rising by one annual increment of £20 to £300 with board, quarters and washing in addition, and a proportionate bonus of the Civil Service bonus amounting to £93 9s. 3d. giving at the present time a total commencing salary and bonus of £373 9s. 3d., the bonus is subject every six months (March and September) to fluctuation according to the rise or fall in the cost of living.

Forms of application showing list of principal duties and terms of the appointment may be obtained from the Medical Officer of Health at the Town Hall Dyne Road, Kilburn, N W 6 and should be returned to him duly filled up in the candidate's own handwriting not later than 4 p.m., on Monday May 5th, 1924.

Applications for forms must be accompanied by a stamped addressed foolscap envelope.

Canvassing members of the Council directly or indirectly will disqualify a candidate.

Town Hall, Dyne Road, Kilburn N W 6.
E. A. PRATT,
Clerk of the Council.
8th April 1924.

Willesden Urban District
COUNCIL.

HEALTH DEPARTMENT

APPOINTMENT OF ASSISTANT MEDICAL OFFICER.

Wanted full time Assistant Medical Officer as above.

Salary £500 to £600 per annum by annual increments of £25, with in addition, cost of living Civil Service Bonus which fluctuates. The present total salary and bonus amounts to £696 to £801 per annum.

Applicants should have had experience in antenatal and maternity work diseases of children re infectious work, and infectious diseases.

Applications must be made on the forms provided which may be obtained from the Medical Officer of Health Town Hall Dyne Road Kilburn, N W 6, and must be returned to him, duly filled in, not later than 4 p.m., Monday May 5th, 1924.

Town Hall, Dyne Road, Kilburn N W 6.
E. A. PRATT
Clerk of the Council.
8th April, 1924.

County Borough of Croydon.

DENTAL SURGEON

Applications are invited from male Licentiates in Dental Surgery for the post of whole time Dental Surgeon. Salary £600 rising by £25 per annum to £700.

The person appointed will be in charge of the dental arrangements under the supervision and control of the School Medical Officer. The duties will consist chiefly in the inspection, re-inspection, and treatment of children attending the elementary schools of the Borough but will also include dental work under the Council's Maternity and Child Welfare and Tuberculosis schemes. The person appointed will also be expected to give instruction in Dental Hygiene as and where required.

Previous experience in the dental treatment of children is essential.

Applications, on a form to be obtained from the undersigned, accompanied by copies of not more than three recent testimonials, must be received by me not later than Monday the 28th April 1924 endorsed Application Dental Surgeon.

Town Hall, Croydon. 8th April, 1924.
JOHN M. NEWNHAM
Town Clerk

The London Lock Hospital,
91 Dean Street and 283, Harrow Road W

The Board of Management invite applications for the appointment of SURGICAL REGISTRAR to the above Hospitals. Candidates who must be double qualified are invited to send in their applications with three copies of testimonials only to the Secretary, at the above address, not later than 10 a.m. on May 6th 1924. Candidates must be Fellows (or Members) of the R.C.S. England, or a Surgical Graduate of a University of the United Kingdom.

By Order of the Board
Chief Offices, 283 Harrow Road, W.9.
HY. J. EASON Secretary

Young Medical Practitioners
wanted for the TERRITORIAL ARMY R.A.M.C.—
LEEDS 4.
YORK, 3.
BRADFORD 2.
DONCASTER 3.
ROTHERHAM 1.

Full particulars from A.D.M.S. 46th (W.R.) Division Barewood Barracks, Leeds.

London Temperance Hospital,
Hampstead Road, N W 1.

Applications are invited for the post of MEDICAL REGISTRAR. Honorarium 40 guineas per annum.

The appointment is for a period of one year and applications, with testimonials, should be forwarded to the Secretary not later than 6th May.

Telephone: Langham 2728.
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(In conjunction with the MALE NURSES' ASSOCIATION),
29 York Street, Baker Street, London, W 1
(Mrs.) MILLICENT HICKS, *Superintendent.*
W. J. HICKS, *Secretary.*

ST. LUKE'S HOSPITAL.
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NORTHERN BRANCH.—Apply LADY SUPERINTENDENT, 5 Clarendon Rd., Leeds. 'Phone Leeds 21163.

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Specially trained Nurses for Mental and Nerve cases. (All Nurses are insured under the Employers Liability Act, 1906.) Apply the SUPERINTENDENT.

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LONDON —WEST END —Old-established high class non panel Income £1 700 p a Prem £2 500

LONDON —DEATH VACANCY —Suburb (N W) Old-established good class non panel Income approx £2 000 Big midwifery Practice Nice house Garage Premium £3 000

GLOS —Small Cash G P situated in Country Town Panel Income nearly £700 p.a. Prem. £1.050 Scope

NURSING HOMES —We have several Nursing and Convalescent Homes situated in London and Provinces

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SPECIAL NOTICE

Mr Turner's Offices will be closed from Thursday afternoon, the 17th inst, at 5 p m, until Tuesday morning, the 22nd inst., at 10 a m

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Partners
W S ATKINS (Late of ARNOLD & SONS, London)
J R LOWNDS (B A Cantab L R C P)
43, BEDFORD STREET, STRAND, W C 2.
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SUSSEX —A General PRACTICE situated in a charming district Receipts £1 400 Fees 4/ to 21/ Cottage hospital and scope for surgery Excellent double-fronted house containing 6 bed rooms &c Prem 1½ years purchase —Folio 593

LONDON W —A General PRACTICE situated in a good district Receipts nearly £1,000 Panel 1 300 Fees 5/ upwards No midwifery plenty of scope Nice house in central position containing 4 bedrooms, &c. Rent £110 per annum Premium £1 800 —Folio 651

LONDON W —General PRACTICE in thickly pop. district Receipts £350 p a. plus panel of 2 600 Ample scop Nice house in central position Rent £52 p.a Premium for good will and lease £2 750 —Folio 656

SUSSEX —PARTNER required for Country Practice Receipts £1 500 Scope for increase Share value £1,000 for deposal at 2 years purchase with view to succession.—Folio 886

GLAM —PARTNER required for General Practice in thickly pop district on Coast Receipts £1,700 Fees 3 upwards Panel 60% Considerable scope House containing 4 bedrooms etc rent £50 p a Premium for half share two years purchase Folio 887

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6. ESSEX.—MARKET TOWN, within 20 miles of London. Old-established General PRACTICE comprising all classes of patients, and held by the Vendor many years Steady average income of about £1,375 No appointments. Panel of 500 Advice and medicine 3 6. Visits 5 10 to £1 1 0 About 30 midwifery cases a year at 4 to 8 guineas Very convenient corner house, with large garden. Rent £100 Premium £2,000 payable part by arrangement

7. LONDON N W.—DEATH VACANCY.—Very old-established good middle-class PRACTICE held by the late Incumbent 35 years Average income for the last three years about £2,000 No appointments and no panel. Consultations from 3 6 visits 5. House contains 3 reception rooms 4 bedrooms dressing room, etc with small garden Locum in charge. Prem £2 000 payable by arrangmt.

8. RIVERSIDE TOWN.—Within 50 miles of London.—PARTNERSHIP A one-third share (with succession to a half in five years) is offered in an old-established general Practice situated in a clean prosperous town Income for last year £2,000 and rapidly increasing Fees from 5 upwards About 30 midwiferies at 5 gns. A house can be obtained on lease at about £70 a year Good sport and excellent schools Purchaser must be young and energetic. Premium £1,000 payable £500 cash, and balance by instalments

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13. DERBYSHIRE.—HOSPITAL TOWN.—Old-established PRACTICE, held 13 years by present Incumbent who is relinquishing on account of ill health. Cash receipts for the past 3 years average £3,000 per annum, including about £1,500 from panel. Fees 3 6 to £1 1 0 About 30 cases of midwifery a year at 2 to 5 guineas. Centrally situated house (3 reception rooms, consulting and waiting rooms, 4 bedrooms, bathroom etc.) on lease at £100 a year Premium 1½ years purchase. Good scope for surgery and Vendor is on the staff of the Hospital

14. LONDON S E.—RESIDENTIAL SUBURB.—A THIRD SHARE is offered in an old-established general Practice. Income for last year approximately £2,200 Practice offers large scope with the aid of a suitable Partner No appointments. Panel of 600 Fees from 3 6 upwards. Little midwifery Choice of houses or suitable rooms can be obtained. Premium 3 years' purchase. Cambridge Graduate preferred.

15. MONMOUTHSHIRE.—SMALL TOWN.—PARTNERSHIP A one-third share for disposal. The patients are of all classes Income for the last financial year £2,229 this being a loss on the average due to strikes and lock-outs There is a panel of over 1,000 and several Collieries pay at the rate of 2/ in the £1 on the men's wages Fees 2 6 and 3 6 with its 2 6 to 7 6 medicine extra. Very little midwifery No motor-car is required. Small but convenient house rent £10 Premium £1,250 half by instalments

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17. OUTLYING SUBURB OF LONDON (South).—Old-established good middle-class PRACTICE doing at present at the rate of £1,200 a year Vendor has no panel but there is a very large scope in this direction. Visits 5 upwards. Very little midwifery and nothing under £3 5 Exceptionally attractive residence with good accommodation garden etc. It is the Vendor's Freehold Price £2,000 a good part of which can remain on mortgage. Premium for Practice £1,500

18. NORTHERN SUBURB.—Old-established PRACTICE, producing an income of about £1,400 a year including appointments worth £320 Small panel of 350 but this can be largely increased if desired. Visits and medicine 3 6 to 7 6. Midwifery from 2 to 5 guineas Practice is very easily worked, with no conveyance Nice house in good residential repair with fair garden. Premium for Practice and house £3,250

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SOUTH WALES —(3) Unopposed PRACTICE, about £1 700 in small Seaside Town Panel 1 436 Good house Excellent Schools. Premium to effect quick sale £2 000

DEATH VACANCY, LONDON, N W —(4) Good middle-class PRACTICE about £2,000 per annum in Residential District No panel Non basement corner residence (5 b d and dressing rooms

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LONDON, N —(11) PARTNERSHIP in Cash and Panel Practice of £1 800 in Residential District Panel 2 450 House con tains 5 bedrooms &c One-third share at first Premium £1,200 Incoming Partner must be married

NORTH WALES —(12) ASSISTANT required (with view to early Partnership) in Country Practice. Share offered (after 2–3 months) to suitable man who must speak Welsh

ESSEX.—(13) NUCLEUS of Practice in Industrial Village. Panel and Midwifery refused Detached house (4 bedrooms and 3 attics) with garden Premium Practice and House £900 Plenty of scope

CAPE COLONY —(14) Compact unopposed PRACTICE in attractive part. Receipts (1923) nearly £750 Excellent house with 4 be lrooms Large garden and paddock Premium £400

SOUTH MIDLANDS —(15) JUNIOR PARTNER required in old-establis e i practice in first-rate Residential Town. Share worth about £800 p a. at first at two years purchase Partner should be aged 28 to 35 and unmarried preferred

SOUTH-EAST COAST -(16) Well-established PRACTICE averaging over £2 200 in favourite Watering Place Panel over 1 500 Well built house (4 bedrooms) Rent £60 on lease Premium £3 000

SOUTH OF ENGLAND —(17) Well-established Anæ thetic a d General PRACTICE about £1 000 in pleasant Seaside Town Large detached house (7 bedrooms &c) with acre garden (or smaller house to be bought. Purchaser must be experienced anæsthetist. Prem £1 600

NORTH WALES -(18) Well established non-dispensing PRACTICE nearly £800 in favourite Watering Place Panel 370 No midwifery Good 12 roomed house with garden to be sold. Excellent opening for young man Premium £1,200

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SOUTH OF ENGLAND —(27) PARTNERSHIP in an old established PRACTICE of £2 000 in beautifully situated Country Town Panel 1 100 Very good educational advantages Cottage Hospital One third or o ne-half share at 2 years purchase

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DEATH VACANCY, CAMBRIDGESHIRE.-(33) Old-established unopposed Country PRACTICE averaging £1 680 per annum Panel 700. Good house (6 bed and 2 dressing rooms) with large lawn and garden about an acre.

SOUTH-EAST COAST —(34) Favourite Health Resort, PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1 750 including appointments £170 (about) No panel. Premium two-fifths share two years purchase and up to one-half in two years. Partner should be 28 to 30 single. Preliminary Assistantship.

NORTH OF ENGLAND —(35) Cathedral City PARTNERSHIP (with view to succession) in old-established Practice about £1,100 per annum (practically all from Panel Clubs and Appointments) One-half share at one and a half years purchase Very considerable scope.

SOUTH OF ENGLAND —(36) PARTNERSHIP in a good class non panel practice of £2,400 per annum in beautifully situated Country Town near the coast. One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate, not over 35 and preferably F R C S England Preliminary Assistan ship Salary £500 p a

EAST COAST —(37) Old-established good-class PRACTICE £1,700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double fronted house (6 bedrooms) Rent £55. Pre mium one and a half years purchase

MIDLANDS —(38) PARTNERSHIP in old established Practice over £2 200 per annum in excel ent Country Town Panel about 1 400 Premium one-third share one and a half years purchase

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MIDLAND TOWN -(40) Old-established PRACTICE about £1,100 per annum in Residential Suburb. Panel 700 House contains 9 bedrooms Large garden Price £1 750 Premium for Practice £1 600

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British Medical Journal.

APRIL 26TH, 1924.

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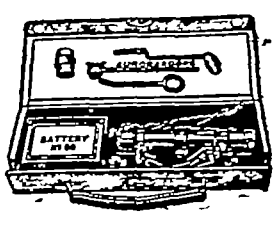
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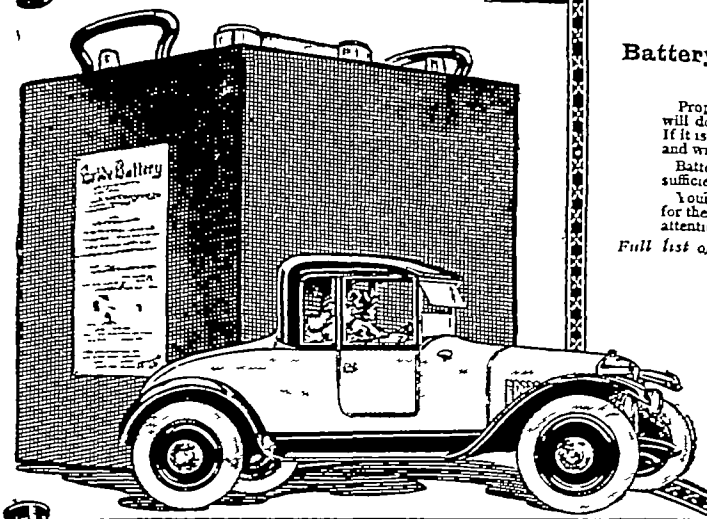
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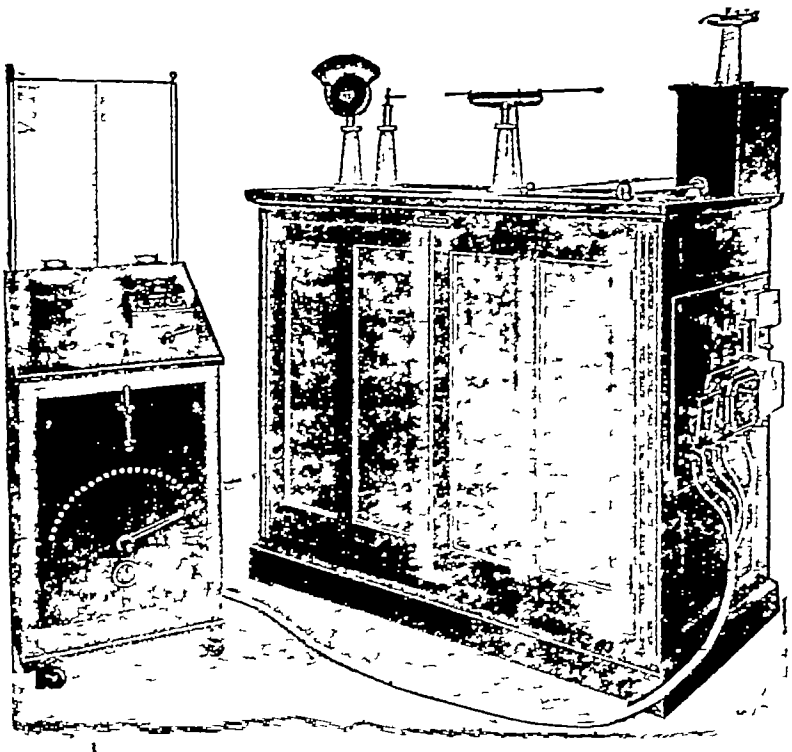
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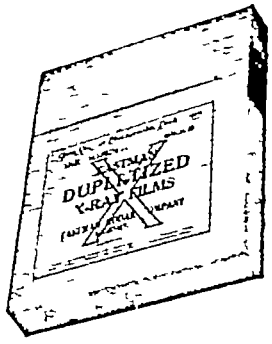
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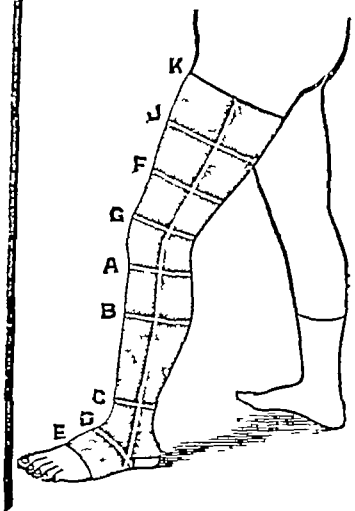
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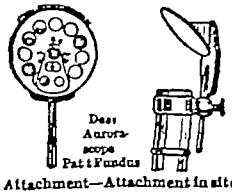
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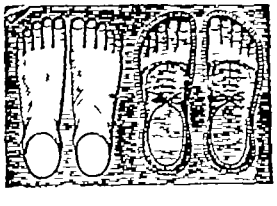
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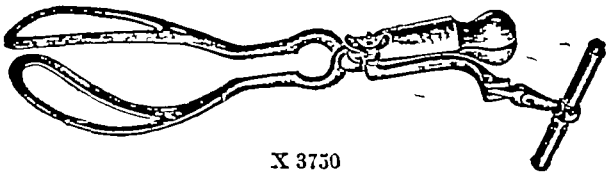
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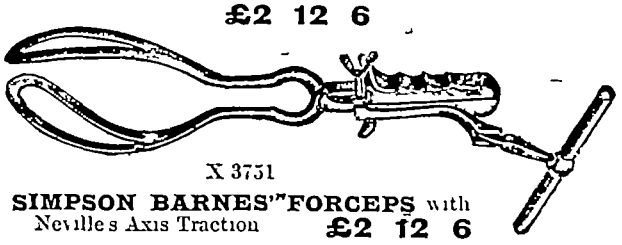
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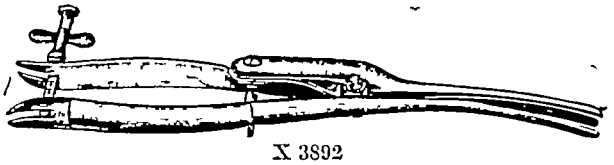
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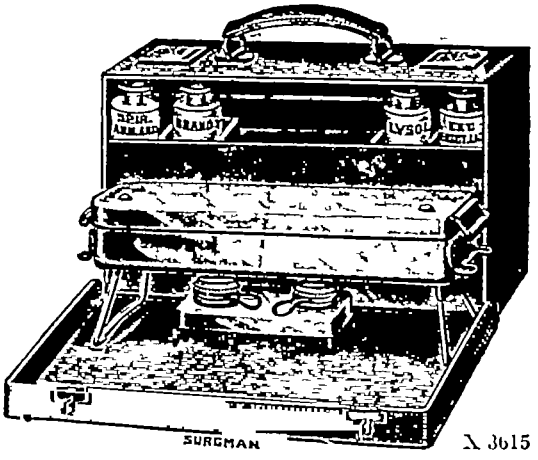
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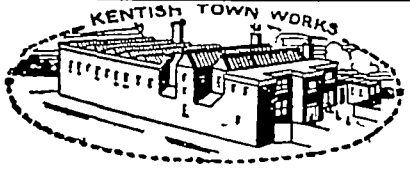
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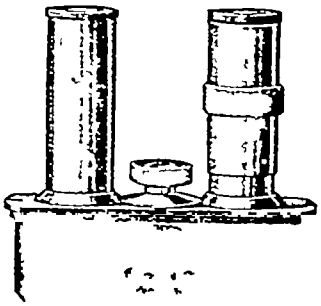
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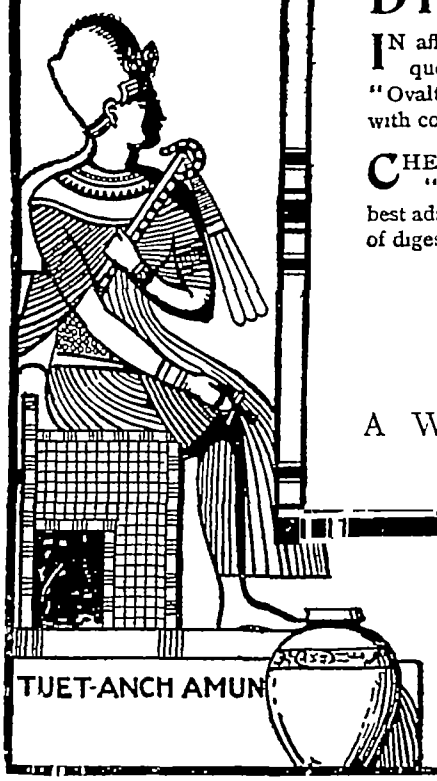
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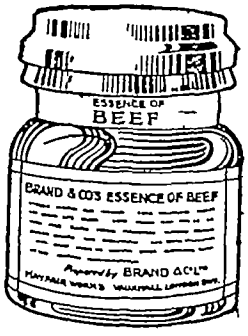
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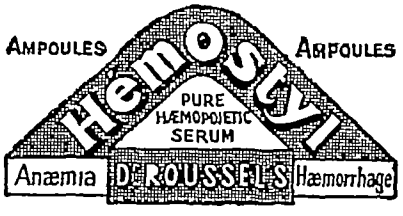
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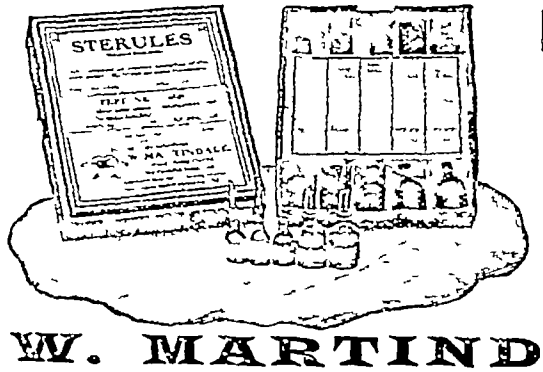
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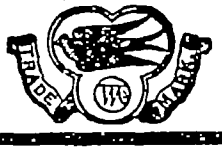
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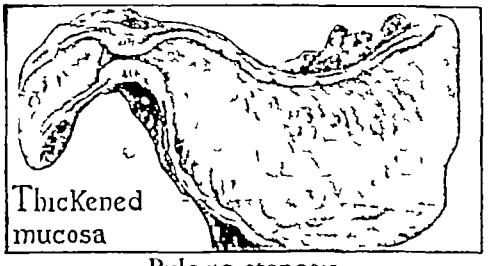
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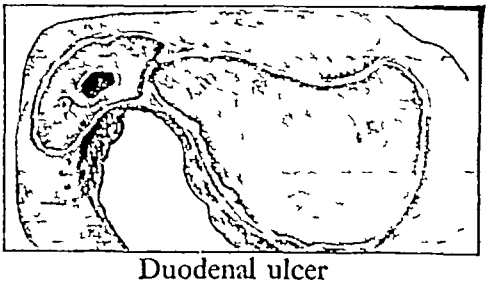
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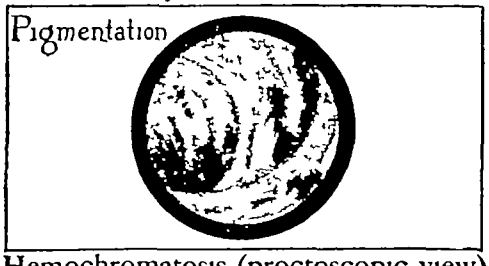
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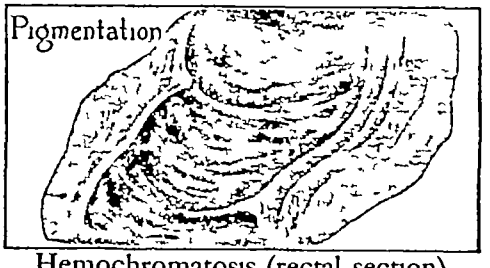


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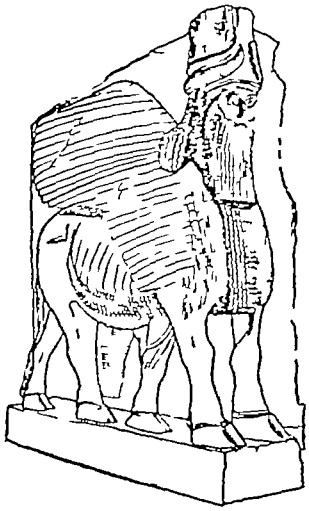


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ON

STUDIES OF CAPILLARY PULSATION,

WITH SPECIAL REFERENCE TO VASO DILATATION IN AORTIC REGURGITATION *

BY

SIR THOMAS LEWIS, M.D., F.R.S., F.R.C.P.,

PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL; LECTURER IN CARDIAC PATHOLOGY, UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL

THE EFFECTS OF HEAT ON THE HUMAN SKIN

If the hand of a young subject is soaked in hot water for three minutes at a temperature of between 45° and 47° C. the part immersed becomes of a bright red colour, and this reddening is maintained for a few minutes to even an hour or more after withdrawing the heat. The temperature used is that which begins to produce stinging of the skin, a point which does not vary greatly from subject to subject. In the human skin this colour reaction to heat can be shown to be at least of twofold origin.

First Method.—The circulation to the arm is occluded by an armlet containing a pressure of 200 mm. Hg, and the hand then soaked in hot water at 43° C. for three minutes. The skin is then seen to be cyanosed and the soaked area to be of a darker colour than the unsoaked area, showing that the heat dilates those small vessels, such as capillaries and minute venules, which are responsible for skin colour.

Second Method.—In a similar experiment with a pressure of 70 mm. Hg in the armlet, the unheated skin is seen to be cyanotic, while the heated skin is of a bright red colour, departing little from that of heated skin in which venous pressure has not been raised. The bright colour of the heated skin in this experiment can be accounted for only if, in addition to raised venous pressure, there is a dilatation on the arterial side, chiefly arteriole, for the red skin is sharply marked off from the blue, though dilatation of main arteries in all probability also plays a small part.

The reddening of the hand exposed to heat is a local reaction and independent of the central nervous system. For if a patch of skin is rendered anaesthetic by novocain and the whole arm immersed in hot water as before for three minutes, the anaesthetic skin cannot be recognized by its colour. Thus reddening of the human skin on exposing it to moist heat at 45-47° C. is a local reaction, and due, mainly at all events, to arteriolar dilatation, the depth of skin colour is increased by simultaneous and independent dilatation of the capillaries and small venules.

Effect of Higher Temperatures.—This is tested by much hotter water in a test tube on small areas of skin previously cyanosed by venous obstruction. A bright red patch is then seen on a bluish surface, indicating arteriolar dilatation. Such heat produces pain and is followed by a spreading reaction. The distribution of this reaction suggests its reflex origin, and this is easily shown if the test is repeated on anaesthetized skin. An anaesthetic area is reddened where the hot tube has touched it, spread to distant parts of the skin does not occur.

CAPILLARY PULSATION AS A NORMAL PHENOMENON

Amongst phenomena originally described by clinicians as physical signs of disease, and consequently regarded as essentially morbid, very many have afterwards been recognized to occur in perfectly healthy people. It would not be difficult to draw up an imposing list in illustration of this statement. It must be said that for the most part such phenomena appear in a more or less limited number of healthy people or in special physiological circumstances. Thus the "extensor response" in infants and "respiratory arrhythmia" in children, are normal. The "tache cérébrale" is the normal reaction of young and sensitive skins to stroking, so also is whealing of the skin in response to heavier or repeated stroking. Systolic murmurs are normal and almost usual over hearts accelerated by exercise, the "pulsus paradoxus," as originally defined, is the usual and physiological reaction of blood pressure to breathing in the resting subject. The erroneous categorization of such natural phenomena is brought about by a faulty habit of mind which is content to associate symptoms and signs with particular diseases, without attempting further to analyse causation, it is a postponed and more intimate study, a belated comparison of the disease with controls, the last in sufficient numbers and under varying physiological conditions, which brings us more correctly to interpret the manifestations in question.

It may not be precisely true to state that capillary pulsation is to-day generally regarded as a positive indication of reflux at the aortic valves, it is certainly true to state that this correlation between a phenomenon of skin or mucous membrane on the one hand, and a defective valve on the other, is the only clear impression in regard to the sign which is possessed by the majority of medical men. Yet, as may be shown, capillary pulsation as we witness it clinically is wholly unreliable as a sign of aortic regurgitation and depends more upon strictly local conditions than upon any change of general arterial blood pressures arising out of a damaged valve.

Distinct pulsation can be seen in the lip and facial skin of any normal young subject lying in a warm room. I have seen capillary pulsation so often in the face of out-patients that the list, expressed in terms of disease, has become entirely meaningless.

In the hands the pulsation is less frequent, though by no means rare. Frequently I have found it in my own fingers and in those of my friends especially so while sitting near a fire. It is much more frequently found in children and young adults than in those more advanced in years, its obvious connexion with warmth of the hand led me to search the influence of temperature systematically. The hand is immersed in water at 45-47° C. for three minutes, dried, and at once examined. Capillary pulsation is then generally to be seen in t. Thirty-nine subjects of ages varying from 17 to 84 were examined in this way. When tabulated the results show that there is no relation between the appearance of capillary pulsation and the pulse pressure, but there is an obvious, though not wholly constant relation to age. Those who range from 17 to 35 years display capillary pulsation most fully and with much uniformity in its degree. As age advances it becomes less evident, and many instances are found in which it is slight or absent. Capillary pulsation in the heated hand is evidently consequent upon a local change, and is inevitably attributed to dilatation of the blood vessels. The constancy of the reaction in young people, and its inconstancy in the more elderly, indicates that in the latter sufficient dilatation of the particular vessels involved to produce capillary pulsation does not occur on heating, and further suggests that those vessels are incapable of expansion. The idea is put forward that the appearance or non-appearance of capillary pulsation in the circumstances described may serve to test the condition of the vessels in question.

As to the vessels involved, the matter i ea y to te t in the case of the hand. Dilatation of the main arteries of the limbs plays little or no part. Thus if the whole arm be laid in a hot bath, with the hand or the fingers projecting above the water level, capillary pulsation is not induced in the unimmersed fingers although the volume of the radial and ulnar pulses may be noted to be increased. The area which it is necessary to heat in order to produce pulsation is very small. It is clear therefore, that the vessels involved are amongst the smallest which supply the skin. That those capillaries and minute vessels, which together yield skin colour, do not primarily determine pulsation is shown by the absence of the last from skin which is red in response to cold, and from the skin of elderly subjects in whom capillary pulsation fails to appear on heating for in the latter the skin may be well reddened by the heat. It is evident that the vessels determining the reaction are the arterioles of the skin.

It may be stated as a general law that when normal blood pressures prevail in the main vessels supplying an

* Being an abstract of the lecture delivered at University College Hospital Medical School on March 6th 1924. The lecture will appear in full in the next issue of *Heart*, together with appended notes on skin temperature by Sir Thomas Lewis in collaboration with Dr. E. P. Wolf of Chicago.

area of skin, a sufficient dilatation of the smaller vessels on the arterial side will always occasion capillary pulsation in the presence of open capillaries and venules. The latter qualification is necessary, for unless the skin has some flush of colour in it, pulsation will not be seen. The contrary statement, that a flushed skin will necessarily exhibit pulsation, naturally does not hold, for a flushed skin is brought about in one of several ways.

The examples which have so far been cited are all conditions in which vaso-dilatation, local or general, is not to be denied.

Further to illustrate the relation between capillary pulsation and dilated arterioles, small inflammatory lesions of the skin may be instanced. In young healthy men, capillary pulsation may be found confined to the immediate neighbourhood of small cuts, the vesicles of herpes labialis or acne pustules. There is a relation between perceptible throbbing of such lesions and the appearance of capillary pulsation in them.

The inhalation of amyl nitrite will produce capillary pulsation, sometimes vivid, in the lip and facial skin. Distinct pulsation can be seen in areas of bright erythema developing spontaneously on the cheek or neck of young women, in the artificially produced wheals in patients who display "urticaria factitia", in the skin of febrile patients and in the flushed skin of Graves's disease.

CAPILLARY PULSATION IN AORTIC REGURGITATION

Areas in which Capillary Pulsation Appears

The capillary pulsation of aortic disease may appear in any part of the skin of the body under suitable conditions. Thus it can be induced almost anywhere by friction or the application of heat. In free aortic regurgitation distinct pulsation is usually visible in the forehead and cheeks without touching the skin. In some cases it is so vivid that it may be visible at a considerable distance from the patient. More usually the pulsation is detected only after closer inspection. Such spontaneous capillary pulsation is more frequent in patients who are standing than in those who are lying in bed, it is rarely seen in skin other than the facial. The finger tips and palms of the hand show a similar pulsation from time to time, especially when they are held aloft, and I have seen a few instances in which the spontaneous flush was visible over the whole hand, back and front. It is customary to search for capillary pulsation with the aid of a glass slide, the skin or mucous membrane of the lip being pressed until it pales a little. This procedure often discovers pulsation in a surface which otherwise maintains continuously a full colour. When a glass slide is used, capillary pulsation is often found in the hand, though by no means so frequently as in the face. In the hand the pads of the fingers and thumb show it most frequently, and after these the thenar and hypothenar eminences, the skin above the nail bed, and the remaining palmar surfaces of hand and finger in approximately this order. Beneath the nail itself it is not so common or so vivid as in other parts—hardly more common, in fact, than upon the dorsum of the hand. Clinicians use the nail as a rule they do so because the nail substitutes the glass slide, it is not a very favourable place in which to display pulsation.

Broadly speaking capillary pulsation occurs only in those parts of the unstimulated skin which are ordinarily exposed to the atmosphere and are particularly vascular—namely, in the skin of the face and hands. The main exception to this rule is the foot. Here pulsation, though far less frequent than in the hand, and still less frequent than in the face, is not very uncommon.

Relation between Capillary Pulsation and Pulse Pressure

That an increased pulse pressure is not essential to the production of capillary pulsation is shown by the following observations.

Capillary pulsation in a case of arterio-venous aneurysm with high pulse pressure persists when the pulse pressure is restored to normal limits on cutting the 1-V anastomosis out of the circulation by compressing the artery running to it (Lewis and Drury).

If a group of aortic cases is examined in the ordinary way it quickly becomes evident that a relation between the magnitude of the pulse pressure in the brachial artery and the degree of capillary pulsation in the hand cannot be demonstrated satisfactorily.

In cases of aortic regurgitation with high pulse pressures capillary pulsation persists in the hand, although the pulse pressure is restored to normal limits by means of a compressing armlet over the brachial artery.

In a case of aortic disease with signs of obstruction in the innominate artery, the pulse in the arteries of the left arm was water-hammer in character, the blood pressure being 149 (systolic) and 35 (diastolic). The pulse in the right arm was small and anacrotic in type, and the blood pressure 104 (systolic) and 48 (diastolic). Thus the pulse pressure was 114 in the left arm and 56 in the right arm. A firm stroke on the skin of each forearm was followed by a red line in which capillary pulsation was to be seen.

When, however, the remaining conditions are suitable to induce capillary pulsation, then this pulsation varies in its degree with the pressure amplitude of the pulse wave. For it is found that when the heated hands of normal men and aortic cases are compared, capillary pulsation is in the rule more intense in the aortic series. It is also the rule that the pulsation becomes more intense and widespread as the pulse pressure increases. Discrepancies occur in ol patients and it is evident that in such there is a variant similar to that found in elderly but normal subjects—namely, an arteriolar factor. If we assume that only two factors come into play in producing capillary pulsation—namely, pulse pressure on the one hand and the state c the arterioles on the other—and if we further assume that arterioles are brought to a sufficiently constant state of dilatation by heating the skin in all healthy young subjects, and in almost all young aortic cases, while it fails to do so in a goodly percentage of older subjects, then we seem to possess an adequate explanation of capillary pulsation as this is displayed by the heated skin.

Skin Temperature and the Arteriolar Factor

The presence or absence of capillary pulsation in a particular area of skin is closely related to the temperature of that skin. I have noted no exception to the rule that, other conditions being equal, capillary pulsation in free aortic regurgitation is best displayed by areas of skin which feel warm or hot. Spontaneous capillary pulsation does not occur in the skin of the face unless the area showing it feels warm or hot, the warmest part of the face will show it to best advantage, and this is usually the cheek or forehead. The lobes of the ears are often cool or cold, in such, little or no pulsation can be elicited until they are warmed. I could cite a score of cases, examined clinically, in which these broad rules hold true. More precise observations on the relation between skin temperature and capillary pulsation in aortic regurgitation have been made by means of a thermo-electric couple. They amply confirm the clinical observations. It is clear from these observations that unless the presence or absence of capillary pulsation is correlated with the temperature of the part it can have little or no value as a sign. External temperature influences the appearance of capillary pulsation by widening or narrowing the arterioles of the skin. This relation to external temperature is easy to display in cases of free aortic regurgitation. Soak the hand of a young subject for three minutes in baths of water at suitable temperatures and almost any grade of capillary pulsation can be produced. It suffices to warm or cool surfaces of quite small extent locally to modify the degree of pulsation. In aortic cases, as in normal subjects, capillary pulsation is particularly conspicuous where the skin is reddened by small lesions such as cuts on the chin or in acne papules. The temperature of these little inflamed areas is higher than that of the surrounding skin. Temperature affects capillary pulsation in aortic disease as it does in normal subjects. The comparison in its detail serves to demonstrate that a factor governing the degree of capillary pulsation, as we see it in aortic disease, is the condition of the arterioles. The relation between the skin temperature and the condition of the arterioles is open to

two interpretations On the one hand, a change of external temperature, by changing that of the skin, will alter the size of the skin arterioles, on the other hand, a warm or cold skin may be due primarily to the state and distribution of the arterioles It may be concluded that in any given case of aortic regurgitation, those areas which present capillary pulsation are areas in which the arterioles are dilated as compared to those of areas which show none The question now arises, Are there areas of active arteriolar dilatation in aortic disease? It has been already shown that in very distinct pulsation of the fingers, the pulsation may be independent of pulse pressure, and is then due presumably to abnormal widening of the arterioles Further evidence may now be examined

Skin Colour and Temperature in Aortic Disease

Other things being equal, the colour and temperature of the skin are controlled by the state of the arterioles widening of which flushes the skin if the capillary and venule tone is normal or low In a case of free aortic regurgitation a skin of normal colour and warmth indicates that the flow of blood through it is normal in amount, but if the mean arterial pressure were below normal in the same case, there would be strong presumptive evidence that the arterioles were dilated It is not easy to assess the mean pressure in aortic cases It is probable that when the diastolic pressure is lowered by an amount equal to the rise of the systolic pressure, the mean pressure is reduced In a case of aortic disease we should expect the colour and temperature of the skin to be higher than normal only when mean blood pressure was normal or above normal A skin warmer and more flushed than normal would certainly indicate widened arterioles in the presence of a low mean arterial pressure

Now the traditional description of skin colour in aortic disease is summed up in the word "pallor" This description was written before subacute or chronic infective endocarditis—a disease commonly associated with free aortic regurgitation—was recognized, otherwise it never had been written so It has for some while been clear to me that aortic regurgitation is a defect in which facial pallor—and it is facial pallor that is understood—does not occur unless it is complicated by infective endocarditis, active rheumatism, or some other recognizable cause of anaemia since I have learned to diagnose the more obscure forms of infective endocarditis I cannot recall, amongst very many hundred cases of chronic aortic regurgitation, a single instance of unusual pallor of the face in which that pallor could reasonably be attributed to low mean pressure in the arteries The facial colour in those who suffer from uncomplicated regurgitation is normal or it may be heightened In an out-patient department the facial colour in cases of aortic regurgitation is conspicuous, if it be conspicuous at all, by its redness and by the arterial tint of this redness It is usual to see spontaneous capillary pulsation in the forehead and cheeks of these standing patients and spontaneous capillary pulsation is seen only when the part is flushed, at the least in systole The heightened colour is perhaps, less conspicuous in patients long in bed, it varies much in one and the same case from time to time

Observations have shown that the average facial temperature is 1° C higher in a group of aortic cases than in a group of controls

There is a not infrequent type of aortic regurgitation in which the flush is intense and the face and neck are *scarlet and hot The patients themselves feel the heat and often* the throb of the skin It is in such that capillary pulsation is seen at its height *Frequently in these cases the superficial* temporal arteries are seen to be tortuous and prominent *These wide and tortuous vessels are usually,* and often erroneously, regarded as the products of disease—arteries which have lost their power of elastic recoil They are common both in young and in elderly cases of free regurgitation, and a simple inquiry proves them capable of changing size They shrink often to invisibility in response to an ice-bag applied for a few minutes, they dilate again readily with heat Thus, while in free aortic regurgitation there is usually evidence, conveyed by warmth and colour, that the facial arterioles are dilated, there is often further evidence that the main arteries may be simultaneously involved

Cyanosis and Arteriolar Dilatation

Dilatation of the arterioles leads other things being equal, to a quicker blood flow through the capillaries and venules of the skin, and tends in consequence to maintain the blood of these small vessels in a more oxygenated state, since less haemoglobin is reduced by the tissues in its passage through them Thus arteriolar dilatation is opposed to cyanosis Observations have seemed to show that congestion of the arm of an aortic case showing capillary pulsation in the fingers leads to less skin cyanosis than does similar congestion of a normal arm which shows none, and that those parts of the hand which originally show distinct pulsation may become least cyanosed when congested artificially But a few exceptions have been noted and have remained unexplained Artificial congestion of the head, in which the chief dilatation is suspected, has not been attempted but clinical experience shows the comparative rarity of cyanosis of the face in free aortic regurgitation, even though there is associated congestion of the venous system

The cumulative evidence proves that capillary pulsation in aortic disease is intimately connected with the state of the arterioles, it also proves that in the areas of skin which show capillary pulsation the arterioles are dilated by comparison to those of skin failing to show pulsation It is more accurate to regard capillary pulsation, even in aortic disease, as a sign of arteriolar dilatation than as a sign of high pulse pressure The cause of the limited vaso-dilatation described remains obscure, to discuss its mechanism, to speak of it as possibly compensatory, would lead us into what, for the moment, would be almost pure speculation

THE VESSELS INVOLVED IN CLINICAL "CAPILLARY PULSATION"

Usually it has been assumed that "capillary pulsation,' as we witness it clinically is an affair of the capillaries themselves *latterly, however, doubt has arisen, since it* has become known that the capillaries are not solely responsible for skin colour, *but that the minute venules which* collect the capillary blood and the subpapillary venous *plexus into* which the last empty, contribute materially The capillaries probably contribute in the skin of the hands and feet and in the mucous membrane of the lips, the venules play the largest part in the whiter skin of the limbs and trunk and in the skin of the face The precise extent to which capillaries on the one hand, and minute venules on the other affect the skin colour is still uncertain though it becomes more and more evident that the venules are chiefly responsible Boas has suggested that possibly the venules may be largely concerned in producing so-called "capillary pulsation" There has been some divergence of opinion as to the occurrence of pulsation of the capillaries, but, in extensive observations I have never failed to see pulsatile capillary flow or pulsatile expansion of the capillary loops in any area examined microscopically in which pulsation of colour was visible to the naked eye and in which microscopically the blood flow in a reasonable number of capillaries could be detected There is little or no doubt in my mind that the clinical pulsation of aortic disease is always associated with pulsatile flow in the capillaries, wherever it may occur But although the contribution of the capillaries to clinical pulsation must be material, I am in agreement with Boas that it is not the sole factor, and I am able to substantiate his suggestion that the venules also contribute having actually witnessed pulsation in these on many occasions

Involvement of Veins and Venules in the Pulsation

Pulsation of veins in aortic disease is most readily to be seen in the small venules lying superficially in the skin of the cheeks and nose, these veins swell in systole When, under the microscope, the direction of the flow can be determined I have seen no exception to the rule that the sharp pulsatile movement is in the direction of the current, suggesting its peripheral origin Observations have also

been made on skin areas from which the horny layer has been removed by blistering They leave no doubt that "capillary pulsation" is contributed to by the venules, and that often the part played by the venules is no small one, especially in areas where capillaries are relatively scanty, as in the cheek and forearm I have seen no evidence that the arterio-venule anastomoses described in the deeper layers of the skin by Sucquet play any part in inducing clinical capillary pulsation The evidence as it now stands seems to warrant us in concluding that in all instances of clinical capillary pulsation the capillaries are directly involved, and that the rhythmical change of colour, seen macroscopically, is due to pulsatile flow in the minute vessels of the skin, involving always the capillaries, and, perhaps, always involving through these the collecting venules and the venules of the subpapillary plexus

SUMMARY AND CONCLUSIONS

1 When the human skin is soaked in water at temperatures of 45° to 47° C, the capillaries and venules on the one hand, and the arterioles on the other, independently dilate These reactions are both local reactions When higher temperatures are used, a reflex dilatation of the arterioles is observed in addition, and this spreads beyond the heated area

2 Capillary pulsation is a physiological phenomenon, occurring in the skin or mucous membrane whenever the arterioles are sufficiently dilated, providing that the pulse pressure is normal and capillary and venule tone is not increased A sufficient dilatation to produce pulsation is usual in the arterioles of the face of young people at room temperatures of 17° to 20° C Pulsation is brought about in the hand by immersing it in water at 45° C, providing that the arterioles are capable of dilating, it is usual in association with the vaso-dilatation of local inflammatory lesions, however small these may be, it occurs in the facial flush of amyl nitrite, and in other forms of bright erythemas of the skin

3 If, in the presence of normal or heightened pulse pressures, capillary pulsation in the hand is not produced by soaking the hand in water for three minutes at 45° to 47° C, the arterioles are probably incapable of dilating

4 In aortic regurgitation, capillary pulsation is often independent of high pulse pressure, though the last increases pulsation when this is present In patients suffering from the named valvular defect, sufficient dilatation of the arterioles is again the chief determining cause of capillary pulsation The state of the arterioles not only chiefly determines its presence or absence, but *a fortiori* it determines its varying prominence in different skin areas

5 The colour of the facial skin in uncomplicated aortic regurgitation is mistakenly described as pale On the contrary, the facial skin is if anything, more flushed and warm than normal In aortic disease in which the mean blood pressure is at or below normal, the arterioles of the face can usually be shown to be wider than normal, this arteriolar dilatation is often associated with arterial dilatation sometimes though not usually, the flushing of the face with arterial blood is so excessive that the patient is conscious of heat and throb in the face The skin of the hands is affected like the face, but in lesser degree

6 Arteriolar dilatation is opposed to cyanosis

7 It is more accurate to associate capillary pulsation with dilated arterioles than it is to associate it exclusively with any other causative factor and this statement is independent of the clinical diagnosis of the case

8 It is probable that in all cases of macroscopic "capillary pulsation" the phenomenon is due to the pulse passing from the arteries into and through the capillaries, to involve in greater or lesser degree the minute skin venules The visible pulsation is shown to be due mainly, as Boas has suggested to pulsation of the venules, at all events in the skin of the face, trunk and upper parts of the limbs Pulsation of the capillaries themselves contributes little in these areas it probably contributes more in the skin of the palm and sole and in the mucous membrane of the lip

9 There is no evidence that pulsation is conveyed from arterioles to venules through the arterio-venule anastomoses originally described by Sucquet

A British Medical Association Lecture
ON
THE TREATMENT OF FRACTURES.*

BY

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FEW cases in practice cause so much care and worry as fractures The difference between the good and the bad result may mean so much to the patient Mal-union is so permanent and so aggressively apparent that any sure and simple methods of avoiding the bad results are worthy consideration Of late years we have begun to recognize that the standard of result which it was our custom demand of ourselves in the treatment of fractures must be raised When, some years before the war, as the result an inquiry by the British Medical Association, it was realized that even in the larger teaching hospitals the late results obtained in the treatment of fractures of the lower limb, and particularly those of the femur, were far short of the ideal, an endeavour was made to revise our methods treatment and to set as our goal full functional restoration of the injured limb The stimulating examples of Sir Arbuthnot Lane on the one hand and Sir Robert Jones on the other in the operative and bloodless methods of treatment demonstrated that an almost complete restoration to full functional activity was possible in the vast majority of cases of fracture of bones of the extremities The development of orthopaedic surgery in America, with a more intensive study of fractures and their treatment, brought fresh light to bear on this subject, whilst the systematic control of treatment by x-ray examinations had a chastening effect on all who submitted their results to this acid and heartless test of surgical efficiency Finally, the experience of the war demonstrated that by systematic and concentrated effort a standard of cure never previously obtained was possible even in gross forms of injury How, then, are we to apply the accumulated experience of the last two decades to our treatment of fractures to-day? I propose to confine myself to fractures of the extremities, and particularly to the commoner varieties which one may be called on any day to treat

Treatment of Compound Fractures

No problem calls for more care or gives more anxiety than this The name of Lister must ever be associated with the treatment of the open fracture The principles which he propounded and the methods which he practised have been, and doubtless will be still further, improved, they can never be entirely superseded Whilst Lister directed attention to the primary factor in infection—the contamination of the wound by bacteria—and demonstrated how by means of chemical antiseptics the organisms which had gained entrance might be killed and further infection prevented, he was not unaware of the other important factor—the soil on which the bacteria might grow and multiply It was not until the later years of the war, however, that we began to realize the great importance of endeavouring to remove not only the bacteria but the damaged and devitalized tissues on which they may grow and feed and in which they multiply The resistance to infection of undamaged tissues is considerable, and the brilliant results which attended the primary excision of wounds during the latter half of the war demonstrated for all time the importance of removing the damaged tissue in dealing with all accidental wounds The method of wound excision is one which we should strive to apply to all cases of compound fractures in civil practice

From personal experience I can say that nothing in surgery has given me greater satisfaction than the result of bold and painstaking excision of the tissues exposed in the wound, followed by an immediate and complete closure Where the wound is large and ragged, as in so many cases of motor accident, etc, a complete excision may

* Abstract of a lecture delivered before the Northern Counties of Scotland Branch The lecture was illustrated by lantern slides.

be impossible Careful excision of all obviously damaged and devitalized tissue, and particularly the lacerated or bruised skin margins, will, however, often permit of a primary closure So vitally important is it to convert the compound fracture into a simple one, that I would be prepared to sacrifice the position of the bony fragments for a week or ten days to secure a primary union and a whole skin This attained, the problem is that of a simple fracture and the delay in adjusting the position of the fragments will be more than compensated for by the absence of suppuration and necrosis In a great many cases primary closure is impossible, but here again a careful excision of all damaged tissue, combined with an antiseptic cleansing of the wound and of a wide area of surrounding skin, is of the greatest importance The use of a Thomas s splint will greatly facilitate the after treatment, and the frequent instillation of eusol into the deeper parts of the wound by means of Carrel's tubes will maintain the antisepsis and dispense with frequent dressings

Treatment of Simple Fractures

This problem is for many medical men a very difficult one to decide Knowing full well the teaching of the two extreme schools—the one insisting on as perfect reposition of the fragments as possible and the fixation of the limb until union has taken place, the other caring less for the bony alignment but all for the functional activity of the surrounding muscles and adjoining joints—what is the practitioner to do in the individual case? Common sense dictates that other things being equal, the nearer the fractured ends are brought to their original position the better will be the ultimate result Our ideal, therefore, will be to get the most complete restoration of the alignment of the bone with the least disability of muscular and articular function At once we recognize that there is an essential difference in the primary functions of the upper and lower limbs In the upper limb mobility, free both in range and character, is the essential for the vast majority of individuals In the lower limb painless stability takes first place In the upper limb, therefore, anything which will tend to interfere with the free movement of muscles and joints, be it adhesions contracture or excessive bone formation must be prevented, and measures to avoid such crippling processes must have first claim in our scheme of treatment In the case of the lower limb restoration of the correct length and axis of the limb are the essentials for stability and no consideration for muscle or joint function important though these be, must be allowed to compromise our efforts to restore correct length and axis

A consideration of the factors which produce the displacement of the fractured ends of a bone or bones will give us a clear indication for our line of treatment in the individual case In certain fractures the displacement is the direct result of the violence producing the break in the bone—for example in Colles's fracture fracture of the lower end of the humerus, in Pott s fracture and in fractures of the bones of the leg produced by direct violence It is obvious therefore, that as considerable force was required to produce the displacement an almost equal and opposite force will be required to reduce it In such cases *immediate forcible reduction under a general anaesthetic* must be the first essential of our treatment The neglect of this simple rule is, I think, the most fertile source of mal union No amount of massage or movement will ever remedy the disability of an unreduced Colles s or still less a Pott s fracture In the other type of fracture of which that of the shaft of the femur is the best example the displacement is due to the tonic contraction of the muscles which pass parallel to the bone and are attached to the adjacent bones above and below In such cases some form of extension which will tire out and stretch the offending muscles is required If the muscular pull is suitably counteracted and correct length restored the only other factor of moment in maintaining displacement will be gravity and this can be countered without difficulty

Open Operation —The method of treating simple fractures by open operation with the application of some form of internal splint has been strongly advocated by Lane, and in his hands still gives results of a uniformly high standard It is however, not the method for general use and equally good results can be obtained by bloodless and more conservative measures in all but a limited number of cases Operation should, in my opinion, be reserved for the following classes of cases

1 Those in which, owing to the interposition of soft parts the fragments cannot be brought into close apposition

2 Those in which repeated redisplacement occurs after reduction

3 Certain fractures into joints in which a fragment cannot be controlled and interferes with joint function

4 Cases of non union of more than six months' duration

No open operation on a fracture should ever be attempted unless by one who has complete confidence in his aseptic operative technique A bad result may be made a disaster by an injudicious operation under imperfect conditions

Plaster-of-Paris —The sphere of usefulness of the plaster bandage in the treatment of fractures is not sufficiently realized by most practitioners There is a widespread idea that the application of plaster contravenes all our modern ideas of massage and movement as an essential part of treatment This, however, is by no means the case, and by the application of plaster we can, in many cases, attain as by no other method that primary immobilization in the corrected position which is the secret of the relief of pain and later, by splitting the plaster case on either side, we have more accurately fitting splints than can otherwise be obtained In place of an assortment of special splints or hastily improvised ones which can seldom be retained in good position without constant attention, we have in plaster the raw material for almost any splint we may desire and when applied we have the assurance that fixation, and with it comfort, has been secured The fracture *par excellence* for plaster fixation is that common and troublesome one, the Pott's fracture with lateral or backward dislocation at the ankle-joint Immediate reduction under a general anaesthetic is the first essential, fixation in plaster in the corrected position the second The criticism that dangerous pressure and ischaemia may result from subsequent swelling of the tissues round the ankle is not a valid one if the plaster is applied judiciously with ample cotton wool padding round the ankle joint I have never yet had cause to regret an immediate plaster fixation of this fracture, and all of us are aware of the deplorable result which failure to maintain perfect reduction entails So important is the maintenance of the astragalus in its correct anatomical position that I would not hesitate to leave the plaster undisturbed for three to four weeks if adequate supervision was not feasible At the end of this time the plaster case is split down both sides and retained as a splint and daily massage and passive movements at the ankle-joint instituted care being taken that no outward or backward displacement of the foot occur

Splints —As a general rule it may be stated that whilst in the treatment of fractures of the lower limb some form of splint is an advantage if not an essential in that of fractures of the upper limb splints may be dispensed with except perhaps during the first few days after the injury For the lower limb Thomas s knee splint is the most useful For simple fractures it is an advantage for compound one a necessity The extraordinary diversity of injuries to the lower limb encountered during the war for which Thomas s splint was used with such success demonstrated the value of this simple piece of apparatus For both the transport and extended treatment and nursing of the fracture case it has still no superior used by itself or slung to a Balkan frame with the addition of the Sinclair skate or of pressure pads it fulfil all the demands of treatment—namely fixation extension simple access and easy nursing Two large sized Thomas s splints with footpieces should be in every practitioner s house throughout the country

Fractures of the Upper Parts of the Humerus

For fractures involving any part of the upper two-thirds of the shaft of the humerus no special apparatus is required When this fracture is the sole injury and the patient is able to go about a bandage holding the upper arm to the trunk and a sling supporting the forearm, with the elbow

at an angle of 60 degrees, are all that is required If shortening persists after the first few days, a light weight (1 lb) dependent from strapping applied to the sides of the upper arm can be applied with advantage After the first week the body bandage should be dispensed with and active movements of the whole upper limb encouraged Massage should be employed from the very outset of treatment, but it is no substitute for active voluntary movement, which is the surest guarantee of a good functional result The profession owes a debt of gratitude to Mr J W Dowden for his complete demonstration of the value of early active movement in fractures of the upper limb When a fracture of the shaft of the humerus is one of several injuries which necessitate the patient lying in bed, we have found that extension with a Thomas's arm splint gives the best results As soon as the patient can sit up, however, this should be discarded in favour of a simple sling

Fracture of the Lower End of the Humerus

This, one of the commonest of fractures, illustrates another principle in treatment It is usually met with in children, and is frequently diagnosed, wrongly, as a posterior dislocation of the elbow or a separation of the lower epiphysis of the humerus (Incidentally, may I note here the rarity of the injury of separation of an epiphysis? For every one occasion on which this lesion occurs the bone will fracture on the diaphyseal side on nine) In the treatment of this fracture there are two pitfalls to be avoided—namely, (1) the backward displacement of the lower fragment may not be completely reduced, (2) an excess of new bone may form, and this may compromise the range of movement of the elbow-joint Complete reduction *under an anaesthetic* is the first requirement, the forearm being first forcibly hyperextended and then flexed at the elbow *Rest* in the position of full flexion is the second essential Too early or vigorous movement and massage may lead to excessive callus or ossifying myositis with some permanent disability It is better to leave the elbow uncovered whilst fixing it in acute flexion This may be done by a broad band of adhesive strapping applied round the forearm and upper arm, the limb being supported in a sling, the danger of a figure-of-eight bandage, which is so often used, is that the swelling which invariably follows this fracture may render the bandage a tourniquet and lead to an ischaemic paralysis This complication, I regret to say, has occurred in my own practice

Colles's Fracture

Reference has already been made to the essential of the treatment of this injury—forcible reduction under an anaesthetic, preferably by Jones's method Exception to this rule may be made in the old and feeble patient where the deformity is not excessive and the impaction firm In the vast majority of cases, however, reduction must be attempted For the first few days the patient's comfort will be increased by the wearing of a splint which permits of free movement of the fingers, thereafter a light bandage and a sling are all that is necessary, and from the first day massage and both active and passive movements should be practised

Fracture involving the Carpus

The chief disability liable to follow such fractures is a defective grasp owing to restricted dorsiflexion at the wrist Whether the fracture be an oblique one of the lower end of the radius or one of the scaphoid bone, the wrist should be put up with the hand dorsiflexed, this can be most conveniently done with a light plaster case which is later split down either side and used as a splint Where the scaphoid is fractured—and the injury is by no means a rare one—the anterior aspect of the wrist should be examined to make sure that there is not an associated dislocation of the semilunar, as unless a lateral *x*-ray photograph of the part has been taken this injury may be overlooked

The prognosis in these carpal injuries should be guarded and the patient warned that prolonged disability may result Not only is pain on certain movements liable to persist, but a curious rapid absorption of lime salts, with rarefaction of all the bones in the vicinity of the wrist, may occur with an associated weakness in the fingers and hand The latter may be a striking feature of the *x*-ray picture within a week of the injury It is too rapid to the atrophy of disuse, and most probably depends on a disturbance of the trophic nerve control of bone nutrition

Fracture of the Femur

No more difficult problem confronts the practitioner than this Can he hope to give, in the cramped conditions of the cottage dwelling, either the treatment or supervision which is necessary to attain the standard of result which we rightly demand? In the case of the young adult with the fractured shaft, I would say, No This class of case is one which requires institutional treatment if transport facilities are at all available Another problem is the elderly patient with fracture of the neck of the femur There is a somewhat widespread opinion that in this type of case bony union is unlikely to occur, and that, apart from rest in bed with sandbags to steady the limb, no special fracture treatment is indicated We owe chiefly to Whitman the demonstration that bony union with good function is possible in the great majority of these cases, provided certain definite principles of treatment are followed

If the patient be over 75 years of age and the fracture definitely impacted, it is probably wiser to leave it alone In almost all other cases, however, it is advisable to give an anaesthetic, disimpact if necessary, and put the limb up in a position of full abduction In this position the fragments will almost certainly be in apposition, and the trochanter resting against the pelvis will ensure immobility The limb and pelvis may then be put up in plaster, or a Thomas's knee splint applied and slung in the abducted position To maintain the abduction it may be necessary to apply a similar splint in the abducted position to the sound limb At the end of three months the patient may be allowed to get up with a walking calliper, which is worn for six to eight weeks If plaster-of-Paris is employed it is well to split the case and use the posterior shell, thus allowing of access to the skin and massage of the muscles The results of such treatment are most gratifying, and firm bony union is the rule

Fracture of the Shaft of the Femur

Some form of extension is essential, and various means of applying extension are available, each with its own advantages and limitations I would rather lay emphasis on certain points of importance common to all methods First, it is desirable that both the hip and the knee joints should be in a position of slight flexion Secondly, the normal anterior curve of the femur must be maintained, it is better to err on the side of exterior curvature rather than posterior Thirdly, the foot must be maintained in a vertical axis, and at right angles to the leg

During the period since the war we have treated fractures through the shaft of the femur by means of direct extension by ice-tong callipers, the limb being suspended in a Thomas's splint with movable kneepiece The Morrison frame makes adjustment of splint and extension and moving of patient easy, and the suspension of the foot to the vertical footpiece by lint glued to the sole obviates all pointing of the toes and pressure sores above the heel Repeated *x*-ray photographs with a portable apparatus control the progress of the case The apparatus must be left on for from eight to twelve weeks, massage of the muscles being given throughout this time After two weeks in bed without any splints the patient is allowed up with a walking calliper, which he wears for four or even six weeks Thereafter ordinary walking exercise may be undertaken By this method firm union without any shortening should be attained, and whilst some stiffness of the knee usually remains for a few months, it ultimately goes, and a practically normal limb is restored

Other and perhaps simpler methods, such as that recently described by Hamilton Russell of Melbourne, may give equally good results provided none of the essential principles are traversed The mistakes most frequently made are allowing of backward bending at the seat of fracture and either some rotation or pointing of the foot Only constant supervision will prevent such errors, hence the necessity for institutional treatment in all but exceptional cases

One of the best learnt lessons of the war was the painless transport of the case of fractured femur We appear

to be in some danger of letting slip knowledge and experience so hardly won The Thomas splint with fixed extension from the boot—best obtained by driving a long nail or pin through transversely between sole and upper, attaching cords or tapes to its ends and tying them round the end of the splint—should be the standard method for transport

Fractures of Bones of Leg

The oblique fracture through one or other of the tuberosities of the tibia into the knee-joint is one of those for which I think operation with nailing is indicated The fracture of both bones in the lower third of the leg is one requiring considerable care, both in deciding the line and watching the course of treatment We all know the tendency both to mal union and non-union in this situation So much is this the case that many surgeons now treat all these cases by operation, with or without the application of some internal splint In this fracture reduction under an anaesthetic with temporary fixation in plaster has much to commend it If treated by splints—as for example, by the widely used box splint—elevation of the limb *without* flexion of the knee will be found a useful aid in preventing the forward projection of the lower end of the upper fragment of the tibia which is often so troublesome Where there is considerable comminution of the tibia an accurate reposition of fragments is seldom possible Union with good function will usually be secured, however, if the true alignment of the limb is preserved At all costs a posterior sagging at the seat of fracture must be prevented

CONCLUSION

I desire to lay emphasis on the following points

1 In the case of most fractures it is necessary to *reduce* the fracture under a general anaesthetic

2 In upper limb fractures early active movement is desirable (Fractures in the immediate vicinity of the elbow form an exception to this rule)

3 In fracture of the lower limb restoration of the correct alignment and length of the limb take precedence over all other considerations

4 In certain fractures, notably Pott's fracture with partial dislocation, immediate fixation in plaster gives the safest assurance of a good result

5 In compound fractures excision of the wound with primary suture should be attempted whenever possible

THE EARLY TREATMENT OF FRACTURES*

BY

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THE fracture of any bone results in damage to many small blood vessels and lymphatics, frequently to muscle fibres, muscle sheaths and tendons, not seldom to joint capsules, also many small nervules and end-organs are involved, either directly from the original trauma, or indirectly from pressure

The bruising of the muscles and tearing of the blood vessels and lymphatics result in painful muscular spasm and rapid infiltration of the tissues with blood and lymph This is usually so extensive that the normal circulation of the limb, below the injured part is more or less affected with consequent swelling and oedema and it is undoubtedly the tension in the tissues that causes much of the pain Indeed when a fracture has occurred a vicious circle is set up in which one can see the injury giving rise to effusion effusion causing pain and spasm of all contractile tissues voluntary or involuntary spasm of blood vessels, etc, preventing adequate drainage engorgement causing further irritation, and this again in its turn causing further muscular spasm

It is here that the teaching and results of physiology are invaluable, as they show that certain electrical currents should help (1) to accelerate the removal of the excess of fluid accumulated (2) to secure more rapid reduction of the hypersensitivity of the nerve endings, (3) to bring about abolition of spasm, whether in muscles, blood vessels, or lymphatics

Physiological Considerations

With the passage of a direct current through the body, certain effects take place known technically as cataphoresis, anelectrotonus, catelectrotonus, polarization, etc, and a brief consideration of these effects is necessary in order to realize the rationale of the treatment I am about to describe It will also be necessary to consider the changes that occur in the normal electrical condition of muscle when this is injured I will endeavour to do this as non-technically as possible

Cataphoresis—When a current passes through a conducting medium which is fluid or semi fluid a movement of the fluid takes place from the positive towards the negative pole Experimentally this can be easily demonstrated by placing a porous partition in an electrolytic cell, then after the passage of a current, the fluid will be seen to be higher on the side of the cathode thus indicating a definite transportation of fluid In this well known phenomenon we have then an electrical means of assisting in the removal of the accumulated excess of fluid present in any injury, and, on this ground alone it would be justifiable to employ the direct current in the treatment of fractures or other injuries

Anelectrotonus and Catelectrotonus—It will be remembered from physiological days that if a constant current is passed through a portion of the nerve of a muscle nerve preparation, and then a second exciting current is applied as a stimulus to the nerve there is a considerable reduction of muscular response when the stimulus is applied in the neighbourhood of the anode and a considerable increase in the response when near the cathode The reduction of response when the stimulus is applied in the neighbourhood of the anode is due to a lowering of the excitability of the nerve below the normal and is maintained the whole time the current is running Here, then we have a well known effect which can be made of use in reducing the hyperexcitability of injured nerve endings, provided we take pains to prevent sudden increase or fall of the strength of the current provided also the current used is small and made to enter over a wide area. Without these precautions false cathodes will be formed and undesirable ionic concentrations take place. With the reduction of excitability of nerve endings and the transportation of fluid away from the injury we shall have successfully taken the first steps in breaking the vicious circle referred to above

Demarcation Currents of Injury—Hermann has shown that when a muscle is injured the injured portion is electro-positive to the uninjured parts—that is there is a current *within* the muscle from the injured area to the uninjured area. If now we consider a muscle such as the biceps injured near its insertion say, as the result of a fracture of the lower third of the humerus this portion of the muscle—namely, the injured or excited portion—is electro-positive to parts of the muscle nearer the origin Now it must be remembered that this condition is the exact electrical condition that takes place when a normal muscle commences to contract, and from such a condition the wave of contraction proceeds It is therefore easy to understand why in fractures muscular spasm is such a prominent feature If we apply the positive pole of a direct current over or just below, such an injury we should tend to increase this electro positivity and thereby increase or at any rate not diminish, the muscular spasm present as the result of the original injury If, on the other hand the area of application of the current includes the whole of the muscle we shall tend to make the condition in the muscle iso-electric and with this not unreasonably expect diminution of excitability and a tendency to the disappearance of spasm. This I believe what actually occurs during the treatment I am about to describe to you.

Polarization Temperature and other Effects—When strong currents are employed polarization occurs between the sheath and the conducting fibre in a medullated nerve, resulting in hyperexcitability instead of the desired hypoexcitability and it should be guarded against by the use of very weak currents. The passage of any electrical current through a conducting medium results in the production of heat Now Gotch has shown that, within physiological limits both in skeletal muscle and nerve excitability is diminished by raising the temperature and increased by lowering it. Any increase therefore of temperature occasioned by the passage of the direct current is likely to act in a direction which is useful and certainly not prejudicial. It is doubtless due in part, at any rate, to this

* A paper read before the Guildford Division of the British Medical Association on January 17th 1924. (Abridged.)

effect, that the beneficial results of diathermy in recent injuries, as pointed out by Turrell, occur I do not consider that ionization of the interpolar path plays an important part, I prefer to lay more weight upon the other reasons I have given

On physiological grounds, therefore, benefit should be obtained from the direct current if used (*a*) with very weak anodal currents, (*b*) with a distant cathode, (*c*) with a wide surface of even entry, such as provided by water, (*d*) with the positive pole more than covering the whole of any muscles involved in the original injury

Comparative clinical experiments were made with the use of warm baths only, with diathermy only, and with the cathode instead of the anode, and the results of these experiments afford confirmation of the true beneficial physiological effects of the anodal current—the most striking being a case of a man who injured one ankle, which rapidly recovered with anodal galvanism, and who, a few days later, injured his other ankle, which was in its turn treated with the anode and the cathode applied to the recovered ankle, this latter rapidly became painful and swollen again Similar results were obtained in many other cases, clearly indicating that *different results are obtained with different polarities*, and that the effects obtained are not merely counter-irritation effects due to the effect of the hydrogen or hydroxyl ions, and that the anodal current is definitely more sedative and soothing than the cathodal Indeed, the clinical experience of the various methods tried are in striking conformity with the simple physiological facts, and it has been found that, unless the four criteria set out above are complied with, unsatisfactory results are obtained One exception should be made in the case of diathermy This current is, up to a certain point, as successful as the direct current, but after this point is reached, there appears to be a weight of clinical evidence in favour of the direct current

Clinical Results

It is unnecessary, I think, to emphasize the fact that the daily application of a particular electrical current can only form one part of the treatment of any injury Rest, position, splinting, movement, remain of prime importance, and if not properly carried out, easily counterbalance the beneficial effects of early electrical treatment I hope, however, to show that, by the use of the anodal galvanic current, the whole course of treatment of a fracture becomes easier and more satisfactory

I have now had experience of 758 cases of fractures and injuries treated by this method I propose, however, to present a somewhat detailed study of 150 of these cases I have selected this group in order to be able to compare them with the grouping made by the Special Committee of the British Medical Association Although I shall confine myself to this special group, I desire to emphasize that this method is equally applicable to cases of bruising sprains etc

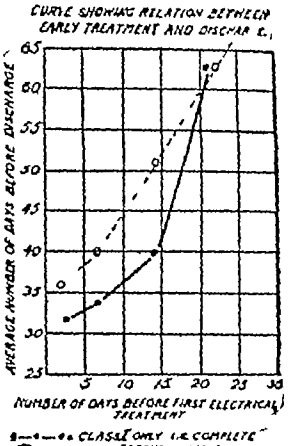
The distribution of these 150 cases is as follows

Fractures*	112
Compound fractures	7
Greenstick fractures (ulna)	23
Fractures into joint	8
Total	150

* This group includes simple comminuted fissured and impacted fractures

Before any fracture can be classified as a complete recovery, there should be (1) complete freedom from pain (2) full power, (3) full movement (4) good cosmetic result, (5) full working ability—namely endurance With this as a standard, it is possible to classify and allocate the cases according to the degree to which they approach complete recovery Of the 150 cases 108 could be considered as complete recoveries and 33 with only one of the above five points defective The remaining 9 showed less satisfactory results, usually as regards power and endurance

If the effect of the electrical current is really more beneficial the sooner it is made use of after an injury, then it would be reasonable to expect that the longer the time between the injury and the first electrical treatment, the longer the case would take before discharge It has been possible, owing to the recent inauguration of this treatment, to include in the list a number of cases whose electrical treatment did not commence until some considerable time after the injury, and the accompanying graph illustrates the rapid rise in time before discharge is possible when more immobilizing methods are employed



In the report of the Fractures Committee of the British Medical Association tables are given showing the average number of days of incapacity for various types of fractures The Committee divided the cases into two groups—one under 15, the other over 15 I have therefore grouped my cases in a similar way for the purpose of comparison

In the following table the average number of days of incapacity of the over 15 group are shown in comparison with similar figures for the Royal Air Force and from the British Medical Association's Fractures Committee's report

Type of Fracture	Cases treated by Electrical Method		R A F 1920-1-22.		B M A Fractures Committee's Report	
	No of Cases	Av No Days In capacity	No of Cases	Av No Days In capacity	No of Cases.	Av No Days In capacity
Humerus	10	55	35	64 4	92	116
Radius and ulna	24	41	33	64 0	64	1 4
Colles's fracture	25	38	157	34 3	34	120
Tibia and fibula (shafts)	15	51	30	135.2	673	187
Lower epiphysis (Pott's fracture)	11	49	85	47 9	269	166
Total	85	45	349	69.3	1 072	172

I am somewhat at a loss to explain the much higher average duration of incapacity shown in the British Medical Association report than in the R A F experience or in my series, and feel that, in part at any rate, it must be due to some factor not operating in the other two series Even making every allowance for the much larger numbers of the Fractures Committee, since my average is based upon the functional ability of the patient to do his work, often a heavy manual labourer, and includes many old people of both sexes, it will be agreed that my figures are at least as much below the usual experience as those of the Fractures Committee are probably above it, and compare favourably with those of the R A F, which are derived from a young and healthy male population *

Relief of Pain.—Any statistical inquiry as to relief from pain after a particular treatment is obviously open to objection, as one is entirely dependent upon the patient's own statement But the value of the patient's statement may be enhanced by carefully worded questions which avoid any suggestion of relief To ensure this all cases were asked, "Were you worse after the electrical bath?" or similar questions One hundred and forty-three claimed definite relief after the first treatment, four had two or three treatments before any relief, three had no relief

Technique

Electrical Treatment.—In the physiological section of this paper, reference was made to certain essentials if the direct current was to be successfully employed It is necessary to

* The Medical Department R A F states 'Possible factors which may have an influence on the average duration per case are (1) For code purposes Pott's fracture is included with fracture of fibula (2) We discharge cases to light duty to attend for treatment This shortens the duration per case (3) Fractures of tibia and fibula combined are usually of a severe nature in the R A F—result of crashes etc—and possibly tend to take longer than cases in civil life

repeat these criteria, as they largely determine the success of the treatment

(*a*) Weak currents
(*b*) The indifferent electrode far from the seat of injury
(*c*) A wide and even surface of entry for the current
(*d*) The entry of the current to extend to healthy tissue on the central side of the injury

Let me take as an example a transverse fracture in the lower third of the humerus An arm bath (Schnee pattern) with tap water of about 104° F is prepared sufficiently deep to cover the whole forearm and into this the arm is lowered, a piece of jaconet clipped on to the sides of the bath being used, if required, as a cradle of support A large piece of cotton wool is now taken of sufficient size to reach from the shoulder down to the water and all round the arm. This should be as wet as possible, and kept wet with warm tap-water during the treatment. As very small currents are to be used the other hand or foot in a bath can form the other electrode. Two electrodes—the one going into the arm bath, preferably of zinc—are connected to a source of direct current This current may be obtained either from a pantostat or similar machine, or from one of those apparatus that reduce the main current safely by means of water resistance, such as the ionostat (Watson) or galvanoset (Medical Supply) the galvanic apparatus consisting of a number of dry cells definitely does not work so suitably as the water resistance type, this latter having the advantage of being able to give small currents smoothly Great care should be taken to test the polarity before turning on the current The current is now very slowly increased to one milliampere. In cases where there is much bruising, etc, the current should be even less than this. After five or ten minutes the current may be slowly increased to 2 or 3 ma. The rheostat is now left even if the current slowly increases by itself to 5 ma, but it is not allowed above this amount and if there is no automatic increase it should be reduced to about 1 5 ma. At the end of half an hour the limb is carefully lifted on to a pillow and dried very gently with hot towels. Then glucokinesis is given. For a full description of this method of soft strokings, Dr J B Mennell's book should be consulted. The injured limb is now resplinted by an appropriate form of splint that avoids drag or muscular spasm The electrical treatment should commence as soon after the initial injury as possible and should be given every day In severe joint injuries my practice is to give this treatment twice a day for the first few days.

Splinting.—The method of splinting employed is most important and it will be found that after the electrical treatment it will usually be unnecessary to provide for any strong extension or counter pressure as with relief of spasm obtained by the anodal galvanism this is not required. For support I rely mainly on large quantities of cotton wool, and the necessary rigidity I am often able to obtain by means of corrugated brown paper or poroplastic but each case must be judged on its condition, and where necessary the usual splint employed I should like once more to emphasize the fact that the early abolition of muscular spasm pain and swelling provides one with much greater freedom of treatment than when any movement is accompanied by severe pain. Also, under these favourable conditions counter pressure can be secured in the majority of cases by means of the resiliency of additional pads of cotton wool.

Reduction under Anaesthetics.—Anaesthetics for fractures are now much less often employed either in the casualty or electrical department of the Royal Free Hospital, unless impaction or some similar indication calls for their administration When this is necessary our endeavour is to secure that the patient has an electrical bath both before and after the anaesthetic and in no single case have I found the benefit obtained by the subsequent manipulation necessary for the electrical treatment. Further than this reduction is generally facilitated by the previous electrical treatment

Subsequent Stages of Treatment.—The anodal baths and glucokinesis are continued daily until all pain and nearly all swelling and discomfort are gone, small doses of passive movements à la Mennell being gradually added When passive movement is good and the condition of the limb is satisfactory it is immersed in a similar way to that used for the anodal current and a very small sinusoidal current is applied this must not be sufficient to contract the muscles and should only give a feeling of ants running over the skin After some few treatments, more or less according to each case, the current is then gradually increased to ordinary strength and again later this current is given surging During this progress of the electrical treatment the movements are passing from passive to supported active and to active, and from active to active with resistance By suitable arrangement of water resistance, the Morton Smart (or Bristow) coil can be substituted for the sinusoidal current

Bony Union.—A number of skiagrams have been taken with a view to studying the effect of the current on regeneration of bone and callus formation, and though it is early yet to claim it I am left with the impression that reunion whether of bone with bone or epiphysis with shaft takes place in a more satisfactory manner than in other procedures I am indebted to Mr Ulysses Williams for his assistance in the interpretation of the skiagrams of my series of cases and he considers that there is strong preliminary evidence that the formation of provisional callus is considerably reduced by this method and we are making further investigations on these lines

Treatment of Cases not Showing Rapid Response or Smooth Progress to Recovery.—It occasionally happened in the early days of my work with this method that even in cases treated within a few hours of their original injury the anodal bath not only did not bring relief but increased the pain These cases belonged to two classes—one with associated acute tenosynovitis or synovitis and the other with detached splinters of bone The former class we have now almost abolished by methods of reducing the current strength very considerably even to less than 1 to 2 ma The reason is, I think, that the lymphatic channels of the synovial membranes are very small and if there is a strong cataphoresis movement set up they become choked instead of cleared The class with pain from detached splinters are not benefited by any change in current or technique of administration, but are definitely relieved if great care is exercised in searching for a position of comfort when reapplying the splint, some almost inappreciable movement being sufficient to banish the pain, and since the banishment of pain is the keystone of this method no effort should be spared to find such a position. Occasionally in this class and in those cases showing residual points of discomfort a single application of diathermy is sufficient There is another class of patient which responds well to the initial treatment and then makes unusually slow progress. For a long time this group caused me worry Gradually, however, my attention was forced to consider whether some special factor in their general health might not be responsible, and I began to treat those with pyorrhoea and other sources of sepsis for these conditions as well as for their injury In many cases especially those outside the present group, relief was immediate and progress to recovery resumed The diseases I have found most liable to handicap recovery are pyorrhoea otitis media, and constipation

In putting forward this method it is not intended to suggest that operative treatment should be done away with, on the contrary I am convinced that a series of treatments by this method both before and immediately after operation would materially assist the end result I have had the privilege of observing the effects of the anodal current in cases immediately after plastic operations by Mr Gillies and we are of opinion that this current tends to reduce post-operative pain and swelling and runs no risk of introducing sepsis through any incision

Summary

Time does not permit me to elaborate the technique in any detail further than I have done, nor to discuss the details of the methods I employ for dealing with each type of the more common fractures, but I trust I have given sufficient physiological argument and detail of technique for others to commence tentatively on simple bruises sprains etc (which yield excellent results by this method) and develop later their own ideas as regards detail

In carrying out this work I have been assisted in no ordinary way by the sister and staff in my department and I to them I can now trust the handling of a fracture with the utmost confidence but as a matter of precaution a word of warning is necessary to those who may desire to put into practice this very simple method which will more than repay any time or trouble spent upon it It is this satisfactory results will not be obtained if the patient is merely sent to a non medically qualified medical electrician unless he or she is constantly handling these injuries in close touch with the doctor I would recommend the doctor to carry out the treatment himself with the masseuse as his assistant I should also like to take this opportunity of thanking Miss Hewer, of the Physiological Department of the School of Medicine for Women, for looking through the physiological arguments I have ventured to bring before you, and giving them her approval

I am fully aware that it is the contention of some extremely careful orthopaedic surgeons that simple fractures of the bones in children will do perfectly well if simply put

on a splint and left for two or three weeks I do not doubt this, but even if the method I have explained to you does not accelerate their ultimate recovery or the perfection of this recovery, I do maintain that the time of recovery is more pleasantly spent than if bandaged in a more or less heavy retaining splint

I think, however, the evidence I have been able to bring before you justifies me in making the following claims for this method—namely, that by the use of the anodal galvanic current for injuries or fractures more rapid relief of pain and swelling is secured, more complete muscular relaxation is obtained, and earlier return to useful function is possible, than by the more usually accepted methods

[A number of skiagrams and photographs of cases were shown These illustrated various points, such as the process of reduction without anaesthetic or counter extension, the early solidity of the bone regeneration with this method despite the formation of a very small quantity of provisional callus, and the safety with which passive movement could be carried out, especially when the injury was in the neighbourhood of a joint]

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THE VALUE OF FEEDING DURING OPERATIONS UPON THE STOMACH

BY

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CONSULTING SURGEON TO THE EAST SUFFOLK HOSPITAL

It is well known that patients who are profoundly anaemic from gastric or duodenal haemorrhage stand operations, such as gastro-jejunostomy, very badly In a recent discussion of the subject at the Royal Society of Medicine, Mr H J Paterson gave the mortality rate for operations for acute haematemesis at 36 8 per cent He and most of the speakers who followed considered that surgical treatment for acute haematemesis was unjustifiable It is also recognized that patients in a condition of extreme emaciation from chronic starvation owing to stricture of the pylorus are bad subjects for operation, and the more so when the stricture is due to malignant growth which may have completely occluded the pylorus, causing absolute starvation, and still further reduced the patient's resisting power by the accompanying anaemia and toxin absorption In cases such as these gastro-jejunostomy, without partial gastrectomy, may lead to rapid and fatal collapse from shock, due I believe, to inanition of nerve cells, especially of the vasomotor centres

It has been my practice for many years to feed all such cases during the operation by introducing a pint of peptonized milk with a beaten-up egg and one ounce of brandy into the jejunum since adopting the practice I cannot remember to have lost a single patient from post-operative shock An improvement in the patient's condition is immediately manifest, and the pulse gains in volume and tension It is usual for the patient to leave the table in better condition than he was in before the operation was commenced

The method is very simple Before the inner row of catgut sutures surrounding the gastro-jejunostomy opening is quite completed the suturing is stopped, leaving an opening of about a quarter of an inch or less The jejunal clamp is removed and stomach and jejunum compressed between the finger and thumb of the left hand to prevent escape of fluid A No 10 soft rubber catheter, connected by a short length of tubing to a funnel, is introduced through the opening and passed along the jejunum (the finger and thumb keeping up compression around it), until about eight inches or more have passed along the gut into a coil which is within the abdominal cavity The food is then poured slowly into the funnel through a gauze strainer The funnel should be held about ten inches above the abdominal wall to avoid too rapid entrance of fluid and distension of the intestine The whole process takes rather less than ten minutes The catheter is then withdrawn and the operation completed

Quite recently I operated upon a woman of 37, suffering from cancer of the pylorus She was very wasted, though her height was 5 feet 5 inches she weighed only 77 lb She had been vomiting most of her food almost daily for several weeks She was very anaemic (35 per cent haemoglobin) There was complete absence of free HCl in a test meal, and after six and a half hours more than a third of a barium meal remained in the stomach The palpable growth extended for about 2½ inches from the pylorus along the stomach, and there was very considerable glandular infection

The operation consisted of resection of nearly half the stomach with the first part of the duodenum, posterior gastro-enterostomy was performed, and during it a pint of food was introduced She stood the operation remarkably well, had little or no signs of shock, and within a week was taking solid food. Feeding by the mouth with peptonized milk was started within eighteen hours of the operation There was no vomiting, and her condition never gave cause for a moment's anxiety

I feel sure that if feeding had not been adopted in this case her chance of recovery would have been very small The case is typical of a good many others, and I feel confident that anyone who adopts this method of feeding cannot help becoming convinced of its great value

HYDROCELE AMONGST THE LANGO OF UGANDA

BY

WILLIAM P KELLY, F R C S I, D P H,

MEDICAL OFFICER (TEMPORARY), UGANDA MEDICAL SERVICE.

THE natives of Lango (Uganda) do not appear to be possessed of any surgical skill whatever, and so pathological conditions amongst them tend to become very gross indeed Hydroceles and, as a consequence, haematoceles are very common, some of these tumours grow to enormous proportions, often reaching nearly to the knee, causing great disability The scrotal tissues are, as a rule, greatly thickened, and the disappearance of the penis from view is a cause of much grief

The results of operation by textbook methods are disappointing The operation herein described endeavours to avoid the worst consequences of more orthodox methods by (*a*) excision of redundant scrotum, (*b*) complete deep haemostasis Oozing from the cut edge of the tunica vaginalis ordinarily takes place along the whole length of the cut, and only the actual cautery can seal the capillaries When they ooze no longer and the larger vessels are secured by ligature there is no need for drainage The procedure has been carried out many times at Lira, it has always given good results, and often the patient has left hospital within a fortnight of the operation

Operation for Large Hydrocele

The initial incision should be made without previous tapping Its exact direction varies according to the thickness of scrotal tissue, age of patient, size of tumour, and the presence of ulceration, which is common In general it should begin at the visible root of the penis, travel downwards and outwards, over the enlargement, and then upwards and inwards to the middle line, any ulcerated patches should if possible be included in the part to be removed At the perineal side of the scrotum about 1½ inches should be left between the end of the incision and the perineum, otherwise infection is very likely A second incision begins and ends as above, but passes straight in the middle line In double hydrocele, where both sides are large, an incision similar to the first described encircles each side of the tumour The incisions are deepened to the infundibuliform fascia, and the portion of scrotum between them dissected away A great deal of contraction takes place in the stump, greater in younger than in older subjects, in larger than in smaller tumours, and in thinner than in thicker scrotal tissues From one-fourth to one-third of the surface of the tumours should be included in the excised portion

If, in double hydrocele, the swelling on one side is small, this can be dealt with from the other or larger side, by an incision through the septum, carefully avoiding the veins, which are here very numerous and bleed freely if injured Having exposed the tunica it is divided longitudinally Then, clamping each successive length with forceps, the parietal portion, including infundibuliform fascia, is cut away and the cut edge sealed with the actual cautery A few points will require ligature If as in double hydrocele the septum must be cut, it should be similarly dealt with If the cautery is not used very free bleeding ensues

The cut scrotum is united by a deep suture, which should include the septum, if cut, and the whole thickness of the scrotum except the skin I always use a removable silk thread which has been boiled in 1 in 1,000 corrosive sublimate A continuous buried fishing gut suture is used for the skin edges, such as can be removed by pulling one end If this type of suture is not used the gut, having buried itself in scrotal folds, is very difficult to remove Practically all vessels in the cut edges of the scrotum either retract or are controlled by the deep suture

A four-tailed bandage, of which two narrow tails pass out behind and are secured as usual, is used, the anterior tails, 3 or 4 inches broad, are secured so that the edges in contact with the perineum are drawn tight If this is done the bandage never slips even with the restless and naked savage and considerable pressure can be exerted over suitably disposed pads by pinning its other edges together

I have found this operation useful, even in small ordinary hydroceles, but of course part of the scrotum need not always be excised An incision in the scrotum running at right angles to the septum avoids the scrotal veins A deep silk thread is unnecessary

I have to acknowledge my indebtedness to Dr J Hope Reford Principal Medical Officer, Uganda, for his kind permission to publish this communication

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

INTESTINAL OBSTRUCTION DUE TO ADHESIONS

THE case recorded under this heading by Dr E J Bradley (April 5th, p 625) induces me to place on record the following case at present under my care of a similar condition, although not producing an acute obstruction

An unmarried woman aged 31 was referred to me by Dr Moir (Congleton) with recurrent attacks of discomfort and tenderness in the right iliac fossa and severe constipation At the age of 13 she had an acute abdominal attack said to have been gastritis since which she had suffered from gradually increasing constipation for which she has lately been taking from forty five to fifty senna pods daily

On April 2nd 1924 I performed exploratory laparotomy through a right paramedian incision and found numerous adhesions between the caecum ascending colon omentum gall bladder and duodenum On separating these the gall bladder and duodenum were otherwise normal The appendix was buried in adhesions to the posterior aspect of the caecum and to the posterior leaf of the mesentery of the terminal ileum its wall was greatly thickened and it was strictured one inch from the tip I removed it A general examination of the abdominal and pelvic viscera was made but nothing else abnormal noted except in the ileum where a condition of localized matting of the bowel practically identical with that described and figured by Dr Bradley was met with in two situations (1) the lower and larger forming a mass about 10 inches long and ending 6 inches above the ileo-caecal valve, (2) the upper about 5 inches long more highly placed, so that some 3 feet of normal ileum intervened between the two masses Each mass consisted of closely packed and convoluted coils of ileum with the corresponding area of mesentery within a firm fibrous investing membrane having a smooth glistening external surface which was quite free from adhesions After incision of this membrane I found the contained coils to be but very loosely attached to its inner surface and to each other and to be still clad with peritoneum—just as Dr Bradley found in his case on dissecting the mass after he had excised it

As excision of these two separate masses would have involved the loss of a considerable portion of the ileum I decided to try the effect of free separation of the bowel from its membranous sheath This was divided over the whole length of the lower mass along the antimesenteric border when the tortuous coils were very readily freed from its inner surface and from each other it was then noted that about 3 feet of ileum had been involved. The divided edge of the investing membrane was carefully sutured to the corresponding leaf of the mesentery care being taken to pass the sutures sufficiently close together to leave no pouches in which strangulation might occur this was done in preference to excision of the membrane as being less likely to lead to subsequent adhesions The upper mass was then similarly treated and was found to involve about 18 inches of ileum

The course since operation (twelve days ago) has been uneventful and the bowels have acted well, one hopes, therefore, that operative measures less drastic than enterectomy may suffice in the treatment of this rare pathological condition In my case the condition of the appendix, the adhesions extending upwards from it along the right side of the abdomen, and the history of an acute abdominal attack at 13 years of age, all suggest appendicitis as the cause of the peritonitis which resulted in the formation of these fibrous membranes

Manchester A H BURGESS

INTRACARDIAC INJECTION OF PITUITRIN IN ASPHYXIA NEONATORUM

I RECORD this case because it is the first time I have used pituitary extract in this manner, and I do not happen to have read of its being so used in such cases

On March 23th 1924 I delivered a primigravida with a pelvis just under normal measurements of a male child weighing 7 lb The head presented in the P O.A. position. The first stage took from fifteen to eighteen hours to complete the membranes had ruptured at the onset of labour At the commencement of the second stage the head was well down in the pelvic cavity progress was slow and as after five hours with fair pains the caput had not quite reached the perineum and the foetal heart sounds had begun to weaken I applied axis-traction forceps. No force was needed to bring the head into the outlet where the forceps were removed The child was born some ten minutes later in a condition of white asphyxia with the cord only feebly pulsating The child made no attempt at respiration, and by the time he had been separated and his throat cleared of mucus the pulse ceased. In spite of pulling on the tongue hot bath cardiac massage, and artificial respiration by inflation, the heart was not audible I had no adrenaline with me but having some pituitrin, I injected 0.25 c.cm directly into the heart and continued inflation respiration Within half a minute the heart began to beat and so continued with increasing force After five minutes further forced respiration he began to make three or four active attempts at respiration a minute By the end of an hour he was breathing satisfactorily and his condition gave no further trouble

In the JOURNAL of March 29th (p 570) there is a note of pituitrin being injected intramuscularly in a case of asphyxia pallida neonatorum, but it would appear obvious that if the circulation has actually failed nothing short of intracardiac administration can be of any avail

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"SLIPPING RIB"

I HAVE read with much interest the letter of Dr E N Russell (April 12th p 664) on "slipping rib" This condition first described by me in the *Practitioner* for June, 1919 (pp 314-322) and later on apparently independently by Mr Davies-Colley, seems to have led to operative measures being employed for its relief I must, however, point out that in many cases a much simpler method will suffice to induce a permanent and instantaneous cure—at least that is my experience in a large proportion of the cases that have come under my care The procedure is The patient must be placed flat on his face with his arms resting against his sides The position of the head of the affected rib having been accurately located, the position of the vertebral facet corresponding to it must be defined by comparison with the rib on the opposite side If the head of the slipped rib is not lying over this facet, then positions of the arms or the trunk (such as lateral flexion) must be varied in order to get it there When this has been accomplished a sudden downward pressure is applied in order to bring the head of the rib against its proper facet The muscular contraction that follows immediately upon this manœuvre keeps the rib in its correct position and lasts long enough to ensure this being permanent No further treatment is necessary

London, W EDGAR F CYRIAX, M D

Reports of Societies.

LIVERPOOL MEDICAL INSTITUTION

THE eleventh ordinary meeting of the session was held on April 3rd, DR THOMAS CLARKE, vice-president, in the chair

Crisis Precipitation in the Treatment of Pneumonia

DR F M GARDNER-MEDWIN said that he and DR J Graham Willmore had found from observations made in Egypt during the pandemic of 1918 and 1919 that there was marked leucopenia during the febrile stage of influenza, continuing for the first ten days of the attack, during this period of lowered resistance danger of secondary infection existed, whether pulmonary or otherwise, pneumonia being the most formidable It was shown that sodium nucleinate in solution, given intramuscularly, had the power of greatly increasing the number of white cells in the peripheral blood, patients suffering from influenzal pneumonia with leucopenia not only developed leucocytosis after nuclein injections, but vast improvement occurred in the physical condition, and the temperature fell by crisis forty-eight hours afterwards with a regularity and precision, no matter on what day of the disease it was administered, that precluded the possibility of coincidence Because cases of toxic pneumonia so often exhibited symptoms of acidosis, sodium bicarbonate was given by mouth or bowel in large quantities with glucose The success of this treatment in the pandemic period had led DR Gardner-Medwin to treat all cases of pneumonia on similar lines, and the results had been equally satisfactory Cases of uncomplicated lobar pneumonia not absolutely moribund invariably responded to treatment and made an uneventful recovery Patients with bronchopneumonia did not respond so typically, but all recovered except two, one of whom suffered from cardiac asthma of long standing In all, 53 consecutive cases were dealt with—32 pandemic cases in Egypt and 21 in England since 1919, 7 were of the bronchial type, the rest were lobar, of the latter 6 died, all these fatal cases were soldiers, war-worn and very toxic on admission to hospital, 4 had chronic Bright's disease, 4 had no intensive alkaline treatment, 2 had under 4,000 and 1 under 2,000 white blood corpuscles 1 had dysentery and 2 had malaria If all the cases of bronchopneumonia and all the cases which did not have intensive alkaline treatment were omitted from the series, that eliminated all the fatal cases but two, which were moribund on admission and had chronic conditions before contracting pneumonia All English cases of lobar pneumonia in the series recovered

DR Gardner-Medwin showed lantern slides of charts and diagrams, and in conclusion said that this treatment converted the watching rôle of the physician into one of active combat, because he could with some degree of certainty control a disease which at all times was one of the principal contributors to the death rate of any nation

Interstitial Injections in Haemorrhoids

DR STUART MCTURLAND read a paper on the treatment of haemorrhoids by means of interstitial injections of 10 per cent and 20 per cent carbolic acid in glycerin and water based on an experience of two and a half years and 32 cases Having dealt with the classification and diagnosis of haemorrhoids he described his method, which was the injection of 3 to 4 minims of fluid with a special needle into the base of each pile through a previously introduced Kelly's sphincteroscope the operator wearing an electric headlight Four treatments of 20 per cent fluid were necessary to cure The results were highly satisfactory He enumerated the advantages of the treatment over the routine operations—no pain, no period of laying up or disability no anæsthetic, no risk of impairment of sphincter control or of constrictions or of fistulae He concluded that the success of the method depended upon the production not of thrombosis, but of an aseptic inflammation in the submucous coats of the bowel The method should be the treatment of election in every case unless contraindicated by other coincident pathological rectal conditions

MR R E KELLY said that he had seen the following complications arise after the injection method of treating piles (1) Intense agonizing pain, almost as bad as an anal fissure, (2) bleeding, so marked that the patient had been sent to him as possibly suffering from duodenal ulcer, and (3) inflammatory reaction extending to the pelvis, so bad that the patient was thought to have appendicitis MR Kelly had no personal experience of the method He advocated the treatment of piles by operation because it was simple, safe, and efficient

The Wassermann Reaction as an Indicator in the Treatment of Syphilis

DR R E ROBERTS, PROFESSOR ERNEST GLYNN, DR PHOEBE BIGLAND, and DR F P WILSON, in a paper on this subject, said that the method of Wassermann study and treatment in DR Wilson's clinic was as follows (1) Admission, Wassermann (2) Standard admission course lasting eight weeks—namely, six intravenous doses of neokharsivan (that is, 3·3 grams) or six of novarsenobillon with eight intramuscular doses of grey oil (that is, 8 grams of mercury) (3) Rest for four weeks (4) Wassermann (5) Continuation treatment—namely, eight doses of grey oil lasting eight weeks, or mercury tablets lasting three months (6) Rest for four weeks (7) Wassermann Of 1,434 admissions the first post-treatment Wassermann reaction was negative in 44 per cent, positive in 46 per cent, and intermediate in only 10 per cent, 8 per cent of the latter being pre-treatment and 12 per cent post-treatment Wassermann An analysis showed that the first post-treatment Wassermann reaction had a definite relation to (1) the Wassermann reaction on admission, and (2) the delay period—namely, the time elapsing between the primary sore and admission to the clinic These two factors also influenced the percentage of relapses of Wassermann reaction which occurred during one, two, three, and four years—namely, 28, 12, 11, and 0 per cent respectively Such relapses were also more frequent in patients requiring more than the standard course to make the Wassermann reaction negative Fourteen of 168 cases of early syphilis, which were Wassermann negative on admission, became Wassermann intermediate or positive after the first course, other observers had had similar experiences Of 331 patients with a negative Wassermann after the standard admission course observed for three or four months longer, 18 per cent of those who received a continuation course of grey oil relapsed, 13 per cent of those who received mercury tablets relapsed, but of those who received no continuation treatment 8 per cent relapsed Other evidence was adduced suggesting that a continuation course of mercury administered shortly after a full course of arsenic and mercury increased the tendency to Wassermann relapse The investigation was assisted by the Medical Research Council

RADIUM TREATMENT OF "SPRING CATARRH"

A MEETING of the Section of Surgery of the Royal Academy of Medicine in Ireland was held on April 4th, the President, SIR WILLIAM I DE COURCY WHEELER, in the chair

DR H GOULDING showed two patients

The first was a boy aged 15 who in February, 1922, was suffering from lacrymation and a white film over his eyes At first the condition appeared to be that of early trachoma, and was treated as such The patient attended regularly three times a week until the end of March without change in his condition from April to August he only attended about twice a month, and indeterminate granulations of a small type appeared on the upper palpebral conjunctiva Early in September the granulations began to assume the typical pavement formation of "spring catarrh" and in October the condition was well developed A conjunctival smear was taken and eosinophil cells were found The usual treatment of weak astringent collyria and air tight goggles was tried, but without any apparent improvement, it was then decided to try radium, and Dr Stevenson took the case in hand.

Dr Goulding added that "spring catarrh" was a rare condition, which owed its name to the characteristic exacerbations which took place in the warm seasons In

the early stages of the disease the papillary growths might be mistaken for trachoma

Dr W C STEVENSON said that these were not desirable cases from the operator's point of view, since they necessitated much handling of the radium and the use of soft rays for their local effect, so that the neighbouring parts of the eye might not be injured By pushing the everted eyelid through a slit in a piece of sheet lead so that it projected like paper protruding through a letterbox in a door, the remainder of the eye might be completely protected from the soft rays On most occasions the emanations in capillary glass tubes were practically unscreened, so that beta rays were almost entirely employed The exposures varied from twenty seconds to ten minutes, and ten exposures in all were given between January and August, 1923, when Dr Goulding found that the condition in the right eye had been cured The dose averaged about six millicurie-hours per treatment, and usually about 150 millicuries in all were used The treatment had been successful in both eyes of another patient Though tedious this method ensured a cure where other methods had proved useless

Dr E MAXWELL asked if radium would be of use in treating trachoma, it had been successful in the treatment of "spring catarrh," and trachoma was a somewhat similar condition The treatment for trachoma at present was the same as in the Middle Ages, and was extremely painful if radium proved to be beneficial it would be a much less painful form of treatment

Pigmented Epibulbar Sarcoma

Dr GOULDING'S second case was that of a man, aged 56, who was admitted to hospital on September 28th, 1923

A lump had appeared near the inner corner of the left eye about two years previously and had been gradually increasing in size On examination there was found an irregular pigmented mass about the size of a hazel nut fixed to the globe near the limbus at the nasal side There was also a pigmented bossy swelling under the conjunctiva over the lower quadrant of the globe extending outwards towards the external canthus The pigment in places was inky black and this was very marked under the bulbar conjunctiva over the upper and nasal quadrant On October 2nd enucleation was decided upon but ultimately it was found that the disease was so extensive that exenteration was necessitated. The patient progressed favourably showing no signs of recurrence until October 23rd when on the nasal side of the orbit inky granulations appeared over an area the size of a threepenny piece These were curetted on the following day a few small spicules of bone were removed and the electro-cautery was applied. There was no further recurrence and the orbit remained healthy Dr Graham reported on November 26th that there was a fistula between the orbital cavity and the left middle meatus passing through the orbital plate or ethmoid to the anterior ethmoidal cells The frontal sinus was clear and there was no evidence of a growth or swelling on the left side of the nose On March 13th the patient was seen and the fistula was still there but was smaller

Radium Treatment of Sarcoma

Dr W C STEVENSON showed a patient suffering from a spindle-celled sarcoma to illustrate the systematic treatment of a large tumour by using needles 12 cm long with emanation capillaries 2 cm long fixed at the ends and brass tubes whose walls were 1 mm thick into which stout wires marked in centimetres were screwed In this case by inserting and reinserting ten needles to their full extent parallel to one another, 15 mm apart, and using each tube in five areas in each case pulling out the needle or tube 2 cm at a time, at intervals of six hours ninety-nine different areas had been intensely radiated and during the whole time the complete tumour was absorbing energy The treatment lasted seventy hours and over 100 millicuries were used up during this time the initial dose being 251 millicuries Although there was of necessity by this method some over-exposure in the tissues in immediate contact with the needles, as the screen was only 0 2 mm of steel the surrounding tissues were able to deal with the cells that were destroyed, and suppuration did not result The tubes were inserted by puncturing the skin with the point of the scalpel, after which the trocar-pointed tube could be pushed into the tumour by the aid of the wire to the required distance and the position altered by pulling on the wire and moving the tube 2 cm As there was already a suppurating sinus in the tumour Dr Crofton had made a vaccine for the patient to combat septic infection

The PRESIDENT agreed that the result of radium treatment in this case was extremely good, but felt that the outlook in cases of sarcoma was practically hopeless During all the years of his practice he had never known of a case of sarcoma which had been cured He had seen the tumours disappear for two years, or even perhaps nearly three years, but they had always returned In the reports of a London hospital a couple of years previously he had read that no single patient with sarcoma however treated had lived subsequently more than three years He felt, therefore that sarcoma had to be regarded as an absolutely incurable condition In saying this however, he did not include cases of so-called giant-cell sarcoma In treating sarcoma, if radium did not benefit and operation was decided on, he thought sympathectomy should be done He had once had a case of a man whose arm was so painful that he could not bear to be touched, and could not even bear the bedclothes over it Sympathectomy had been done, and after five days the pain had completely disappeared It was a very simple operation, which could be done with a local anaesthetic

In the course of the discussion Dr H GOULDING mentioned a patient who some years ago had been operated on for sarcoma in the neck This had recurred, and the patient was operated on three times still it recurred, and it was decided that further operation was useless The patient left hospital and eventually got perfectly well without any further treatment whatever Dr H. STOKES knew a patient with sarcoma who was cured and had remained well now for a great many years he thought that there were occasionally cures of this condition

GONORRHOEA

At a meeting of the Aberdeen Medico-Chirurgical Society held on April 3rd with the President, Dr G M DUNCAN, in the chair Dr G M LYLE read a paper on the treatment of gonorrhoea in the male

Dr Fyfe after sketching briefly the history of the disease and the anatomy concerned pointed out that only to-day was organized scientific effort being made to combat the evil and went on to discuss the subject under three heads (1) the abortive treatment of gonorrhoea (2) the treatment of acute subacute and chronic gonorrhoea (3) the standard of cure Abortive treatment might be early or late according as it was applied (*a*) immediately after exposure when the organism might or might not be present or during the period of incubation or (*b*) when the disease had just become manifest If a patient without definite symptoms asked for advice after having run the risk of infection an attempt was first made to arrive at a diagnosis by microscopic examination of scrapings from the navicular fossa and the urine was examined to exclude the possibility of recurrence of an old infection Twice-daily irrigation for three days was then commenced with two pints of a 1 in 2 000 alkaline solution of potassium permanganate The part were anointed with calomel ointment the penis and an alkaline diuretic mixture given If a patient presented himself with a discharge of less than two hours' duration, after a proper diagnosis one of two treatments was used either irrigation with two pints of 1 in 4 000 alkaline potassium permanganate solution and the immediate injection of 10 per cent argyrol or lunosol twice daily for four days or scaling into the anterior urethra of 5 per cent argyrol or 10 per cent lunosol for six hours daily for five consecutive days Both these methods were found eminently successful but Dr Fyfe pointed out that the eligible patients were few

Dr Fyfe emphasized the necessity of a careful diagnosis between anterior and posterior urethritis in the treatment of acute gonorrhoea The use of instruments for diagnosis was not recommended in acute cases as the simple two-glass test was found sufficiently reliable palpation of the prostate should be a routine Every effort should be made to prevent an anterior urethritis from extending posteriorly The general treatment of acute gonorrhoea which was highly important included keeping the patient in bed, if possible, on a bland diet, with copious draughts

of water, rest, hot hip-baths, suspension of the parts by a T bandage, regular evacuation of the bowels, and large doses of an alkaline diuretic with hyoscyamus and buchu, alcohol in any form being strictly forbidden The local treatment consisted in anterior irrigation, preferably by means of a can and nozzle The findings at the Aberdeen clinic were in favour of anterior irrigation solely, the most useful fluid being a solution of potassium permanganate rendered alkaline by the addition of sodium carbonate, commencing with an initial dilution of 1 in 8,000, gradually increased to 1 in 4,000 If the subacute stage became prolonged, a change might be made to zinc sulphocarbolate 1 in 4,000, or to mercury oxycyanide 1 in 4,000 The irrigation should be continued daily until the discharge had ceased or was manifest only as a morning drop—a stage usually reached in three or four weeks, when the irrigation could be gradually discontinued In acute gonorrhoea detoxicated vaccines had not been found useful In treating acute posterior urethritis it had been found wiser not to begin posterior irrigation till the acute stage had subsided A constant watch should be kept on the prostate, and in all acute cases instruments and medicated bougies were to be avoided

The treatment of chronic gonorrhoea was a lengthy and often disappointing process, but modern methods, methodically and rationally applied, would cure almost every case The secret of success was exact diagnosis, and treatment should only be applied after all foci had been located The importance of regular prostatic massage was emphasized, and Dr Fyfe described the use in diagnosis and treatment of such instruments as the urethroscope, the exploratory olivary bougie, the straight sound, the Kollmann dilator, the suction apparatus of Mills, and the Ultzmann syringe Treatment by vaccines alone was neither rational nor successful, though a better response to this treatment was obtained in chronic prostatitis than in any other condition of the chronic stage Complications and their treatment were then briefly dealt with, special mention being made of the magical effect of intravenous injections of electrargol in epididymitis, and finally Dr Fyfe discussed the standard of cure The four tests used in the Aberdeen clinic were examination for discharge, examination of the urine, examination of the prostatic secretion, and examination by the urethroscope These tests should be applied at the completion of treatment, and then at monthly intervals for three months Accessory tests were the provocative vaccine test and the complement fixation test

Mr COLT, in the subsequent discussion, referred to his experience of treating the disease in Constantinople during the war, and pointed out the early symptom of itching of the glans penis Dr WILLIAM CHRISTIE emphasized the difficulties experienced in treating cases in private practice Dr RICHARDS had found the use of detoxicated vaccines helpful in acute cases

The PRESIDENT in summing up the discussion, laid great stress on the importance of the strict observance of the standard of cure and on the value of the urethroscope in diagnosis and treatment

HEXAMINE AND URINARY ANTISEPSIS

AT a meeting of the Cardiff Medical Society on April 9th, with Mr W MARTIN in the chair, Mr T I HAMMOND discussed the action of hexamine as a urinary antiseptic

Mr Hammond began by pointing out that hexamine, a compound of ammonia and formaldehyde, was not itself an antiseptic and neither prevented nor inhibited the growth of bacteria In an acid medium it tended to split up into ammonia which was neutralized by an acid, and formaldehyde which acted as an antiseptic Formaldehyde was of no value when given by the mouth, as it was destroyed after absorption and was not excreted in the urine Hexamine, on the other hand, was excreted largely by the kidneys, and slightly by the [illegible] as acid formaldehyde was formed The Rimini that the successful colour with free formaldehyde, and with not of thromo only a brown colour When hexamine w[illegible] submucous in water it was not decomposed, if allowed to remain in contact with acid sodium phosphate or an acidity equal to 0 15 per cent hydrochloric acid, formaldehyde was produced In a patient, formaldehyde was present only so long as the urine remained acid, if it became alkaline hexamine was excreted

Three rules should govern the administration of hexamine (1) The urine must be sufficiently acid to turn blue litmus red If this was not the case, acid-forming substances such as acid sodium phosphate, ammonium or sodium benzoate, boric acid, or saccharin should be given (2) It should never be given immediately after meals, since it was split up by the acid gastric juice, but it should be taken in water about half an hour before meals, when it was rapidly absorbed The maximum rate of excretion occurred about four hours later, and thus the alkaline tide that ordinarily followed digestion was avoided (3) It should never be given with acid drugs, these should be given separately and only after a sufficient interval Formaldehyde probably acted by inhibiting the growth of bacteria rather than by destroying them and was one of the weaker antiseptics, such as hypochlorite or flavine, which if continuously applied were much more beneficial than the stronger antiseptics

In acute infections of the urinary tract, the patient was suffering chiefly from acidosis The administration of sufficient alkali to render the urine alkaline produced much improvement in the general symptoms The alkaline urine had no deleterious effect on the *B coli* When the acute symptoms had subsided for a few days, the amount of alkali should be gradually diminished, and, when the urine had become acid, hexamine was to be given In subacute and chronic urinary infections the drinking of large amounts of water was useful in flushing out the kidneys and bladder Mr Hammond said that it was his practice to treat subacute infections with 15 to 30 grains of hexamine thrice a day, and chronic cases with 60 to 90 grains one hour before bedtime Large doses should not be given until it was certain that the patient had no idiosyncrasy to the drug, since hexamine might act as an irritant and give rise to haematuria and frequent and painful micturition—the same symptoms which it was hoped to relieve This irritating action of hexamine was particularly marked in tuberculous infections Infections of the urinary tract ran a very uneven course, consequently there must be caution in arriving at conclusions about the action of this drug

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A MEETING of the Buxton Medical Research Society was held at the Devonshire Hospital, Buxton, on April 11th, with Dr BUCKLEY in the chair Among the cases shown was one of tic convulsif in a master mariner aged 58 The spasms were principally in both palpebrae oculi muscles, and the pupils were permanently contracted There was a variable interference with speech and a pain round the neck giving rise to a feeling of dyspnoea, otherwise he was perfectly well Dr BURT read a short paper on the French classification of 'deforming arthritis' He said that French physicians divided the disability into six classes (1) due to syphilis, (2) any form of infection, including gonorrhoeal and zymotic, (3) following acute or subacute rheumatism, (4) a tuberculous group, (5) hypoglandular, and (6) gout French physicians considered tubercle as responsible for the great majority of cases, especially those in patients under 40 years of age Intravenous injection of a preparation of iodine was commonly adopted, and 83 per cent of cures was claimed A discussion took place with regard to the hypoglandular division, and "subendocrine" was suggested as a more precise name After a long debate on the glandular or subendocrine origin of arthritis the meeting was adjourned for a further and more exhaustive discussion, to be held on April 30th

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THE German Central Committee for Combating Tuberculosis has recently conducted inquiries as to the reduction of the number of beds available in Germany for cases of tuberculosis During the past year, and mainly on account of economic pressure as many as 36 large institutions have had to diminish their beds for tuberculous adults by 3,577 Seven children's hospitals have had to reduce their tuberculosis beds by 940, two convalescent homes by 242 beds and three hospitals for lung diseases by 251 beds Various other tuberculosis institutions have also had to limit their activities considerably

Reviews.

"QUAIN'S ANATOMY" THE MUSCLES

PERHAPS of all English textbooks relating to medicine there is none to which the epithet of "classical" is more becoming than to *Quain's Anatomy*.[1] This is no doubt partly attributable to the fact that the subject with which it deals is the most fundamental as well as the most ancient of the medical sciences. It is, however, also attributable to the fact that while from its earliest appearance the work has set a standard for accuracy, clearness, and comprehensiveness which has not been surpassed, its various editors have permitted themselves to enter into broad generalizations and, not content with the mere presentation of facts, have sought to interpret them by references to morphology and embryology. The section of the work at present under review, dealing as it does with the subject of myology, is, as the editor—Professor T. H. BRYCE—has been quick to realize, peculiarly well adapted to such an elaboration of treatment: the result is that he has given us a singularly interesting and suggestive volume.

The plan of the book exhibits several departures from that adopted in previous editions. Myology is now no longer combined, as in the preceding edition (1892), with arthrology and angeiology. Although the subject has attained the dignity of a separate volume the text has been, however, only slightly increased, for the apparent increase from 151 pages to 295 is mainly due to the method of pagination, whereby full-page illustrations are numbered with pages of the text. The illustrations have been notably increased, and for the first time colour has been introduced. Most of the illustrations which did duty in former editions have been withdrawn, being largely replaced by original drawings by Mr. A. K. Maxwell, with a few additions borrowed from Eisler.

The chief change in the text occurs in the long and important introduction, which, under the heading of general myology, has been almost entirely rewritten. It includes a new classification of muscles "according to their form and the arrangement of their component elements" as well as a short treatise by Professor WILMSLEY of Belfast on muscle mechanics from the mathematical point of view. Although under the term "skew muscles" reference is made to the peculiar spiral course which so many muscles take, greater prominence might have been given to the phenomenon, and we venture to think that the sartorius muscle, for example, with its long sinuous lines should not have been lightly dismissed as a mere quadrilateral muscle. In a later part of the same introduction muscles are considered from the point of view of their action as effectors and checkers of movement and as joint approximation forces"; we miss here however a reference to the distinction which is now drawn between the contraction of muscles in voluntary movement and in the maintenance of a particular posture—a distinction which certain recent work suggests may have a different neuro-muscular basis.

There is a short but eminently clear and satisfactory description of fasciae, tendon sheaths, and bursae, and finally the very valuable introduction is brought to a close with a general account of the development and morphology of the skeletal muscles. In this last section the editor, beginning with an account of the development of the muscular system in the trunk region, explains the changes which occur in the neck region, owing to the closer relation there established between the splanchnic and paraxial mesoblast as represented by the musculature of the pharynx on the one hand and by that of the branchial arches on the other, and finally the changes in the head region consequent on the incorporation of certain of the higher trunk myotomes with the primitive head and the necessity for providing the muscles of the tongue and of the eyeball. The task was obviously one of exceptional difficulty, but we believe Professor Bryce has succeeded in giving as clear, as succinct and as reasonable a statement regarding the processes at work as the present state of knowledge permits.

The section headed "Descriptive myology" follows the lines already laid down by previous editors here and there, however, important changes have been effected. A new and more detailed description, for instance of the central tendon of the diaphragm is included and the existence disclosed of a small aperture on the left side corresponding to the caval opening on the right side for the passage of a remnant of the left vitelline vein of the embryo. The account again, of the morphology of the small muscles of the hand and foot has been revised in the light of later knowledge. In fact no opportunity has been allowed to pass for the revision of old statements or the introduction of new information.

The illustrations to which reference has been previously made are somewhat diagrammatic, the qualities of simplicity and distinctness have evidently been preferred to those conveying less definite but more realistic effects. Here and there a slight inaccuracy may be noted but not sufficient to detract in any serious degree from their general merit.

More than thirty years have passed since the immediate preceding edition of the volume on myology made its appearance, naturally much additional information on the subject has accumulated during the intervening period. That it has been so carefully collected, so critically examined, and so faithfully displayed is a matter for congratulation and one for which all who are engaged in studying or teaching anatomy must be, and no doubt are, sincerely grateful. We only trust that when the next edition is called for the work of revision will pass into hands as capable as those of the present editor, for in that case we may rest assured that the epithet of "classical" will continue to remain the peculiar attribute of *Quain's Anatomy*.

[1] *Quain's Elements of Anatomy*. Edited by Sir Edward Sharpey Schafer, LL.D., Sc.D., M.D., F.R.S., Johnson Symington, M.D., F.R.S., and Thomas Hastie Bryce, M.A., M.D., F.R.S. Eleventh edition. Vol. II., Part II. Myology, by T. H. Bryce. Sections on the Actions of Muscles, by Thomas Walmsley, M.D. London and New York: Longmans, Green and Co. 1923. (Roy. 8vo, pp. x + 310, 91 figures. 25s. net.)

ENCYCLOPAEDIA MEDICA

THE eleventh volume (Potassii bromidum to Singultus) of the second edition of the *Encyclopaedia Medica*[2] under the editorship of Dr. ALEXANDER GOODALL has rapidly succeeded the tenth of which a review appeared recently in the JOURNAL (January 26th, 1924, p. 155). Of the thirty-seven principal articles three are new—those on psychoanalysis and psychotherapeutics by Dr. H. Crichton Miller and on the Schick test and on serum therapy by Dr. C. B. Ker. Seventeen articles have been rewritten and two articles have been revised by fresh hands.

The two longest articles, occupying about a quarter of the volume, are those on pregnancy and the puerperium, they are the work of several writers. The volume contains some important surgical articles such as those on the salivary glands and diseases and injuries of the shoulder by Sir D'Arcy Power, on diseases of the scrotum and testicle by Mr. C. F. Marshall and on shock, by Mr. W. Thelwall Thomas and Mr. R. E. Kelly. The articles on the prostate gland, by Mr. W. Quarry Wood, and rectum and anal canal by Mr. J. N. J. Hartley, have been rewritten. Numerous articles will appeal to the practitioner such as those on rheumatism by Dr. F. J. Poynton, on rickets, sclerema neonatorum and infantile scurvy by Dr. Charles McNeil. Those on rubella and scarlet fever by Dr. Clement Dukes have been revised by Dr. C. B. Ker. The medical inspection of school children is discussed by Sir Leslie Mackenzie, medical member of the Scottish Board of Health. The dermatological articles are the work of Dr. R. Cranston Low, who deals with prurigo and pruritus, psoriasis, rodent ulcer, scabies and scleroderma. A useful article, illustrated by many figures, is contributed by Dr. George Reid on sewage and drainage.

The high standard of excellence characteristic of this encyclopaedia has been maintained in the present volume, which, exclusive of the index, is the antepenultimate.

[2] *Encyclopaedia Medica*. Second edition. Vol. xi. Potassii bromidum to Singultus. Edited by Alexander Goodall, M.D., F.R.P.C.E. Edinburgh: W. Green and Son, Ltd. 1924. (Roy. 8vo, pp. ii + 642, illustrated. 30s. net.)

RECTUM, ANUS, AND PELVIC COLON

A *Treatise on the Diseases and Injuries of the Rectum, Anus, and Pelvic Colon*,[1] by DR J RAWSON PENNINGTON of Chicago, is the third big publication which has recently appeared on the subject, and of the American books we like it best The author's plan has been to select the most important facts from a very large collection at his disposal, and to control them from his own experience He has relied for the most part on articles scattered through the periodical literature of Europe and America, as is evidenced by the fact that the index of names contains nearly 2,000 entries The key to the work is to be found in the frontispiece, a simple classification founded on a chart, termed by the writer the "splanchnosomatic funnel" A full anatomical description of the parts is provided for the convenience of the reader, the personal investigations of the author are supplemented from sources of information not readily available It is a curious fact that for most of the pathological anatomy he has resorted to foreign authors An unusual and commendable feature of the book is that nearly every chapter is prefaced by a short historical survey of the progress of knowledge regarding the different affections and the measures evolved for their relief The author is to be congratulated on his fine collection of portraits of old surgeons with reproductions of which he enlivens his pages Free use is made of statistics throughout, and the figures given are in most instances so large as to diminish the risk of drawing erroneous conclusions In this respect the work bears a striking resemblance to Osler's famous handbook of medicine There are two plates and some 677 illustrations in the text, about one-half of which are original The work is divided into three parts The first deals with the general principles of proctology, the second with diseases and injuries of the rectum and anus, and the third with diseases and injuries of the pelvic colon A good deal of attention is given to haemorrhoids, all the main forms of treatment are described, but the author says that no one method is applicable in all cases In a given case, each and every method may fail Of injections by carbolic acid, he says that the advocates of this method in America estimate that not over 50 per cent of cases are suitable for it Carcinoma of the rectum is fully dealt with and interesting statistics quoted from many clinics A useful table of first symptoms is given Among 2,433 cases haemorrhage occurred first in approximately a quarter, pain in the rectum, diarrhoea, and constipation came next in frequency—each in, roughly, one-eighth of the cases The short historical introduction is interesting, it includes an account of the circumstances leading to the formation of the American Proctologic Society The book may be described as international rather than strictly American It contains much detail to help the general practitioner, collective statistics to satisfy the consulting surgeon, and much of interest to the historical student

MELLOR'S "CHEMISTRY"

GREAT admiration must be felt for the energy DR MELLOR is showing in the production of his great *Treatise on Inorganic and Theoretical Chemistry*[2] Volumes III and IV have been completed and published within a short period of each other The reviews we have published of preceding volumes have made plain the comprehensive nature of the work and the high standard of its excellence, both characters are upheld in the newly published volumes Volume III treats of copper, silver, gold and the alkaline earths Volume IV deals with the radium and actinium families and completes the group beryllium, magnesium, zinc, cadmium and mercury Men who have specialized in particular compartments of chemical science constantly encounter incidents in which they find themselves ignorant of facts well known to workers in other branches of chemistry This was true even before the present day of its many ramifications but it now happens more frequently than ever The continued expansion of chemistry has threatened disruption so that there seemed a risk that it might cease to be a unified science The production of hydrogen and of oxygen, described in the rudimentary teaching of a generation ago, have become great industrial operations, and the manufacture of each has drawn into the sphere of its operation chemists who are almost strangers to each other's work

In such circumstances the word "chemistry" was fast becoming meaningless Doubtless it was in essence one system, but it appeared impossible to consolidate it as such This has been Mellor's task To him chemistry is a single science Under his guidance all the elements of knowledge, strange as well as familiar, have been collected, stated, and connected together in their proper places to form a coherent whole If, for example, we turn to the subject of copper we find the lore of the mineralogist, the metallurgist, the manufacturing chemist, and the analyst, all set forth sufficiently to obviate confusion, yet co-ordinated as though the exponents of the several sections had been brought together at one parley to illuminate each other's discourse Connecting and governing the data furnished by technology and experimental research are the theories derived from pure chemistry In an age when a faulty literary style seems to count as a minor blemish and any scientific page is fortunate that contains no obscure expression, it is gratifying to meet with the scholarly care shown in Mellor's work and the absence of ambiguity in the descriptive narration One feature deserves special notice the work is throughout imbued with the spirit of that supreme philosophy which governs all science Quotations from the writings of great men of many ages are appositely placed to remind the reader of the beauty and greatness of the structure built from parts which taken singly possess little intrinsic interest It discloses the romantic side of chemistry and offers many entertaining pages to philosophers in other spheres of thought Volume IV contains the sections devoted to those attractive subjects, the structure of matter and the architecture of the atom In this new realm speculative hypotheses have been more rife than anywhere else Though remarkable advances have been made, and illuminating theories have been given a foundation, much remains in obscurity or in conflict with the inveterate conceptions of older men The author's love of a solid foundation has perhaps been the cause of some reserve in his treatment of this portion of his subject It is not suggested that he has not done it justice, but rather that his attitude on the theoretical aspects has been judicial where many people would have preferred to find him enthusiastic The fundamental researches have been amply described and their consequences critically examined Anyone who has gained his first ideas of this subject by reading the writings of an enthusiastic exponent will find in this treatise a wholesome influence on his judgement To every section are appended bibliographical references in numbers the immensity of which can only be described as amazing

NOTES ON BOOKS

THE fourth edition of Professor FAJANS'S book on *Radioactivity*[3] has been translated into English by T S WHEELER and W G KING from the revised German edition published in 1922 A chapter on the study of the chemical elements previous to the discovery of radio activity is followed by one on the radio active transformation of the elements in which the transmutability of an element, first suggested (after the old alchemists) by Rutherford and Soddy in 1902, is explained The structure of atoms and the recent work on isotopes is discussed The book is provided with references to and an index of authors' names

In *Right Food the Right Remedy*[4] the author, C C FROUDE, provides a textbook on food in simple language and adapted for general reading Although primarily intended for American readers, it contains much that is of value to those interested in European dietaries, and a useful variety of food combinations is given The book is well indexed

[1] *A Treatise on the Diseases and Injuries of the Rectum Anus and Pelvic Colon* By J Rawson Pennington M D F A C S Philadelphia P Blakiston's Son and Co London Stanley Phillips 1923. (Roy 8vo, pp xiv + 583 677 figures 2 plates 60s net)

[2] *Comprehensive Treatise on Inorganic and Theoretical Chemistry* Vols III and IV By J W Mellor D Sc London and New York Longmans Green and Co 1923 (Roy 8vo Vol III pp 927 70 figures Vol IV, pp. [illegible], 51 figures. 63s net per volume)

[3] *Radioactivity and the Latest Developments in the Study of the Chemical Elements* By Professor K Fajans Translated from the fourth German edition by T S Wheeler, B Sc, A R C Sc I A I C, and W G King London Methuen and Co Ltd 1923 (Demy 8vo, pp xiv + 138, 11 figures 8s 6d net)

[4] *Right Food the Right Remedy* By Charles C Froude, B Sc With an introduction by Royal S Copeland A M M D London Methuen and Co, Ltd. 1923 (Cr 8vo, pp xvii + 301 7s 6d. net)

THE HEALTH ORGANIZATION OF THE LEAGUE OF NATIONS

VISIT OF FOREIGN PUBLIC HEALTH OFFICERS

THE medical officers from nineteen countries who, under the auspices of the Health Section of the League of Nations, have been visiting various towns in Great Britain, were entertained on their return to London at a reception at the Royal Society of Medicine on April 10th. Sir WILLIAM HALE-WHITE presided, the Minister of Health (the Right Hon. John Wheatley, M.P.) was present to offer an official welcome, and Dr. Ludwig Rajchman, director of the Health Section of the General Secretariat of the League of Nations gave an address in which he recapitulated some of the information given in the article which appeared in the JOURNAL of April 12th (p. 672).

The Minister of Health's Welcome

The MINISTER OF HEALTH said that the Government recognized and appreciated the valuable work which was being done by the League of Nations in the direction of international health. The Ministry of Health was established only five years ago, but it represented the co-ordination of much valuable work which had been growing up in this country over a very long period. He described the many sides of the work of the Ministry, it was concerned with the encouragement of medical research, the control of national health insurance, the prevention of epidemics, the prevention and treatment of tuberculosis and venereal diseases, and the arrangements for maternity and child welfare. The nation had reason to be proud of the way in which the social service comprehended in the term "maternity and child welfare" had grown in recent years. It was essential that in all the Ministry's work it should be acquainted with what was being done by other countries, and the International Health Organization of the League now provided the means whereby such knowledge was forthcoming. It was true that there was some international co-operation in health matters in pre-League days. In 1907, by an agreement arrived at in Rome, it was decided to found an International Health Office in Paris, which was now the Advisory Council of the Health Organization of the League. The Health Organization itself might be said to have been born in the Ministry: it took shape as a result of conferences held under the Ministry's auspices in 1919-20. The Organization now had its Executive Committee and its headquarters staff in Geneva, and it was assisted financially by that splendid institution, the Rockefeller Foundation. Medicine was essentially international, and among the officers of the public health services in various countries, not only co-operation, but the utmost sympathy and mutual confidence must exist. Among the many questions relating to health which had an international bearing he mentioned the treatment of venereal diseases amongst seamen, the collection and co-ordination of statistics, and the standardization of dangerous drugs. It was also very valuable to have an international system for the reporting of epidemics, and to have machinery available for some common action against typhus, cholera, malaria, and similar scourges. It was of the greatest value that this Health Organization should have representatives from the United States, Germany, and the Soviet Union—States which were outside the League of Nations—and he trusted that the educational effect of this splendid health movement would be such as to encourage still further co-operation and fraternity, beyond the realm of medicine, among all the nations of the earth.

The Director of the Health Section of the League

Dr. RAJCHMAN, in the course of his address, said that when the League of Nations came into existence three technical organizations were set up, in addition to the ordinary political activities of the League, to promote co-operation between the various Governments as regards transit, economic and financial matters and public health. These technical organizations reproduced the constitution of the League itself, which consisted of the Assembly, the Council, and the Secretariat. The "Assembly," in the case of the Health Organization, was the International Public Health Office in Paris, the "Council" was the Executive Committee, lately constituted in its final form, and the "Secretariat" was the Health Section of the General Secretariat of the League at Geneva. The Organization recognized two limitations to its work. (1) it could not undertake work which came properly within the activities of a national health service, (2) it did not seek to form international medical opinion—this was the province of international congresses of medicine.

The first Commission to deal with the anti-epidemic work came into existence in consequence of the continued spread of typhus and relapsing fever in Eastern Europe. Various voluntary organizations—notably the Red Cross and the American Relief Administration—had participated in this work in Eastern Europe but while the charitable public subscribed millions to these voluntary organizations, the credits of the Governments through the League amounted only to hundreds of thousands, moreover the subscriptions of the charitable public came in quickly, while those of the Governments had to await parliamentary discussions. Nevertheless this participation of Governments introduced a new principle. The Commission did not send its own units, as did the other bodies, to fight epidemic diseases, it worked through the health services of the countries concerned, and limited its material help to sending sanitary materials and supplies at the request of those services. Fortunately, the typhus epidemic in Eastern Europe was over. It was estimated that between 40 and 50 million cases of typhus and relapsing fever occurred during the four or five years over which the epidemic extended.

The International Health Organization had succeeded in promoting eleven or twelve sanitary conventions, some of which were already fully ratified, between various countries, so that collaboration and exchange of information between the health administrations would now be possible. By such conventions Russia was bound with all her neighbours except Rumania, Poland was bound with Czecho-Slovakia, Germany with Poland, Jugo-Slavia with Austria, Bulgaria with Rumania, and so on. An epidemiological intelligence service had been established, covering at first Russia and East Europe, and then extending to the Near East. Other countries should be brought within the sphere of this service, and a permanent place should be found in the International Health Organization for some kind of clearing house for epidemiological information and public health statistics. The Organization had during the last six or nine months published monthly a report containing the returns of infectious diseases for practically all the civilized countries of the world. In each case the efficiency of the return depended on the general state of development of the country and its public health legislation. The International Health Organization had decided to make a sanitary survey of most of the civilized countries of the world, beginning with the countries of Europe and it was hoped to build up knowledge however slowly which would furnish comparable data. As it was found difficult to centralize information from the Far East at Geneva it was decided eighteen months ago to send a special commission of inquiry to make a survey of the methods used in quarantine procedure at the ports, and also to inspect the methods of collecting epidemiological information there and in the hinterland. Some important recommendations had been made, one of these was for the establishment of a sub-office in some convenient Far East port.

Fortunately, at the present moment no dangerous epidemics threatened Europe though the widespread prevalence of malaria particularly in Russia, was disquieting. Russia was the most afflicted country in Europe as regards malaria. The total number of cases said to have been registered last year in the Soviet Union was 4,000,000, not very much larger than the figure for 1913 but in pre-war days malaria was restricted to certain provinces whereas now it appeared to be prevalent all over Russia, including the central and northern parts. Malaria was also a very important problem for Rumania, Greece and other countries in South-eastern Europe. In Albania a preliminary survey had been made. In Greece a special commissioner had been appointed to make a survey, and it was hoped to send a commissioner to Persia. It had been decided also to set up a permanent committee on malaria composed of experts, including some members designated by public health services in Europe, in order to draw up a programme

of research It was largely a local problem In Jugo-Slavia, for instance, there were two distinct malaria problems—one in Dalmatia, where malaria was caused by the fact that there was not sufficient water, and one in Macedonia, where there was too much Scientific surveys were at present being undertaken by four or five countries, but they were working in watertight compartments, Italy, for example, did not know what Jugo-Slavia was doing (and the work done in Jugo-Slavia during the last two years was astounding), and again in the Ukraine and in Russia there was no knowledge of what was being done elsewhere Here it was the obvious duty of the International Health Organization to come in

The Executive Committee had also decided to initiate the standardization of therapeutic and prophylactic serums and biological products, and it was hoped that some steps towards correlation would be made this year It was not desired, nor was it possible, to create a medical research institute of the League of Nations, but the Committee was inviting the co-operation of research institutes throughout the world, and this had been already secured in the case of ten or twelve It was found to be rather difficult to get serologists to agree to a common method of work, but the President of the Committee, Dr Madsen of Copenhagen, had invited them to his own institute, with a clear intimation that they would be expected to extend their stay until they reached an agreement Some of those responsible for carrying out the tests had been invited also After fourteen days of continuous laboratory work at Copenhagen a definite result was obtained, and a real agreement was now in sight

The exchange of visits among medical officers of different countries under the auspices of the Health Section was not primarily for the purpose of enabling the visitors to obtain information, although that was a useful subsidiary object, the primary purpose was to establish an international *esprit de corps* During the eighteen months for which this system of visits had been in existence 250 medical officers of health from forty-three different countries had participated, and he believed that after the system had been in operation for five or ten years all the holders of public health posts in the world which were regarded as of strategic importance would be in contact with one another, and would have become real collaborators in the international promotion of health

Sir W Hale-White, in expressing the thanks of those present to Dr Rajchman, said that this was evidently the largest example of team work in existence States which would not look at one another politically nor enter the same League would co-operate in the International Health Organization

BRITISH EMPIRE EXHIBITION

MEDICAL SECTIONS

(*Continued from page 737*)

In our two last issues we dealt more particularly with those exhibits at Wembley which were of medical interest inasmuch as they were concerned with the problems of human health and disease In the exhibit next to be described this question of human health is of less importance relatively the main interest lying primarily in the prevention of disease in farm animals and in plants of agricultural importance Although in some cases these infections are spread to man yet in most of them their importance arises from the damage done to the food supplies of both man and animals

Helminthology Exhibit of the London School of Tropical Medicine

In the Department of the Ministry of Agriculture in the Government Pavilion an exhibition case has been designed and prepared by Professor R T Leiper, of the Institute of Agricultural Helminthology (London School of Tropical Medicine) to demonstrate the nature of the work performed in detecting and identifying parasitic worms in domestic animals and plants the ways in which infection is spread and also the developmental stages of these worms—a matter of great importance from the preventive point of view.

One large bay of this exhibition case sets out the manner in which the dog may be the means of the spread of these infections throughout a farm An illuminated silhouette study of a farmer and various farm animals grouped round the dog will certainly attract the attention of the passer by, who will thus be led to take notice of the specimens of the five different varieties of tapeworms commonly inhabiting the intestines of the dog The cysts produced by each of these species in the different farm animals are exhibited in dissected specimens, and there is also a complete tapeworm mounted as a transparency to show the head and the egg-bearing segments A smaller bay shows the disease produced by eelworms, which invade the stems, leaves, and roots of various plants and are responsible for serious agricultural disaster when such plants as clover, oats, wheat, tomatoes, and beet are attacked The devastation wrought in potatoes receives special attention, and the widespread destruction of crops of different kinds resulting from these parasites is shown by striking photographs Another bay illustrates the morphology of various adult worms and their migration in the process of development through such intermediate hosts as snails, fish, and earthworms The different appearances of the eggs of these worms are displayed by illuminated transparencies, and an explanation given of the way in which diagnosis of these parasitic infections is rendered possible during the life of the infected animal by examination of the faeces, thus enabling curative and preventive measures to be taken In this bay, moreover, are shown the macroscopic and the microscopic changes brought about in the tissues of various organs by the presence of these parasites The examples shown include the "lung flukes" of dogs, tapeworms, and the causes of "gapes" in chickens, "pimply gut" and "worm nodules" in cattle, and bilharziasis in man In another bay, finally, is set out the organization of the Institute of Agricultural Helminthology, including its close association with such collecting grounds as the Zoological Gardens, the metropolitan meat markets, and the hospitals of the Seamen's Hospital Society A small chart demonstrates the way in which the Institute draws supplies of material from foreign lands through the overseas activities and connexions of the London School of Tropical Medicine All these specimens and illustrations are clearly labelled and described so that the maximum of information about the spread of the different diseases may be available, and the whole exhibit bears impressive witness to the extent and importance of the work that is being carried on by the Institute

In addition to a short article on this exhibit in the official Handbook of the Exhibition, an illustrated pamphlet is being prepared which will enable the great amount of research work done to be fully appreciated

Chemical Exhibits

In the Chemical Hall, which is situated in the Palace of Industry, the Association of British Chemical Manufacturers has prepared special exhibits to illustrate the advances made during the last twenty years In the centre of the Scientific Section of the Chemical Hall an ingenious daylight display of an iridescent fountain will draw many people to this more technical section, since water, as it falls, seems to be transformed into flashes of differently coloured flames The outline of the manufacture of such substances as aspirin, various alkaloids, and insulin is shown, and the synthetic preparation of complex organic medicinal chemicals Various kinds of anaesthetics, organo-therapeutic products, disinfectants, microscopic stains, and compressed drugs are also exhibited A large number of firms have combined in the construction of an extensive and impressive exhibit

International Health Conference

Under the presidency of Lord Burnham an International Health Conference, organized by the People's League of Health, will be held at Wembley during the four days May 21st to 24th inclusive The subjects to be discussed include housing and house sanitation, food, air, light, and water in connexion with health, tropical diseases, mental and industrial hygiene, and future legislation with regard to health matters A literature stall is being arranged and will contain publications dealing with these subjects

DIET IN RELATION TO HEALTH AND MORALS

ADDRESS TO THE KENSINGTON DIVISION BY CANON LYTTELTON

At a meeting of the Kensington Division of the British Medical Association on April 15th, the Rev the Hon EDWARD LYTTELTON, D D, late Headmaster of Eton, gave an address on "Food, health, and morals"

Dr Lyttelton began by remarking that he had always taken a great interest in physiology, and had he not been a schoolmaster he would certainly have been a doctor There were similarities between the two professions, not only in the noble respect that the purpose of them both was to do good and to give rather than to get, but in the lesser respect that both schoolmasters and doctors learned the wisdom of concealing their ignorance' He recalled a remark made to him by the Master of Balliol who recently passed away (Mr Arthur Lionel Smith) to the effect that there must be something very wholesome for the character in medical work because while the medical student was proverbially feckless, noisy, and irresponsible the medical man, wherever one found him, was an uncommonly good fellow

That evening he wished to make one or two suggestions with regard to the effect of diet upon physical and moral health In 1892 after he became headmaster of Haileybury he was impressed by the neglected condition of the boys teeth, and he got a London surgeon to inspect the whole school Among 500 boys this surgeon found 1 800 teeth that required immediate attention In his own school days conditions were still worse No one thought of inculcating dietetic laws among schoolboys The first thing that saved his own health was hearing Mr Gladstone holding forth at the dinner table on the need for thorough chewing, he was old enough to see the force of what the great man said and wise enough to practise it At the age of 27 he went to a theological college, where the amount of food provided was considerably less than that to which he had been accustomed but he found the diminished diet resulted in better health When he was 40 he found that many of his contemporaries were getting what was called the elderly spread Somebody told him of a saying of Archbishop Temple—a magnificent specimen of an old man, whose vitality continued to an advanced age— The older you get the less you want He also came into touch with George Skene Keith of Midlothian, who at 78 published his book *Facts of an Old Physician* Keith indulged in some violent diatribes against his profession from which he had then retired doctors he said were dumb on the subject of over eating Keith's reasoning made Dr Lyttelton cut down his diet a good deal further He now confined the daily eating of meat to one small helping in the evening and found a great improvement At the age of 47 he became a non flesh eater and for fifteen years ate no fish either until the exigencies of food supply in the war led him to abate the rigour of this latter denial The first result of a vegetarian régime was the total disappearance of chronic lumbago which had troubled him for twenty five years Within six weeks of this change of food the lumbago went never to return Liability to sea sickness also disappeared the teeth ceased to decay and the best thing of all was the freshness with which he woke in the morning after only six hours sleep

Medical men had constantly said to him that more harm was done by over eating than by over drinking The question was whether enough had been done to publish this dictum Very few people realized that each ounce of food put into the system over the necessary minimum meant not additional energy but actually diminished energy In the diary of a young subaltern in the siege of Ladysmith there was the entry We have been a whole week on half rations and everyone I meet tells me that he feels the better for it This man was no fanatic for when it came to quarter rations he sang a very different note The inference was that people were eating twice as much as they needed, but it was very difficult to tackle any man seriously on the subject if done at all it had to be done in a jesting way Excess of food consumption by boys was disastrous in our social history Nineteen mothers out of twenty sensible in every other respect encouraged their boys to believe that self control in the matter of food was not a necessity They brought them up on a principle or on an absence of principle, which was fatal when the lads came to the temptations of young manhood He recalled Dr Pusey who heard an immense number of confessions of young men at the university declare that over-eating was just as provocative of immorality as over drinking Some ten years ago the late Sir Malcolm Morris told him that in his consulting room he had been able to save the lives or the health of hundreds of men by giving them only the advice to cut down their diet In his own boyhood whatever might have been the opinion of the medical profession, lay persons had not the faintest idea that there was any danger in over-eating He had seen many friends and contemporaries ruin their health by this intemperance Those specially liable were men who had the misfortune to be looked after by elderly female relatives. He recalled one of his friends—a schoolmaster—who was accustomed to have eight meals a day and was often in the morning quite unfit to teach, or even to enter the school The speaker felt that doctors were not doing all they might do in the way of prevention. The medical profession had more than once been slow to take up a new idea—notably the idea of the open air treatment of tuberculosis which was suggested by a physician named Bodington in 1830 and laughed out of court In this respect however the medical profession was not peculiar In the history of mathematics the Greek Aristarchus, about 200 B C, anticipated Copernicus and asserted that the earth went round the sun but not a soul believed him. The speaker had been told by one of his medical friends that a change was coming about in the profession, and that many doctors were now advising the cutting down of diet as a remedy for various forms of disorders. It was difficult to characterize the folly of being almost hysterical about venereal disease and refusing to undertake the instruction of the community—especially the younger part of the community—in elementary self-control. What was at stake in this matter was not merely such things as venereal infection but the whole happiness of married life. The boy must learn self control first in the matter of food, and then he could apply it to every bodily temptation that came along

DISCUSSION

The chairman (Dr W E. FRY) thought that the argument from Ladysmith might be fallacious because the besieged person was unlikely to have had the usual amount of exercise Colonel A B COTTELL remarked that the races of the world which were fighting races were meat-eaters and the same was true of animals There was something stimulating about meat if the right amount was taken Dr R H DRAPER thought that a vegetarian diet would be rather difficult to adapt to city life Animal food was undoubtedly stimulating

Mr E B TURNER said that doctors had advocated a diminution of diet—notably Sir Andrew Clark. It had been the speaker's practice in the days when Sir Andrew Clark was alive to suggest to any patient who showed signs of deterioration from over eating that he should see Sir Andrew, who invariably prescribed a reduction of diet and whose authority secured its observance While not favouring vegetarianism the speaker admitted that many great athletic feats had been accomplished on a vegetarian diet

Dr H H SANGUINETTI said that in some rheumatoid arthritis cases it was complained that matters were made worse by a restriction of meat diet and recently at the Hunterian Society several members stated that their patients had been much benefited by an increase of this diet Celsus had said that if people were in the habit of taking two meals a day they might continue with it assuming apparently that in those days the majority of people were accustomed to only one meal a day To day many people thought themselves hardly used if they did not have four

Dr G C ANDERSON suggested that Dr Lyttelton had not come to preach vegetarianism but to ask them in the conduct of their practices to preach temperance in diet It was undoubtedly the fact that very many people consumed too much food but in laying down any law on the subject regard must be paid to the habits of life of the persons concerned His own former practice was largely among miners who certainly required a heavier and possibly a coarser diet than the sedentary person

Dr ANDREW BALFOUR agreed with Dr Anderson that the requirements as to diet varied very much with the type of individual and the character of his work It had to be remembered that most schoolboys did not lead a sedentary life and he thought their activity counterbalanced to a great extent any excess of diet He was recently in America where his impression was that the people were eating more than on the occasion of a former visit and this additional food consumption might go some way to neutralize the good effects of prohibition The speaker was himself a disciple of Dr Lyttelton, and had benefited considerably by giving up lunch in the middle of the day In the new School of Hygiene and Tropical Medicine in London it was proposed to have a museum of hygiene on graphic lines where instruction in dietary matters could be imparted

Dr H M STRATFORD instanced the case of the street boy who at any rate until recent years was kept on scanty food and yet developed conspicuous sharpness both of wit and movement The Gurkhas one of the great fighting races of India, were vegetarians, and so, he believed, were the Sikhs

CRIMINAL RESPONSIBILITY

THE following is the text of the Criminal Responsibility (Trials) Bill introduced into the House of Lords by Lord Darling on April 9th

LORD DARLING'S BILL

A BILL intituled an Act to declare and amend the law relating to the criminal responsibility of accused persons

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows —

1 *Responsibility of Persons Suffering from Mental Disease* —(1) A person is not responsible to the law for an act or omission charged against him as a crime, if, at the time of doing the act or of making the omission, he is proved to be suffering from such a state of mental disease as deprives him—

(*a*) of capacity, at the time, to know, understand, and appreciate the physical nature and quality of the act done or omission made, or

(*b*) of capacity to know, understand, and appreciate at the time that the act done or omission made was wrong, or

(*c*) if, at the time the act was done or omission made, he was suffering from such a state of mental disease as therefrom to be wholly incapable of resisting an impulse to do the act or make the omission

(2) A person who is suffering from mental disease at the time of doing the act or making the omission charged against him as a crime, and, by reason of such mental disease is affected by delusions on some specific matter or matters, but whose mental condition does not render him irresponsible to the law within the meaning of subsection (1) of this section, is criminally responsible for such an act done or omission made to the same extent and as if the facts with respect to which such delusions exist were real

2 *Amendment of 46 and 47 Vict c 38* —The following subsection shall be substituted for subsection (1) of section two of the Trial of Lunatics Act, 1883 —

"(1) Where in any indictment or information any act or omission is charged against any person as an offence, and it is given in evidence on the trial of such person for that offence that he was insane, so as not to be responsible, according to law, for his actions at the time when the act was done or omission made, then, if it appears to the jury, before whom such person is tried that he did the act or made the omission charged but was then insane so as to be irresponsible in law in respect of the said act or omission charged against him, and is not guilty on the ground that he was so insane as aforesaid, the jury shall return a special verdict to the effect that the accused is not guilty because he was insane as aforesaid at the time when he did the act or made the omission"

3 *Short Title and Extent* —(1) This Act may be cited as the Criminal Responsibility (Trials) Act, 1924

(2) This Act shall not extend to Scotland or to Northern Ireland

The schedule to the Bill provides for the repeal of Subsection (1) of Section 2 of the Trial of Lunatics Act 1883 (46 and 47 Vict, c 38)

Lord Darling has explained the motive with which he drew the bill in an article published in the *Evening News* on the day of its introduction In this article he discussed more particularly the efforts made by the Committee, under the presidency of Lord Justice Atkin, to consider what changes if any are desirable in the existing law, practice, and procedure in which the plea of insanity as a defence is raised The report which was issued he regards as admirable for its fullness of information and its fairness of statement and argument, and, as he points out, the Committee practically and essentially adopts the views expressed by the British Medical Association on this question[1] He feels, however, that the conclusion reached by Lord Justice Atkin's Committee that "there are cases of mental disorder where the impulse to do a criminal act recurs with increasing force until it is in fact uncontrollable," or, in other words, the recognition by the Committee of "irresistible impulse," demands grave consideration, as it would introduce a change in procedure at trials and an extension of the M'Naghten rules

Some of our judges, as Lord Darling observes, where cogent evidence has been given as to the mental condition and conduct of the accused, have admitted some extension of the rules in the same sense as the recommendation of the Committee And these judges have directed juries that an uncontrollable impulse, due to and directly arising out of mental disease, may so operate as to relieve the accused from criminal responsibility Since there are definite decisions of the Court of Appeal the other way, however, the M'Naghten rules would seem to need extension, and, as Lord Darling observes, a new rule, if enacted, must be expressed in language as plain and clear as that of the existing rules, which, he says, judges have found little difficulty in applying to the facts given in evidence, and to the opinions given by medical witnesses Lord Darling is not opposed to an extension of the existing formula, and thinks that a new rule to cover "irresistible impulse" would allay the inevitable differences between physicians and jurists, but he evidently has in mind the thought that the plea of "irresistible impulse" might be abused, and its scope so extended as to include criminal activities which could not properly be classified under this term

Perhaps in a future state of society all delinquencies will be regarded as manifestations of mental disorder, and their perpetrators isolated in mental hospitals, temporarily or permanently, for the purpose of cure and treatment We find it difficult, however, to imagine any state of society which could dispense with institutions analogous to prisons There must be some method of indicating disapproval of antisocial actions, because human nature is such that, in some instances, what is called punishment is the only means of preventing the occurrence of crime, or, if once committed, its repetition Punishment as the expression of the disapproval of society will thus, in all probability, always be a useful therapeutic procedure

The defence of "irresistible impulse" might reasonably be looked upon with suspicion unless the psychiatrist is able to furnish convincing evidence of some general abnormality in the reaction of the accused apart from the impulse which has led to a breach of the law Many so-called cases of impulsive insanity, or monomania as they were formerly designated, can be included in other categories of mental disorder Thus, the morbid impulse may be associated with mental deficiency, epilepsy, hysteria, dementia praecox, general paralysis, paranoia, or manic-depressive insanity There are still, however, some cases where such impulses undoubtedly exist, though their abnormality is not readily made apparent to the layman Thus, while such impulsives as the pyromaniac, the anonymous letter-writer, the morbid liar and poison-maniac, may show evident signs of abnormality to the psychiatrist, who has often been perplexed to know how to deal with them in clinics, it may be difficult to convince a judge and jury that the prisoner is the subject of mental disorder The nature of the delinquency, the past history, and the general attitude of the patient are usually sufficient to indicate, however, when such impulses may properly be regarded by society as pathological in origin

[1] See BRITISH MEDICAL JOURNAL March 24th 1923 p 518 and December 1 1923 p 1060

British Medical Journal.

SATURDAY, APRIL 26TH, 1924

THE MASTER OF THOSE THAT KNOW

MANY attempts have been made with varying degrees of success, to write a history of medicine If the phrase be taken quite literally the task is impossible Medicine is an applied art and it depends for its development on various ancillary sciences These hand maidens of the art of healing have each a separate existence an independent discipline an individual history The history of medicine to be intelligible has in fact, to be the history of the sciences and studies that have helped medicine to become what it is It would be a poor history of medicine that omitted Pasteur, who was no physician It would be an even poorer history of medicine that omitted Aristotle who had less direct contact with the medical profession than Pasteur, but whose influence on the theory and practice of medicine has been most profound

It is said that every man and every woman that is born into this world is by nature a disciple either of Aristotle or of Plato There is much in the saying. It is probably true that most of those who take naturally to the study of medicine belong to the Aristotelian group That natural bias must have been accentuated during the long centuries in which the work of the two great philosophers formed the main intellectual pabulum of mankind

In his great work *Physica* Aristotle sets forth clearly the difference between the two attitudes reduced to its simplest expression and in a concrete form It arises out of the discussion of the use of mathematical formulae The bodies studied in the physical sciences have of course, in them planes and solids, lines and points But such planes and solids lines and points, are the subjects also of mathematical study How then are we to distinguish the procedure of the mathematical from that of the physical sciences? The answer in Mr W D Ross's lucid interpretation of Aristotle, is that the mathematician studies these things indeed but not as limits of a physical body The objects of mathematics though in fact inseparable from a physical, movable body, are studied in abstraction from movement, and this abstraction involves error The mistake made by the ideal theory of Plato is that of attempting to abstract from matter entities in whose very nature unlike that of mathematical objects, matter is involved Odd and even, straight and curved, number, line, figure can be studied out of connexion with movement flesh bone, man cannot [1] For the word movement here might perhaps be substituted the word change Change is indeed an essential part of Nature and fundamental to real existence, yet it has to be ignored in pure mathematical investigation This principle of change or movement prevents Nature from ever really repeating herself, while in mathematical conceptions one unit must be exactly like another

We may see the effects of the two attitudes in the biological works of the two great philosophers So far as our art is concerned it is by their fruits we know them Both Plato and Aristotle have left us their physiological views Those of Plato are shrouded in that dark and most repulsive dialogue the *Timaeus* Plato is led by an inner light that here it ever is deceptive and distorting and has elevated, from an idea into a concrete form a mechanism that never was on land or sea On the other hand, in the great biological works of Aristotle we have a magnificent series of first-hand observations and positive studies to which naturalists in all ages will return with delight and refreshment Aristotle considers the problems of vitalism and mechanism of sex determination of heredity of the essential nature of generation, which are at the base of our science and practice at the present day His statements have too, the rare advantage of being set forth in their simplest form, divested of the rags and tags of scientific jargon the vestiges of the flowing robes of doctrine in which the arguments of the ages once clothed and almost smothered them

It is no mean privilege that after length of days the words and views of the master of those that know are at last revealed to us No one has ever been more studied and argued about than Aristotle no one has been less understood Owing to various technical, linguistic and philosophical difficulties numbers of his works have only become fully accessible to the intelligence in our own time The first effective translation into English of the entire Aristotelian canon is in course of production under the editorship of Mr W D Ross [2] That scholar has now added to his gifts to our generation by setting forth for us in compact readable and authoritative form the views of the master in every department The book is a monument of sanity and balance All men of science with any caring for the philosophical implications of their study, will render homage to its author

Our attention is naturally concentrated on Aristotle's biological knowledge We may say that we feel bound to differ for once from Mr Ross in that we reject the evidence that Aristotle had any direct knowledge of human anatomy whether gathered from the adult or from the embryo On the other hand Aristotle's observations on the structure the development and perhaps above all the habits of animals are marvellous in their accuracy and extent The biological works of Aristotle are still a fascinating field of exploration for the modern workaday naturalist [3] Perhaps no instance is more striking than Aristotle's description of the placental character of the development of certain dogfish That was a marvellous achievement for a naturalist of the fourth century B C but it remained forgotten for two thousand years Stensen who has given his name to the duct of the parotid gland, refound a placenta in a species of dogfish in the seventeenth century This most interesting phenomenon however continued practically unnoticed until the middle of the nineteenth century when Johannes Müller one of the greatest of modern morphologists set it forth in a manner that impressed biological workers Since the war an Indian naturalist working in conjunction with a British colleague has extended these observations of the great German and the great Greek observers [4] Thus far is the net of Aristotle flung!

Remarkable though such discoveries are—and there might be multiplied scores of times—it is chiefly by

[1] W D Ross *Aristotle* London Methuen 1923. 12s. 6d.

[2] The works of main interest to biologists are the *De partibus animalium* translated by A. Platt, Oxford, 1912 the *De incessu animalium* by W Ogle Oxford 1912 and the *Historia animalium* by D W Thompson, Oxford 1910.

[3] The biological views of Aristotle are summarized by C Singer in *Greek Biology and Greek Medicine* Oxford, Clarendon Press 1922. 6d.

[4] T Southwell and P. Prashad *Embryological and Developmental Studies of Indian Fishes, Records of the Indian Museum*, XVI p. 45. Calcutta 1919.

his method that Aristotle has influenced the biological investigators of after ages. His *scala naturae* is the model out of which later systems of classification have developed. His thoughts on development have provided a stimulus to the succeeding generations of embryologists from Fabricius ab Aquapendente and Harvey, through Caspar Friedrich Wolf and von Baer, to Johannes Muller, Darwin, and F. M. Balfour. His great biological works—now happily accessible to English readers—are the first steps in the series from which the modern systematic treatise has evolved. And since we have used the word "evolved" we may recall that the very conception of evolution itself is rooted in Aristotle himself, as Darwin was glad to acknowledge. That great naturalist wrote in 1882, the year of his death, to the eminent physician, statistician, and Aristotelian scholar, William Ogle, "Linnæus and Cuvier have been my gods, but they were mere schoolboys to old Aristotle."

DICHOTOMY

THE practice of dichotomy, which is to be condemned for many reasons as inimical to the best interests of the patient and injurious to the moral standards of the practitioner, has not, we believe, been at all common in this country. It was very common in France, or at any rate in Paris, and "Gyp," a generation or so ago gave, with her customary light touch, an account of some of the evils to which it must lead. It appears that it has become rather common in the United States, for when the American College of Surgeons was founded a few years ago an applicant for election as Fellow was required to make a special declaration against the practice of fee splitting. The purpose of the declaration, which has been in force from the first, is given in the following explanatory preamble: "At the meeting in Washington when the American College of Surgeons was founded, the question was asked whether the College would positively exclude surgeons who were suspected of fee splitting or paying commissions in any form whatsoever. The President declared that no one should be admitted who was suspected of being guilty of this pernicious practice. This declaration was received with universal and most enthusiastic applause. It does not seem possible that many men who would otherwise be eligible can belong to the class of fee splitters, but the fact that the matter was so much emphasized has induced the Committee on Credentials to prepare the following positive declaration, which will be filed in connexion with the credentials of each Fellow. If the College shall in any way help this evil the public will be encouraged to look to the College for its correction. The terms of the declaration upon my honour I hereby promise that I will not, so long as I am a Fellow of the American College of Surgeons, practise in any form neither by collecting fees directly or indirectly, nor by permitting others to collect any fees for me, nor will I make joint fees with physicians or surgeons referring patients to me, nor will I in any way participate in the division of a portion of consultation fees with any one who directly or indirectly compensate any man as an assistant as a substitute for this purpose. I will utilize any man as an assistant as a substitute for this purpose. The purpose of the declaration the terms of which are carefully drawn up, is to obtain from each Fellow a personal pledge to the College of Surgeons that he will not practise fee splitting or paying commissions, and that he will not employ any one who does so. We have said dichotomy is common in this country, but apparently it exists in some places, for we published a short time ago (March 8th, p. 445) a letter conveying two resolutions adopted by a meeting of consultants and specialists in Birmingham for the consideration of the subject of "dichotomy or fee sharing." The meeting was very largely attended, and letters were received from a few who were absent. After full discussion, including reference to the numerous cases in which patients ask what will be the total cost for treatment in a nursing home or private hospital, two resolutions were adopted, they were published in full in the letter already referred to. The first resolution was to the effect that it was improper for a consultant to transfer any part of his consultation (or operation) fee to the practitioner who had called him in. The second laid it down that no consultant or specialist should pay to the general practitioner associated with him in the case any part of an operation (or consultation) or so called "inclusive" fee, unless he informed the patient or his representatives of the services for which the payment is made and the amount of such payment.

There is, of course, no reason whatever, if the attendance of the patient's family attendant is desired, why he should not receive a suitable fee. On the contrary, there is every reason why he should, and we believe that it is the custom for a general practitioner to charge the patient a fee in such circumstances, and that the patient has no hesitation in paying it. But it is clear that everything should be above board, and this object will be attained if the general practitioner himself makes a suitable charge to his patient. We venture to hope that the publicity now given to the objection the profession has to what is commonly understood by dichotomy will suffice to prevent the continuance or spread of an objectionable practice.

WEMBLEY EXHIBITION

FROM the scarlet, purple, and gold pavilion, set like a jewel in the ring of the largest stadium in the world, the King, last Wednesday, inaugurated an epoch-registering exhibition, which may some day be further described as epoch-making. The music of massed bands of the Brigade of Guards and of massed choirs, which preceded the opening ceremony, as well as the simultaneous breaking of three hundred flags which indicated its fulfilment, symbolized the co-operation in this endeavour of no fewer than seventy-eight different Governments in the British Empire welded together in a union more precious and no less durable than the gold model of the globe presented to the King. The words of the King, heard for the first time by many thousands of listeners throughout the United Kingdom, must have conveyed to many a new consciousness of the responsibility and privilege entailed by citizenship in the British Empire. The exhibition itself, colossal in size and erected at a cost of some thirty million pounds, is a living entity, like the Empire of which it is an epitome. Its fifteen miles of roads, its banks, post office, recreation ground, shops, electrical power station, sufficient for a town of 700,000 people, as well as its non and concrete buildings, constitute a local life and represent a national life which is not idly wrapped up in memories of the glorious past, but looks forward to an even greater future. The growth of human knowledge and control of nature is indicated in many different ways in the Palace of Engineering—the biggest concrete building in the world—the predecessor of the "Rocket," the little eight-ton engine which travelled at the surprising rate of eight miles an hour between York and Darlington in 1825, contrasts sharply with the "Flying Scotsman," a giant of 140 tons, built at

a cost of £14,000 The transformation of many a land from inhospitable jungle to civilized prosperity is illustrated by countless exhibits The achievements of medical research in this respect as demonstrated in the exhibition have been described in our two last issues, as well as this week at page 754 Apart from such considerations the nature of life in different parts of the Empire, with its fascinating appeal, is brought home by many an ingenious device of colour and illumination The Kaieteur Falls of British Guiana, 741 feet high, contrasts with the jungle, and life on the veld with life in the Rockies The dazzling white of the Indian Pavilion, the brown of Burma, the dusky red of the Gold Coast village walls, the green and white of East Africa, and the red roofs of the South African Section, combine with the pink and yellow of other buildings to make a striking and harmonious whole With its variety of appearance, its differences of outlook and mode of life, the exhibition constitutes a real embodiment of an Empire in which many creeds and countries are united in a common ideal of loyalty to that great whole of which each is proud to be a part

ROYAL MEDICAL BENEVOLENT FUND

THE annual meeting of the Royal Medical Benevolent Fund was held on April 15th at 11, Chandos Street, Cavendish Square, when Sir Thomas Barlow, President, was in the chair Dr Newton Pitt, the honorary secretary, in an account of the year's work, stated that there had been a substantial increase in the number of subscribers and in the total income To a very large extent this was due to a special appeal made at the Portsmouth meeting of the British Medical Association, when attention was drawn to the inadequacy of the professional support accorded to the fund The number of new subscribers was 600, and the amount of new subscriptions £1,000 Ordinary grants, amounting in all to £4,263, had been made during 1923 for the relief of 447 persons, and a further sum of £744 had been given in special grants from the festival dinner fund Annuities had been paid to 162 persons at a cost of £3 623 Subscriptions and donations to the grant fund during the year totalled to £4 738, and special gifts and legacies to the annuity fund to £1,147, to the latter fund was credited the income from investments, amounting to £4,245 The Guild received during the year £4,304 in donations and subscriptions The excellent work it does cannot be entirely set out in statistics because it consists largely in the distribution of gifts in kind The war emergency fund continued its active work, which now consists almost entirely in the payment of educational fees for the children of medical men who lost their lives or their practices in the war For this fund a sum of £36,000 had been raised, and with the exception of about £4,000, which would continue the work for a year longer the whole had now been spent The remaining proceeds of the festival dinner employed for emergency and special educational grants amounted to £581 Sir Charters Symonds, the treasurer gave some detailed figures supplementing those already furnished He said that the investments of the fund stood at £104,364, those of the guild at £7 435 and there was £2,155 cash at bank The working expenses of the grant and of the annuity departments were respectively £646 and £452, and those of the guild £391 Sir Humphry Rolleston in proposing the adoption of the report, congratulated the treasurer upon the way in which these various and substantial accounts had been handled Mr Percy Sargent expressed disappointment at the inadequacy of the support which a profession numbering so many thousands of members gave to the fund Sir Thomas Barlow referred with very great regret to the death of Sir John Tweedy, who was president of the fund for many years He said that Sir John Tweedy laid the fund under great obligations, and set an example of thorough, untailing and generous work which would be remembered as long as the fund endured In all his interest in the fund he was assisted by Lady Tweedy, who was responsible for the initiation of the guild The work of these two on behalf of this benevolence was almost an idyll, and he was sure that the recollection of it would be a great consolation to Lady Tweedy in her bereavement The President spoke of the continuing good work of the ladies' guild, and said that an effort had been made to bring home the claims of the fund in various provincial centres, so that through the work of local officers an adequate measure of support from each area might be secured The officers and committee were reappointed—one or two changes in personnel were made in the latter—and on the motion of Dr Arnold Chaplin a very hearty vote of thanks was accorded to Sir Thomas Barlow, who, in addition to his services as president, had made during the year the handsome donation of £300 to the annuity fund A vote of thanks was also passed to the editors of the *Lancet*, the *British Medical Journal*, and the lay press, and Dr Newton Pitt expressed his indebtedness to the medical journals for their readiness to publish, not only the monthly reports of cases, but special appeals and other information

A PIONEER OF ELECTRO THERAPEUTICS

In a recent number of the Danish journal *Hospitalstidende* (January 16th, 1924, p 33) Dr Gordon Norrie gave a sketch of the life of Christian Gottlieb Kratzenstein, who was born in 1723 and was the author, it is believed of the first book on the employment of electricity in medicine The title of this work, which was published in 1745, was *Abhandlung von dem Nutzen der Electricität in der Arzneiwissenschaft* Kratzenstein's gifts would seem to have been so conspicuous that he could not move from one town to another without being offered at least one professorship in each He studied in Halle, and by 1745 was already considered an authority on experimental physics His second work on electricity was published in 1747, when he was professor of physics in Halle Two years later he was a professor of mechanics in St Petersburg where he also specialized in astronomy and nautical problems. In 1753 we find him appointed professor of experimental physics at the University of Copenhagen His reputation as an electrician served him ill at this stage for no landlord could be found in Copenhagen to house a man whose experiments in electricity were sure to attract lightning and raise fires A courageous Danish woman Madame Jensen, was at last persuaded to house him and her enforth, for nearly forty years he lectured for four to six hours a day, not only on physics but on chemistry, natural history, astronomy and materia medica as well as other subjects with which his fellow professors did not deal He gave popular demonstrations and lectures and also wrote copiously in the lay press In 1754 he was appointed by the King of Denmark to study electricity and observe its effect on the sick body He issued advertisements inviting all and sundry who hoped electricity might cure their ills to call at his lodgings between 4 and 6 in the evening when everyone would be served according to the nature of the disease How he served them is not quite clear He used a large rotatory apparatus with glass balls and the sparks he drew out of his patients caused a penetrating pain which was worst in the toes moreover it was associated with a smell of sulphur and he explained that the electrical vibrations put the minutest parts of the body in motion, driving out the unclean sulphur and salt particles hence the smell Treatment with electricity he said, made the

blood more fluid, counteracted congestions, induced sleep, and was more effective than whipping with nettles in the treatment of paralyses In certain malignant fevers, such as plague, electrical treatment was indicated, as these diseases depended on "a subtle and fermenting peccant material, sulphurous in nature, which started decomposition of the blood" He had great hopes of associating the forces of electricity with centrifugal and centripetal forces, and when a patient was in need of a better blood supply to the head he was centrifugalized, his feet being near the centre and his head on the outer edge of a table which was revolved rapidly If the legs required a better circulation the patient's position on the table was reversed Kratzenstein also showed how milk and cream might be separated by centrifugalization, and it is remarkable that the practical value of this discovery should not have been recognized till much later Kratzenstein taught also that it was dangerous to cook food in copper vessels, and he recommended iron cooking utensils or copper vessels lined with tin He was a much feared as well as a much respected man, and his tongue procured him even more enemies than his scientific versatility procured him professorships He was not, indeed, cast in the mould of the traditional academic professor, and doubtless his fellow university teachers regarded him as a vulgar, pushing fellow But his chronicler, Dr Norrie, seems to have formed a kindly opinion of this scientific explorer, who, when he lay dying in 1795, and felt that his pulse was becoming weak, commented on the simplicity and ease of death in the words, "Ist das zu sterben, dann ist es leicht!"

SUNLIGHT AND HEALTH

MR BONACINA, who appears inclined to play the candid critic to his brother meteorologists and climatologists, has in a recent issue of *Nature* called in question two generally accepted beliefs In the first place he asks for reconsideration of the old and widespread belief that woodland always favours increased rainfall He admits, of course, the validity of the evidence from all parts of the globe that the reckless destruction of forest growth has brought progressive desiccation in its train, but points out that recent research by Quayle in Australia has shown that where forest and scrub are composed of drought-resisting species, reducing transpiration to a minimum, a distinct increase of rainfall has followed when forest has been replaced by grass d crops The other point he raises brings him into nflict with some popular modern beliefs He advances the view that it is possible to have too much, as well as too little, sunshine He believes, in fact, that there is for man an optimum of sunshine above which some countries rise while others fall below it Although it is commonly said that we have too little sunshine, the climate of Great Britain, he says, takes a very high place among the salubrious climates of the earth Consequently he thinks it unlikely that the deficiency below the optimum in this country can be serious except in smoke-laden industrial districts, which in winter are deprived of the allowance of sunshine natural at that season In reply to the statement that direct sunshine exerts a powerful destructive effect upon the germs of disease, Mr Bonacina observes that it is precisely in hot sunny climates that many pathogenic organisms acquire deadly virulence If, however, there is need to co-ordinate the various aspects of the question, as Mr Bonacina desires, may it not be necessary to distinguish diseases of protozoal from those of bacterial origin? Mr Bonacina admits fully the value of sunlight, but his plea for a wide geographical view of the subject may be read in conjunction with the opinions expressed by Sir George Beat on in the letter published elsewhere in this issue, and with the view Sir George quotes from Dr Watkins-Pitchford to the effect that the initial cause of cancer and certain other lesions may be found in over-exposure to some irradiations, among which ought possibly to be included the so called actinic rays of the sun

HUT TREATMENT OF DEBILITATED CHILDREN

ST ANDREW'S HOME, Hayling Island, has been in existence for some years for the treatment of debilitated, anaemic, and underdeveloped city children, products of overcrowding and underfeeding It stands just back from the beach, which is one of the safest in England, sloping as it does almost imperceptibly, and leaving, except at high tide, a large expanse of firm sand, covered for a considerable distance by only a few inches of water Here the children spend practically all their time, returning to eat and sleep in shelters open entirely on one or more sides to the air Clothing is reduced to a minimum, and what little is worn in winter is of the loosest and most hygienic pattern There is no "indoors," and this is looked upon by the staff as the secret of the change which is wrought in the inmates In November, 1922, by the kind permission of Mrs Brenton, the hospital was allowed to put up at St Andrew's a hut containing ten beds, and thirty-seven of the most miserable, undersized, and debilitated children attending the Chelsea Tuberculosis Dispensary have been sent to the hut during the year, they have been chosen from the poorest and worst homes, and ten have a definite history of tuberculosis They stay for a minimum of three months, and as much longer as the doctor advises, they do no lessons, and are subject to the minimum of restrictions by clothes and regulations The results have far exceeded the most sanguine expectations The average length of stay was three and a half months The average gain in weight in these children has been 8 lb 3½ oz (the greatest being 20 lb), and in height from 1 to 2½ inches But no figures can express the change in their appearance, the gain of robust health, and the look on their faces Through the kindness of Mrs Howard Marsh the hospital has recently been able to provide another hut, which is to be used for out-patients other than those living in Chelsea Mrs Howard Marsh has erected and furnished this hut in memory of her husband, the late Professor Howard Marsh of St Bartholomew's Hospital and Cambridge, the opening ceremony will be performed by Sir Henry Gauvain on Saturday, May 3rd, at 1 15 p m

PROGRESS OF CREMATION IN ENGLAND

THE Cremation Society of England, which was formally constituted on April 29th, 1874, draws attention to the completion of the fiftieth year of its existence by printing in its annual report the facsimile of the original declaration signed in January, 1874, which is as follows "We, the undersigned, disapprove the present custom of burying the dead, and we desire to substitute some mode which shall rapidly remove the body into its component elements, by a process which cannot offend the living, and shall render the remains perfectly innocuous Until some better method is devised we desire to adopt that usually known as cremation" Sixteen signatures were attached to this declaration, including such well known names as the Rev H R Haweis, the Rev Charles A Voysey (founder of the theistic church), Ernest Hart, the Editor of the BRITISH MEDICAL JOURNAL until his death in 1898, Sir Henry Thompson, the founder and first president of the society, Sir T Spencer Wells, the famous surgeon, Sir J I Millais, Sir John Tennicl, and Anthony Trollope During the year 1923 the total number of cremations in Great Britain was 1,986, a decrease of 23 on the figures of 1922, probably due

to the abnormally low general death rate during the year At the second annual conference of cremation authorities held in Liverpool in October it was decided to form a federation of these authorities in order to co-ordinate individual efforts The third conference is to be held at Wembley on August 1st During the last year a committee was formed to draft a bill amending the law relating to death certification in order to remove those existing anomalies which hinder cremation from being more extensively adopted by the poorer members of the community In answer to a questionary asking all Parliamentary candidates their opinion on this subject, 290 candidates out of 330 were in favour of the reform of death certification, and of adopting the practice of cremation in industrial areas The society appears to be steadily gaining ground and those interested in its objective may obtain full information from the secretary at 52, New Cavendish Street, London, W 1

INCIDENCE OF VENEREAL DISEASES IN SWITZERLAND

THE Swiss Association for Combating Venereal Diseases has issued a report on the venereal diseases in Switzerland by Dr Hubert Jaeger, first assistant in the clinic for diseases of the skin and venereology of Zurich University It contains the results of an inquiry made during the year ending September 30th, 1921 Forms were sent to all the Swiss practitioners, a nominal fee of 50 centimes being paid for filling up particulars of each case the practitioner had treated, 75 per cent responded, and 95 per cent of the venereal specialists circularized sent more or less detailed replies The total number of cases amounted to 15,607, or 40 per 10,000 of the entire population of Switzerland—a figure approximating to that returned for Sweden in 1920 (34 per 10,000), and considerably below that for Denmark during the same year (183 per 10,000) The incidence of venereal diseases in Switzerland varied considerably from one canton to another It was highest in that of Geneva with 120 cases per 10,000, and lowest in that of Schwyz with 8 per 10,000, in towns the proportion was 83 and in the country 9 The relative frequency of the three principal venereal diseases among patients under treatment was gonorrhoea 57 8 per cent, syphilis 41 6 per cent, and soft chancre 0 6 per cent , 68 per cent of the patients were men and 32 per cent women About half of all the cases were between the ages of 20 and 29, and three-quarters between the ages of 20 and 39 The largest contingent was supplied by divorced persons, and then in order of frequency came celibates, married persons, and widowers Cases of gonorrhoea numbered 9,291, and of syphilis 6,409, constituting respectively 24 and 17 per 10,000 inhabitants The report, which can be obtained from Messrs Buchler of Berne, contains numerous tables showing the frequency of infection in the sexes at various ages, the occupation of those infected and the sources of infection, and a coloured map indicating the relative incidence of venereal disease in the different cantons and principal towns of Switzerland

ANAESTHETICS

IN view of the need for more accurate knowledge of the modes of action of various anaesthetic agents and of the impurities that may be associated with them the Medical Research Council and the Anaesthetics Section of the Royal Society of Medicine have appointed an Anaesthetics Committee to initiate and direct investigations The following have already undertaken to serve in this way Dr J Blomfield (chairman) Dr H H Dale, F R S, Professor F G Donnan, F R S, Dr C F Hadfield (secretary), Professor M S Pembrey, F R S, and Dr F E Shipway Among other subjects of study an immediate investigation is to be made into the nature and frequency of impurities that may occur in nitrous oxide gas Nitrous oxide is now used for operations of considerable duration, so that impurities likely to have small effect in brief inhalation might be seriously toxic after prolonged use At present there is no generally recognized standard of purity for nitrous oxide, it is not included in the *British Pharmacopoeia*, and is not subject to official tests The nitrous oxide manufactured by the various British firms that supply it is of the highest quality, but from time to time reports of somewhat indefinite nature appear to show that toxic effects have been caused by the administration of "gas" The suggestion that this may be due to some impurity in the nitrous oxide calls for examination, and the Committee is seeking any relevant information, and we are asked to invite anaesthetists who can supply evidence of this kind in detail, and if possible the cylinder to which it relates containing any remaining gas, to communicate with the honorary secretary of the Committee, Dr Charles F Hadfield, 47, Queen Anne Street, W 1

ROCKEFELLER MEDICAL FELLOWSHIPS

THE Rockefeller Medical Fellowships for the academic year 1924-25 will be awarded by the Medical Research Council in June, and applications should be lodged with the Council not later than May 31st, 1924 These Fellowships are provided from a fund with which the Medical Research Council has been entrusted by the Rockefeller Foundation Fellowships are awarded by the Council, in accordance with the desire of the Foundation, to graduates who have had some training in research work in the primary sciences of medicine or in clinical medicine or surgery and are likely to profit by a period of work at a university or other chosen centre in the United States before taking up positions for higher teaching or research in the British Isles A Fellowship will have the value of not less than £350 a year for a single Fellow, with extra allowance for a married Fellow, payable monthly in advance Travelling expenses and some other allowances will be made in addition Full particulars and forms of application can be obtained from the Secretary, Medical Research Council, 15, York Buildings, Adelphi, London, W C.2

WE have to record with deep regret the sudden death on Easter Sunday, at his holiday house at Birchington-on-Sea, of Dr R J Reece C B one of the senior medical officers to the Ministry of Health We propose to publish an obituary notice in our next issue

THE Lloyd Roberts Lecture in Manchester will be given this year at the Royal Infirmary on October 7th by Sir John Bland Sutton President of the Royal College of Surgeons of England The title of his lecture is 'Attic salt for gall stones'

THE Oliver-Sharpey Lectures at the Royal College of Physicians of London will be given by Professor A V Hill F R S of University College London, on Tuesday, April 29th, and Thursday May 1st The first lecture will be on the recovery process in the isolated muscle, and the second will deal with the recovery process in man Professor K F Wenckebach director of the first medical clinic, Vienna will give a lecture before the College on angina pectoris and the possibilities of its surgical relief on Monday May 5th The lectures will be given at 5 p.m. on each day

England and Wales.

THE QUEEN'S UNIVERSITY CLUB, LONDON

THE first dinner of the Queen's (Belfast) University Club, London, was held in the Connaught Rooms, London, on April 10th, when the President, Colonel Thomas Sinclair, C B, M D, F R C S, M P, was in the chair The company, composed of Belfast graduates and their guests, numbered about 150 Mr R W Livingstone, Vice-Chancellor of the University, and Professor J A Lindsay, M D, F R C P, made the journey from Belfast, and quite a number of members from Liverpool, Manchester, Portsmouth, Bath, and the Midlands were present Enthusiastic speeches, in tribute to the alma mater and in support of the club, by the chairman, Lord MacDonnell, G C S I, Sir Lynden Macassey, K B E, K C, Professor J A Lindsay, and the Vice-Chancellor of the University, were much appreciated There were also present Sir David Semple, M D, Sir William Maxwell, Colonel Robert McCarrison, C I E, M D, the Rev D Wilson, Mr J R Fisher, K C, Dr James Chambers, and Dr William Douglas A musical programme added greatly to the enjoyment of the evening Altogether the reunion was a most happy and successful one To mark his year of office the President very kindly presented a golf challenge cup to the club Members wishing to compete for this trophy should communicate with Mr A McKinstry, 4, Central Buildings, Westminster, S W

LIVERPOOL VOLUNTARY HOSPITALS ANNUAL REPORTS

Royal Infirmary

The annual meeting of the trustees of the Liverpool Royal Infirmary was held on March 14th The treasurer's report the 175th of the sequence showed an annual income of £42,554, as compared with £53,902 in 1922 The decrease was chiefly due to the fact that there was a large diminution in the amount derived from legacies The total expenditure was £818 less than in 1922, this decrease was effected by economy in coal, gas and electric current, and a reduction in salaries and wages There was an increase of £1,000 in surgery and dispensary items Insulin accounted for a considerable sum The president, Mr T H Bickerton, drew attention to the fact that thirty-three children were born in the ante-natal ward during the year He pleaded for the thorough equipment of the maternity ward, which was sorely in need of funds, and threw out the suggestion that those about to marry might well make a contribution to the hospital Mr H ade Deacon, chairman, struck a hopeful note when he uded to a scheme, now in preparation, whereby all the spitals in the city would be placed on a sound financial sis and the voluntary principle on which they were founded maintained The new nursing home is expected to be completed by the end of the summer Dr Thomas R Glynn, senior consulting physician was appointed president in the room of Mr T H Bickerton, who received the cordial thanks of the meeting for his services and generous donations to the Infirmary and to the new nurses home Dr J Hill Abram was appointed honorary consulting physician having retired from the acting medical staff after twenty eight years' service

The Northern Hospital

The chief feature in the report of the treasurer of the Northern Hospital was the fact that the average weekly cost of each in patient (£2 6s 4d) was 6s 7d less than in 1922 and 11s 7d less than in 1921 A new operating theatre is to be erected at a cost of £3 500 which the sons of the late Alderman Louis Cohen have generously undertaken to defray in memory of their father In October last a new ward for diseases of women was opened thus completing the hospital as a teaching institution The number of in-patients in 1923 was 3 676, out-patients had made nearly 90 000 attendances

The Royal Southern Hospital

The financial statement presented to the annual meeting of the subscribers of the Royal Southern Hospital on March 31st showed an excess of expenditure over income of £9,634, and a debit balance at the bank of £12,524 The president, Mr Woodsend, drew attention to the grave state of things which had arisen in spite of a considerable reduction in the cost of upkeep and the exercise of rigid economy He expressed the hope that a mutual contributory scheme for the Liverpool voluntary hospitals would soon be established in the city and thus set their committees free from the carking care of finance The new electro-therapeutic and massage department was now open, a donation of £850 from Sir Alexander and Lady Bicket had defrayed the cost of equipment A touching reference was made to the loss the hospital had sustained in the recent death of Mr G P Newbolt, whose services as surgeon and chairman of the nursing committee would ever be remembered

LONDON SPECIAL SCHOOLS

The London County Council has issued a very useful pamphlet giving a short account of the educational provision made in London for the special education of ailing and defective children * In this there is given an account of the various types of defect for which this special provision is made, and of the character of the schools or classes which have been arranged to meet the need of the children suffering from these types of defect There are schools for the blind, day centres for the younger children, and residential schools for the older children for whom trade teaching is requisite, there are many myope classes for children Arrangements have been made with the Metropolitan Asylums Board for the reception of children suffering from acute contagious eye diseases There are schools for the deaf and hard of hearing Exceptional provision is made for the physically defective—for example, children with heart disease and crippled limbs not only are there schools, but an ambulance is provided to get them to the schools, and a nursing service In connexion with these schools there is teaching in some of the hospitals where children are retained for long periods There are open-air schools for the debilitated and anaemic, day schools for the majority, with three country homes to which children are drafted for short periods There are many schools for the mentally defective, to which those whose "mental age" is less than three-fourths of the normal are admitted if they cannot get on in the ordinary school Stammerers are provided for, and there are arrangements for dealing with epileptics Altogether the London provision for defective and ailing children appears to be remarkably complete Those who have seen the inside working of these schools can speak to the effectiveness of the provision One risk of special schools is that children once admitted may remain in such a school even though improvement in their condition may be sufficient to warrant removal to an ordinary school This is provided against by periodic visits —made in some instances as often as every month—to the schools by the medical staff The pamphlet contains a complete list of these special schools and classes as at present arranged, giving the address and district The pamphlet will be of value to medical practitioners both in private and hospital practice With such a provision "Unfit for school" is no longer a suitable certificate to be given in regard to a child week after week, unless the child is ill in bed, it is better for the child that the school medical officer should be asked what special provision is made for such a child

ANCOATS HOSPITAL, MANCHESTER

Lord Cawley of Prestwich, who presided over the annual meeting of the Ancoats Hospital, pointed out that this hospital is situated in perhaps the poorest part of Manchester and yet the nearest to its centre The report for the year showed that the cost of the new *x*-ray department, including structural alterations, would be £2,500 This department was formally opened after the conclusion of the meeting by Dr V E Barclay, who pointed out that the hospital had adopted *x*-ray treatment at a relatively early date, it had reached a high state of efficiency in this respect, and was greatly indebted to the work of Dr Stanmore Bishop During the year the income of the hospital and convalescent home had amounted to £23,165, an

* *Notes on the Provision made in London for the Special Education of Ailing or Defective Children from a Medical Point of View* P S King and Son, Ltd 2, Great Smith Street Westminster S W 1 (Price 3d.)

increase over the figures for the preceding year of £1,481 Substantial help had been received from various hospital funds, and the larger approved societies had also contributed The expenditure of the hospital had amounted to £24,766—an increase of £1,471 The ordinary income had increased by £1,440, and Mr P M Oliver, M P, the honorary treasurer, considered this very creditable in a time of trade depression Dr Langley said that there was great need of a new operating theatre block, and a reorganization, with some reconstruction, of the medical and surgical wards so as to obtain a more complete separation of the two Lord Cawley pointed out that there was still a deficit in connexion with their extension funds of about £7,500, and a deficit on last year's working of £1,600, in addition to which there was some more absolutely necessary painting to be done In appealing to the public for greater help he asked them to compare the cost per occupied bed per annum of £135 14s with the like cost in any similar institution in the United Kingdom

Scotland.

EDINBURGH ROYAL MATERNITY HOSPITAL

THE report presented to the annual meeting of the Edinburgh Royal Maternity and Simpson Memorial Hospital stated that the total number of ordinary cases treated in 1923 exceeded that in the previous year by 195, and was the highest in the history of the hospital The indoor cases showed an increase of 180, the outdoor cases a decrease of 21, and the Leith branch an increase of 36 The majority of women treated in the wards were married, unmarried women constituted only 20 per cent of the whole The new central premises in the old council chambers at Leith, with their greater comfort and facilities, had contributed to the increase of the work there The total number delivered in the hospital, at their own homes, and in connexion with the Leith branch represented over 34½ per cent of the total births in Greater Edinburgh in 1923 The total attendance for the year at the ante natal clinics was 4,489 (1,286 new cases) The numbers for 1922 were 3,224 and 1,128 respectively The clinics for the treatment of cases of childbirth complicated by venereal diseases were largely attended For the year 1922 the number of attendances was 1,384 (169 new cases) Accommodation for the treatment of these patients was provided in a special annexe The number of deliveries in this department was 170 During 1923 115 nurses were trained in the hospital and at the Leith branch The number of medical students taking cases and clinics at the hospital was 382 The chairman of the directors (Dr T G Nasmyth) had contributed to the improvement of the hospital by bearing the entire cost of a commodious and well fitted labour ward with high-pressure steam installation for sterilizing and heating The costs of maintenance showed a considerable increase, and the ordinary account closed with a debit balance of £726, as compared with £597 in the previous year The chairman, Lord Provost Sleigh, in moving the adoption of the report, said that it was apparent, from the record of the work which was being carried on and the continual development of the institution's activities, that the question of increase of accommodation had become a vital one, and he was glad that a committee was now looking for a suitable site Sir Leslie Mackenzie M D, Scottish Board of Health referred to the conference held last November between directors of the hospital, the Scottish Board of Health and other bodies, with a view to the provision of a new maternity home for Edinburgh The Board of Health was in sympathy with the proposal and would exercise its statutory powers to the limit of its authority The clinics for the treatment of childbirth complicated by venereal diseases were really a new departure The whole public treatment of venereal diseases on the present footing had been organized since the armistice The inquiry into infantile mortality in Scotland had shown that in the case of children approaching the end of their first year the rate had gone down In children under six months it had diminished fairly steadily, but for those under three months the decrease was slight Among children of one month, three weeks, two weeks, or one week there had been no reduction for the last forty years In any year in Scotland the number of children under one month who died from congenital causes was over 4,000, and of these about half died in the first week of life If any serious attempt was to be made to check infantile mortality more attention must be paid to the ante-natal life of the infant, and the institution must carry on to the highest pitch of activity the work of the ante-natal clinic Dr Nasmyth said that the institution stood in special need of encouragement and support, as an up-to-date hospital with about one hundred beds could not be erected and equipped for less than £100 000 The public had a debt to pay, not only towards the work of the institution, but to the memory of Simpson

NECESSITOUS SCHOOL CHILDREN

The Scottish Education Department issued on April 14th a revised circular (No 67) on the feeding and clothing of necessitous children, and the Scottish Board of Health has, therefore, deemed it advisable to publish simultaneously a short summary (Circular No IV, 1924) of the present legal and administrative position from the point of view of the Poor Law authorities for the guidance of parish councils and inspectors under the Poor Law The importance of the education authorities and the parish councils being in close touch and co-operating fully is emphasized in both circulars, though this does not imply any delegation of certain essential duties—for example, the teachers and medical officers under the education authority are still bound to keep as close a watch over children whose parents are in receipt of Poor Law relief as over those children whose parents are not under the supervision of parish councils It is, however pointed out that parish councils can, if they choose, arrange with the education authority for the feeding of the child in return for an agreed weekly sum representing the cost of the food to be deducted by the parish council from the relief afforded to the child's parent or guardian and paid over to the education authority The parish council will thus obtain free of cost the benefit of the education authority's equipment for the preparation and serving of meals Arrangements of this kind have been in operation for some time, with excellent results under the direction of the Glasgow education authority It is added that a similar arrangement is practicable in the case of clothing The conclusion reached in the Scottish Education Department is that by administrative expedients within the existing powers of the statutory bodies concerned the primary social object of securing that no child shall be deprived of the benefit of education through in ufficient food can be achieved without overlapping There has been a good deal of uncertainty regarding the scope of the right and duties of the education authority and the legal position in this connexion It now appears to be unlikely that any special case will be put forward as a precedent for the legality of the proceeding to be defined since there is a complexity arising out of the difference between the statutory orbit of the education authorities and the parish councils The two circulars, therefore by indicating the broad principle which should underlie co-operation between these authorities, should be of considerable value

VETERINARY SCIENCE AND PUBLIC HEALTH

Principal O Charnock Bradley of the Royal (Dick) Veterinary College speaking at a luncheon of the Edinburgh Rotary Club upon veterinary science as a public service said that at the present time the veterinary profession was composed not of one but of three bodies of men Formerly there was only the general practitioner now, however, there were in addition officials who were responsible for the control of diseases that were transmissible from animal to animal and officials whose duty it was to safeguard so far as possible the health of man from diseases that were transmissible from animals Two diseases had been abolished from this country which at one time caused enormous losses—cattle plague and pleuropneumonia The former had not been known since 1877 and the latter since 1898 Foot-and-mouth disease was not constantly present

in Scotland as it was on the Continent, and there were years, and sometimes a succession of years, when it did not occur It was not present in the years 1887 to 1891 inclusive, in 1895 to 1899 inclusive, and from 1903 to 1907 It was absent in 1909 and in 1917 Anthrax, though prevalent, was not nearly so bad as before proper control was established In 1910 there were 1,496 cases, whereas in 1922 they numbered only 515 Of glanders, in regard to which the effects of official control had been most satisfactory, there were 2,433 cases in 1910, and in 1922 only 4 Upon the work of the public health official depended the purity of the milk supply and the soundness of the meat intended for human consumption In 1922 there were 163,640 animals slaughtered in Edinburgh, and these carcasses were each thoroughly and systematically inspected, 976 were condemned, 665 suffering from tuberculosis

HOSPITAL ACCOMMODATION FOR PENSIONERS

The fate of the Ministry of Pensions Hospital at the old Craigleith Poorhouse, Edinburgh, remains unsettled The Minister of Pensions has announced his intention shortly to close the hospital, as far as his department is concerned, and June or July has been mentioned as an approximate date The wisdom of the step has been challenged on the ground that Bellahouston Hospital, Glasgow, to which it is possible that the patients will be transferred, does not afford appropriate accommodation for such cases The position is also complicated by the fact that the Ministry has failed to obtain the necessary sanction of the Glasgow Corporation for maintaining a hospital there Bellahouston, which is mainly a hutted hospital, occupies a portion of Bellahouston Park, and it has been stated that the ground is needed for other purposes Both hospitals have now been reduced to a bed-strength of 350 or 400—the Glasgow Hospital from 1,000 and the Edinburgh Hospital from 550, the staffs, including doctors and nurses, have been reduced in proportion The decision of the Ministry that it is Craigleith has been dictated by hospital for the purpose desirable to be a question of finance has in all likelihood been a factor in this decision, for, whereas the rental of Craigleith from the Edinburgh Parish Council is considerable, the ground on which Bellahouston stands is rented to the Ministry at a very small sum, while the use of the buildings has been granted free of charge by the Red Cross Society At the present time there are in Craigleith about 300 patients, though in winter more accommodation is required for patients suffering from asthma and other seasonal complaints During the war the buildings were occupied by the army as the 2nd Scottish General Hospital and in the course of time were transformed into a hospital the alterations including the installation of two operating theatres Were the premises evacuated by the Ministry it is quite possible that the parish council would be able to use the buildings as a poorhouse hospital and to transfer to it cases from Leith as well as Edinburgh

Ireland.

DOCTORS AND THE MINISTRY OF LOCAL GOVERNMENT

THE Offaly (King's County) Medical Association submitted a resolution to the Offaly Board of Health in which they threatened to withdraw their services unless conditions improved It appeared from the discussion which followed that complaint was made by the doctors of delays in sanctioning payment of salaries pensions fees to substitutes etc passed by the Board of Health The fault it further appeared lay with the Local Government Department, to whom the resolution was referred

CLARE MEDICAL APPOINTMENT

Dr McCann a lady practitioner has received intimation that her appointment by the county Clare Board of Health as medical officer of the Mountshannon Dispensary District has received the sanction of the Minister of Local Government Some time ago this post was the subject of a sworn inquiry, and the evidence showed that any attempt to deprive Mountshannon of a resident medical officer would meet with local opposition

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

National Health Insurance—Sir H Webb on April 14th asked what were the total contributions of the State employers and workers respectively under the National Health Insurance Acts for the last financial year for which figures were available also corresponding figures of costs of benefits and of expenditure Mr Wheatley, in a written answer, gave the figures relating to England and Wales for the year 1922 (the latest for which full returns were yet available) as follows

	£
Total contribution of the State	7 429 000
Employers	11 742,000
Workers	10,642 000
Cost of total benefits paid and received	21 992,000
Total working and administrative expenses under all heads	4 301,000

Foot-and-Mouth Disease—Sir George Berry, on April 14th, invited the Minister of Agriculture to say whether the question of immunity acquired by recovery from foot-and mouth disease would be fully investigated and considered in its possible effects upon home stocks and its bearing upon exportation from this country by the Research Committee recently set up Mr Buxton replied that the Committee might be expected to investigate carefully the question of immunity, but he could not say to what extent its conclusions would bear upon the question of exportation Mr Blundell inquired whether the Department had any information as to the alleged discovery of the bacillus of foot and mouth disease in Germany Mr Buxton answered that he had a certain amount of information, but it was not sufficiently exact to enable him to make any statement

Maternal Mortality Rate—Lieut Colonel Fremantle, on April 16th, asked the Minister of Health whether his predecessor in June of last year received a memorandum from the Central Midwives Board, urging that the name of the person actually conducting the delivery of a child should be inserted in the form prescribed under the Notification of Births Act and whether an alteration would be made in the form of notification of births accordingly Mr Wheatley said he knew of the memorandum and it would be considered in connexion with any proposed legislation amending the Notification of Births Acts or the Midwives Acts Lieut Colonel Fremantle inquired if the Minister was aware that the maternal mortality for England and Wales during the last twenty years had been [illegible] that in midwives cases it was under two per thousand, and whether, in view of the dangers arising from unqualified persons attending women in childbirth, he would introduce or support a bill providing that no uncertified woman should attend women in childbirth except in an emergency or under the personal direction and in the presence of a registered medical practitioner Mr Wheatley replied that the maternal mortality rate was as stated for all cases but he had no complete information as to midwives cases The suggestion in the second part of the question would be considered in connexion with any proposed legislation to amend the Midwives Act Lieut Colonel Fremantle pleaded that as the maternal mortality rate was very high and had shown no decline during twenty years, Mr Wheatley might hold out some prospect of legislation this year, inasmuch as such measure would be non-contentious and very valuable The Minister promised to consider the suggestion, but said he could not hold out much hope Lieut Colonel Fremantle inquired whether the Government would give facilities in the event of a private member's bill being introduced, but Mr Wheatley was unable to express an opinion on that point

Post Office Medical Officers—Sir E Iliffe asked the Postmaster-General on April 15th whether in view of the fact that he had authorized postmasters to reduce the capitation fee paid to medical officers of the Department to 11s that this reduced fee was fixed without consultation with the medical officers concerned and that he authorized postmasters to advise medical officers at the end of March of this reduction, which is to be made retrospective to January 1st he would withdraw these reductions, which were at variance with the contracts Mr Hartshorn said it was part of the agreement reached with the British Medical Association in March, 1922, when the fee of 11s 6d was fixed that the capitation fee for Post Office medical officers should be subject to review at the end of 1923, and this fact was made known to all medical officers at the time The reduction from 11s 6d to 11s was made in view of the fall in the cost of living since March 1922 and was similar to that made from the same date and for similar reasons in the fee of doctors on the health insurance panels The British Medical Association was informed of the proposed reduction as soon as it had been decided upon

Invalided Naval Ratings—Mr Ammon, on April 16th assured Sir B Falle that it is open to an invalided naval rating whose disability is attributable to service, and who is not satisfied with the degree of disability assessed by a naval medical board, to appeal to the Board of Admiralty Sir B Falle asked whether it was the practice to make a reduction in the pensions of men invalided for non attributable disabilities associated with specific disease whether any scale of deductions existed whether any disease other than venereal was included in the practice and whether naval ratings generally were aware that such practice existed and under what legal sanction Mr Ammon replied that deduction was made if it was made according to the merit of a case A disease such as alcoholism would come within the practice The practice was sanctioned by the terms of Order in Council of February 6th 1922 (Statutory Rules and Orders 1922 No 132) These regulations had been published in Fleet Orders

Royal Commission on Lunacy Laws—Sir A Shirley Benn asked on April 16th if the Prime Minister would give an assurance that no persons who had been connected in any capacity with the lunacy system nor any who had taken an active part in attacking that system should sit as members of the Royal Commission on Lunacy, but that their evidence should be given before the Commission subject to cross-examination Mr Wheatley on behalf of the Premier said he had already indicated that the aim of the Government would be to set up an impartial body As regards the conditions under which evidence would be taken he reminded the honourable member that the Royal Commission would determine its own procedure

Poor Law Medical Relief—Mr Briant asked on April 16th if the Minister of Health would make inquiries as to whether any boards of guardians demanded that applicants for medical relief should go to a private practitioner before the grant of a medical order Mr Wheatley replied he did not think that any board of guardians would impose such a requirement upon applicants for medical relief but he was making inquiries as to a case in which an officer was reported to have made a demand of this nature

Opium Traffic—Mr Davies on April 16th in answer to Mr Ormsby-Gore said that the purpose for which an Opium Conference had been summoned by the League of Nations was to consider the possibility of concluding an agreement or agreements for the limitation of the amounts of morphine heroin and cocaine manufactured and of the amounts of raw opium and the coca leaf produced for export, to the amounts required for such manufacture and other medicinal and scientific purposes subject to an exception for those countries where opium smoking was temporarily continued under Part II of the Convention The proposal that a conference should be held with this object was put forward last May on behalf of the British Government and the attempt to arrive at such agreements would receive the utmost support which the Government could give

The Spahlinger Treatment—Questioned by Mr A T Davies, on April 16th the Minister of Health said he was not aware that the New Zealand Government had offered £500 000 to develop the Spahlinger treatment of consumption on condition that the British Ministry offered a similar amount The Ministry of Health had made all such inquiries into the results of the treatment as were practicable in the absence of a supply of M Spahlinger's preparation for scientific investigation Mr Wheatley added that he was anxious to arrange for a scientific investigation of this method of treatment in this country and had personally given M Spahlinger assurances to this effect

Women Medical Examiners in Criminal Cases—The Duchess of Atholl inquired on April 11th the names of women practitioners whose services had been utilized in Edinburgh and Glasgow as medical examiners in certain criminal cases and the number of occasions since the issue of Lord Advocate Morrison's letter in October 1920 on which they had been so employed in the courts of Edinburgh and Glasgow respectively Mr Adamson answered that three women medical practitioners employed in cases of the nature referred to were the late Dr Mabel Jones, Dr Elizabeth Smith and Dr Madeline Archibald It was impossible to give particulars of the number of occasions on which their services had been utilized In the case of *post mortem* inquiries the Procurator fiscal had from time to time utilized the services of women practitioners in Edinburgh but in that city in cases of the kind specially mentioned in Lord Advocate Morrison's circular of October 1920 women practitioners had not as yet been employed Generally in cases of assault or offence under the Criminal Law Amendment Act it was necessary to have an immediate medical examination which in practice had to be carried out on the instruction of the police by a police casualty surgeon A further examination after the case was reported to the Procurator fiscal was scarcely necessary

Patent Foods—Mr Dixey asked on April 9th whether the Minister of Health knew of the serious danger to infant life and welfare arising from the widespread sale of proprietary and patent foods consisting principally of starch and whether he proposed to take any and what steps to enable local authorities to exercise control over the sale of unsuitable and unwholesome preparations advertised as infants foods Mr Wheatley replied that the matter had already been a subject of investigation by his department and he would consider what action might be desirable and practicable

Notes in Brief

Mr Wheatley on April 16th, stated in reply to Mr Briant that the diet allowed to inmates of casual wards was sufficient for the purpose for which it was intended but certain suggestions for making it more palatable were under consideration and he hoped for some improvement

The question whether the Tuberculosis Order 1914 should be put into operation is under the consideration of the Ministry of Agriculture

Bulgaria Greece Rumania and Spain have formally deposited their ratifications of the Maternity Convention drafted by the International Labour Conference at Washington in 1919 Mr Shaw (Minister of Labour) understands that ratification has also been recommended or authorized in certain other countries

The recommendations in the Trevethin report dealing with the expenditure of money for reducing venereal disease are still under the considerat on of the Ministry of Health Mr Wheatley on April 16th said he was not in a position to state how any Government grant for this purpose would be allocated

The Easter Recess began on April 16th The session will be resumed on Tuesday April 29th, when the Budget will be introduced.

Correspondence.

RADIOTHERAPY IN CANCER

SIR,—In your instructive leading article on radiotherapy in cancer, of April 12th (p 676), reference is made to the interesting suggestion of Professor Lazarus-Barlow that the presence of radium may be an active factor in the development of cancer, and the question is asked, Has anyone, so far, suggested the possibility that the rays of the sun can be a causative factor in the production of cancer? To this question, I think, an affirmative reply must be given, for in a paper read by Dr Wilfred Watkins-Pitchford at the South African Medical-Congress at Durban on August 2nd, 1909, this view is put forward Dr Watkins-Pitchford suggests that cancer, simple neoplasms, and many non infective lesions, both local and constitutional, are etiologically closely related, and that the initial local cause of them is usually some irradiation" Again, he says "Cancer is in essence a failure on the part of the more independent cells of the body to inherit the normal tendencies which control their multiplication," and that "this 'psychic' defect is usually the result of an actinic 'illumination' in excess of that which can be dealt with by the protective agencies of habit, posture, coverings, and external pigmentation" Dr Watkins-Pitchford admits that his main propositions are indications from observations and not from experiments, but he asserts that he has good grounds for the views which he holds All through his address, which is very suggestive and attractive he evidently regards the rays of the sun as being a causative factor in the production of cancer In view of the experiments of Bragg and others, which show that x rays are analogous to ordinary light, differing only from it in wave length, it follows that x rays and the gamma rays of radium (which are really x rays of short wave-length) must now have a place in the ordinary spectrum From this it is evident that they must all possess the same potential energy though varying in quality and intensity

In his letter to the JOURNAL published in the issue of April 5th Professor Lazarus-Barlow does not, I think, indicate how the presence of radium may be an active factor in the development of cancer, on the other hand Dr Watkins-Pitchford considers that the radiation acts through an alteration in the inherited normal tendencies which control the multiplication of the independent cells of the body inducing in them a "psychic' defect In view of what we have learnt of prolonged radium radiation being an active agent in producing cancer I lean to the opinion that it acts through the nuclear pigment of the cells—a view embodied in a paper published in the *Lancet* in 1922 in which I put forward the hypothesis that cancer may have a pigmentary origin One cannot overlook the fact that the nucleus of every cell has slumbering in its pigment a great and vast potential energy and that this latter can be awakened by another pigment (in some cases the result of radiation, but not necessarily so) and can thus acquire kinetic energy that may show itself in the uncontrollable proliferation of cell growth so characteristic of cancer

As stated in my paper in the *Lancet* I am at present inclined to the view that the new pigment is possibly a lipochrome—I am etc,

Glasgow April 14th GEORGE THOS BEATSON

TREATMENT OF CARBUNCLE

SIR—In the JOURNAL of April 19th (p 703) is printed an article by the late Mr Albert F Morison F R C S, on the treatment of carbuncle by magnesium sulphate I enclose a short paper entitled 'The treatment of inflammatory and suppurating lesions by magnesium sulphate," which was printed for me by Mr Roberts of Gosvell Road, London in 1912 and which was reproduced in the *Caledonian Medical Journal* and at the request of the editor, in the *Medical Press* in 1918 You will there see that in speaking of this method of treating carbuncles I then said

These lesions afford an excellent illustration of the effectiveness and simplicity of this treatment It is not necessary to make any

incision—a point which the patient appreciates very highly All that is necessary is to apply a compress of lint soaked in the solution, and the pain will be relieved, the inflammation disappear, the pus give place to serum, the 'core' separate and a healthy granulating surface be left."

My treatment differs from Mr Morison's in two respects In the first place, whereas he applied first a paste and afterwards a solution of the salt, I apply a solution from the beginning, and secondly, while he used a solution containing 40 oz of $MgSO_4$ in 30 oz of water, I employ a 20 to 40 per cent solution, and less as healing proceeds

As the title of my paper indicates, I use this treatment not for carbuncles only but for all surface inflammations and suppurations (including tuberculous), and have done so constantly for the last fifteen years—that is, since 1909, when it first occurred to me to use magnesium sulphate in this way For those who do not know of this mode of treatment, perhaps you will allow me to quote a sentence or two from what I wrote on the subject in March, 1912 I then said

"It does not appear to have been hitherto recognized that magnesium sulphate has a remarkable power over inflammatory and suppurating lesions If a solution of this salt be directly applied to any such lesion, the advance of the inflammation will be at once checked, and under the continued application of the solution the inflammation will be entirely eliminated If pus has formed and be discharging the purulent discharge will give place to one of serum, and the tissues will return to a healthy condition"

The treatment of carbuncles is only a very small part of its usefulness More important is the fact that it wipes out erysipelas But as I have indicated, it has complete control over all surface inflammations and suppurations, whether it be acute dermatitis, phlebitis, cellulitis, inflamed and suppurating wounds, purulent otitis media, or any other such condition to which it can be directly applied by bath or compress, or, as in the case of the ear, by drops I have also come to look upon it as the ideal intestinal disinfectant, having a similar beneficial effect on the bowel to that which it has on the skin and underlying tissues I would like to warn those who have no experience of it against too highly concentrated solutions, especially when applied to the fingers, toes, penis, scrotum, and external ear, where the blood supply and therefore the amount of serum is limited —I am, etc,

Edinburgh, April 18th. JAMES ALSTON

SIR,—In your issue of April 19th (p 703) the late Mr A E Morison discussed the treatment of carbuncle by magnesium sulphate I should like to call attention to a method I have carried out for several years with invariable success As soon as a case is seen to be definitely one of carbuncle I inject subcutaneously in the abdominal wall 10 c.cm of antistreptococcus serum (polyvalent) In one case of aggravated carbuncle of the neck I used a second dose A pad moistened with glycerin is applied locally In my experience the improvement has been rapid and complete, without destruction of tissue and scarring —I am, etc,

April 20th R PRICHARD, M D, D P H, Medical Officer, Ely Isolation Hospital, Cardiff.

CLINICAL RESEARCH IN GENERAL PRACTICE

SIR,—The letter by Sir James Mackenzie in the BRITISH MEDICAL JOURNAL of March 29th (p 598) will, I feel sure, have been read with interest by a large number of practitioners who have leanings towards the scientific side of clinical medicine Sir James Mackenzie states quite truly that all the means at present available, including the most recent laboratory methods, only detect end results of morbid processes He therefore advocates the study of the earliest symptoms in order that we may be able to recognize a disease at its very beginning, when we might hope in some cases to be in a position to arrest its progress This is an aim which everyone hopes will one day be realized but I suggest that, however early we may succeed in recognizing the initial symptoms, we cannot in many cases claim to have caught the disease at the beginning Take, for example, a case like haemophilia We know it to be a Mendelian sex-linked recessive character that occurs in a certain number of male children of women who, being themselves normal, are the offspring —immediate or remote—of haemophilic males What is wanted is not a means of recognizing a haemophilic in the early stages, but a method that will detect the heterozygote female carrier of this disease The same applies to pseudo-hypertrophic muscular paralysis and a few other conditions that are transmitted in a similar manner

Huntington's chorea is another interesting example The disease, which behaves like a Mendelian dominant, does not set in till about the age of 35 years, when the person is already married and the parent of children, 50 per cent of whom will develop the disease when they reach the age of 30-40 years Until we can find some method of discovering which of the children are the heterozygotes that will certainly develop the disease and transmit it to 50 per cent of their children, it is impossible to know which of them to allow and which to forbid marriage Glaucoma and diabetes (mellitus and insipidus) are examples of similar nature, but the most cogent is the case of feeble-mindedness We know that this condition behaves as a Mendelian recessive, so that there must be a large number of *normal* people who carry this trait as a recessive Indeed, it has been shown that whilst the large number of feeble-minded form only 0 3 per cent of the population, the number of normal *carriers* of feeble-mindedness constitute no less than 7 per cent of the population Intermarriage between such *normal* heterozygotes will result in progeny 25 per cent of whom will be feeble-minded and 50 per cent will be again heterozygotes What we want is a certain means of detecting these heterozygote carriers Until this is achieved we cannot hope to reduce the number of feeble-minded, from whom a large number of the criminals, prostitutes, and insane are recruited —I am, etc,

W M FELDMAN, M D Lond, F R S Edin

London, W, March 31st.

MRS JEM'S ATTACK OF SWINE POX

SIR,—In connexion with the article (April 12th, p 671) on Mrs Jem's attack of swine-pox, I may say that I have recently received an MS diary kept by my great-grandmother, Mrs John Barclay Chibborn, of Anner House, Clonmel, from 1800 to 1817

On several occasions she mentions that her children had attacks of swine-pox, which I concluded were attacks of chicken-pox, and not, as is suggested, modified small-pox I am confirmed in this theory by the fact that my great-grandmother was an enthusiastic advocate of vaccination She had a small clinic at her house, and she herself vaccinated many of her employees and tenants, and she records that all her children were vaccinated at an early age —I am, etc,

Beaminster Dorset, April 15th ARTHUR A PIM

"BAYER 205"

SIR,—The BRITISH MEDICAL JOURNAL for March 8th contains an article on "Synthetic therapeutic agents" by Sir William J Pope, in which the author points to a publication of the *Times* (August 25th, 1922), that "at a meeting of the Association of Tropical Diseases held in Hamburg the statement was made that 'Bayer 205' is the key to tropical Africa, and consequently to all the colonies, and that the German Government must 'be required to safeguard this discovery for Germany, its value is such that any privilege of a share in it granted to other nations must be made conditional upon the restoration to Germany of her colonial empire"

May I beg to inform you that I already, in 1922 (*Archiv fur Schiffs- und Tropen-Hygiene*, 1922, p 332), have publicly stated that in the meeting of our association no such statement was made, and that the question of "Bayer 205" has not at all been treated in the meeting? In fact, it may be that a German politician has maintained a sentence like that quoted above in a political gazette, but not a word of such or a similar idea has been uttered in any scientific meeting or by any German medical man

I would be very much obliged if you would publish this letter in your JOURNAL —I am, etc,

PROFESSOR DR NOCHT, President of the German Association of Tropical Diseases

Hamburg April 16th.

Medico-Legal.

LUNACY LAW AND ADMINISTRATION

HARNETT v. BOND AND ADAM

(*Concluded from page 737.*)

SIXTH DAY

MR. J. B. MATTHEWS, K.C., said Section 55 of the Lunacy Act, 1890, allowed people to go out of an asylum for a period fixed for the purpose of giving them every opportunity of making a perfect recovery. The essential condition of this was that a man's mind might be free. There was no power of arrest and it was fair to manager or licensed house and fair to the lunatic that his condition must, as a fact, require that he should be taken back. Even assuming that Dr. Adam was to be treated as having acted in pursuance of the Act, the burden of proof was upon him to show that he had acted with reasonable care and in good faith to bring him within the protection afforded by Section 330 of the Lunacy Act, 1890.

Mr. Matthews submitted that statements as to the sanity of Mr. Harnett on the case books at Croydon came from Dr. Adam. One of these was that Mr. Harnett was suffering from paranoia, the dictionary meaning of which was "chronic delusional insanity." These delusions were the invention of Dr. Adam.

Bankes, L.J.—But what has this to do with us? There is no finding as to Mr. Harnett's sanity except on December 14th, 1912. We cannot try or decide whether he was or was not insane at any other time; there is no finding of the jury about that. As I understand it, the Attorney-General made no contention either one way or the other as to Mr. Harnett's sanity at any other time.

The Attorney-General.—I should not like it to go out that at any time in this case I admitted that he was improperly detained at any of these institutions.

Bankes, L.J.—I should like to know how the jury were allowed to award damages as to the after period, there being no issue before them as to his state of mind except on December 14th, 1912.

Mr. Matthews.—There could not be such an issue. I could not insist upon a finding which was only relevant on a question of damages.

Scrutton, L.J.—I notice you said in the court below that you did not propose to suggest that Mr. Harnett was of sound mind on November 10th, 1912.

Mr. Matthews.—I told the jury that there was an action pending against Dr. Fisher for having wrongly certified Mr. Harnett on November 10th, and therefore for the purpose of that present action no fault was to be found with Dr. Adam for receiving Mr. Harnett at Malling Place on that date. Therefore there was no question to the jury as to the state of mind of Mr. Harnett on November 10th; it was never an issue in the case.

Mr. Matthews pleaded to the court.—For heaven's sake don't let us have a new trial here. It is too terrible to contemplate, either by me or by learned counsel for the defendants.

Bankes, L.J.—We really have not to contemplate what your feelings or those of counsel on the other side may be.

Mr. Matthews contended Mr. Justice Lush's direction to the jury to fix a fair sum for the wrong complained of over those eight and a half years was right. The jury fixed a sum of £25,000. Then the learned judge called back the jury and said the defendants may be liable only over certain periods, and the jury made those assessments. The judge asked the jury to assess, not to apportion, and there was no misdirection. Mr. Matthews urged that there clearly was a joint tort by the happenings of December 14th, 1912. From thence to Mr. Harnett's escape there was no *novus actus intervenions*, and what were called such were half-marked from the outset, the interveners being so affected that they could not approach the plaintiff with an open mind. He contested the suggestion that the reception order revived of its own force and became operative so justifying Mr. Harnett being held after January 9th, 1923. Could it be said that the reception order was only suspended for twenty-eight days and that on January 9th it came into force again? He submitted that the reception order did not admit of that construction.

SEVENTH DAY

Sir John Simon intervened to sum up his argument as follows:

1. That as regards a *novus actus intervenions* omission to discover could not be *novus actus*.

2. That the defendant could not rely on *novus actus* if the act of a third party was induced by the defendant's own wrongful action.

3. That there may be more than one direct cause of an *actus*, and one cause is the defendant's conduct and another cause is not the *actus* is not *novus* as far as the defendant is concerned.

Sir John Simon referred to *Pollock's Law of Torts*, twelfth edition, p. 240, and to a statement by Lord Justice Bowen in Ratcliffe *v.* Evans (1892), Q.B. p. 530 to support his contention.

Reply for Dr. Bond

Mr. Harold Morris then replied for Dr. Bond. Section 55 contemplated two states of affairs—either that the manager of an institution may, with the consent of two visitors, allow a patient out on trial or may send or take the patient somewhere for change of air. Supposing the manager did send or take the patient away for a change of air and the patient became worse, was he not the person to decide whether the patient should be sent or taken back? It was said that the proviso to the reception order settled by the law officers merely authorized the manager to receive afresh, but it was certainly thought by the draftsmen of the order that there was power in the medical officer to take back, in the sense of physical recapture, and those words in the probation order were used in the same sense as they were used in Section 55, which dealt specifically with escape and recapture. The true view of Section 55 and of the probation order was that the person to decide whether the patient be brought back was the medical officer.

Scrutton, L.J.—Has a single commissioner for the purposes of the reception order any power at all?

Mr. Morris.—No.

Scrutton, L.J.—Assume the verdict of the jury stands that Mr. Harnett was of sound mind on December 14th and assume that Dr. Adam is protected because he acted with reasonable care and honestly thought he was acting under the Act; have you any protection?

Mr. Morris.—I am afraid not.

Scrutton, L.J.—How long does your single tort last?

Mr. Morris.—To the first *novus actus*, when he reached Malling Place.

Bankes, L.J.—But you have suggested an earlier moment.

Mr. Morris.—Yes; when the attendants arrived to take Mr. Harnett back.

Warrington, L.J.—They took him into their care.

Bankes, L.J.—But you do not dispute the cause of action against your client. What the damages may be is another matter.

Mr. Morris.—Then the question of joint tort assumes importance.

Bankes, L.J.—We quite understand that if Dr. Adam was justified in sending a car to fetch Mr. Harnett back there was no tort, and therefore there could be no joint tort.

Warrington, L.J.—suggested that if Dr. Adam was protected by Section 330, subsection 1, then the proceedings may have been stayed under subsection 2, and therefore it being an action against both defendants jointly Dr. Bond was protected too.

Mr. Morris.—I claim that protection too.

Mr. Morris strongly repudiated the suggestion that Dr. Adam was the inventor of the delusion regarding injection with drugs.

Mr. Matthews.—I did not mean it in the harsh sense.

Reply for Dr. Adam

Sir Douglas Hogg, in his reply for Dr. Adam, referred to the terms of the leave of absence order and contended that the words "power to take back" did not mean merely "to receive afresh." The Lunacy Act quite clearly used the word "take" in its true sense and used the word "receive" when "receive" was meant. These words were not interchangeable. The reception order section, for instance, used the words "to take the lunatic and convey him to the place mentioned in such order and for his reception and detention therein," showing in terms that "to take and convey" meant one thing and "to receive" meant another. To take obviously meant to recapture him in order that he may be received and detained. Sir John Simon in asserting that the correct procedure was to take the course set out in Sections 15 and 16 of the Act which required that the patient should be arrested and taken before a magistrate wholly misconceived the scheme of the Act. Those sections were in Part I. of the Act which dealt with the taking of people as lunatics, those particular sections being in that portion of Part I. which dealt with summary reception orders. But the person being certified under Part I. Part II. dealt with the care and treatment of those people after having been so found. Section 55 was in Part II. which logically provided that where a medical officer came to the conclusion that it would be safe for a person in his charge to be put on probation for a limited period and obtained the consent of two visitors and of the person who signed the original petition he might let him out on probation. Sir John Simon's construction of the proviso to the reception order was wholly meaningless and valueless; that you cannot take him back unless you get a summary or urgency order made under arrest. Part I. dealt with such urgency or summary reception orders; they referred to the taking of such persons who were not certified into detention. Then again that Dr. Adam could not take him back unless an inquiry was embarked upon involved two reception orders running concurrently. The order of November 10th, 1912, ran until November 10th, 1913, and to say that the only method of getting Mr. Harnett back was by arresting him as a lunatic wandering at large meant a fresh reception order by the justice before whom he was taken was a misconception of the scheme of the Act. The patient would be under two reception orders, one of which classified him as a pauper patient until he was found insane and realm ter to the home from which he had been let out on probation. Dr. Adam was protected by Section 330 for the act of bringing Mr. Harnett back to the asylum. Once the patient came back to the asylum automatically the reception order of November 10th, 1912, continued to operate. That reception order was an absolute protection against any lack of reasonable care after his return.

Bankes, L.J.—How do you read the words "if his mental condition requires it"?

Sir Douglas Hogg.—That the medical officer who let him out must honestly judge of that and if he forms the honest opinion that the patient's mental condition required then he would be protected.

Bankes, L.J.—If that is true, within the meaning of the order there is no need for Section 330. Dr. Adam honestly believed his mental condition required it.

Sir Douglas Hogg.—Then I should be home on Lord Section 330.

Bankes, L.J.—There is however the false imprisonment in keeping him after he got back to Malling Place.

Sir Douglas Hogg.—I am covered by the reception order.

Bankes, L.J.—Do you want Section 330 to cover the conveyance from the Commissioners' offices to Malling Place?

Sir Douglas Hogg.—If I honestly be acted upon information [illegible] his mental condition required it then he was unfit to remain out

and I am protected by Section 330 if it should turn out that I am wrong in that belief

Warrington, L J But whether his mental condition did or did not require it must always be a question of opinion?

Sir Douglas Hogg Yes clearly mental disease is a thing you can only form an opinion about The doctors can form one opinion and the jury can form an opposite one What the court has to remember is that the Legislature has proceeded on the hypothesis that the people to whom large powers have been conferred by the Act are people who can be trusted, and that it is only when these people abuse these powers that they are liable in an action

Sir Douglas Hogg then argued that Section 35 dealing with the reception order, was sufficient justification for all that Dr Adam did apart from Section 330

Mr Matthews But Section 35 was never pleaded as a justification?

Sir Douglas Hogg The action was based on the allegation that Mr Harnett was taken under the reception order of Novem b r 10th

Sir Douglas Hogg said a bitter complaint had been made that Dr Adam did not examine Mr Harnett for two hours after he was brought back, but Mr Matthews himself, in cross-examining Dr Adam, had suggested that it would be a cruel thing to do, as a patient just returned might not be well enough

Mr Matthews I protest I never suggested that

Sir Douglas Hogg You will find it in the shorthand note

Bankes, L J Is it worth going into that?

Sir Douglas Hogg Only in so far as to show that Mr Matthews was cross-examining to the effect that whatever Dr Adam did he ought to have done the other Very good advocacy, I agree

Sir Douglas Hogg added that there was not a scrap of evidence to show that the case book of Dr Adam had been forwarded to Dr Passmore or anybody else All the next doctor knew was that Mr Harnett had been out on probation and had been taken back All he saw were the reception order and the certificates What, in fact, happened was that when this man went to each of these institutions a report was made to the Commissioners by the doctor there of personal observations and conclusions they had formed This was not an omission to discover that Mr Harnett was sane but an affirmative statement that he was insane

Mr Matthews I never suggested the case book was seen by other doctors

Sir Douglas Hogg contended that the claim for damages was based on the fact that doctors had wrongly formed an opinion that he was suffering from delusions That should not be the basis at all It was the act of taking him back that the damages should flow from The other side were arguing that although the answers of the jury to questions 3 and 13 were adverse to the appellants as regards a joint tort still they ought to be conclusive either way to support the damage

As to the onus of proof, Sir Douglas Hogg said subsection 2 of Section 330 showed that the plaintiff must show lack of reasonable care else the proceedings might be stayed and therefore subsection 1 must be read together with the subsection 2, although it was true that subsection 2 was summary and subsection 1 related to a formal trial by the court Therefore the whole section meant that the burden of proving want of reasonable care lay on the plaintiff He submitted the case ought to have been stopped at the end of plaintiff's case, so far as Dr Adam was concerned

The argument being concluded the court then adjourned, Bankes L J announcing that judgement would not be given until after the vacation

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

THE following candidates have been approved at the examinations indicated

DIPLOMA OF HYGIENE (both parts).—R V Adiseshan

D P H (both parts).—J W F Albuquerque M H Babington C Bala krishna *J S K. Boyd †Elizabeth P Cameron A. C Chatterji Isabella C Darling, Louisa I Gordon Edith M F McGill D R. Nayar J G Ronaldson J Singh T S. Stirling V T Thierens W J Vickers T Young

* Distinguished in bacteriology.
† Distinguished in the application of sanitary science.

UNIVERSITY OF GLASGOW

THE following candidates have been approved at the examination indicated

FINAL M.B. CH B.—R H Abercrombie J Adam J C Alexander W G Allan Margaret M. Allison Janet H Anderson J Anderson W G Arthur W C Armstrong A S Barr J W Baxter S Baxter Mary V F Beattie J Beck, J S Bell Marion H Black R. Black, A Bowie Janet S Brooks Alexander Brown Andrew Brown Archibald Brown C M Brown D K Bruce J Caldwell A F Cameron D Cameron D M G Cameron R M Chalmers R G Cochrane G Collier H. B Cordiner A L Cowan J Crawford Janet I A Cullen J Cumming D E S. Cunningham R E Davie S S Djordjevitch R S Doig R. S Donaldson Lily S. Duncan G H Edgecombe V F Edgecombe H Fairbairn Christina G Findlater D Fraser T Fulton F MacR Fyfe T V Fyfe L H. Gilchrist W Gilchrist, W Gillespie J C Gillies W N M. Goldie R Graham O Gray R A Gray A V Grierson G L Grieve R. K. Hanlin D M.Harper W V. Harper T Heffron J D Hempseed Gertrude Henderson Mary Hendrie J W M Humble D Hynd A M Innes G C Kelly R V Kennedy D L. Kerr H F Kerr R. A W Kerr W A Kerr A Kirk W E Lain, Sarah D Lamb A. Lamont, J R Langmuir A. Law F. S Lawrie E W Lindeberg. S Lindsay J Lithgow T C Lom W M Adam F M MacAlpine P A M Arthur, A. Macbeth J M Bride C C M Callum M M Cann R. B M'Coll E. W M Cormick, L J M Cormick I M Cracken A. M'Crone A. W M Crone H Macdonald J Macdonald K. MacK Macdonald R Macdonald J M Eadzean, J W M Gowan, J A M Gregor C L M Harg D D M Ilvean A Macinnes R M'Intosh W M Intosh A D Mack, K. A Mackay D N Mackinnon E J Mackinnon A Maclaine A. H MacLean A Maclean A J M Lellan W A M Lennan Katharine G C Macleod P J Macleod D B M Millan A Macmillan J S. M Millan R J M'Nab R M Macphail, D M Phee L MacQueen J A M Quistan Florence C Maciae D M M Swan A R M Whinney J G M Whirter A V Magee, W B C Mair A Marshall Rhoda W Marshall W M Martin J A Matheson F P Meehan Mary A J Melville G A Mitchell J O Moffat D A Montgomery J Montgomery F D Morphy J Morrison S. A Muir J H Murdoch J M Murray F J Newall J W Nicolson M Nicolson H C Orr Elsie H Parker T Paton W Patrick Elizabeth A Penycuick F Pettigrew R W Rae J S Ralston W A. Ramsay A K. Rankin B Reid G S Reid R Hall Reid R Howard Reid A C Richmond A Robertson A M Robertson J Ross H S. Russell J Scott W J Scott W Shankland T D Shanks G L Shaw J S Smith W S Stephen A Stewart J P Stewart, Mary L Stewart H Stuart T T Stocker G J Summers A L Taylor G L Thomson J M Thomson W Thomson J Totten Dorothy A Towart J G S Turner J W Tweddle Adeline G Vallance W B Wallace J A Watson D J R Wilson G L Wilson J W Wilson Sarah B Wilson Ruby E Winning R. M. Wylie Ida Wylie J W Young

ROYAL COLLEGE OF PHYSICIANS OF LONDON

AN extraordinary comitia of the Royal College of Physicians of London was held on Monday, April 14th, at 5 p m , when the President, Sir Humphry Rolleston, K C B , was in the chair

President's Address

The President delivered the annual address and gave some interesting figures respecting the Fellows and Members of the College Whereas a hundred years ago there were only 87 Fellows, they now numbered 371 Analysis of the present number appeared to show that 258 or 67 per cent , were in practice as ordinarily understood, 165 of these were resident in London, 82 in the country, and 11 out of Great Britain and Ireland Of the remaining 113 Fellows, 45 were in the naval, military, or other services, 19 were whole time professors, and 49 were believed to have retired from ordinary practice Of the 371 Fellows 145 (39 per cent) were graduates of London University, then came Cambridge with 97 (26 per cent), Oxford with 52 (14 per cent), and Edinburgh with 35 (9 per cent) Fifty years ago (1874) Edinburgh headed the list, closely followed by London University, and then came Cambridge, Oxford, and St Andrews There were now 636 Members, as compared with 454 in 1900 and 14,902 licentiates, as compared with 8 188 in 1900 The diplomates in public health numbered 1,088, in tropical medicine 212, in ophthalmic medicine and surgery 88, in psychological medicine 55, and in laryngology and otology 2

The President then referred to the death of the late bedell, Mr William Fleming, who had served the College for more than fifty years He then read obituary notices of the twelve Fellows who had died during the past year—namely, Dr Arthur Latham, Sir James Reid, Bt , G C V O , Dr G E Rennie, Dr P W Latham, Dr P W Saunders, Professor D W Finlay, Dr Thomas Henry Green, Dr Lauriston E Shaw, Dr T W Thursfield, Dr Donald W C Hood, Dr W A Wills, and Dr Alexander Haig

Re election of President

Sir Humphry D Rolleston was then re-elected President for the ensuing year, receiving 67 votes out of the 69 Fellows voting

Ordinary Business

Reports were received from the Committee of Management as follow

The Committee of Management recommended that Clause 3, Section II, of the Regulations relating to the pre med cal examination be revised so as to read

Candidates will be exempted from the pre medical examination who produce satisfactory evidence (*a*) of having been registered as medical students by the General Medical Council or (*b*) of having passed a preliminary examination in general education recognized by the Examining Board in England and a pre-medical examination in chemistry and physics conducted by any of the qualifying bodies whose degrees or diplomas are registrable on the *Medical Register* or (*c*) of having passed an examination in chemistry and physics for the degree in medicine or science of any university in the British Empire or of any foreign university recognized by the Examining Board in England '

A report from Dr R A Young, the visitor appointed to inspect the examinations of the Egyptian Medical School and Hospital, Cairo, was received and certain recommendations made by the Committee of Management were adopted for transmission to the Minister of Education of the Egyptian Government

The Committee of Management reported that it was satisfied that the conditions laid down by the Royal Colleges for the recognition of the Welsh National School of Medicine, Cardiff, had now been fulfilled, and it recommended that the Welsh National School of Medicine, with the Cardiff Royal Infirmary, be included in the permanent list of institutions recognized by the Conjoint Board

The Services

INDIAN MEDICAL SERVICE DINNER

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant, London, on Wednesday, June 18th when Colonel J J Pratt will be in the chair Tickets and all particulars may be obtained from the honorary secretaries, 63, Addison Road, Kensington, W 14

Obituary

HUGH WALSHAM, M.A., M.D., F.R.C.P.,

Consulting Radiologist to St Bartholomew's Hospital

We regret to record the death of Dr Hugh Walsham, which occurred in London on April 13th at the age of 68. He was the second son of W. W. Walsham of Wisbech, and was educated at King's College School, London, Caius College, Cambridge, and St Bartholomew's Hospital. His elder brother, the late W. J. Walsham, F.R.C.S., was surgeon to St Bartholomew's, and wrote the very popular manual of surgery now associated with the name of Mr Walter Spencer.

Hugh Walsham graduated M.B., B.Ch. Cantab. in 1887, and proceeded M.D. in 1897. He received the diploma of M.R.C.P. Lond. in 1891, and was elected F.R.C.P. in 1901. After serving a few years as pathologist to the City of London Hospital for Diseases of the Chest, Victoria Park, he was appointed successively physician to out-patients and physician, and (on his retirement from the active staff) consulting physician to that institution. In 1896 he was elected assistant medical officer in the electrical department at St Bartholomew's Hospital, and on the death of Dr H. Lewis Jones in 1912 he was appointed to the posts of medical officer in charge of the *x* ray department and lecturer on radiology, which he held until he retired with the rank of consulting radiologist to the hospital.

Walsham's work in the out-patient department and wards at Victoria Park supplemented his experience in the diagnostic use of *x* rays at St Bartholomew's, and he must be regarded as one of the pioneers in this country in the application of radiology to the recognition of intrathoracic disease. He was president of the Section of Electrotherapeutics and Radiology at the British Medical Association Annual Meeting at Birmingham in 1911, and vice-president of the Section of Radiology at the seventeenth International Congress of Medicine in London in 1913. He was awarded by the Royal College of Physicians of London in 1903 the Weber-Parkes prize and the first medal for research work in tuberculosis. His numerous publications included *Stereoscopic Skiagraphy in Diseases of the Chest* (1899), *Channels of Infection in Tuberculosis* (1904), and, in collaboration with Dr Harrison Orton, *Roentgen Rays in the Diagnosis of Diseases of the Chest* (1906).

His principal interest outside his professional work was astronomy and solar physics, and he was a Fellow of the Royal Astronomical Society. A memorial service was held at St Bartholomew's Hospital on April 16th.

We are indebted to Dr E. P. CUMBERBATCH, medical officer in charge of the Electrical Department of St Bartholomew's Hospital, for the following appreciation:

The death of Dr Hugh Walsham removes from the world of medical radiology one of the earliest and most distinguished pioneer workers. It was particularly in the radiology of the chest that he conducted valuable and original research and laid the foundation for further study of diseases of the thorax and its contents by means of *x* rays. Not long after the discovery of these rays he commenced to investigate their use in chest diseases. As physician to the City of London Hospital for Diseases of the Chest and chief assistant in the electrical department of St Bartholomew's Hospital he was peculiarly well qualified for this work, and by clinical and radiological examination of patients and by making radiograms of subjects of chest disease in the *post mortem* room he was able to correlate clinical, pathological and radiological findings. He wrote many papers on the subject, and in 1906 a book was published under the joint authorship of Hugh Walsham and Harrison Orton on the use of the *x* rays in the diagnosis of chest diseases. This was the first book on the subject to appear, and was the precursor of others which were published in later years. Walsham held many important posts in the radiological world.

It was in 1911 that I first knew him intimately. At that time the electro-therapeutic and *x*-ray work at St Bartholomew's were done in one department. Two rooms only were allotted for radiology, both for diagnosis and treatment, and although Walsham's work was heavy and arduous he would always spare time to assist all who came for information and advice. Short in stature, bustling and active, grey-haired, and wearing white gloves to cover the effects which *x* rays had produced on his hands, Walsham's was a familiar figure in the department; he had a kindly smile and cheery word for everyone who came to it.

During the later years of his life Walsham was in poor health. The *x* rays had taken their toll. He kept more and more aloof from meetings of societies of radiology and electro-therapeutics. Since 1913, in which year he was Vice-President of the seventeenth International Congress of *Medicine*, he did not appear, as far as I have been able to ascertain, at any medical society meeting. During the late war one of the meetings of the Rontgen Society was held in the electrical department of St Bartholomew's, and Walsham said that he would be present. On the night of the meeting, however, the disastrous explosion which wrecked Silvertown took place. Walsham was summoned as member of an emergency aid corps and was therefore unable to attend the meeting.

Walsham was held in high esteem by his friends, and his work in the radiology of the chest is a monument to his memory which will always remain.

T. RIDGE JONES, M.D.,

Consulting Physician, Victoria Hospital for Children

DR THOMAS RIDGE JONES, who died at his residence at Chesham Place, London, S.W., where he had for so many years resided and practised, was born at Rhyl in 1840. He was educated at the Liverpool Institute and the Middlesex Hospital, where he was a very brilliant student, carrying off nearly all the prizes open to him. He took the diploma of L.S.A. in 1860 and of M.R.C.S. in 1861, afterwards he went to the University of Aberdeen, where he graduated M.B. in 1869 and M.D. in 1870. Shortly after leaving Aberdeen he was appointed resident medical officer to St George's Hospital, a post he held for eleven years; he then settled in practice in London and joined the staff of the newly formed Victoria Hospital for Children, Chelsea. He was physician to that Hospital for *twenty-five years*, and was then appointed consulting physician. From the beginning he took a deep interest in its welfare, to which he contributed in no small measure.

While still at St George's Hospital he contributed to our columns a series of papers on cerebral haemorrhage and later on another series on anaesthetics. As a young man he was interested in pathology and contributed a paper on lymphatic leukaemia to the *Transactions of the Pathological Society* in 1873. He was also a member of the Medical Society of Observation and was probably the last survivor of a band of young London physicians who more than fifty years ago set themselves to meet periodically for the consideration of some case related at full length by one of the members and discussed by the others. It issued a small handbook giving very elaborate instructions for the observation and record of cases of all kinds. The governing idea was that every sign and symptom should be observed and that only after everything had been recorded should a diagnosis be attempted. The ideal however was impossible of attainment and it was commonly reported that the Society came to an end partly because although many cases in which it must have been present had been recorded the Argyll Robertson pupil had not been observed. However this may be, the training in accurate observation the members of the Society imposed upon themselves was of immense value to them and many of them achieved positions of great eminence in after life.

Dr Ridge Jones had been in failing health for some years but he continued to reside in London though he had been compelled greatly to limit his activities. He married in 1876 the daughter of the late Dr Joseph Ridge, F.R.C.P., by whom he is survived. They had five sons and three daughters.

J R LONG, M R C S, L R C P,
Dover

We regret to record the death of Dr John Reginald Long, consulting surgeon to the Royal Victoria Hospital, Dover He was born at Dover in 1870, and was educated at King's School, Canterbury, at Heidelberg, and at the Westminster Hospital He obtained the diplomas of M R C S Eng and L R C P Lond, and soon after qualifying went to help his father in practice During the earlier years, when he had leisure, he read for the Bar, and was called at Gray's Inn as a barrister He subsequently studied public health, and obtained the D P H of Oxford He was for some years on the staff of the Dover Hospital, but on his father's retirement in 1915 he relinquished hospital work owing to the call of his practice He held the appointment of school medical officer for some time, but as his private practice grew he gave up all appointments

One of his medical colleagues writes Dr Long came of a line of doctors on both sides of his family His grandfather Long practised in Barham nearly a century ago, doing a large country practice on horseback up to a ripe old age, his father, Arthur Long, settled in London Road, Dover, over sixty years ago, moving later to 1, St Martin's Place Both grandfather and father were Masters of the Society of Apothecaries of London—an unusual circumstance since the election of Master of this old City company depends upon seniority Dr Long's mother was the daughter of a Dr Beadles of Broadway, Worcestershire, himself a descendant of three generations of doctors, while seven of Dr Long's uncles were medical men, so that he may be said to have been born into the profession Whether heredity had anything to do with it or not, Dr Long represented the very best type of general practitioner He was unceasing in his devotion to his practice and his work, and extraordinarily patient and equable amid all the worries which such a busy practice entails His power of getting through a large amount of work, including much night work, was well known to his medical colleagues, to whom his death comes as a great shock There is no doubt, however, that the recent unhealthy winter altogether overtaxed his strength For many weeks he had lunch in his car and never sat down until 9 or 10 o'clock at night, and the tragic result shows that he had called upon his robust constitution to stand more than it could bear

THE LATE MR A E MORISON

Professor Caird (Edinburgh) writes All too soon and suddenly has A E Morison passed from the active band of surgeons who so honourably sustain the reputation of British surgery

His life was guided by the ideals he had found in youth, and they were strenuously followed to the last In 1884, when acting as house-surgeon under his revered chief, Professor Chiene, Morison gave early promise of the worth that years increasingly developed, for already he began to evince the remarkable powers of clinical insight and prompt decision which so characterized his work in later years Starting in general practice he adopted the broadest outlook, extending by degrees his knowledge into the various specialties of his profession, and, remaining ever a student and a keen one, he thus came to rank as a first-class hospital surgeon of enviable wisdom and wide reputation His rather short figure, of neat and athletic build, was so welcomed on the football field that it became the recognized thing for his patients to leave him free on match days, since his alacrity and prowess in play was as marvellous as the dexterity of his neat, small hand Morison's holidays were mainly of the "study leave" type He was well known at the European and American hospitals, for he made a point of personally knowing and seeing every advance in surgical science and weighing its value He was a most charming travelling companion, for his catholic spirit led him to investigate everything, be it an international socialistic association or a municipal sterilization of milk, or to study the erection and planning of infirmaries or the organization of "team work" His shrewd observation, his humour, his love of beauty in art and Nature, rendered his society most attractive Morison was always self-sacrificing and at the public call He gave excellent service during the South African and the great war Upright and straightforward, with the honour and progress of his profession at heart, he was fearless in expressing his views, and while tenacious of his own opinions was generous in considering those of others His teaching, like his papers, was concise, lucid, and convincing, and he has left a legacy of valuable articles, more especially upon the surgery of the abdomen, of the thorax, and of the bones He has passed midst the affection and esteem of all

Dr William Alfred Wills died at his residence at Stedham, Midhurst, on April 1st, aged 61 A son of the late Mr Justice Wills, he received his medical education at Westminster Hospital Medical School, took the diplomas of M R C S in 1884 and M R C P in 1891, and graduated M B Lond with honours in materia medica, anatomy, and forensic medicine in 1885 He proceeded M D in 1890, and two years later was elected F R C P He had served as physician to out-patients and medical registrar at Westminster Hospital, physician to the St Marylebone General Dispensary, and consulting physician to the North-Eastern Hospital for Children On retiring from practice he removed to Stedham, where he took great interest in local affairs For many years Dr Wills was a member of the West Sussex County Council and served on several of its committees He was keenly interested in infant welfare work and assisted in the formation of the successful centre at Midhurst He was also a good friend to the West Sussex Nursing Association In 1912 he was appointed a justice of the peace on the Midhurst bench, where he showed considerable knowledge of legal matters One of his recreations was mountaineering, he had been secretary of the Alpine Club, of which his father was one of the founders Dr Wills was the author of the chapter on diseases of the mouth in Allbutt's *System of Medicine* 1897, and the chapter on mountain sickness in Quain's *Dictionary of Medicine*, 1901

Dr Edward Arthur Sanders of Northampton died April 8th, aged 48 He was born in India, the son of Colonel Edwin Sanders, a retired officer of the Indian Medical Service He was educated at Cheltenham and King's College, London, and took the diplomas of M R C S L R C P Lond in 1901 After serving as house-surgeon at King's College Hospital he became assistant to the late Dr Rae of Northampton, but subsequently set up in practice by himself His devotion to duty and the kindliness of his nature won him the affection of a wide circle of patients and friends During the war he held a temporary commission as captain in the R A M C, and served both in France and Salonica Dr Sanders was a member of the Northamptonshire Division of the British Medical Association, and a very popular member of the local profession He is survived by his widow, one son, and one daughter A large number of medical colleagues and patients attended the memorial service held on April 11 at All Saints', Northampton

Dr Alexander Maxwell Adams, who died recently Tibshelf Derbyshire, was the eldest son of the late A M Adams of Friarsfield, Lanark He was born 1863, and studied medicine at the University of Edinburgh where he graduated M B, C M in 1884 After serving as assistant curator in the Pathological Museum of Victoria University, Manchester, he became assistant to Dr Craig of Pathhead, near Dalkeith, and then settled in practice in Glasgow He next removed to Alva, where he continued to practise up to the time of going to Africa where he became medical officer to the tea gardens subsequently proceeded to Gambia as Protectorate surgeon where he carried out researches into the cause of sleeping sickness, the results of which he published in our columns in 1903 and the following year He finally settled down to practice at Tibshelf, where he gained the high esteem of his patients and friends He was the author of *A Dynasty of Doctors, or the Medical History of the Adams Family*, published in 1922 His brother is Dr Maxwell Adams of Lanark

Dr JOHN P RUTTER of Bootle died on April 12th He was born in county Carlow, received his medical education at Glasgow and Dublin, and took the diplomas of L A H Dub in 1882, L R C P I in 1886, and L R C S I and L M in 1892 He had spent most of his professional life in Bootle, where he had a large practice, particularly among the Irish population He took great interest in local affairs, was elected a member of the town council in 1902 and was mayor of the borough in 1913-14 he had also been a member of the West Derby Board of Guardians and Bootle Education Committee for a number of years and was a member of the Liverpool Division of the British Medical Association

Dr DAVID REES PRICE of Ammanford died after a short illness on April 6th, aged 62 He was born at Dowlais and received his medical education at the University of Edinburgh, where he graduated M B , C M in 1894 Some twenty-seven years ago he became assistant to the late Dr Lloyd of Ammanford, on whose death he succeeded to an extensive practice Dr Price was medical officer of health to the Ammanford Urban District Council since its formation, medical officer of the Llandebi District of the Llandilo Fawr Union and Post Office medical officer He had been in failing health for some time, but had latterly improved, and was hoping shortly to resume his work He was honorary secretary of the South-West Wales Division of the British Medical Association from 1910 to 1919, one of the honorary secretaries of the South Wales and Monmouthshire Branch for 1921 22, and at the time of his death was a member of the Welsh Committee and of the Divisional Executive Committee

The well known specialist in tuberculosis Dr LUCIUS SPENGLER of Davos, has recently died at the age of 66

Medical News.

A LECTURE on "The influence of tropical climate on man will be given at University College London by Professor Dr C Eijkman (Professor of Hygiene and Microbiology in the University of Utrecht) at 5 p m on Friday, May 2nd. The lecture will be delivered in English, and admission is free

SIR ROBERT ARMSTRONG-JONES will give a course of four Gresham lectures on the brain and the mind, at Gresham College, Basinghall Street, London, E C 2, on Tuesday, April 29th, and three following days, at 6 p m The last lecture will deal with spiritual mental and physical healing

AT the meeting of the Eugenics Education Society to be held at the rooms of the *Royal Society, Burlington House*, on Friday, May 2nd, at 8 30 p m , Dr R A. Gibbons will read a paper on State certificate of marriage, which will be followed by a discussion in which Sir Arbuthnot Lane, Sir Maurice Craig, Sir John Bland Sutton, P R.C S , and others will take part.

A TWO weeks intensive course commences on Monday April 28th, at the Hampstead General Hospital, comprising daily clinical work in medicine and surgery, with a lecture or lecture demonstration each afternoon. Associated demonstrations, etc., will be given at the Paddington Green Children s Hospital and the North Western Fever Hospital From April 28th to May 10th a short course in dermatology at the Hospital for Diseases of the Skin, Blackfriars, will include instruction each day from 2 30 p m and a venereal clinic twice a week from 5 30 p m At the Maudsley Hospital, Denmark Hill, the course in psychological medicine, from May 5th to 30th, will consist of lecture demonstrations on mental diseases, and clinical instruction at the hospital will be available for those attending the course The course in venereal diseases at the London Lock Hospitals (Dean S'reet and Harrow Road) from May 5th to 31st will include clinical work and a lecture each day At the Central London Ophthalmic Hospital from May 5th to 31st a series of lecture demonstrations will be given, and if desired an operative surgery class will be arranged The course in proctology at St. Mark's Hospital for Diseases of the Rectum, from May 12th to 24th, will comprise operations, demonstrations, and lectures The course on infants diseases at the Infants' Hospital, from May 12th to 24th, will include clinical demonstrations, "round table" consultations, and lectures The course in laryngology, rhinology, and otology at the Central London Throat Nose and Ear Hospital, from May 12th to 30th, comprises daily clinical demonstrations, lectures, etc., from 9 30 a m to 5 p m and an operative surgery class will be arranged The intensive course, from May 19th to 31st, at the North East London Post-Graduate College (Prince of Wales s General Hospital), Tottenham will include demonstrations of clinical methods and cases, and at 4.30 p.m. lectures open to general practitioners Further information about these courses may be obtained from the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W 1.

AMONG the lectures forming the course on medical hydrology to be given in the University of London, beginning on May 6th is one by Dr C W Buckley on the British spas the waters and methods of treatment This will be given at the rooms of the Medical Society of London, Chandos Street, Cavendish Square, at 2 p m on Wednesday, May 7th It will be open to all members of the medical profession

AT a special meeting of the Middlesex Hospital Medical Society on Thursday, May 22nd, to commemorate its one hundred and fiftieth anniversary Sir James Kingston Fowler, K.C V O., M D , will deliver an address at 8.30 p m on links with the past A collection of objects of historical interest to Middlesex Hospital and of pathological and bacteriological specimens will be exhibited after the lecture

THE Astley Cooper Studentship at Guy s Hospital of the value of about £150 per annum, with £50 for expenses is now vacant The appointment is for three years Further information will be found in our advertisement columns

THE annual dinner of the British Science Guild will be held at the Hotel Cecil, Strand, W C , on Thursday, May 22nd Lord Askwith will take the chair at 7 30 p m The price of the dinner ticket is 15s without wine

THE Medico Chirurgical Society of Bologna will celebrate the hundredth anniversary of its foundation on June 10th

WE have received the first issue of a new Italian quarterly entitled *Charitas Scientia*, the organ of the Opera Franciscana *Internazionale* 'Pro Leprosis, the Roman Catholic society founded by Professor Vincenzo d Amato and his wife for the relief of lepers The journal, which is under the joint editorship of Professor d Amato and Dr P Giovanni da Persiceto, contains two illustrated articles by Professor d Amato—on the present distribution of leprosy throughout the world and on the history of the disease in antiquity and the Middle Ages. Missionary notes from various hospitals for lepers in the tropics are appended The whole issue is fully illustrated with ancient and modern reproductions of leprous conditions

M PIERRE LANDE has been nominated professor of legal medicine and deontology in the University of Bordeaux His father had previously occupied the same chair

A PRACTICAL post graduate course in dermatology and syphilis will be held at Strasbourg under the direction of Professor Pautrier from September 22nd to November 8th The fee for admission is 200 francs. Further information can be obtained from Professor Pautrier, Hop tal Civil, Strasbourg

THE next meeting of the Italian Association of Hydrology will be held at Abbazia from June 5th to 8th when the following subjects will be discussed (1) cyclonopathy by Professor M Ascoli (2) mineral waters in metabolic diseases by Professor P Marfori, (3) diathermy by Professor H Vinaj and Dr E Melocchi, (4) inhalation treatmen by Drs R Pinali and F Angelucchi (5) carbonic acid baths in the treatment of cardio-vascular diseases, by Profes or Valenti (6) treatment of gynaecological affections and sea bathing, by Dr Kurz

THE King has granted Dr William Hastings Deputy Director, Egyptian Government Health Service licence and authority to wear the insignia of the Order of the Nile (Second Class), conferred upon him by the King of Egypt in recognition of valuable services

FROM 1910 to 1921 1 575 cases of anthrax, of which 249 were fatal, occurred in Germany

ACCORDING to the *Klinische Wochenschrift* there were 29 cases of leprosy in Germany during 1923, as compared with 14 in 1922

THE mortality from malaria in Italy which was 0 72 per 1,000 inhabitants in 1887 fell to 0 65 in 1914 and, although the war caused an increased incidence of malaria in Italy, as in other countries, the mortality was only 0 1 per 1 000 inhabitants in 1920

PROFESSOR LEJARS, the author of the well known work on urgent surgery has been elected a member of the Academy of Medicine

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W C 2, on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand W C 2

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Ittiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc), *Articulate Westrand London*

MEDICAL SECRETARY *Mediocra Westrand, London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 4737, Dublin) and of the Scottish Office, 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone, 4361 Central)

QUERIES AND ANSWERS.

"M D" writes Is there any unanimity of opinion as to the effect of cycling on the pelvis of a growing girl? Is one type of saddle better than another?

INCOME TAX

"E S H"—(1) In our opinion sums received by way of Poor Law superannuation are earned income, and the one tenth deduction should be applied accordingly (2) Fees paid to accountants or others for dealing with income tax liability arising out of an employment cannot be allowed for — the law provides only for expenses incurred wholly, exclusively, and necessarily in the performance of the duties of the office or employment (3) Fees received for occasional work—for example vaccinating emigrants—arising in connexion with the employment are chargeable to the income tax

LETTERS, NOTES ETC.

THE OLD ITALIAN POUND

IN the account of Lord Byron's illness contained in our last issue (p 725) we referred to the brain weight of six pounds as given by Dr Bruno and indicated the difficulty of ascertaining what is the modern equivalent Through the courtesy of Professors Castiglioni and Raimondi we are able to give a table showing the different weights of the pound in use in the various Italian States at the time of Lord Byron's death It will be seen that among the twenty cities mentioned there were no fewer than fifteen variations in the weight of the pound Considering that it is uncertain which of these Dr Bruno made use of, or whether he made use of any of them and further that his *post mortem* report can hardly be regarded as a scientific document it seems impossible to arrive at a figure that would carry conviction

Weights of the Medical or Pharmaceutical Pound in the Cities of the Ancient Italian States

	Grams		Grams
Turin	335	Florence	339
Milan	327	Siena	339
Genoa	17	Lucca	339
Venice	301	Rome ..	339
Parma	323	Perugia ..	357
Piacenza	318	Naples	324
Modena	341	Palermo	317
Bologna	355	Cagliari	337
Ferrara	341	Trento	338
Lucca	339	Trieste	429

LORD BYRON'S LAST ILLNESS

DR J J CLAUSEN (London N W 8) writes From the interesting account of Lord Byron's fatal illness given in the JOURNAL of April 19th (p 774) it would certainly appear probable that in the first place the attack was malarial in origin As to the actual cause of death however I do not notice any reference to what seems a possibility — namely, that it was due to heroic medical treatment chiefly antimony It is recorded that six 15-grain doses of the latter were given on April 11th and again on April 12th and these may have been repeated later as in consultation on April 13th the treatment was approved Cushny, who remarks on the important part played by antimony in therapeutics in the earlier part of last century, and on its excessive use in the seventeenth century, states that death has followed 2 grain doses In the case under consideration 180 grains at least were given, and the symptoms, though possibly not typical, would at any rate fit in to some extent with this theory

* * It is not clear what the antimony powder administered by Dr Bruno was, it may have been James's fever powder, which is said to contain one third by weight of antimonious oxide

SKIN GRAFTING FOLLOWING EXTENSIVE BURNS OF BOTH LEGS

MR RALPH M DE MOWBRAY, F R C S (Lymington), writes The following case is communicated in the hope of receiving suggestions from anyone who may have had a similar experience

An unmarried lady, aged 46, while motor cycling in December 1923, sustained severe burns of both legs, the result of the petrol tank catching fire, the skin of both legs being completely destroyed, with the exception of the soles and a few patches on the dorsum of each foot

Skin grafting was commenced as soon as the raw area was covered with healthy granulations Some twenty five Reverdin grafts (from a case of ventral hernia) were first used These took almost without exception, and after a few weeks were firmly embedded and rapidly growing The area to be covered still, however, remained very large, and accordingly some twenty five donors were obtained from whom upwards of one hundred Thiersch grafts were taken In this way the granulating area was almost entirely covered Again almost every graft was successful, many of them growing rapidly and closely resembling the normal healthy skin The process of grafting occupied several weeks, one or more donors being obtained every day

Just as it was felt that a completely successful result had been obtained the grafts suddenly began to slough away and in a few days practically every trace of them had disappeared, leaving the granulating area as before Cultural examination of the granulations merely revealed the presence of *Staphylococcus albus* After a short interval several further attempts at grafting were made, fresh donors being obtained, but without success, the grafts rapidly becoming unhealthy and sloughing with a marked tendency for haemorrhage to occur under them, although the granulations were not scraped away before grafting

The interpretation placed on this result was that, inadvertently, one or more donors had been selected whose blood groups were incompatible with that of the patient, the resistance of her tissues being thereby raised, thus rendering further attempts at grafting unsuccessful The obvious course to pursue would appear to be the grafting of her own skin on to the raw area, but in view of her unsatisfactory condition and the large area still remaining to be covered this is only possible to a limited extent No doubt the correct procedure would have been to take the blood groups of all the donors previous to grafting, but for many reasons this was not feasible

SECOND ATTACKS OF MEASLES

DR P ROWLAND KEMP (Stratford) writes I saw yesterday a boy of 10 with a typical measles rash on face and trunk and a temperature of 99 6° The mother, who appeared both intelligent and observant, described two previous attacks of a precisely similar nature In this case there had been no premonitory symptoms and at the time of examination the patient felt quite well There was no sore throat and no cough I think that a drug rash can be definitely excluded in this case

TREATMENT OF PSORIASIS BY PARATHYROID EXTRACT

DR CLAUDE WILSON (Tunbridge Wells) writes In a summary of the uses of parathyroid extract given by Dr A L Gow (BRITISH MEDICAL JOURNAL, April 19th, p 698) no mention is made of psoriasis, in which disease this remedy seems to be much better than thyroid In two recent cases, one of them widespread and of long standing, the characteristic lesions on skin and scalp have melted away in the course of a few weeks under parathyroid extract 1/10 grain once daily I do not think it has been widely used and it is in the hope that others will try this simple treatment of a proverbially obstinate disease and report the results that I send this note

AN ALLEGED IMPOSTOR

SIR CHARLES GORDON WATSON, K B E, F R C S, writes In reference to my letter and to letters from others concerning the deeds of a certain impostor who claimed to be a relative of mine, I am glad to state that a young man has been arrested after gaining admission to the Aldershot Cottage Hospital with a story similar to those related The superintendent of police, Horsham has the case in hand, and will no doubt be glad to receive any information which will assist in making "the punishment fit the crime"

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 29 31, 32, and 33 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *150*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

341. Lumbar Puncture for Relief of Dyspnoea.

R MEYER BISCH (*Deut med Woch*, January 11th 1924, p 39) prefaces an account of his own investigations with a review of a paper, published in 1919 by Pal, who found that the acute paroxysmal dyspnoea of high blood pressure was often promptly relieved by lumbar puncture He traced this dyspnoea to acute passive arterial hyperaemia in the brains of patients with chronic nephritis, and he expressed the opinion that, while lumbar puncture might be beneficial in such acute cases of air hunger it was inadvisable in renal disease After this summary the author gives an account of his own observations on eighteen cases fourteen of which were cases of chronic nephritis with high blood pressure Six were uraemic and two died a few hours after admission to hospital In all these cases there was severe dyspnoea, associated in some cases with headache and vomiting In thirteen cases lumbar puncture was followed by great relief of the dyspnoea, patients who previously had to sit up in order to breathe being able to breathe quietly in the horizontal position In a few cases the withdrawal of too much fluid gave rise to headache and giddiness, lasting a day or two Like Pal, the author has come to the conclusion that dyspnoea may be the first sign of severe nephritis but he considers lumbar puncture beneficial not only for the immediate relief of the acute complications of renal disease, but also in states of subacute or subchronic dyspnoea, in one of his cases the most distressing dyspnoea and orthopnoea were banished for some weeks Examinations of the cerebrospinal fluid suggested that the dyspnoea was of cerebral origin, in most cases the fluid was under a pressure of more than 200 mm of water The frequency with which its sugar and sodium chloride content was raised suggested that the dyspnoea must have been a sign of bulbar stimulation it was noteworthy that this increase seemed to be independent of the concentration of the same substances in the blood

342. Leukaemia and Tuberculosis.

M. QUENTIN (*Bull et Mém Soc des Hôp de Paris*, January 24th, 1924, p 31) observes that the old view that there was an antagonism between leukaemia and tuberculosis has been abandoned by some recent writers who think that myelogenous leukaemia may be only a syndrome produced by tuberculosis, which in an attenuated form may excite connective tissue cells, especially those of the haemopoietic organs, to an embryonic reversion In July, 1921, P E Weil and Coste recorded a case of subacute leukaemia with extensive tuberculosis of the haemopoietic organs, and Quentin now records a similar case A boy aged 16 whose mother and several other relatives were tuberculous, was in poor health and suffered from cervical lymphadenitis every winter, though the swellings disappeared each summer He was very delicate, was emaciated, and his appetite was capricious, he grew weaker steadily The tonsils and cervical lymph glands on both sides were much enlarged the spleen was also greatly enlarged, but was smooth and painless All lymph nodes, including those of the mesentery, were swollen and palpable A blood count showed considerable leucocytosis (400,000 per c.mm) In twenty two days the red corpuscles decreased from 2,150,000 to 1,840 000 per c mm, while the leucocytes rose from 400 000 to 800 000 there was marked anisocytosis, but no haemorrhages occurred during the whole course of the illness The temperature did not rise above normal until three days before death Although signs of pulmonary tuberculosis were absent, Quentin considers that there was a familial tuberculous infection

343. Diagnosis and Treatment of Soft Chancre.

A REPORT on the diagnosis and serum treatment of soft chancre has been published by J REENSTIERNA (*Arch de l Inst Pasteur de Tunis*, 1923, Nos 3 and 4, p 273) As regards diagnosis, it has been found that the intradermal reaction is of the greatest help The emulsion used is prepared by growing the streptobacillus of Ducrey on rabbit blood agar for twenty four hours at 37° C and washing it off with 0 5 per cent carbolized saline The emulsion is kept in the ice-chest for a fortnight till it is completely sterile For the test a small quantity is injected into the skin, a control with simple 0 5 per cent phenol being made at the same time The results show that of 142 cases of buboes, for the most part associated with ulceration, 136 gave a positive reaction in the remaining 8 cases the reaction was negative but further examination showed that the original clinical diagnosis was erroneous Of 249 controls, 240 gave a definitely negative reaction, 4 doubtful one, and 5 a positive one But as these latter comprised 4 patients who were prostitutes, the evidence they had not previously suffered from a soft chancre is altogether as clear as it might be The reaction, therefore, appears to be of considerable value It must be remarked, however, that when positive it does not necessarily imply that there is active disease at the moment, for even those who have suffered from it some years before may still give a positive reaction As regards treatment, the author has been successful in preparing an antiserum to the bacillus Apparently it is not easy to obtain, but by using rams and giving frequent injections over an average period of six weeks he succeeded in obtaining one which was very potent Clinically it is injected subcutaneously into the gluteal region two injections at three to five days interval are generally sufficient This treatment has been applied to 153 cases of soft chancre in which buboes were present and in which generally an actual chancre was present too Nearly all the closed buboes cleared up rapidly in a week, whereas according to statistics such buboes generally take a month to disappear The action of the serum has been shown to be augmented by the inclusion in it of dead typhoid bacilli The effect of these is to raise the patient s temperature which the author considers to have a deleterious action on the viability of the bacillus

344. Inoculation Period in Leprosy

SIR LEONARD ROGERS (*Indian Med Gazette* February 1924, p 65) deals at length with the question of the incubation period of leprosy and records the investigations of various observers In the case of the Culion Settlement in the Philippine Islands, Gomez, Basa, and Nicholas had observed that the disease developed within four months to four years in twenty two children who had been removed at between 11 months and 4 years of age from their infected parents. His main conclusions are that the average incubation period is three and a half years and varies between five and a half months and four years. He finds a direct relationship between the closeness of contact with the disease and the earliness of the development of symptoms The incubation period in a few cases of direct inoculation was under two years, usually about six months sleeping with a leper was followed by symptoms in an average of one year and eight months living in the same house in two years and ten months and less close association in four years and eleven months The apparently longer incubation periods are, he thinks more likely to be later infections due to less opportunity for inoculation and the true incubation period is comparatively short, rarely exceeding three years and usually not more than two He points out the necessity of watching closely for several years all unhealthy contacts of any discovered leper in order that the early signs of the disease may be detected while it is yet curable Those who have lived in the same house with a leper should be medically examined every three months for three or four years after exposure to infection so as to prevent the extension of leprosy

345. X ray Treatment of Whooping-cough.

R R. STRUTHERS (*Canadian Med Assoc Journ* February, 1924, p 141) reports a series of 45 cases of whooping-cough treated solely by exposure to *x* rays In 7 of these or 15 per cent whooping and vomiting entirely stopped within forty eight hours—usually within twenty four—and did not return though a slight non spasmodic cough persisted for about two weeks in some The effect of the treatment was very striking, as all the cases had been severely ill previously with frequent attacks of whooping and vomiting In 20 cases, or 45 per cent, symptoms were markedly relieved within four or five days, and in 18 cases, or 40 per cent., there was no decisive change in the condition though it appeared that the duration of the disease had been shortened He suggests that this treatment is of considerable value and urges that a fairly large dose of *x* rays is required, preferably given by a single exposure over the chest He finds this method superior to the method recommended previously by Bowditch and Leonard of a short exposure every other day for two or three treatments

Surgery.

346. Colon Adhesions simulating Appendicitis

C DAVISON, M DAVISON, and D G ROYER (*Surg., Gynecol., and Obstet.*, February, 1924, p 171) draw attention to a group of cases which seem to them to present a definite surgical entity Attention was drawn to the number of patients who were not relieved by operations for acute or chronic appendicitis The symptoms were vague abdominal pains X-ray examination revealed a definite alteration in the contour of the ascending and transverse colon, which seemed to be caused by bands of adhesions producing partial or complete obstruction of the large bowel The findings are definite, and laparotomy reveals the mechanical condition exactly as shown by the radiograms, operative correction of the pathological condition quickly relieves the subjective symptoms The etiology of the condition is still somewhat doubtful, but the condition is evidently inflammatory and due to colonic stasis, chronic appendicitis often accompanies the condition, but is not a cause In most cases ptosis of the transverse colon is found and is probably an important factor Stasis in the colon leads to band formation at the point of least resistance in the bowel wall Relief is obtained by careful dissection of the adhesive bands, raw surfaces are covered by peritoneum The patients are made to lie on the left side and the bowels are kept active to prevent new adhesions from forming

347 Simple Jejunal Ulcer

H VELTE (*Zentralbl f Chir*, January 26th, 1924, p 135), who records an illustrative case, states that, apart from that following gastro-enterostomy, peptic ulcer of the intestine is a rare occurrence W Fischer observed two cases himself and collected fourteen from the literature, and subsequently M Holzweissig published another Velte's case occurred in a man, aged 77, who had previously never been seriously ill, when he was suddenly seized with severe pain in the left hypogastric region, vomiting, and faintness The temperature was 100 6° F and the pulse 108 *Laparotomy* showed recent diffuse peritonitis and a perforation at the upper end of the jejunum The ulcer was excised, and the patient recovered from the operation, but died twelve weeks later from exhaustion Examination of the ulcer did not show any evidence of carcinoma or tuberculosis, but the appearance resembled that of a typhoid ulcer Typhoid fever, however, was excluded by the previous good health of the patient, the sudden onset, and the subsequent course of the disease There was no sign of obstruction of Vater's papilla, as bile stained intestinal contents were seen escaping from the perforation at the laparotomy Owing to the patient's advanced age the condition may have been due to damage to the intestinal wall caused by arterio-sclerosis

348 Scoliosis Treated by Fusion Operation.

R A HIBBS (*Journ of Bone and Joint Surg.*, January, 1924, p 3) has performed the spinal fusion operation on 59 cases of scoliosis due to infantile paralysis The degree of deformity was gross, and in all cases progressive in spite of careful treatment by gymnastics and supports The ideal procedure is the correction of the deformity to the greatest degree possible before operation by means of traction jackets, changed every two weeks, and bearing a weight of 60 to 100 lb., which causes no serious discomfort The fusion operation is then performed, extending from the normal vertebra above to that below the curvature The periosteum over the spinous processes and the interspinous ligaments are split longitudinally and pushed to right and left until the spinous processes, posterior surfaces of the laminae, and bases of the transverse processes are bared, exposing the ligamentum subflavum, which is then removed by curette, and the articulation of the laminae is destroyed to establish bone contact A substantial piece of bone is elevated with a gouge from the adjacent surfaces of each lamina, the free end of the piece above is turned down and that below turned up to make contact with the lamina below and above respectively, the continuity of the pieces is preserved Similarly the spine is partially divided and the tip forced into contact with bare bone below the last one is turned upwards The lumbar spines are wide enough to allow of such contact both above and below The periosteum and ligaments, in one continuous sheet, are joined in the mid line by interrupted sutures The dissection is performed in an almost dry field No post-operative support is required, and after two weeks a final traction jacket is applied and worn continuously for six weeks The operation should be done preferably before gross deformity has developed, it prevents progress of the deformity, and enables both the upright posture to be maintained with greater ease and the trunk to be exercised with less fatigue

349 Acute Pancreatitis

M A GOSSET (*Bull et Mem Soc Nat de Chir*, February 9th, 1924, p 127) in recording a case of acute pancreatitis observes that in the majority of cases a correct diagnosis is not made prior to operation More often the condition is diagnosed as a perforated ulcer or as intestinal obstruction During the first twenty-four hours the symptoms are fairly typical and include acute pain below the umbilicus passing to the back, the abdominal facies, cyanosis, and a normal or subnormal temperature The pulse is weak and the abdomen distended whilst the respiratory movements of the abdominal muscles are lessened owing to the pain The most typical symptom is gradual abdominal distension without rigidity When operating two things are essential—(1) to expose the pancreas and (2) to examine the biliary passages The classical signs of the condition are areas of fat necrosis, a blood-stained effusion, friability of the vessels, and necrosis of the pancreas, but in the case recorded there was no evidence of fat necrosis though there was marked oedema of the omentum In reviewing the recorded cases the author finds that in only a small proportion of cases was fat necrosis not present, it appears that the mortality is considerably greater when fat necrosis is not found, being about 75 per cent At the operation the biliary tract should be examined and drainage established In the author's case cholecystectomy was performed owing to the condition of the gall-bladder The mortality in a series of cases was 61 per cent

350 Retrograde Epiplo-appendicitis

G CASTRONUOVO (*Rinascenza med.*, February 1st, 1924, p 57) under this title describes a special form of appendicitis with an insidious course and ill-marked local inflammatory symptoms, of which he has observed several examples in the course of thirty years' hospital and private practice It is only at a late stage that symptoms develop indicating involvement of the liver, bile ducts, or of the pyloro-duodeno-pancreatic region, as indicated by gastro-intestinal disturbances, cutaneous hyperaesthesia, and pain over the ascending colon In such cases, he says, considerable benefit may be derived from treatment by serums, vaccines, colloids, or protein therapy

Radiology and Electrology.

351 Serial Radiography of the Duodenum.

A GUNSETT and WEIGEL (*Journ de Radiol et d'Electrol.*, January, 1924, p 1) state that usually four or five photographs will suffice to establish a diagnosis of duodenal ulcer, the technique is simple and expeditious The chief difficulty arises in the complete distension of the duodenal bulb, which is very mobile and constantly changing in aspect, moreover, it is often hidden by the pylorus In the upright position it is in many cases sufficient to use a very liquid suspension of barium sulphate in water Radiography is facilitated by a special apparatus with which the movements of the duodenal bulb may be watched on the fluorescent screen, the screen can be replaced rapidly by a film when the desired appearance comes into view It is advisable in some cases to examine patients in other positions—for example, in the right semilateral decubitus or in ventral decubitus if it is desired to fill the bulb or to distinguish it from the overlying pylorus The authors prefer Chaoul's original method to all others, since with a little practice it is very easy to obtain good skiagrams of the duodenum and of all the neighbouring organs In the authors' last case this method enabled them to demonstrate the anatomical details of an ulcer in the middle of the stomach (with a large diverticulum) Akerlund and others have endeavoured to classify the varied and peculiar aspects which the duodenum assumes when it is the seat of organic changes These are termed (1) recess, (2) notch, (3) retraction, (4) diverticulum, they may exist separately or two or more may be associated Peculiar deformities of the bulb are then seen which are difficult to interpret

352. Radium Therapy in Malignant Disease.

R H PARRY (*British Journ of Radiol.*, January, 1924, p 3) reviews the history of this subject since Apolant's pioneer work on radium treatment of mouse carcinoma (1904) Apolant concluded that irradiation had a directly destructive action on cancer cells, and that connective tissue proliferation was a secondary process Bashford, Murray, and Cramer failed to detect any histological changes in the cancer cells, and attributed their disappearance to connective tissue proliferation and haemorrhages Wood and Prime found that (1) Hard beta rays mixed with gamma rays have about three times the lethal effect of pure gamma rays upon malignant cells (2) Sublethal doses retard the growth of tumour cells

for a time, while still shorter treatments seem to stimulate cell growth (3) The dose of radium rays necessary to destroy tumour cells *in vitro* is greater than that required to destroy isolated cells Other observers have confirmed the description of connective tissue proliferation, some holding that malignant cells are converted into cells indistinguishable from normal connective tissue cells A sarcoma was apparently transformed into a fibroma Dominici and Coyon found the following changes in breast cancer after long exposure to gamma rays (1) marked reduction in size of growth (2) marked increase in connective tissue, and diminution of cancer cells, (3) degenerative changes in the malignant spheroidal cells Dominici states that a second irradiation is much less effective than the first Russ and others found that the rate of growth in a Jensen's rat sarcoma increased 1 35 times after a small dose of beta radiation Lazarus Barlow and Parry record a similar observation in rat sarcoma after exposure to a subletbal dose of *x* rays The question of pre or post operative irradiation remains an open one although many authorities prefer the latter, its danger lies in the possibility that the rays may stimulate residual cancer cells in a patient whose general resistance has been reduced by operation In either pre or post operative irradiation there is definite danger of lymphopenia as in many cancer patients leucopenia or lymphopenia is already present The author discusses the relative advantages and disadvantges of radium treatment compared with *x* rays The former is preferable when the tumour is small or deeply seated, it has been employed chiefly in inoperable tumours, some of which have become operable or have even disappeared Correct dosage is a matter of the utmost importance, but the optimum dose in a given case is often difficult to determine He concludes that radium is a more delicate instrument than the knife and no less potent for either good or for ill

353. Deep X Ray Treatment of Pulmonary Tuberculosis.

H SCHULTE TIGGES (*Deut med Woch*, February 8th, 1924, p 171) has given deep *x*-ray treatment to 97 patients suffering from pulmonary tuberculosis, and he has come to the conclusion that this treatment is undoubtedly capable of provoking a focal reaction, as shown by a rise of temperature and an increase of catarrhal phenomena In three patients tubercle bacilli disappeared from the sputum under this treatment, but in three others whose sputum had not contained tubercle bacilli earlier these were found after this treatment was started. When a reaction was provoked its subsidence was awaited before the treatment was resumed Of the twenty five patients whose subsequent fate was investigated from eighteen months to two years after this treatment, as many as twenty three were found to be fit for work One patient had died, and another was unfit for work on account of extensive bronchiectasis These results should be considered in the light of the fact that the patients selected for this treatment represented on the whole a prognosis that was already fairly good The author is doubtful as to the capacity of deep *x*-ray treatment to convert a bad into a good prognosis, but he thinks the results obtained warrant further tests with this treatment

354. X Ray Disease of the Larynx.

O STRANDBERG (*Ugeskrift for Laeger*, February 28th, 1924 p 181) draws attention to the considerable number of cases reported within the last four years of serious *x*-ray disease of the larynx He divides *x* ray reactions in the larynx into three groups. In the first the reaction occurs one to three days after an exposure, lasts only one to three days and consists of slight hoarseness and a sense of dryness in the throat In the second group the reaction occurs later, lasts longer and the oedema provoked may entail tracheotomy The reaction in the third group may start as late as a year after a series of exposures or after a single exposure, even though the dosage has been within the limits commonly regarded as safe This reaction is characterized by ulceration and necrosis the disease often terminating fatally in a short time The author is at present treating a man aged 41, at the Finsen Institute with concentrated Finsen light for this condition, and hopes that this treatment may arrest the disease

355. Radiography of Duodenal Ulcers.

T CARWARDINE (*Bristol Med Chir Journ* January 1924 p 16) gives an account of the detection of duodenal ulcers by *x* ray photography, and illustrates it with six plates and four diagrams, showing ulcers viewed from different angles In this way he has been able to diagnose duodenal ulcer from such conditions as gall bladder trouble, irregular spasm, and generalized duodenitis When seen from above the ulcer bearing area is found to give three signs which he regards as diagnostic (1) a central spot, (2) a mottled halo, (3) a surrounding penumbra

Obstetrics and Gynaecology.

356. Treatment of Sterility

DE VREESE (*Le Scalpel*, February 9th 1924, p 171) criticizes the surgical operations commonly employed in the treatment of sterility in the female Careful examination of the husband should be made before subjecting the wife to operative or other treatment, and operative treatment of the female is certain it is said, to be useless if the cervical mucous secretion be not alkaline in reaction. Little is to be expected as a rule, from electro-therapeutic and hydrotherapeutic measures in patients with an infantile uterus or from changes of position during coitus in those showing uterine malposition, nevertheless these treatments should be tried before resorting to operation. Dilatation of the cervix, whether accompanied or not by curettage is rarely beneficial in cases of sterility it is to be inferred that a cervix which is pervious to the menstrual flow is equally susceptible of the passage of the spermatozoön Prognosis of vaginal operative procedures being so uncertain it is logical in certain cases of sterility to open the abdomen Chied has removed morbid adnexa on one side or freed pelvic adhesions and plications in eleven sterile patients of whom seven became pregnant during the ensuing twelve months and the author has witnessed a similar happy issue in two cases after removal of a haematosalpinx and the ovary of the same side.

357 Plugging the Uterus for Post-partum Haemorrhage.

O A. BOIJE (*Forhandlinger ved Nordisk Kirurgisl Forenings*, 14de Möte i Stockholm 1924, p 122) considers that the fear of infection being favoured by plugging the uterus is exaggerated At his hospital in Helsingfors he has practised this treatment in 114 out of 11 442 confinements—that is in about 1 per cent.—and he publishes the results obtained No case terminated fatally, but while the puerperal morbidity of all the confinements was only 5.3 per cent. it was 13 1 per cent for the cases treated by plugging Among the 10 cases with signs of local sepsis there were 2 in which there had been fever and malodorous liquor amnii before the completion of labour, and among the remaining 8 cases there were as many as 5 in which the rise of temperature lasted only a day The fact that the puerperal morbidity was more than twice as great among the cases treated by plugging as among all the cases could not in common fairness be put to the debit account of the plugging alone, for among the 114 cases thus treated there were as many as 31 in which forceps had been used, 11 in which manual detachment of the placenta had been undertaken, and 4 in which embryotomy had been performed. Obviously, therefore, the puerperal morbidity of 13 1 per cent. was largely accounted for by these various measures, and also by the fact that a uterus exhibiting post partum inertia is more likely to retain clots and membranes than a normal uterus, and is therefore more liable to puerperal sepsis whether its cavity be plugged or not The author refers to several cases in which the liquor amnii was infected and the temperature was raised, a fall of the temperature to normal not occurring until the uterus was plugged It has been argued that a tampon is a good jumping-off ground for germs, but there is no reliable evidence to support this view, whereas it is common knowledge that a tampon in the uterus or a wound cavity favours a passage of lymph from the walls of the cavity to the tampon The author prefers to keep a tampon in the uterus for eight to ten hours only

358. Birth Lacerations of Cervix

ACCORDING to L. A. EMGE (*Amer Journ of Gynec and Obstet*, January 1924 p 16) 80 per cent. of women have cervices torn at labour, and of these 40 per cent have further troubles, varying from simple erosions cervicitis parametritis endometritis, fibrosis uteri, etc, to epilepsy in two cases of which dating from a confinement cure followed extensive trachelorrhaphy Tears may also be a definite factor in the production of carcinoma of the cervix During the last five years in the author's clinic all tears of 0 5 cm and over have been repaired after the third stage of labour and the edges approximated but not tightly stitched, with forty-day chromic catgut, size No 3 This was done in seventy three cases, and it was found that the best results occurred in primiparae, the reason being that in multiparae the tear was usually along the old scar tissue of a previous tear and thus healing was delayed by the area being non vascular The morbidity could not be considered to be appreciably increased since a high percentage of the labours were abnormal 70 per cent showed complete healing in fourteen days time with no ectropion developing later, whereas 9 5 per cent were failures, no union taking place practically all of these were multiparae. The author advocates the treatment in primiparae, but admits

that the operation is difficult and should only be carried out under ideal conditions—that is, in a hospital, one assistant, or preferably two, are necessary, as well as the strictest asepsis It is not a suitable operation for the practitioner who has to attend his patient alone in a private house

Pathology.

359 Formation of Alveolar Pores in Pneumonia.

It is not uncommon to find in sections from lungs of patients who have died of lobar pneumonia strands of fibrin passing through spaces in the alveolar wall These spaces are generally known as the pores of Kohn W S MILLER (*Journ Exper Med*, December, 1923, p 707) has recently completed a study of the factors which enter into their production The alveolar wall is a complex structure consisting of a network of capillary blood vessels, supported by a rich network of fine fibrils, which are lined on either side by a layer of epithelium In acute lobar pneumonia there is an inflammatory engorgement in which the capillaries are distended with blood This is followed by a serous exudate into the lumen of the alveoli, together with leucocytes and red blood cells During the exudation of the serum the epithelium is pushed off, and the fibres of the reticulum may be broken If the epithelium is shed on one side only of the alveolar wall no pore can be formed, but if it be pushed off from a diametrically opposite point as well, then a communicating space is formed between two alveoli Into this the serum passes, and under the influence of ferment derived from the injured epithelial cells and leucocytes the fibrinogen of the serum is converted into fibrin This can now be seen passing as a connecting strand between the two alveoli Much the same thing occurs in mitral stenosis, where there is a non inflammatory effusion of serum The epithelium is shed and pores are formed They are, however, rather difficult to find, as there are no guiding strands of fibrin to indicate their position

360 Prophylaxis of Cutaneous Cancers

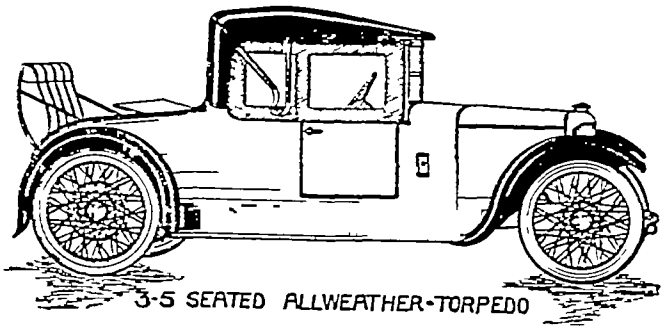
C DU BOIS (*Rev Méd de la Suisse Romande*, December, 1923, p 802) emphasizes the importance of educating the general public in the campaign against cancer He considers that there are certain well defined conditions, such as syphilis, which may be regarded as predisposing and favourable to the development of malignant disease Cancer of the tongue and rectum are traced almost exclusively to inherited or acquired syphilitic lesions in these regions, and in the uterus and breast the frequent coexistence of syphilis and malignant disease is considered something more than coincidence Hereditary syphilis, he affirms, is capable of producing numerous conditions of which its classic stigmata are but a fraction He holds that a diminution in the incidence of syphilis would be accompanied by a corresponding decrease in malignant disease, his first and greatest prophylactic measure would be the eradication of the former Next he stresses the importance of numerous parasitic and physico-chemical irritants, and suggests that the predisposition to cancer remains in the tissues long after the irritant has been withdrawn or destroyed Murray is cited as having demonstrated the identity of experimental with spontaneous cancer, and it is noted that the more feeble, prolonged, and repeated the irritation is the more dangerous it is also Cellular alterations, the result of irritation, are said to determine the production of a substance which stimulates tumour growth and offers considerable resistance to the development of a second tumour whatever be the nature of the first It is in the artificial production of this substance that the author sees the most rational possibility of a therapeutic preventive measure Attention is directed to the fact that cutaneous cancers are less malignant, less prone to metastasis, and easier of cure than other forms, they are also more varied and easier of study and develop on healthy or "pre cancerous" tissues Localization is the most interesting point in connexion with cutaneous cancers, a marked predilection, given by the author as 97 per cent, being shown for the face This is due to a number of factors among which are hereditary predisposition, mechanical reasons associated with the great complexity of embryonic development which result in malformations and inclusions, the great vascularity and the extensive glandular system, and the abundance of ecto-parasites of the follicles and sebaceous glands in this region In addition, there are the factors of exposure to changes of temperature, the sun's rays and external irritants As regards the influence of parasites, the author has found demodex remarkably frequent in healthy skins—100 per cent in 200 adults examined—and in certain cases he claims to have demonstrated for it an active function It exists in apparently healthy glands at the commencement of growth of a neoplasm, acting as a chronic irritant or as a carrier, possibly it is the causal agent of spontaneous epitheliomas He would base the prophylaxis against cutaneous malignant disease on the following measures of precaution close watch on all naevi and their removal on the least indication of change, radical treatment of all "pre cancerous" conditions, such as follicular keratosis and vegetations, personal cleanliness, the use of cloths in preference to sponges for ablution, lathering with a suitable soap followed by friction massage with a fatty substance If hot water be employed before retiring for the night, a rapid wash with cold is stated to be all that is required in the morning, it has, in addition, a tonic action Children and adults should be taught not to touch the face overmuch and to avoid fondling animals, acne is to be dealt with more thoroughly than is general, adult and larval demodex can be destroyed by the use of xylol and benzine, which, being fat solvents, penetrate to the glands of the skin, mixture of these with sweet oil of almonds or lanoline will obviate their tendency to irritate The author considers that these rules of hygiene should be taught in schools

361 Transfusion of Blood.

L CARMONA (*Arch Ital di Chir*, November, 1923, p 241), as the result of experiments on rabbits and dogs, has come to the following conclusions (1) In transfusion of blood a more or less rapid and intense change takes place in the number of red cells and haemoglobin value as follows (*a*) In homogeneous transfusion with citrated blood the haemoglobin diminishes after the operation, the red cells diminish at once in number if the donor's blood contains an equal or smaller number of red corpuscles than the blood of the recipient, but remain the same or increase if the transfused blood contains more, the normal condition being reached in about fifty days' time (*b*) In cases of direct homogeneous transfusion the haemoglobin value and number of red cells are always high after the transfusion and then fall until the normal level is reached (*c*) In heterogeneous transfusion with citrated blood the number of red cells and haemoglobin value show an immediate and decided fall in almost all cases after the operation, and are more or less slow in returning to the normal (2) After a transfusion of blood, whether homogeneous or heterogeneous, the number of leucocytes shows an immediate change, which persists for about two months, with periods of considerable rises and falls, the increase in the number of leucocytes being apparently connected with a strong individual reaction, and a decrease in the number with a weak individual reaction (3) The individual constitution, independently of any other causes acting on the transfusion of blood, has a considerable influence on the reaction to the transfusion (4) Transfusion of citrated blood does not apparently have any injurious influence on the organism, but direct transfusion is to be preferred (5) Blood which has been made incoagulable by sodium citrate may be kept for twenty four hours at the temperature of the atmosphere and then be raised to the temperature of the animal and be injected without any bad effects (6) The blood may be injected at the temperature of the atmosphere provided the injection is made very slowly

362. Vaccine Treatment of Typhoid and Paratyphoid Fever

V BIE (*Acta Med Scand*, March 19th, 1924, p 95) has treated 13 cases of typhoid fever and 6 cases of paratyphoid B fever with a vaccine prepared from an agar culture of typhoid bacilli On five consecutive days intramuscular injections were given, the doses being 100, 200, 400, 700, and 1,000 million No case was thus treated until the diagnosis was confirmed by a serological test or the demonstration of the bacilli in the blood or the faeces One of the cases of typhoid fever was complicated by pneumonia and terminated fatally In another case of typhoid fever the patient recovered, but did not appear to benefit from the vaccine In the remaining 17 cases there could be little doubt that the vaccine was responsible for the fall of the temperature by lysis, which began within a day or two of the last injection This was so whether the last injection was given as early as the thirteenth or as late as the fortieth day of the disease While prophylactic typhoid vaccination is a specific process, not conferring immunity to paratyphoid fever, it would seem that the good effects of a typhoid vaccine injected during typhoid or paratyphoid fever are non specific, the action of the vaccine being due to its protein content In support of this view that his treatment was non specific protein therapy, the author notes that he has recently obtained equally good results in typhoid and paratyphoid fever with the intramuscular injection of a staphylococcal vaccine With the fall of the temperature by lysis there was a corresponding improvement in the patient's general condition



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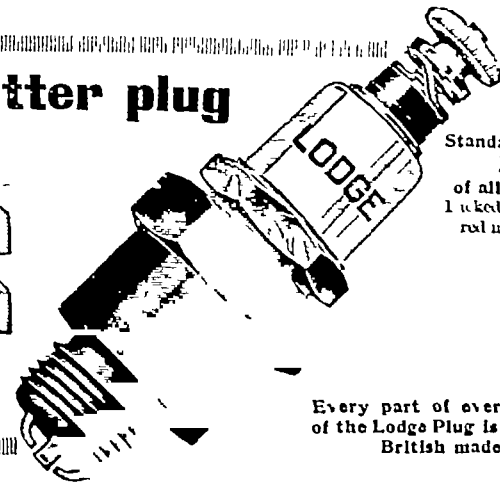
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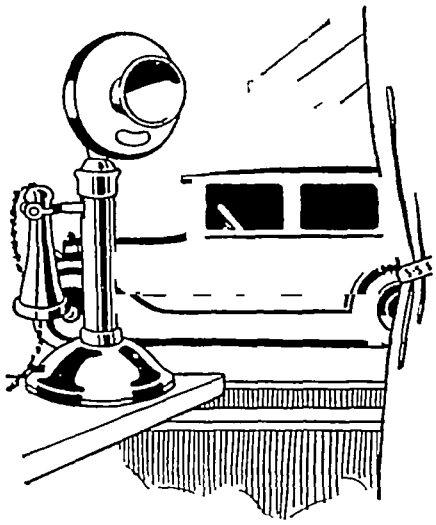
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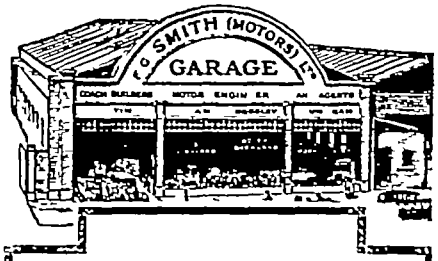
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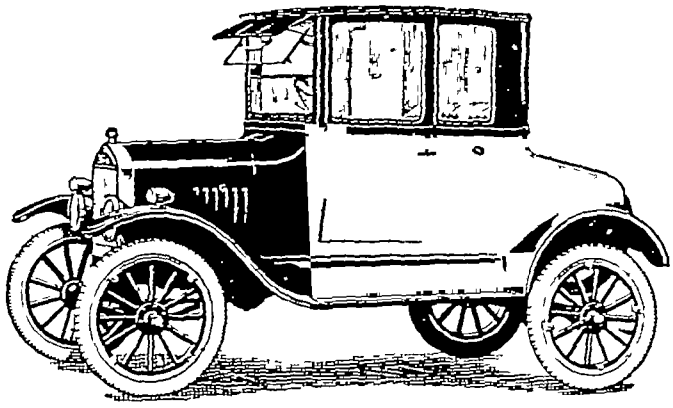


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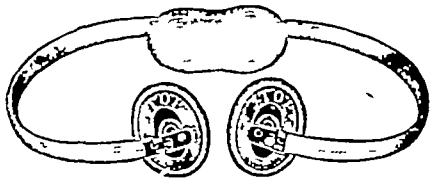
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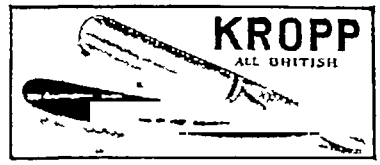
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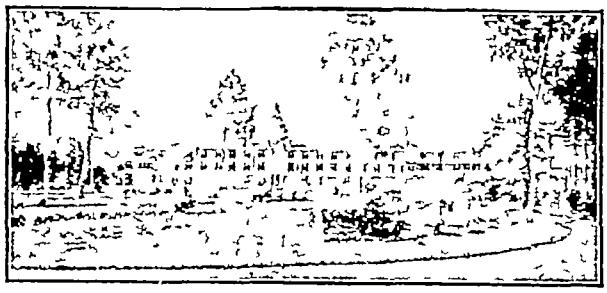
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Both Institutions are well equipped with **Research Laboratory, Throat Room, Dental facilities,** and powerful **X-Ray Plant Full Day and Night Nursing Staffs** are employed

Special Treatment by artificial **Pneumothorax** (with X-ray control), the various **Tuberculins,** and Autogenous **Vaccines**, etc, is available without extra charge.



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At BANCHORY, near BALMORAL.

Physician

Dr IAN STRUTHERS STEWART

Assistant Physician Dr J C LORRAINE

For particulars, apply SECRETARY



TOR-NA-DEE SANATORIUM

AT MURTLE, ABERDEENSHIRE.

Senior Physician Dr J M JOHNSTON

Assistant Physicians Dr JAMES LAWSON & Dr A C FOWLER

The Scottish Branch of the British Red Cross Society is prepared to contribute towards payment of the fees of ex Officers and Nurses recommended by the Society, and such Officers and Nurses obtain priority of admission

Inclusive terms, **7 Guineas a week.**

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THE COTSWOLD SANATORIUM.

A Private Sanatorium opened in 1898 for the treatment of Pulmonary Tuberculosis It is situated on the Cotswold Hills seven miles from Cheltenham 800 feet above sea level, in grounds of 40 acres surrounded by 1,000 acres of wooded common land, sheltered from north and east. S S W aspect

The rooms are specially built of one story only opening on to wide verandahs, have radiators hot and cold basins, electric light X Ray Installation Throat Room All special forms of treatment available Full Day and Night Nursing Staff

Resident Physicians ARTHUR H HOFFMAN, M D, and GEOFFREY A HOFFMAN, M B

Apply THE SECRETARY The Cotswold Sanatorium, Cranham, Gloucester *Telephone 22 Painswick Telegrams "Hoffman, Birdlip"*

VALE OF CLWYD SANATORIUM.

This Sanatorium is established for the treatment of Tuberculosis of the Lungs and of the Pleural Cavities. It is situated on the midst of a large area of park land at a height of 450 feet above sea level on the south west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views

Trained nursing staff day and night X Ray apparatus. Treatment by Artificial Pneumothorax in suitable cases. Electric lighting in every room. Heating by Radiators

For particulars apply to the Medical Superintendent, H. MORRISTON DAVIES, M D, M Ch Cantab, F R C S, Llanbedr Hall, Ruthin, N Wales

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FOR THE TREATMENT OF TUBERCULOSIS

OPENED IN JANUARY 1899

This SANATORIUM was the first to be established in England for carrying out treatment on Nordrach lines Patients are received for open air inoculation or operative treatment, the latter under X ray control Full Nursing Staff The Sanatorium stands in gardens and private grounds of 65 acres at an elevation of 862 feet above sea-level, surrounded by woods and moorland, the rooms are heated by hot water pipes and lighted by electricity ROWLAND THURNAM, M D, DANIEL KENNEDY, L R C S L R C P

For full particulars apply to THE SECRETARY Nordrach-upon-Mendip Sanatorium, Blagdon, near Bristol Telegrams "Nordrach, Blagdon"

PALACE SANATORIUM, MONTANA-SUR-SIERRE

Tuberculosis Cure Station, 5,000 feet high, SWITZERLAND.

Accommodation for 100 Patients.

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Full particulars from the Secretary, 5, Endsleigh Gardens, London, N.W. 1.

WESTMORLAND SANATORIUM.

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Established 1900 Phone: Grange-over-Sands 51.

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(Non pulmonary cases not requiring operative treatment also received, including children)

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Electric light throughout building and in shelters. Fully equipped X Ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night **A few rooms are now reserved for Surgical Cases not requiring immediate operation.** Terms 4 to 6 guineas per week Medical Superintendent FELIX SAVY M.B., Ch B

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PRIVATE WARDS, 5 Gns. per week exclusive of Surgeon's fees but inclusive of X Rays, splints, plasters, massage and gymnasium.

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Assistant Director of Chemical Laboratories: ALAN WEST STEWART D Sc. A.I.C Public Analyst for Windsor Boston &c.

Lecturer on Bacteriology ARTHUR COMPTON M.B D.Sc., late of the Institut Pasteur Paris.

Lecturers on Public Health, &c.: ALBERT E. THOMAS M.A. M.D Oxon D.P H Oxon. Barrister-at-Law Medical Officer of Health for the Borough of Finsbury GEOFFREY E. OATES M.D.Lond., D P H.Camb. M R.C P., Barrister at Law Medical Officer of Health for the Borough of Bethnal Green

The Course of Instruction can be commenced at any time.

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Further particulars can be obtained from the Secretary 37 Russell Square, W C 1

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F R C S (Edin.), 1918-23 - **21**
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Church Missionary Society

The ANNUAL MEETING of the MEDICAL MISSION AUXILIARY of the C.M S. will be held in the Queen's Hall Langham Place, W 1 on Wednesday May 7th, 1924. The chair will be taken at 7.30 p.m. by

G DRUMMOND ROBINSON Esq., M.D F R.C.P

and the speakers will be:—

W PARKER HARRISON Esq M.R.C S., L.R.C P of Salt Transjordania
Mrs J H LEWIS M.B., B.S.Lon., of Isfahan, Persia
L. R S SHARP Esq M.B B.Ch Camb. of Ruanda, Uganda
Miss LILY G ILIFF M.B B.S Lond. D T.M & H.(Lond.)

Tickets for admission can be obtained on application to the Loan Department, Church Missionary Society Salisbury Square, Fleet Street E.C.4 There will be a small number of reserved seats at 1/ each

University of Durham

POST GRADUATE INSTRUCTION

A General Course comprising Clinical Medicine Clinical Surgery and Pathology will be held on each Thursday from May 8th to July 10th, 2 to 5.30 p.m The Classes will be held in the Royal Victoria Infirmary Newcastle. Fee £3 3s. 0d

Special Courses meeting once weekly will be held in the following subjects: Obstetrics and Gynæcology Diseases of the Eye Diseases of the Throat Nose, and Ear Diseases of the Skin Diseases of Infancy Neurology Fee for each Special Course £2 2s 0d.

Entries must be received by April 30th

A detailed syllabus will be sent on application to Professor R HOWDEN College of Medicine, Newcastle-upon Tyne.

Seamen's Hospital Society.

LONDON SCHOOL of TROPICAL MEDICINE

Endsleigh Gardens, N.W.1.

Sessions will commence 22nd April and 22nd September 1924.

For Prospectus and further particulars apply to The Secretary London School of Tropical Medicine, Endsleigh Gardens, N W., or to the Head Office, Seamen's Hospital Greenwich, London. S.E.

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Large beautifully appointed House with delightful pleasure grounds and tennis courts overlooking the sea. Girls from 16 years are received for thorough training in Domestic Economy and may continue studies in French, Pianoforte, Violin, Singing, Elocution, Drawing Painting, and Dancing.—Full particulars on application to D., c o J & J PATON 143, Cannon Street, London E.C 4

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F.R.C S.(Edin)

A TUTORIAL CLASS for the next Examination commences shortly

Particulars from CHAS. R. WHITTAKER, F R C.S Anatomical Department Surgeons Hall, Edinburgh.

Manchester Royal Eye HOSPITAL.

POST GRADUATE COURSE.

A series of Eight Practical Demonstrations on EXTERNAL DISEASES OF THE EYE will be given by the Honorary Staff of the Hospital commencing May 1924. The number in the class will be limited to ten. Fee for the course, two guineas.

Those desirous of joining kindly send their names to Dr RENWICK, 23 St. John Street, Manchester as soon as possible

University of Birmingham

CLINICAL BOARD

A Course of POST-GRADUATE DEMONSTRATIONS will be given at the General Hospital Birmingham, on Tuesdays, from 3.30 to 5 p.m and at the Queen's Hospital Birmingham on Fridays, 3.30 to 5 p.m. April-August, 1924 commencing on April 25th at Queen's Hospital, and on May 6th at General Hospital The Course will be given by Members of the Medical and Surgical Staffs and will include Demonstrations on Medical Surgical and Gynæcological Cases Skin Diseases Ophthalmic Cases, Children's Diseases Urinary Diseases Use of Digitalis, etc.

Medical Practitioners may obtain detailed timetables of Demonstrations and Ticket of admission *on payment of the fee for the Course £1 1 0 which should be sent to the Clerk to the Clinical Board University Edmund Street, Birmingham.*

University of London

A LECTURE entitled "*Some Questions concerning the Influence of Tropical Climate on Man*, will be given (in English) by Professor C EIJKMAN (Professor of Hygiene and Microbiology in the University of Utrecht) at UNIVERSITY COLLEGE LONDON (Gower Street, W C 1 on Friday May 2 d, 1924 at 5 p.m. The Chair will be taken by Professor H R. KENWOOD C.M.G C.M., F.R.S.E. (Chadwick Professor of Hygiene in the University)

Admission free without ticket.

EDWIN DELLER, Academical Registrar

University of London

ADVANCED LECTURE IN OPHTHALMOLOGY

A Lecture entitled "*Accommodation*" will be given (in English) by Professor Dr J VAN DER HOEVE (Professor of Ophthalmology in the University of Leiden) at the CHARING CROSS HOSPITAL MEDICAL SCHOOL (Chandos Street, Charing Cross W C 2) on Friday May 9th 1924, at 5 p.m. The Chair will be taken by Mr E. TREACHER COLLINS F R C S L.L.C P

Admission free without ticket.

EDWIN DELLER, Academical Registrar

ST. MARY'S HOSPITAL, LONDON, W. 2.

INSTITUTE OF PATHOLOGY AND RESEARCH.

A course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the Summer Session The remaining Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on Thursday afternoons at 5 p.m as under —

	SUBJECT
MAY 1ST	
Sir THOMAS LEWIS, C B E M D F R S (Lect Cardiographic Dept. University College London)	"Reactions of the Skin to Injury"
MAY 8TH	
Prof A V HILL O B E, M A Sc D F R S (Prof of Physiology University College London) (Nobel Laureate)	"The Function of Hæmoglobin in the Body
MAY 15TH	
ANDREW BALFOUR C B C M G M D (Director London School of Hygiene and Tropical Medicine)	"Some Medical and Sanitary Lessons"
MAY 22ND	
MAJOR GREENWOOD M R C P M R C S (Statistician to Ministry of Health)	"Is the Statistical Method of any Value in Medical Research
MAY 29TH.	
GORDON M HOLMES C M G, C B E, M D (Physician National Hospital for the Paralysed and Epileptic)	"The Ductless Glands and Personality"
JUNE 5TH.	
WILFRED TROTTER M D, F R C S (Surgeon, University College Hospital)	"The Sensibility of the Skin in Relation to Neurological Theory
JUNE 12TH	
WILLIAM BATESON, M.A., D Sc. F R S (Director John Innes Horticultural Institution)	"The Determination of Sex.

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee

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(University of London.)

THE HOSPITAL is the largest in England 900 beds of which number 812 are in constant use: last year In patients 17 977 Out patients 119 749 Dental patients 5 577

THE MEDICAL COLLEGE AND DENTAL SCHOOL are modern with large laboratories equipped essentially [illegible] with the latest and most approved appliances The various departments are under the direct control of University Professors or Lecturers who devote their time entirely to work in their department and whose assistants by a number of Demonstrators

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Annual Fee 40 guineas
Dental: Full Course £210 in four equal annual instalments
Hospital Course £130 in two equal annual instalments
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SPECIAL COURSES are held for all University Examinations and for the Primary and Final Fellowship Examinations of the Royal College of Surgeons

SCHOLARSHIPS AND PRIZES.—Scholarships and prizes amounting to £458 are awarded annually

APPOINTMENTS are more numerous than at any other Hospital in the Kingdom over 170 being made annually from students of the College recently qualified

RESEARCH FUNDS of over £26,000 give unrivalled facilities for medical research

ATHLETICS RESIDENCE etc —A Clubs Union with an Athletic Ground of 13 acres Students Hostel on Hospital Grounds College Dining Hall etc. (Men Students only are eligible for admission)

For Prospectus and particulars apply to the Dean (Professor WILLIAM WRIGHT M B D Sc, F R C S) who will be pleased to make arrangements for anyone wishing to see the Medical College and Dental School.

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Continuous Clinical Work in all Departments—
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For further particulars apply to Mr H J SIMSON Dean, West London Hospital Hammersmith W 6

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PRINCE OF WALES'S GENERAL HOSPITAL, N 15

The Practice of the Hospital is limited to Medical Practitioners Particulars and Prospectus from J BRIGHT BANISTER M.D Dean.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC,

Queen Square, W.C 1

MEDICAL SCHOOL.

A POST GRADUATE COURSE on DISEASES OF THE NERVOUS SYSTEM will be held at the above Hospital from May 3rd to June 7th 1924

The General Course will consist of CLINICAL LECTURES and DEMONSTRATIONS TEACHING in the OUT PATIENT DEPARTMENT and PATHOLOGICAL LECTURES and DEMONSTRATIONS

The fees for this Course will be £5 5s

A COURSE OF LECTURES on the ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM will be arranged if there are sufficient applicants
Fee £2 2s.

A COURSE OF CLINICAL DEMONSTRATIONS chiefly on METHODS OF EXAMINATION OF THE NERVOUS SYSTEM will be given
Fee £2 2s

A limited number of students can be enrolled as WARD CLERKS or as CLINICAL ASSISTANTS in the Out patient Department

Applications should be addressed to the Secretary, Medical School National Hospital for the Paralysed and Epileptic Queen Square London W C 1

J G GREENFIELD Dean

Tickets entitling to attend the Out patient Clinics only (£3 3s. for three months) may be obtained from the Secretary

ST. MARY'S HOSPITAL MEDICAL SCHOOL,

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(University of London)

The SUMMER SESSION will begin on April 28th, 1924 The Medical School provides courses in Preliminary Intermediate and Final Subjects and Students can join at once after matriculation

SITUATION Between a large population providing clinical material and one of the best residential districts thus enabling students to live in close proximity to their work

CLINICAL UNITS IN MEDICINE AND SURGERY *Certain members of the Medical and* Surgical Staff devote their whole time to teaching and research

NEARLY 1 000 BEDS available for teaching—additional clinical material being provided by affiliation to other Institutions

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1 200 are awarded annually

APPOINTMENTS varying in value up to £750 per annum open to students after qualification

For further particulars and illustrated prospectus apply to the School Secretary

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The age of the pupil district preferred and rough idea of fees should be given

J & J PATON Educational Agents 113 Cannon Street London E C 4 Telephone 5063 Central.

ASTLEY COOPER STUDENTSHIP

GUY'S HOSPITAL.

This Studentship, which, under the authority of the Charity Commissioners is maintained by the Physicians and Surgeons of Guy's Hospital as Trustees of the Astley Cooper Prize Fund is now vacant.

The Student is elected for a period of three years and is called the Astley Cooper Assistant to the Curator of the Gordon Museum." The present value of the Studentship is about £150 per annum with an additional sum of £50 for expenses.

In accordance with the terms of Sir Astley Cooper's Will the Studentship shall not at any time be awarded to any Member of the Staff of Guy's or St. Thomas's Hospital nor to anyone related by blood or affinity to them

Particulars regarding the Studentship can be obtained from Mr. C. H. FAGGE, M.S., Guy's Hospital, London, S.E.1., to whom applications for the post should be addressed on or before May 5th 1924

Beit Memorial Fellowships

FOR MEDICAL RESEARCH.

Notice is hereby given that an ELECTION of JUNIOR FELLOWS will take place in July 1924. Not more than ten Junior Fellowships will be awarded. The Fellows elected will be required to begin work on October 1st. Junior Fellowships are of the annual value of £350. The usual tenure is for three years. Applications of candidates who name as their Referees, persons resident abroad must be received on or before May 15th. Applications from other candidates must be received on or before June 1st. Forms of application and all information may be obtained by letter only addressed to Sir JAMES K. FOWLER, M.D., Honorary Secretary Beit Memorial Fellowships for Medical Research 3. Clarges St., Piccadilly London W.1

Royal College of Physicians

Professor ARCHIBALD VIVIAN HILL, O.B.E., Sc.D. F.R.S., will deliver the OLIVER SHARPEY LECTURES on Tuesday April 29th and Thursday May 1st at 5 o'clock, at the College Pall Mall East S.W.

Subjects (1) The Recovery Process in the Isolated Muscle."

(2) "The Recovery Process in Man."

Any member of the medical profession admitted on presentation of card.

By Order of the President,
H. M. BARLOW Bedell and Secretary

Royal College of Physicians

Professor KARL FRIEDRICH WENCKEBACH will deliver a LECTURE on Monday May 5th, at 5 o'clock, at the College Pall Mall East, S.W.

Subject: Angina Pectoris and the Possibilities of its Surgical Relief."

Any member of the medical profession admitted on presentation of card

By Order of the President,
H. M. BARLOW Bedell and Secretary

Tavistock Clinic for

FUNCTIONAL NERVE CASES 51 Tavistock Square, W.C.1. A Course of Ten Lectures on PSYCHOLOGICAL TYPES by H. CRICHTON MILLER, M.A., M.D. on Wednesdays at 5.30 p.m. beginning Wednesday May 7th. Fee for the Course: Medical Practitioners £2 2s. Medical Students £1 1s. Tickets in advance from Lecture Secretary at the Clinic.

Small Private Residential

SCHOOL, established 21 yrs., for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS. Special Department Pupils over school age. Under Medical supervision.—Prospectus, Mrs. MEIKLEJOHN, Principal, St. Paul's House, Upper Maze Hill, St. Leonards-on-Sea.

Liverpool School of Tropical

MEDICINE.

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th.—Prospectus from the Hon. DEAN School of Tropical Medicine, University of Liverpool

Home School for Backward

and DELICATE CHILDREN (estab. 1904). Specialists. Patients received. Modern educational methods and handicraft training. Horticulture, garden games and occupations. Entire charge if desired. Elder girls admitted. Terms moderate.—Apply Principal Hatherley Brake, Cheltenham

In consequence of the lease of ASHDOWN HOUSE, Hampstead having expired, MISS BULLOCK has moved her School for SPEECH and LIP READING for DEAF Children and for the cure of SPEECH DEFECTS in HEARING Children to the larger detached residence, standing in its own grounds known as KINGSFIELD HOUSE Oxhey Watford.

Indian Medical Service

The Secretary of State for India announces that Vacancies in the Indian Medical Service continue to be filled by direct appointment.

For EUROPEAN OFFICERS of British Nationality to be appointed in the immediate future, special terms are offered including gratuities of £1,000 after 5 years service, together with free return passages for those who no longer desire to remain in the service

Candidates must be under 32 years of age at the time of application, and must possess qualifications registrable in Great Britain and Ireland under the Medical Acts now in force.

Further particulars can be obtained on application to the Secretary Military Department, India Office Whitehall, London, S.W.1. Letters should be marked Recruitment for I.M.S."

Battersea Borough Council

PART TIME ASSISTANT MEDICAL OFFICER FOR MATERNITY WORK.

The Council invite applications from qualified women for the appointment of part-time Assistant Medical Officer for Maternity and Child Welfare work

Candidates must be fully qualified in accordance with the Medical Acts and must have had previous experience in Maternity and Child Welfare Work Preference will be given to those who have had special training and experience in the diseases of women and children

The officer appointed will be required to attend Maternity and Child Welfare Clinics approximately 160 sessions per annum, and will work under the direction and supervision of the Medical Officer of Health

Remuneration £1 11s. 6d. per session

Applications in candidates own handwriting stating age, qualifications present employment, and previous experience, and accompanied by copies only of not more than three recent testimonials must be received here not later than 12 noon on Saturday 3rd May 1924 addressed to the Medical Officer of Health. Envelopes to be endorsed Assistant Medical Officer."

Canvassing in any form will be deemed a disqualification.

EDWIN AUSTIN Town Clerk.
Town Hall Lavender Hill, S.W.11
15th April 1924

Administrative County of

ESSEX.

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

The County Council of the Administrative County of Essex invite applications for the above post from registered medical practitioners specially qualified in the treatment of tuberculosis not over 45 years of age.

The salary attached to the appointment will be £700 per annum and travelling expenses. The person appointed will be required to devote his whole time to the service of the Council to perform such duties and to furnish such advice and assistance appertaining to his office as may be required and to reside in such district of the County as the Council may decide. The appointment will be subject to three months' notice on either side.

Applications, on the prescribed form obtainable from the undersigned accompanied by copies of not more than three testimonials which will not be returned, should be addressed to me, and delivered at the Shire Hall Chelmsford, not later than Thursday the 8th May 1924

Shire Hall JOHN H. GOOLD
Chelmsford. Clerk of the County Council.
23rd April 1924

Herefordshire General

HOSPITAL

There is a vacancy in the office of HONORARY PHYSICIAN to the above Institution. The appointment is for a period of seven years (renewable up to age 65) and candidates must reside within such distance of the Hospital as may satisfy the Board of Management.

Partners of existing members of the Honorary Staff ineligible.

Applications, with copies of three recent testimonials to be sent to the undersigned before the 6th May. Canvassing strictly prohibited

Hereford O. L. BRADLEY
22nd April, 1924 Secretary

The Hospital for Sick

CHILDREN Newcastle-upon-Tyne.

The Committee of Management have declared a vacancy for an HONORARY ASSISTANT SURGEON

Applications, stating age, and qualifications, are invited for this appointment, and should be sent to the Secretary Mr. NEIL BROWN, 14 City Road Newcastle-upon-Tyne accompanied with three testimonials, on or before 14th May 1924.

Canvassing a disqualification.

Union of South Africa

VACANCY FOR HOUSE SURGEON IN GREY'S HOSPITAL, PIETERMARITZBURG

SALARY.—£400 per annum, plus free board, lodging, and washing

ENGAGEMENT.—In the first instances on contract for two years, with prospect of extension of employment by mutual consent.

QUALIFICATIONS.—Applicants must be single male British subjects, about 25 years of age.

TRANSPORTATION.—Free first-class railway and steamer fares from place of residence to destination, and similarly in reverse direction if not re-engaged on expiry of contract. Half salary during voyage.

Applications (which must state candidate's knowledge of the Dutch language) together with copies of testimonials and particulars of qualifications and experience all in duplicate, must be lodged with the Secretary Office of the High Commissioner for the Union of South Africa, Trafalgar Square London, W.C.2 (from whom forms of application may be obtained) not later than 6th May 1924.

Vacancy for Woman Medical

INSPECTOR OF FACTORIES

The scale of salary exclusive of the Civil Service Cost of Living Bonus, is £800 per annum rising by annual increments of £25 to a maximum of £900. The Bonus at present payable on the initial salary is £200 odd. The appointment will be subject to the usual Civil Service conditions as to retirement, pension, &c.

The Medical Inspector will be required to undertake medical inspection, under the direction of the Senior Medical Inspector in factories, workshops, and other places under the Factory Acts in any part of Great Britain, and to reside in such place as the Home Secretary may from time to time direct

Candidates must be unmarried or widows. They must be natural-born British subjects and the daughters of fathers also natural born British subjects; provided that exception may be made in the case of candidates serving in a civil situation to which they were admitted with the certificate of the Civil Service Commissioners.

Applications (on forms to be obtained on request) should be addressed not later than 15th May 1924 to the Private Secretary Home Office Whitehall London, S.W.1

Recommendations or testimonials will only be considered if based on personal knowledge of the candidate and candidates are advised not to seek political or social influence which will prejudice rather than assist the candidature

The post is in substitution for the similar post advertised in June last at a lower rate of salary which was not eventually filled. But candidates who applied for that post will not be assumed to be applying for the present vacancy unless they renew their applications.

Home Office, Whitehall.
14th April 1924

The Queen's Hospital for

CHILDREN
Hackney Road, Bethnal Green, E.2.

The Committee invite applications for the post of ASSISTANT SURGEON to the Ear Nose and Throat Department.

Attendance required on Thursday morning for about three hours commencing at 9 30 and during the holidays or absence from other causes of the two Senior Surgeons to the Department on Monday and/or Tuesday morning with charge of beds during these periods. Lunch provided and honorarium to cover travelling expenses

Candidates must be Fellows by examination of the Royal College of Surgeons England

Applications, with copies of three recent testimonials, which may be printed or typewritten should be sent on or before May 15th to the undersigned from whom further particulars may be obtained T. GLESTON KERR,
19th April 1924 Secretary

East Sussex County Mental

HOSPITAL, Hellingly

PATHOLOGIST

Wanted at the above Hospital a Pathologist. Salary £500 a year with lunch and tea daily. Appointment subject to the Asylum Officers Superannuation Acts 1909.

For full particulars apply to the Resident Physician and Medical Superintendent, to whom applications should be forwarded not later than Friday 16th May

Medical Officer wanted by the

PARISH COUNCILS of KILDONAN and LOTH Sutherlandshire, to enter on his duties not later than 1st July 1924. Applications with 10 copies of testimonials, to be lodged on or before 9th May 1924, with the Inspector of Poor Kildonan Hamadale who will give all necessary information to intending applicants. There is a considerable private practice available and also a large Insurance practice.

Wanted, Assistant Large good class mixed Practice including panel South Coast Dispenser kept Married man preferred Partnership later if mutually suitable —Address No 2033 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Assistantship in mixed and panel Practice Moderate salary with view to Partnership London preferred —Address No 2005 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Outdoor Assistant Panel and Private Practice in Lancashire —Address No 2007 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted at once, Assistant-SHIP, with view to small Partnership or succession English married no children thoroughly reliable —Address No 2035 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Part-time Work, London by M B Ch B of 26 specialising Evenings week ends Share night work Has 2 h R S O R M O 6 months experience General Practice Hospital appointments —Address No 2023 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Assistant, view to Partnership wanted in July replace retiring partner 30–35 married Hosp and G P experience North Countryman preferred Pleasant village nr Manchester good house garden tennis lawn and garage two-fifths partnership £1 330 after a year at 1/5 years purchase Some capital Salary as Assistant £450 —Add No 2024 B M J Office, 429 Strand W C 2

Assistantship wanted by M B Ch B L R C P & S, M R C S, M D Clinical passed Thesis presented Age 30 married no family Excellent references District optional but Yorkshire preferred —Give full particulars of salary probable length of engagement, etc to Dr A KIRK 201 York Road Leeds

An opportunity for Medical Man to obtain Services of SURGERY CARETAKER with knowledge of Dispensing A really useful man Could drive Car if necessary Married —Address No 2001 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Indoor Assistant with view to permanency as PARTNER in good class Practice in North of Scotland Must be good anæsthetist and experienced accoucheur Able to drive car £300 a year with rise at end of six months if satisfactory —Address No 2037 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Lady, 35, desires to hear from a Specialist requiring a SECRETARY to live in next autumn No salary required —Address No 2013 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Lady, aged 27, wishes to obtain a position as NURSE-ATTENDANT or SECRETARY to a Dental Surgeon or Medical Practitioner in London —MARNACK 61 Ilchington Park Road S E 11

M.B, Ch B (woman), desires ASSISTANTSHIP or LOCUMS Experience private and panel practice Dispensing Good references Free early in May —Address No 2031 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Secretarial Work wanted by gentlewoman daily well educated expert typist shorthand (first-class Royal Society of Arts) highest references One or more C onsultant preferred Birmingham or district —Address No 2025 BRITISH MEDICAL JOURNAL Office, 429 Strand W C

Woman M B, D P H, etc, requires ASSISTANTSHIP London preferred Experience panel and private practice Quick dispenser Young energetic cyclist Very moderate salary Free 1st May —Address No. 2028 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Woman M R C S, L R C P, age 28 seeks post as whole or part time ASSISTANT or LOCUM Keen energetic some experience in General Practice Excellent testimonials —Address No 2002 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Woman Medical Officer (within) wanted for September 1924 for WHITELANDS TRAINING COLLEGE Chelsea (300 resident students) For forms of application and further particulars apply to the Secretary 4 Sloane Square S W 1 Applications must be received before May 15th

Medical Officer required, as quickly as convenient by the YORKSHIRE COAL OWNERS MUTUAL INDEMNITY Co LTD to supervise the workmen living in the Contract District for Workmen's Compensation purposes. Salary £1 500 per annum Must not exceed the age of 45 years and devote his whole time to the appointment — Written application only giving professional qualifications, previous experience and age to Secretary, 15 Foster's Buildings Sheffield

Wanted, about May 17th A qualified Lady DISPENSER Usual duties and book keeping Indoors — Dr COLMER, Leavil Wiltshire Lancashire

Dispenser wanted, with experience in developing and printing essential Army work Outdoor Working class district — Particulars of age salary etc, to Dr GREGSON, Lancashire

Dispenser (lady), young, desires APPOINTMENT with doctor Whole or part time Hall qualification Some book keeping experience —Address D K R Riverholm Pear Tree Avenue Itchen, near, Southampton

Experienced Dispenser is free for short ENGAGEMENTS May to September (inclusive) — Miss KNOTT 31 Scarisbrick New Road Southport

Young Lady requires post as DISPENSER BOOK KEEPER quick neat. Five years last post Excellent testimonials — Address No 2016 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Young Lady, experienced Radiographer (four years) qualified Dispenser desires Post in London —Write Box 1244, SELL'S ADVERTISING OFFICES, Fleet Street E C 4

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Telegraphic Address:
Positions Westrand, London."
Telephone Regent 429

A Welsh-speaking M R C S Eng L R C P Lond D P H about to relinquish a temporary appointment wishes a post as LOCUM with view to Partnership —Address No 2012 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Doctor, Regent's Park, London would EXCHANGE PRACTICE for Two weeks with Doctor at Seaside August or September Accommodation for three relatives — Address No 2036 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

M B, B S, F R C S, 44 yrs, just sold Practice wishes to do LOCUM TENENS at 8 Gns 9 Gns with use of own car) for one to three months from about 10th May — Address No 2011 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Locum or Temporary ASSISTANTSHIP (3 months) wanted by M B Ch B Ed — Single energetic donor post Graduate work in 2 years M D and bacteriology) Can cycle or drive car Free 15th May — Address No 2018 BRITISH MEDICAL JOURNAL Office 429 Strand W C

FOR LOCUM TENENS APPLY TO Mr. PERCIVAL TURNER
The Oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals.
4, ADAM STREET, STRAND, LONDON, W C 2
Telegs: Lpsomian, London" Phone: Gerrard 393
After 5 p m.— Phone: Epsom 335

Locum or Assistantship, with view wanted by M B Ch B (woman) aged 28 Experienced hospital and general practice Good anæsthetist, cyclist Good testimonials Free July —Address No 2032 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Locum Free for Summer ENGAGEMENTS Thoroughly experienced temperate and energetic —Address "Locum" c/o Dr EVANS Tumble Carmarthenshire

M.B, Ch B (Aberd), woman, 29 desires LOCUM or ASSISTANTSHIP in or near London Experienced in general practice and Sanatorium Free now —Address No 1927 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Retired Medical Man would like Holiday LOCUM with hospitality for wife Four guineas a week and one return fare — Address No 2027 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted by L R C S, L R C P Edin L D S PARTNERSHIP in general practice with surgical interest (Cottage Hospital) after 2–3 months Preliminary Assistantship £1 000 cash available Applicant 23 year hard worker half Scots and half English Two years general hospital experience two years sanatorium experience (surgical tuberculosis) 6 months bacteriologist and radiologist 9 months experience industrial general practice —Address No. 2038, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Cheshire — Half-Partnership In good Practice. Pretty district Nice house garden garage rent £54. Separate Surgery rent £80 Receipts £4,000 including panel £1 000. Price 1½ years purchase part down balance as arranged —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd 88 King Street

Lancashire — Partnership worth £1 100 to £1,200 2/3 panel and 1/3 private in industrial area with scope. Good house available Purchaser should have necessary capital Premium 1½ years purchase —Address No 1617, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Lancashire, industrial town — PARTNERSHIP half share Receipts £4 200 Panel 3 500 Appointments Good house garden garage 1½ years purchase £1 200 down balance arranged —Address No 2014 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Partnership in Private Asylum required by gentleman Experienced in private mental work —Address No 2034 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted — General Practice, including good panel in London or any large town Receipts from £1,000 to £3 000 a year Good house.—Apply PEACOCK & HADLEY 19 Craven Street Strand, W C 2 (No charge unless sale effected)

Wanted — General Practice, Country Town South Kent preferred About £1 000 a year No agents —Address No. 2030, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Practice or PARTNERSHIP London or within 20 miles. £1 000 to £1,500 a year Panel immaterial but preferred Ample capital available — Apply, No 3423 c/o PERCIVAL TURNER 4, Adam Street Strand W C 2

Wanted, Practice about £800 to £1,000 in a bracing neighbourhood Southern Counties Experienced Gen ral Practice Capital available — Address No 2022. BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Practice or PARTNERSHIP in Home Counties £1 000 to £1 500 a year House 4 to 5 bedrooms Purchaser has capital available and can negotiate at once —Apply No 4432 c/o PERCIVAL TURNER 4 Adam Street Strand W C 2

Wanted a good-class general PRACTICE in a Country or County Town in England with fair size house to rent. Principals or their solicitors only No agents —Address, No 1830 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted—Country Practice or PARTNERSHIP North of England £1,200 to £1,500 a year Cumberland or Westmorland preferred but not essential. Purchaser can negotiate at once—Apply, No 4381, c/o PERCIVAL TURNER, 4 Adam Street Strand, W C 2.

Wanted by M B, age 37, a middle and working class PRACTICE of £1,500 or more with good panel in London or the South or Midlands. Vow free and can pay cash.—Apply BLUNDELL & Co, 2, Craven Street, Strand W C 2

Death Vacancy—London, N W Suburb About £2,000 a year Held by late Incumbent over 3 yrs. Non panel. Visiting fees 5/ up Corner house, 3 reception 4 bedroom bathroom etc. garage.—Apply No 7527 c/o Mr PERCIVAL TURNER, 4, Adam Street Adelphi W C 2

For Disposal—A good PRACTICE is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised.—Full information free on application to 4 Adam St. W C 2.

For Disposal—A good PRACTICE is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised.—Full information free on application to 4 Adam St. W C 2.

London—Well established Panel and Private Cash PRACTICE for Sale Annual receipts average £700 Premium 1½ years' purchase or close offer.—Address, No 2015, BRITISH MEDICAL JOURNAL Office 429 Strand, W C

Required at once, Practices and PARTNERSHIPS.—Mr W S ATKINS (late of ARNOLD & SONS, London) has a large number of Clients who are seeking Practices and Partnerships and wish to settle down at once.—Send full particulars, in confidence, to ATKINS Medical Transfer Agency 43, Bedford Street, Strand W C

To Purchasers—Do not Buy without expert assistance. With 40 years experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4 Adam Street, Strand W C 2 Telephone: Gerrard 399 Telegrams: "Epsomian London."

Valuable old-established private and general PRACTICE (Huddersfield District) Average returns (three years) about £2,500; panel 1,100.—Apply for full particulars to REYNOLDS & BRANSON Ltd., Transfer Agency No 2119 13 Bridgate, Leeds.

West Riding Town—Mixed PRACTICE. Panel 1,300 Panel and private receipts last year £1,016. Vendor holds and is resigning 2 appts Modern detached doctor's house freehold recently decorated £2,500 Part 1½ yrs. purchase Part remain.—Addr No. 2020 B M J 429 Strand

Yorks Seaside Resort—Good PRACTICE near front. Nice house £60 Average receipts over £1,100 Panel 810 Cottage hospital. Price 1½ years' purchase or near offer for quick sale.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd. 88 King Street.

Yorkshire—For Sale (in consequence of death) General Medical Practice. Estab. over 50 yrs Urban and Industrial. Panel 1 400. M O H. and Public Vaccinator Accepts average £2,500.—For further particulars apply OWEN AND BAILEY Solicitors, Huddersfield

Yorkshire—Good non-panel NUCLEUS on suburban thoroughfare in University city Twelve months receipts £923 Good opening for panel and well-situated corner house for sale Electric light and heating.—Address, No. 2019 BRIT MED JOUR. Office 429 Strand, W C

£1,380 Glam Practice for Sale. Bills sending never done. Every penny cash and transferable Feeble opposition. Great prospects. 160 houses being built. Buyer pays part down Firs application giving essential particulars.—Address No 1905 B M J Office, 429 Strand, W C

Bournemouth—In local Harley Street CONSULTING ROOM and use of Waiting Room to Let Dark room available. Suitable for radiologist or other specialist.—Address No 2021, BRITISH MEDICAL JOURNAL Office 429 Strand W C.

City, best position—Doctor wants another to SHARE HIS ROOMS Good fees Reasonable rent. Scope for panel.—Address No. 2009 BRITISH MEDICAL JOURNAL Office 429 Strand W C.2.

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Park Crescent, Portland Place.—To Let TWO ROOMS at present furnished and equipped as Consulting Room and Clinical Laboratory Use of Waiting Room. Rent £230 p.a. Occupier retiring through ill health open to negotiate for furniture and equipment if also desired.—Address, No 1818, BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2

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Large bed-sitting room, Doctor's house close to Harley Stree. Terms two guineas weekly Part time use of consulting room if required Good service.—Address No 2008, BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2.

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County Borough of SOUTHAMPTON
RESIDENT MEDICAL OFFICER.
The Corporation invite applications for the position of Resident Medical Officer at the Borough Isolation Hospital.
The gentleman (or lady) appointed will hold office during the pleasure of the Council, will be required to reside at the Isolation Hospital, to devote his (or her) whole time to the duties of the office, and to act under the direction of the Medical Officer of Health.
Salary £360 per annum, with residence board and washing.
Applications, on the form to be obtained from the Medical Officer of Health accompanied by copies of not more than three recent testimonials addressed to the Town Clerk and endorsed "Resident Medical Officer" must be delivered at the Town Clerk's Office, on or before the 14th May
R. R. LINTHORNE,
22nd April 1924. Town Clerk.

The Hartlepools Hospital, Friar Street Hartlepool.
HONORARY SURGEON
HONORARY ORTHOPÆDIC SURGEON.
HONORARY ANÆSTHETIST
The Board of Management invite applications for the appointment of Honorary Surgeon, Honorary Orthopædic Surgeon, and Honorary Anæsthetist.
Applications should be delivered to the undersigned on or before Saturday April 26th 1924.
A copy of the Rules relating to staff appointments at the Hospital, can be obtained on application to the Secretary
By order of the House Committee.
M. LIDDLE, Secretary

St Mary's Hospital for WOMEN & CHILDREN Plaistow E.13.
Applications are invited for the posts of RESIDENT MEDICAL OFFICER and ASSISTANT RESIDENT MEDICAL OFFICER (each 31st May) The appointments are for six months Board residence and laundry are provided Salaries at the rate of £175 and £130 per annum respectively The duties of the H.M.O are mainly administrative and surgical, and those of the A.R.M.O mainly medical.
Applications, with copies of three recent testimonials to be sent to the undersigned not later than May 10th.
A. ERNEST WILKES Secretary

London Temperance Hospital, Hampstead Road N W 1.
Applications are invited for the post of MEDICAL REGISTRAR Honorarium 40 guineas per annum.
The appointment is for a period of one year and applications with testimonials, should be forwarded to the Secretary not later than 5th May

Birkenhead Borough HOSPITAL.
THIRD HOUSE SURGEON (Male)
Wanted, fully qualified (Male) Third House Surgeon, salary £100 per annum, with board and lodging. Applications, with testimonials, to be addressed to the Secretary by the 5th May 1924.

Wanted, Assistant Large good class mixed Practice including panel South Coast. Dispenser kept. Married man preferred. Partnership later if mutually suitable.—Address No 2033 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Assistantship in mixed and panel Practice. Moderate salary with view to Partnership. London preferred.—Address No 2005, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

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Assistant, view to Partner-ship wanted in July replace retiring partner 30-35 married Hosp and G P experience North Countryman preferred Pleasant village nr Manchester good house garden tennis lawn and garage two-fifths partnership £1 330 after a year at 1½ years purchase Some capital Salary as Assistant £450.—Add No 2024, B M J Office, 429 Strand W C 2

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An opportunity for Medical Man to obtain services of SURGERY CARETAKER with knowledge of Dispensing A really useful man Could drive Car if necessary Married.—Address No 2001 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Indoor Assistant with view to permanency as PARTNER in good class Practice in North of Scotland Must be good anæsthetist and experienced accoucheur Able to drive car £300 a year with rise at end of six months if satisfactory.—Address No 2037 BRITISH MEDICAL JOURNAL Office, 429 Strand W C2

Lady, 35, desires to hear from a Specialist requiring a SECRETARY to live in next autumn No salary required.—Address No 2013 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Lady, aged 27, wishes to obtain a position as *NURSE-ATTENDANT* or SECRETARY to a Dental Surgeon or Medical Practitioner in London.—MARRACK 61, Kensington Park Road S E.11

M B, Ch B (woman), desires ASSISTANTSHIP or LOCUMS Experience private and panel practice Dispensing Good references Free early in May.—Address No 2031, BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Secretarial Work wanted by gentlewoman, daily well educated expert typist shorthand (first-class Royal Society of Arts) highest references One or more Consultants preferred Birmingham or district.—Address No 2025 BRITISH MEDICAL JOURNAL Office, 429 Strand W C

Woman M B, D P H, etc, requires ASSISTANTSHIP London preferred Experience panel and private practice Quick dispenser, young energetic cyclist Very moderate salary Free 1st May.—Address No 2026 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Woman M R C S, L R C P., age 28 seeks post as whole or part time ASSISTANT or LOCUM Keen, energetic some experience in general practice Excellent testimonials.—Address No 2002, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Woman Medical Officer (visiting) wanted for September 1924 for WHITELANDS TRAINING COLLEGE Chelsea (50 Resident Student) For forms of application & particulars of the work apply to the Secretary, Westfield College Chelsea S W 7. Application to be returned before May 14th

Medical Officer required, as quickly as convenient by the YORKSHIRE COAL OWNERS MUTUAL INDEMNITY Co LTD to supervise the workmen living in the Pontefract District for Workmen's Compensation purposes Salary £1 500 per annum Must not exceed the age of 40 years and devote his whole time to the appointment.—Written application only giving professional qualifications, previous experience and age to Secretary, 13 Foster's Buildings Sheffield

Wanted, about May 17th A qualified Lady DISPENSER Usual duties and book keeping Indoors.—Dr COLMER, Leovil

Dispenser wanted, with experience in developing and printing ars st X ray work Outdoor Working class district.—Particulars of age salary etc, to Dr GREGSON, Wiltshire Lanca hire

Dispenser (lady), young, desires APPOINTMENT with doctor Whole or part time Hall qualification Some book keeping experience.—Address D K R "River holm Pear Tree Avenue Itchen, near, Southampton

Experienced Dispenser is free for short ENGAGEMENTS May to September (inclusive).—Miss KNOTT 31 Scarisbrick New Road Southport

Young Lady requires post as DISPENSER BOOK KEEPER, quick neat Five years last post Excellent testimonials.—Address, No 2016 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Young Lady, experienced Radiographer (four years) qualified Dispenser desires Post in London.—Write Box 1244 SELL'S ADVERTISING OFFICES, Fleet Street E C 4

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Telegraphic Address:

Positions Westrand London."

Telephone Regent 229

A Welsh-speaking M R C S Eng L R C P Lond, D P H about to relinquish a temporary appointment, wishes a post as LOCUM with view to Partnership.—Address No 2012 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Doctor, Regent's Park, London would EXCHANGE PRACTICE for Two weeks with Doctor at Seaside, August or September Accommodation for three relatives.—Address No 2036 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

M B, B S, F R C S, 44 yrs, just sold Practice wishes to do LOCUM TENENS at 8 Gns 9 Gns with use of own car) for one to three months from about 10th May.—Address No 2011 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Locum or Temporary ASSISTANTSHIP (3 months) wanted by M B, Ch B Ed 25 single energetic done post graduate work in fevers V D and bacteriology Can cycle or drive car Free 16th May.—Address No 2018 BRITISH MEDICAL JOURNAL Office 429 Strand W C

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After 5 p m.—Phone: Epsom 335

Locum or Assistantship, with view wanted by M B Ch B (woman) age 28 Experienced hospital and general practice Good anæsthetist, cyclist Good testimonials Free July.—Address No 2032 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Locum Free for Summer ENGAGEMENTS Thoroughly experienced temperate and energetic.—Address "Locum" c/o Dr EVANS Tumble Carmarthenshire

M B, Ch B (Aberd), woman, 29 desires LOCUM or ASSISTANTSHIP in or near London Experienced in general practice and Sanatorium Free now.—Address No 1017, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Retired Medical Man would like Holiday LOCUM with hospitality for wife Four guineas a week and one return fare.—Address, No 2027 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted by L R C S, L R C P Edin L D S, PARTNERSHIP in general practice with surgical interest (Cottage Hospital) after 2—3 months Preliminary Assistantship £1 000 cash available Applicant 28 year hard worker half Scots, and half English Two years general hospital experience two years sanatorium experience (surgical tuberculosis), good bacteriologist and radiologist 9 months experience industrial general practice.—Address No. 2038 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Cheshire — Half-Partnership In good Practice. Pretty district Nice house, garden garage rent £54 Separate Surgery rent £80 Receipts £4 000 including panel £1,000. Price 1½ years purchase, part down balance as arranged.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd 88 King Street

Lancashire — Partnership worth £1 100 to £1,200 3/5 panel and 2/5 private in industrial area with scope Good house available Purchaser should have necessary capital Premium 1½ years purchase.—Address No 1617, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Lancashire, industrial town — PARTNERSHIP, half share Receipts £4 200 Panel 3 500 Appointments Good house garden garage 1½ years' purchase £1 200 down balance arranged.—Address No 2014 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Partnership in Private Asylum required by gentleman Experienced in private mental work.—Address No 2034 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted — General Practice, including good panel in London or any large town Receipts from £1.000 to £3 000 a year Good house.—Apply PEACOCK & HADLEY 19 Craven Street Strand, W C 2 (No charge unless sale effected)

Wanted — General Practice, Country Town South Kent preferred. About £1 000 a year No agents.—Address No 2030, BRITISH MEDICAL JOURNAL Office 429, Strand, W C 2

Wanted — Practice or PARTNERSHIP London or within 9 miles. £1 000 to £1 500 a year Panel immaterial but preferred Ample capital available.—Apply, No 3423, c/o PERCIVAL TURNER, 4 Adam Street Strand W C 2

Wanted, Practice about £800 to £1 000 in a bracing neighbourhood Southern Counties Experienced General Practice Capital available.—Address No 2022 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Practice or PARTNERSHIP in Home Counties £1 000 to £1 500 a year House 4 to 5 bedrooms Purchaser has capital available and can negotiate at once.—Apply No 4432 c/o PERCIVAL TURNER, 4 Adam Street Strand W C 2

Wanted a good-class general PRACTICE in a Country or County Town in England with fair size house to rent. Principals or their solicitors only No agents.—Address, No 1836 BRITISH MEDICAL JOURNAL Office 429, Strand W C 2

Wanted—Country Practice or PARTNERSHIP North of England, £1,200 to £1,500 a year Cumberland or Westmorland preferred but not essential Purchaser can negotiate at once—Apply No 4381, c/o PERCIVAL TURNER, 4, Adam Street Strand, W C 2.

Wanted by M B, age 37, a middle and working-class PRACTICE of £1,500 or more with good panel in London or the South or Midlands. Now free and can pay cash.—Apply BLENDELL & Co 2, Craven Street, Strand W C 2

Death Vacancy—London, N W Suburb About £2,000 a year Held by late Incumbent over 5 yrs Panel Visiting fees 5/ up. Corner house, 3 reception 4 bedroom bathroom etc. garage.—Apply No 7527 c o Mr PERCIVAL TURNER, 4 Adam Street Adelphi W C 2

For Disposal—A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised—Full information free on application to 4, Adam St. W C.2.

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London—Well established Panel and Private Cash PRACTICE for Sale Annual receipts average £700 Premium 1½ years' purchase or close offer—Address, No 2015, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C

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Valuable old-established private and general PRACTICE (Huddersfield District) Average returns (three years) about £2,500 panel 1,100—Apply for full particulars to REYNOLDS & BRANSON Ltd Transfer Agency No 2119 13 Briggate Leeds.

West Riding Town—Mixed PRACTICE. Panel 1,400 Panel and private receipts last year £1,016. Vendor holds and is retiring 2 appts. Modern detached doctor's house freehold recently decorated £2,500 Part purchase, Part remain.—Add No 2020 B M J 429 Strand

Yorks Seaside Resort—Good PRACTICE near front. Nice house £60 Average receipts over £1,100 Panel 810. Cottage hospital. Price 1½ years' purchase or near offer for quick sale.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd., 83, King Street.

Yorkshire—For Sale (in consequence of death) General Medical Practice. Estab. over 60 yrs Urban and Industrial. Panel 1,400. M O H. and Public Vaccinator Appts. average £2,500—For further particulars apply OWEN AND BAILEY Solicitors, Huddersfield

Yorkshire—Good non-panel NUCLEUS on suburban thoroughfare in University city Twelve months receipts £923. Good opening for panel and well-situated corner house for sale Electric light and heating.—Address, No 2019 BRIT MED JOUR. Office 429 Strand, W C

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Bournemouth—In local Harley Street CONSULTING ROOM and use of Waiting Room to Let. Dark room available Suitable for radiologist or other specialist.—Address, No 2021, BRITISH MEDICAL JOURNAL Office 429 Strand W C.2

City, best position.—Doctor wants another to SHARE HIS ROOMS Good fees. Reasonable rent. *Scope for panel*—Address No 2009 BRITISH MEDICAL JOURNAL Office 429 Strand W C.2.

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Apply Owner

c o Mr ERNEST BARKER, 133 Salisbury Square, Fleet street London, E.C 4

Park Crescent, Portland Place.—To Let TWO ROOMS at present furnished and equipped as Consulting Room and Clinical Laboratory Use of Waiting Room. Rent £230 p.a. Occupier retiring through ill health open to negotiate for furniture and equipment if also desired—Address, No 1818, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C.2

Park Crescent, Portland Place, facing Ornamental Gardens. Spacious HOUSE to be Let on Lease for approved professional residence, or for conversion into good maisonettes—Apply to Mr JOHN MURRAY F.S.I., 11 Suffolk Street Pall Mall S W.1.

Large bed-sitting room, Doctor's house close to Harley Street. Terms two guineas weekly Part time use of consulting room if required Good service.—Address No 2008, BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2

Required—Part-time CONSULTING ROOM with plate, West End About an hour daily Moderate rental.—Address No. 2017 BRITISH MEDICAL JOURNAL Office 429 Strand W C.2.

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County Borough of SOUTHAMPTON

RESIDENT MEDICAL OFFICER.

The Corporation invite applications for the position of Resident Medical Officer at the Borough Isolation Hospital.

The gentleman (or lady) appointed will hold office during the pleasure of the Council, will be required to reside at the Isolation Hospital, to devote his (or her) whole time to the duties of the office, and to act under the direction of the Medical Officer of Health.

Salary £360 per annum, with residence board and washing.

Applications, on the form to be obtained from the Medical Officer of Health, accompanied by copies of not more than three recent testimonials, addressed to the Town Clerk and endorsed "Resident Medical Officer" must be delivered at the Town Clerk's Office, on or before the 1st May

R. R. LINTHORNE,
Town Clerk.

22nd April 1924.

The Hartlepools Hospital, Friar Street, Hartlepool.

HONORARY SURGEON
HONORARY ORTHOPÆDIC SURGEON
HONORARY ANÆSTHETIST

The Board of Management invite applications for the appointment of Honorary Surgeon, Honorary Orthopædic Surgeon, and Honorary Anæsthetist.

Applications should be delivered to the undersigned on or before Saturday April 26th 1924.

A copy of the Rules relating to staff appointments at the Hospital, can be obtained on application to the Secretary

By order of the House Committee.

M. LIDDLE, Secretary

St Mary's Hospital for WOMEN & CHILDREN Plaistow E.13.

Applications are invited for the posts of RESIDENT MEDICAL OFFICER and ASSISTANT RESIDENT MEDICAL OFFICER (vacant 31st May) The appointments are for six months Board residence and laundry are provided. Salaries at the rate of £175 and £120 per annum respectively The duties of the L.M.O are mainly administrative and surgical and those of the A.R.M.O mainly medical.

Applications, with copies of three recent testimonials to be sent to the undersigned not later than May 10th.

A. ERNEST WILKES, Secretary

London Temperance Hospital, Hampstead Road N W.1.

Applications are invited for the post of MEDICAL REGISTRAR. Honorarium 40 guineas per annum. The appointment is for a period of one year and applications with testimonials, should be forwarded to the Secretary not later than 5th May

Birkenhead Borough HOSPITAL.

THIRD HOUSE SURGEON (Male)

Wanted, fully qualified (Male) Third House Surgeon, salary £160 per annum, with board and lodging. Applications, with testimonials, to be addressed to the Secretary by the 6th May 1924.

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District.	Town or District	Town or District
CONTRACT PRACTICE.		
ENGLAND.	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	OAKDALE, MON *(Medical Officer for Medical Aid Association)*	HEYWOOD BOROUGH *(Medical Officer of Health).*
SOUTH BANK, & ESTON *(Medical Aid Associations or Workmen's Clubs)*	OGMORE VALLEY, GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*	LEEDS EDUCATION COMMITTEE *(Assistant School Medical Officer)*
WALES.	TONDU & ABERKENFIG, GLAMORGAN *(Workmen's Medical Scheme.)*	LINCOLN CITY AND COUNTY BOROUGH *(Medical Officer of Health)*
ABERTRIDWR, GLAMORGAN *Windsor Colliery (Medical Scheme)*	**PUBLIC HEALTH.**	MORAY EDUCATION AUTHORITY *(Assistant School Medical Officer)*
EBBW VALE, MON *(Workmen's Medical Society)*	BARNSLEY COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
GILFACH GOCH, GLAMORGAN *(Workmen's Medical Scheme.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*	OLDHAM EDUCATION COMMITTEE *(Assistant Schools Medical Officer)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	HERTFORD COUNTY *(Assistant Medical Officer of County Sanatorium, Ware Park near Hertford)*	SELKIRKSHIRE *(Medical Officer of Health)*
MARDY, GLAMORGAN *(Workmen's Medical Scheme)*		SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer)*
		STOKE-ON-TRENT EDUCATION COMMITTEE *(Assistant School Medical Officer)*

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou St. Vincent and St Lucia)

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District.	Hon Sec of Division or Branch	Town or District.	Hon Sec. of Division or Branch	Town or District.	Hon Sec of Division or Branch
NEW SOUTH WALES *(All Friendly Society Appointments)*	Dr R H TODD (Hon Sec New South Wales Branch) B M A. Building 30-31 Elizabeth Street, Sydney N S W	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R. MARSHALL ALLAN (Hon Sec Queensland Branch), Adelaide Street, Brisbane	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon Sec, Victorian Branch) Medical Society Hall E Melbourne Victoria.
				WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon Sec., Western Australian Branch, No 6 Bank of New South Wales Chambers, St. George's Terrace, Perth

Address 429, Strand, W C 2.
April 23rd, 1924.

By order of the Council of the British Medical Association.
ALFRED COX, Medical Secretary

Borough of Lytham Saint Annes

APPOINTMENT OF MEDICAL OFFICER OF HEALTH SCHOOL MEDICAL OFFICER AND MEDICAL OFFICER OF THE MATERNITY AND CHILD WELFARE CENTRE

The Corporation of Lytham Saint Annes invite applications for the above appointment Salary £800 per annum rising by annual increments of £50 to a maximum of £1 000 per annum The officer appointed will be required to devote his whole time to the duties of the office

The appointment and duties will be in accordance with the Sanitary Officers Order 1922 and will be subject to the approval of the Ministry of Health

The officer appointed must possess the qualifications required by the said Order He will be expected to reside within the Borough and to give three months notice before resigning his position Applications to state age qualifications and if married or single.

Canvassing Members of the Council, either directly or indirectly will be deemed a disqualification.

Applications endorsed Medical Officer with copies of not less than three recent testimonials to be forwarded to the undersigned not later than Saturday the 10th May 1924.

Dated this 11th day of April 1924

Town Hall, St. Annes on the Sea. T BRADLEY Town Clerk.

Mid-Wales Counties Mental Hospital, Talgarth, Breconshire

The Visiting Committee invite applications for the post of ASSISTANT MEDICAL OFFICER at this Institution Salary commencing at £350 and rising by annual increments of £25 to £450 per annum with (in addition) the following emoluments valued for the purposes of superannuation at £100 per annum, apartments, board, washing and attendance. The appointment is subject to the provisions of the Asylum Officers Superannuation Act 1909 A knowledge of Welsh is desirable but not essential

Applications together with testimonials should be sent to the undersigned as early as possible but not later than the 30th April

A. J ASTBURY
Clerk to the Visiting Committee

West Herts Hospital,

Hemel Hempstead Herts.
(24 miles from Euston—102 Beds)

Wanted RESIDENT MEDICAL OFFICER (only one kept) to commence duties the beginning of May Preference given to male candidate Salary £200 with rooms, board and laundry Particulars to be obtained of and applications stating essential particulars and enclosing copy of recent testimonials to be sent at once to HOBT. L. BUTTERFIELD
Clerk to the Hospital

The London Lock Hospital,

91, Dean Street, and 283, Harrow Road, W

[AMENDED ADVERTISEMENT]

The Board of Management invite applications for the appointment of SURGICAL REGISTRAR to the above Hospitals Honorarium £100 per annum Candidates who must be doubly qualified, are invited to send in their applications with three copies of testimonials only to the Secretary at the above address, not later than 10 a m on May 5th 1924 Candidates must be Fellows (or Members) of the R C S England or a Surgical Graduate of a University of the United Kingdom

By Order of the Board
Chief Offices, 283 Harrow Road W 9 HY J EASON, Secretary

General Infirmary at Leeds.

630 Beds

Wanted RESIDENT OPHTHALMIC OFFICER Salary £120 with board residence and laundry, and in the event of the present House Surgeon being appointed then there will be a vacancy for OPHTHALMIC and AURAL HOUSE SURGEON, salary £50 with board residence, and laundry

Candidates must be legally qualified and registered. Applications at once with copies of testimonials, should be addressed to the Infirmary

FRED J BRAY
General Manager
10th April, 1924

Exeter City Mental Hospital

ASSISTANT MEDICAL SUPERINTENDENT

salary of £350 per annum subject to deductions under the Asylum Officers Superannuation Act 1909 The emoluments will include furnished apartments board and laundry Experience in a Mental and a General Hospital essential

Forms of application and further particulars may be obtained at my office No 9 Southernhay West Exeter Applications endorsed Assistant Medical Superintendent" together with copies of not more than three recent testimonials must reach me not later than Wednesday the 7th May 1924

H LLOYD PARRY
Town Clerk and Clerk to the Visiting Committee

West End Hospital for

NERVOUS DISEASES

Applications are invited from British male candidates for the post of CASUALTY PHYSICIAN Remuneration £200 per annum Afternoon attendance at Out patient Department five days a week Candidates must have Neurological experience

Application with copies of three testimonials should be addressed to the undersigned from whom further particulars are obtainable at 73 Welbeck Street W 1, not later than Monday April 28th 1924

J P WETENHALL, Secretary

Central London Throat, Nose,

AND EAR HOSPITAL,
Gray's Inn Road W C 1

REGISTRAR—OUT-PATIENTS

There is a vacancy for an Out-patient Registrar The office is Honorary and tenable for one year subject to re election Attendance required on one afternoon and one evening a week

The duties are to assist the Surgeons in the attendance on patients, and to keep the records

Applications should be sent to the undersigned immediately

RICHARD KERSHAW Secretary

City of London Hospital for

DISEASES OF THE HEART AND LUNGS
Victoria Park E 2.
(Bus, tram & rail Cambridge Heath L & N E Rly)

Applications for the post of HOUSE PHYSICIAN (Male) with copies of recent testimonials are invited to be sent to the undersigned by Monday 12th May 1924.

The appointment will be for six months from about the 24th May

Salary at the rate of £125 per annum with board residence and laundry provided

GEORGE WATTS Secretary

The Northern Infirmary,

Inverness. (100 Beds.)

Wanted, for beginning of June, JUNIOR HEAD RESIDENT fully qualified and registered Male, unmarried. Salary £100 per annum with board residence and laundry Applications stating age medical school qualifications and experience with copies of recent testimonials to be sent before May 26th to Mr ROBT GILBERT Hon Secretary to the Institution 20 Church Street Inverness

Whitehaven and West

CUMBERLAND INFIRMARY

RESIDENT HOUSE SURGEON (Male) required middle of May Salary (including dispensing) at rate of £200 a year with board laundry and attendance

Applications with two recent testimonials to be sent to the Secretary Infirmary Whitehaven, by April 30th

Birkenhead & Wirral

CHILDREN'S HOSPITAL.
Woodchurch Road, Birkenhead

There is a vacancy for an HONORARY RADIOLOGIST (Forty Beds and Out patients Dept. &c) Applications with copies of testimonials to Assistant Secretary

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LONDON—DEATH VACANCY—Suburb (N W) Old-established good-class non panel. Income over £2,000 p.a. Good fees Nice house with garage to rent £150 p.a. Premium £2,000

CHESHIRE—PARTNERSHIP In old established G P Income nearly £4,000 p.a Panel 1,600 Fees 5/ to £1/3/6 Mids. £3 3 0 to £10/10 0 Nice house with garden rent £56 p.a Premium for half share 1½ years purchase £2 000 down Suit married man about 30

MIDDLESEX.—PARTNER required (after preliminary Assistantship) in very old-established and lucrative Practice over £4 500 p.a. in industrial district Panel 4 600 Small house (4 bedrooms) Rent £52. Premium one-third share, two years purchase.

GLAMORGAN—Well established G P Income over £1,400 p.a. Panel, 2 appointments Fees 3 6 to 1 guinea. Midwifery 2½ to 10 guineas Nice house, 4 bedrooms 3 reception rooms Practice consists mostly of Cardiff business people resident in district Premium £2 000

MANCHESTER (South) — Old-established G.P situated on main road Excellent house. Panel 1 000 Income £3 000 p.a. Fees 3 upwards Premium £4,000

LONDON—WEST END—Old-established, high class non panel. Income £1,700 p.a. Prem £2,500

GLOS—Small Cash G P situated in Country Town. Panel. Income nearly £700 p.a. Prem. £1,050 Scope.

NURSING HOMES—We have several Nursing and Convalescent Homes situated in London and Provinces

DERBYSHIRE.—Old-established G P Panel over 600 Income nearly £800 Premium £1,000 Scope for increase

YORKS — Old established Country Town G.P Panel 1,500 Income £2,500 Three appointments Detached house with garden and garage to let on lease Premium £3,500

Purchasers stating their requirements, will be sent particulars of suitable Practices and Partnerships for sale, free of charge.

Please address all communications to the Manager Mr W H. GRANT Medical Transfer and Insurance Department.

THE MEDICAL AGENCY,

WATERGATE HOUSE,
York Buildings, Adelphi, W C 2.

Managing Director: J A. REASIDE.
Telegrams: "TUBERCLE, LONDON" Telephone: GERRARD 8251.

The Agency undertakes the Transfer of Practices Introduction of Partners, Investigations for Purchasers, Valuations, Negotiation of Terms, the Supply of Locum Tenens and Assistants, and Medical Accountancy

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(A few doors from "The Lancet" Office)

Telegrams "Positions Westrand London."
Telephone Regent 229

LOCUM TENENS and ASSISTANTS supplied.

FOR DISPOSAL

DERBYSHIRE.—A General PRACTICE situated in an industrial district. Receipts about £800 Panel 600 Good fees Nice house containing 6 bedrooms &c. at rental. Premium £1,000 — Folio 653

SUSSEX.—A General PRACTICE, situated in a charming district Receipts £1,400 Fees 4/ to 21/- Cottage hospital and scope for surgery Excellent double-fronted house, containing 6 bedrooms &c Prem 1½ years purchase.—Folio 593.

LONDON W —A General PRACTICE situated in a good district. Receipts nearly £1,000 Panel 1 300 Fees 5 upwards No midwifery plenty of scope Nice house in central position containing 4 bedrooms, &c. Rent £110 per annum. Premium £1,800 —Folio 651.

LONDON W —General PRACTICE in thickly pop. district. Receipts £350 p.a. plus panel of 2 60 Ample scope Nice house in central position Rent £52 p.a. Premium for good will and lease £2,750 —Folio 656.

SUSSEX.—PARTNER required for Country Practice. Receipts £1,500 Scope for increase Share value £1,000 for disposal at 2 years purchase with view to succession.—Folio 886

GLAM.—PARTNER required for General Practice in thickly pop district on Coast. Receipts £1,700 Fees 3/ upwards. Panel 600 Considerable scope House, containing 4 bedrooms etc rent £50 p.a. Premium for half-share two years purchase. Folio 887

SALOP —PARTNER required for Country Practice Share worth £850 Scope Good society sport &c Nice house, containing 5-6 bedrooms &c garden and garage at rental Premium for half share £1,000 Folio 889

PEMBROKESHIRE.—Unopposed PRACTICE situated in a small seaside town. Receipts £1,700 Panel 1,300 Fees 3 6 upward Excellent house containing 5 bedrooms &c Premium £2,500 or near reasonable offer Folio 638.

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PRACTICES AND PARTNERSHIPS FOR SALE.

1 WARWICKSHIRE.—Unopposed old-established PRACTICE situated in the centre of a hunting district and within 10 miles of a large town. Cash receipts last year over £1 700 including various appointments and panel of 1,122 Visits 2/6 to 10/6 Midwifery 2 to 5 guineas about 40 cases yearly Very good house with ample accommodation, bathroom etc, garden, tennis lawn, etc. Water laid on. Electric light Vendor's freehold. Price £2 200 Premium for practice £2,200 Hunting shooting, etc. Plenty of social life Ill health reason for disposal

2 LONDON S W —Old-established middle and working-class PRACTICE worth nearly £1 000 a year, including 850 panel patients Visits 3/6 to 5/ Very little midwifery Fees 4 guineas Expenses very light Small but very convenient house with nice garden held on long lease at the ridiculously low rental of £22 per annum. Premium £1,550

3. SEASIDE RESORT NORTH WEST COAST —Old established good-class PRACTICE (held 25 years by present incumbent) averaging £1 312 per annum for the past three years No panel, and practically no midwifery or night work. Visits 7/6 to £1 1s Car not kept Good house (facing sea) Rent £150 Premium 1½ years purchase Vendor selling on account of ill health

4 IMMEDIATE PARTNERSHIP —CHESHIRE—(Hospital Town) Owing to senior partner's death, the fourth share of well established practice can be acquired by suitable gentleman (aged 25 to 35) Share will produce £900 to £1 000 per annum free of Income Tax. Public appointments held and panel of 3,000 Visits 5/ to £1 1s Premium 2 years purchase There is plenty of surgery done in the practice. Preliminary assistantship of 3 to 6 months entertained

5 NEW ZEALAND (NORTH ISLAND) —Unopposed and increasing PRACTICE in a very beautiful district on main line about 36 miles from a large city and worth nearly £1 300 a year including easily worked appointment at £100 Visits into Township 10/ mileage 6/, midwifery 5 gns Good and up-to-date house (built by Vendor's predecessor) containing surgery 2 reception rooms 3 bedrooms and sleeping porch bathroom etc, with an acre of ground tennis court etc Rent £120 on lease Climate perfect sport of all kinds telephone, churches, and shops of every description Premium £1,000

6 CHESHIRE —PARTNERSHIP In large Town (population nearly 100 000) close to a seaside resort Partner required (under 35) for the third share of a middle-class and panel Practice worth £2 200 per annum including 1 600 panel patients Visits 2/6 to 5/ Midwifery 2 to 3 gns About 120 cases yearly Car not required No house at present available but comfortable rooms can be had Premium £1,100, payable £500 or £600 down and balance spread over 2 years

7 PEMBROKESHIRE —IMMEDIATE —Unopposed PRACTICE in a small seaside place (population 3,000) within a few miles of a large town is for immediate disposal owing to ill health Receipts average £1 694 per annum, including appointments (M O H, Union Vaccination, Clubs) and panel of 1 340 Visits 3/6 to 10/6 medicine extra. Midwifery discouraged (about 20 cases at 2 to 5 gns) Motor-cycle used Good house overlooking sea and well situated (3 reception rooms, 5 bedrooms bathroom etc) small garden and garage Price £1 000 or offer Premium for Practice to prompt purchaser £2 000 Sport of all kinds

8 PARTNERSHIP —LONDON, NORTH —The fourth share (with option of purchase up to one third on October 1st next) in an old established good middle-class Practice producing about £3 200 per annum including 1 000 panel patients and appointment worth £60 is for negotiation Visits 5/ to £1/1/0 Midwifery £5/5/0 upwards about 50 cases yearly Good house available with ample accommodation or purchaser if a bachelor could reside with the Vendor Price £1 250 or near offer Premium for share £1,600

9 ESSEX.—MARKET TOWN within 20 miles of London Old-established General PRACTICE comprising all classes of patients and held by the Vendor many years Steady average income of about £1,375 No appointments Panel of 400 Advice and medicine 3/6. Visits 5/ 10/ to £1/1/0 About 20 midwifery cases a year 3 4 to 8 guineas Very convenient corner house with large garden. Rent £100 Premium £2 000 payable part by arrangement

10 LONDON N W —DEATH VACANCY —Very old established good middle-class PRACTICE held by the late Incumbent 25 years Average income for the last three years about £2,000 No appointments and no panel. Consultations from 3/6, visits 5/ House contains 3 reception rooms 4 bedrooms, dressing room, etc with small grdn Locum in charge. Prem £2,000, payable by arrangmt.

11 SOUTH WEST OF ENGLAND -COUNTY TOWN -A ONE-THIRD SHARE, producing £800 is offered in a good-class, non panel and non-dispensing Practice with a considerable amount of surgical work. There is a good Hospital in the town and the incoming partner (who must hold the F R C S) will eventually be elected to the Staff. Premium £1 600

12. SOUTH SEA ISLANDS —In a Capital City a well-established, lucrative and increasing PRACTICE, averaging over £1 200 per annum Good climate, malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards. Midwifery from 5 guineas Dispensing optional Practice can be worked on foot. Good bungalow residence in excellent position with ¼ of an acre of garden. Electric light etc Rent £10 a month, on lease Premium £800 Income Tax 1/ in the pound over £500

13 BRISTOL.—Very sound middle and working-class PRACTICE, held nearly 25 years by present Incumbent who is relinquishing on account of ill health Average cash receipts over £1 200 a year including several small appointments and a panel of over 1 000 Visits 3/6 to 10/6 Midwifery from 3 guineas about 30 cases. Very good house specially built for a doctor, contains 2 reception rooms waiting room consulting room and surgery with separate entrance 5 bedrooms etc Garden Premium £1 800

14. DERBYSHIRE —HOSPITAL TOWN -Old-established PRACTICE held 13 years by present Incumbent who is relinquishing on account of ill health. Cash receipts for the past 3 years average £3 000 per annum including about £1,500 from panel Fees 3/6 to £1/1/0 About 50 cases of midwifery a year at 2 to 5 guineas Centrally situated house (3 reception rooms consulting and waiting rooms 4 bedrooms bathroom etc) on lease at £100 a year Premium 1½ years purchase Good scope for surgery and Vendor is on the staff of the Hospital

15 LONDON S E —RESIDENTIAL SUBURB —A THIRD SHARE is offered in an old-established general Practice. Income for last year approximately £2 200 Practice offers large scope with the aid of a suitable Partner No appointments Panel of 700 Fees from 3/6 upwards Little midwifery Choice of houses or suitable rooms can be obtained Premium 2 years purchase Cambridge Graduate preferred.

16 MONMOUTHSHIRE —SMALL TOWN —PARTNERSHIP A one third share for disposal The patients are of all classes Income for the last financial year £2 229 this being a drop on the average due to strikes and lock-outs There is a panel of over 2 000 and several Collieries pay at the rate of 2 1 in the £1 on the men's wages Fees 2/6 and 3/6 visits 2/6 to 7/6 medicine extra. Very little midwifery No motor-car is required Small but convenient house rent £40 Premium £1 250 half by instalments

17 INLAND HEALTH RESORT — Old-established practically unopposed PRACTICE in very pleasant town (resident population 1 400 which is much augmented by visitors) amidst beautiful scenery Estimated income nearly £1 800 a year including appointments at £50 and panel of 500 Visits up to £1 1s Od Very little midwifery Excellent residence in its own grounds of ¾ of an acre Ample accommodation Price £3 000 (£2 500 on mortgage at 4 per cent) Premium for practice £3 000 Exceptional future prospects Tennis golf hunting shooting, etc

18 OUTLYING SUBURB OF LONDON (South) —Old established good middle-class PRACTICE doing at present at the rate of £1 200 a year Vendor has no panel but there is a very large scope in this direction Visits 5/ upwards Very little midwifery and no thing under £5 5s Exceptionally attractive residence with good accommodation garden etc It is the Vendor's Freehold Price £2,000 a good part of which can remain on mortgage Premium for Practice £1 500

19 NORTHERN SUBURB —Old-established PRACTICE producing an income of about £1 400 a year including appointments worth £320 Small panel of 300 but this can be largely increased if desired Visits and medicine 3/6 to 7/6. Midwifery from 2 to 5 guineas Practice is very easily worked with no conveyance. Nice house in good decorative repair with fair garden. Premium for Practice and house £3 250

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Birmingham Suburb — About £1,100 a year Old established PRACTICE Panel 50 Appointment £40 Very little midwifery Large house and garden Prem £1,600 including drugs etc.—Apply No 7534

South Coast—Half share of £2,570 p.a Non panel non dispensing Practice No midwifery Good fees. Large family house. Rent £100 Price of half share 1½ year purchase.—Apply No 7531.

Home County—Share worth £1,200 a year with option to increase soon. Very small panel. Appointments worth nearly £300 Very good fees. Not much midwifery Practice is very old established and within easy access of London.—Apply No 7530

Lancashire — About £1,350 a year Old-established. Panel 1 300 Fees 3,6 nr Detached house 2 reception 6 bedrooms consulting etc Scope for Surgery — Apply No 7528.

London, W—Practice £700 a year increasing Visits 3 6 to 7 6 Small panel. No midwifery cope Good house part let Net rent very low Suitable for a lady—Apply No. 7525.

Home County—Partnership in very old-established Practice, share producing about £1,000 a year Good panel and appointments—Apply No 7505

South Coast — Partnership Share about £800 a year Good fees Partner should be about 5 and a good all round man.—Apply No 7440

Midland City—About £1,400 to £1,500 p.a. Cash and Panel Old established No midwifery Panel about 1, 0 Corner house, good accommodation. Rent £35—Apply No 7515

West County—Partnership About £2,800 a year Very old established. Panel 800 Good fees. Quarter or one third share for disposal. Very moderate premium Apply No 7500

Riverside Suburb—Nucleus about £500 a year Small panel Fees 5, to 7 6 Increasing district Good house and garden to rent. Apply No. 7474.

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Midlands—£800 a year, Industrial Town. Panel 800 easily worked no Car House with large garden lawn and orchard Sell or Let Premium for practice £1,000—Apply No. 7483

Northern Town—About £1,200 a year Vendor retiring Appointments £250 Panel 600 Good house.—Apply No 7449

Cheshire — £3,500 a year, PARTNER wanted. Good Suburb of large Town with Hospital Good fees Panel £1,000 a year Good house available. Half share for sale.—Apply No 7444.

Wales Coast—Over £900 a year. Good general PRACTICE. Small panel Good house and large garden Residential Seaside Resort. Prem. £1000—Apply, No 7419

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2. SOUTHERN COUNTY—PARTNER wanted for town and country Practice. Receipts about £2,000 p.a. Panel and appointments about £850 House or rooms to be selected Prem. for half or third share 2 years purchase
3. LANCASHIRE—Semi rural district General PRACTICE long established. Vendor retiring Receipts over £1,350 p.a. Panel 1,350. Scope for increase Good family residence. To be Let or Sold. Premium £2,000
4. SOUTH WALES—Seaside Town Practically unopposed PRACTICE Receipts £1,700 a year Panel 1 400 Good house and garage. Lease (15 years) for sale cheap Premium £2,000
5 PARTNERSHIP with view to succession.—SUSSEX SEACOAST TOWN (Suburb) General PRACTICE yielding about £1,150 p.a. Panel 1 000 Scope for material increase. Half-share for sale. Premium £1,000
6 NORTH WALES—PARTNER wanted for middle and working-class Practice. Country district Total receipts £3 300 p.a., mainly from panel and appointments. Good house and garden Rent £40 Opposition slight. Premium for a third share £1,700
7 YORKS—LARGE TOWN—General PRACTICE yielding £900 a year Non panel. Nine-roomed house, elect. light and heating Will be Let or Sold Prem. £1,300 payable by arrngmt.
8 LONDON SUBURB.—PARTNER wanted for middle and working-class PRACTICE in densely populated residential district Share for disposal worth from £800 to £1,000 a year House or Flat can be had. Premium two years' purchase
9 SOUTH LONDON—General and Panel PRACTICE Receipts £1,700 p.a About 2,0-0 panel patients Good residence. Rent £50 long lease. Separate surgery small rent Premium £2,800

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2 BIRMINGHAM—General PRACTICE over £800 a year with panel and great scope, as Vendor has held same 40 years and has refused all midwifery and night work Convenient house and garden on lease at low rental. Good introduction.
3 NORTH SCOTLAND—Coast Town PRACTICE of £1,800 a year including over £600 from transferable panel and appts Hospital. Convenient residence and small garden, etc Rent £70 Price £1,600 £500 cash and balance within 3 years
4. GOOD CLASS PRACTICE in Hospital Town within 2½ hours West. Receipts over £2,200 a year Visits 5, to 21/ med. extra. Capital family residence and grounds can be leased. Effic ent Partnership introd Prem. £3 000
5 CITY PRACTICE averaging £1,250 including £900 from appts. and ready money from good fees Residence imperative. Convenient premises on lease. Vendor retiring will accept £1,250 from suitable successor
6 SEAPORT TOWN—Old-estab PRACTICE held by Vendor many years and averaging about £1,500 a year over £600 being from Panel and appointments Very considerable scope for active man of ability the opposition being of no serious import. Convenient residence on outskirts and admirably situate can be leased or bought. Premium 1½ years purchase
7 LEICESTERSHIRE BORDERS—PRACTICE in small industrial town, with good country around. Returning abou £800 Panel 8.0 Ample scope for active man. Very nice house with good grounds and garage. Rent on lease £70 Premium £1,000
8. REQUIRED in London or within n 25 miles PRACTICE of £800 upwards with fair panel backing and house to rent Buyer is prepared to put down £1,500—Apply Mr H. NEEDES

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Cheshire—Partnership Half share of £3 930 in residential place. Panel 1 4 0 Compact house rent £55. Prem. 1½ year purchase, £2,000 down.

London, S W—Good class PRACTICE of £1,200 in residential district. Fees 10 6 and 15. House with large garden on rent as present, and can be bought later Premium 1½ years' purchase.

Surrey—Rapidly increasing PRACTICE of £540 in residential suburb Practically no panel. Rent £60

Seaside Practice within 80 miles of London. Receipts average £2,200 including 1,000 panel. Good house with small garden rent £80 Near opposition weak and the practice ought to be very transferable.

Death Vacancy—Increasing PRACTICE in small town in S W County Receipts about £1,200 Panel 600 Few midwifery Good modern house with large garden Rent £60 Premium one and a quarter years purchase.

Partnership—Share worth £1,200 with increase to £1,600 in first-class residential district. Hospital in the place which is growing New partner should have been H S or H P Suitable living accommodation at present and a good house can be rented next year

Essex—Middle and working-class PRACTICE of £1,630 with great scope. Appointments £280 Panel £850 Nice house with large garden on lease.

North London Partnership—Share worth £800 increasing to over £1,000 in six months Middle-class Practice with 1 0-0 panel. Nice home can be bought or new partner will live in Senior partner's house.

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Home County—Partnership Half share of £2,000 in beautiful country town Small panel. Appointments £280 House available.

Home County—Practice of £3,500 suitable for two in industrial place. Panel and appointments about £1,500 Nice house rent £53

North Wales—Practice in beautiful seaside place. Receipts £550 Small panel. Cottage hospital. Good house and garden, rent £50 on long lease. Garage. Premium £650

N E Coast—Partnership Half share of £2,800 including £1,800 from panel Suitable living accommodation Premium 1½ year purchase.

Lancs—Practice of £1,500 in manufacturing town. Panel 1 1 Appointments £120 Lease £60 on lease Reasonable price.

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SOUTH COAST—(2) PARTNERSHIP in good class Practice in favourite Watering Place No dispensing, panel or midwifery Large house on sea front Incoming partner should be aged about 35 Prem. one-half share £1 500

SOUTH MIDLANDS—(3) Well-established unopposed PRACTICE averaging £1,181 per annum in good agricultural district. Panel 800 Detached house (8 bedrooms) in grounds of half acre Rent £65 on lease Premium £1,700

KENT—(4) PARTNERSHIP in old-established middle and working-class Practice about £3 300 in outlying Suburban District. Very convenient corner house (3 bedrooms) Prem. one-third share £1,500

SCOTLAND—(5) University City—Special PRACTICE in Venereal Diseases. Receipts average £800 per annum. Fees £1/1/0 and upwards. Premium £1,200

SEASIDE TOWN AND HEALTH RESORT—(6) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old established practice. Share worth £1,000 p.a., at two years purchase

WEST OF ENGLAND—(7) Well-established good class panel and private PRACTICE over £1,000 per annum in favourite Town. Panel 935, rapidly increasing Good house Premium £1 650

SOUTH WALES—(8) Unopposed PRACTICE, about £1 700 in small Seaside Town. Panel 1 436 Good house. Excellent Schools Premium to effect quick sale £2 000

DEATH VACANCY, LONDON, N W—(9) Good middle-class PRACTICE about £2 000 per annum in Residential District No panel Non basement corner residence (5 bed and dressing rooms

SURREY—(10) Middle class PRACTICE worth about £500 in Residential Suburban District, under 15 miles from London. Small panel Rent of house (4 bedrooms, &c.), £60 Premium £700

INLAND HEALTH RESORT—(11) Well-established PRACTICE in first-rate Residential Town Receipts 1923 £1,818. Panel 900 House contains 7 bedrooms, &c. Premium £2 300

YORKSHIRE (W RIDING)—(12) Old-established PRACTICE over £1 700 in clean Manufacturing Town. Panel 1 1 5 House contains 3 bed and 2 dressing rooms Garden half an acre Pretty surrounding country Prem. £2 000 to include book debts tenant's fittings &c.

EASTERN COUNTIES—(13) Old-established Country PRACTICE, in small pleasant Town, easy reach of the Coast Income over £1,800 including about £700 from panel and appt Commodious house (8 bed rooms) with acre of grounds. Educational facilities. Premium £2,500

EAST ANGLIA—(14) Well-established PRACTICE in important Town and Agricultural centre near the Coast. Receipts average £2 675 per annum Panel 2 100 Excellent house (6 bed and 2 dressing rooms) Premium one and a half years purchase.

LONDON, WEST—(15) (within a short distance of the Marble Arch) Old established non dispensing PRACTICE of the better middle class type. Receipts £1 200 to £1,500 p.a. Small select panel 40 Large house to let Premium one and a half years purchase

LONDON, N—(16) PARTNERSHIP in Cash and Panel Practice of £1 800 in Residential District Panel 2 450 House contains 5 bedrooms &c One-third share at first Premium £1,200 Incoming Partner must be married

NORTH WALES—(17) ASSISTANT required (with view to early Partnership) in Country Practice. Share offered (after 2-3 months) to suitable man who must speak Welsh.

ESSEX.—(18) NUCLEUS of Practice in Industrial Village. Panel and Midwifery refused Detached house (4 bedrooms and 2 attics) with garden. Premium Practice and House £900 Plenty of scope

CAPE COLONY—(19) Compact unopposed PRACTICE in attractive part Receipts (1923) nearly £750 Excellent house with 4 bedrooms. Large garden and paddock. Premium £400

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SOUTH OF ENGLAND—(21) Well-established Anæsthetic and General PRACTICE about £1,000 in pleasant Seaside Town. Large detached house (7 bedrooms &c) with acre garden (or smaller house) to be bought Purchaser must be experienced anæsthetist. Prem £1,600

SPECIAL OPHTHALMIC PRACTICE.—(22) About £600 in Seaside Town South of England Would suit elderly practitioner retiring and wanting quiet practice with small expenses, in healthy place Premium £700

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OXFORDSHIRE.—(24) Unopposed PRACTICE of abo £1,100 per annum including panel of nearly 600 Small house and gar on long lease Rent £30 Premium about one and a half years purchase

SOUTH-WEST OF ENGLAND—(25) PARTNER requir in very old-established Country Practice in beautiful residential neighbo hood in one of the finest hunting centres. Convenient and pleasant ho (4 bed and 2 dressing rooms) Garden and orchard. Share worth about £1,1 per annum at two years purchase.

SOUTH OF ENGLAND—(26) PARTNER required very sound old-established Practice in Seaport Town Panel un 3,000 Share worth £700 to £800 at two years purchase. Partner must keen and energetic, and not much over 30.

COUNTY DURHAM—(27) Well established unoppos Country PRACTICE near important Town. Income between £9 and £1,100 per annum. Panel about 700 House to rent. Moderate premiu

MIDDLESEX—(28) PARTNER required (after pr liminary Assistantship) in very old-established and lucrative pract over £4 500 per annum, in industrial district. Panel 4 000 Small ho (4 bedrooms) Rent £52. Premium one-third share two years purchase.

SOUTH OF ENGLAND—(29) PARTNERSHIP in an ol established PRACTICE of £2,000 in beautifully situated Country Tow Panel 1 100 Very good educational advantages. Cottage Hospital One-th or one-half share at 2 years purchase

SOUTH MIDLANDS—(30) PARTNERSHIP (with view Succession) in old established Country Town Practice about £1,100 annum. Small panel. Premium one-half share one and a half years purcha

MANCHESTER—(31) Old-established and increasi middle-class PRACTICE, over £1,400 per annum in Suburb wi Hospital and opportunities for Surgery Small panel. Good house (8 be rooms) in excellent position. Rent £90 Premium one and a half years purcha

SCOTLAND NORTHERN HIGHLANDS—(3 PRACTICE averaging over £1,600 per annum, in a Town. No pane House (5 bedrooms, &c) in best residential part, for sale. Ample scope f midwifery and panel. Premium £1 200

SHROPSHIRE—(33) PARTNERSHIP in Country Practic nearly £1,350 per annum. Detached house (6 bedrooms) with nice garde Rent £65 Cottage Hospital. Premium one-half share £1 000

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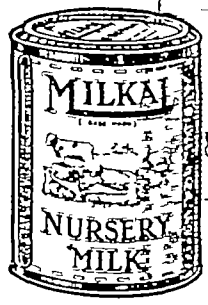
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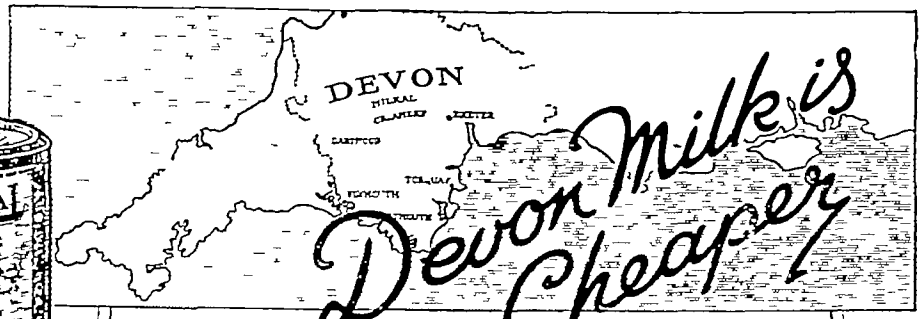
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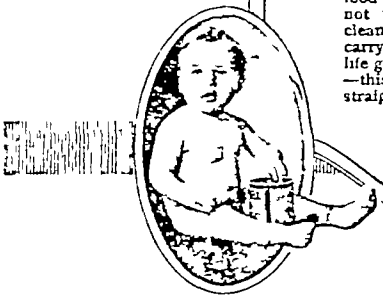
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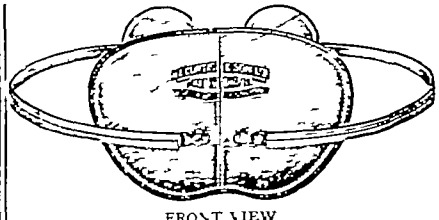
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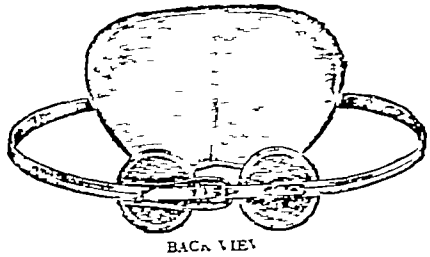
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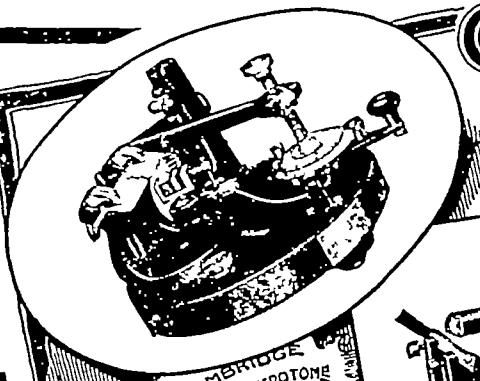
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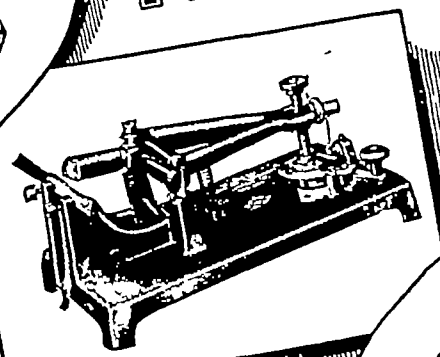
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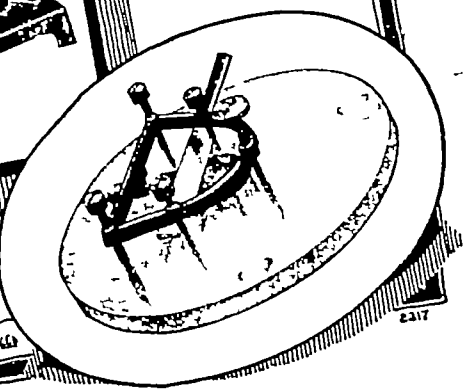
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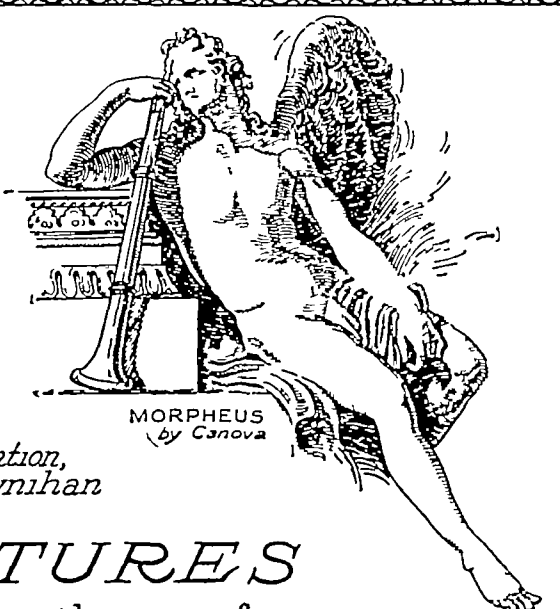
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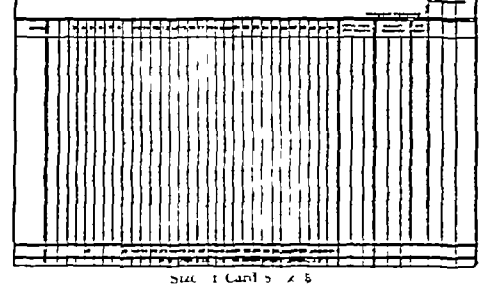
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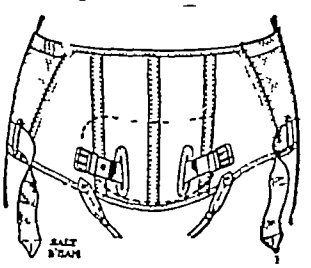
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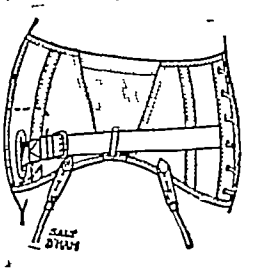
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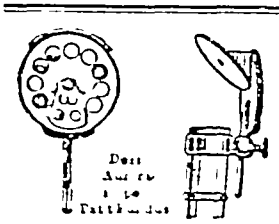
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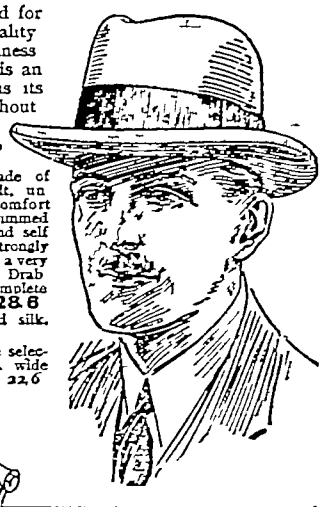
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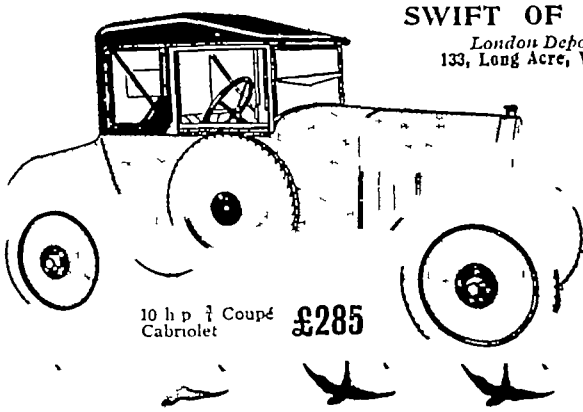
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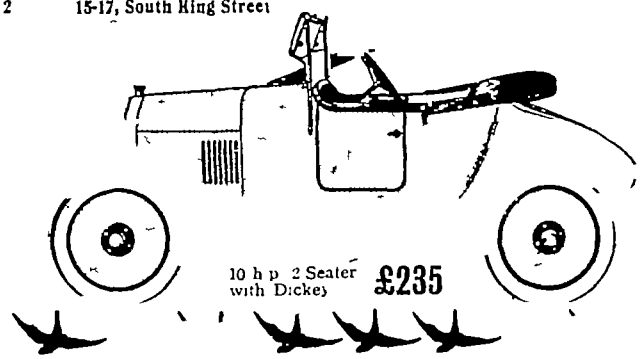
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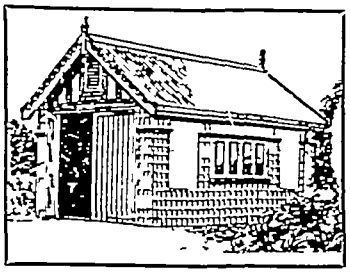
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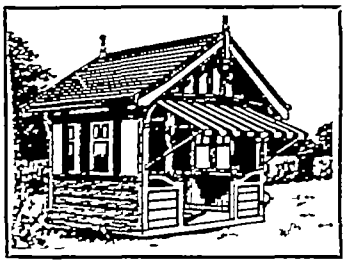
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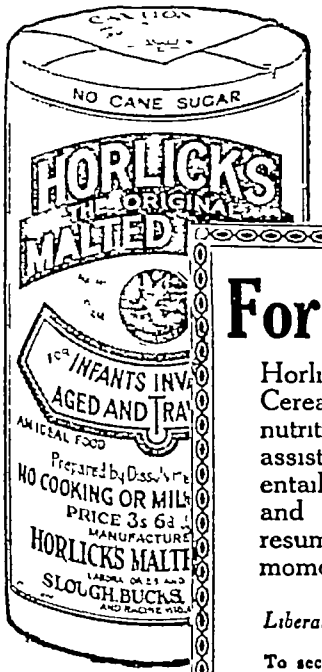
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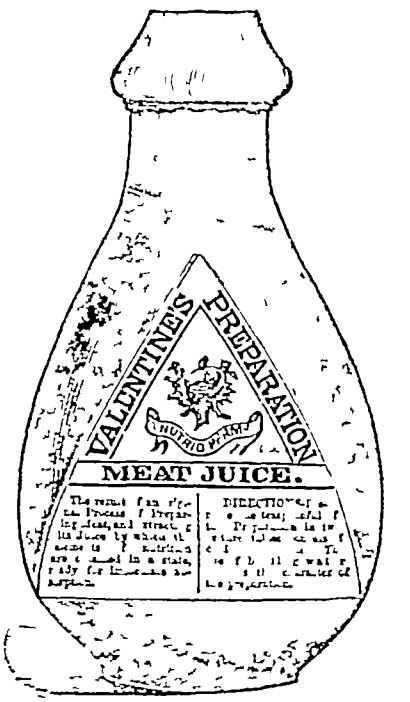
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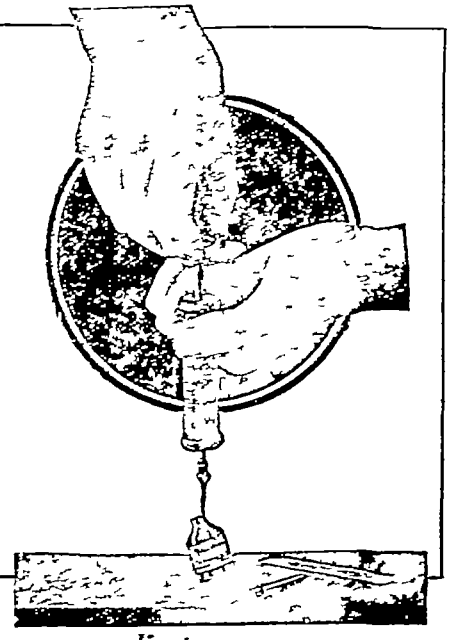
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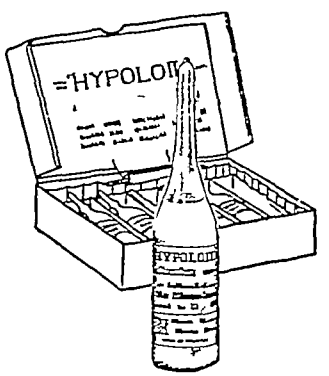
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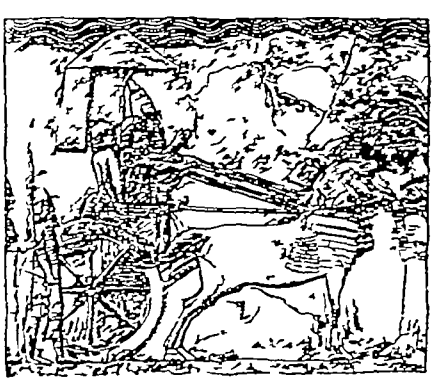
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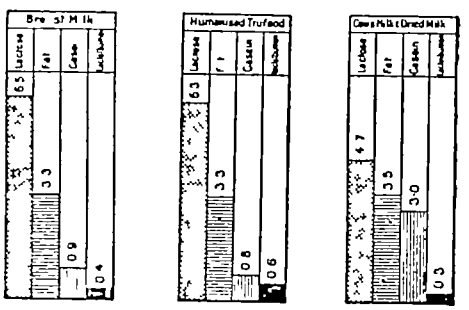
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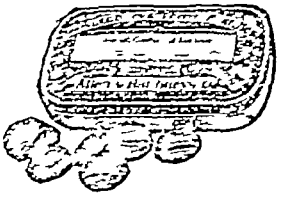


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Intestinal Disinfection
in Diseases of the Nervous System

A GENERATION ago the origin of diseases of the nervous system presented for the most part a tangle of insoluble medical problems The scientific worker of to-day, however, has so far cleared a way through the jungle as to make its ultimate conquest a certainty In disorders of the nervous, as of other bodily systems, the overwhelming part played in causation by toxic substances circulating in the blood has become generally recognized

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—*"Lancet,"* **April 9th, 1921**

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A Lecture
ON
PUERPERAL PELVIC INFECTION.

DELIVERED TO GRADUATES AT THE MANCHESTER ROYAL INFIRMARY

BY

PROFESSOR W E FOTHERGILL, M.A., M.D., B.Sc.,
HONORARY GYNÆCOLOGICAL SURGEON MANCHESTER ROYAL INFIRMARY
HONORARY SURGEON ST MARY'S HOSPITALS MANCHESTER.

PUERPERAL pelvic infection only differs from other pelvic infections in that it appears just after a confinement at term, a premature labour, or an abortion. The cause may be one or more of a very long list of pathogenic organisms, which may come from the exterior or from the patient's own body.

The route of infection may be by the vagina, the uterus, and the tubes, by the torn perineum and recto-vaginal septum, or by the torn cervix and parametrium. Again, it may be from bowel across the peritoneal cavity, or by the blood stream from some focus of infection in another part of the body. The inflammatory reaction may occur in any part of the reproductive tract from the pelvic peritoneum to the vulva, including the neighbouring pelvic cellular tissue, the blood vessels, and the lymphatics.

The clinical features present protean variety, as do the results. Complete structural and functional recovery is no doubt the rule, but suppuration sometimes occurs with pus formation in ovary, tube, cellular tissue, or pelvic peritoneal cavity. Sterility is a common sequel, and sometimes a premature menopause is brought about. Short of this, invalidism, varied by acute recurrent attacks of inflammation, is far from rare. Death occurs sometimes so quickly that there is no time for the development of any obvious lesion, while, in other cases, the fatal result is delayed for weeks and months.

How is it possible to bring this large heterogeneous aggregate of conditions within the bounds of one group with a single name? Each case included must present three features—one for each word in the name. It must be puerperal in time, the inflammatory reaction must be pelvic in place, and it must be infective in origin. In the absence of any obvious pelvic lesion, any infective febrile disturbance must be regarded as pelvic infection if no cause for the fever can be found in any other part of the body.

What is the incidence and what is the fatality of such cases? How many of them will be observed in 100 confinements? How many will die?

The only cases carefully recorded, studied, and published are those of the patients delivered within the great maternity hospitals. Those that show clinical evidences of fever are first selected by the application of some arbitrary standard. The cases with ascertainable non-pelvic causes of fever are next excluded. Those with no ascertainable cause of fever are regarded, together with those that present pelvic lesions, as due to puerperal pelvic infection.

To give a single example, the report of Queen Charlotte's Hospital for 1921 deals with 1,700 cases, of which 234 were febrile. Excluding the cases of fever due to nervous reaction, constipation, lung lesions, influenza, mastitis, phlebitis, tonsillitis, eclampsia, tuberculous meningitis, appendicitis, inflamed piles, and other non-pelvic conditions there remained 134 cases regarded as examples of puerperal pelvic infection out of 1,700 (8·6 per cent.). Two of these patients died (a fatality of 1·57 per cent.).

Throughout a series of years I studied the published annual reports of several British maternity hospitals. The figures vary from year to year according to the standards of morbidity used, and also with the nature of the cases habitually admitted to each hospital. But if enough reports are collated for several years it appears that pelvic infection occurs in 6 or 8 per cent. of the cases delivered and that of the patients so infected 3 or 4 per cent. die. In other words out of 1,000 confinements we may expect 60 or 80 infections and 2 or 3 deaths.

E. Eno[1] has published a careful analysis of 3,500 deliveries in the Pennsylvania College Hospital, with 300 infections and 10 deaths (namely, 8·6 per cent. of infections and 3·5 per cent. fatality). This is a close parallel to the British figures of several years. R. A. Johnston[2] and R. S. Sidall have written on the same subject as studied in the Johns Hopkins Hospital. They say that "in every 100 spontaneous deliveries there are approximately 19 women who have a temperature of 100·4° F. or more on two successive days." They consider that there is little hope of reducing this morbidity. But they managed to do it themselves. For it occurred to them that too much scrubbing up of the patient with antiseptics in preparation for labour might favour infection. They therefore omitted routine preparation in 44 consecutive cases. Only four of these (9·1 per cent.) became febrile. Preparation was then omitted in every alternate case in a series of 389 patients. Of the prepared 16·3 per cent. became febrile, but of the unprepared only 12·4 per cent.

This observation bears out the well-founded and widely held opinion that the indiscriminate use of irritating antiseptics is responsible for many cases of infection in modern obstetric practice. There is a class of antiseptics cheap to make, dear to buy, and strong to smell, which, in dilutions of efficient strength, are too irritating to be applied with propriety to either the exterior or the interior surfaces of the human body. In dilutions weak enough to be comparatively harmless, their use appears to give to midwives and others a sense of false security and satisfaction, probably accounted for by the odour of the preparations in question. But in this odorous fools' paradise there is often neglect of the details of ordinary domestic cleanliness, which are more important than antiseptics in obstetric work.

How many cases of puerperal pelvic infection occurred in England and Wales during the year 1920? There are two ways of roughly estimating the number. The number of births registered in that year was 957,782. Suppose only 7 per cent. of the mothers showed clinical signs of infection that would mean over 67,000 cases. Again, there were 2,087 deaths from puerperal sepsis registered in that year. There would be about 100 cases for every three of these 2,087 deaths which would mean over 69,500 cases. In addition to births there are abortions, about two to every seven confinements, and infection is said to be commoner after abortions than after labours at term. Thus we should add at least another 10,000 cases of infection after abortion to get an idea of the total number of cases of puerperal pelvic infection. It would appear that there must have been 70,000 or 80,000 cases in England and Wales during the year 1920.

In antiquity and the Middle Ages it was thought that there was a special fever peculiar to lying-in women, and about the year 1716 this imaginary disease began to be known in this country as "puerperal fever." Referring to the Aberdeen epidemic of 1779-82 Gordon wrote "I had evident proof of its infectious nature and that the infection was as readily communicated as that of small-pox or measles." Gradually the error of this conception became evident, and by about the middle of the nineteenth century it was realized that there is no special infectious or "catching" fever peculiar to lying-in women, but that puerperal pelvic infection is just the same as ordinary wound infection.

Thus the term "puerperal fever" should have been dropped (except for historical purposes) about 1850, when it was recognized that there is no such disease. But the Registrar-General began to use the term about that time. The continued use of the name seems to have perpetuated the idea for not long ago a medical officer of health objected to the removal of a case of puerperal pelvic infection to a hospital in a cab, because the cab was a public conveyance.

In spite of the steady advance of knowledge "puerperal fever" was included with small-pox, scarlet fever, and the like in the Notification of Infectious Diseases Act, 1889, and by the extension of that Act in 1899 the notification of "puerperal fever" was made compulsory. A supplement to the Medical Officer's Report to the Local Government Board gave some interesting figures for 1911-14 for England

and Wales At that time there were twenty-five county boroughs and counties in which there were more deaths from puerperal sepsis than there were cases notified In eleven other areas the deaths and the notifications were equal in number The official report for the year 1921 shows that

In 10 areas	there were	16	deaths and	0	notifications.	
„ 28	„	„	114	„	63	„
„ 28	„	„	180	„	180	„
„ 27	„	„	0	„	0	„
93			310		243	

There were only 204 areas in all, and in 93 of them the total of deaths was larger than the total of notifications In the other 111 areas results were not much better, for the general outcome is that there are only about twice as many notifications as there are deaths, instead of some thirty times as many

When the Act of 1898 says "puerperal fever" it surely means puerperal pelvic infection If not, what does it mean? When a midwife observes "rise of temperature above 100 4° F with quickening of the pulse for more than twenty-four hours," she has to call in a registered medical practitioner If he then decides that the case is one of puerperal pelvic infection presumably he is supposed to notify the case If this is so, some 70,000 or 80,000 cases might have been notified in England and Wales during 1920, and quite a nice sum would have been transferred from the public pocket to that of the medical profession—not that the public or the patients would have been much the better for it What a curious fascination "notification" possesses for some minds! Some propose to notify pregnancy, and others venereal disease They surely know that the notification of tuberculosis is a failure, and should see that if twenty-five years of compulsion has only secured comic figures concerning a respectible condition like puerperal pelvic infection, success is not likely with syphilis and gonorrhoea

Why is a patient with puerperal pelvic infection taken to a fever hospital? The idea seems to be that if she is left in her own home she is a source of contagion So she may be if the person who nurses her continues to attend other parturient and lying-in women But in the cases attended by midwives this possibility is efficiently prevented by the Midwives Act, and other patients have their own monthly nurses and their own medical attendants

Lying-in women and their friends strongly resent removal to a fever hospital The family doctor also objects to it The medical men in charge of the fever hospitals also dislike having to treat cases which are not in their own line They know the cases are not infectious they profess no special knowledge of the diseases peculiar to women or of the treatment of pelvic inflammations, nor are nurses trained in fever hospitals accustomed to carry out the local treatment of pelvic conditions

In certain exceptional cases, generally late in the course of the inflammatory reaction, suppuration occurs and collections of pus form in the pelvic peritoneum, in the cellular tissue, in the tube, or in the ovary These cases demand surgical intervention which should be carried out at the time and by the method judged to be most suitable by men who have served their time at work of this kind in hospitals for women Thus those cases of puerperal pelvic infection which require skilled nursing experienced judgement, and possible surgical treatment, should be sent, not to fever hospitals, but to hospitals for the diseases peculiar to women, or to general hospitals staffed and equipped so that they can deal efficiently with pelvic cases With very good technique septic and clean cases can be nursed safely in the same wards But perfect technique is difficult to maintain, and it is no doubt desirable to have separate "septic" wards with distinct nursing staffs for septic cases, whether they are puerperal or not This has been done for a long time in the Birmingham Hospital for Women, where the municipal arrangements for the care of puerperal pelvic infection are an example for other cities and towns

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THE EXTENDED LEGS AS AN ABNORMALITY IN THE FOETAL ATTITUDE.*

BY

HENRY BRIGGS, M B, F R C S Eng,

EMERITUS PROFESSOR OF OBSTETRICS, UNIVERSITY OF LIVERPOOL.

Barnour, in the *Anatomy of Labour* (1899, page 1 wrote

"To sum up as regards the attitude of the foetus, we say that frozen sections, which give us an opportunity of ing the attitude of the foetus *in utero* with precision, show there are minor de iations from the classical description in the textbooks The occurrence of these must be borne in m and we must not attribute to labour changes in the relat the head and trunk which may have been present before lab began"

Similar discernment is my aim under the heading of communication

The foetal limbs in relation to the head and trunk then minor deviations are both frequent and insignifica

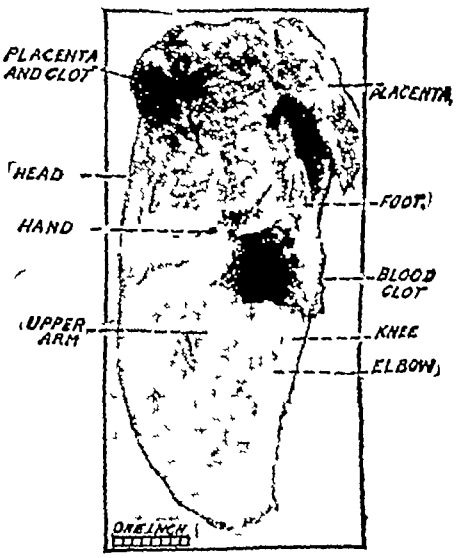


FIG 1.—A 4½ months male foetus with extended legs within the intact amniotic sac

but in their major deviations attach the designations extended legs and extended arms

In the foetal attitude, as an abnormality, extension the legs signifies full flexion of the hips and full extensio of the knees, placing the full length of each of the lo limbs in contact with the corresponding side-front of abdomen and chest, the foot reaches on each side the fac and lower hemisphere of the skull This abnormality in t foetal attitude is found early in pregnancy

Mrs O D, aged 30, primigravida gave birth to a 4½ mont male foetus at 11 p m on August 14th, 1912 The last menstru tion ceased on March 27th, the haemorrhage of a threatene abortion at two months continued scantly for three weeks, an then more freely up to the time of the completion of the mi carriage During the course of the miscarriage her doctor firs diagnosed a head, and, forty-eight hours later, a breech, present tion, active foetal movements were felt by the finger introduce into the cervix The intact amniotic sac contained a male foet with extended legs The whole placenta, some blood clot, and portion of the extraplacental chorion were expelled (See Fig 1 The amnion was relatively flaccid from the transudatory escap of the liquor amnii

The narrow pole of the foetal ovoid by adaptatio presented as an incomplete (the frank) breech—that is, th breech with extended legs If, as on rare occasions it ha done, the wider pole of the foetal ovoid presented as vertex, the foot and hand of the foetus on each side at th periphery of the head would be palpable per vaginam, bu not obstructively overlapping the vertex

* Read before the North of England Obstetrical and Gynaecolo ic Society, February 15th, 1924.

In the undisturbed primary attitude the legs are fully extended along the front of the trunk the upper limbs are not fully extended, they are slightly raised to bring the forearms external and parallel to the fibular sides of the extended legs, lodging the hands behind the feet, the flexed elbows are in contact with the outsides of the extended knees, the upper arms crossing the sides of the chest



FIG. 2.—Attitude of foetus at 7½ months.

The foetal attitude here revealed later at 7½ months (Fig 2) completely coincides with the earlier one of 4½ months (Fig 1) the foetal ovoid is again maintained in shape neither a wedge nor a V On close inspection a little extra flexion of the trunk and head is noticeable, and as a consequence the legs and forearms are pushed a little away from the front of the chest and abdomen, the whole is explained by the shortening of the foetal ovoid due to an uneven uterine retraction after the rupture of the Caesarean scar The uterus and contents were obtained *post mortem*, death was due to shock from intraperitoneal haemorrhage The surgeon in charge had previously excised at the second Caesarean section the weak scar of the first Caesarean section At the time of her death the patient was a 3-gravida awaiting a third Caesarean section

The two specimens, Figs 1 and 2, demonstrate correctly the primary foetal attitude with extended legs Their utility in the teaching equipment of obstetrics in the University of Liverpool expresses a great debt to the donors of valuable object lessons permanently lodged in the museum in some of my more active museum days the cost of publication was prohibitive and postponed the illustration and description of them

We are reminded in history that, thanks to her tombs, Egypt is known, and thanks to Pompeii Rome is also known Statements in history, as in poetry embellished imagined coloured, or transformed, must be checked before they are accepted Can we question the truth that is silently evolved from the undisturbed foetal attitude preserved in the museum specimens? With this anatomical demonstration before us we are justified in strengthening our statements and in converting conviction into action

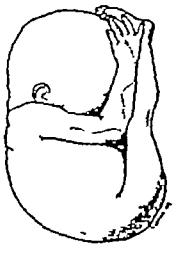


FIG 3.—At 5 months.

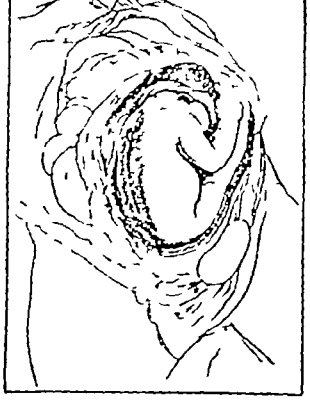


FIG 4 (Jentyl).—At term

In civil cases or in medico-legal inquiries when expert evidence is sought or given there is less ground for hesitation or difference of opinion In ante-natal clinics there is a more sound foundation for advancement in spite of the handicap in the physical examination, the head and trunk are stiffened by the lower limbs, the back is less palpable and the smaller frank breech in a primigravida is lodged in the brim during the last two months of pregnancy and is less recognizable along the slope of the back from above the physical characters of the breech are often masked below on vaginal examination, at the fundus the head

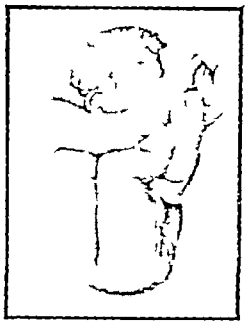


FIG 5



FIG 6.

above the occipito-vertebral groove is more fixed or deprived of an appreciable part of its normal "ready wobble", the ends of the limbs are apt to bear by their close contact false witness in the identification of the head, external version is from the same conditions also handicapped Ante-natal diagnosis from doubt or suspicion may rise to the greater height of certainty

On this section of obstetrical anatomy previous publications are not abundant Henri Varnier in *La Pratique des Accouchements* (1900) issued if not identical, almost identical, illustrations and descriptions of the primary foetal attitude with extended legs—(1) at 5 months, and (2) at term The French source of this previous publication is not remarkable considering the leading prominence of the works of French writers on the mode des fesses" Leopold in his *Atlas* (1897) on the uterus in pregnancy (Figs 18 and 19) displays a different attitude on the two sides of the foetus

On the subject by British obstetricians the best of clinical contributions was made in 1896 before the London Obstetrical Society by Dr W S A Griffith and the late Dr Arnold W W Lea They shook the testimony launched by Lefour and adopted by his followers, that the extension of the legs when primary — that is, before labour—was temporarily reproduced after the child was born not so when secondary —that is during labour In support of their findings they quoted Ollivier, who had stated a case in which the legs were believed to be extended fourteen days before labour, and yet after birth the attitude was normal



FIG 7.—The breech with extended legs impacted in the pelvic cavity

The advance in accuracy achieved by Griffith and Lea still stands to the credit of their clinical methods After their paper had been read the President of the London Obstetrical Society, Sir Francis Champneys effectively illuminated the advance by stating 'The newness of the subject might be illustrated by the fact that so careful and learned an observer as the late Dr Matthews Duncan told him that he had never seen a case of primary extension of the legs" Sir Francis Champneys at the same time referred to an instance of primary extension of the legs in a patient in labour with a normal pelvis and a small child

in first vertex position, with a left hand and left foot also presenting, he suspected twins The child he delivered by forceps—no twin was present

Dystocia, in the progress of a labour without disproportionate factors, or even, as in Sir Francis Champneys's case, with a normal pelvis and a small child emphasizes the untoward function of extended legs as splints, on the accepted teaching of M Tarnier

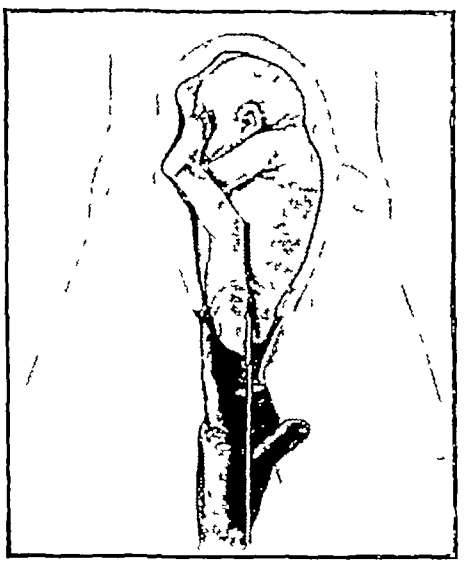


FIG 8—Delay in the pelvic cavity due to extended legs. Amputation of the leg

It is no small obstetrical advantage, from an anatomical demonstration of the foetal attitude, to realize clearly what others have clinically proved and stated—that there is nothing beyond possibly a slight degree of dystocia inherently attributable to the primary breech or vertex presentation with extended legs The paper by Griffith and Lea, and the discussion that followed at the London Obstetrical Society, impressed the need of a wider appreciation of disproportionate labour factors and pelvic contraction in breech mechanism and management We cannot adhere too rigidly to the anatomical attributes of the primary attitude of the breech with extended legs if we wish to eliminate extended legs from too large a share in impacted breech causation—for example, when there is also a large child or a contracted pelvis

To return again to the anatomical features (Fig 2) of breech with extended legs, admitting that the extended



FIG 9—Birth of the breech

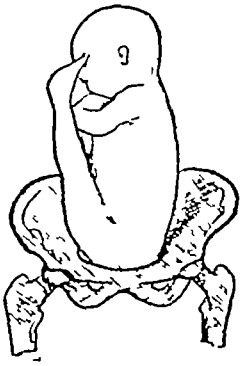
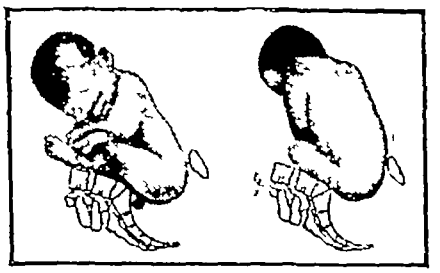


FIG 10—Breech with extended legs

legs diminish lateio-flexion of the trunk during labour, attention must be paid to the part played by foetal spinal flexion when the foetal hips and pelvis are flexed and raised the lumbar spine is also flexed and brought down This is an item of importance in the mechanism of labour Spinal flexion interferes with or delays rotation in all cases but more especially so in sacro-posterior cases where the bitrochanteric diameter is across the outlet and the extended legs are held, rigidly packed, at the back of the pubis, whilst the puffy genital tumour is protruding or visible at the vulva

Under general anaesthesia traction on the groin beyond a mild or moderate force is dangerous traction alone like other endeavours, may be too cramped and too partial in its purpose, with average labour factors before him, the obstetrician by hand can partly undo the spinal flexion and in sacro-posterior cases axially rotate the foetal breech



(a) (b)

FIG 11—Diagram showing position of child in (a) L.S.A (b) R S A

into a sacro-anterior position for spontaneous or mildly aided expulsion

Without selective effort, but with an ample sufficiency for comparison, I collected at random five textbook illustrations These illustrations do not reproduce the relations of the primary foetal attitude with extended legs, they are consistent only with the secondary extension of the leg compiled from original or borrowed reconstruction of anatomical relations gathered from clinical observation at labour attendances These reconstructions have to be checked or controlled by the actual demonstration of anatomical facts

The trend of modern evidence has been to increase by earlier, more thorough, and more exact clinical recognition the number of cases of primary extension of the legs Hence the relations of the primary attitude of the foetus with extended legs illustrated to-day become increasingly important facts in obstetrical applied anatomy

In my own practice and experience these relative facts have been proved and re-proved

ACUTE BRONCHITIS SOME UNUSUAL ASPECTS

BY

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CATCHING cold and having a cough are so frequently associated that we seldom stop to inquire whether they are the simple events they appear to be Colds are known to be excited by exposure to alternating temperatures, bad atmospheric conditions, inhalation of dust, etc, whilst the infective agent of the disease may be one of many micro organisms or a mixture of several There is always the possibility of a head-cold or naso-pharyngeal catarrh descending into the deeper respiratory tracts and giving rise to bronchitis, and while this may affect people of all ages it is at the extremes of life its effects are most severely felt There may be an idiosyncrasy to the malady or an acquired susceptibility to the influence of certain micro organisms compared with others

In the commoner types of bronchitis the trachea and large bronchi are mainly affected The mucous membrane reddened, the capillaries engorged, and the surface covered with exudation, the epithelial lining degenerates as the cells are thrown off in the expectoration, which, at first scanty, ultimately becomes muco-purulent It is difficult to state what takes place when the bronchi are invaded micro-organisms other than that the mucous membrane in its reaction throws off an increased secretion accompanied by cellular proliferation which may become purulent, and that any organisms present may acquire pathogen

properties which in the earliest stage they did not possess I have *not alluded* to the initial stage of the malady, when the bronchial mucous membrane is dry and secretion scanty, cough is then troublesome and frequently accompanied by a sense of substernal uneasiness or of pain, once secretion is established, and the expectoration has become plentiful, the severity of the cough usually abates and to some extent the patient is relieved

Along with a medical friend I have had the opportunity of observing on several occasions an elderly man who has been the subject of an unusual type of bronchitis His personal history is good eleven years ago he passed successfully through a sharp attack of pneumonia In this, his first attack, pneumococci influenzal bacilli, and streptococci were found in the sputum The crisis was reached on the seventh day, and as the convalescence was uninterrupted the patient was back to work by the fourth week Six years afterwards he had influenzal pneumonia ushered in like the previous seizure by a rigor and although he was severely attacked recovery in due course was complete In April, 1923, there was the history of a similar but slighter attack, in which cough at first was dry and hard and the patient complained of a good deal of pain in the front of the chest Loss of sleep was a marked feature even before cough became a disturbing element As the illness progressed the cough assumed a paroxysmal character, attended by extremely severe pain in the chest and by *gasping mainly* due to constriction of the chest wall and to a difficulty of dislodging sputum unusually viscid, but never rusty-coloured nor tinged with blood All through this attack the pulse never rose above 80 on one occasion only did the temperature reach 100° F usually it was 97 2° in the evening and 96 2° in the morning, with a pulse rate of 72 The physical signs in the chest were those simply of bronchitis there was never anything to indicate that the alveolar structure of the lung was involved From the unusual severity of the cough it was clear that a considerable strain was being thrown upon the right side of the heart but all through the illness, which on this occasion lasted ten days there were never any signs of collapse nor of heart failure The urine remained free from albumin

The points of interest in this illness were the low temperature without signs of physical depression also the gelatinous character of the expectoration This at times was dislodged with the greatest difficulty and was attended by a considerable amount of pain, both in the chest wall and abdominal muscles the individual sputa projected into a glass receiver became so intimately interfused with each other that the expectoration appeared as a clear, richly yellow-coloured jelly, as if stained by picric acid in fact, so much was this the case that, when handed over to Dr Slade bacteriologist to the Royal Victoria Infirmary he was of the opinion, before examining it, that the rich yellow canary colour was due to picric acid It was only after a culture was made that the colour was found to be due to a micro-organism, *Sarcina flava* Pneumococci were also present to which circumstance may have been due the peculiar jelly-like viscidity of the expectoration The patient made a good recovery and remained well until December 1923, when, a wave of influenza having passed over the district, he was suddenly seized with a cold in the head, accompanied by frequent sneezing and nasal catarrh *and, although these were treated by antiseptic sprays and* inhalations, by the third day the catarrh had descended into the chest and given rise to bronchitis Previous to the development of cough the patient was the subject of toxaemia he seemed to be sickening for an illness for he complained of frequent yawning and a sense of extreme tiredness of waves of chilliness passing through his body a notable disinclination to work, and marked insomnia the appetite was impaired, but otherwise the ordinary functions were practically normal When cough developed it was shortly followed by the expectoration characteristic of bronchitis The sputum was never rusty The temperature never rose above 100° F the pulse remained about 80 and the urine normal The physical signs in the chest were those of bronchitis On bacteriological examination of the sputum Dr Slade found it swarming with pneumococci, and when a culture was made the growth was almost entirely pneumococcal, although a few *Micrococci catarrhales* were also present Fortunately the pneumococci had not penetrated the epithelial lining of the respiratory organs and yet the pronounced toxaemia which prevailed suggested that toxins of some kind or other had been absorbed

Another unusual feature of the illness was that during the decline of symptoms, when neither the temperature sense of physical weakness, nor cough was such as to oblige the patient further to remain indoors, there would come on when he was out walking gradually, yet quickly running to a climax, severe difficulty of breathing due to bronchial spasm, the movements of the chest being sufficiently restrained to prevent air getting into the lungs except in minor quantities The patient felt as if the lungs could not be expanded, and to this was added a sense as if the ribs could not become elevated So far as could be seen there was nothing of an asthmatic nature about the seizure nor anything suggestive of angina, for there was neither precordial pain, sense of impending dissolution pallor of face nor obligation to remain standing but only a feeling of distress owing to the difficulty of transporting air into the lungs In three or four minutes each attack gradually but entirely passed away without the patient expectorating as in asthma The attacks of dyspnoea, which were three in number, never came on during the night

The recurring attacks of bronchitis during the last two years not only *indicated an increasing susceptibility on* the part of the patient to microbic infection, but, along with the bacteriological examination, suggested that he was probably a pneumococcus carrier and that, while as a prelude to the illnesses the micro-organisms became somewhat virulent, the individual had not been able to produce antibodies in sufficient quantity to confer upon himself protection, also that while absorption of toxins played an important part in the later illnesses the alveolar structure of the lung was spared for the brunt of the microbic invasion was borne by the bronchial mucous membrane

The blood was examined the red corpuscles were normal in shape and number there was no leucocytosis, polymorphs predominated and the lymphocytes were rather fewer than usual In order to cope with the increasing susceptibility just mentioned the employment of an autogenous vaccine as a prophylactic mainly pneumococcal, was suggested it was tried and the result so far has been successful Since then I have seen several medical practitioners who as a consequence of influenza have exhibited a similar susceptibility and many of them have determined that on the outbreak of another influenzal epidemic they will resort to such measures as those to which I have alluded as a prophylactic

What the nature of the interaction is which takes place in disease between micro-organisms and tissue cells is still largely a matter of speculation but it is more than probable that in certain circumstances the surface tension of the tissue cells becomes lowered whereby micro-organisms which had been living external to the cells break through the barrier and become intracellular so that disease follows

So long as the microbe remain extracellular, persons harbouring them must be considered microbe carriers, and as in this relationship the micro-organisms do little harm few, if any, symptoms develop even although it is probable that antibodies are not produced As a consequence of atmospheric condition or of infection micro-organisms other than those of which the persons are carriers may fix themselves upon the naso-respiratory mucous membrane and, giving rise to a type of catarrh peculiarly their own the catarrh descends into the bronchi To what extent chemo-therapy will explain such an illness as I have described I am not prepared to say Chemo-therapy regards disease as largely a question of altered physical conditions existing between plasma, leucocyte and tissue cells and those created by micro-organisms It is believed that some Gram negative microbes are capable of lowering the surface tension of animal cells whereby their own passage into the interior of the cells is effected Here in their new habitat toxins along with antitoxins are formed—and the individual till then a microbe carrier commences to suffer from a form of disease specific to the micro-organisms concerned.

FIVE CASES OF AURICULO-VENTRICULAR BUNDLE-BRANCH BLOCK

BY

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BUNDLE-BRANCH block is among the most interesting of the secrets of the heart revealed by the electrocardiograph. These lesions are not so uncommon as one might expect, are of grave prognostic significance, and give rise to no clinical symptoms by which they can be identified, while on the other hand the abnormal and distinctive ventricular complexes met with in the electrocardiogram give a striking picture. Five such cases have lately come under my observation, and of these short notes are given below.

The first case was that of a business man, aged 62, of abnormal height, who travels between Brighton and London several times a week, he had been known to me for several years as the subject of bradycardia with occasional attacks of faintness. After an interval of eighteen months he consulted me on November 17th, 1923, complaining of cramps in the legs when walking, and I took the opportunity to obtain an electrocardiogram, expecting to find some degree of heart-block. His pulse at the time was 42, sounds were pure in all areas, and there were physical signs of slight hypertrophy of the left ventricle. The result of the examination was surprising—auricular flutter with complete heart-block, and evidence also of block of the right main branch of the auriculo-ventricular bundle. Lesion below the auriculo-ventricular bundle is suggested in Lead I by the breadth and irregular outline of the initial QRS complex and a bundle-branch lesion in Leads II and III by the initial ventricular complex being of increased amplitude with notching of the descending limb of SIII and followed by an erect T of correspondingly increased size, so that in these two leads the ventricular complexes are diphasic as well as exaggerated in size. The shapes of the individual T waves vary according to their relation to the inverted complexes of the flutter. If bundle-branch block is accepted, the record is unusual also in the amplitude of the QRS in Leads I and II being the reverse of what is generally found in these curves, the ordinary finding being RI of increased amplitude corresponding to the long SIII, and the initial ventricular complex of Lead II variable and of smaller amplitude, while here SII is actually longer than SIII and the records of the two leads are otherwise practically identical. This point will be readily appreciated by comparing the record with that of the three leads of Case 2. I have been unable to trace a similar record in the literature, and have confirmed my findings by electrocardiographing the patient on two subsequent occasions.

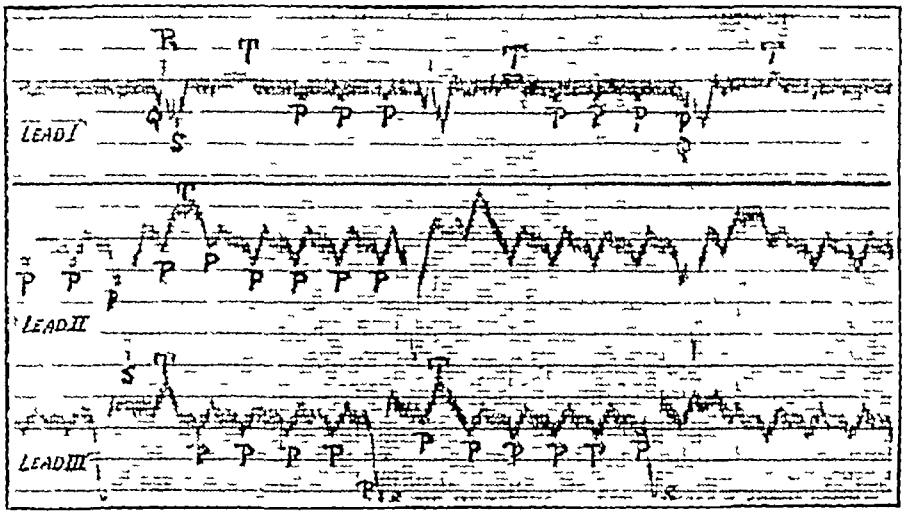


FIG. 1.—Case 1.

The second patient, a lady aged 60, seen first on November 24th, 1923, had led a life of cardiac semi-invalidism for some two years. She was a visitor to Brighton from Guildford, and when I saw her she complained of palpitation and more than her accustomed dyspnœa on exertion, and she had, for the first time, attacks of "asthma" at night. The heart's action was rapid and was irregular owing to the presence of extra systoles, the apex was in the fifth space half an inch external to the nipple line with an apical systolic bruit conducted outwards. She was slightly cyanosed, the systolic blood pressure was 166, and the urine contained a trace of albumin. Clinically, then, she had unmistakable evidence of myocardial degeneration. At Guildford she had found the hills very trying, and her acute symptoms were, I think, attributable to excessive zeal for exercise on the Brighton front while she was taking daily 6 grains of thyroid extract, which she had been ordered for symptoms of early myxœdema. The electrocardiograms reproduced here were taken after the tachycardia and extra-systoles had passed off, they are typical of block in the right main branch of the auriculo-ventricular bundle, or, to use Lewis's term, the record is a typical levogram. The increased breadth and length of the QRS in the record of Leads I and III, and the increased breadth in that of the three leads, the different direction of the large T wave from the initial wave, inverted when the latter is erect and vice

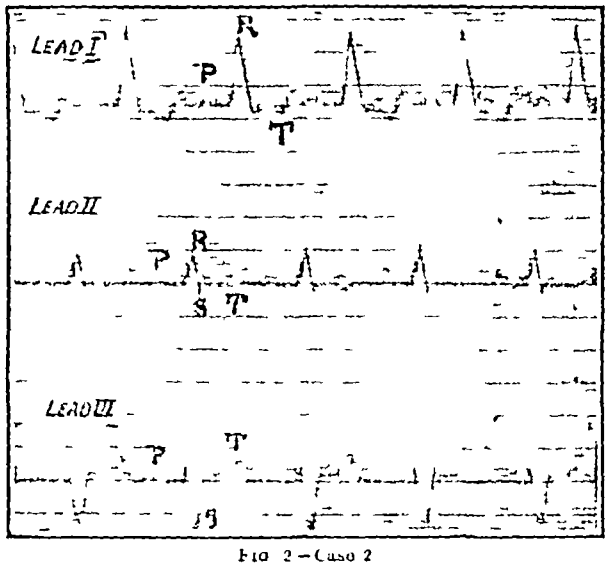


FIG. 2.—Case 2.

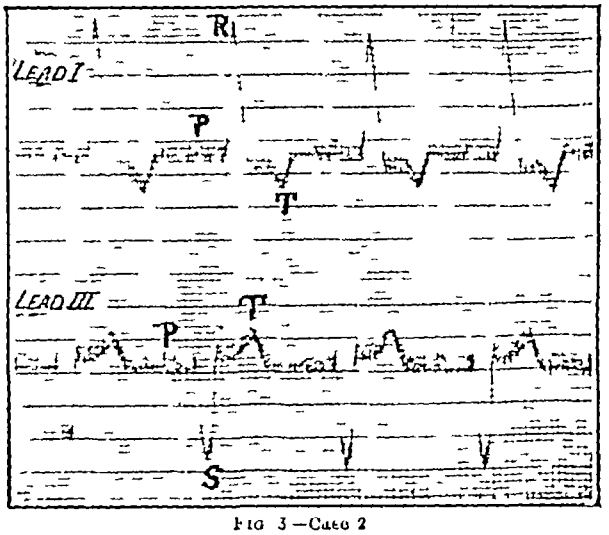


FIG. 3.—Case 2.

versa, the resemblance of each individual QRST to a left apical ventricular extra systole, and the left sided preponderance of the grouped QRS complexes of Leads I and III are all present in typical form In contrast to Case 1 the complexes in Lead II are of small amplitude

The third patient a man aged 56, was sent to me on March 19th, 1924 by Dr C H Glenn He had been aware of dyspnœa on exertion and occasional intermittent action for some ten years, and in 1918 had been rejected for military service, being told by the Medical Board that he had myocardial degeneration The apex beat was in the fifth space one inch external to the nipple line, and the impulse was heaving in character There was no bruit, but the second sound was reduplicated The systolic blood pressure was 208 The urine was normal In February he had a severe attack of influenza, but he had been up for a month when I saw him The electrocardiogram here again showed a lesion of the right branch of the auriculo-ventricular bundle

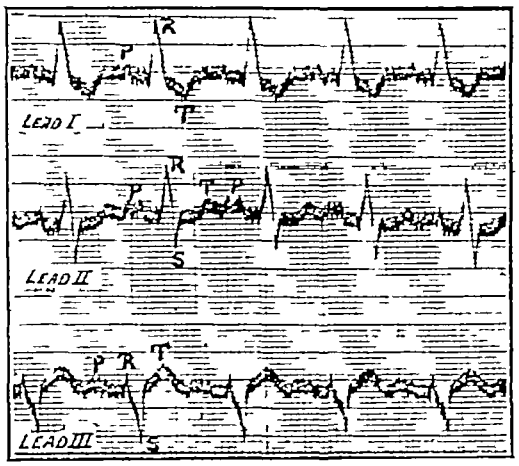


FIG 4.—Case 3

The fourth case was that of a City man aged 47, who leads an active life mentally and physically He states that as a boy and young man he saw many medical authorities, some of whom diagnosed congenital morbus cordis, others the effects of unrecognized rheumatism in early childhood, No one promised him much in the way of benefit and no one gave him any, and so, he says, he sacked the lot" and made up his mind to disregard his heart I came in contact with him because he had an attack of bronchitis I took an electrocardiogram on November 27th 1923 He has slight cyanosis the left lobe of the liver is somewhat enlarged, he has a short apical systolic murmur—musical at times—and a reduplicated second sound He shows little or no sign of cardiac inadequacy, bathes, plays lawn tennis and leads a particularly busy life, restricting himself neither in work nor in pleasure With the long history one inclines to the view that in his case the pathogenesis may be exceptional, the damage to the branch having been caused by some acute inflammation long ago inflicting a lesion which is permanent but stationary, in contrast with the ordinary rule that the lesion if chronic is progressive His record I take to denote a block of the left main branch of the auriculo-ventricular bundle The increased duration of the QRS, the slurring of its apex, and its opposite direction to the terminal T deflexion are present in all three leads, but the initial ventricular deflexions here are not increased in amplitude, and the presence in Lead III of an unusually long Q at first sight spoils the picture of right-sided preponderance As, however, Q_{III} is held to be a right-sided event,[1] this last point is further evidence that the record is a true dextrogram

The fifth case was seen on March 14th, 1924, in consultation with Mr W A Bowring The patient, a man of 53, had a history of glycosuria for seven years, and for two years had suffered from increasing shortness of breath He had a soft apical systolic bruit not conducted outwards, and he also had a reduplicated first sound, but owing to obesity palpation and percussion were unsatisfactory There was anasarca of both feet and ankles The systolic blood pressure was 208, and he gave a history of several attacks of renal colic His record, a typical dextrogram, shows perhaps best of the five cases, although the abnormality is present in all, the slurring notching and splintering of the QRS complex, so beautifully delicate and clean of outline in the normal electrocardiogram Thus, while delay in stimulus transmission is evidenced by increased breadth of the QRS group, irregularity of spread within the ventricle in the arborization of the bundle branch shows it clr by deformity of outline in that group In Lead III Q is longer than in Case 4 but a long R_{III} pointed towards an S_I of equal amplitude gives a typical picture of right-sided preponderance It will be seen that P_{III} is inverted throughout that lead, and this is a small point of special interest

In these bundle-branch lesion the picture of right- or left-sided preponderance is not produced by increase in relative weight of the corresponding ventricle, but by defect of conduction of impulses to the other ventricle In this elderly gouty arterio-sclerotic subject I have no doubt that the mass relation of the two ventricles is altered so that the left ventricle is more than 1 2 times as heavy as the right and but for the defect in conduction the electrocardiogram would have shown left-sided preponderance The true relation of the weights of right and left ventricle would seem to be hinted at by the inverted P_{III} for this we know is found at times in aortic regurgitation and other diseases in which there is predominant hypertrophy of the left ventricle

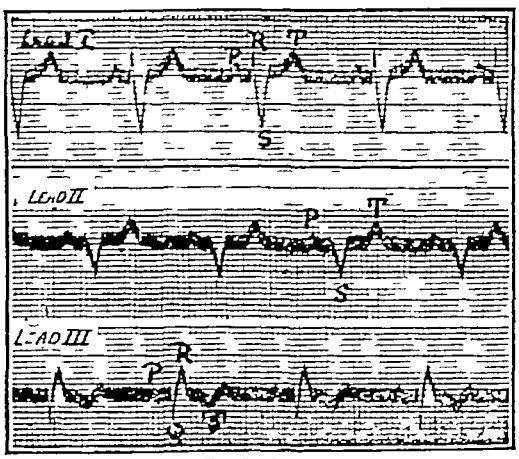


FIG 5.—Case 4

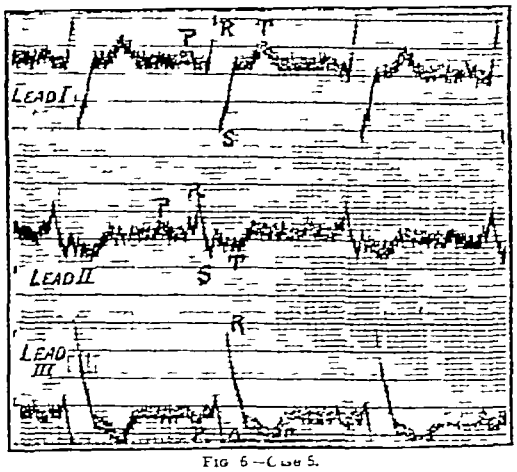


FIG 6.—Case 5.

REFERENCE.

[1] Lewis *The Mechanism and Graphic Registration of the Heart Beat* 1920 p 103.

DUODENAL ULCER AMONG MEDICAL MEN

A COMPARISON OF THE RESULTS OF SURGICAL AND MEDICAL TREATMENT

BY

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ULCERATION of the duodenum has not been so long a diagnosable condition that the last word on its treatment has been said. More especially, the relative advantages of surgical and medical methods are still in debate. On the one hand, surgical opinion, as recently expressed, appraises medical treatment very lightly, and holds it to be powerless to prevent recurrence of the symptoms in a very large number of cases. It maintains that the beneficial results of operations far exceed those obtained from any kind of medical treatment in respect to both cure and risk to life, that medical treatment entails a vastly greater mortality than that which follows operative treatment, and that patients who go without symptoms for two years after operation never develop them later. On the other hand, medical opinion persists in claiming for its own measures successful results in a very large number of cases, though not in all. It regards these surgical views as altogether too confident, and quotes its own everyday experience as showing not only that cases are curable without recourse to surgery, but that cases treated by operation all too often relapse and are little better than before.

How can the impartial onlooker hope to judge in a disagreement so acute? The merits of the question could be placed beyond controversy only if a series of cases, some treated surgically, some medically, were studied and the results watched over a period of years. But the likelihood of this being carried out in any clinical institution is small indeed, and the profession as a whole has probably reconciled itself to waiting many more years before the matter can be settled. Quite recently, however, evidence of the very kind that is needed has begun to appear from an unexpected quarter. Duodenal ulceration is attracting the attention of an impartial body of opinion altogether removed from the influences which conceivably might sway either of the two clinical camps. The various assurance societies have noted that this diagnosis is figuring more and more often on their books as the ground for life or sickness claims. As business undertakings they are now asking what this relatively new disease exactly implies in its financial aspects. How is it to be regarded from the standpoint of mortality and life assurance? Is it of small or great account from the point of view of sickness insurance? And how are the results of treatment of either kind to be expressed actuarially?

The first society to make known its experience in this connexion is the Medical Sickness, Annuity, and Life Assurance Society (300, High Holborn, W.C.1), whose policies are issued almost exclusively to medical men. Its statistics of duodenal ulcer are based, therefore, on that class of the community which can best command early and accurate diagnosis, and has readiest access to the most skilful treatment. Moreover, by the nature of its work its registers constitute a complete health record of each of its members: details of every term of sickness for which a claim has been made being entered over a period of years, in this way the after histories of cases of duodenal ulcer have been traced with a fullness and accuracy which is impossible with hospital or even private cases. Against this must be set the fact that its figures, being drawn from a fraction of the population only, must be relatively small. An analysis of its records shows that during the first twenty years of its existence no case of duodenal ulcer appeared on its books, but that for the last twenty years the number of claims under this heading has steadily grown. These claims are in all for sickness benefit, when the member has been totally incapacitated from practising, and as each case relates in its entirety to those whatever form of treatment it may have received, the record has impartially the results, good or bad, of both alternative methods. Whether cure, relapse, or death follows, the registers are concerned only to record the fact.

To summarize first the figures relating to all cases:

Total number of cases 59 involving 119 claims	
Average period of invalidity	4 months 3 weeks
Longest period of invalidity	11 „ 1 week
Longest total incapacity in any one case	1 year 2½ months

These figures show at once that, whatever the treatment adopted, duodenal ulcer means protracted illness. A patient, even under the best conditions, must expect to be laid aside for months before he can return to work. Even then, as the next figures show, the likelihood of a recurrence of the trouble is considerable.

Relapses

7 cases relapsed once	1 case relapsed 4 times
9 „ „ twice	1 „ „ 5
3 „ „ thrice	1 „ „ 7 „

Total of cases with relapses 22 = 37 per cent.

It would seem, perhaps, that in this tendency to relapse may be found an explanation of the conflicting opinions referred to above. A substantial majority of the cases, once they recover, suffer no further, but a large minority have a less fortunate history, and this irrespective of the treatment followed. Any method of treatment will be able to count its many successes, but will also need to acknowledge its failures.

If next the records are examined for the comparative results of surgical and medical treatment a highly interesting series of figures is obtained:

Cases operated on	33 = 56 per cent
Cases treated medically	26 = 44 „

Roughly speaking, medical opinion, as voiced by medical patients themselves, is equally divided between the advantages of surgery and medicine, with a bias towards operation. To what extent this nicely balanced judgement is well founded can be seen in the next set of figures, which contrast the results in operation and non-operation cases:

	Operation	Non-operation
Total number of sickness claims	60	53
Average number of claims per case	2	2
	Months	Months
Average period of invalidity per case	5	4½
Longest single period of invalidity	11½	6½
Longest total of claims in any one case	14½	13

What little difference there is between the two groups may be expressed by saying that on the whole the cases treated surgically are rather longer before being restored to health. This is borne out by a comparison of all those cases where the total invalidity exceeded 5 months. Of the operation cases 11 were laid up for total periods ranging from 5¾ months to 14½ months (5¾, 6½, 7¼, 7½, 7¾, 8½, 9¼, 11, 12½, 13½, and 14½ months), as against 3 non-operation cases where the periods were 7½, 9½, and 13 months respectively. In other words, exactly 33 per cent. of the operation cases were invalided from work for 5 months or longer, as against 12 per cent. of those treated medically.

But even more important than this is the question of the permanency of the good effects of the two methods of treatment. Can it be shown that in respect to either of them the word "cure" is applicable in the sense of a permanent relief from the symptoms? The following are the figures bearing on this:

	Operation	Non-operation
No recurrence of symptoms in	19 cases (58%)	16 cases (62%)
After periods ranging from	1 12 years	1 11 years
Recurrence of symptoms in	12 cases (36%)	10 cases (38%)
After periods of	1 10 years	1 10 years

Here again there is nothing to choose between the two groups. Both show a high percentage of relapsing cases. Even ten years after the first attack a recurrence may take place—and this, interestingly enough, has happened in both operation and non-operation cases. This fact alone enjoins caution on physician and surgeon alike in claiming cures relatively soon after treatment.

Similarly, no great difference is found in the liability to relapses in cases belonging to the two groups:

Operation	1 7 relapses (average 2 1 per case)
Non-operation	2 4 relapses (average 2 8 per case)

It should be mentioned that of the 33 cases which were operated on, 4 came to re-operation after periods of 1 to 16 years.

Finally, there is the question of mortality Here the results are

	Deaths	
Operation		3
Non-operation		0

Two of these deaths immediately followed the operation The absence of deaths among the non-operation cases is noteworthy, seeing that haemorrhage occurred fairly often Probably this immunity can be accounted for by the peculiarly favoured position of medical men, as mentioned above, which ensures them prompt diagnosis and treatment

To sum up, the special value of these figures extracted from the registers of the Medical Sickness Society is that, though they represent a relatively small series of cases they are a business, and therefore impartial record of the after-histories of the cases They show that duodenal ulceration entails long periods of sickness, and though not often mortal, is very liable to recur even after many years, but that the majority of cases recover after one attack and remain free from relapses The figures give no support to the claims to greater effectiveness of either surgical or medical treatment on the contrary they show that the results of the two methods leave little to choose between them

From an actuarial point of view it becomes necessary to regard proposals for sickness insurance, where there is a history suggestive of duodenal trouble as highly unfavourable Such cases should be rejected as uninsurable, though in proposals for life assurance the risk is less

GONORRHOEAL IRITIS

BY

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THE object of this short paper on gonorrhoeal iritis is to point out that with correct and adequate treatment, not only can the disease in most cases be permanently cured but by clearly understanding its origin entirely prevented

The iris may be the only organ in the eye involved but in the more intense cases the uveal tract which includes the ciliary body and the choroid and even the optic disc may show signs of inflammation The infection is endogenous, reaching the eye by the blood stream, but whether toxic or due to the direct action of the gonococcus has not been determined The gonococcus has only once been isolated from the aqueous humour of the eyes and then only in a case of gonorrhoeal septicaemia still I think that a disease of the eye which so constantly occurs with untreated or improperly treated gonorrhoea and is so rapidly cured with the appropriate venereal treatment, can be definitely ascribed to this venereal disease

According to some authors 8 and to others 20 per cent of all cases of iritis are due to gonorrhoea These statistics include the male and the female but so convinced am I that if the cases occurring in the male subject alone be taken the percentage would be very much higher, that I never treat iritis in the male without carefully considering a gonorrhoeal history Syphilis is, of course a cause of iritis, but in my experience it falls very far behind gonorrhoea in the frequency with which it produces iritis in the male, and differs very considerably clinically from the gonorrhoeal variety

Gonorrhoeal iritis is never seen during the acute stage of the urethritis, it may make its appearance some months after the gonorrhoeal infection or may be delayed for years Only a few weeks ago I saw a patient who consulted me for an acute attack of iritis, he had had three previous attacks within the last three years, had received appropriate local treatment to the eye but no attempt had been made to elicit a history of gonorrhoea which I found on questioning, he had contracted sixteen years ago Dr Kingston, to whom I referred him for opinion, found the gonococcus in the fluid expressed from the prostate, and this patient is now receiving appropriate venereal treatment The Wassermann reaction was negative, and I have no doubt that this is a case of gonorrhoeal iritis which would have continued to recur had the venereal infection not been looked for That sixteen years should have elapsed between the one and only attack of gonorrhoea and the appearance of the iritis is nothing extraordinary How long the gonococcus can remain active in the posterior genito-urinary organs of the male is difficult to say, but it has certainly been discovered after a lapse of twenty-seven years and now that more careful attention is being paid to its activities, and its presence more often sought for, I expect that even this long duration will be exceeded

Gonorrhoeal iritis has certain definite characteristics, the most important being its tendency to recur The term "recurrent iritis" is unfortunate as if the venereal disease had been properly treated in the first place no iritis at all would have occurred, and if the first attack had been correctly diagnosed and adequate venereal treatment carried out the first attack would have been the last from this cause I would emphasize the importance of regarding with suspicion all cases of recurrent iritis in the male and of endeavouring to persuade the patients to undergo a venereal examination

The actual attack of iritis often differs but little from that produced by other causes, but is usually very severe, with considerable pain its duration varies from a week or ten days to a month or more, it is often of a plastic nature, and this fibrinous exudate may be of such a degree that practically the whole of the anterior chamber is filled with a fibrous mass often greenish in colour, when this occurs it is said to be pathognomonic of gonorrhoeal infection, but its occurrence is far too rare to be relied on for a definite diagnosis In those eyes in which a recurrence has taken place it is typical of a gonorrhoeal infection that, in the early recurrences, very little ocular damage has been done, and it is often only by careful examination that the results of a previous attack are demonstrated, in many cases nothing remains but one or two fine posterior synechiae binding the iris to the anterior capsule of the lens and then often only seen on artificial dilatation of the pupil, but the damage, though slight at first is constantly being added to by the recurrences until in the later stages vision is very materially reduced

In the differential diagnosis syphilis, rheumatism, tubercle and sepsis must be considered

In syphilis the iritis is in the majority of cases characteristic it is either a secondary or tertiary manifestation and does not show that pathognomonic symptom of the gonorrhoeal variety, for recurrences are not observed It the attack occurs during the secondary period, if once recovery ensues, no other attack will occur until the tertiary period Definite yellowish-red nodules about the size of a pin's head, will be seen in many cases These may be looked upon as papules or condylomata in the secondary stage, and in the tertiary as gummata The attack lasts longer than the gonorrhoeal variety and leaves very marked evidence behind The Wassermann test helps, but a positive reaction is not sufficient to exclude gonorrhoea I have seen cases in which the original iritis was undoubtedly syphilitic and was cured by appropriate treatment, but in which later recurrent iritis was gonorrhoeal though its origin was quite unsuspected and it was attributed to the original attack of syphilis

It is to the condition known as "rheumatic iritis" that the gonococcus owes its long and undisturbed life in the past, for we now know positively that the vast majority of these cases occurring in the male are undoubtedly gonorrhoeal in origin In the present state of knowledge it cannot be denied that rheumatic iritis does exist, yet I do not think many years will elapse before we can show that it is a comparatively rare affection and I that gonorrhoea is responsible for most of the cases It is, I think, a mistake to look for definite characteristics with gonorrhoeal rheumatism, it is true that certain joints tend to be affected, such as the knees, but in most of the cases that have come under my care for the ocular lesions, if they have had rheumatism at all it has been of a very vague character, not attacking any joints in particular and having a tendency to wander

Most textbooks on eye diseases state that gonorrhoeal

iritis is always preceded or accompanied by articular pains I am convinced that this is not correct, there is little reason why it should be when we consider that only about 2 per cent of all cases of gonorrhoea develop this complication

Tuberculous iritis can usually be diagnosed from gonorrhoeal without difficulty by its occurrence in younger subjects, the presence of tubercles on the iris, the very considerable damage done to the eye, the absence of true recurrences, and the diagnostic tuberculin tests

The so-called septic iritis due to an endogenous septic infection may closely simulate the gonorrhoeal variety Recurrences are frequent and the condition of the iris may give no clue as to the cause The damage to the eye is greater than in the gonorrhoeal variety and rheumatism may occur It must not be forgotten that thorough investigation is necessary in these cases, and that the gonococcus may be at the root of the matter

Although a venereal history and a careful and accurate inspection of the eye will give us valuable assistance, yet it is to the genito-urinary organs that we must turn for a definite diagnosis, and it must be remembered that the absence of a urethral discharge cannot be relied upon to exclude gonorrhoeal infection, nor does the absence of threads in the urine preclude this disease With the absence of discharge and a clear urine many of us have in the past given the patient a clean bill of health so far as gonorrhoea is concerned But we now know that it is to the prostate and seminal vesicles and the fluid contained therein that our attention should be chiefly directed, for I believe that gonorrhoeal iritis rarely if ever occurs apart from an infection of these organs, and I do not consider that a case has been properly investigated until the prostate has been expressed and the fluid carefully examined microscopically It is, of course, an objectionable procedure, but there is no doubt that it is most essential if we are to deal adequately with the type of iritis under discussion

The microscopical examination in many cases shows either the gonococcus or in involution form, but even where the actual organism is not present and only a few pus cells found the case should be treated as gonorrhoeal Very little need be said of the ophthalmic treatment of gonorrhoeal iritis, which should be conducted on the usual lines for the intense pain which occurs in so many of these cases salicylates internally are of great use The venereal treatment, which is so often omitted, should be handed over to one thoroughly versed in it, for attention must be directed to the posterior urethra, prostate, and seminal vesicles, and unless the treatment is adequate we cannot expect a cure of the iritis and by a cure I mean the absolute prevention of recurrent iritis - a term of which I hope we shall hear little in the future as we learn more and more to direct our attention to the actual cause

I have been able to follow up five cases of recurrent iritis for nearly five years In all the gonococcus was definitely found in the fluid expressed from the prostate and seminal vesicles The Wassermann reactions were negative The last attack of gonorrhoea had occurred 4, 5, 9, 10, and 13 years ago, the number of attacks of iritis were 2, 2, 1, 5 and 3 respectively not including the attack for which the patient was seeking advice None of these patients had received adequate venereal treatment at the time of the original attack of gonorrhoea and all stated that they had had a gleet for some time after the attack during the previous attack of iritis no investigations had been made into the state of the genito-urinary tract, although the iritis had by at least one had correct treatment Two of these patients had had many teeth removed, probably on the assumption that the iritis was septic in origin

All [illegible] after the presence of the gonococcus was found [illegible] appropriate venereal treatment with the result the most recent attack of iritis has taken place [illegible] the patient now a half years

It must not [illegible] current iritis will not be looked upon [illegible] venereal affection as in the past but that [illegible] will be made to discover the actual cause, [illegible] investigations a chronic gonorrhoeal [illegible] and the seminal vesicles will not

A METHOD OF INTUBATING THE OESOPHAGUS FOR MALIGNANT STRICTURE

BY

H S SOUTTAR, C B E, F R C S,

SURGEON AND LATE DIRECTOR OF THE SURGICAL UNIT, LONDON HOSPITAL

CARCINOMA of the oesophagus is by no means uncommon, and few conditions are more distressing - If left to himself the patient has nothing to look forward to but death by slow starvation, unless a perforation into the mediastinum, the pleura, a bronchus, or perhaps a large blood vessel, ends matters short For practical purposes he need have no fear of extension of the growth or of secondary deposits, for these occur late and develop very slowly The problem of his relief is the purely mechanical one of relieving his obstruction

The truth of this statement and the urgent nature of these cases have been brought home to me by a series of patients who have recently passed through my hands Most of them were elderly, some were acutely ill, in none could an extensive operation be contemplated, and in many it was obvious that the simplest surgical procedures involved a grave element of risk It is characteristic of the condition that after perhaps a long period of dysphagia total obstruction should suddenly occur, and so often does this happen that I have come to regard all cases of dysphagia as urgent, and take every precaution that they do not linger on a waiting list In spite of this I have several times had to deal with patients who had swallowed absolutely nothing for three or four days, and an elderly man who has been deprived of fluid for four days is in a very dangerous condition

Theoretically gastrostomy affords a rapid and complete method of relief, but it presents serious drawbacks In the first place, the mortality is far higher than is generally supposed, owing to the bad condition of these patients, especially where complete obstruction has supervened In the second place, feeding by a tube is a miserable substitute for eating, and in the case of hospital patients it is rarely practicable for them to obtain and prepare food in the necessary form, whilst the management of the tube is often quite beyond them And finally, not only can they not chew their food, but they cannot swallow their saliva

Treatment of oesophageal conditions has been revolutionized by the oesophagoscope It is now possible to see carcinomatous strictures by direct vision and to dilate them with a reasonable degree of safety A passage having been formed, it is possible to maintain it by passing bougies at regular intervals, but this is troublesome and somewhat risky Progress has therefore been directed along the lines of maintaining the lumen so formed, and of the methods used none have been more successful than Symonds's tubes and Hill's probe

The former is a gum-elastic tube with a conical upper end which prevents its sliding completely through the stricture, and it is customary to tether it with a silk thread brought out through the mouth and fastened round the ear The object of this is the periodical removal of the tube, which tends to become very foul and to block if left in long without cleaning Hill's probe is of silver wire covered by a fine rubber tube, brought out of the mouth in the same manner and acting as a permanent dilator alongside which food can pass through the stricture

It occurred to me that it ought to be possible to devise a flexible metal tube which could be passed through the stricture and maintain the lumen, and that as such a tube ought not to become foul it need never be removed After several experiments I have adopted a simple close spiral of German-silver wire, expanded at the upper end It is extremely flexible, absolutely incompressible, is very light, and occupies very little room Food does not tend to cling to it and it therefore does not become foul The metal turns black but this can be prevented by gilding It appears to be possible to leave these tubes in position indefinitely and they do not show any tendency to ulcerate through the oesophageal wall The tube simply canalizes

the mass of growth, and it probably never exerts pressure on the oesophageal mucosa The tubes are made in three sizes the large size is 3 inches long and 10 mm in diameter, the smallest tube is 2½ inches long and 6 mm in diameter The general appearance is shown in the figure



Flexible metal tube for intubating the oesophagus in cases of malignant stricture

The insertion of the tube through the oesophagoscope is a simple matter The stricture is slowly dilated as far as is considered safe probably to a diameter of from 8 to 10 mm A small bougie is passed right through and along this as a guide a tube of appropriate size is passed into position The tube is inspected and if it appears satisfactory the oesophagoscope is withdrawn The tubes are well retained, and appear to cause no inconvenience Their position can always be verified by an *x* ray examination They may even be inserted through a cardiac stricture into the stomach but in this case the tube must be slightly bent or it will be expelled by gastric contractions The bent tube straightens on the bougie and is passed with facility, and its retention appears to present no difficulties

The method is undoubtedly attractive, and although I am very conscious that my present experience of its use is limited it appears to me to offer the best solution so far obtained of a very difficult problem The rapid recovery of the patients is remarkable and it is very striking to see a man who was admitted almost *in extremis* going out forty eight hours after intubation swallowing with facility and looking an entirely different person We find that these patients can swallow anything which they can masticate properly and so far no one has returned with a blocked tube Occasionally it has become displaced but it has been easily replaced and a slight bend in the tube has retained it in position

Of the existence of the tube the patients are quite unconscious, and one man only discovered it from an accidental remark on my part four months after it had been introduced His case is I think sufficiently remarkable to be placed on record It was as follows

A man aged 67 came to see me in May 1922 complaining of increasing dysphagia He could only swallow liquids and soft foods An *x* ray examination with barium emulsion showed a tortuous stricture in the mid-dorsal region On oesophagoscopy a fungating mass of growth could be seen completely surrounding the oesophagus and obstructing its lumen By means of bougies the stricture was easily dilated up to No 14 Swallowing was now easier and he returned every fortnight for the passage of a bougie He suffered from severe chronic bronchitis and emphysema and the passage of the bougies became more and more difficult but a satisfactory lumen was maintained until May 1923 when he came to hospital desperately ill having swallowed absolutely nothing for four days

On oesophagoscopy a tight stricture was found surrounded by a mass of fungating growth Bougies were passed with great caution and a tube spiral 8 mm in outside diameter was inserted Through this the patient has swallowed ever since apparently without the slightest difficulty except for a few days some weeks ago He then found that although he could swallow soft foods without difficulty liquids induced a violent attack of coughing I strongly suspect that a communication with a bronchus had been formed but it must have closed again for the difficulty has disappeared He is now 69 and the tube has remained in position without removal for ten months He has put on weight and is in excellent health.

This method of intubation demands expertness in the use of the oesophagoscope but granted that essential condition, it presents no great difficulty Only further experience can show whether it is applicable to cases of every kind, but so far as I have been able to employ it the results have far exceeded my expectations

Memoranda:

MEDICAL, SURGICAL OBSTETRICAL

EXTRAUTERINE PREGNANCY ON TWO OCCASIONS

THE following case may, I think, be of sufficient general interest for publication

A married woman was operated upon by me on November 12th 1923 for ruptured extrauterine pregnancy the period of gestation being about three months The tumour was situated in the right tube in close proximity to the cornua of the uterus It had ruptured into the general peritoneal cavity and the patient had lost a large quantity of blood. The tumour was excised she made an uninterrupted recovery and was discharged from hospital on December 16th

On Sunday February 24th 1924 I was again called and found her in a condition of some shock She was pale and her expression anxious. The temperature was subnormal pulse 80 but small and weak She described her symptoms as being similar to those she had experienced before her previous operation. The lower part of the abdomen was slightly distended and tympanitic Pain was referred to the umbilicus Tenderness on palpation was general over the lower part of the abdomen greater at first over the left iliac fossa later over the right iliac fossa Examination by the vagina gave a negative result She stated that she had been quite well since her previous operation The menstrual periods had begun again about December 27th and she had a normal period about January 27th She commenced to lose again on February 16th and continued to lose a large quantity of blood until Saturday February 23rd passing numerous clots during the week On the afternoon of February 23rd she fell into a brook, and in falling twisted herself severely She was soaked through with water but was able to take tea in a café and return home later unaided She began to have pain in the lower part of the abdomen about 7 p.m the same day and as this gradually became worse I was called in to see her about 1.30 a.m the following day A provisional diagnosis of left-sided extrauterine pregnancy with threatened rupture was made and the patient was given morphine 1/4 grain and left in the care of a trained nurse who was instructed to make hourly records of the pulse and to take methods to combat the shock which was present

I saw the patient again at 11 a.m the same day The pulse rate had remained steady at 80 until about 4.30 a.m when it increased to 100 It then gradually increased to 120 which was the rate when I saw her the general condition was then much the same She was immediately removed to the Victoria Cottage Hospital where she was seen by Mr F D Saner of London, who diagnosed a ruptured extrauterine pregnancy and decided to operate at once

On opening the abdomen a large quantity of blood welled up through the wound An extrauterine pregnancy about the size of a small pigeon's egg was found in the left tube in close proximity to the cornua of the uterus The sac was excised and the abdomen closed methods being taken at the same time to combat the shock The patient improved considerably under the anaesthetic (ether) and after the operation She made an uninterrupted recovery and was discharged from hospital on March 16th

The patient, who was 26 years of age, had had two children—the first seven years ago the second six years ago The first is a normal healthy child, the second is deformed and imbecile She had one abortion about four years ago, but otherwise no illness of note

The points of interest in this case are (1) The occurrence of ruptured right- and left-sided extrauterine pregnancies in the same person within so short a time (2) The similarity in the positions of the ruptures on both sides (3) The very early rupture of the left-sided extrauterine pregnancy

Kingston-on Thames. F CARSON, *M C*, M B, B Ch

OLD STANDING DISLOCATION OF THE RADIUS

A SCHOOLMISTRESS aged 24, was admitted to the Wakefield Hospital on January 15th, 1924, complaining of locking of the right elbow-joint X-ray examination showed forward dislocation of the radius She stated that when 7 years of age she had fallen and injured her right elbow-joint The usual signs of forward dislocation of the radius were then present The movements of the elbow-joint gradually improved, but at the age of 12 there was still some limitation of movement eventually there was a return to the normal range and strength

About a year before admission the joint began to lock when carrying out certain movements—drilling her pupils riding a bicycle, attending to her hair, or taking food Infrequent at first, the locking became intolerable from its frequency and the awkwardness of its incidence

Condition on Admission

The arms were equally well developed The range of movement of the right arm was normal, except that a slight degree of hyperextension was possible There was considerable increase in the carrying angle The head of the radius could be felt over the front of the lower end of the humerus

During examination the elbow-joint locked in the semi-flexed position, rendering further movement in any direction impossible The patient, from long practice, had acquired a method of rapidly unlocking the joint by manipulation with the other hand There was, she said, a "click" when the joint locked

Operation

The head of the radius was excised, on its postero-medial aspect was a deep notch, which was, I think, the cause of the locking of the joint, owing to the engagement in it of some adjoining structure

Some degree of subsequent drop-wrist caused uneasiness, but this soon passed away The patient has made a complete recovery

JOHN W THOMSON, M B, C M,
Surgeon, Clayton Hospital, Wakefield

CONGENITAL ABSENCE OF ONE KIDNEY

THE following two cases appear worthy of record owing to the comparative rarity of this condition, and are perhaps all the more remarkable in that they were discovered on *post-mortem* examination on two cases within the last six months out of a total of only forty-seven consecutive necropsies

Both patients were males, aged 52 and 43 respectively, and in neither was the condition suspected during life

The first case was that of a congenital imbecile who was under treatment for Bright's disease in October, 1918 and again in March, 1919 with marked dropsy of the legs, since then no further symptoms of this disease occurred

Post mortem Examination.—The right kidney (weight 5½ oz.) was normal in shape and situation but found to be subacutely congested The left kidney was absent but the left adrenal and its vessels large and sections examined microscopically revealed no nephritic tissue in its substance The left ureter had no lumen, and on being traced upwards from the bladder became swollen cut flattened and lost in connective tissue

The second case was one of insanity with grosser brain lesions, the patient had never had any symptoms of renal trouble so far as is known

Post mortem Examination.—The left kidney (weight 6 oz.) was normally situated and healthy in appearance, but lobulated A careful search revealed no right ureteral opening into the bladder nor a trace of the right ureter anywhere The cause of death in this case was a glioma involving both occipital lobes, with secondary pachymeningitis haemorrhagica of some standing

I have to thank Dr Bartlett, the medical superintendent, for permission to publish these two cases

Derby County Lunatic Hospital, Mickleover

E R GILMORE,
M B, Ch B Vict D T M Liverp

Reports of Societies.

X-RAY DIAGNOSIS OF PYLORIC AND DUODENAL STENOSIS IN INFANTS

At a meeting of the Section for the Study of Disease in Children of the Royal Society of Medicine, on April 25th, with the President Mr R H ANGLIN WHITELOCKE, in the chair, a paper was read by Dr GEOFFREY FILDES on the X-ray diagnosis of pyloric and duodenal stenosis in infants

Dr Fildes's paper was based upon the consideration of seven cases of pyloric stenosis and two of duodenal stenosis, all of which had been seen by him during 1923 As the pathology of this condition was now definitely recognized the surgical confirmation of the diagnosis should always be preceded by the administration of a bismuth meal before operation was undertaken In one case a pyloric tumour was palpable in four it was indefinite and in the two others it was buried up under the liver The infant was warmly clothed in woollens and wrapped in a blanket before being taken to the x ray room One and a half to two ounces of warm, thin, bismuth solution were then poured into the stomach by means of a funnel and tube If the infant usually vomited immediately after a feed, the tube was left in place until after the screening, which only lasted a few seconds If, however, the vomiting usually occurred ten minutes after the feed the tube was removed and the screening done forthwith A healthy infant of 7 weeks had been used as control

With the infant held before the screen it was possible to determine (1) the size of the stomach, (2) the existence of any marked peristalsis, (3) whether any bismuth was passing the pylorus The infant was then taken back to the ward and kept warm Dr Fildes had found that the bismuth meal was not usually vomited One and a half to two hours later the infant was again screened, and the contents of the stomach were then washed out

The possible disadvantages of this procedure were (1) shock to the infant from handling and exposure, with care this might be reduced to a minimum, and (2) the use of bismuth—but no ill effects had occurred After the diagnosis had been made or confirmed in this manner all the patients were operated on within two days, and all were discharged cured except one, which died from an infection then prevalent in the ward The bismuth meal had proved of value in differentiating pyloric stenosis from pyloric spasm In spasm the ileum contained most of the meal within two hours

Dr BERTRAM SHIRES gave an account of 100 cases dealt with similarly during the past three years He substituted an opaque meal for the usual feed, one to two ounces of the bismuth mixture being given, according to the age of the child, by bottle or spoon During screening the erect or prone position was adopted, not the supine, because in this last position two distinct loculi were created in the stomach In the normal infant some bismuth was immediately seen in the jejunum There was no true peristalsis, as seen in the adult, and the stomach emptied in one and a half to two hours Patients in whom there was slight delay only, and practically no residue at the end of two hours, did well under medical treatment He had found the opaque meal of the greatest use in diagnosing indefinite cases, and in his experience duodenal stenosis generally occurred in the third part of the duodenum Vomiting very rarely occurred during the examination Dr Shires showed a series of slides of the stomach of the normal infant, and various degrees of stenosis during the stages of a bismuth meal The photographs were taken immediately after the meal, twenty minutes later, and two hours afterwards

Mr PACE asked if there had been any mishaps in Dr Shires's large series

Dr C GREGORY reported a case in which there had been delay, and a considerable residue in the stomach after four hours The condition of the infant did not permit of an operation, at the necropsy no stenosis was found He was doubtful whether the condition had been due to spasm or to atonicity of the stomach as part of the general condition

Dr C G TEALE stated that in the cases he had observed at the Birmingham Children's Hospital the stomach began to empty at the end of twenty minutes, but there was still a residue at the end of forty-eight hours He therefore considered that a later screening than the two hour one was advisable The conclusion he had reached was that x-ray diagnosis was not essential for stenosis or for spasm, and should only be undertaken on the grounds that everything possible should be done to confirm a diagnosis before submitting a tiny infant to a severe operation

Dr C G WHORLOW thought it possible that the skin of infants was more radio-sensitive than that of adults and that great care should therefore be exercised in submitting them to the rays

Dr F CAITLEY remarked that the x ray diagnosis of an infant in hospital was a very different matter from that in private practice He considered also that a diagnosis based on x rays held great possibilities of error than one based on a palpable pylorus The rays were really of use in distinguishing between pyloric and duodenal stenosis

to bottle feeding because of the rapidity of the former process Dr B SHIRES, who also replied said he had had no untoward results from the bismuth feeding The stomach was always washed out after the final screening If this were not done a deposit of bismuth would necessarily remain in the stomach for forty-eight hours or longer As a rule all the bismuth which had passed the pylorus was evacuated within twenty four hours.

PERFORATED GASTRIC AND DUODENAL ULCERS

AT a meeting of the Liverpool Medical Institution, held on April 10th the President, Mr R C DUN, in the chair, Mr G C E SIMPSON read a paper embodying some observations on perforated gastric and duodenal ulcer

Mr Simpson called attention to the main points in diagnosis, especially of subacute perforation and described three cases of leaking ulcer, one of which became acute on the third day He discussed the immediate mortality and after-results in cases treated by simple suture and urged that in favourable cases further measures should be taken at the primary operation He had operated on 5 patients for ulcer or stenosis who had previously been sutured for perforation Of 36 cases only 2 were in women and 5 had not reached 21 years of age In 19 cases where suture alone was used 4 died the average time between perforation and operation in the successful cases was fourteen hours In one case where the ulcer cavity went one inch into the lesser omentum excision was done, the patient did well for a week and then died, probably from embolism In 16 cases primary gastro-enterostomy was done of these 11 were duodenal and 5 were on the gastric side of the pylorus The first patient died of shock, he had been perforated twenty hours and was in bad condition the duodenum was obstructed by the infolding The third patient also died on the twenty fifth day of ileus, due to adhesions at the site of the pelvic drain The remainder had done well In 11 cases the wounds were closed without drainage, after mopping out fluid and filling the peritoneal cavity with saline The average time between perforation and operation in the 14 cured cases was six and a half hours In most of the cases convalescence had been very rapid, and there was less anxiety than in the average gastro-enterostomy for ulcer without perforation One patient passed through an attack of phthisical pneumonia of considerable severity but was well by the thirty-seventh day he had marked tuberculosis of his abdominal glands Mr Simpson strongly advocated gastro-enterostomy at the primary operation in all favourable cases where the ulcer was duodenal or close to the pylorus, and also that drains should be dispensed with in many cases

Mr A EVANS had read two papers on the above subject before the society, one in 1912 and the other in 1918 In the latter he had advocated a primary gastro-enterostomy in all cases of perforation in the duodenal or pyloric area, if the patient's condition would warrant it Apart from the remote benefit in such cases, he was assured that the addition of such a procedure materially influenced the patient's recovery, both as regards the rapidity of convalescence and actual reduction of mortality, elimination was more rapid, as the stomach and bowels could be more effectually and rapidly drained He had operated, in all on 53 cases 9 of these were treated by simple suture his mortality rate by this method was 26 per cent In 44 cases treated by closure of the perforation *plus* gastro-enterostomy his mortality rate was 19 per cent, with a recovery rate of 81 per cent As regards drainage of the abdomen, he looked upon complete closure of the abdomen as a very uncertain 'surgical gamble' it was impossible to forecast whether *complications would* ensue and he himself had lost one case from not doing so He strongly advocated draining the pelvis at least in any case operated on more than two hours after complete perforation

Mr FRANK JEANS, in at least half of his cases, had made the diagnosis before putting a hand on the abdomen It was based on (*a*) the fixed transverse crease above the umbilicus and (*b*) the reversed abdominal movements With regard to primary gastro-enterostomy at the time of perforation he thought those surgeons who always did it were wrong and those surgeons who never did it were wrong It was a question of judgement, and depended upon a rapid summation of three factors (1) the number of years' history of ulcer, (2) the number of hours since the patient had perforated, and (3) the number of minutes the particular surgeon required to do a gastro-enterostomy

Mr R KENNON had operated on 29 perforated gastric and duodenal ulcers in 28 cases with 4 deaths (14 per cent) In his first 17 cases he had experienced no deaths He had employed suture and drainage, with two exceptions In these two patients pyloric induration threatened difficulty in food exit, and so he had performed gastro-enterostomy in both, one of them being reported as very fit after two years He considered favourable reports of primary gastro-enterostomy were largely due to selection of cases

Dr EDMUND HUGHES read an interesting communication entitled 'An hypothesis of disease characters based on natural descent,' which he put forward as a possible basis for the investigation of seasonal and other phenomena in man The paper was discussed by Dr C O STALLYBRASS

INTRATHORACIC TUBERCULOSIS IN CHILDREN

AT a meeting of the Derby Medical Society held on April 10th with Mr KILVERT, President, in the chair, a paper was read by Dr JOHN A WATT on intrathoracic tuberculosis in children Dr Watt said it was now generally accepted that tuberculosis in adults developed from an infection in childhood and that all efforts at prevention should begin in childhood Investigations by the Royal Commission and others showed that human tubercle bacilli were almost constantly present in pulmonary and bronchial gland tuberculosis, indicating that the infection occurred from human sources The clinical features of intrathoracic tuberculosis were dealt with in three main forms—namely (i) general or infantile type (ii) hilum or juvenile type, (iii) adult type Tuberculosis in infancy showed a strong tendency to generalization and was most fatal at that age The bronchial glands were invariably involved and were usually the chief centres of the disease Progressive caseation occurred, then dissemination and miliary tuberculosis or meningitis was the termination The typical form in infants was acute miliary tuberculosis other varieties were tuberculous bronchitis and caseous pneumonia When school age began the disease passed into more latent and chronic forms, with a low death rate The common form was a benign and latent glandular infection contracted in infancy The primary lung focus gave rise to secondary infection of the thoracic glands but the disease might spread out into the parenchyma of the lungs This condition was known as hilus tuberculosis and by the French as "glandulo-pulmonaire The physical signs of hilus disease were discussed and most importance was attached to para-vertebral dullness altered breath sounds, and D Espine's whisper sign Radiography was invaluable, and the presence of tubercle bacilli clinched the diagnosis A case of open tuberculosis in a household had a sinister influence on young life Investigations showed that in such an event nearly all infants were infected in the first four years of life Hilus tuberculosis was usually a mild disease and nearly all cases recovered It might smoulder on for years, often unrecognized and there was weighty evidence accumulating that hilus tuberculosis in children might develop at adolescence into the adult type Adult types—apical, basal, or lobar—were not common before the age of 12 but increasingly frequent afterwards They were easily diagnosed, tubercle bacilli were usually present, and a radiograph showed the extent of the disease

Dr Watt tabulated 165 cases of intrathoracic tuberculosis admitted to the county sanatorium during the last four years There were 117 cases of hilus tuberculosis with one death, and 48 cases of adult forms with 18 deaths after an average period of three years In 50 per cent of the hilus cases and in nearly 80 per cent of the adult cases, tubercle bacilli were present, examination being made by the Ellerman and Erlandsen method

Reviews.

GOITRE

An English version of the French edition of the collected papers of Dr F DE QUERVAIN has been prepared by Dr SNOWMAN.[1] The author is professor of clinical surgery at the University of Berne, and the volume may be taken as summarizing the teaching of a school which has contributed much to our knowledge of the thyroid gland and its diseases. The first two chapters are concerned with the anatomy and function of the thyroid, which, it is contended, produces a number of secretions each with its own properties. The functions of the parathyroid are said to be "even more doubtful than those of the thyroid", next, the various theories as to the causes of goitre are briefly dealt with. The author considers himself justified in making the following statement "without fear of contradiction":

'Endemic goitre is a reaction of the thyroid gland, partially hyperplastic and partially neoplastic. It usually begins in intra-uterine life, and develops particularly during the second and third decade. This reaction occurs more frequently in the female than in the male, and is probably caused by auto-intoxication from the intestine. The introduction of iodine into the organism in physiological quantities is capable of arresting this reaction without doing any evident harm to the general economy of the organism.'

There are, as the author says, objections to the theory, "so plausible at first sight," that a deficiency of iodine in the food is the cause of goitre. Among these objections Professor de Quervain mentions "the striking variations in the state of the thyroid, from village to village, between one family and another, although the food conditions are identical." He concludes that the absence or presence of iodine cannot explain these variations. The objections raised to the use of iodine in prophylaxis—the danger of exciting hyperthyroidism or Graves's disease in the adult and the possible harmful effect of the drug on such organs as the mammary glands and the testes—are considered to be slight in comparison with the benefits resulting from its use. Nevertheless, the author concludes that "Science is not yet sufficiently advanced to institute a general campaign against goitre."

This view appears to be hardly justified by the facts, for it is established that contamination of water and food by faecal organisms has a profound influence in the causation of goitre, that intestinal antiseptics will cure a proportion of recent cases of goitre, that iodine will cure a like proportion, and, more significant still, that the simultaneous use of intestinal antiseptics and iodine greatly increases the proportion of cures that can be effected by the use of either alone. It is known, too, that a relative deficiency of iodine may be brought about by an excess of certain fats in the food. It may then be reasonably assumed that the assimilation or utilization of iodine by the organism or by the thyroid gland itself may be interfered with by certain conditions present in the gastro-intestinal tract of which a peculiar bacterial flora is the most important. But whether or not the assumption be correct, the facts, as at present known, provide sufficiently stable foundation on which prophylactic measures may be based. The proof of the pudding is in the eating, and prophylactic measures adopted on these lines have already met with much success. The incidence of goitre among school children can be greatly reduced by the prophylactic use of iodine, while the almost complete disappearance of endemic goitre has been brought about without any assimilation of iodine when a bacteriologically impure water supply has been replaced by a bacteriologically pure one. It is on these that science has sufficiently advanced to institute a general campaign against goitre, and that it is very desirable to undertake it, for it is by so doing that the inadequacy of our knowledge will be made manifest, and the steps in it filled. It is by recognizing the importance of the gastro-intestinal tract and the assimilation and utilization of iodine as influenced by the thyroid gland itself that [illegible]

The author rightly asserts that the term "goitre" embraces various modes of reaction of the thyroid gland, implying no doubt thereby that each reaction may have a different cause. He does not accept the view that cases of Graves's disease may be classified by the degree of toxicity of the goitre, as established principally by the respiratory exchange. He holds that "any biological classification would be premature at present when our views on the subject are so rudimentary." He contents himself with a classification based on histological features. The causes of the various states of thyroid activity are discussed, and the effect of goitre on the organism described. We are glad to see that the author is very sceptical about the diagnostic significance of lymphocytosis, which is frequently to be observed in goitre. He attributes more importance to the biological test that the venous blood of the goitre or the blood of the veins of the arm of certain goitrous individuals increases or does not affect the sensitiveness of the rat to deficiency of oxygen, according as the patient is the subject of Graves's disease, of simple goitre, or of hypothyroidism. Professor de Quervain discusses the relations between the histological form, the biological activity, the iodine content of the gland, and the clinical symptoms in different conditions of the thyroid.

For Professor de Quervain surgery is the true method of dealing with Graves's disease. "Physical calm and mental rest constitute the best non-operative means of reducing the basal metabolism." But he does not believe that "trust in physiology and philosophy" even combined with intestinal antiseptics and extract of hemp can replace a well conducted operation in a really serious and intractable case. This may be so. But surely it is by trust in physiology and philosophy, and by the more ardent study of the sciences of life and the causes or laws of phenomena, that we may hope to dissipate our ignorance of Graves's disease, and to arrive at a method of its cure less drastic than the sacrifice of an organ so intimately concerned with the regulation of metabolism. It is a curious comment on the present depths of our ignorance that the greater part of the first half of this book should be devoted to telling us how important the thyroid gland is to the organism, and the greater part of the other half to telling us how perfect is the surgical technique for its removal. It is no doubt a good thing to be able to remove the regulator when it no longer regulates, but it would be better to preserve it by restoring its function. Until modern medicine has found the means of doing so we must remain discontented with the best that surgery can do.

Those who are interested in the thyroid gland and its diseases will, when they peruse this notable addition to the literature of the subject, have reason to be grateful to its author and to his translator, who has done his work well. The volume is well illustrated, contains a fairly complete bibliography, and a convenient index.

R. MCCARRISON

THE PARATHYROID GLANDS

DR H. W. C. VINES, in *The Parathyroid Glands in Relation to Disease*,[2] has summarized and added to his interesting series of papers, but has not felt it necessary to go over all the extensive literature in relation to tetany. Not that this subject is left out of the account, and indeed it could not be in a work dealing with the relation of calcium metabolism and the parathyroid glands, which are believed to be its regulators, to the processes of disease in the body. It is in fact the investigation of tetany which has so stimulated research that the two functions at present ascribed to these glands—calcium regulation and detoxication of guanidine compounds—have been established. In the chapter on their physiology and pathology attention is drawn to the occurrence of parathyroid hyperplasia in rickets and chronic nephritis, in both of these disorders there is loss of calcium from the tissues—in the former by excretion, in the latter either by excretion or by immobilization of active calcium in calcareous deposit[illegible]

effort at compensation for the calcium deficiency, and is analogous to the simple parenchymatous goitre attributed to iodine deficiency

The observations leading to the hypothesis of a detoxicating function of the parathyroids as regards guanidine compounds are described but it is pointed out that there is not any evidence to show how this function is carried out or what, if any, relation it bears to calcium metabolism The pathological results ascribed to parathyroid deficiency are described in two chapters under the headings of convulsive disorders, such as tetany, eclampsia, paralysis agitans, epilepsy, spasmophilia, and the disorders without convulsive signs—namely, chronic sepsis and ulceration, alimentary and dental toxæmia, osteomalacia and rickets There is not sufficient evidence to relate paralysis agitans with any definite lesion of the parathyroids or to regard parathyroid treatment as a specific remedy for this disease or for epilepsy In the section on the disorders without convulsive signs ascribed to deficiency of the parathyroids the remarkable results obtained by the author and Dr Grove in ulceration and chronic infective processes are detailed and explained Hyperparathyroidism has not yet been proved to be a clinical entity Chapters on the pharmacology of parathyroid preparations and on the interrelations of the parathyroid and other endocrine glands complete this interesting and well written record of research

THE APOTHECARIES' PHYSIC GARDEN

DR F DAWTREY DREWITT's pleasantly written *Romance of the Apothecaries' Garden at Chelsea* which was reviewed in our columns (1922 vol ii, p 1269) when it originally came out, has rapidly and deservedly passed into a revised and enlarged edition[1] Sir Hans Sloane remains the attractive figure but new information has been incorporated about the visits of Linnæus and his pupils Kalm and J C Fabricius to the Chelsea Physic Garden including a letter from Gronovius proving that Linnæus was drawn to visit this country by his desire to see the Physic Garden Linnæus was cursed with the habit of expressing the high opinion he had of himself and thus though welcomed as a guest to the Physic Garden the bad impression he created made the subsequent proceedings rather frigid Kalm was taken to see Sir Hans Sloane then old, deaf in his 88th year and in bed but highly encouraging about his visitor's projected expedition to America Kalm's letter is perhaps worth quoting One and all looked upon this man with a particular interest because he was the oldest of all the learned men living whose names, on account of their writings and learnings are widely known' After alarms and delays Kalm carried through his mission to America and the news of his return to Sweden with an American wife and many new plants promptly cured Linnæus of an attack of gout Written with a light hand and full of charming touches this little book should be in the possession of every medical man with a taste for medical history and an interest in old or changing Chelsea Moreover, it contains more pages and three more plates and is a third cheaper than the original edition

ADMINISTRATION OF ANÆSTHETICS

IT IS some twelve years since the second edition of Dr H EDMUND G BOYLE's *Practical Anæsthetics* appeared and in the interval much work has been done from the practical, the theoretical, the physiological, and the pharmacological standpoint so that the appearance of a third edition[2] in which the author has had the collaboration of Dr C Langton Hewer is opportune A special chapter on blood pressure during anæsthesia excellently written and most informing has been contributed by Dr E I McKesson of Toledo, Ohio, who probably knows more about the subject than anyone else The physiology and pharmacology of the subject are cut down to a minimum, but practical questions are fully dealt with, and no fault can be found with the axioms enunciated—they are in no way extreme with regard either to apparatus or methods Perhaps a few words more might have been devoted to the description of Shipway's apparatus, which is dismissed in four lines and an illustration, while the only endotracheal apparatus figured is a bottle devised by Dr Hewer for the intratracheal administration of ethanesal, which it would appear does not in fact differ from other brands of anæsthetic ether The author is enthusiastic with regard to gas and oxygen, and no doubt with good reason, though there is another side to the picture, at any rate in America, where the method, once acclaimed, has recently suffered something like an eclipse, owing, probably, to unskilful application and unsuitable choice of cases, rather than to any inherent defects in the method itself

The book can be recommended to the student who desires to possess an easily read, concise handbook on the chief methods of producing anæsthesia, together with illustrations of the apparatus commonly employed

NOTES ON BOOKS

THE new number of *Brain* (vol xlvii, Part I) dated February but only just issued contains several interesting papers The place of honour is given to the presidential address delivered before the Neurological Section of the Royal Society of Medicine last October by Dr James Collier, it deals with cerebral diplegia This is followed by an article on the dissociation of voluntary and emotional innervation in facial paresis of central origin by Dr Monrad Krohn of Christiania To this succeeds a paper on the pathological anatomy of disseminated sclerosis by Dr C P Symonds (Guy's Hospital) embodying a general review of the present situation with some original observations There are papers also on electromyograms of voluntary movement and of experimental convulsions, and one on the sequelæ of encephalitis lethargica

The second edition of *Geriatrics*[3] has been revised by the author Dr MALFORD W THEWLIS, and chapters on electrotherapy opotherapy emphysema pruritus senilis and other subjects added Geriatrics is defined as including not only the treatment of senile diseases but also the care of the aged, the causes of ageing and measures which can be taken for prolonging life As we observed when reviewing the first edition the book contains a great deal of information, and is one which the general practitioner will be glad to consult, as it contains many useful hints

Mr H F WITHERBY'S *Check List of British Birds*[4] provides a list of all the 496 birds that are known with certainty to have been procured in the British Islands and is taken from the *Practical Handbook of British Birds*, of which an account appeared recently in our columns. The scientific name of each individual bird is given in trinomial, followed by its English name while opposite under the heading of Status, occur such brief remarks as occasional winter visitor, chiefly o England or as in the case of the cirl bunting, Resident breeds local England Wales very rare vagrant, Scotland Ireland The list opens with the genus Corvus, under the appropriate order and family and ends with the red legged partridge This check list will prove useful to the working naturalist for labelling and for rapid reference, while on the blank page opposite each printed one there is space for notes to be written Many field naturalists and sportsmen will find this check list useful for noting down any rare bird seen or the date of arrival of a migrant or notes on unusual breeding localities etc. There has been a need for such a check list as this for some time and Mr Witherby is to be congratulated on supplying a well printed concise, and handy volume

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[1] *The Romance of the Apothecaries Garden at Chelsea* By F Dawtrey Drewitt M D F R C P Second edition London Chapman and Dodd. 1924 (Cr 8vo pp xii + 136 15 plates 5s.)

[2] *Practical Anæsthetics* By H Edmund G Boyle O B E (Mil) M R C S Eng L R C P Lond and C Langton Hewer M B B S Lond M R C S Eng L R C P Lond Third edition Oxford Medical Publications London Henry Frowde and Hodder and Stoughton 1923. (Cr 8vo pp viii + 195 figures 6s 6d. net.)

[3] London Macmillan and Co New York The Macmillan Company Price 6s Yearly subscription 24s

[4] *Geriatrics A Treatise on the Prevention and Treatment of Diseases of Old Age and the Care of the Aged* By Malford W Thewlis M D Second edition revised and enlarged London H K Lewis 1924. (Med 8vo pp 401 24 figures 15s. net.)

[4] *A Check List of British Birds* With a short account of the status of each compiled from *A Practical Handbook of British Birds* By H F Witherby M B E F Z S M B O U London H F and G. Witherby 1924 (Demy 8vo pp. 78. 3s 6d. net.)

TUBERCULOSIS OF THE LARYNX

SIR STCLAIR THOMSON'S REPORT

A report entitled *Tuberculosis of the Larynx*, by Sir StClair Thomson has been issued by the Medical Research Council[1]

Tuberculosis of the larynx is the most common chronic affection of the larynx and one of the most serious diseases of the throat Sir StClair Thomson estimates that in each year over 55 000 persons in England are suffering from tuberculosis laryngitis About twenty-five years ago some laryngologists discussed the question whether or not it was worth while to treat patients afflicted with tuberculosis of the larynx At that time the disease was much more common than it is to-day John Nolan Mackenzie, of Baltimore writing of the work seen at the Throat Hospital, Golden Square, in 1879, says "Amongst our most frequent visitors to the clinic were cases of tuberculosis of the larynx they came by the hundreds" These cases were looked upon as quite hopeless Morell Mackenzie wrote, in 1880 "The prognosis of laryngeal phthisis is always extremely unfavourable and it is not certain that any cases ever recover" In 1908, at the International Congress of Laryngology in Vienna it was stated "The cure of tuberculosis of the larynx is still to-day an exception"

From the hopeless outlook of a comparatively few years ago there has been to-day a reaction which is as harmful in its unjustifiable optimism A recent writer has stated that it is now universally admitted that tuberculosis of the larynx is a comparatively benign disease which is nearly always automatically arrested when the original pulmonary disease becomes quiescent" Such a statement, Sir StClair Thomson points out, can be controverted by the reports of any tuberculosis sanatorium Indeed, it may be laid down that next to invasion of the meninges a lesion in the larynx is the most dangerous manifestation of tuberculosis Sir StClair Thomson says that of those cases of laryngeal tuberculosis many of them in an early stage, which he saw between 1911 and 1921 at the Midhurst Sanatorium 70 5 per cent are already dead In view, therefore, of the modern conception of tuberculosis as a whole and the alteration of scene and circumstance in which it is now investigated and treated there is need for a revised view of the whole problem, and the publication of the present report is opportune

Sir William Milligan suggested not long ago in our columns that the physician who to-day is unable to use the laryngoscope and to interpret the clinical features brought under his very eye is like the captain of a ship without his chart That is perhaps rather an extreme statement but certainly laryngology is playing an increasingly important part in relation to general medicine, and a knowledge of the appearance of the interior of the larynx has a great value in the diagnosis of many [illegible] both local and general Laryngoscopic examination in every suspected case of pulmonary [illegible] a periodical inspection in all chronic [illegible]

Frequency

[illegible] of sanatorium treatment in recent [illegible] opportunities for the continuous study [illegible] larynx at a much earlier stage of the [illegible] greatly more favourable conditions than [illegible] One of the most valuable gains of [illegible] in a sanatorium is the field afforded [illegible] the early cases of tuberculosis of the [illegible] the actual invasion of the larynx [illegible] the advantage over a hospital and [illegible] that it offers the opportunity for [illegible] after history of nearly every patient and [illegible] the frequency of tuberculosis of the larynx [illegible]

Sir StClair Thomson says that during the thirteen years since he was appointed laryngologist to the King Edward VII Sanatorium, Midhurst, he has examined the larynx of every patient admitted, with the exception of a small number whose sojourn was much below the usual minimum period Whether there were any symptoms referable to the throat or not, each patient on admission was submitted to a careful examination of the larynx, pharynx, and nose Those with a local lesion, or even with a doubtful or suspicious symptom, were subsequently examined by him once a month, while the others, passed as normal on admission, were encouraged to report for examination if they suffered any local symptoms The subsequent history of every patient was traced by an annual inquiry

As the sanatorium at Midhurst is intended for those who can pay something for their board and treatment, but not for those who can afford private institutions, the patients belonged neither to the wealthy class nor to the manual workers They were largely composed, both males and females, of clerks, typists, school-teachers, post-office and bank employees, with a sprinkling of clergymen, doctors, officers, and their families

During the ten years from July 1st, 1911, to June 30th, 1921, the larynges of 2,541 patients were examined, tuberculosis was found in the larynx in 477, or 18 77 per cent, the ratio in the two sexes was almost exactly the same—namely, 18 50 per cent in men and 19 11 per cent in women

Other workers have found a much higher proportion of cases of tuberculosis of the larynx among advanced cases of pulmonary tuberculosis Thus, Pottenger found that 50 per cent of advanced cases of pulmonary tuberculosis showed some invasion of the larynx, Percy Kidd found in the *post-mortem* room at the Brompton Hospital that the larynx was affected in 50 per cent of all cases, and Hartley, in the same institution, found the proportion of laryngeal cases to be 52 6 per cent It may be suggested, therefore, that Sir StClair Thomson must have had to deal with comparatively early cases during those ten years at Midhurst On comparing his statistics published in another inquiry nine years ago with those now published, he makes the definite suggestion that laryngeal tuberculosis appears to be becoming less frequent, although he points out that this will have to be verified over a longer period and by other observers This suggestion agrees with what is already known of the waning frequency and virulence of tuberculosis in general

The frequency with which the larynx is invaded by tuberculosis increases, as is well known, with the progress of the pulmonary disease Adopting the Turban Gerhardt classification, with three groups, Sir StClair Thomson finds that of 636 patients in Group I the larynx was invaded in 31 instances, or 4 87 per cent in 1,169 patients in Group II the proportion of laryngeal cases increased to 214, or 18 3 per cent, and in Group III in 736 patients the proportion of laryngeal cases was nearly double—232, or 31 52 per cent The lesson of these figures is obviously that to avoid tuberculosis of the larynx pulmonary cases must be recognized early and treated promptly

Region of Larynx Affected

As regards the region of the larynx attacked, it has hitherto generally been thought that, while syphilis may attack any part of the larynx, cancer and tubercle are met with much more commonly round the posterior segment of the glottis than in the anterior part Sir StClair Thomson showed a few years ago (BRITISH MEDICAL JOURNAL, 1921, vol i, p 921) that as regards intrinsic cancer of the larynx this is in error, and that cancer is more prone to attack the middle or anterior third of the vocal cords As regards tuberculosis, however, by careful record and tabulation of the 477 laryngeal cases he confirms the already established view, the interarytenoid area was invaded in 231 cases, the arytenoids in 117 and the vocal processes in 132, in other words, the posterior glottic area showed 480 lesions—the figures are of local lesions not of cases, several areas on both sides being often invaded

It is pointed out that a persistent laryngeal catarrh may be the forerunner of definite tubercle, and such cases should be kept under observation thus one patient on admission showed only a little velvetiness over one vocal process, and

two months elapsed before this developed into a definite pinkish ulcerating deposit Tilley has pointed out that many of the early and milder symptoms of tuberculosis of the larynx, such as voice fatigue, frequently occurring attacks of aphonia, vague feelings of discomfort, and irritation, may be due to the presence of the bacilli in the tissues, and such symptoms should always be regarded with suspicion when they occur in a patient with established signs of tuberculosis The observations of Sir StClair Thomson tend to prove that the neighbourhood of the posterior commissure of the larynx must be carefully scrutinized for the earliest symptoms of tuberculosis The surface of the interarytenoid region is, in the majority of cases, the favourite site, and even the smallest irregularity, or the slightest abrasion there, should raise suspicion and demand minute and repeated examination Even when the disease invades or is most marked in the anterior section of the larynx, there is frequently some change in the interarytenoid region It is important to recognize the laryngeal catarrh which is not uncommon in a patient with pulmonary tuberculosis for unless the possibility of this local catarrh being secondary to a pulmonary lesion is not kept in mind a true diagnosis may not be made and valuable time wasted with merely local treatment When the lesions in the larynx are no longer limited to the interarytenoid region and the vocal cords the case ceases to be an early one a description of the advanced conditions can be found in most of the works on the subject written in pre-sanatorium days, and such cases are held to be unsuitable for sanatorium treatment

Sir StClair Thomson points out that although in many cases the appearance of the larynx is, to the trained eye characteristic, in some quite early cases there may be many difficulties in diagnosis When the confirmatory signs fail a diagnosis of a tuberculous lesion may be strengthened by employing methods or tests such as the Wassermann reaction, which assist in excluding any other possible etiological factor The chief difficulties of diagnosis arise when all confirmatory indications fail and when the lesion is limited to one vocal cord Sir StClair Thomson suggests that in most of these cases careful watching and repeated examinations will generally settle the diagnosis while some delay will do little or no harm—certainly not so much harm as a precipitate and possibly unsatisfactory attempt to secure a suitable portion of the diseased larynx for microscopic examination

Prognosis

The prognosis in pulmonary tuberculosis is as is well known, difficult, and on occasion surprisingly wrong It is still more difficult when the larynx is invaded for then in addition to other general consideration the extent and character of the lesion in both the chest and throat have to be considered compared and judged separately and in combination Sir StClair Thomson's opinion is that the prognosis depends on (*a*) the pulmonary condition (*b*) the general reaction, (*c*) the site of the laryngeal lesion and (*d*) its extent and type As regards (*a*) and (*b*) there must also be considered the previous history the family history, any underlying disease, such as syphilis or malaria, the age and the mentality of the patient Other factors are early diagnosis, prompt treatment and the economic possibility of prolonged treatment and after-care

As regards the duration of life with unhealed tuberculosis of the larynx, Morell Mackenzie stated some fifty years ago that very few patients lived more than two years and a half, and very few died before six months Since the introduction of sanatorium treatment the span of existence even with an unhealed lesion in the larynx has been very much increased Sir StClair Thomson quotes the case of a man treated by the application of lactic acid and the galvano-cautery who has had tuberculous disease of the larynx for fourteen years and although it is still unhealed, he is to-day carrying on his occupation as a post-office clerk there is little doubt that had this patient been kept under prolonged treatment at first the larynx would have entirely healed It is cases like this with a natural tendency to endurance (Sir StClair Thomson observes) that often find their way into the records of brilliant results claimed for some new method of treatment

Treatment

The effects on a diseased larynx of the sanatorium life are remarkable As Sir StClair Thomson says, those who can recall the appearance of tuberculous laryngitis in an out-patient clinic twenty five years ago, and the hopeless efforts to ameliorate them, must be struck by the improvement, up to a certain point, which is wrought simply by the sanatorium principles of unvitiated air, regular rest and exercise, abundant and suitable food, and constant medical supervision To these may be added when the larynx is involved the cessation of tobacco and alcohol diminution or absence of use of the voice and the control of useless cough Sir StClair Thomson says that he has no customary or regulation sprays, insufflations injections, inhalations, or paints for tuberculous laryngitis In the uncontaminated air the larynx becomes so clean under the general conditions that these local measures are seldom called for and might be injurious The local measures which he employs are only used for the treatment of symptoms, the chief of which is cough

The treatment of laryngeal tuberculosis must be based on the assumption that it is but a complication of the original tuberculosis in the chest In addition however to the systematic treatment of an open air sanatorium there are three special methods—namely, (*a*) silence, (*b*) whispers, and (*c*) the galvano-cautery As is well known, Sir StClair Thomson was one of the first to point out the therapeutic value of voice rest This method is strongly indicated in all recent and acute cases of laryngeal tuberculosis, chronic and old standing cases even when limited to the margins of the glottis appear to do as well under whispers Sir StClair Thomson states that he has seldom prescribed silence for more than six months for if not healed by that time the case is not going to clear up straight away, and if other conditions are favourable the use of the galvano-cautery then promises a speedier cure In the 67 patients for whom strict silence was prescribed by Sir StClair Thomson the following results were obtained 23 or 34 3 per cent, were cured 1 was much improved 19 were improved 16 left the sanatorium *in statu quo* and 8 were worse The 23 cures were obtained in a total of 477 laryngeal cases, a proportion of 4 8 per cent

Of the 477 cases 336 had no special treatment beyond being required to speak only in whispers This alone led to a cure in 50 cases or an average of 14 8 per cent, 12 were much improved 84 were improved, no benefit was obtained in 168 and in 22 local conditions became worse It was of course for the more advanced and less hopeful type of case that whispering was prescribed

Sir StClair Thomson employs a cautery with a fairly sharp-pointed platinum tip the object being to penetrate swiftly through the margin of the diseased area so as speedily to reach the deeper healthier area The object is not, as is often thought to burn away the diseased tissue but to stimulate inflammatory and limiting fibrosis in the circumambient healthy area Of the 477 cases in whom tuberculosis was found in the larynx during ten years, 74 were thought to be suitable for treatment by the galvano-cautery and a cure was obtained in 46 cases, in addition 3 were much improved and 22 improved while in no single case was the local condition aggravated by the treatment

To sum up the results of Sir StClair Thomson's methods of treatment at Midhurst of the 477 cases of laryngeal tuberculosis 23 recovered with strict silence 50 on whispers and 46 were arrested by the galvano-cautery This gives a total of 119 cures or 24 9 per cent from all three methods combined which compared with previous records is a result which must be very encouraging As half the cures were obtained without local medication or any specific treatment it may be hoped that new therapeutic measures may soon be forthcoming to stimulate further this tendency to spontaneous healing under hygienic conditions In the past work of much scientific and clinical value in the realm of laryngology has been done by the combined efforts of physicians surgeons and laryngologists The brighter future for sufferers from tuberculosis of the larynx revealed in this masterly report by Sir StClair Thomson on a disease which in the not far distant past has been looked upon as hopeless may well act as a stimulus to such efforts

British Medical Journal.

SATURDAY, MAY 3RD, 1924

STOCK-TAKING IN MEDICAL EDUCATION

In 1910 Mr Abraham Flexner presented to the Carnegie Foundation for the Advancement of Teaching a report on the medical schools and teaching in the United States of America and Canada, and two years later supplemented this by a general survey of medical education in Europe The reports of the Royal Commission on University Education in London in 1911-12, and, after the interruption of the war, two reports by Sir George Newman,[1] have shown that those interested in medical education in this country have a lively sense of their responsibilities, further, that the grass has not been allowed to grow under their feet is proved by the establishment, with the aid of the Universities Grants Commission, of university clinics, or professorial units, in some of the teaching schools These clinical units are still young in years, but in his second report, completed a year ago, Sir George Newman wrote, " No one who knew intimately the formal clinical teaching which was provided in England a decade ago, in addition to that given in the ward, can be in any doubt as to the expansion and improvement which has recently taken place in the medical schools possessing clinics of university standard "

At the annual Congress on Medical Education held at Chicago on March 3rd, 1924, Mr Abraham Flexner read a paper,[2] which was followed by contributions from Dr N P Colwell, secretary of the Council on Medical Education of the American Medical Association, Professor Harvey Cushing of Harvard, and the Rev Dr E D Burton, President of the University of Chicago About two and a half years ago Mr Abraham Flexner began a fresh review of the entire field on which he had previously reported, and at the Congress he briefly compared the conditions as he found them in 1909 12 with those existing at the present time His impressions, like his two famous reports, may be divided into those dealing with America and those concerning Europe We may first quote his opinion about British medicine, especially as his evidence before the Royal Commission on University Education in London brought the problem of the whole time clinical teacher with an adequate unit into special prominence While stating that general conditions remain much as before, he notes two innovations which are both likely in the long run to remedy the excessively practical character of medical education in Great Britain " He considers that while time academic teachers of the professorial units who are expected also to be productive medical scientists are insufficiently provided with funds and staff but holds out the hope that if these deficiencies can be made good this simple beginning may very well lead to a development of clinical teaching in Great Britain comparable with that which has taken place in the United States Later on Mr Flexner adds, Great Britain possesses the germ of a few medical and surgical clinics in the London and Cardiff units, and a pediatric clinic at Glasgow, but a fully developed university clinic, such as is seen in Germany, Switzerland, Austria, Denmark, and Sweden, does not exist in Great Britain " The other noteworthy advance in this country is, of course, the Medical Research Council, which is described as ' fine combing " the country for young men fit to hold research fellowships for one, two, or three years, who, as they become teachers in medical schools, will " undoubtedly modify the prevailing too practical and short sighted point of view "

So far Mr Abraham Flexner it must be very comfortable to hold opinions so strongly and to be so absolutely sure that they are right It has, however, to be remembered that Mr Flexner is acquainted with the aim of the medical curriculum and with the practical difficulties which have to be overcome only as an outside observer, he seems to have started with certain academic preconceptions which he has grown to look on as axioms There is another side to the matter which he persistently ignores—namely, that medical education has a practical purpose, which is the making of practitioners of medicine To this aspect of the matter Professor Harvey Cushing very wisely and temperately called attention He laid stress, though without any expressed reference to the characteristics of British teaching, on the importance of cultivating the art as well as the science of medicine, and declared that students could not begin their course too early in terms of the patient, nor too early interpret and record what they can see, hear, and touch at the bedside, adding that grave mistakes in practice would be less frequent if there were a little more of the art and less of the laboratory science In giving a graphic example of how an overtrained laboratory instinct may lead to obvious error, he incidentally defined what is called " group medicine ' as a form of practice which lends itself to the making of an unnecessary number of expensive and useless routine tests By his cautious suggestion that during the two pre clinical years students should be brought for a short time each morning in contact with patients so as to illustrate what they will be taught later in the day from a different aspect in the laboratory, Professor Cushing again comes into opposition with Mr Flexner, whose view is that, though laboratory and clinical subjects must be interwoven, this process must operate mainly in the clinical years, when the student knows some anatomy and physiology, not in laboratory years, when he knows neither Professor Cushing believes that for the 95 per cent of students who will have to earn their living by ordinary practice this method of making the patient the central idea from the start will not only bring them into the wards with their five senses more active, but it will both attract them to work at laboratory problems and make them more patient in their purely pre clinical studies

On the American schools Mr Abraham Flexner's report of 1910 had, as is well recognized, a most salutary influence, there were then some 150 schools, of which about half have now disappeared He is convinced that no nation has within the last ten or twelve years made such progress in the organization, improvement, and financing of medical education as the United States But he fully realizes that there is a great deal left to be accomplished, while the laboratory subjects are almost universally taught by whole-time teachers the conditions on the clinical side are not, in his view, so satisfactory, for the busy practitioner is still, in most schools, the teacher Then, whereas in Europe there is a fairly general uniformity between the medical institutions in each country, in

[1] *Report on Medical Education in England* (1918 11 129 price 5d) and *Report on the recent Medical Education in England* (1923 price 1s 6d) London H M Stationery Office (to be obtained through any bookseller)

[2] *Journal American Medical Association* 1924 lxxxii 833 et seq

America this does not hold good thus, among the medical schools graded by the American Medical Association as Class A, the differences between the best and the worst, though both categories have improved are as great as they were fifteen years ago Class A is at present very large, containing seventy schools and as the clinical side is the weak spot Mr Flexner suggests that a new classification should be made on the basis of clinical efficiency While in the best schools the conditions for teaching and research are he considers probably unrivalled, there are only about half a dozen of them in the remaining schools the clinical teaching has been partly professionalized in some, hardly at all in some, and not at all in the rest Thus clinical teaching continues to a considerable though varying extent to be an incident in a busy practitioner's life but the teacher requires leisure to read and to research, and the two callings are described as being at war It a clinic be conceived as containing a hundred beds with laboratories for teaching and research and a staff chosen by the university unconditionally for competence and if such clinics in medicine, surgery pediatrics, and obstetrics be indispensable for a Class A school a new classification of the medical schools in America would take place spontaneously, but the attainment of this ideal must not he admits, be unduly hurried It is important that the laboratories and the hospitals should be in close contact, so as to avoid the disadvantages of a split school and that there should be the same intimate connexion between the entire medical school and the university Although the number of candidates for entry each school accepts is now limited—an example set by the Johns Hopkins school in 1912—Dr Colwell states that the total has gone up by 1 000 a year since 1919, the estimate for 1923 24 being 17 808

Graduate medical education is attracting much attention in America, and since 1916 the Council of Medical Education has made three inspections of the existing schools last year fifteen out of thirty five were approved and since then improvements made in seven more have justified their inclusion It is obvious that the Council of Medical Education exerts a wholesome and stimulating influence on the difficult problems of graduate education and it is to be hoped that further reports on the subject will be forthcoming in future years

THE BUDGET

THE first budget of a British Labour Government could not fail to be of more than usual interest and is particularly so in view of the special circumstances of the present time Two or three years ago budgets were sometimes referred to as transitional as if a few years might suffice to bridge the deep chasm between the swollen figures of the war period and the hoped for return to figures of something like pre war dimensions To day we realize in the light of fuller experience that the hope of German indemnities has receded into at least the middle distance and that the return to pre war figures is not a bridge over a narrow chasm but a long and toilsome road to be traversed not without dust and heat Herein lies the interest of the situation to-day, for though the general direction of that road may be settled the various political parties have divergent views as to the exact line it should take—in other words assuming economy and saving to be the guiding principles it is possible to follow them in somewhat different ways and the question that has been in men's minds during the past few days has been to what extent the Labour Government would break away from the line marked out by past budgets and strike off in a direction more attractive to their own followers The importance of this question is greater than the financial effect on the various classes of the community great as that undoubtedly is It may safely be said that the chief difficulty under which industry generally has laboured since the armistice can be summed up in one word—uncertainty If plans for the future are liable to derangement through fluctuation in general price levels, sudden increases in taxation, or similar changes in factors ordinarily steady, then confidence is lost, and the stimulus to enterprise as distinct from unproductive speculation, is weakened The mere introduction by the present Government of a budget which would have notably relieved one section of the community and simultaneously added to the burdens of another class would undoubtedly have had serious consequences, and any considerable departure from the policy of debt repayment would have disturbed the present tendency to stabilization in prices Rumours that such a budget might be anticipated were not lacking we imagine that few will be sorry that those rumours have in the main proved unfounded

One of the most striking features of post-war budgets has been the large amount of the realized surpluses that for the past fiscal year was £48,329 000—a gigantic sum but less than half the corresponding amount for 1922 23 It is interesting to note that Mr Snowden who inherited this surplus from his predecessor does not think that these large surpluses have been deliberately desired he attributes them to the difficulties of estimating Government income and expenditure caused by the dislocation of economic and social conditions due to the war An additional reason may be that in framing estimates of income or expenditure the various departments are desirous of keeping on the safe side Whatever may be the origin of these surpluses they have made possible an extraordinary amount of debt to be paid off for—in conjunction with sums estimated for and paid over to the various sinking funds—they have enabled a reduction of over £650 000 000 to be effected in the total internal and external debt since December 1919 an amount approximately equal to the whole National Debt as it stood at the outbreak of war

It is sometimes argued that in a perfect world estimates would always prove correct and therefore in theory there should be no realized surpluses but the amount which the nation could afford to spend in repayment of debt should be predetermined and allowed for in the estimates But it is tolerably certain that the House of Commons would not knowingly have voted for the repayment of debt taxation sufficient to produce so large a sum and our legitimate pride in a remarkable achievement must be tempered by the knowledge that it has exceeded the intentions of Parliament This aspect of the budget deserves emphasis because it is and must for many years remain the dominant factor in the fiscal situation economy is a weapon which no Chancellor of the Exchequer can afford to lay aside but it is becoming increasingly clear that it is upon a reduction of the interest charge, now over £340 000 000 that the hopes of reductions in taxation mainly depend That these hopes are not without solid foundation is shown by the fact that £150 000 000 of the 5 per cent War Loan have already been converted into securities

bearing a somewhat lower rate of interest, and it is reassuring to note that Mr Snowden has adopted the figure of £45,000,000 which Mr Baldwin suggested last year would be a reasonable amount to provide in 1924 for the Sinking Fund

Turning to the detailed proposals for the present year, it is clear that the Chancellor has the interests of the indirect taxpayer very much at heart, as indeed was to be fully expected in a Labour Government, and the tax reductions revive old hopes for a "free breakfast table", the sugar reduction of 1½d a pound is rather less than was generally anticipated, but the reduction of the 8d a pound tax on tea by one-half, and similar proportional reductions in the cocoa, coffee, and chicory duties, should provide consolation to most private consumers, and afford appreciable relief to those who maintain large indoor establishments The extra duty on dried fruits is to lapse on August 1st, and the duty on sweetened table waters is to be abolished A good deal of speculation had been focused upon what are generally called the McKenna duties, which were imposed to assist British producers of certain articles—notably motor cars The decision reached by the Government is to renew these duties until August 1st only, after which date manufacturers are to be left to do as best they can without the special assistance that they now enjoy It is clear that this is the feature of the budget which will be most hotly debated, but the Government can apparently count on effective support from the Liberal party which is, speaking generally, pledged to the abolition of these duties The abolition of the entertainments tax as applied to low priced seats and its reduction in the case of those of rather higher price, follows the line which was anticipated

Turning to the direct taxes, income tax is left unchanged except for the insertion into an already complicated code of an allowance in respect of a housekeeper to a widower with children Super tax is unchanged One of the few surprises of the budget is the repeal of the inhabited house duty This duty has an interesting history, but its obsequies will be attended by few mourners for the amount it brings into the Exchequer is out of proportion to the expense of collecting it and the trouble it gives to the taxpayer Incidentally seeing that this tax was graduated from 3d to 9d in the pound according to the size and purpose of the premises charged, the well-to do classes in this case receive greater relief than others We may perhaps hazard the guess that this duty would have been abolished earlier had it not been that it did not apply to Ireland and could not then have been collected without disturbing the fiscal balance between the two countries

The corporation profits tax is to be repealed as regards profits arising after June 30th 1924, a change which will relieve ordinary shareholders of a burden which has proved to be unfair in its incidence, but which will apparently not affect the Exchequer receipts very materially in the present financial year A reduction in postal rates had been hoped for but hardly expected the standard rate of 1½d for letters has not been reduced but the Chancellor announced some welcome modifications of telephone rates, and some small concessions in connexion with postal charges are to be announced later

In general the budget has been constructed with obvious skill It satisfies the primary requisite of avoiding fresh taxation and distributes the relief it affords in various classes of taxpayers It has no particular appeal to the professional man who welcomes the repeal of the inhabited house duty and the reduction in the tea and sugar duties, but would prefer above all things a further reduction in the income tax, either through a fall in the standard rate or through an increase in the rate of relief to earned incomes Medical men will appreciate the change effected in the motor licence regulations, under which the surcharge on quarterly licences is to be reduced from 20 per cent to 10 per cent, and relief given on the surrender of an unexpired licence The budget will appeal most strongly to the industrial classes and to the exponents of sound finance as applied to debt repayment, but the nation as a whole may regard it with satisfaction, for it shows that the policy of an extreme party can be made compatible with that exercise of shrewdness, foresight, and fairness which we have come to look upon as the characteristic of a British Chancellor of the Exchequer

AMBROSE PARRY

NEITHER Ambrose Parry nor his contemporaries seem to have felt any prejudice about the way his name should be spelt Ambroise, Ambrose, and Ambrosius all occur, and as Ambrose is the well established English form of what was a common English name, and as he was a man of world-wide reputation whose writings were early translated into our language, we may perhaps adhere to "Ambrose," though it might be rash to abandon "Pare," in spite of the fact that his translator had no hesitation in using plain Parry No textbook of surgery, no retrospective address on the art, would be thought complete without some mention of him, but comparatively few have read his writings, even in the English translation of Thomas Johnson (1634), which seems to be the least inaccessible Out of it Mrs Singer has made a judicious selection to form one of the volumes of the Medical Classics Series[1] her husband is editing She has supplied a biographical introduction and some useful explanatory and bibliographical notes The greenness of Pare's memory is due, perhaps, almost as much to his character as to his skill or originality as a surgeon He was shrewd and kindly, the combination is shown in his early observation, made when he was about 26, that it was not necessary to pour boiling oil into gunshot wounds The opinion of the day was that such wounds were poisoned at the moment of their infliction, but whether by the gunpowder or the lead was disputed Mrs Singer gives the whole discourse, in which Pare himself relates his accidental observation that men whose gunshot wounds had to be dressed with "a digestive made of the yolke of an egg, oyle of Roses and Turpentine" suffered less than the others dressed before the boiling oil ran out Pare's kindliness was shown in the anxiety these patients caused him "I could not sleep all that night, for I was troubled in minde, and the dressing of the precedent day (which I judged unfit) troubled my thoughts, and I feared that the next day I should finde them dead, or at the point of death by the poyson of the wound, whom I had not dressed with the scalding oyle Therefore I rose early in the morning, I visited my patients, and beyond expectation, I found such as I had dressed with a digestive onely, free from vehemencie of paine to have had good rest, and that their wounds were not inflamed, nor tumifyed, but on the contrary the others that were burnt with the scalding oyle were feaverish, tormented with much paine, and the parts about their wounds were swolne" The oil used was "oyle of Elders scalding hot, with a little treacle mixed therewith"

[1] *Selections from the Works of Ambroise Pare.* With short biography and explanatory and bibliographical notes By Dorothea Waley Singer Medical Classics Series London John Bale Sons and Danielsson Ltd 1924 (Crown 8vo pp ix + 245 Price 12s 6d net)

The treacle was one of the preparations called theriaca, of very various but always complicated composition, designed as antidotes especially, it would seem, to animal poisons, as of snakes (θηρ wild animal θηριακος, pertaining to a wild animal or reptile) His shrewdness is shown by his immediately drawing the conclusion that "the difficulty of curing proceeds not from the venenate quality of the wounds, nor the combustion made by the Gunpowder, but the toulenesse of the patients bodies, and the unseasonablenesse of the aire" He observed that a flesh wound, the bone being not hurt or touched, healed well, the dangerous and tedious nature of bullet wounds was 'where the bullet meets with bones and nervous particles both because it teares and rends into small peces those which resist, not onely where it touches, but farther also through the violence of the blow" Towards the end of his life he came, Mrs Singer tells us, to regard pure spring water as the best dressing for wounds, thus getting somewhere near the practice of Syme It is perhaps true to say that Paro was distinguished rather by the independence than the originality of his mind He did not establish any great new principle, but he refused to accept any opinion merely because it was current and had high authority In the instance quoted he showed himself ready while still young and unknown, to abandon and very courageously to combat a rule which he had found contrary to his own observations, all through his long and active life, and with increasing confidence as time went on he learnt to rely on the facts of nature as he saw and observed them In this he was among the great spirits of his time, the time when the genius of Francis Bacon was slowly maturing his new instrument or method to guide scientific investigation The *Novum Organum* was published in 1620 when Bacon was 59 and Paro had been thirty years in his grave

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THE DEVELOPMENT OF MENTAL HEALTH WORK IN SOUTH AFRICA

SINCE the Union of South Africa was formed in 1910 a great deal has been done to consolidate the mental medical service and to expand and define its duties Before that event each capital had its own mental hospital, and there were five hospitals in Cape Colony, and one each in Natal, the Transvaal, and the Orange Free State Afterwards an inspector of mental hospitals was appointed in the Department of the Interior, and this led to a movement to extend the work of the medical staff to include prevention It was realized that, as in other countries, there were many persons mentally handicapped who ought to be found and treated as early as possible Each mental hospital in South Africa has now become the centre of mental hygiene work for its own area Their activities are co-ordinated in the Department of Mental Hygiene under a medical commissioner, who was appointed in accordance with the provisions of the Mental Disorders Act of 1916, which consolidated the laws of the various provinces and brought legislation for mentally disordered or defective persons up to date One of the first steps was to ascertain the proportion of mentally defective or maladjusted children attending primary schools, or being taught in orphanages, industrial schools, or similar institutions The commissioner under the Act (Dr J T Dunston) was appointed consulting psychiatrist to the Education Department of the Union and of the Province of the Transvaal later on the physician superintendent of the Pietermaritzburg Mental Hospital was appointed consulting psychiatrist to the Education Department of Natal, and the institution of similar appointments in other provinces has been approved These officers, or deputed assistant physicians of the Mental Hygiene Service, are available to assist the Education Department or teachers with advice, and have made complete mental surveys in several schools The Government of the Union of South Africa is now about to appoint a number of assistant physicians for the Union Mental Hospital Service whose duties will be of a varied character The intention is, for instance, that a psychiatrist in the department shall be available in the Juvenile Court to examine young offenders and advise the magistrate as to their treatment The psychiatric department of the mental hospital is the centre for work, and its staff in addition to children's courts, will be available to advise the authorities responsible for the administration of prisons, rescue homes, primary schools, industrial schools, orphanages, and similar institutions, and in matters affecting the relief of the poor They will also be available to serve as consultants in the out patient clinics of general hospitals, in university teaching and for research The courts of law in South Africa generally recognize that evidence regarding the mentality of an accused person requires the assistance of a specialist, and the department places a psychiatrist at the disposal of the court whenever asked to do so In special and important cases provision is made that the commissioner or other senior officer may sit with the court as assessor For the better treatment of adults who prove antisocial from mental causes the commissioner has been appointed consulting psychiatrist to the Union Prisons Department A complete survey has been made in certain prisons and reformatories into the mental state of the prisoners, and special reports as to the action which can be taken have been made The Minister of the Interior has licensed nearly all the rescue homes in the country so that they may detain such inmates as may be found to be mentally defective, and physicians from the department are appointed to examine all girls admitted to such homes Out-patient clinics have been established by the Mental Hygiene Department in connexion with certain general and mental hospitals, and the work of these clinics has grown very considerably It may thus be said that in South Africa the external work done for the community by the medical mental staff is even more important than that done in the mental hospitals, and this external work is even more interesting to the physicians on the staff than when their duties are confined to treatment in institutions It may be added that the University of Witwatersrand which grants a degree in medicine, has fully recognized the importance of psychological medicine in general practice A six months' course of general psychology is given in the fourth year A full year's course in general psychiatry including all its social implications, is given in the fifth year and another full year's course in clinical psychiatry in the sixth year In the final examination for the M B a whole paper is set on psychological medicine and there is also an oral examination No student can qualify unless he has passed in this subject The senior officers of the medical mental services at university centres are appointed to lecture and also to give clinical demonstrations The terms of service offered by the Government of the Union of South Africa to assistant physicians in the Union Mental Hospital Service will be found in our advertisement columns They will no doubt attract the attention of suitable candidates, and will be carefully examined by them The work is undoubtedly attractive and the starting remuneration adequate when the emoluments in kind are taken into consideration It will be observed that each appointment is, in the first place, for two years, but there is a prospect of extension or of appointment to the pensionable establishment of the public service and subsequent promotion therein There is a free passage outward, but nothing is said of payment for a return journey nor is there any stated provision for holidays or study leave

AS THE TWIG IS STRAIGHTENED

IN the Paris Louvre there is a picture of a smiling club-footed boy by the Spanish-Italian painter Ribera, which has not escaped the notice of that genial essayist and art critic Mr E V Lucas, who has chosen it for the frontispiece to a pamphlet he has generously written in aid of an appeal for funds made by the Royal National Orthopaedic Hospital This hospital, which will probably play an important part in the organization of the care of crippled children in London and the home counties, to which we referred in a leading article on March 22nd, has prepared for its future responsibilities as well as for its present needs by the establishment of a country branch at Brockley Hill, near Stanmore, where there is plenty of room for development If the hospital is to play its part adequately at least 300 beds will be required Mr Lucas, like many others, has been struck by the cheerfulness of the cripples he saw at the hospital, and especially of those enjoying open-air treatment at Brockley Hill, some charming photographs of whom are used to illustrate the pamphlet Ribera's club-footed boy has the same air of cheerfulness and exuberant life which is noticeable in the sun-tanned children in all open-air hospitals, and we congratulate Mr Lucas on his happy selection of this picture for comparison with the photographs taken at Stanmore Open-air treatment was first introduced for the cure of tuberculosis, but there is no doubt that it contributed to the cheerful air of some of the patients seen by Mr Lucas, who were suffering from other crippling conditions He tells us that after what he learnt of the value of the pigmented epidermis as a substitute for "vest, shirt, coat, and ulster all in one" he felt that he had for years been wasting his money on clothes, but this feeling does not seem to have gone so far as to make it likely that an attempt on his part to visit the *Punch* office *in puris naturalibus* will attract the attention of Fleet Street William Blake may have had some inkling of the hygienic value of nudity and open air, when he sat naked in his garden at Lambeth, but there is no record of his having kept up the practice Perhaps the weather was unpropitious Given a summer like that of 1921, may we not hope that Mr Lucas will carry through what Blake only began?

SMALL CAR TRIAL

THE Royal Automobile Club is organizing a 1,000 Miles Small Car Trial over routes radiating from Llandrindod Wells, commencing on May 12th and concluding with a sprint on the track at Weybridge on Saturday, May 17th Many members of the industry, Mr Massac Buist informs us, feel that they do not require the test, therefore Morris-Oxford, Rover, and Standard, among the big producers of small cars are not supporting it Altogether only twenty-one firms have entered twenty-eight vehicles, and two of them, he thinks, are unlikely to start He states, moreover that in his opinion the quality of many of the others is such that it is unlikely that, if started, the machines would go halfway through the test, despite the fact that there is no road included that is not traversed every day of the year alike by passenger cars and by commercial motor vehicles and that a small car has been actually driven over every inch of the route The club is to be highly commended for exercising its option and offering to the industry such trials in alternative years with the Royal Scottish Automobile Club's 1,000 miles six days test It is, however, for the industry to decide from year to year whether it wishes to avail itself of such an offer, and it has decided as indicated Therefore the degree of importance that will attach to the forthcoming trial is not such as would have attended an enterprise which received the complete support of the industry In other words, the value of a test depends necessarily on the extent of the competition forthcoming For instance, the Auto-Cycle Union's new style six-day 1,000 miles reliability trial, which started on Monday, and is being worked from Scarborough as a centre all over the Yorkshire moorland country, has received the support of a couple of score of firms, which have collectively put ninety-nine machines on the starting line The regulations, combined with such an entrance list, constitute this a very valuable trial Therefore the winning of any medal in connexion with it will be positive evidence of real merit in the production so rewarded

THE CADUCEUS OF MERCURY AND THE STAFF OF AESCULAPIUS

SOME confusion, as Dr Maurice Borgey[1] has recently pointed out, has arisen between the caduceus of Mercury, the messenger of the gods, and the staff of Aesculapius During the great war, indeed, the medical officers of some of the allied armies had as their badge the caduceus of Mercury, which has always been the symbol of peace and, by an extension of this idea, of commerce It consists of a rod with *two* serpents entwined around it and two wings at the top In ancient monuments Aesculapius is represented either holding a rough tree stump showing the relics of lopped-off branches with one serpent twisted round it, or merely with a snake round his arm, but in neither case were there wings Numerous snakes were kept in and about the chief temple of Aesculapius near Epidaurus, and they were regarded as imbued by, or emanations of, the god Women anxious to become mothers made pilgrimages to the temple, and if they attained their desire attributed it to the god's intervention or perhaps to his sacred snakes The snake, which was much used by ancient physicians in their prescriptions, was further a symbol either of prudence—just as the cock and the dog, also often represented with him, signified vigilance—or of life, from the ancient belief that the souls of the dead, especially of children, passed into serpents There is yet another explanation of the association of the snake with Aesculapius given by Ovid in the Metamorphoses—namely, that the God of Medicine came in the form of a snake to subdue the plague which raged in Rome A U C 462, and remained for a time in the reeds on the banks of the Tiber At any rate, as a badge for medical officers the wand should be without wings, except perhaps in the case of the flying corps, and in accordance with tradition one serpent would be more suitable than two It may be added that John Caius, who was an eminent Greek scholar as well as physician, designed the caduceus or silver wand carried by the President of the Royal College of Physicians of London, which has the College arms on its head, no wings, but with four small serpents supporting the head, to remind him by its material to govern with patience and courtesy, and by its symbols (serpents) with judgement and wisdom

HOSPITAL ACCOMMODATION

IN reply to a recent question in the House of Commons regarding the number of persons requiring hospital treatment but unable to obtain it through lack of beds, the Minister of Health indicated that he proposed to ask the Voluntary Hospitals Commission to undertake an inquiry into the shortage of hospital accommodation Mr Wheatley has now remitted this question to the Commission with the following terms of reference "The Voluntary Hospitals Commission are requested to inquire into and to report upon the extent of the additional voluntary hospital accommodation required in England and Wales and the best means of

[1] Borgey, M *Presse méd*, Paris 1924, Supplement, 235-6

providing and maintaining it" The Commission intends shortly to communicate with the Local Voluntary Hospital Committees in regard to the steps to be taken in pursuing the investigation, and the matter will also be the principal subject of discussion at the conference of representatives of the Local Voluntary Hospital Committees which is to be held on June 18th at the Ministry of Health A separate inquiry will be undertaken in regard to hospital accommodation in Scotland The decision to refer this matter to the Voluntary Hospitals Commission is of great interest, and is in agreement with the policy of the British Medical Association adopted last year The Commission was instituted solely for the purpose of making temporary money grants The desire is that it should be retained and enlarged in its scope to form the surveying and co-ordinating body between hospitals of every type in the country The reference by the Minister of Health names only the voluntary hospitals, but it is to be hoped that the Commission will interpret this direction liberally, for its task cannot be accomplished without at the same time taking into account the Poor Law and other statutory hospitals

IMPERIAL SOCIAL HYGIENE CONGRESS

THE National Council for Combating Venereal Diseases has arranged an Imperial Social Hygiene Congress at the British Empire Exhibition, Wembley, from May 12th to 16th inclusive It will be opened on the morning of Monday, May 12th, by the Minister of Health, and addresses will be given on social hygiene by Sir Arthur Newsholme and others Tuesday morning will be devoted to education, and the speakers will include Sir Frederick Mott and Professor J A Thomson, in the afternoon the administrative section will hold a conference on the place of the local authorities in the venereal diseases campaign The whole of Wednesday will be devoted to a discussion of the treatment of venereal diseases in the morning there will be a display of propaganda films and material, and in the afternoon a conference on how to secure the maximum efficiency of a venereal diseases clinic On Thursday May 15th, the medical section, under the presidency of Mr E B Turner, F R C S, will be of special interest to practitioners, day tickets for this section can be obtained from the Secretary of the National Council, at 102, Dean Street, W 1, for 5s, which will include admission to the ground In the morning there will be a special display for medical practitioners only of the medical film 'The diagnosis and treatment of gonorrhoea in the male" This film has been prepared for the National Council under the direction of Colonel L W Harrison, who will be present to explain it In the afternoon, from 2 30 to 5, there will be a conference on "The position of the general practitioner in antivenereal disease schemes" Papers contributed by Dr Alfred Cox, Dr C E S Flemming, and Dr Madeline Archibald will be followed by an open discussion On Friday, May 16th, the congress will deal with imperial questions, under the presidency of the Right Hon L S Amery, M P, including "The social hygiene movement overseas" in the morning and "Methods of enlightenment for illiterate races" in the afternoon

THE GARDNER COLLECTION

THE third and final section of the vast collection of prints, pictures, and engravings connected with the topography of old London is being sold at Messrs Sotheby's rooms from May 1st to 8th inclusive As in the previous sale (BRITISH MEDICAL JOURNAL, November 3rd, 1923, p 830), there are many items of medical and institutional interest First place should perhaps be given to those connected with St Thomas's and Guy's Hospitals, which comprise ninety seven items divided into five lots, catalogued for May 7th The rarest single item is a "first state" of the engraving of Guy's Hospital by T Bowles, but a series of pencil drawings of the old buildings of St Thomas's by that admirable artist T Hosmer Shepherd is probably of greater merit from the purely aesthetic standpoint Lock's Hospital in Kent Street and Bethlehem Hospital are also represented in the same day's sale Barber Surgeons' Hall, Monkwell Street, is copiously illustrated on May 2nd, as also is Apothecaries' Hall, Water Lane, but the principal interest of the sale on that date is in the items connected with the College of Physicians (in Warwick Lane), which total nearly 100, inclusive of some satirical prints directed against the profession as a whole rather than any particular section of it Curiously, the sections on Westminster do not deal with the Westminster Hospital, at least, the catalogue does not disclose any such items, though some of the lots, containing fifteen to twenty unspecified prints of Tothill Fields and the Sanctuary, may possibly include this institution In this section are some very rare broadsides concerning the plague, issued in Westminster in 1647 and 1655, with precautions to be taken against it, and so forth.

BARON KITASATO

PROFESSOR S KITASATO has been created a baron by the Emperor of Japan in recognition of his scientific services He is the first member of the medical profession unconnected with the Government to be so honoured He went to Berlin to study bacteriology in 1885, became Koch's assistant in the Institute for Infectious Diseases in 1891, and in 1892 received the title of professor Afterwards he returned to Japan and became director of the Bacteriological Institute at Tokio One of his earliest researches was concerned with the bacillus of tetanus, which he showed was capable of growing only in the absence of oxygen His name is particularly associated with the discovery of the bacillus of plague When in 1894 plague again began to prevail on an epidemic scale in China and Hong-Kong Kitasato at once turned his attention to its bacteriology and he and Yersin, working independently in Hong-Kong cultivated the organism from a large number of cases and reproduced the disease in susceptible animals by inoculation of pure cultures He also showed, as did Yersin that the bacillus was the cause of the high mortality among rats and mice which immediately preceded the outbreak of plague in man Baron Kitasato will be president of the sixth congress of the Far Eastern Association of Tropical Medicine to be held in Japan next October

THE Royal Medical Benevolent Fund has invited the British Medical Association to nominate a representative to sit on the Committee of Management of the Fund A similar request has been addressed to the Medical Insurance Agency

PROFESSOR J H TEACHER has presented to the University of Glasgow for the new common rooms a fireplace from the Lister Ward, which he has acquired from the demolition contractor The gift includes an iron grate of simple type with curved bars an ashpan, a steel fender and a plain grey stone mantelpiece

THE annual oration before the Medical Society of London will be given by Mr Wilfred Trotter, M S F R C S, at 9 p m on Monday, May 5th, in the rooms of the society (11 Chandos Street, Cavendish Square W 1) The subject of the oration is Certain minor injuries of the brain' It will be preceded by a reception by the President at 8 30, and followed by a conversazione.

BRITISH EMPIRE EXHIBITION.

MOTOR CARS

By H MASSAC BUIST

THE Palace of Engineering at the British Empire Exhibition at Wembley is a building of such vast proportions that it would be possible for the Society of Motor Manufacturers and Traders and the Cycle and Motor Cycle Manufacturers' and Traders' Union to hold a single exhibition entirely representative in the international sense of the motor car, the motor cycle, the agricultural, commercial, and utility motor coachmaking, motor-boat building, aerial and marine motor industries, as well as of the tyre industry and all manner of accessory industries in the one building Had this vast ferro-concrete structure been available three or four years earlier there would have been no possibility of enlarging Olympia As it is, the society has taken a long lease of the building at Kensington, no doubt, therefore, our London motor shows will continue to be held on the group system, as distinct from having one enormous exhibition representing every phase of the movement, with the incidental gain that vast numbers of the public would be led to examine the commercial, aircraft, and marine sections who at present fail to attend when a special display is devoted to them That, however, is by the way

Meantime the society, in conjunction with the union, displays on 50,000 sq ft of space in the Palace of Engineering at Wembley 122 different types of motor vehicles, the contributors being 47 makers of cars, 23 builders of commercial motor vehicles, 27 motor cycle and sidecar manufacturers, 14 coachbuilders, 11 pedal cycle makers, 2 manufacturers of agricultural tractors, 124 accessory and component makers, and 8 tyre manufacturers out of the 78 car builders, 100 coachbuilders, 118 component manufacturers, 40 builders of petrol lorries, 18 builders of steam, and 16 manufacturers of electric vehicles engaged in the industry to-day and having an aggregate output of approximately 80,000 motor vehicles, which gives direct employment to upwards of 250,000 men

NATURE OF THE PRESENT OPPORTUNITY

This display has none of the crowded effect inevitable at Olympia Yet it is not very much short of any one display ordinarily housed in the original part of the Kensington building In the Wembley building it occupies but a fraction of the whole space available The lighting is by an artistic roofing scheme, provided by the society, of red and cream with scenic wall panels A standard form of plain notice board has been adopted, and one set beside each car bears a legend relating the chief particulars about it, the whole is a very attractive exhibit and cleverly conveys the idea of quality Our manufacturers have risen to the occasion, and there is only one exception to the policy of adopting quiet coachwork schemes The visitor has the opportunity of seeing what the cars will look like on the road, the scheme assisting this purpose a point which is not always the case in exhibition buildings Few bare chassis are shown Many of the large cars are of no use to the average medical man, but the popular standardized types are well represented and it must be by no means concluded that the total exhibit is of colonial models only On the contrary, many of the machines represent simply the latest standardized versions of the 1924 types of motor cars and motor carriages which were introduced to the public in their original forms on the occasion of the passenger car show at Olympia in November last The current exhibition will not in any way clash with the next passenger car show at Olympia, the date of which has been advanced, because at Wembley there are shown only cars that are immediately available to the public whereas in October next there will be shown at Kensington the cars that will be standardized for the 1924-25 purchasing season Therefore those medical men who were not able to visit Olympia last November have the opportunity now to inspect in convenient fashion the cream of the current products of the home industry Nearly all the cars presented at Wembley are shown by the firms whose names they bear, in other words, the car assembling branch of the trade is very little represented It is scarcely necessary to explain to the medical man the advantage to him of having a car built by the firm whose name it bears, as contrasted with the practice, which it is difficult for the public to detect, of enterprising financiers giving a car a name and buying the components of which it is built from specialists, each of whom works independently of the rest

TO SUIT USERS OVERSEAS

Some English firms have specialized very effectively in cars for overseas service, notably Arrol-Johnston, whose 20 h.p. vehicle is the result of Mr T C Pullinger's recent world tour Some of the Armstrong-Siddeley models are especially designed for overseas service, and Mr Henry, the representative of this firm, is just completing a world tour to study conditions at first hand Austin products are built by Sir Herbert Austin, who lived for some years overseas, and, at the other end of the alphabet, may be mentioned, for illustration's sake, certain of the Vauxhall and Wolseley models with specially suitable tracks, axle, steering, springing, braking, and ground clearance schemes, among other points With a view to assisting medical men on vacation from overseas some manufacturers represented at the exhibition are holding supplementary displays of their overseas models in their showrooms in the heart of London, all information under this head is obtainable at the Exhibition at Wembley Many makers are quoting prices that are exceedingly tempting to overseas visitors in that the figures are approximately the same as those for delivery here for ordinary home service Moreover, in some cases, such as Crossley, the visitor from overseas is offered the further advantage that he can use his car here for any period up to six months, and thereafter have it packed and dispatched free of charge to his nearest port These are but a few things that are being done with a view to catering for the market overseas and establishing trade in British cars there

CANADIAN, AUSTRALASIAN, AND AFRICAN ENTERPRISE

Apart from motor car models in the Queen's Doll's House and the full scale largest types of aero engines in H M Government buildings, there are in the Canadian, Australasian, and African buildings exhibits that bear on the problems of motoring Thus there is at Wembley a representation, not of English and Scottish motor manufacturing merely, but also of such engineering work in the Dominions overseas For example Buick, Chevrolet, Oakland, and Oldsmobile cars, as well as pneumatic tyres made in Canada, are displayed in the Canadian building Australia sends us the interesting Wego engine, which is not particularly designed for service in this country, however, and New Zealand a very interesting example of a two-seat body made on the curved panelling system, and, therefore, in striking contrast with merely cheap construction

The African exhibits include kerbside pumps bearing the word "Natalite" supplemented by a legend "Why not grow your own motor fuel?" This is in reference to an interesting type of spirit that was referred to in these columns eighteen months ago when dealing with the prospects of the evolution of alternative motor fuels That the Dominions, including Australia will be producing in quantity forms of motor spirit derived from the special cultivation of various classes of vines, cereals, and tubers is assured already But it will be a process of time before that production will be of sufficient quantity to effect any appreciable influence on fuel as we shall use it for motoring in the Mother Country Further, it will not be an entire substitute for oil fuel, because so enormous a market is beginning to develop for the residuary products of distilling petrol from crude oil that petrol will be able to compete in price with any other form of motor spirit in the coming years At the moment the price of fuel is apparently high, though perhaps not actually so if the purchasing power of money in pre-war times is had in mind as a basis

of comparison As for Canada, though her total population is scarcely larger than that of London and environs, nevertheless her output of cars is very much larger than our own because one family in five in the Dominion owns a registered private car, apart altogether from the ever-increasing use of commercial and agricultural motor machinery there Moreover it pays American manufacturers with Canadian factories to export from there to this country and to certain other British Dominions because they thereby save approximately one third of the import duties into this country, and so on The great improvement in coachwork standardized more in accordance with European lines, alike as to decorative schemes and general design makes the Canadian exhibits at this exhibition extremely interesting Australia has scarcely more than a nucleus motor manufacturing industry at the moment That this branch of manufacture will be developed there to a considerable extent in a few years is assured already At the moment Canada is the only overseas Dominion where motor manufacturing is really on a large scale Therefore the motor exhibition at Wembley is very interesting and likely to be of great convenience to those who desire to study what motors are available to them at the moment

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The Budget.

THE Chancellor of the Exchequer Mr Snowden on April 29th introduced the Budget in a speech of an hour and three quarters which was followed by a crowded House

Mr Snowden recalled that there was on last year's account a surplus of £18,329 000, which had passed automatically to the reduction of the National Debt This was due to excess revenue of £18,500 000 on last year's estimates and to a reduction of expenditure of £27 750 000 on the estimates with a small balance otherwise obtained Referring to the factors which gave this surplus the Chancellor mentioned that the receipts from spirits exceeded the estimate by £6 000 000 and from tobacco by £2 000 000 The larger consumption of spirits was ascribed to a long and cold winter and the prevalence of influenza He understood that whisky had a considerable reputation as a specific for that complaint The increased revenue from spirits was obtained notwithstanding that at the end of the year large clearances did not take place Death duties exceeded the estimate by £5 800 000 income tax by £8 331 000 super tax by £2,640 000 and corporation profits tax by £3 340 000 On excess profits duty there was a deficit of £12 000 000 The surplus on income tax was attributable mainly to the arrears from the previous year proving more productive than was expected In regard to expenditure Mr Snowden after recalling what had been saved on the fighting services mentioned that the Civil Service savings amounted to £12 250 000 Coming to the National Debt he stated that since December 1919 the reduction had been over £650 000 000—practically the amount of the National Debt at the beginning of the war—and thus the annual interest charged had been brought down by £40 000 000

Passing to the estimates for the present year Mr Snowden showed that he had to provide for £780 026 000 as compared with £816 616 000 the estimate for the previous financial year The estimates for the fighting services showed a reduction of nearly £7 000 000 on last year's in spite of the expansion of the Air Force Coming to revenue the Chancellor reckoned that on Customs and Excise there would be a rise of 2½ per cent and that the total of taxed revenue—Customs Excise and Inland Revenue—would be £19 000 000 more than last year's estimate and £1 000 000 more than last year's receipts Before stating how he proposed to deal with the surplus of £38 074 000 which such estimates of expenditure and revenue would give for the purposes of relief or taxation he announced that the Government did not see its way to take up the Imperial Conference proposals bequeathed to it by Mr Baldwin's Government Existing preferences would be retained but liberty would be reserved to propose reduction or abolition of such preferences It was intended to allot a day before the Committee stage of the Finance Bill to allow of a discussion of the preference proposals of the late Government adopted at the Imperial Conference and to leave the House free to unfettered decision upon them Next Mr Snowden indicated certain small modifications in motor vehicle licences—to allow the owner of a licence to obtain refunds for each complete calendar month unexpired on surrender and on payment of a small fee and to reduce the surcharge on quarterly licences from 20 to 10 per cent No change would be made in the main scheme of income tax allowances It was intended however to remove the limitation of the allowances granted in respect of a housekeeper to a widower with young children Legislation had also been promised on several legal points and it was intended to introduce a bill to enable small sums of income tax to be recovered by proceedings under the Summary Jurisdiction Acts instead of costly and cumbersome proceedings in the High Courts

Mr Snowden then reached the most interesting part of his pronouncement—what was to be done with the surplus of £38 074 000 already mentioned In the first place he proposed to reduce the sugar duty from 25s 8d per cwt to 11s 8d per cwt—that was from 2¼d per lb to 1¼d per lb a reduction of 1¼d per lb This change except for imported manufactured or prepared goods would operate at once and in the latter cases from July 1st The cost would be £17,700 000 this year or £18 400 000 in a full year Next he proposed to reduce the tea duty from 8d per lb to 4d per lb—that is by half Tea from India and Ceylon would continue to have a preference of one-sixth and thus would pay a duty of only 3½d per lb—the alteration would apply from May 5th The estimated cost was £5 000 000 this year or £5 400 000 in a full year The reduction would bring the duty below pre war rate Similar reductions would be made in the duties on cocoa coffee and chicory The cost would be £800 000 this year or £343 000 in a full year Thirdly the extra duty of 50 per cent on dried fruit imposed in 1915 would be allowed to lapse on August 1st The loss was put at £200 000 this year or a quarter of a million in a full year Thus on duties on food there would be a reduction of £23 700 000 this year and the Chancellor was confident that these reductions would reach the consumer Further the small duty of 4d per gallon upon sweetened table waters would be abolished and the duty on herb beer would be repealed The cost would be £200 000 this year or £300 000 in a full year Imported waters would be taxed on a sugar content

Touching the McKenna duties Mr Snowden recalled that these were imposed in 1915 on imported motor cars motor cycles other than commercial vehicles musical instruments watches and kinematographic films They had been renewed each year and stood to expire on May 1st unless revised He had decided that the time had come for these duties to disappear but would give until August 1st next in order to enable the trade to clear off duty paid stock The cost of the abolition would be £2,500 000 this year or £2 750 000 in a full year In regard to the entertainment tax he announced that duty on payment for admission up to and including 6d would be abolished and there would be a reduction of the duty on payment over that amount up to and including 1s 3d This would mean a loss of about half the revenue from such source The change would operate from June 2nd at a cost of £3 400 000 this year or £4 000 000 in a full year

The Chancellor afterwards referred to steps which were being taken for the suppression of the evil of drinking methylated spirits Arrangements had been made under the existing law whereby methylated spirits sold to the general public for domestic purposes would contain a denaturant which he was advised would make the spirits noxious and difficult to swallow and if that obstacle were overcome would make the victim so ill but not mortally so that he was not likely to attempt to defraud revenue by continuing to take the drink (see BRITISH MEDICAL JOURNAL April 19th 1924 p 729)

In remarking that there would be no alteration in the rates of income tax or super tax Mr Snowden said he must not be taken to imply that he anticipated the permanent maintenance of a 4s 6d income tax—only that in so far as concerned the relief he could afford to give this year he must prefer the claims of other taxpayers Mr Snowden next announced the repeal of the inhabited house duty It has existed with a short interval for a century and a half as the historic successor of the chimney and parlour tax. To large sections of the working and professional people of moderate means it was an unnecessary and irritating addition to their burden The remission would give greater relief to the married man with an income of £500 a year than a reduction of 6d in the income tax It would cost £1 750 000 this year or £2,000 000 in a full year Finally the Chancellor intimated that the corporation profits tax would be abolished from June 30th next As a considerable interval elapsed between the time the profits were made and the duties were assessed the difference this year would not be very large The change would cost £2 000 000 this year Next year it would cost £5 000 000 and in a full year £12 000 000 Thus reductions in taxation would amount to £34 050 000 this year or £40 443 000 in a full year Thus would be left an estimated surplus of £4 024 000 He did not suppose it would be sufficient to meet all the expenditure Parliament might sanction during the year The House was committed to the removal of the thrift disqualification for Old Age Pensions and there would be calls for housing and unemployment But he was convinced that it was still possible to effect considerable economy the saving from which would be available for new expenditure Apart from the Finance Bill, legislation would be introduced to restore powers for land valuation

Mr Snowden claimed that the Budget had been arranged to confer the greatest benefit upon the greatest number and avowed the belief that by increasing the purchasing power of the people it would stimulate trade and industry

Sir Robert Horne for the Opposition followed custom in not attempting a detailed review at that stage He remarked however that subject to some qualification the Budget might have been introduced by either of the old parties and observed that the money being used for the remissions had been provided by Mr Snowden's predecessors in office Coming to points of disagreement he deplored the action of the Government as to imperial preference and its decision as to the McKenna duties.

Mr Asquith declared himself in hearty agreement with the main features of the Budget especially as it was a Free Trade Budget

The debate was adjourned

[In his speech Mr Snowden made reference without particulars to some telephone charge concessions The rates for local calls are to be reduced for the first unit calls (a radius of five miles) from 1½d to 1d and for the second unit calls (a radius of 5 to 7½ miles) from 2½d. to 2d For trunk calls a small reduction is to be made in the scale The charges for removals will be modified These changes are to apply from July 1st]

"Lithopaedus Senonensis de partu difficili", while, in a footnote, the author corrects the narrator (Tristram) for having mistaken the description of a lithopaedion for the name of a learned author

All this is taken from Burton's letter to Smellie Smellie, who was not a man of much erudition, in his introduction places "Lithopaedus Senonensis" among the authors com- prised in Spach's *Gynaeciorum Commentaria* Burton pounced on the slip and exposed Smellie's ignorance with obvious gusto But, proceeding to consider the information Mr Shandy derived from this imaginary author, we find that this also is taken almost verbatim from Burton's book There we find set out the Shandean view that in a head presentation the pressure of the pains is transmitted through the vertex and the cerebrum to the unfortunate cerebellum, whereas if the child is extracted by the feet the direction of the pressure is reversed and the cerebellum relieved, while it is protected below by the thick and un- yielding base of the skull The attribution of Mr Shandy's authority to "Lithopaedus Senonensis" I take to be a cryptic and jocular device of Sterne to acknowledge his indebtedness to Burton

These points are probably not new to Mr Doran, but, for my own part, it is only since reading his letter and comparing the books that I have realized that Sterne's obstetrical knowledge, which plays such a large part in the first two volumes of *Tristram Shandy*, was actually derived from the works of Dr Slop's original—Dr Burton —I am, etc,

Liss, Hants April 10th. PHILIP D TURNER

THE "INJECTION METHOD" OF TREATING HAEMORRHOIDS

SIR,—"Imitation is the sincerest form of flattery", but when I read Dr Kennedy Murphy's article under the heading, "The Correct Technique of the 'Injection Method,' of Treating Haemorrhoids, and its Essentials" in the BRITISH MEDICAL JOURNAL of April 19th, I kept rubbing my eyes and wondering if I had not written it myself The very words and phrases seemed to be familiar In fact his article is a more or less exact summary of my recently published book Whole paragraphs and sentences from my book are included in Dr Murphy's article, with an occasional attempt at paraphrasing, but with no acknow- ledgement of their source It is true that Dr Murphy does mention my name at one place, but only to differ from me in a matter of detail, and not to indicate that the general arrangement of the article, the subject-matter, and in many places the words themselves are mine and not his

I have marked eleven passages in his article which are the most obvious paraphrases of my own writing, but it will suffice to give one example here At the bottom of page 705 of the JOURNAL appears the following

Site of injection The haemorrhoids having been swabbed with antiseptic lotion, the needle is thrust into the centre or apex of the selected pile If the pile is a large one the needle, which is about half an inch long, should be plunged in right up to the shoulder

In my book the wording was

The needle should be entered near the apex of each pile in the situation marked with a × in Fig 6 It should be pushed up along the long axis of the pile to near its base If the pile is at all large this will mean that a needle of the usual half inch length will be inserted right up to the shoulder of the shaft (Pp 55 and 56)

The similarity of the wording of the other ten passages which I have marked is equally striking

I do not think that the method by which the injection of carbolic acid produces occlusion of the vessels of the haemor- rhoids has ever been described elsewhere than in my book It is the more striking therefore, to find that Dr Murphy's description of this point is almost in my own words Lastly, his list of the complications is precisely the same as that given in my book excepting that the order in which they are given is changed slightly and the words "abscess forma- tion" are substituted for the word "sepsis" in my book The causes of pain after injection are again, precisely those which I have enumerated but in a slightly different order Dr Murphy differs from my method in one or two points of minor detail I do not agree with him on these points, but I will not trespass on your space in order to enter into an argument on them

I ought, perhaps, to add that Dr Murphy was house- surgeon at St Mark's Hospital when I was carrying out the treatment of haemorrhoids by injection on very large numbers of patients at that institution, and I was at some pains to teach him the details of the method It is a strong argument in favour of that method of treatment that he, like several other house-surgeons at St Mark's, having had abundant opportunities of comparing the treatment by injection with that by operation, should now be such an enthusiastic supporter of the former I should be the last to object to his practising the treatment or writing in its praise, had he written an original article on the subject But I cannot allow him to publish a resume of my own book—which, by the way, is copyright—without any indica- tion that it is not his own original work and with only a mild attempt at paraphrasing It would have been more generous on his part had he acknowledged in his article that he owed his knowledge of the method to me, but I would have let his omission to do so pass, had he not appropriated my very words and phrases!—I am, etc,

London, W C 1 April 22nd. ARTHUR S MORLEY

*** We have referred this letter to Dr Murphy, who sends a reply in the following terms

SIR,—My article on "The Correct Technique of the 'Injection Method' of Treating Haemorrhoids, and its Essentials" (April 19th, p 704), has induced Mr Morley to make some very inaccurate statements

I do not, as he states, owe my knowledge of the injection treatment to him I knew of the treatment long before I went to St Mark's Hospital My article in this JOURNAL which he says is not original is, on the contrary, the only one published containing original and practical suggestions with a description of instruments (anoscope, etc) designed by myself for the improvement and simplification of the tech- nique This article is mainly a description of my own technique, and as this is similar in several points to that practised by Mr Morley (we both acquired most of it at St Mark's) and others, it is only natural that parts of it should resemble other descriptions There is not a word in it that I have not frequently employed when demonstrating injection treatment to doctors visiting the out-patient department at St Mark's and to others since then

I have read Mr Morley's book, and have found nothing in it of practical importance which I have not read elsewhere years before this book was published If one glances through the chapters on haemorrhoids in the late Sir Charles Ball's classic work *The Rectum* and compares them with those in the first half of Mr Morley's book, not only will "words, phrases, sentences," etc, be found to be rather similar (a practice to which he takes so much objection in others), but practically all his illustrations of rectal lesions have been appropriated (the latter acknowledged) from this book The technique he described is simply a modified technique described years ago by Mr Dudley Wright in his monograph *The Treatment of Haemorrhoids by Interstitial Injections* (second edition, 1913, Glaisher), to whose work Mr Morley is indirectly indebted for his introduction to the injection treatment I could not, therefore, have borrowed anything original from Mr Morley's work as there is nothing original in it The general arrangement of my article—namely, preparation, position of patient, external perianal examina- tion, digital examination, etc—was mainly the standard one used in describing the examination and treatment of most rectal complaints A reference to any standard work will confirm this Mr Morley ought to know that all rectal works (as well as Ball's) adopt this method, and that he has not originated it as he seems to think On page 175 of Hirschman's *Diseases of the Rectum*, as long ago as 1909, the author states that injections of carbolic acid caused the disappearance of haemorrhoids by producing "a mild inflammation and gradual occlusion of the blood vessels by the deposition of fibrous tissue"

Wright also mentioned it in his book years ago, yet Mr Morley states that this description first appeared in his book published last year, and that I copied it If he had taken the trouble after his temporary work at St Mark's to

study the principal standard works on rectal disease he would not be so eager to claim originality The treatment has been practised in this country during the last thirty years by Mr Dudley Wright, Mr Swinford Edwards, Mr Eadie, and others, and in America for the past fifty or sixty years It is not definitely known who originated it — I am, etc,

London W C 1 April 8th. P KENNEDY MURPHY

RADIATIONS IN THE TREATMENT OF MALIGNANT DISEASE

SIR,—I have just read Dr J Hall Edwards's letter in your issue of April 12th (p 689), and in reply to his question addressed to myself I may say that the expression for reasons unfavourable to the treatment" attributed to me, in another journal, was not used by me at all What I did say was that 41 cases ceased treatment after one or two applications of deep x ray treatment by the massive Erlangen method for reasons unknown to me probably some because they would not again face the ordeal of prolonged treatment and the general systemic disturbance it produced, some probably because they had been advised by their own medical advisers that the treatment was useless and was doing more harm than good some because they were so ill that they were no longer able to attend as out-patients, etc The reporter condensed my remarks into the form quoted above I was also erroneously reported as speaking of patients in a 'hectic" condition, when of course it should have been cachectic

In conclusion I may add that my own experience of nineteen years of x ray treatment by the older methods, and nearly two years by the exact Erlangen technique as described by Professor Wintz in his own book on the subject, conforms almost exactly with that of Dr J Hall-Edwards and Dr Hernaman Johnson, so much so that I advised my board of management against installing a second apparatus at present, although the money with which to do so was in hand

I am also strongly opposed to including in our statistics cases of rodent ulcer, which, when included, give a more favourable colouring to the results than is warranted by the massive dosage method We have been curing the majority of such cases for many years and very often by unfiltered rays —I am etc,

Bradford April 27th. WILLIAM MITCHELL

"SLIPPING RIB"

SIR —Dr Edgar F Cyriax's memorandum on "slipping rib," on page 747 of the JOURNAL for April 26th, calls for an explanation from me Dr Cyriax states, 'This condition, first described by me in the *Practitioner* for June, 1919, and later on apparently independently by Mr Davies-Colley, seems to have led to operative measures being employed for its relief" He goes on to recommend replacement of the *vertebral facet* of the affected rib in its socket by means of manipulation He thus appears to have misread my article published in the BRITISH MEDICAL JOURNAL of March 18th, 1922, which referred to abnormal mobility of the *anterior extremities* of the lower ribs, to which I gave the name by which I believe it is now known

I have not met with a case of looseness of the vertebral joint of a rib such as he described in his article in the *Practitioner*, and it certainly has not been present in any of the cases of 'slipping rib" that I have seen

Dr Cyriax in the same paper mentions displacements of the anterior extremities of the ribs, of which he says that they, 'unlike those of the posterior ends, are actual permanent malpositions, not looseness of the joints' By this, I take it, he means the well known dislocation of the sternal ends of the fixed ribs, since he cites as an example a case of displacement of the costal cartilage of the eighth rib The slipping rib" that I described is anything but a permanent displacement, and it is the readiness with which it slips in and out of its normal position that makes its diagnosis easy to miss and also renders any form of manipulative treatment useless —I am, etc,

London W April 28th. R DAVIES-COLLEY

ROYAL MEDICAL BENEVOLENT FUND

SIR,—There is one passage in your account of the annual meeting of the Fund which if left unnoticed might lead to the conclusion that the management and the local secretaries had not fulfilled their duties Permit us space to quote in full the text of the report In referring to the increase of subscribers and total income you say

> To a very large extent this was due to a special appeal made at the Portsmouth Meeting of the British Medical Association, when attention was drawn to the inadequacy of the professional support accorded to the Fund

This manner of recording part of the report fails to recognize the efforts of the local secretaries, to whom the bulk of the increase is due This will be corrected by the following extract from the report

> At the end of 1922 special appeals began to be issued in various districts and these continued during the year covered by this report The plan has been for the Local Secretary to write a letter which is reproduced in facsimile The names of non subscribers in the district having been ascertained a stamped envelope is addressed to each which are then forwarded to the Local Secretary for completion to enter the name at the head of the letter The number of letters have varied from two hundred to one thousand (Glasgow) [1]
>
> Appeals in this form have been sent to Bournemouth Cornwall Derby Devon Guildford Glasgow Middlesex Hospital Reigate St Leonards and Hastings S Wales Surbiton and Ware and have resulted in securing six hundred new subscribers and an additional income of £1 600 It may be of interest to add that rather more than half of these new subscriptions were received between January and the end of July 1923 when the Portsmouth Meeting of the British Medical Association took place. The attention called at this meeting to the needs of the Fund and to the small proportion of the profession subscribing no doubt awakened interest and has been instrumental in adding to the subscribers and in bringing the number up to 600

—We are, etc,

CHARTERS J SYMONDS,
Hon. Treasurer
G NEWTON PITT,
London W April 26th. Hon. Secretary

CONTRACTED PELVIC OUTLET

SIR —I had intended to discontinue what seems to have been a futile attempt to convince Dr Gibbon Fitzgibbon that there is such a common condition as contraction of the pelvic outlet unassociated with any other deformity I feel, however, compelled to denounce the further views expressed by the Master of the Rotunda Hospital in his last letter Apparently he not only denies that comparatively wide ranges of the indirect measurements—intercristal, interspinous, and external conjugate—may be considered normal in relation to the pelvic brim, but also, presumably, deduces from them the diameters of the pelvic outlet, for these he never estimates directly I hope this is clear, for it is a logical summary of his remarks I anticipate that such absurdities will receive from obstetricians generally as little support as that which will be accorded to Dr Gibbon Fitzgibbon's statement that contraction of the outlet does not occur as a pathological entity

Nevertheless, it is to be hoped that in the result this little controversy will bear good fruit, and that others will be stimulated to give to the real issues raised their practical attention

For the time being I must leave my friend the Master of the Rotunda in sorrowful contemplation of the permeability of his doughty defence and in passing I would offer him my humble apologies for having unnecessarily complicated the discussion by citing *two* cases My prodigality has led to an extraordinary effort on the part of my controversial opponent Flouting the probabilities scouting the variabilities, which prevent obstetrical mechanics from being an exact science, he attempts to obtain a mean advantage by sending the baby of the one through the pelvic outlet of the other'—I am, etc,

Liverpool April 26th. W BLAIR BELL

[1] Total number of letters of appeal for the year 1923 excluding Glasgow was 4,000 of which Dr Newton Pitt sent personally close on 1 000.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

THE following candidates have been approved at the examination indicated

SECOND M B (*Part III, Pharmacology and General Pathology*).—A R Adderley H Bell H E Blake B Blatill E J Boschi W A Brigg P Brookes P R Buckton, R H Burras G D G Cameron A J W Chamings J E D Crozier R M Gilchrist R N Hall D W Hayward L L Houghton J H Humphris C F Kirby D M Lang T J Millward J L Morgan M D Nosworthy G E Parker C L Potts W P Purvis E C F Roe T R Stevens W G Tillcke H B Tumper F B Turner R J Vince W J Wilkin

UNIVERSITY OF LONDON

THE following candidates have been approved at the examination indicated

DIPLOMA IN PSYCHOLOGICAL MEDICINE (*with special knowledge of Psychiatry*).—N H M Burke R N Craig Elizabeth C Eaves Anne Fairweather N Moulson A Walk Isabel G H. Wilson

Lectures

A lecture on accommodation will be given at the Charing Cross Hospital Medical School by Dr J van der Hoeve, Professor of Ophthalmology in the University of Leyden on Friday, May 9th The chair will be taken by Mr E Treacher Collins F R C S, at 5 p m The lecture will be delivered in English, and admission is free

A course of four lectures on the development of the human embryo up to the appearance of the primitive segments will be given at King's College (Strand, W C 2) by Dr T H Bryce, F R S, Professor of Anatomy in the University of Glasgow, at 5 30 p m on Thursday, May 15th Friday, May 16th, Monday, May 19th and Tuesday, May 20th The chair will be taken by Professor J P Hill, F R S The lectures will be illustrated by lantern slides, and admission is free

Dr M Greenwood began a course of lectures on epidemiology and vital statistics at University College on Thursday, May 1st The course of Geoffrey E Duveen lectures in otology to be given at University College Hospital Medical School by Mr Richard Lake on Thursdays at 5 p m began on May 1st, when the subject was prophylaxis and general symptoms The course will be continued on May 8th and 15th and then on June 5th and subsequent Thursdays up to and including July 17th The lectures are open to all qualified practitioners and medical students

UNIVERSITY OF GLASGOW

A GRADUATION ceremony was held on April 22nd and 23rd when the following degrees were conferred and prizes distributed

M D —*Margaret H Grant *J M W Morison T D Miller E aine B S Stocquart

M B, Ch B —†W Thomson †H S Russell †D Hynd *I S Barr *T D Morphy *J Montgomery *T A Fyfe *J C Alexander *R Graham *A D Mack *R A Kennedy *A. Brown *J Ross *J G M Whirter *J Morrison *H Macdonald *J Brown *R Black *J A M'Gregor *M Fadzean *K A Mackay *J O Gillies *R G Cochrane *J Adam R H Abercrombie W G Allan Margaret M Allison Janet H Anderson J Anderson W C Arm strong W G Arthur J W Baxter S Baxter Mary V F Beattie J Beck, J S Bell Marion H Black A Bowie Janet S Brooks Alex Brown Andrew Brown D K Bruce J Caldwell Alexandrena F Cameron D Cameron D MacG Cameron R M Chalmers, G Collier H B Cordiner A L Cowan J Crawford Janet L A Cullen J Cumming D E S Cunningham R E Davie S S Djordjevitch R S Dolg R S Donaldson, Lily S Duncan G H Edgecombe N F Edgecombe H. Fairbairn Christina G Findlater D Fraser T Fulton F Macil Fyfe L H. Gilchrist W Gillespie W N M Goldie O Gray R A Gray Harper T Heffron J D Hempseed, Gertrude Henderson Mary Hendrie J W M Humble A M Innes G C Kelly D L Kerr H P Keir R A W Kerr W A Kerr A. Kirk W D Lamb A W Lamont J R Langmuir A. Law E S Laing Sarah D Lamb A W Lamont J R Langmuir A. Law E S Lawrie E W Lindeberg C Lindsay J Lithgow T C Loonie W M Adam M Callum P A M Arthur A Macbeth J W M Bride C C M Cormick I M Cann R B M Coll E W M'Cormick J Mac donald A M Cracken A U Crone A W M'Crorie J J D A Macdonald M Dean A Macdonald J W M Gowan C L Macdonald P J Macinnes R M Intosh H Macalane A H Mintosh R J Nab R M Macinnon A Macalane A H Mintosh M Question Macleod I Macmillan D B M Millan J S M Millan A I Masee W Macphail D M Millan J S M Millan W Martin J A G Muir A Marshall D M Swan A R M Whinney C Mitchell J O Moffat D I Meehan Rhoda W Marshall, Murdoch J M Murray F J Newall J W Nicolson M Muir J H Penmenick F Pettigrew T Paton W Nicolson M Muir J H H Orr Flie H Parker T Paton W Patrick Elisabeth A A Rankin B Reid G S Reid R Rae J S Ralston W A Ramsay A C Richmond A Robertson J M Robertson J Reid R Howard Reid Scott W Shankland T D Shanks G I Shaw J S Smith W J Stephen A Stewart T D Sumners Alison L Taylor Mary L Stewart T T Stocker G J Sumners Dorothy A Towart J G Thomson J W Thom on J Totven Adeline C Vallance W B Wallac J A Watson J W Tw ddle Ida Wyllie J W Wilson Sarah B Wilson D J B Wilson C I Wilson J W Wilson J W Young Ruby F Winning R M Wishe

Pollock Gold Medal for Emment Merit in Th ses for M D—Dr Grace H Anderson Dr John Cruickshank

Fisher Asher Gold Medal for Laryngology and Rhinology—Tina Gras

* With commendation

† With honours

ROYAL COLLEGE OF PHYSICIANS OF LONDON

AN ordinary quarterly comitia of the Royal College of Physicians of London was held on Thursday, April 24th, at 5 p m, Sir Humphry Rolleston, the President, being in the chair

Fellowship

The following were elected to the Fellowship,

Clifford Sidney White M D Lond Hugh Tuke Ashby M D Camb, Bellingham Smith M D Lond Rawdon Augustus Veale Eric Lancelot Stephen Topham Burrell M D Camb M D Lond John Stewart M B Glasg Richard Alan Rowlands Matthew Edgar Douglas Adrian M D Camb Charles O B E M D Lond George Carmichael Low M D Edin, Putnam Symonds M D Oxon Major Greenwood John Alfred Ryle M D Lond

Nominated by the Council under By law XLI (b)

John Charles Grant Ledingham C M G M B Aberd D Sc F R S

Membership

The following candidates having passed the necessary examination were admitted as Members

Guy Waterman Elkington M B Lond L R C P Alexander William Hendry M D Aberd William Ernest Lloyd M B Lond L R C P Enrico Moll M D Rome Annis Guy Hale Springthorpe M B Melb Charles Evander Vass Sutherland M D Melb Miss Amelia MacDougall Thoms M D St. And

Licence

Licences to practise physic were granted to the following 153 candidates who had conformed to the By laws and Regulations and passed the required examinations

S Abadir M A. H Abdel M C V Abraham J N Alexander H G Anderson J H Anderson F Asker R T Bannister V Barkin P Bauwens *Margarida R Bensande M Berskinski H B Boucher W H Bradley R A Brews S G Brown J R Burrows *Edna V Butler L W Cann R J Cann J A Carman A M Claye H G Close G E C Collis R F Connell *Elizabeth M. Cowie D V Davies G I Davies *Gwladys D Davies F C Dawson J R B Dearden C J C de Silva O H Devereux B Dous *Ethel Downing E F Duck W L Dunlop W H du Plessis *Kathleen H Durance L C Edwards W S D Elder C L Elgood A Elliot-Smith S W Evason H B Flooks J H Fraucis A T Fripp E B Garrett A Gilberg J F Goodenough C A H Green J L Griffin N W Hammer I Harris *Greta Hartley H N Hearle F Heckford E F Hewlitt R A Hickling *Florence R Hodges *Barbara M Hope *Margaret Hossell L W Houghton D J Hubble M W P Hudson *Margaret Hurwitz *Dorothy P Hytch E Jacobson J P W Jamie D Jones D S M Jones H M. R Jones L S Jones R. Jones A Jowell Dorothy L M Keats H N C van G Kelaart, A C King F H King I H Kok R Lang O B Lean H Lord *Lisa I. Lunn W W J E Lupton E M. McCausland *Lily C Mackinnon W W J E McLean J G McMenamin D Magrath *Dorothy B Marling D G Martin W A Mill K F T Mills G G Milne S M Morris L N Moody G O Morgan E G Morris *Ethel W Milner W E Moss, B S Ockenden *Doris M Odlum G F S Newling Parsons, K A T Pateman J N D Paulson J F Parker K O *Nancy B. Mote G Shirreff M Nizmi E V Morris L N Peirson, A Parkoff Evelyn B Pollard *Winifred M. Proctor *Eleanor M Pelleine F K B Quainbrough G Ralston M A Rans R H T Rea T S Read *Dorothy M Rees I J R es C B Rich W M. Roberts F E C Schneider M B Seng T H Sims *Dorothy W Roughton T S Steel, G G Stewart V H Steyn G E F Sutton I Spiro C R Taylor J H G Thompson P H. T Thorlakson W G Twinite H To epman A. Tom *Mary M Turnbull *Cicely N Twining R J Hermione M. Usborne G M Wadsworth J L Warner P B *Wilkinson T. M Wilks D H Williams G Williams *Dorothy Wood T. E W R Wood B H H Woodeson H G, Wyatt Z M. Yusuf

* Under the Medical Act 1876

Diplomas in Tropical Medicine and Hygiene

Diplomas in Tropical Medicine and Hygiene were granted, jointly with the Royal College of Surgeons, to eleven candidates, as follows

M. B Afridi E H Black, S E Borah C V Braimbridge N H Chibwala A Y Dabholkar Mary Ellison, Lily G Iliff J G Johnstone F Stevenson D S Walls.

A communication from the Secretary of the Royal College of Surgeons, dated April 11th, reporting proceedings of the Council of that College on April 10th, 1924, was received and entered on the minutes

An application from Dr J A Hayward, asking that the membership which he resigned in 1893 should be restored to him, was granted

CONJOINT BOARD IN SCOTLAND

THE following candidates have been approved at the examination indicated

FINAL EXAMINATION.—*Medicine* A J Gans M Goldberg S Lewenson L Maclean V C G Menon H Schulgasser M M Tannahill Maclean Bandyopadhay V Bell M Goldberg E S Greaves *Surgery* S N Bandyopadhay V Bell A J Gans G F Maher D R Paterson C C Robson L Sanderson H Schulgasser M M *Midwifery* V Bell A J Gans G F Maher D R Maclean *Medical Jurisprudence* Sarah Boyle J L Deerberg Tannahill C Leembruggen A F B Mackay W Wykim A. M. Ismail B C I Mackintosh F D Miller Marian E O E I M Kinney R H Mackintosh F D Miller Marian E O Morris K Skulberg J C Stenhouse J M Rutherford

The following having passed the Final Examination have been admitted L R C P E, L R C S E, L R F P and S G

W A Bartholomeuz D M Beaton J S Caldwell M Clouts J C Colin J Courtney C J Coventry F W Duthie H M Hob on R F Home W D Howat J A A Hunter M. Kelman D J Kynoch D D O M Loughlin H Myers G C Phillips W J Hankine F W Robinson I Rostowski R D Scorgie G H Sellers Annie H Sutherland

Obituary

RICHARD JAMES REECE, C.B., M.D.,

Senior Medical Officer, Ministry of Health.

We had to record last week with deep regret the sudden death from heart failure of Dr. R. J. Reece, one of the senior medical officers of the Ministry of Health. Dr. Reece had an attack of influenza about a month ago; he returned to work as soon as it was over, without any intervening period of convalescence, and to outward appearance he seemed to be his own vigorous hearty self up to the very end.

Richard James Reece was the only son of Mr. George Reece of Kensington. He was born in 1862 and received his preliminary education at Kensington School. He commenced his medical studies at St. Bartholomew's Hospital in 1881, being not merely a representative of the third consecutive generation of his family, but the third Richard Reece to attend that famous hospital. He took the L.S.A. in 1884, the M.R.C.S. Eng. in 1885, and the L.R.C.P. Lond. in 1886. Thereafter he became house-surgeon and ophthalmic house-surgeon at St. Bartholomew's Hospital under Mr. Morrant Baker and Mr. Henry Power respectively.

Having completed his medical education in London, Reece entered at Downing College, Cambridge. He took the B.A. degree with honours in natural science in 1891, the M.B. in 1892, M.A. in 1895, and finally became an M.D. of the University in 1902. It may be added that he became a Member of the Royal College of Physicians of London in 1921.

How often the nature of the work to which a man devotes his life appears to be the result of some relatively trivial incident or even accidental circumstance! Having an hour to spare one day, Reece happened to attend a lecture by Sir Richard Thorne. The subject dealt with was epidemiology, of which Reece at that time knew nothing; but as the lecture proceeded he became more and more interested, and finally fascinated by Thorne's arresting description, illustrated by maps and diagrams, of the manner in which outbreaks of infectious disease are studied. He often said afterwards that it was that lecture which first directed his attention to the preventive side of medicine, and ultimately led to his entrance into the public health service. It is strange that the man who thus inspired Reece with the love of epidemiology should afterwards have been his much respected chief on the medical staff of the Local Government Board.



[Photograph by] [Ewell, London.

RICHARD JAMES REECE.

Reece was one of the earliest holders of the D.P.H. of the Conjoint Board, which he obtained in 1888. He commenced his public health career in 1892 as assistant medical officer of health of the Port of London Sanitary Authority. During that year there was widespread prevalence of cholera on the continent of Europe, and when the disease invaded the city and port of Hamburg, in which no fewer than 16,956 cases and 8,605 deaths occurred between August 16th and the middle of November, it not unnaturally gave rise to great public apprehension in Britain. To meet this emergency it became necessary to devise energetic measures to prevent, as far as possible, the introduction of the disease into this country through the agency of shipping, and with this end in view prompt steps were taken by the Port of London Sanitary Authority. On the advice of their medical officer of health, Dr. Collingridge, they determined to institute a system of medical inspection of all vessels entering the Thames, and were fortunate in securing Reece's services to assist in this arduous task. By arrangement with H.M. Customs he was stationed on board the hulk *Dolphin*, which was moored off Gravesend, and while on duty he boarded, along with the Customs officers, every vessel on arrival. Thus Reece joined the port sanitary service at a time of crisis, when there was a general public demand for the reintroduction of the old and antiquated system of quarantine to safeguard the country from invasion by cholera. The Local Government Board's medical advisers were strenuously opposed to this proposal, maintaining that far better results were likely to be obtained by a well organized system of medical inspection of shipping without all the attendant inconvenience and dislocation of trade which inevitably results from the application of quarantine. Should cholera succeed in passing this outer line of defence trust was placed for the prevention of its spread in the general sanitary administration of the country. Events proved the correctness of this contention, and served to place our present methods of port sanitary administration on a solid foundation.

The experience gained by Reece at this time has always been of great practical value to the central health authority to which his services were transferred subsequently, and he did more than any other man to organize and improve the measures adopted in England to prevent the introduction into this country of exotic and other ship-borne diseases from abroad. The success which has attended these measures has, it may be added, gradually led to their adoption, with slight modification to suit local needs and conditions, by nearly every civilized country in the world.

But Reece gained more than mere knowledge and experience of administrative methods during that strenuous period of service in the lower reaches of the Thames. He became practically acquainted with the construction and hygiene of merchant ships, and, perhaps most important of all, he gained a keen insight into human nature, more particularly that pertaining to seafaring men, which was of great advantage to him in after life; for, however perfect a scheme may appear to be on paper, it is the human element that counts, and success cannot be secured unless this is understood and allowance made for it.

Reece was appointed a medical inspector of the Local Government Board on December 13th, 1892. Sir Richard Thorne had just assumed office as medical officer of the Board in succession to the late Sir George Buchanan, and Reece's attention was immediately directed to another phase of the cholera question—namely, the control of local outbreaks of the disease in England. One of the first tasks allotted to him was the investigation of an outbreak of cholera in the borough of Great Grimsby and in the local board district of Clee-thorpe-with-Thrunscoe; he carried this out with characteristic ability. An admirable report was made which firmly established the new recruit to the medical staff of the Local Government Board in the confidence of his chief and colleagues.

It had for many years been believed by competent

RICHARD JAMES REECE.

observers that infection of certain diseases, notably that of enteric fever, is at times communicated to man as the result of the consumption of certain forms of uncooked molluscs, notably oysters. As a result of Reece's report on the circumstances associated with the cases of cholera in the districts mentioned, in which he had shown that oysters and other molluscs at Cleethorpes and Grimsby were so deposited and stored as to be almost necessarily bathed each tide with the effluent of sewers at that time receiving cholera discharges, Sir Richard Thorne expressed his conviction that the distribution of these shell-fish had been concerned in the diffusion of scattered cases of cholera over a somewhat wide area of England.

For purposes of instruction in the routine of vaccination inspection Reece was, at an early stage of his career, associated with his colleague Dr. R. Bruce Low. They visited different parts of the country together, and a warm personal friendship arose which ended only with Bruce Low's death in 1922.

Reece's relationship with his colleagues of the Local Government Board was always of a most cordial character, but the man who stood out above all others in his regard and affection was Sir William Henry Power. For him Reece had boundless admiration, not merely on account of the great ability and statesmanlike qualities which he displayed in the discharge of his responsible duties, first as assistant medical officer and afterwards as medical officer of the Board, but also because of the sterling character of the man. To Reece, Power was always the beloved chief for whom it was never possible to do enough. It was sufficient for Reece to know that Power wanted something done, and however arduous and irksome the task might be, it would be accomplished. In very special measure Power handed on to Reece the great traditions of Simon, Buchanan, and the other founders of the English public health service. This was received by Reece as a sacred trust, and no man could have made better use of it. In all his official work he not merely carried out the highest ideals of the service himself, but, more important still, by his example and teaching, he inspired the younger generation of medical officers in the central health department with the faith which had had such profound influence on his own life. In this manner the teaching of those early pioneers has been handed down from one generation to another and still inspires and encourages the medical staff of the Ministry of Health.

Space does not admit of even brief mention of all the excellent work done by Reece in the service of the Local Government Board and the Ministry of Health. He investigated the great epidemic of enteric fever at Lincoln in 1904, when, so far as the writer is aware, chlorine was first used as a means of sterilizing polluted drinking water and rendering it fit for human consumption. His report on small-pox and small-pox hospitals in Liverpool was a most valuable contribution to the literature of the subject. It gave rise to a certain amount of controversy at the time, but Reece established to the satisfaction of his department the fact that the situation of the small-pox hospitals in populous areas had been responsible in material degree for the considerable and sustained prevalence of small-pox in Liverpool in 1902-3.

In a report on an outbreak of diphtheria and certain cases of "pneumonia" in the borough of Hunt, Reece's wide knowledge of clinical medicine, combined with his epidemiological experience, enabled him to record one of the earliest outbreaks of infective pneumonia in this country. He was an epidemiologist of outstanding ability, bringing to bear on the problems under investigation all the care and attention to detail of which he was a master. It was these faculties which enabled him to elucidate with such conspicuous success the important part played by "abortive" mild and unrecognized cases in the transference of acute poliomyelitis, and thus to link up one group of cases with others which appeared to have no obvious connexion. His report on the prevalence of this disease in Devonshire and Cornwall in 1911 will always remain a classic.

Reece had a great faculty for getting things done. Many prolonged controversy which had given rise to endless official correspondence without result was amicably settled when Reece visited the district and dealt with the matter on the spot. His knowledge of the world and wide experience of men of all classes, combined with unfaltering determination and strong personality, enabled him to attain success where others failed, and those who were first inclined to be bitterly hostile to him generally became his friends before the termination of his visit.

As an administrator Reece was always a conspicuous success. He was appointed assistant medical officer to the Local Government Board in 1912, was promoted to the post of second assistant medical officer in 1913, and became one of the senior medical officers on the formation of the Ministry of Health in 1919. The section over which he presided at the Ministry is known as "Med. 6," and deals with questions relating to port sanitary administration, the medical inspection of aliens, outbreaks of the common infectious diseases, the administrative control of small-pox hospitals, and of public vaccination, isolation and small-pox. Reece was a recognized authority on vaccination and small-pox, having a very wide knowledge of the literature as well as great practical experience of the subject. The present system of control of the disease by means of central intelligence and expert advice is merely one of many examples that could be given of his powers of organization.

Reece was a favourite with the whole staff of the Ministry. His opinions were greatly valued, not merely by his chief, Sir George Newman, but also by the secretariat. He was held in high esteem by the medical department, while he had the absolute confidence and strong personal affection of every member of his own staff. It was because of this cordial personal relationship that he was enabled to conduct the work of his department with exceptional efficiency. It should be understood that much of this work is of an emergency nature, requiring prompt action and involving on the part of the staff long journeys undertaken at short notice, at all times of the day or night, besides strenuous work in the districts visited. Such services were always most willingly undertaken by the medical officers of "Med. 6" because of the regard they had for their chief. No man ever worked harder in the service of the central health department than Reece, yet he had always time to spare to discuss an important problem with any of his colleagues, and he invariably placed his invaluable advice and assistance unreservedly at their disposal. He came to occupy a unique place in the department as guide, philosopher, and friend, and in this respect his death leaves a blank that can never be filled.

Reece's high standing as an epidemiologist and sanitarian was recognized by his election and re-election as President of the Epidemiological Section of the Royal Society of Medicine. He was Vice-President of the Public Health Section of the British Medical Association at the important Glasgow meeting in 1922, and gave a comprehensive address on port sanitary administration, its development, and its relation to public health in England and Wales, a subject with which he was thoroughly familiar. He was for several years an examiner in State medicine at his old university.

During his early years of medical study at St. Bartholomew's Reece became an energetic officer of the Volunteer Medical Staff Corps and commanded a company. Later on, in 1888, he joined as a private the Light Cavalry Troop of the Honourable Artillery Company, which was after wards re-formed into A Battery, Horse Artillery. He was early given a commission, and for many years acted as medical officer to the battery.

On mobilization at the commencement of the great war Reece was called to the colours and immediately went into training with the Honourable Artillery Company. It had been the ambition of his life to see active service with his battery in the defence of King and country, but this wish was not realized. The army authorities became much concerned by the prevalence of cerebro-spinal meningitis among the troops undergoing training in this country, and Reece was transferred to the Headquarters Staff to organize measures for the control of the disease. With characteristic enthusiasm he threw himself into the task, working long hours seven days a week, and it is well known how

successful was the scheme which he organized in limiting the spread of the disease When cerebro spinal meningitis assumed serious proportions among the British troops on the Western Front, Reece was sent to France to advise on the measures necessary for its suppression At the conclusion of the war the distinction of C B (military) was conferred upon him in recognition of the valuable services he had rendered

At the time of his death Reece was still a member of the Honourable Artillery Company and held the now rare rank of honorary surgeon-colonel On the *termination* of hostilities he contributed to the Official History of the War a most interesting chapter on the prevention of cerebro-spinal fever

Throughout life Reece was a good all-round sportsman During his school days he was a keen bicyclist and afterwards joined the Civil Service Bicycle Club and the London Athletic Club He won many cycling races in the days of the old high machines, and was one of the fastest riders of his time He occasionally rode to hounds, and was an excellent shot While at Cambridge rowing formed one of the chief occupations of his spare time he was not merely an excellent oarsman, but made a comprehensive study of all the factors which might make or mar a boat's chances of winning a race, and became an expert on the subject He was a most successful and popular boat captain and in addition to this won the Brickwood Challenge Sculls

Reece often spoke in affectionate remembrance of those undergraduate days, and used to delight his hearers by an inexhaustible supply of stories concerning the escapades of that period The hero of the piece was always a certain 'Bob," who soon acquired legendary fame among a wide circle of Reece's friends

Reece was a distinguished Freemason, having held high office in the craft His assistance was of great value in the organization of that most excellent institution the Freemasons' Hospital, where so much good work has been carried on He was a most popular member of the Savage Club, where at those famous Saturday night dinners he often occupied the chair

Some of the happiest days of Reece's life were spent at his house at Birchington, which is situated on the chalk cliffs overlooking the sea It was here that he spent many joyous holidays with his family in the scanty leisure snatched from official work He had a great love for the place and all that belonged to it, and being a skilled bricklayer he occupied his time in building a wall which separates his ground from that of the adjoining property and also a garage, with his own hands It was here also that on Easter Sunday he died—and death was so little anticipated and came so suddenly that there was no time even for farewell The blank he leaves in the lives of those who knew and loved him best can never be filled

It cannot be doubted that Reece s high character unselfishness constant kindliness, and unwavering devotion to duty sprang from deep roots

In 1894 Reece married Ada Eleanor, only daughter of James Watt Perkins of Edgware she, with two sons and two daughters survives him It may be added that the elder son was the fourth successive Richard Reece to study medicine at Bart's, and that one of the daughters has also adopted her father's profession

Dr J C McVail writes

I am invited to say something regarding the late Dr Reece, but his startlingly sudden death and the keen sense of personal loss which it evokes make very difficult the setting down in proper form of anything in the least adequate concerning him So recently as Good Friday—just two days before the sad event—he wrote to me from his house on the sea cliff at Birchington The letter was in the bold, free script, and inspired with the bright and breezy humour which characterized the man himself Little did I think that it was to be the last word from him

It is a curious fact that the earlier official sanitarians of this country—Chadwick, Rawlinson, Southwood Smith Simon in England, and Gairdner and Littlejohn in Scotland—mostly lived to a good old age while their successors—Buchanan, Thorne, Barry, Bulstrode, Russell, and others—were less fortunate in respect of longevity Reece, alas! now belongs to the latter group, succumbing whilst there seemed every prospect not merely of completing his full period of Government service, but also of enjoying a long evening—gloaming as we should say in the North—of leisure on retirement Yet before the darkness prematurely fell he accomplished as much good work as would have deservedly brought the highest credit to an older man Dr Reece was indeed an ideal civil servant There was no eight hours' day for him His work ended only when the task was overtaken, and he was to be found at his desk long after the office closing hour had struck The public who talk nonsense about the easy life of bureaucrats little know the truth as regards the higher ranks of the service The late Sir Henry Littlejohn once remarked to me that it was only the busy man who had any spare time That was so with Dr Reece However fully occupied he might be, and notwithstanding he rather lacked the Pauline virtue of suffering fools gladly, he was always ready to discuss and help to elucidate questions really relevant to the functions of his department Also he took any amount of trouble in the ascertainment of the exact facts relating to a subject under consideration The ramifications of the Ministry of Health have properly and necessarily extended far beyond the scope of the old Privy Council and Local Government Board activities, but the direct succession to the public health work of these two bodies has historically fallen in large degree upon the subdepartment of the Ministry of which Dr Reece was the head

Reece regarded himself as in a very special degree the pupil of Sir William Henry Power, and his admiration for that master and friend was boundless Power had an unconquerable shrinking from publicity, but those who knew him best revered and loved him most Reece not only treasured his teaching in the science and practice of preventive medicine, but also his example in respect of helpfulness to all who were worthy of help, so that I am certain he in his turn has inspired in his own staff the feelings which had been cultivated in him by Power During the long illness and suffering which preceded Power s death Reece acted towards him with all the affection of a son

Dr Reece was not given up to abstruse speculations His was a department of action, and he was a strong man where strength was needed He was troubled with no indecision as to what should be done in any given set of circumstances His advice or instruction was clear and definite, without hesitation and with only essential reservations As the saying is, he would have been a good man to go tiger-hunting with In manner, a surface cynicism covered a warm hearted generosity and altruism He had his hobbies At Birchington his natural heftiness and dexterity found outlet in his workshop and his garden a holiday being mainly spent in exercising his hands while resting his head As a book collector he accumulated what is probably the most complete library in this country of the old literature of small pox variolation and vaccination For example, he possessed a copy of both editions of Jenner's *Enquiry*, the first dedicated to Dr Parry of Bath and the second to the King What is to become of this special collection now or later I do not in the least know but it would serve to fill up gaps in almost any medical library, though, as it seems to me the books would be still better kept together where they could be at the service of students of medical history

During the last two years of his life Dr Reece was an admirable President of the Epidemiological Section of the Royal Society of Medicine At the British Medical Association's Annual Meeting in Glasgow in 1922 he lent distinction to the Public Health Section by acting as its Vice-President, just as Sir William Macewen did to the Congress as a whole After the meetings were over, when we were on the Saturday excursion down the Clyde, I remarked to Reece that surely now he would begin to attend these gatherings occasionally He replied—No, he would never be at another I asked why and the answer came at once, " Because there can never again be so successful a congress and I want to retain it undimmed in my memory " And now, alas! both William Macewen and Richard Reece have departed, never to return

R HINGSTON-FOX, M D, F R C P

DR RICHARD HINGSTON FOX, who died at his country home at Jordans, near Beaconsfield, on April 20th, aged 71, was the third of six surviving sons of Joseph John Fox, surgeon of Stoke Newington, who all followed the family tradition and entered the medical profession After studying at the London Hospital, Hingston Fox obtained the M R C S and L S A diplomas in 1874, and began general practice at Finsbury Park, a few years later he took up work at Finsbury Square, in the City of London In 1885 he obtained the degree of M D Brux and the M R C P diploma, and in 1923 he was elected a Fellow of the Royal College of Physicians

During his years of active practice in London, Hingston Fox made a close study of life assurance in its medical aspects, and for more than forty years he acted as medical officer in London to the Friends' Provident Institution His statistical bent and philosophic outlook well fitted him for this class of work He was one of the original members and a past president of the Assurance Medical Society, and contributed many papers to its proceedings He was also an active member of the Hunterian Society, in which he had held all the chief offices, his Hunterian Oration on the life of William Hunter, anatomist, was published in 1901 This historical monograph was followed eighteen years later by *Dr John Fothergill and His Friends*, a well arranged study of eighteenth century medical life and character In writing it Dr Fox made full use of his great knowledge of the period, moreover, by inheritance and conviction he was well equipped to describe the life and times of the most prominent member of the Society of Friends in the eighteenth century At the time of his death he had almost completed another work on historical medicine—the history of the Hunterian Society—a volume compiled in commemoration of the recent centenary of that society

In 1902 Dr Fox quitted general practice in the City and North London for consulting work in what is still sometimes called the West End He was medical examiner for the United Kingdom Provident Institution, honorary physician to the St Luke's Provident Dispensary, and physician to various assurance companies During the war he acted as assistant physician to the Mount Vernon Hospital for Consumption As a youth he had worked during the Franco-Prussian war of 1870-71 for the War Victims' Fund, and more than half a century later he visited Germany on behalf of the Friends' Council of International Service

As may be judged from his historical writings, Hingston Fox had the instincts and methodical habits of a scholar An early hour or two of each morning was spent with the Greek Testament or the Hebrew Psalms, and his daily life was so arranged as to allow of regular periods for walking, study, rest, and conversation Among his hobbies were antiquities, the study of trees and birds, and, above all, books, with which in his home and consulting room he was everywhere surrounded His character and attitude towards life were reflected in the quiet and correct style of his writings

Dr Fox married in 1879 Elizabeth, daughter of the late Charles Tylor, he had seven children, all of whom survive him His only son, Dr J Tylor Fox, is medical superintendent of the Lingfield Epileptic Colony

GEORGE HENRY OLIVER, M R C S,

Consulting Ophthalmic Surgeon Bradford Royal Eye and Ear Hospital

MR GEORGE HENRY OLIVER of Bradford died on April 14th, aged 63 He was the eldest son of the late Mr Thomas Oliver of New Holland, Lincolnshire, and was educated at the Leeds Medical School and Vienna He obtained the M R C S and L S A in 1885, and L R C P Lond in 1888, and was one of the earliest to take the Diploma in Ophthalmology of the University of Oxford He had been in practice in Bradford for about thirty years, and for a long period was associated with the Bradford Royal Eye and Ear Hospital first as assistant surgeon and finally as consulting ophthalmic surgeon He was also ophthalmic surgeon to the Health Committee of the Bradford Corporation and to the St Luke's Municipal Hospital

Mr Oliver had been lecturer in ophthalmology at the University of Oxford, surgeon to the Bradford War Hospital, and officer in charge of No 84 Ophthalmic Centre, War Hospital, Bradford He was an ex-president of the Bradford Medico-Chirurgical Society, ex-president of the North of England Ophthalmological Society, and an ex-chairman of the Bradford Division of the British Medical Association, he had also been appointed a vice-president of the Section of Ophthalmology at the forthcoming Annual Meeting of the British Medical Association to be held in Bradford in July next

MR T JASON WOOD, surgeon to the Bradford Royal Infirmary, writes Mr Oliver was an enthusiast in regard to his own subject of ophthalmology, but was by no means one-sided in his interests he was a cultured musician, and a performer on the pianoforte of no little merit He was a great lover of animals and had a good practical knowledge of natural history he took a delight in keeping under observation all sorts of likely and unlikely animals, and an interesting half-hour was assured to the sympathetic visitor by the inspection of his numerous pets Mr Oliver took no active part in political or municipal affairs, except in so far as they touched the interests of the profession The last two years of his life were marred by much personal suffering, against which he struggled bravely, though it greatly limited his physical activities The end came somewhat suddenly after a long period of complete disablement from work

Another colleague (J P) writes Stevenson has somewhere eulogized a friend for her "frank interest in things for their own sake and enduring astonishment at the most common" "You will not find," he asserts, "many more shrewd, trenchant, and humorous" George Oliver was a man of many interests and one able to make his friends understand and share his enthusiasms Ophthalmology was, of course, his chief love, and his knowledge of the literature of the subject, both in English and in German, was exceptional However rare or unusual a case might be he could be relied upon to know where just such a condition had previously been described He was diffident of rushing into print, but his two presidential addresses —on the history of the invention and discovery of spectacles, for the Bradford Division of the British Medical Association, and on visual memories and their disturbances, for the Medico-Chirurgical Society—were epitomes of the results of wide reading, and showed his skill in extracting the essentials of a subject and making it interesting to all and sundry He had many interests outside his profession He was an accomplished pianist, Chopin being his favourite composer, he was also delighted to entertain the audience at a smoking concert with songs from the Gilbert and Sullivan operas His interest in natural history dated back to boyhood He was a medallist in botany at Leeds and he knew the name and history of every flower in his cottage garden at Addingham His pets included not only dogs but squirrels and insects, he was indeed something of an authority on insect life, his opinions being quoted in a recent textbook on spiders

At the memorial service held in Bradford Cathedral on April 17th, Archdeacon Stanton Jones, Vicar of Bradford, who conducted the service, paid a tribute to the generosity of the late Mr Oliver, and said that his work at the Royal Eye and Ear Hospital had made him greatly respected and beloved by all with whom he came in contact

F W CRAGG, M D Edin,

Major I M S, Assistant Director, Central Research Institute, India

MAJOR FRANCIS WILLIAM CRAGG, Indian Medical Service, died on April 23rd, aged 41, at Lahore, of typhus fever contracted while conducting researches into the epidemiology and prevention of the disease in that city His untimely death is a severe loss, not only to the Government of India's Bacteriological Department which he served so faithfully and well, but to a wide circle of scientists in Europe who were familiar with the specialist lines of entomological research which he had made his own He was educated at Edinburgh, where he graduated M B,

Ch B in 1905 and M D in 1910 In 1922 he obtained the degree of D Sc in the same university He joined the Indian Medical Service on September 2nd, 1906, and four years later entered the Bacteriological Department as an assistant to the Director of the King Institute of Preventive Medicine Madras In this appointment he had excellent opportunities of following his predilection for entomological studies, and the result was a fruitful output of scientific papers which have proved of great service both to specialist workers in that branch of zoology and to medical men and others to whom entomology is mainly of interest as an applied science In 1913 in collaboration with Lieut Colonel W S Patton, I M S , now lecturer at Edinburgh University, he published a comprehensive *Textbook of Medical Entomology* During the war he served in the Egyptian Expeditionary Force from December, 1914, to January, 1916 On his return to India he became Assistant Director of the Central Research Institute at Kasauli, and took an active part in the study of malaria, relapsing fever, typhus, and plague This work involved epidemiological inquiries in the field as well as laboratory research, and it was during one of these local epidemiological inquiries that he contracted the disease from which he died He leaves a widow and two children to mourn his loss

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Dr JAMES GLENDINNING of Abergavenny died on April 2nd at the age of 77 He was educated at the University of Glasgow, where he graduated M B in 1871 and M D in 1873 For the long period of forty two years he was associated with the Monmouthshire Asylum, Abergavenny, first as assistant medical officer, and for thirty years as medical superintendent He retired in 1913, but continued to reside in Abergavenny, interesting himself in many local affairs, he was much esteemed for his wide knowledge and kindly sympathy Dr Glendinning was a member of the British Medical Association, he was president of the South Wales and Monmouthshire Branch in 1910-11, and chairman of the Monmouthshire Division in 1905-6 He was a member also of the Medico-Psychological Association of Great Britain and Ireland

The Services

NAVAL MEDICAL COMPASSIONATE FUND

At the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on April 25th under the chairmanship of Surgeon Vice-Admiral Joseph Chambers Medical Director General of the Navy, the sum of £125 was distributed among the several applicants.

Medical News.

SIR HUMPHRY ROLLESTON, K.C B , M D President of the Royal College of Physicians of London, will formally open the new natural baths at Buxton on Saturday May 17th, at 3 p m In the evening the Mayor and Corporation of Buxton will give a dinner at the Palace Hotel.

A MEETING in support of the British Empire Cancer Campaign will be held at the Mansion House, London on Tuesday next, May 6th at 3 p m , under the chairmanship of the Lord Mayor The speakers include H R H the Duke of York, the Colonial Secretary, the Minister of Health, the High Commissioner for Canada, the Minister of Labour of the New South Wales Government, Sir John Bland Sutton (President of the Royal College of Surgeons of England), and Professor W S Lazarus Barlow, of the Middlesex Hospital Cancer Research

FROM May 19th to 31st an intensive post graduate course will be given by the North East London Post Graduate College in association with the North Eastern Fever Hospital Courses in special hospitals will be held from May 5th to the end of the month in venereal diseases at the Lock Hospitals, in ophthalmology at the Central London Ophthalmic Hospital, including an operative surgery class in psychological medicine at the Maudsley Hospital On May 12th will begin a special course at the Infants Hospital (Vincent Square), a course in proctology at the St Mark's Hospital for Diseases of the Rectum, and a course in laryngology, rhinology, and otology at the Central London Throat, Nose and Ear Hospital Further information about these courses may be obtained from the secretary of the Fellowship of Medicine, 1, Wimpole Street, W 1

THE annual dinner of the Federation of Medical and Allied Services will be held at the Langham Hotel, London, W 1, on Friday May 30 h with the President Sir Berkeley Moynihan, Bt K C M G in the chair Individual members of the Federation and members of co operating bodies are invited to make early application to the secretary at 12, Stratford Place, for tickets price 12s 6d each

A XXTH Century Association of Graduates of the University of London has been formed to encourage an active interest in the government of the University and the business of convocation, and to maintain contact with the University Union Society and the Collegiate Unions The first meeting was held on Thursday, May 1st

THE first number of the *Australian Journal of Experimental Biology and Medical Science* was issued on March 15th It will be published quarterly, and the annual subscription, which it would appear may be paid to the librarian of the University of Adelaide is one guinea It is edited by J B Cleland professor of pathology in the University of Adelaide, and T Brailsford Robertson, of the Laboratory of Physiology and Biochemistry, Adelaide

DR J CARSWELL will deliver the fifth Maudsley lecture of the Medico-Psychological Association of Great Britain and Ireland at 3 p m on May 22nd at the Royal Society of Medicine The subject is 'Some sociological considerations bearing upon the occurrence, prevention, and treatment of mental disorders

THE annual medical missionary breakfast of the Medical Prayer Union will be held on Wednesday, May 14 h at the Refectory University College, Gower Street W C.1, at 8 a m , under the presidency of Mrs Scharlieb M.D An address will be given by Dr J A. Lilley of Tangier An intimation of intention to be present will be welcomed by the honorary secretary, Dr Tom Jays, Livingstone College, Leyton, E 10

IT is proposed to establish an international society open to all medical officers of health taking part in the various interchanges organized by the League of Nations A provisional committee composed of representatives from Great Britain, Russia France Germany Poland Italy and Ecuador has been formed to draw up the constitution The society will have its headquarters at Geneva and all public health officers who have already taken part in League interchanges —namely 240 from forty three different countries—will be invited to become original members

AT a meeting of the Central Midwives Board for Scotland for the hearing of penal cases Dr James Haig Ferguson in the chair, a midwife of Govan Glasgow was found guilty of negligence and breaches of the rules and of having allowed an uncertified woman to do her work etc., and the secretary was instructed to remove her name from the Roll of Midwives and to cancel her certificate

A CHAIR of oto-rhino-laryngology has been founded at the Faculty of Medicine of Vilna University, with Dr Jan Szmurzo as its first occupant

ON April 8th, at the Académie de Médecine Dr G Luys of Paris read a paper describing the results of treating 115 cases of prostatic hypertrophy by electro-coagulation In ninety nine of these cases all obstruction had been completely removed, and amongst the statistics furnished by the author was the report that several of those thus treated had remained healed for nearly ten years He claimed that this operation was both radical and non mutilating whilst being effective

THE annual meeting of the Maternity and Child Welfare Group of the Society of Medical Officers of Health will be held at Caxton Hall, Westminster, S W 1 on July 3rd at 5 p m A discussion on the treatment of babies suffering from malnutrition and the results obtained by ward provision, whether municipal or voluntary for such babies will be opened by Professor Edward Mellanby who will speak as to his experience at the Royal Infirmary, Sheffield

THE KING has granted Dr Reginald Gower Kirton late Principal Medical Officer to the Egyptian Prisons Department authority to wear the insignia of the Order of Ismail (Third Class) conferred upon him by the King of Egypt

WE are informed that the name of the All India Sub-assistant Surgeons Association has been changed to the All India Medical Licentiates' Association

THE Sir William Dunn Laboratories School of Biochemistry, Cambridge, will be opened by the Earl of Balfour, K G , Chancellor of the University, on Friday, May 9th, at 3 30 p m.

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W C 2, on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand W C 2

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Attiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand, London*

MEDICAL SECRETARY *Medisecra Westrand, London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin*, telephone 4737, Dublin) and of the Scottish Office, 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone, 4361 Central)

QUERIES AND ANSWERS.

BLACK TONGUE

"A M" asks for the reason why the tongue may become blackened as if stained by eating black currant jam

*** In *Diseases of the Tongue*, by Butlin and Spencer (1920, p 145 is given a description of the hairy black tongue (nigrities — hyperkeratosis linguae), a condition of slight clinical importance produced by an overgrowth of the epidermis of the filiform papillae, without the production of true hairs though sometimes long tendrils or lashes like seaweed occur The colour, which is often black, may be sepia brown yellow, or even blue it has nothing to do with the growth of the papillae but is due to the organisms clinging to them The discoloured area, though at first of small size, may extend slowly until it covers a large portion of the tongue, lasting from two or more weeks up to as many months The affect on disappears little by little from the circumference towards the centre In some cases only the discoloration is noticed, but generally the papillae are enlarged A black mould has been cultivated from spores obtained from a case of black tongue, but this has not been definitely established as the cause It is possible that the colour is due to the production by micro-organisms of a stain which colours the epithelial cells. The course recommended is to assure the patient that this condition is a mere curiosity and if some treatment is deemed necessary then painting the tongue with a 2 per cent solution salicylic acid may be tried or rubbing in a solution of carbolic acid, diluted 1 in 60 with a soft piece of rag, three or four times a day lactic acid is also useful

INCOME TAX

Purchase and Sales of Practices

"C F M and his brother purchased a practice as from January 1st 1923 and the local inspector has agreed to adjust the income tax assessment for the year ending April 5th, 1924 to the amount of their profits for the year to December 31st, 1923 An accountant has prepared an account for the firm including with the cash receipts the amount of bills issued in July, 1923, but unpaid at December 31st, 1923 but the inspector claims to have included in addition the value of the bills not sent out at the latter date

In the circumstances we think the inspector is right Normally—that is on the three years average basis of assessment the point would be of little or no importance, but where for a special purpose it is necessary to compute the profits of a single year it is clear that a whole year's earnings must be set against a whole years expenses Assuming that the cash receipts of the new firm do not include any sums paid for work done while the practice was in the predecessor's hands, the account as it stands would include the full expenses for the last six months of 1923, but would not include the whole of the income to earn which those expenses were incurred "G E M" should, however, claim a deduction from the full amount for probable bad debts, not only in respect of work done but not actually charged for by the issue of bills, but also from the outstanding July bills

"D Mc," who is making his income tax return on the usual basis of the three previous years, asks what will be his position in the event of his selling the practice

*** He will be entitled to have the gross assessment divided between himself and his successor on the basis of the number of days he held the practice during the financial year commencing April 6th, from his share of the gross assessment he is entitled to deduct the allowances—for example, earned income relief, family allowances, etc —due to him for the year His successor has no right as such to particulars of the past assessments or profits, but it is usual to supply such information as will enable him to make proper returns on the three years' average basis for future years

LETTERS, NOTES, ETC.

DIET IN RELATION TO HEALTH AND MORALS

MAJOR GENERAL SIR W G MACPHERSON K C M G, C B, writes: On page 755 of your issue of April 26th I read a remark by Dr H. M Stratford to the effect that "Gurkhas, one of the great fighting races of India, were vegetarians and so, he believed, were the Sikhs" Both these fighting races are meat eaters

SECOND ATTACK OF MEASLES

DR A N M DAVIDSON (Southport) writes: I see in the issue of the BRITISH MEDICAL JOURNAL of April 26th (p 772) Dr Kemp of Stratford writes on the subject of a second attack of measles which he had observed in a boy of 10, moved thereto no doubt by the view widely held as to the rarity of second attacks of this disease So far as my own clinical experience goes I believe the occurrence of second and even third attacks of true measles to be far less uncommon than is usually taught and held, and I fancy that anyone who has had a considerable experience of children's diseases will agree with me I personally have had measles twice—a bad attack for the first time at 21, and a less severe attack at 28 On both occasions I was run down and had been exposed to massive and repeated infection during measles epidemics In the second attack while the temperature rose only to 102° F, the rash was copious and the cough very troublesome

*** It is of interest to note that after he had come to practise in this country Sir William Osler evidently modified his opinion in regard to the frequency of recurrent attacks of measles In the fourth edition, 1901 (we have no earlier edition at hand at the moment), of his *Principles and Practice of Medicine* we read "There is no infectious disease in which recurrence is more frequent There may be a second, third, or even a fourth attack" In the seventh edition (1910) he expressed a different view "Recurrence is rare Very many cases of the supposed second and third attack represent mistakes in diagnosis Relapse is occasionally seen, the symptoms recurring at intervals of from ten to forty days, but it is not always easy to say in a given case whether there may not have been new infection from without."

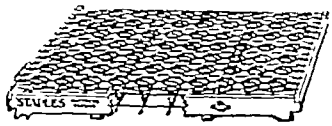
MEDICAL BIOGRAPHIES

DR J V L GRANT (Wilnecote, Tamworth) writes I was much interested in Dr Stratford's letter on medical biographies in the JOURNAL of April 19th Curiously enough I had myself commenced a letter to you a few days ago to make the same suggestion—namely, that the more important medical biographies, say, of the last twenty five years, together with the interesting and valuable additional notes written by personal friends to supplement the main biography should be collected in book form I *myself*, though I am an Edinburgh medical graduate of only twelve years standing, have had the sad pleasure of reading the obituary notices of almost all my teachers amongst others Annandale Ballantyne Bayley Balfour, Crum Brown John Chiene Sir Halliday Croom Daniel Cunningham Sir Thomas Fraser, Gibson Greenfield, Alexis Thomson Sir William Turner, John Wyllie—a galaxy of eminent men who are all affectionately remembered by their old students When I think of them I often bitterly regret that I have not kept all my back numbers of the BRITISH MEDICAL JOURNAL

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 39, 40 41, 44, and 45 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 42, 43, and 44

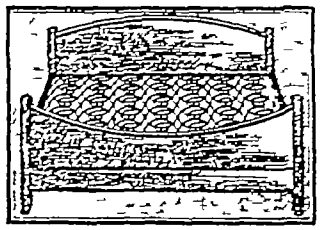
A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 223



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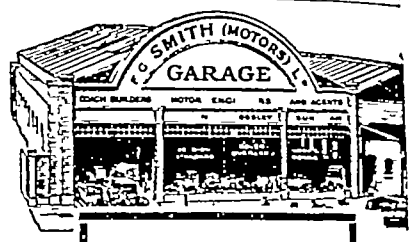
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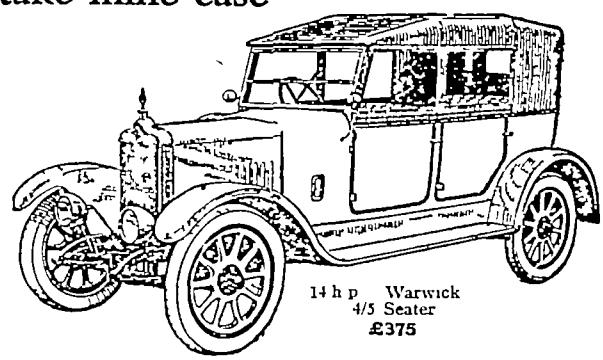
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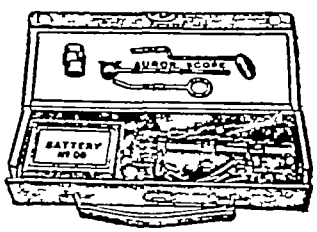
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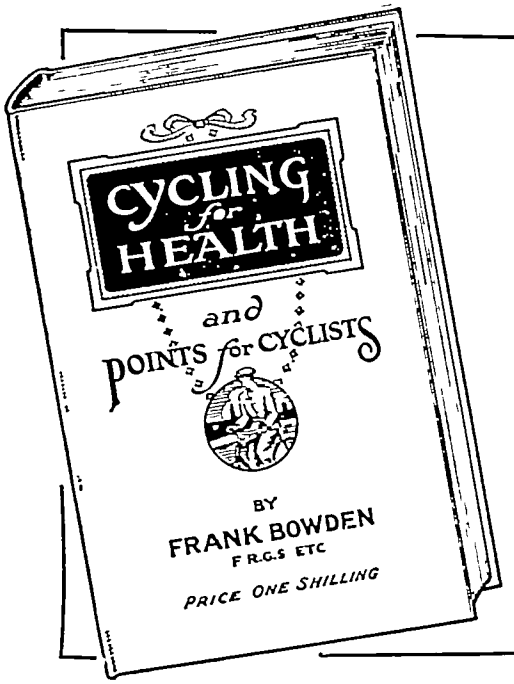
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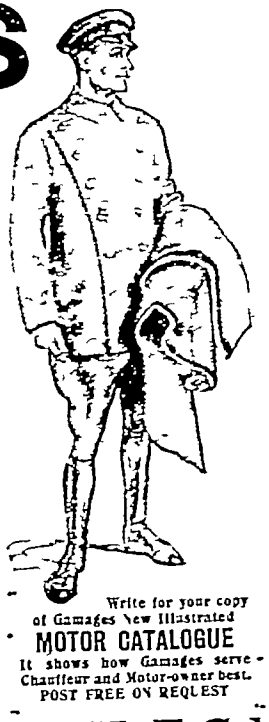




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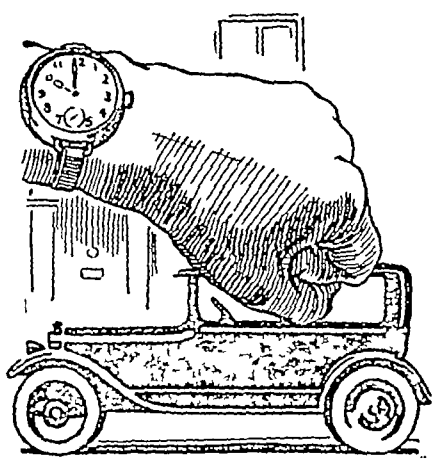
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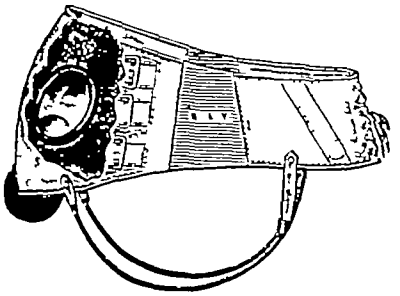
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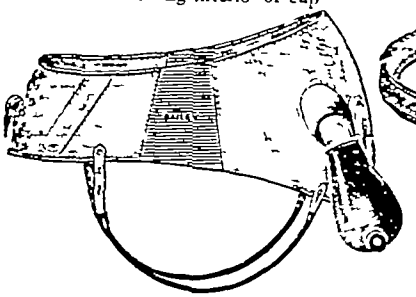
Left showing interior of cup

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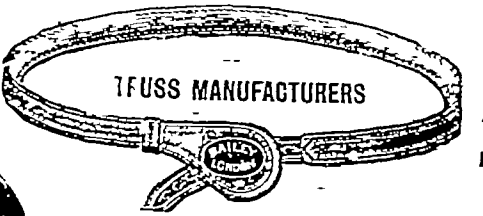
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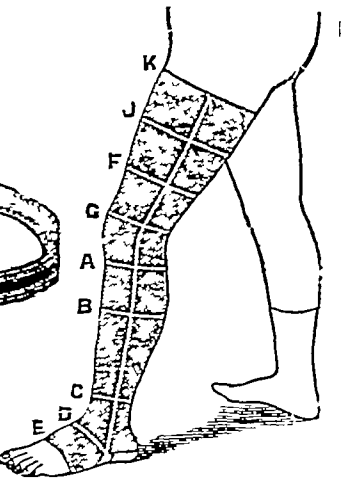


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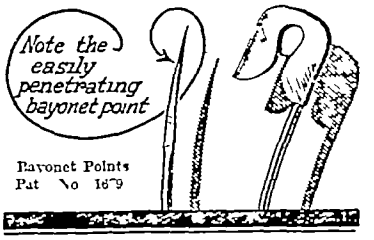


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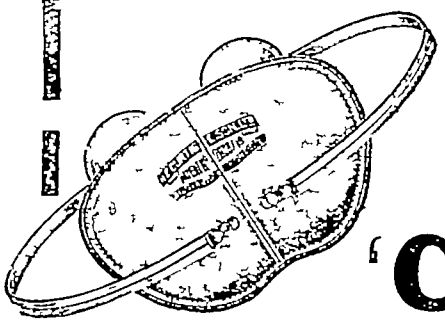
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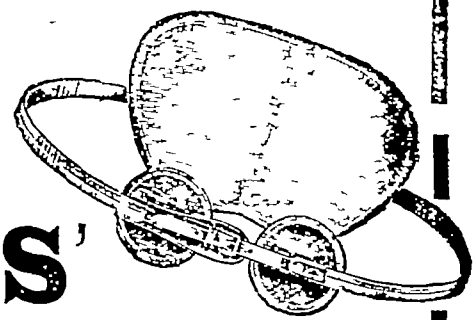
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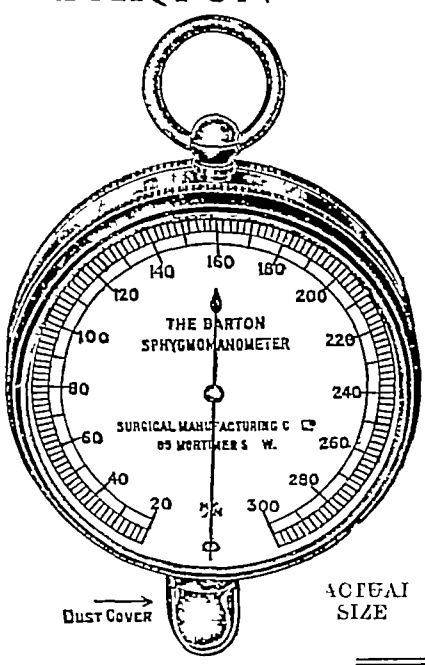
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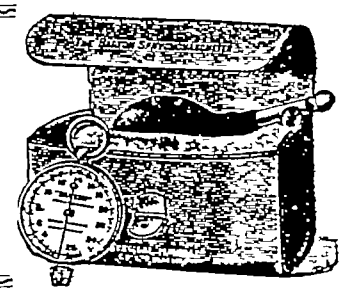
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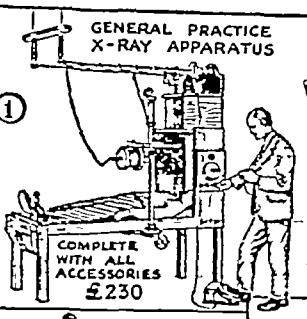
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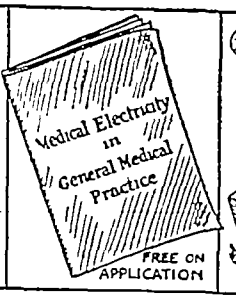
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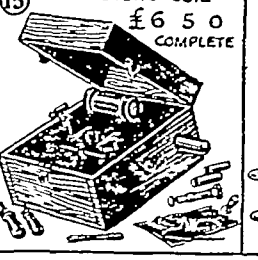


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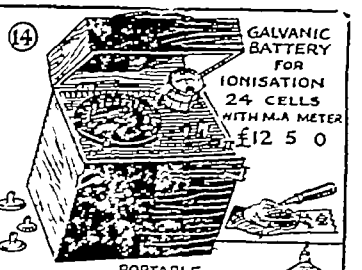


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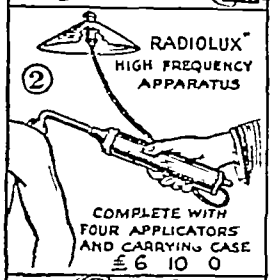
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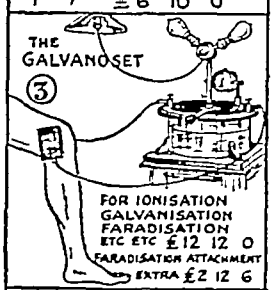
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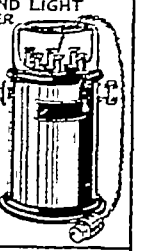
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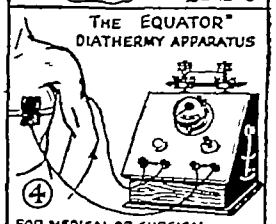


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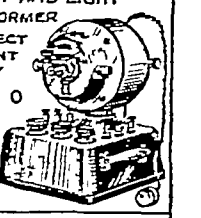


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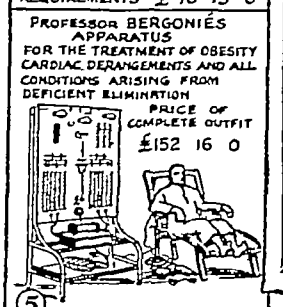


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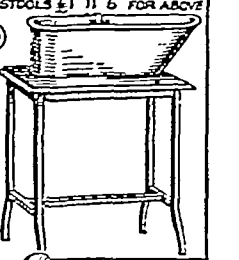


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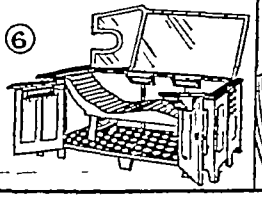
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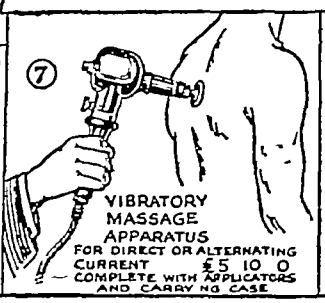


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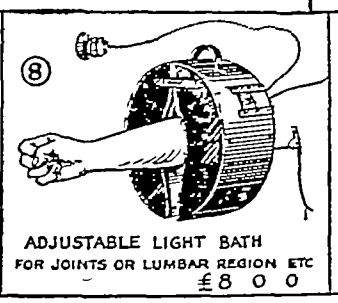


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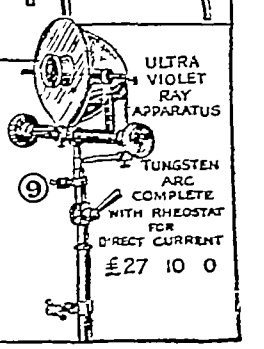
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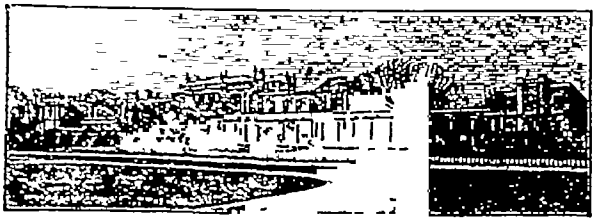
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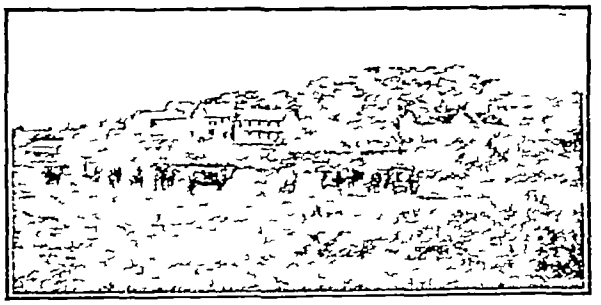
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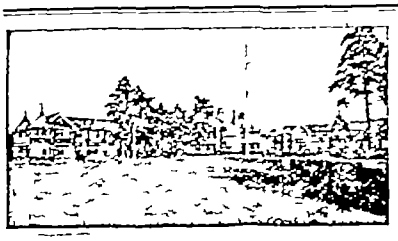
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An INTENSIVE COURSE, extending over a fortnight, and comprising Lectures, Demonstrations, and Clinical Work, will commence on May 19th Those propo ing to take the Course should send in their names to the Dean J BRIGHT BANISTER, M D F.R.C S 39 Harley Street W 1

F R C S Edin

The TUTORIAL CLASS for the next Examination will commence shortly Correspondence Tuition if desired.—For particulars apply FRED GRAHAM M.D F R.C S.Ed Northfield Liberton Edinburgh

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BEHNKE METHOD Estab. 1832. Cases, non resident, treated at 29 Earl's Court Square, S W.5 and, in residence, in the Summer holidays at Miss BEHNKE's house on the Chilterns.

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University of Birmingham

A LECTURE entitled "*Some Questions concerning the Influence of Tropical Climate on Man*" will be given (in English) by Professor C EYKMAN (Professor of Hygiene and Microbiology in the University of Utrecht) in the Medical Theatre, The University, Edmund Stree on Wednesday, May 7th, at 4 o'clock

Admission free without ticket.

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For MEDICAL PROSPECTUS (32 pages) List of Tutors, and particulars about any Medical Examination apply to the Principal, Mr E. S. WEYMOUTH.

University of London

ADVANCED LECTURE IN OPHTHALMOLOGY

A Lecture entitled "*Accommodation*" will be given (in English) by Professor Dr J VAN DER HOEVE (Professor of Ophthalmology in the University of Leiden) at the CHARING CROSS HOSPITAL MEDICAL SCHOOL (Chandos Street, Charing Cross, W C 2) on Friday May 9th, 1924, at 5 p.m. The Chair will be taken by Mr E. TREACHER COLLINS F.R.C.S. L.R.C.P

Admission free without ticket.

EDWIN DELLER, Academic Registrar.

Examining Board in England

BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

DIPLOMA IN LARYNGOLOGY AND OTOLOGY

Part I. of this Examination will commence on Monday 2nd June and Part II on Friday 6th June 1924

DIPLOMA IN PSYCHOLOGICAL MEDICINE.

Part I of this Examination will commence on Monday 26rd June and Part II. on Friday 4th June 1924

DIPLOMA IN PUBLIC HEALTH

Part I of this Examination will commence on Monday 23rd June and Part II. on Monday 30th June 1924

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.

This Examination will commence on Monday 21st July 1924

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY

Part I of this Examination will commence on Monday 7th July and Part II on Friday 11th July 1924.

Candidates who have completed the prescribed courses and who desire to present themselves for Examination, must forward the necessary schedule, or schedules, through the post to the Examination Hall Queen Square Bloomsbury London W C fourteen days before the Examination commences.

FREDERIC G HALLETT,
2th April 1924 Secretary

Examining Board in England

BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

PRE MEDICAL EXAMINATION

This Examination will commence on Tuesday 15th July 1924.

FIRST EXAMINATION

This Examination will commence on Tuesday 15th July 1924

SECOND EXAMINATION

This Examination will commence on Thursday 26th June, 1924

THIRD OR FINAL EXAMINATION

This Examination will commence on Tuesday 1st July 1924

Students who have completed the required professional study and have fulfilled the other necessary conditions and desire to present themselves for Examination must forward the necessary schedules through the post to the Examination Hall Queen Square Bloomsbury London W C. fourteen days before the Examination commences.

FREDERIC G HALLETT,
2 th April 1924 Secretary

Royal College of Surgeons of ENGLAND

DIPLOMA OF FELLOW (with Ophthalmology)

Notice is hereby given that the next Examination for the DIPLOMA of FELLOW (with Ophthalmology) will commence on Friday 20th June 1924

Candidates are required to give not less than four weeks' notice of their desire to present themselves for Examination.

Particulars relating to this Examination may be obtained from the Director of Examinations (Mr F G HALLETT) Examination Hall Queen Square Bloomsbury London, W C., to whom all applications should be addressed.

The required fees must be paid three days prior to the Examination.

28th April 1924

Prifysgol Cymru University OF WALES

DIPLOMA IN PUBLIC HEALTH.

Examinations for the above Diploma will be held in Cardiff, on June 24th to June 27th 1924, inclusive.

Entry forms, which may be obtained from the Registrar University of Wales, Cathays Park Cardiff must be returned to him no later than May 14th, 1924.

University of London

A COURSE of FOUR LECTURES on "*The Development of the Human Embryo up to the appearance of the Primitive segments*" will be given by Professor F. T. H. BATH F R S (Professor of Anatomy in the University of Glasgow) at KING'S COLLEGE, LONDON, Strand W C.2) on Thursday, May 15th Friday May 16th Monday May 19th and Tuesday May 20th 1924 at 5 0 p m

At the First Lecture the Chair will be taken by Professor J P HILL, F.R.S. (Professor of Embryology in the University) A Syllabus of the Lectures may be obtained from the undersigned.

Admission free without ticket.

EDWIN DELLER, Academic Registrar

THE LONDON SCHOOL OF DERMATOLOGY.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN.

49 LEICESTER SQUARE, W C 2

SUMMER COURSE OF LECTURES

Date	*Lecturer*	*Subject*
Tuesday May 6th	Dr WHITFIELD	Principles of Local Treatment
Thursday, May 8 h	Dr KNOWSLEY SIBLEY	Alopecia.
Tuesday, May 13th	Dr ADAMSON	Affections of the Nails
Thursday, May 15th	Dr GRIFFITH	Pemphigus and Bullous Eruptions.
Tuesday, May 20 h	Dr WILFRED FOX.	Naevi and Moles
Thursday, May 22nd	Dr MACCORMAC	Rodent Ulcer
Tuesday, May 27th	Dr SEQUEIRA.	Lupus Erythematosus
Thursday, May 29th	Dr GRAHAM LITTLE	Dermatitis Herpetiformis.
Tuesday, June 3rd	Dr BUNCH	Lupus
Thursday, June 5th	Dr BARBER	Tuberculides.
Thursday, June 12th	Dr HALDIN DAVIS	Acne
Tuesday, June 17th	Dr KNOWSLEY SIBLEY	Electro Therapeutics.
Thursday, June 19th	Dr GRIFFITH	Primary Lesion of Syphilis
Tuesday, June 24th	Dr GRAY	The "Eczemas" of Infants and Children.
Thursday, June 26th	Dr DORE	Psoriasis
Tuesday, July 1st	Dr MACLEOD	Leprosy
Thursday, July 3rd	Dr HANNAY	Lichen Planus.
Tuesday, July 8th	Dr HANNAY	Lichenification

The Lectures are given each day at 5 p m The Fees for the Course, including two attendances at the Out Patient Clinics per week, is Two Guineas, payable in advance to the Secretary of the Hospital

M G HANNAY, M D, *Dean*

ST. MARY'S HOSPITAL, LONDON, W. 2.

INSTITUTE OF PATHOLOGY AND RESEARCH.

A course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the Summer Session The remaining Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on Thursday afternoons at 5 p m as under —

	SUBJECT
MAY 8TH	
Prof A V HILL, O B E M A. Sc D F R S (Prof of Physiology University College Lond on) (Nobel Laureate)	"The Function of Haemoglobin in the Body
MAY 15TH	
ANDREW BALFOUR C B C M G, M D (Director London School of Hygiene and Tropical Medicine)	"Some Medical and Sanitary Lessons."
MAY 22ND	
MAJOR GREENWOOD M R C P M R C S (Statistician to Ministry of Health)	"Is the Statistical Method of any Value in Medical Research
MAY 29TH	
GORDON M HOLMES C M G C B E M D (Physician National Hospital for the Paralysed and Epileptic)	"The Ductless Glands and Personality"
JUNE 5TH	
WILFRED TROTTER M D F R C S (Surgeon, University College Hospital)	"The Sensibility of the Skin in Relation to Neurological Theory
JUNE 12TH.	
WILLIAM BATESON M A D Sc F R S (Director John Innes Horticultural Institution)	"The Determination of Sex

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC,

QUEEN SQUARE W C

POST-GRADUATE COURSE

MONDAY	MAY 5th	12 noon —DR GREENFIELD— The Cerebro spinal Fluid: (1) Anatomy and Physiology
		2 p m —DR. HINDS HOWELL—"Out patient Clinic."
		3 30 p m —DR RIDDOCH— Common Peripheral Nerve Palsies"
TUESDAY	MAY 6 h	2 p m —DR. F M R WALSHE— Out-patient Clinic
		3.30 p m —DR. W J ADIE— Muscular Atrophies
THURSDAY	MAY 8th	2 p m.—DR KINNIER WILSON— Out-patient Clinic
		3.30 p m —DR RIDDOCH— Common Peripheral Nerve Palsies"
FRIDAY	MAY 9th	2 p m —DR. GORDON HOLMES— Out patient Clinic
		3.30 p m.—MR. PERCY SARGENT— Pituitary Tumours."

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In consequence of the lease of ASHDOWN HOUSE Hampstead having expired MISS BULLOCK has moved her School for STAMMERING and LIP READING for DEAF Children and for the cure of SPEECH DEFECTS in HEARING Children to the larger Detached residence standing in its own grounds known as KINGSFIELD HOUSE Oxney Watford.

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POST GRADUATE SCHOLARSHIP

£100 a year for a term not exceeding three years will be awarded in June by the Council of the London (Royal Free Hospital) School of Medicine for Women Open to all medical women preferably coming from India or going to work in India for assistance in post graduate study

Applications must reach the Warden and Secretary (from whom further particulars can be obtained) 8 Hunter Street, Brunswick Square W C 1 by May 31st.

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The age of the pupil district preferred and rough idea of fees should be given

J & J PATON Educational Agents, 143, Cannon Street London E C 4 Telephone 5053 Central.

Seamen's Hospital Society.

LONDON SCHOOL of TROPICAL MEDICINE

Endsleigh Gardens, N W 1.

Sessions will commence 22nd April and 22nd September 1924.

For Prospectus and further particulars apply to The Secretary London School of Tropical Medicine, Endsleigh Gardens N W, or to the Head Office, Seamen's Hospital Greenwich London S E

Small Private Residential

SCHOOL established 21 yrs. for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS Special Department Pupils over school age Under Medical supervision — Prospectus Mrs MEIKLEJOHN Principal St Paul's House Upper Maze Hill St Leonards-on Sea

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MEDICINE.

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th —Prospectus from the Hon DEAN School of Tropical Medicine University of Liverpool

EDINBURGH POST-GRADUATE COURSES in MEDICINE

IN CONNECTION WITH THE

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The following POST-GRADUATE COURSES will be held during the Summer of 1924:—

A.—A COURSE IN OBSTETRICS AND GYNÆCOLOGY from 14th July to 9th August. Fee £10 10s.
B.—A COURSE IN DISEASES OF CHILDREN from 11th to 25th July Fee £6 6s.
C.—A GENERAL MEDICAL COURSE from 11th August to 6th September Fee £10 10s. or £6 6s. for first or second fortnight.
D.—A GENERAL SURGICAL COURSE from 11th August to 6th September Fee £10 10s. or £6 6s. for first or second fortnight.

A series of SPECIAL LECTURES open to all Graduates will be delivered during the period of the General Courses (C and D) Three Lectures on subjects of general Medical and Surgical interest will be given each week.

In addition to the above the following SPECIAL COURSES have been arranged:—

During the SUMMER TERM (MAY—JULY)—CLINICAL THERAPEUTICS TUBERCULOSIS SURGICAL PATHOLOGY DIAGNOSIS and TREATMENT of RENAL DISEASE INSULIN THERAPY RADIOLOGY and OPHTHALMOSCOPY **during the SUMMER TERM (MAY—JULY and AUTUMN TERM (OCTOBER—DECEMBER)**—DISEASES OF EAR, NOSE AND THROAT and VENEREAL DISEASES and **during the period of the GENERAL COURSES (AUGUST—SEPTEMBER)**—EXAMINATION of the BLOOD VACCINE THERAPY and PHYSIOLOGICAL and BIOCHEMICAL METHODS IN CLINICAL MEDICINE.

Further particulars as to the Courses may be had on application to the HON SECRETARY POST-GRADUATE COURSES IN MEDICINE UNIVERSITY NEW BUILDINGS EDINBURGH Early entry is advisable as some of the Courses are limited

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University College of South

WALES AND MONMOUTHSHIRE

THE WELSH NATIONAL SCHOOL OF MEDICINE

The Council of the College invites applications for the post of PROFESSOR OF PATHOLOGY and BACTERIOLOGY Salary £1,500 per annum

The Professor will be required to devote his whole time to the duties of his office

Further particulars may be obtained from the undersigned by whom 60 copies of applications and testimonials (which must be printed) must be received on or before June 2nd 1924

D J A. BROWN Registrar
University College, Cardiff
April 8th 1924

Cheltenham College

TWELVE SCHOLARSHIPS and EXHIBITIONS (not open to members of College or Junior School). The value includes 5 of £30 (increased to £100 for special merit) James of Hereford" Scholarship of £35 for boys born or brought up in Herefordshire R.A.M.C. SCHOLARSHIP OF £50 PREFERENCE TO SONS OF FALLEN OFFICERS) Awards made for all round excellence, or special proficiency in any main subject.

Preliminary Examination (at Candidates' own Schools) Tuesday May 20th, 1924 Final Examination at Cheltenham). Wednesday and Thursday May 28th and 29th 1924

Apply BURSAR, CHELTENHAM COLLEGE

Church Missionary Society

The ANNUAL MEETING of the MEDICAL MISSION AUXILIARY of the C.M.S. will be held in the Queen's Hall Langham Place, W.1 on Wednesday May 7th, 1924. The chair will be taken at 7.30 p.m. by

G. HUMMOND ROBINSON Esq., M.D. F.R.C.P.;

and the speakers will be:—

W. PARKER HARRISON Esq. M.R.C.S., L.R.C.P. of Salt Transjordania
Mrs. J. H. LINTON M.B. B.S.Lon., of Isfahan, Persia.
L. E. S. SHARP Esq. M.B. B.Ch. Camb. of Ruanda, Uganda
Miss LILY G. KLIFF M.B. B.S. Lond. D.T.M. & H. (Lond.)

Tickets for admission can be obtained on application to the Loan Department Church Missionary Society Salisbury Square, Fleet Street E.C.4. There will be a small number of reserved seats at 1/- each

Parish of Fulham

TEMPORARY ASSISTANT MEDICAL OFFICER wanted at the INFIRMARY, Dunsmure Road W.6 for duty during the Summer months, from June 1st. Salary 7 guineas per week in addition to board apartments attendance and washing

Applications giving particulars of age qualifications and experience to be sent me by 10 a.m. on Friday the 9th May 1924.

R. J. MOTT
Clerk to the Guardians.
149 Fulham Palace Road, W.6.

County of Hertford

ASSISTANT MEDICAL OFFICER of the COUNTY SANATORIUM Ware Park near Ware

The Hertfordshire County Council invite applications for the appointment of a Male Assistant Medical Officer of the County Sanatorium at Ware Park near Ware.

Applicants must not be less than 25 or more than 40 years of age.

Salary £350 per annum

In the event of the County Council being unable at the present time to provide accommodation for the Assistant Medical Officer on the Sanatorium Estate and until such accommodation is provided an allowance of £150 per annum will be made for rent, board washing, fuel and light.

When such accommodation is provided the appointment will carry with it furnished room rent free together with board washing light fuel, and service.

The person appointed will be required to commence his duties as early as possible and to devote the whole of his time to the duties of the office.

Application must be sent in to the undersigned not later than the 15th day of May 1924.

Further particulars of the appointment, together with a printed form of application, can be obtained from the undersigned

CHARLES H. LONGMORE,
Clerk of the Hertfordshire County Council.
Clerk of the Peace Office
Hertford Herts 2nd May 1924

Isle of Wight Union

MEDICAL OFFICER.

The Guardians of the Poor of the Isle of Wight Union require a MEDICAL OFFICER and PUBLIC VACCINATOR for the Ryde District

The salary of the Medical Officer will be £150 yearly with the usual extra fees for such cases as come within the provisions of the Consolidated Orders. The fees as Public Vaccinator will be payable under a contract to be entered into with the Guardians

The appointment of Medical Officer will be subject to the provisions of the Poor Law Officers' Superannuation Act.

Applications, stating age and accompanied by copies of three testimonials of recent date should be sent to my office in Newport before 5 o'clock in the afternoon of Thursday the 15th May

By order,
A. G. HARRISON
Clerk to the Guardians.
19 Quay Street, Newport, I.W
28th April 1924.

Elizabeth Garrett Anderson

HOSPITAL, Euston Road N.W.1.

Wanted fully qualified medical women for the following posts: HOUSE PHYSICIAN OBSTETRIC ASSISTANT two HOUSE SURGEONS Appointments for six months from 1st July Salary at rate of £50 per annum with board residence and laundry

Applications, with copies of testimonials should be sent to the Secretary before 5th May

IMOGEN H. MURPHY Secretary

Required additional Tutors

in the following subjects:—

ANATOMY—for the Primary F.R.C.S.
OPHTHALMOLOGY—for the Diploma in Ophthalmology
MENTAL DISEASES—for the D.P.M.

Apply stating full particulars of qualifications and experience, to the Secretary, MEDICAL CORRESPONDENCE COLLEGE, 19 Welbeck Street W.1

The Corporation of Rangoon

invite applications for post of HEALTH OFFICER, salary Rs 1 200/- per month rising by annual increase of Rs 60/- per month to Rs 1 500/- per month plus motor-car allowance of Rs.150/- monthly *Engagement on agreement for five years* with extension by consent to ten years First year will be period on probation during which or at the end of which engagement terminable by either party with three months notice Free first class passage and half pay during voyage out will be allowed Successful candidate will be eligible to join *Corporation of Rangoon Provident Fund paying* subscriptions at the rate of 8½ per cent of *salary, Corporation of Rangoon* contributing equal amounts compound interest allowed according to amount earned by fund Leave and leave allowances in accordance with special leave rules in fundamental rules of the Government of India. The officer appointed will be responsible for administration of the department associated with Public Health including Veterinary and removal and disposal of rubbish and refuse from city and will be Adviser to the Corporation of Rangoon on all matters pertaining to Public Health including preparation and carrying out of schemes for prevention of and control of epidemics and other diseases. Population of city 312 000 Candidates must be registered under Medical Acts as holders of Diploma in Public Health and should state age, education and *other qualifications*, experience acquired accompanied by copies of testimonials.

Successful candidate, if passed medically fit, will be required to join appointment immediately

Applications should be addressed to the undersigned not later than 9th May

All applications will be sent to Rangoon where the selection will be made

OGILVY, GILLANDERS & Co
San Court, Reference R 2178
67 Cornhill London E C 3.
London Agents for the Corporation of Rangoon

Government of the Union of

SOUTH AFRICA

VACANCIES FOR ASSISTANT PHYSICIANS IN THE UNION MENTAL HOSPITAL SERVICE

SALARY.—£460 per annum plus free board lodging fuel light and washing plus such local allowance (if any) as may from time to time be prescribed

ENGAGEMENT.—In the first instance for two years on written contract, with prospect of *extension or appointment to pensionable establishment* of the Public Service and subsequent promotion thereon

QUALIFICATIONS.—Applicants must be British subjects, single and preferably under 30 years of age. It is desirable that candidates should have held House Appointments, preferably in their own hospitals.

TRANSPORTATION.—Free first-class rail and *steamer fares from* residence in United Kingdom to destination in South Africa plus half salary on voyage.

GENERAL.—Successful candidates will be required to produce Birth and Health Certificates (the latter on forms obtainable from the High Commissioner)

Applications and copies of *testimonials, all in* duplicate must reach the Secretary Office of the High Commissioner for the Union of South Africa, Trafalgar Square London W C 2 (from whom forms of application may be obtained) not later than 15th May 1924

Union of South Africa

VACANCY FOR HOUSE SURGEON IN GREY'S HOSPITAL PIETERMARITZBURG

SALARY.—£400 per annum, plus free board, lodging and washing

ENGAGEMENT.—In the first instance on contract for two years with prospect of extension of employment by mutual consent.

QUALIFICATIONS.—Applicants must be single male British subjects, about 30 years of age.

TRANSPORTATION.—Free first class railway and steamer fares from place of residence to destination and similarly in reverse direction if not re engaged on expiry of contract. Half salary during voyage

Applications, (which must state candidate's knowledge of the Dutch language) together with copies of testimonial and particulars of qualifications and experience all in duplicate, must be lodged with the Secretary Office of the High Commissioner for the Union of South Africa, Trafalgar Square London W C 2 (from whom forms of application may be obtained) not later than 6th May 1924

Birkenhead Borough

HOSPITAL.

THIRD HOUSE SURGEON (Male)

Wanted fully qualified (Male) Third House Surgeon salary £100 per annum with board and lodging. Applications with testimonials, to be addressed to the Secretary by the 10th May 1924.

Preston Union.

RESIDENT MEDICAL OFFICER

The Guardians invite applications from duly qualified medical practitioners for the position of Resident Medical Officer of the Fulwood Institution

The person appointed will be required to devote the whole of his or her time to the appointment, and give lectures to Probationer Nurses receiving training

The Infirmary and Mental Wards contain about 300 beds, and the average number of lunatics in the Infirmary and Institution is approximately 500

A dispenser will not be provided

Salary including fees (except Vaccination Fees), will be at the rate of £400 per annum with furnished apartments in the Institution, rations, washing and attendance,

Applications, stating age experience, and qualifications, accompanied by copies of three recent testimonials, must be received by me not later than Monday the 12th May 1924.

Union Offices, THOMAS H BENTHAM,
Preston Clerk to the Guardians.
23rd April 1924

Middleton-in-Wharfedale

SANATORIUM.

ASSISTANT MEDICAL OFFICER (NON RESIDENT)

The County Council of the West Riding of Yorkshire invite applications for the appointment of Assistant Medical Officer (Non Resident) at the Middleton in Wharfedale Sanatorium near Ilkley (250 beds)

Salary £500 per annum.

Further particulars and form of application may be had from the undersigned by whom all applications, *together with copies of not more than three* recent testimonials, must be received not later than the 19th May 1924

County Hall, FRANCIS ALVEY DARWIN,
Wakefield Clerk to the County Council.
3rd May 1924

Hampstead General & North-

WEST LONDON HOSPITAL
Haverstock Hill, N W 3.

APPOINTMENT OF RADIOLOGIST

Applications are invited from registered medical practitioners for the appointment of Radiologist.

The officer appointed will be required to attend on three half days in each week and will be paid an honorarium at the rate of £100 per annum in addition to the usual share of the fees due to him from special departments

Applications stating age, qualifications, and experience, accompanied by copies of not more than three testimonials, should be addressed to the Secretary from whom all particulars may be obtained.

North Middlesex Hospital,

Edmonton N 18.

APPOINTMENT OF PART TIME SURGEON FOR THROAT DEPARTMENT

A gentleman qualified for special throat work is required for duty at the above Hospital The selected candidate will be required to carry out radical operations for Tonsils and Adenoids in the Out-Patient Department, and to see other throat, nose and ear cases and perform such operations on *the patients as may be arranged from time to time.*

Remuneration £3/3/0 per session of three hours, preferably morning.

Applications in writing stating qualifications, etc., to the Surgical Director, North Middlesex Hospital, Edmonton N 18.

St Mary's Hospital for

WOMEN & CHILDREN Plaistow E.13.

Applications are invited for the posts of RESIDENT MEDICAL OFFICER and ASSISTANT RESIDENT MEDICAL OFFICER (vacant 31st May) The appointments are for six months. Board residence and laundry are provided. Salaries at the rate of £175 and £130 per annum respectively The duties of the R.M.O are mainly administrative and surgical, and those of the A R.M O mainly medical.

Applications, with *copies of* three recent testimonials to be sent to the undersigned, not later than May 10th.

A. ERNEST WILKES Secretary

Northumberland Mental

HOSPITAL Morpeth

LOCUM TENENS wanted for above Mental Hospital (Male Patients) for one month commencing 20th May

Salary £7 7s per week with board apartments laundry and attendance. Applicants must be duly registered

Applications stating age qualifications etc. with *copies of* two testimonials to be addressed to the Medical Superintendent, not later than 10th May 1924

East Sussex County Mental

HOSPITAL, Hellingly, Sussex.

Required JUNIOR ASSISTANT MEDICAL OFFICER (male) Candidates must be registered *medical practitioners* and unmarried. Preference will be given to a candidate who holds a certificate in Psychological Medicine Salary £350 per annum, rising by £25 per annum to £400 with board (no stimulants) apartments, laundry and attendance. Appointment subject to the provisions of the Asylums Officers Superannuation Act 1909

Applications, stating when able to commence duties, and accompanied by copies of not more than three *recent testimonials, to be addressed to the* Resident Physician and Medical Superintendent, and to reach him on or before 16th May

East Sussex County Mental

HOSPITAL, Hellingly

PATHOLOGIST

Wanted at the above Hospital, a Pathologist. Salary £500 a year with lunch and tea daily

Appointment subject to the Asylums Officers Superannuation Act 1909

For full particulars apply to the Resident Physician and Medical Superintendent to whom applications should be forwarded not later than Friday 16th May

St. Bartholomew's Hospital

OFFICE OF PHYSICIAN

Notice is hereby given that a meeting of the Election Committee will be held on Monday, the 16th June 1924 at 4 30 o'clock in the afternoon, to elect a Physician to this Hospital

Candidates, who must be Fellows of the Royal College of Physicians of London are required to lodge 30 copies of their applications with the undersigned on or before Monday the 26th May, 1924.

THOMAS HAYES
24th April 1924 *Clerk to the Governors.*

The Loughborough and

DISTRICT GENERAL HOSPITAL AND *DISPENSARY*

Wanted to commence duties on May 10th 1924, RESIDENT HOUSE SURGEON (male or female, and unmarried) possessing a medical and surgical registered qualification Practical experience in the administration of Anæsthetics is required. Salary £175, with apartments, board and laundry

All applications, stating age etc. with copies of testimonials, to be sent to me at once.

FRANK H. TOONE.
9 Leicester Road Loughborough
28th April 1924

City of London Hospital for

DISEASES OF THE HEART AND LUNGS,
Victoria Park E.2
(Bus, tram & rail, Cambridge Heath, L. & N.E. Rly)

Applications for the post of HOUSE PHYSICIAN (Male) with copies of recent testimonials, are invited to be sent to the undersigned by Monday, 12th May 1924

The appointment will be for six months from about the 25th May

Salary at the rate of £125 per annum with board, residence, and laundry provided.

GEORGE WATTS, Secretary

Central London Throat, Nose,

AND EAR HOSPITAL,
Gray's Inn Road, W C.1.

REGISTRAR—OUT-PATIENTS.

There is a vacancy for an Out-patient Registrar The office is Honorary and tenable for one year, subject to re election Attendance required on one *afternoon and one evening a week.*

The duties are to assist the Surgeons in the *attendance on patients* and to keep the records

Applications should be sent to the undersigned immediately

RICHARD KERSHAW Secretary

Staffordshire Mental

HOSPITAL, Cheddleton.

LOCUM TENENS MEDICAL OFFICER required for about 13 weeks *from 14th May* Salary 7 guineas weekly, with apartments, board and laundry, Clinical laboratory available for those working for D P M Applications to the Medical Superintendent.

Medical Officer wanted by the

PARISH COUNCILS of KILDONAN and LOTH Sutherlandshire to enter on his duties not later than 1st July 1924 Applications with 10 copies of testimonials to be lodged on or before 9th May, 1924 with the *Inspector of Poor* Kildonan, Helmsdale who will give all necessary information to intending applicants There is a considerable private practice available and also a large Insurance practice

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association 429, Strand, London, W C 2.

Town or District	Town or District.	Town or District
CONTRACT PRACTICE.		
ENGLAND.		
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs)*		
SOUTH BANK (ESTON) *(Medical Aid Associations or Workmen's Clubs)*		
WALES		
ABERTRIDWR GLAMORGAN *Windsor Colliery (Medical Scheme.)*		
EBBW VALE MON *(Workmen's Medical Society)*		
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*		
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*		
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		
	WALES *(continued)*	
	OAKDALE MON *(Medical Officer for Medical Aid Association)*	
	ODMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*	
	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	
	PUBLIC HEALTH	
	BARNSLEY: COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer)*	
	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*	
	HEYWOOD BOROUGH *(Medical Officer of Health)*	
		PUBLIC HEALTH *(continued)*
		LEEDS EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
		LINCOLN CITY AND COUNTY BOROUGH. *(Medical Officer of Health.)*
		MORAY EDUCATION AUTHORITY *(Assistant School Medical Officer)*
		NOTTINGHAMSHIRE *(County Medical Officer of Health)*
		OLDHAM EDUCATION COMMITTEE. *(Assistant Schools Medical Officer)*
		SELKIRKSHIRE *(Medical Officer of Health.)*
		SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer)*
		STOKE-ON-TRENT EDUCATION COMMITTEE. *(Assistant School Medical Officer)*

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou, St. Vincent and St. Lucia).

(c) Colonial Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District.	Hon Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr R H TODD (Hon Sec New South Wales Branch) B M A Building 30-34, Elizabeth Street, Sydney N.S W	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R. MARSHALL ALLAN (Hon Sec Queensland Branch) Adelaide Street Brisbane.	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon. Sec., Victorian Branch) Medical Society Hall, E. Melbourne, Victoria.
				WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon Sec., Western Australian Branch No. 6 Bank of New South Wales Chambers, St George's Terrace, Perth.

Address 429 Strand W C 2.
April 30th 1924.

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

Borough of Lytham Saint Annes.

APPOINTMENT OF MEDICAL OFFICER OF HEALTH SCHOOL MEDICAL OFFICER AND MEDICAL OFFICER OF THE MATERNITY AND CHILD WELFARE CENTRE

The Corporation of Lytham Saint Annes invite applications for the above appointment Salary £800 per annum rising by annual increments of £50 to a maximum of £1,000 per annum The officer appointed will be required to devote his whole time to the duties of the office.

The appointment and duties will be in accordance with the Sanitary Officers Order 1922 and will be subject to the approval of the Ministry of Health

The officer appointed must possess the qualifications required by the said Order He will be expected to reside within the Borough, and to give three months notice before resigning his position Applications to state age qualifications and if married or single.

Canvassing Members of the Council either directly or indirectly will be deemed a disqualification.

Applications endorsed "Medical Officer" with copies of not less than three recent testimonials to be forwarded to the undersigned not later than Saturday the 10th May 1924

Dated this 14th day of April 1924.

Town Hall, T BRADLEY
St. Annes-on-the-Sea. Town Clerk.

St Bartholomew's Hospital,

Rochester (105 Beds.)
Rochester Chatham, Gillingham and District.

Applications are invited for the post of RESIDENT HOUSE SURGEON which will become vacant on the 1st June next.

Candidates must be unmarried qualified, and registered Medical Men Those who have held a Resident Surgical post preferred The appointment is for six months which may be renewed for a further period if desirable. Salary is at the rate of £250 per annum with board residence, and laundry

Applications stating age, qualifications experience etc., accompanied by three recent testimonials to be sent to the Secretary not later than the 12th May

Wolverhampton & Midland

COUNTIES EYE INFIRMARY

HOUSE SURGEON wanted It is essential that candidates must possess a knowledge of refraction work Duties to commence about 9th June. There are 50 beds for in-patients, and large out patient department. Salary £200 a year with furnished apartments board, and laundry

Gentlemen applying should state age, and send copies of three recent testimonials to reach the Secretary not later than the 13th May

Wolverhampton EUSTACE LEES
26th April, 1924. Secretary

The London Lock Hospital,

91 Dean Street and 233 Harrow Road W

[AMENDED ADVERTISEMENT]

The Board of Management invite applications for the appointment of SURGICAL REGISTRAR to the above Hospitals Honorarium £100 per annum Candidates who must be doubly qualified are invited to send in their applications with three copies of testimonials only to the Secretary at the above address, not later than 10 a.m on May 6th 1924 Candidates must be Fellows (or Members) of the R.C.S England, or a Surgical Graduate of a University of the United Kingdom.

By Order of the Board
Chief Offices HY J EASON Secretary
233 Harrow Road, W 9

The Sheffield Royal Hospital

Applications are invited for the post of CASUALTY OFFICER, which falls vacant on the 22nd of May Candidates must be registered medical practitioners and unmarried. They must have held a previous resident Hospital appointment. Salary £120 per annum with board and residence in the Hospital Ladies are not eligible.

Applications, with copies of testimonials to be sent to me as early as possible.

The Board Room JOH W ROBINSON
26th April 1924. Secretary

Wanted—Assistantship, with view to Partnership English Good experience hospital and private Willing to use own car—Address details in confidence to No 2203 BRITISH MEDICAL JOURNAL Office 429, Strand W C 2

Wanted—Assistantship by M B (N U I) 7 reliable experienced Excellent refs Free immediately Capital available to buy share if mutual satisfaction given. London or neighbourhood preferred.—Address No 2144 BRIT MED JOUR Office 429 Strand, W C 2

Wanted.—Assistant in high-class residential private Practice B Yorks Scotch ex H P and H S, good anæsthetis and accoucheur Must be keen and hard worker Good salary and excellent prospects to suitable man—Add with testimonials No. 2121 B.M.J, Strand

Wanted—Assistant, early in June Male single, British experienced, outdoor £400 per annum Welsh colliery work light not over 40 last reference. Usual bond—Address No 2106 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted—Young, Indoor ASSISTANT single Scotsman preferred Salary £200 view to Partnership Usual Bond Panel and private Manchester district. Must be keen on work conscientious State qualifications, exper &c—Add No 2119 B M J 429 Strand W C

Wanted, Indoor Assistant in Country Practice, work easy Salary £250 per annum—Address, No 2130 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted—Part-time Work, in London or near neighbourhood, by retired Specialist (Ear and Throat) Experienced in general practice.—Address No 2125 BRITISH MEDICAL JOURNAL Office 429, Strand, W C 2

Wanted—Part-time Work (London) or Locum anywhere, any time reliable; tec o nler Now disengaged—Address, No 2129 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistant wanted—Male, 25-30 Industrial town near Manchester Good hospital Principal on staff Must do midwifery L x H S preferred work not hard Time for reading Salary £400 outdoor—Address with full particulars and if possible photograph Prospects for good man, No 2126 B M J Strand

Assistant, view to Partnership wanted in July replacing retiring partner 30-35 married Hosp and G P experience North Countryman preferred Pleasant village near Manchester good house garden tennis lawn and garage two-fifths partnership £1 330 after a year at 1½ years purchase Some capital Salary as Assistant £450—Add No 2024, B M J Office, 429 Strand W C 2

Assistant (man or woman), wanted indoor Church of England country town Public Health private panel State age and all other essential particulars—Address No 2116 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistant for good general Practice South Midlands (either sex).—Address stating age qualifications experience If cyclist and all other essential particulars In and out testimonials etc. No. 2135 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Assistantship (Outdoor) desired by M B Ch B aged 27 married. Experience in panel and private practice Hospital appointments Good anæsthetist and minor operator Excellent testimonials and references.—Address, No 2112 B. M J Office 429 Strand W C

Assistantship wanted by woman (2) M B, Ch B Edinburgh post graduate experience in general practice dispensing hospital work (both medical and surgical) and anæsthetics.—Address, No 2209 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship or Locums wanted by L R C P & S Edin aged 3 single. Experienced panel and private practice Good anæsthetic and accoucheur London preferred—Address No 2141 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship, or long Locum, with view in London, wanted by young Scotch, Glasgow graduate Has had two years experience in large general practice in West Riding keen motorist own car Free in a month—Address No 2101 BRIT MED JOURN Office 429 Strand W C

Assistant, with view to PARTNERSHIP required in old established practice in Cheshire £1,200—£1,400 income capable of considerable increase. Suitable for young man who should be experienced in midwifery and anæsthetics, and prepared to devote his energies to work the practice up Easy terms to suitable man Roman Catholic and teetotaller preferred—Address with non returnable copies of testimonials, No 2115 BRIT MED. JOUR. Office, 429, Strand W C

Assistantship wanted—South London or Suburb by recently qualified man Has done a few Locums. Time for reading essential.—Address No 2105 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Experienced qualified man desires PART TIME EMPLOYMENT in London—Address No 2212 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

M.B, Ch B Aberdeen, aged 30 desires ASSISTANTSHIP, preferably with view, or Manage Branch Practice Ex H S Large experience private and panel practice Excellent anæsthetic accoucher etc. Drive car or motor cycle Highest references—Address No 2111 BRIT MED JOUR Office 429 Strand W C 2.

M.A., M B, Ch B, Scotch Univ, æt 25 desires ASSISTANTSHIP town or country practice where considerable amount of midwifery is done. Special mid recom - Some exp G P Excellent testimonials Full particulars on application.—Address, No 2102 B M J 429 Strand W C

M B, Ch B Edin 1923 (woman 33) desires ASSISTANTSHIP temporary or otherwise. Keen and energetic, cyclist, nominal salary in return for good experience—Address No 2201 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

SCALE OF CHARGES FOR ADVERTISEMENTS

SIX LINES AND UNDER	9/-
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All remittances by Post Office Orders must be made payable at the General Post Office London No responsibility will be accepted for any such remittance not being so safeguarded

Advertisements should be delivered, addressed to the Manager 429 Strand, London W C 2 not later than first post on Tuesday preceding publication

Note—It is against the Rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

M.B, Ch B. (Irish), desires ASSISTANTSHIP Some experience panel practice Single aged 23 abstainer Good testimonials—Address No 2131 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

M B (woman) desires ASSISTANTSHIP in June. Experienced keen energetic cyclist. Salary £200 (Indoors)—Address No 2122, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

M.B, Ch B, young, keen Fifteen months experience busy general and panel practice with some special experience Diseases of Children requires berth with good prospects.—Address, No 2211, BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

M.D Vienna (young) preparing for London Degree, desires position as ASSISTANT or DISPENSER. Preferably as Assistant Accoucheur Gynæcology—Address, No. 2103 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Medical Officer required, as quickly as convenient by the YORKSHIRE COAL OWNERS' MUTUAL INDEMNITY Co LTD to supervise the workmen living in the Pontefract District for Workmen's Compensation purposes Salary £1,500 per annum Must not exceed the age of 45 years and devote his whole time to the appointment—Written application only giving professional qualifications previous experience and age to Secretary, 13, Foster's Buildings Sheffield

Part-time Assistant or PARTNERSHIP London.—Doctor, engaged publicly, desires help when away Rooms etc., or partnership one third at 1½ years English or Scotch. State full particulars and terms Large private and panel dispensing Conscientious hard worker necessary—Address No 2110 BRITISH MEDICAL JOURNAL Office 429, Strand W C 2

Well-known Medical Journal has a vacancy for part time services of MEDICAL MAN interested in Medical Journalism, Must be able to translate French and German, Also examine and correct proofs, etc — State essential particulars Box 936 REUTER'S ADVT DEPT 254 Old Jewry E C 2.

Woman Medical Officer (visiting) wanted for September, 1924 for WHITELANDS TRAINING COLLEGE Chelsea (200 Resident Students) For forms of application and particulars of the work apply to the Secretary, Whitelands College Chelsea, S W 3 Applications forms must be returned before May 24th

Woman, recently qualified L.R.C.P M.R.C.S (also S I and H V), seeks ASSISTANTSHIP or LOCUM with general practitioner or part or whole time work in Maternity and Child Welfare under Health Authority Good refs.—Add., No. 2143 B.M.J 429 Strand, W C 2

Woman Graduate (M B, Ch B Aberdeen) with some experience, desires ASSISTANTSHIP in General Practice.—Address No 2204 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted—Lady Dispenser-BOOK KEEPER One who would be willing to help in household management Indoors. London Suburb—Address No 2120, BRITISH MEDICAL JOURNAL Office 429, Strand W C 2

Lady Dispensers supplied, qualified experienced and also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR LADIES Preparation for examinations. Blood sugar estimation before and during Insulin treatment can be carried out by those Dispensers recently qualified from the College—Secretary 7 Westbourne Park Road, W 2

Lady Dispenser-Book-keeper desires post with Doctor willing to do needle work light house work or to assist with children—Address ARWEL 16, Sylva Gardens Llandudno

Daughter of professional man, who owns smart 5 seater touring car seeks daily EMPLOYMENT in order to maintain same London or near Terms for long or short periods extremely moderate—Address No. 2134 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Chauffeuse-Secretary desires post. Thoroughly capable experienced and trustworthy Some nursing and medical experience Cyclist musical live in or out anywhere, salary to be arranged Interview any time. Excellent ref—Address No 2114 B M J Office, 429 Strand W C

LOCUM TENENS
PROVIDED
Without fee to Principals
Apply to
Mr. W. S. ATKINS
(Late of ARNOLD & SONS, London)
43, BEDFORD STREET, STRAND, W C 2.
Telegraphic Address
Positions Westrand, London.
Telephone Regent 429

Wanted—Locum for month of June for light Country Practice in North East of Scotland Boating fishing, golf, etc. Excellent scenery—Address stating essential particulars, No 2127, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted—Locum, Far East, twelve months. Not under 0 with experience in private practice—Address No. 2123, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Hospitality Locum—Doctor and one or two others Southern country, country practice near sea. Very easy work. Three or four weeks about end of May Must drive Ford—Address No 2132 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Holiday Locum Tenens wanted for three weeks in June, in small country practice South of England Cyclist, Hospitality offered to wife.—Address No 2118. BRITISH MEDICAL JOURNAL Office 429 Strand, W C

Week-end Locum—Experienced gentleman living in North Wales within easy access of Shrewsbury Crewe Stafford wishes for posts as L.T from Saturdays to Mondays during summer months—Address No 2117 BRIT MED JOUR. Office, 429, Strand W C

LOCUM TENENS

PROVIDED BY

AROLD GRIFFITHS & CO.

redegar Chambers, Queen's Square,

NEWPORT, MON

elegrams Ubique Newport" *Telephone* 330.

ocum Tenency desired by M.R.C.S. L.R.C.P Lond experienced ucheur anæsthetist, ex H and A.M.O try preferred £6 6s. per week fare as from l tol adl reas.—"Lo WM" c/o Earlsfield Bourne uth R ad Parkstone Dorset.

ocum Tenens wanted for occasional week-ends. Mixed Practice, border Derbyshire. Work light.—Address with full particulars and age to No. 2142, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2.

Middle-aged Doctor would take Holiday LOCUM duty Experienced, highest references.—Address, OXON c/o 9 Lancaster Gate London, W

FOR LOCUM TENENS APPLY TO Mr PERCIVAL TURNER

The Oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals.

4, ADAM STREET, STRAND, LONDON, W.C.2

Telegrams "Epsomian London" Phones Gerrard 399. After 5 p.m.—"Phone: Epsom 335.

East Coast—Partnership in an agricultural town and country practice Nice detached house and garden on lease at low rental. Share worth about £1,270 per annum for £1,600.—Address, No. 2124, BRITISH MEDICAL JOURNAL Office, 429 Strand W.C.2

F.R.C.S. (Eng.), aged 33, after exceptionally wide experience for last five years in Major Surgery as Surgical Registrar and R.S.O., requires Surgical PARTNERSHIP with genuine scope for Major Surgery. Highest references and testimonials.—Address No. 2113, BRITISH MEDICAL JOURNAL Office, 429 Strand W.C.2.

F.R.C.S.E., with extensive experience in Surgery and General Practice wants PARTNERSHIP Short prelim. Assistantship. Abstainer keen 33, married Good house essential.—Address, No. 2210 BRITISH MEDICAL JOURNAL Office, 429 Strand W.C.2.

Lancashire—Partnership worth £1,100 to £1,200 2.5 panel and 3/5 private, in industrial area with scope Good house available. Purchaser should have necessary capital 1 rendum 1½ years purchase.—Address No. 1617 BRITISH MEDICAL JOURNAL Office 429 Strand, W.C.

Partnership—X-Ray and Electro Therapeutic Practice. Partner required in growing practice with good possibilities. Hospital appointment. London easily get at able. Share should soon be worth £1,000.—Address, No 2109 BRIT. MED. JOUR. Office, 429 Strand W.C.2

Partnership wanted in Provincial Country Town by experienced Englishman aged 27 Car and capital available.—Address details in confidence to No 2202 BRITISH MEDICAL JOURNAL Office, 429 Strand W.C.2.

W. of Eng.—Short Partnership introduction to old-estab easily worked lucrative mixed Practice. Semi rural Delightful country Scope. Opposit on negligible Hospital. Small comfortable house and enclosed garden. Initial share value £800 Principals only.—Address No. 2137 B.M.J. Office 429 Strand, W.C.2

Wanted—General Practice, London, Birmingham or Home Counties income £1,000 to £2,000 per annum with panel Medium sized house and garden to rent.—Apply Mr W. H. GRANT 50 Wigmore Street, W.1. (No charge unless sale effected)

Wanted—Provincial Town, a GENERAL PRACTICE with scope for Surgery and honorary hospital appointment. Income required £1,000 up House to rent.—Apply Mr W. H. GRANT 50 Wigmore Street W.1 (No charge unless sale effected

Wanted by M.B., age 37 a middle and working-class PRACTICE of £1,500 or more with good panel in London or the South or Midlands. Now free and can pay cash.—Apply BLUNDELL & Co. 22, Craven Street, Strand, W.C.2

Wanted—Practice or PARTNERSHIP country town or large village. Southern or South Midland counties about £1,000 a year.—Address No 2128, BRITISH MEDICAL JOURNAL Office 429 Strand, W.C.2

Wanted good general and Panel PRACTICE in London or any large town Capital up to £5,000.—Apply PEACOCK & HADLEY 19 Craven Street Strand W.C.2. (No charge unless sale effected.)

Wanted by experienced Practitioner (M.D. London) Country PRACTICE or PARTNERSHIP in Sussex Surrey or E. Hants. House with 3 bedrooms. Capital available.—Address No 2108, BRITISH MEDICAL JOURNAL Office, 429 Strand W.C.2.

Cheshire—Half share of middle-class and panel PRACTICE for Sale Receipts £4,000 a year Panel 1,400 a year Good house available. Rent £54 Premium 1½ years purchase.—Apply PEACOCK & HADLEY 19 Craven Street, Strand W.C.2.

Cheshire—Practice for Sale, in pretty district. Detached house, with large gardens (flower and vegetable) orchard lawn, and garage. Receipts £500 Excellent scope Price house and prac. £1,550 part deferred.—MANCHESTER MED. & SCHOLASTIC ASSOC. Ltd. 83 King St.

Death Vacancy—Exceptional opportunity occurs for well-qualified, hard working Practitioner to acquire a PARTNERSHIP in flourishing Practice with appts. close to London. Applicants must have capital age 35-40 yrs.—Address No 2207 BRIT. MED. JOUR. Office 429 Strand W.C.

Death Vacancy—Within 12 miles of London. About £700 p.a. Panel about 650 Old-established PRACTICE. Detached corner house, large garden, garage etc. Locum in charge—Apply No 7537 c/o PERCIVAL TURNER, 4 Adam Street, Strand W.C.2.

Death Vacancy—Yorkshire, suburb of large town. General PRACTICE yielding £2,500 a year House, &c. on lease. Offers invited—Apply PEACOCK & HADLEY 19 Craven Street, Strand, W.C.2

Death Vacancy, near Newcastle-on-Tyne. Receipts £900, with great scope. Nice house, garden, garage. Pretty country hunting fishing, golf Part payment by instalments if desired.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd., 83, King Street.

Death Vacancy—Essex Pleasant town 15 miles from City Middle-class PRACTICE. Receipts £800 p.a. Panel 50 Good house. Will Sell or Let. Premium £1,000 or near offer—Apply PEACOCK & HADLEY 19 Craven Street, Strand W.C.2.

Death Vacancy—Small Seaside Town. South Wales. About £1,500 p.a. Old-established No opponent. Panel over 1,400 Good house facing sea. Rent £60—Apply No. 7539 c/o PERCIVAL TURNER, 4 Adam Street Strand W.C.2.

Eastern Suburb—Cash and Panel PRACTICE. Vendor seriously ill Panel about 600 cash £5 per week. Rooms and attendance £2 10s. per week Premium £600 or offers.—Apply PEACOCK & HADLEY 19 Craven Street Strand, W.C.2.

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For disposal, Quarter Share, in a fashionable West-end old-established Practice, over £8,000 per annum. In order to avoid unnecessary interviews, kindly give details of experience etc., in application letter.—Address, No. 2206 BRIT. MED. JOURN. Office, 429 Strand W.C.2.

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Death Vacancy—Sea Coast Town PRACTICE In South-West Wales. Old-established middle and working class. Average receipt £1694, including appointment about £138. Panel 1,300 Expenses small. Yo opposition. Educational facilities. Plenty of sport Welsh not spoken. Lovely surroundings. Good house and garden on lease.—LEE & MARTIN Ltd. 21, Temple Row Birmingham.

Death Vacancy—North of England Rural PRACTICE. Receipts £900 with great scope Hunting district. Locum in charge 1 remunn moderate for quick sale.—LEE & MARTIN Ltd

Lancashire—Large City Old-established private and panel PRACTICE. Receipts over £2,100. Panel over 1,900 Expenses small Freehold house excellent position. Premium payable part down and remainder by instalments.—LEE & MARTIN Ltd.

Liverpool—Partnership worth £500 per annum preliminary Assistantship. Old-established good middle-class Practice Large panel Single young Englishman or Scotsman essential.—LEE & MARTIN Ltd.

North of England—Old-established Country Town PRACTICE. Average receipts £1,460 Good panel Expenses small. Good house garden, tennis lawn, and orchard Large mortgage arranged. LEE & MARTIN Ltd

North Wales Coast Town—NUCLEUS Receipts £8 per week. Small panel Ample scope. Population largely increased in summer House available in June. Practice carried on at rooms. Low premium for quick sale.—LEE & MARTIN Ltd.

Staffordshire—Old-estab Town and Country PRACTICE.—Receipts £1,190 Panel over 800 Appointments. Scope. Freehold house ample accommodation good garden.—LEE & MARTIN Ltd

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For Sale—South Devon Country PRACTICE, close to the sea. High class residential district Average cash receipts £1,300 Charming old house, with surgery and garage Rent £70 Premium £2,000.—Address No 2139 BRIT. MED. JOUR. Office, 429 Strand W.C.

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Home County—Good middle-class PRACTICE in pleasant locality Receipts about £1,400 a year Good house, &c., to be Let. Premium £2,000 or near offer payable by arrangement.—Apply PEACOCK & HADLEY 19, Craven Street Strand W.C.2.

Immediate—Good growing Medical PRACTICE for Sale, on shores of Morecambe Bay House available.—Apply DALRYMPLE, Bolton-le-Sands, Carnforth.

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North of England—Death Vacancy unopposed Country PRACTICE in picturesque locality hunting etc Rece pts about £900 private and panel lease of residence can be had -Further particulars on application to No 2120 REYNOLDS & BRANSON Ltd 13 Briggate Leeds.

North-East Midlands—Old and well established Country PRACTICE panel 65 Receipts for three years over £1 800 Moderate premium. Detached residence with surgery separate from house three reception room etc one acre of ground belongs to vendor, and can be purchased.—Apply REYNOLDS & BRANSON, Ltd Medical Agency Dept. 13 Briggate Leeds

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Hospital of St John and St ELIZABETH, 40 Grove End Road, N W.8

An ASSISTANT RADIOLOGIST required at once Honorarium £50 per annum.
Full particulars to be obtained from the Medical Superintendent any day after 4 p.m

County Borough of Grimsby VENEREAL DISEASES MEDICAL OFFICER.

The Health Committee invite applications for the position of a whole-time Venereal Diseases Medical Officer for the Clinics at Grimsby and Lincoln under the County Borough Councils of Grimsby and Lincoln respectively at a salary of £750 per annum (no bonus) plus cost of first class season ticket to Lincoln.

Applicants must be registered medical practitioners who have had experience in the modern methods of treating venereal diseases.

The officer appointed will be required to reside in Grimsby and to devote his whole time to the appointment under the direction of the Medical Officers of Health of the respective Councils, and will not be allowed to engage in private practice.

Application stating age, qualifications, training and experience, together with copies of not more than three recent testimonials, and endorsed "V D Medical Officer" should be sent to the Town Clerk, 170, Victoria Street, Grimsby on or before the 20th May 1924.

Canvassing will disqualify.

JOHN W. JACKSON
April 1924 Town Clerk

London Jewish Hospital, Stepney Green, E.1.

Applications are invited for the following posts.

RESIDENT MEDICAL OFFICER. Salary at the rate of £150 per annum with board and residence appointment for six months.

JUNIOR RESIDENT MEDICAL OFFICER. Salary at the rate of £100 per annum, with board and residence appointment for six months.

Applications, with copies of three recent testimonials, to be sent to the Secretary on or before 19th May 1924.

The successful candidates will be required to take up their duties on the 1st June, 1924.

Royal Northern Hospital, Holloway London, N

Applications are invited for the following posts, each for six months from the 16th June, with board residence and laundry

JOINT HOUSE PHYSICIAN and HOUSE SURGEON £75 per annum
CASUALTY OFFICER £125 per annum.

Applications, accompanied by copies of testimonials, should be sent by the 17th inst to the undersigned, from whom forms of application and rules can be obtained

GILBERT G PANTER, Secretary

The Birmingham & Midland EAR & THROAT HOSPITAL

JUNIOR HOUSE SURGEON qualified, wanted with clinical experience (non resident)

Appointment for three months and eligible for election as Senior Surgeon for a further six months.

Salary at the rate of £200 per annum, with part board Duties to commence July 1st, 1924

Applications and testimonials to be forwarded on or before 15th May to the undersigned.

S G GRAW Secretary

Hôpital Français, 172, Shaftesbury Avenue, W.C.2.

One Senior and one Junior RESIDENT MEDICAL OFFICER (males) required Registered, unmarried speaking French fluently Salaries £120 and £100 per annum respectively, with full board and laundry

Candidates should send in their applications, with three copies of recent testimonials before the 13th May to J KNECHT Assistant Secretary

The Northern Infirmary, Inverness. (100 Beds.)

Wanted for beginning of June JUNIOR MEDICAL RESIDENT fully qualified and registered Male, unmarried Salary £100 per annum with board, residence and laundry Applications, stating age medical school qualifications, and experience with copies of recent testimonials to be sent before May 20th to Mr ROBT GILMOUR Hon Sec. to the Institution 20 Church Street, Inverness

Kent and Canterbury HOSPITAL, Canterbury (115 Beds)

Required, TWO HONORARY ANÆSTHETISTS Applications, stating age qualifications, and experience should be sent on or before 14th May 1924 to the undersigned, from whom further particulars may be obtained

F P CARROLL Secretary

Bradford Children's Hospital

HOUSE SURGEON wanted, doubly qualified Salary £100 with board residence, and laundry Applications stating age with testimonials, not later than May 14th to

C V WOODCOCK, Secretary

County Borough of Salford

LADYWELL SANATORIUM.

Applications from registered medical men are invited for the post of SENIOR RESIDENT MEDICAL OFFICER at the above Institution

The Sanatorium has 203 Beds of which 43 are set aside for Advanced Tuberculosis Cases and the rest for ordinary Infectious Diseases

The salary will commence at £600 per annum rising by biennial increments of £50 to a maximum of £750 This salary is subject to an addition of the Civil Service Cost of Living Bonus. House, coal and light will be provided free

The Officer appointed will be responsible subject to the general supervision of the Medical Officer of Health for the management and treatment of patients, for the management of staff and for the good order and well being of the hospital in every respect

Applications stating fully the training, qualifications age and experience of the candidate with three copies of recent testimonials and endorsed "Resident Medical Officer" must reach the Medical Officer of Health, 141 Regent Road Salford not later than 12 noon on Saturday 10th May 1924

The gentleman appointed will be required to contribute to the Corporation Superannuation Fund.

Canvassing in any form is prohibited

Forms of application may be obtained from the Medical Officer of Health, 141 Regent Road Salford

L. C. EVANS Town Clerk

Administrative County of Essex

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

The County Council of the Administrative County of Essex invite applications for the above post from registered medical practitioners specially qualified in the treatment of tuberculosis not over 45 years of age.

The salary attached to the appointment will be £700 per annum and travelling expenses. The person appointed will be required to devote his whole time to the service of the Council to perform such duties and to furnish such advice and assistance appertaining to his office as may be required, and to reside in such district of the County as the Council may decide. The appointment will be subject to three months' notice on either side

Application on the prescribed form obtainable from the undersigned, accompanied by copies of not more than three testimonials which will not be returned should be addressed to me, and delivered at the Shire Hall Chelmsford, not later than Thursday the 8th May 1924

Shire Hall JOHN H GOOLD
Chelmsford. Clerk of the County Council.
22nd April 1924

City of Birmingham, Yardley

ROAD SANATORIUM AND MUNICIPAL ANTI-TUBERCULOSIS CENTRE.

Applications are invited for the post of an ASSISTANT RESIDENT MEDICAL OFFICER (male) Experience in the diagnosis and treatment of tuberculosis in a recognized institution is essential Preference will be given to those with experience in the treatment of surgical tuberculosis. Age should not exceed 35 years. Salary at the rate of £450 per annum, with board, residence for an unmarried doctor, and laundry The person appointed will be required to join the Municipal Superannuation Scheme for which a medical examination is required

Application on form to be obtained from G B DIXON Chief Tuberculosis Officer Municipal Anti Tuberculosis Centre, 41a, Broad Street Birmingham, to be sent to him on or before 14th May together with copies of three recent testimonials

Aberdeen Royal Infirmary

There is a vacancy in this Hospital for an HONORARY ASSISTANT MEDICAL ELECTRICIAN Particulars of the appointment may be had from the Subscriber with whom sixteen copies of application, and of three recent testimonials, should be lodged not later than 3 p.m., on Monday 12th May 1924.

343 Union Street, Aberdeen A. SCOTT FINNIE
Clerk and Treasurer
24th April 1924.

Cardiff Royal Infirmary

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APPOINTMENT OF TWO HONORARY ASSISTANT GYNÆCOLOGISTS

Two Honorary Assistant Gynæcologists are required, who must be registered under the Medical Act as Doctors or Bachelors of Medicine, or Masters or Bachelors of Surgery of some recognized University in the United Kingdom or Members or Fellows of one of the Royal Colleges of Surgeons or Physicians of the United Kingdom

Candidates will be required to confine themselves in their private practice to Gynæcology and Obstetric

Applications with copies of testimonials, stating age, qualifications, appointments, etc., must reach the undersigned on or before Saturday the 24th May 1924

Candidates must send fifty copies of their application and testimonials for circulation amongst the members of the Election Committee and the Medical Board

LEONARD D REA Secretary

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DERBYSHIRE.—A General PRACTICE situated in an industrial district Receipts about £800 Panel 1/9 Good fees Nice house containing 8 bedrooms &c. a rental. Premium £1,000 — Folio 653

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LONDON W.—A General PRACTICE situated in a good district. Receipts nearly £1,000 Panel 1/- Fees 5/- upwards No midwifery plenty of scope Nice house in central position containing 4 bedrooms, &c. Rent £110 per annum Premium £1,800.—Folio 651.

SUSSEX.—PARTNER required for Country Practice. Receipts £1,500 Scope for increase Share value £1,000 for 1 year purchase with view to succession.—Folio 888.

GLAM.—General PRACTICE in thickly populated district on Coast Receipts £1,700 Fees 3/- upwards Panel 1/- Considerable scope House containing 4 bedrooms etc. rent £50 p.a. Premium £1,500 Folio 887

SALOP.—PARTNER required for Country Practice. Share worth £850 Scope. Good society sport &c Nice house containing 4 bedrooms &c garden and garage at rental Premium half value £1,000 Folio 889

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South County—Over £1,000 p.a. Panel 640 other appointments £120 Practically unopposed Excellent house, electric light etc Good garden. All sport.—Apply, No 7535.

Birmingham Suburb—About £1 100 a year Old established PRACTICE Panel 750 Appointment £40 Very little midwifery Large house and garden Prem £1 600 including drugs etc.—Apply No 7534.

Worcestershire—PARTNERSHIP Nearly £5 000 One third share for disposal Panel 1 600, and good appointments —Apply, No 7533

South Coast—Half share of £2 570 p.a Non panel non dispensing Practice No midwifery Good fees. Large family house Rent £100 Price of half share 1½ years purchase.—Apply No 7531.

Home County—Share worth £1 200 a year with option to increase soon, Very small panel Appointments worth nearly £300 Very good fees Not much midwifery Practice is very old established and within easy access of London —Apply No 7530

Lancashire—About £1,350 a year Old stablished Panel 1 700 Fees 3 6 up Detached house 2 reception 6 bedrooms, consulting, etc Scope for Surgery — Apply No 7528.

London, W—Practice £700 a year increasing Visits 3/6 to 7 6 Small panel No midwifery Scope Good house part let Net rent very low Suitable for a lady —Apply No 7525.

Midland City—About £1,400 to £1 500 p a Cash and Panel Old established No midwifery Panel about 1 700 Corner house good accommodation. Rent £35 — Apply No 7515.

Home County—Partnership In very old established Practice share producing about £1 000 a year Good panel and appointments —Apply No 7505

West County—Partnership About £2 800 a year Very old established Panel 800 Good fees. Quarter or one third share for disposal. Very moderate premium. Apply No 7500

Riverside Suburb—Nucleus about £500 a year Small panel Fees 5/ to 6 6 Increasing district Good house and garden to rent Apply No 7474

South Coast—Partnership Share about £800 a year Good fees Partner should be about 35 and a good all round man.—Apply No 7440

Open Air Sanatorium, £6,000 a year Old establi hed Splendid premises on lease. Every investigation Net profits over £1 500 Premium very moderate Personally known.—Apply No. 7426.

Midlands—£800 a year, Industrial Town. Panel 3 0 easily worked no Car House with large garden lawn and orchard Sell or Let Premium for practice £1 000 —Apply No. 7183

Cheshire—£3,500 a year, PARTNER wanted Good Suburb of large Town with Hospital Good fees Panel £1,000 a year Good house available Half share for sale —Apply No 7444.

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CHESHIRE—PARTNERSHIP In old established G P Income nearly £4 000 p a Panel 1 500 Fees 5/ to £1/3/6 Mids £3,3 0 to £10/10/0 Nice house with garden rent £56 p.a Premium for half share 1½ years purchase, £2 000 down Suit married man about 30

MIDDLESEX.—PARTNER required (after preliminary Assistantship) in very old established and lucrative Practice over £4 500 p a in industrial district Panel 4 000 Small house (4 bedrooms) Rent £52 Premium one third share two years purchase

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London, S W—Good class PRACTICE of £1 200 in residential district. Fees 10,6 and 15 House with large garden on rent at present and can be bought later Premium 1½ years purchase

Surrey—Rapidly increasing PRACTICE of £540 in residential suburb Practically no panel Rent £60

Death Vacancy—Increasing PRACTICE in small town in S W County Receipts about £1,200 Panel 620 Few midwifery Good modern house with large garden Rent £80 Premium one and a quarter years purchase.

Partnership—Share worth £1 200 with increase to £1,600 in first-class residential district. Hospital in the place which is growing New partner should have been H S or H P Suitable living accommodation at present and a good house can be rented next year

North London Partnership—Share worth £800 increasing to over £1,000 in six months Middle-class Practice with 1 0 0 panel Nice house can be bought or New partner could live in Senior partner's house

Near Manchester—Old-established PRACTICE of £1,350 including good Panel Excellent house can be bought.

West London—Practice of £1 250 including 1,2 0 panel and fine position for working up a large income House on long lease at reasonable rent

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Home County—Practice of £3 500 suitable for two in industrial place. Panel and appointments about £1 500 Nice house rent £53

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N E Coast—Partnership Half share of £2,800 including £1 800 from panel Suitable living accommodation Premium 1½ years purchase

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PRACTICES AND PARTNERSHIPS FOR SALE.

1 DEATH VACANCY — PEMBROKE HIRE —Unopposed PRACTICE in small sea side town within a few miles of a large one Minimum immediate disposal Receipts average £1,694 p.a. including appointments and panel of 1,300 Visits 3/6 to 10/6, medicine extra. Motor cycle used Good house, overlooking the sea, with 2 and 5 bedrooms etc. Small garden and garage Will be let on lease at £60 p.a. Premium £2,000 or near offer

2. DEATH VACANCY —CORNWALL.- Small town near Coast. Old established mixed General PRACTICE. Income for 1923 approximately £1,000 Panel 1,8[illegible] Fees from 3/6 upwards visits 5/- upwards, medicine extra. Little midwifery from 2 gns. Convenient house with large garden rent £60 p.a. If desired there is another house available Premium £1,250 or near offer Locum in charge

3. GLOUCESTERSHIRE.— Country PRACTICE held by Vendor nearly 20 years Steady average income of £1,450 Patients are mainly working class, but the Practice is situated in extremely beautiful country Panel list of 1,1[illegible] Good freehold house with garden Price £1,200 £1,000 of which can remain on mortgage at 5% Prem £2,000 £500 of which can be paid by instalments.

4 CHESHIRE.—PARTNERSHIP —Pleasant Residential Town. A half share in an old established Practice producing an average income of about £4,000 Panel 1,[illegible]00 Fees 2/6 to 5/- visits 2/6 to 1 gn. motor car extra. Good house with 6 bedrooms, etc., rent £64. Prem. £3,000 £2,000 down and balance by arrangmt

5. LONDON WEST END —Old established high class General Consulting PRACTICE held over 20 years by present Incumbent is for disposal Receipts average at least £1,500 per annum. Consultations 2 gns. upward but plenty can be had at 1 gn. Very nice Consulting and Waiting Rooms Rent (including rates and taxes) £180 on lease. Premium £3,000 Twelve months introduction given purchaser taking all receipts during this time

6. SEASIDE RESORT NORTH WEST COAST —Old-established good-class PRACTICE (held 25 years by present incumbent) averaging £1,312 per annum for the past three years. No panel and practically no midwifery or night work Visits 7/6 to £1 1s. Car not kept Good house (facing sea) Rent £150 Premium 1½ years purchase Vendor selling on account of ill health

7 WARWICKSHIRE.—Unopposed old-established PRACTICE situated in the centre of a hunting district, and within 10 miles of a large town Cash receipts last year over £1,700 including various appointments and panel of 1,1[illegible] Visits 2/6 to 10/6. Midwifery 2 to 5 guineas about 40 cases yearly Very good house with ample accommodation, bathroom, etc., garden tennis lawn, etc. Water laid on Electric light Vendor's freehold. Price £2,200 Premium for practice £2,200 Hunting shooting etc. Plenty of social life Ill health reason for disposal.

8. ESSEX.—MARKET TOWN, within 30 miles of London. Old-established General PRACTICE comprising all classes of patients and held by the Vendor many years. Steady average income of about £1,375. No appointments. Panel of 400 Advice and medicine 3/6. Visits 5/- to £1 1 0 About 30 midwifery cases a year at 4 to 8 guineas Very convenient corner house with large garden. Rent £100 Premium £1,500 half by instalments.

9 CHESHIRE.—PARTNERSHIP In large Town (population nearly 100,000) close to a seaside resort. Partner required (under 35) for the third share of a middle-class and panel Practice, worth £3,200 per annum including 1,800 panel patients Visits 2/6 to 5/- Midwifery 2 to 3 gns About 120 cases yearly Car not required No house at present available but comfortable rooms can be had. Premium £1,100 payable £500 or £800 down and balance spread over 2 years

10 BRISTOL.—Very sound middle and working-class PRACTICE held nearly 25 years by present Incumbent, who is relinquishing on account of ill health Average cash receipts over £1,200 a year including several small appointments and a panel of over 1,[illegible]00 Visits 3/6 to 10/6. Midwifery from 3 guineas about 30 cases. Very good house specially built for a doctor contains 2 reception room waiting room, consulting room and surgery with separate entrance 5 bedrooms, etc. Garden. Premium £1,800

11 IMMEDIATE PARTNERSHIP —CHESHIRE—(Hospital Town) Owing to senior partner's death, the fourth share of well established practice can be acquired by suitable gentleman aged 25 to 35) Share will produce £900 to £1,000 per annum free of Income Tax. Public appointments held, and panel of 3,000. Visits 5/- to £1 1s Premium 3 years purchase. There is plenty of surgery done in the practice Preliminary assistantship of 3 to 6 months entertained

12 NEW ZEALAND (NORTH ISLAND) —Unopposed and increasing PRACTICE in a very beautiful district on main line about 8 miles from a large city and worth nearly £1,300 a year including easily worked appointment at £100 Visits into Township 10/- mileage 6 miles midwifery 5 gns. Good and up-to-date house (built by Vendor's predecessor) containing surgery 2 reception rooms 3 bedrooms and sleeping porch bathroom, etc. with an acre of ground, tennis court etc Rent £120 on lease Climate perfect, sport of all kinds, telephone, motor bus, and shops of every description. Premium £1,000

13. DERBYSHIRE.—HOSPITAL TOWN Old-established PRACTICE held 13 years by present Incumbent who is relinquishing on account of ill-health. Cash receipts for the past 3 years average £3,072 per annum, including about £1,500 from panel Fees 3/6 to £1 1 0 About 50 cases of midwifery a year at 2 to 5 guineas. Centrally situated house (2 reception rooms consulting and waiting rooms 4 bedrooms, bathroom etc.) on lease at £100 a year Premium 1½ years purchase. Good scope for surgery and Vendor is on the staff of the Hospital

14. INLAND HEALTH RESORT —Old-established practically unopposed PRACTICE in very pleasant town residential population 1,[illegible]00 which is much augmented by visitors) amidst beautiful scenery Estimated income nearly £1,800 a year including appointments of £50 and panel of 1,[illegible]0 Visits up to £1 1s. Very little midwifery Excellent residence in its own grounds of 3 of an acre Ample accommodation. Premium for practice and house £5,400 Exceptional future prospects Tennis, golf hunting shooting etc

15 SOUTH WEST OF ENGLAND -COUNTY TOWN -A ONE-THIRD SHARE, producing £800 is offered in a good-class non-panel and non-dispensing practice with a considerable amount of surgical work There is a good Hospital in the town and the incoming partner (who must hold the F R C S) will eventually be elected to the Staff Premium £1,600

16 SOUTH SEA ISLANDS —In a Capital City a well-established lucrative and increasing PRACTICE averaging over £1,200 per annum. Good climate, malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards Midwifery from 5 guineas. Dispensing optional Practice can be worked on foot. Good bungalow residence in excellent position with ¼ of an acre of garden. Electric light, etc Rent £10 a month. on lease. Premium £800 Income Tax 1/- in the pound over £500

17 LONDON, NORTH —Old-established PRACTICE producing an income of £1,400 a year including appointments worth £320 Panel of 330 but this can be largely increased if desired. Visits and medicine 3/6 to 7/6 Midwifery 2 to 5 gns Practice is very easily worked, with no conveyance Nice house in good decorative repair with fair garden. Price £1,250 a good portion of which could be obtained on mortgage. Premium £2,000

18 KENT —LARGE TOWN —PARTNERSHIP —A third share (with succession to one-half in 5 years) is for disposal in an old established practice Average income for the last 3 years £4,800 No appointments Visit 3/6 upwards. Midwifery 2 to 3 guineas, about 50 cases Good schools. Partner who must be energetic and fond of work, must accept a preliminary assistant ship for one year Premium 1½ years purchase payable chiefly by instalments

19 OUTLYING SUBURB OF LONDON (South) —Old-established good middle-class PRACTICE doing at present a rate of £1,200 a year Vendor has no panel, but there is a very large scope in this direction. Visits 5/- upwards. Very little midwifery and nothing under £5 5s Exceptionally attractive residence with good accommodation garden, etc. It is the Vendor's Freehold Price £1,000 a good part of which can remain on mortgage. Premium for Practice £1,500

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KENT —(4) Old-established unopposed Country PRACTICE over £900 p a. in beautiful district. Panel under 400 Attractive residence (5 bedrooms) with gardens, orchard &c., to be sold. Considerable scope. Premium one and a half years' purchase.

EASTERN COUNTIES —(5) Old-established PRACTICE £1 855 p a. in pleasant Market Town Panel 1,100 No midwifery Excellent detached house (7—8 bedrooms) Very good garden Cottage Hospital. Premium one and half years purchase.

LONDON,—(6) Pleasant Residential Suburb Well-established better middle class PRACTICE over £3 000 per annum. Panel 2 000 Excellent well situated house Particularly suitable for a Catholic. Premium £4 500

DEATH VACANCY —(7) South Wales Unopposed PRACTICE about £1 700 in small Seaside Town Panel 1 436 Good house Rent £60 on lease.

SOUTH COAST —(8) Good class PRACTICE of £1,350 p a. Excellent house. Premium £1 250

CHESHIRE —(9) PARTNERSHIP in good middle and working class Practice over £3,200 p a in Manufacturing Town. Panel returns about £1,000 p a. Modern detached house (6 bedrooms) for sale. Premium one-half share one and a half years purchase Hospital and plenty of scope for special work

SOUTH MIDLANDS —(10) Well-established unopposed PRACTICE averaging £1 181 per annum in good agricultural district. Panel 800 Detached house (5 bedrooms) in grounds of half acre Rent £65 on lease Premium £1,700

LONDON, S E —(11) PARTNERSHIP in old-established middle and working-class Practice about £3 300 in outlying Suburban Dist Very convenient corner house (3 bdrms.) Prem. one-third share £1,500

SCOTLAND —(12) University City —Special PRACTICE in Venereal Diseases Receipts average £800 per annum. Fees 10/6—£3 3s Premium £1 200

SEASIDE TOWN AND HEALTH RESORT —(13) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good-class old established practice Share worth £1 000 p.a , at two years purchase

WEST OF ENGLAND —(14) Well-established good class panel and private PRACTICE over £1,000 per annum in favourite Town. Panel 930 rapidly increasing Good house Premium £1 650

DEATH VACANCY, LONDON, N W —(15) Good middle-class PRACTICE about £2,000 per annum in Residential Dist. No panel Non basement corner residence (5 bed and dressing rooms), to rent.

SURREY —(16) PRACTICE about £500, in Residential Suburban District under 15 miles from London. Small panel Rent of house (4 bedroom &c) £60 Premium £700

INLAND HEALTH RESORT —(17) Well-established PRACTICE in first rate Residential Town. Receipts 1923 £1 818. Panel 2 000 House contains 7 bedrooms &c. Premium £2 400

YORKSHIRE (W RIDING) —(18) Old-established PRACTICE over £1 700 in clean Manufacturing Town Panel 1 125. House contains 3 bed and 2 dressing rooms Garden half an acre Pretty surrounding country Prem £2 000, to include book debts tenant's fittings &c.

EAST ANGLIA —(19) Well-established PRACTICE in important Town and Agricultural centre, near the Coast. Receipts average £2 675 per annum Panel 2,100. Excellent house (6 bed and 2 dressing rooms) Premium one and a half years purchase

LONDON, W —(20) (within a short distance of the Marble Arch) Old established non dispensing PRACTICE of the better middle class type Receipts £1,200 to £1,500 p.a. Small select panel 50 Large house to let Premium one and a half years purchase

LONDON, N —(21) PARTNERSHIP in Cash and Panel Practice of £1 800 in Residential District Panel 2 450 House contains 5 bedrooms &c One third share at first Premium £1,200 Incoming Partner must be married

ESSEX —(22) NUCLEUS of Practice in Industrial Village Panel and Midwifery refused Detached house (4 bedrooms and 2 attics) with garden Premium Practice and House £900 Plenty of scope

SOUTH MIDLANDS —(23) JUNIOR PARTNER required in old established practice in first rate Residential Town Share worth about £800 p a at first at two years purchase Partner should be aged 8 to — and unmarried preferred

SOUTH OF ENGLAND —(24) Well established Anæsthetic and General PRACTICE about £1 000 in pleasant Seaside Town large detached house (7 bedrooms &c) with acre garden (or smaller house to be bought Purchaser must be experienced anæsthetist Prem £1,600

SPECIAL OPHTHALMIC PRACTICE —(25) About £600 in Seaside Town, South of England Would suit elderly practitioner retiring, and wanting quiet practice with small expenses, in healthy place Premium £700

HOME COUNTY —(26) PARTNERSHIP in first-rate non dispensing Practice in one of the best residential neighbourhoods near London Share worth about £1,200 at once and further share in twelve months. Premium two years purchase. Cottage Hospital

OXFORDSHIRE —(27) Unopposed PRACTICE of about £1,100 per annum including panel of nearly 600 Small house and garden on long lease Rent £30 Premium about one and a half years purchase.

SOUTH OF ENGLAND —(28) PARTNER required in very sound old-established Practice in Seaport Town Panel under 3,000 Share worth £700 to £800 at two years purchase. Partner must be keen and energetic and not much over 30.

COUNTY DURHAM —(29) Well established unopposed Country PRACTICE near important Town Income between £900 and £1,100 per annum. Panel about 700 House to rent Moderate premium

MIDDLESEX.—(30) PARTNER required in very old established and lucrative practice over £4 500 per annum, in industrial district Panel 4,000 Small house (4 bedrooms) Rent £52. Premium one third share two years purchase

SOUTH OF ENGLAND —(31) PARTNERSHIP in an old established PRACTICE of £2 000 in beautifully situated Country Town Panel 1,100 Very good educational advantages Cottage Hospital One-third or one-half share at 2 years purchase

SOUTH MIDLANDS —(32) PARTNERSHIP (with view to Succession) in old established Country Town Practice, about £1,100 per annum Small panel Premium one half share one and a half years purchase

MANCHESTER.—(33) Old-established and increasing middle-class PRACTICE, over £1 400 per annum in Suburb with Hospital and opportunities for Surgery Small panel Good house (8 bedrooms) in excellent position Rent £90. Premium one and a half years purchase

SCOTLAND NORTHERN HIGHLANDS —(3 PRACTICE averaging over £1 600 per annum in a Town No panel House (5 bedrooms &c.) in best residential part Ample scope for midwifery and panel Premium £1,200

SHROPSHIRE —(35) PARTNERSHIP in Country Practice nearly £1,350 per annum. Detached house (6 bedrooms) with nice garden Rent £65. Cottage Hospital. Premium one half share £900

SOUTH-EAST COAST —(36) Favourite Health Resort PARTNERSHIP (with view to Succession) in good middle-class non dispensing practice about £1 750 including appointments £170 (about) panel. Premium two-fifths share two years purchase and up to one-half two years. Partner should be 28 to 30 single Preliminary Assistantship.

SOUTH OF ENGLAND —(37) PARTNERSHIP in a good class non panel practice of £2,400 per annum in beautifully situated Country Town near the coast One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate, not over 35 and preferably F R C S England Preliminary Assistantship Salary £500 p

EAST COAST —(38) Old-established good class PRACTICE £1,700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double fronted house (6 bedrooms) Rent £75 on lease Premium one and a half years purchase

MIDLANDS —(39) PARTNERSHIP in old-established Practice over £3 200 per annum in excellent Country Town Panel about 1,400 Premium one third share one and a half years purchase.

MIDLAND TOWN —(40) Old-established PRACTICE about £1,100 per annum in Residential Suburb Panel 700 Good house and large garden Premium £1 600

NORTH-WEST COAST —(41) Sound middle-class PRACTICE about £2 400 Conveniently situated house to rent Premium £2 000 part by instalments.

NORTH OF ENGLAND —(42) Old established PRACTICE of £1 460 per annum in Country District Panel 810 Very good house (6 bedrooms) in charming grounds two acres Premium practice house and grounds, £4 000 Mortgage could be had on house

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EAST COAST —(44) Popular Resort Old-established middle and working-class PRACTICE of £1,134. Panel 817 Rent house (5 bedrooms) £60 Premium £1,400

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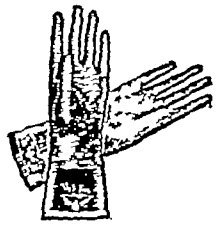
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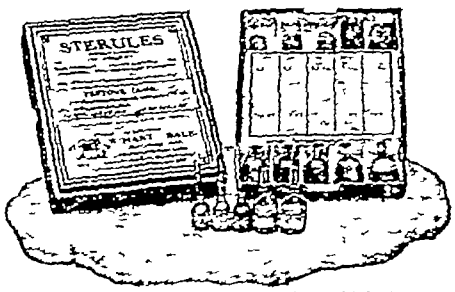
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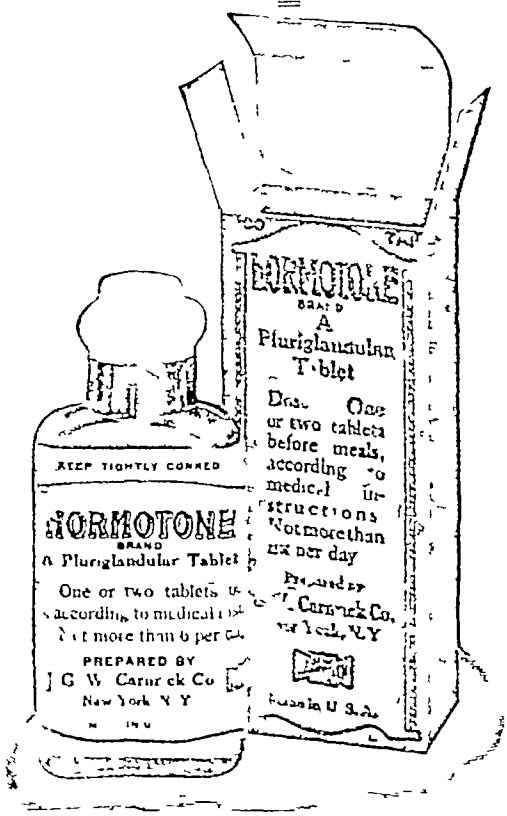
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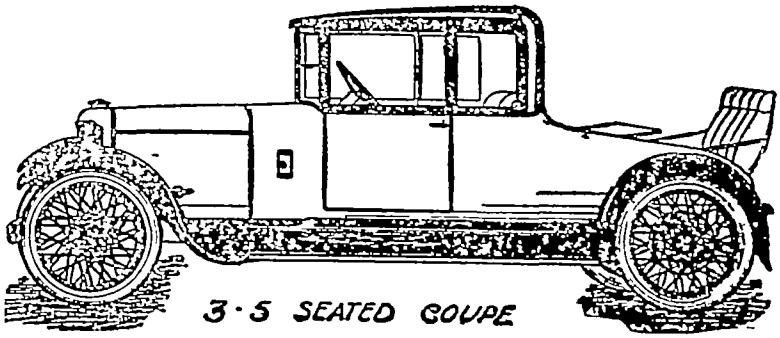
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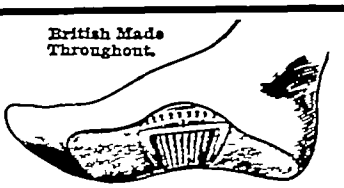
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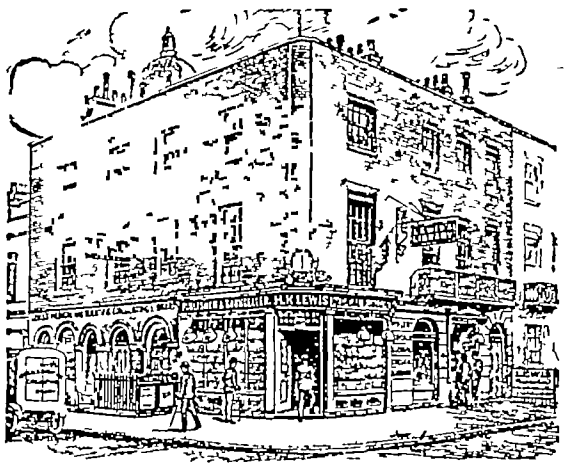
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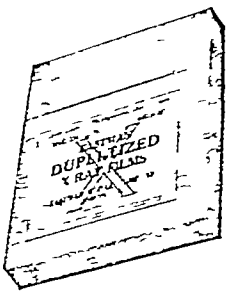
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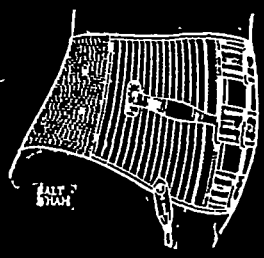
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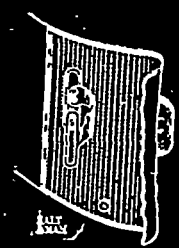
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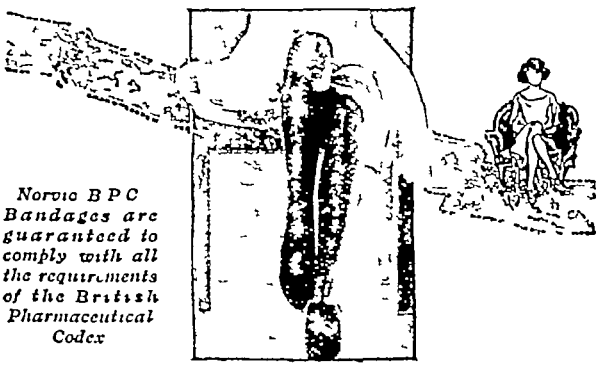
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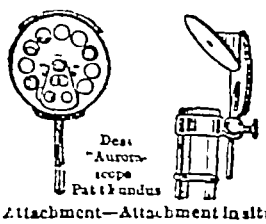
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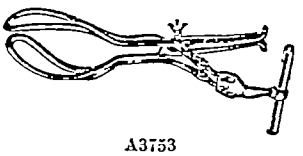
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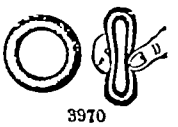
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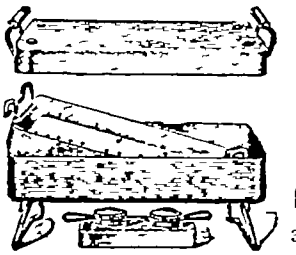
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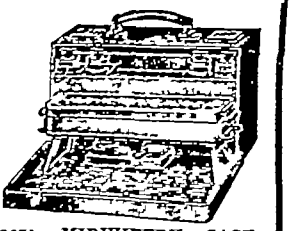
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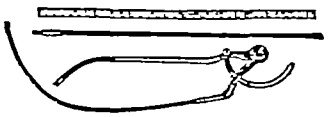
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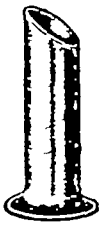
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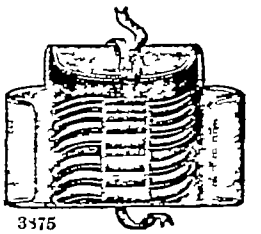
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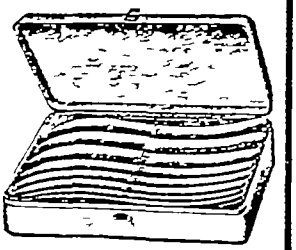
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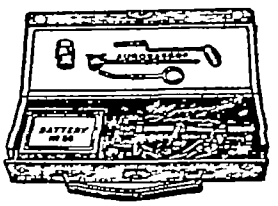
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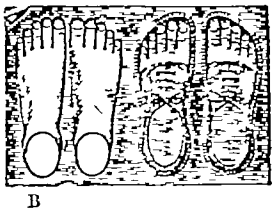
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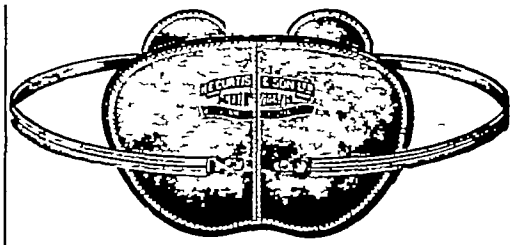
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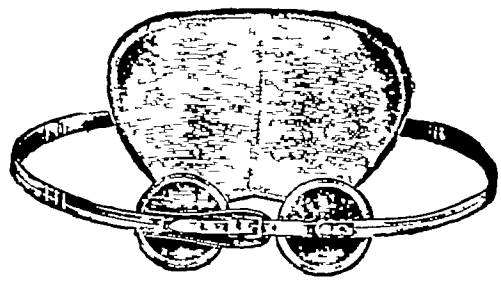
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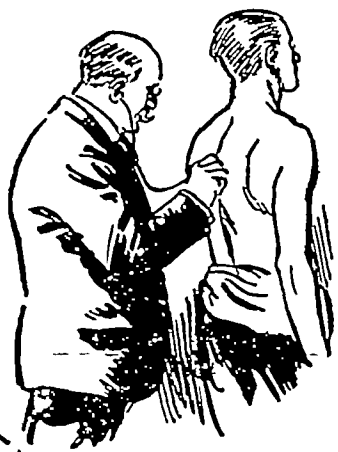
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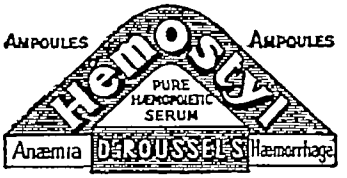
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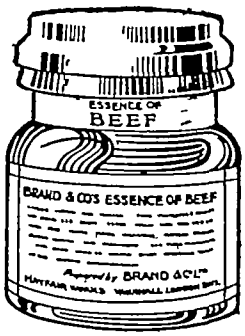
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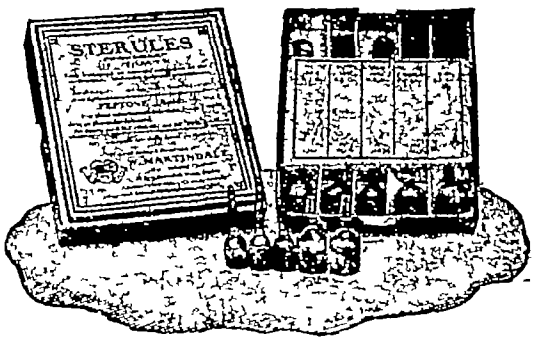
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I have tried your Mist Damianæ Co considerably in the dyspepsia of commencing phthisis, and can very strongly recommend its use in these cases. *It soothes the stomach wonderfully and enables the patient to take more food whilst acting as a powerful stimulant in relieving exhaustion*"—Yours faithfully W H B—— B.A.(Cantab) M R C S L S A

THE MEDICAL ANNUAL.—'Damianæ is not used so frequently in this country as in America, where its value as a tonic for Neurasthenia is well known. Messrs. HEWLETT & SON put up a very excellent preparation of this drug combined with Nux Vomica and simple aromatics and bitters, which is valuable for dispensing and yields very satisfactory results in treatment."—1898.

Dr M—— R.N, writes:— Farnham (Hants.), Sept., 1903.

I have frequently prescribed your Mist Damianæ Co and proved it efficient in treating Neurasthenia."

Packed in 10-oz., 22-oz, 40-oz., and 90-oz Bottles Price in England 12/6 per pound

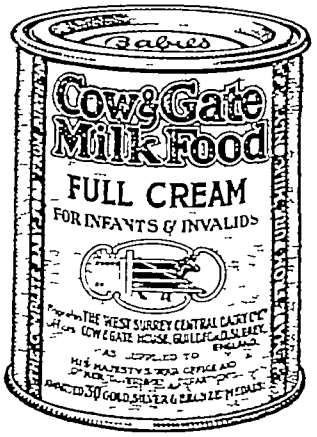
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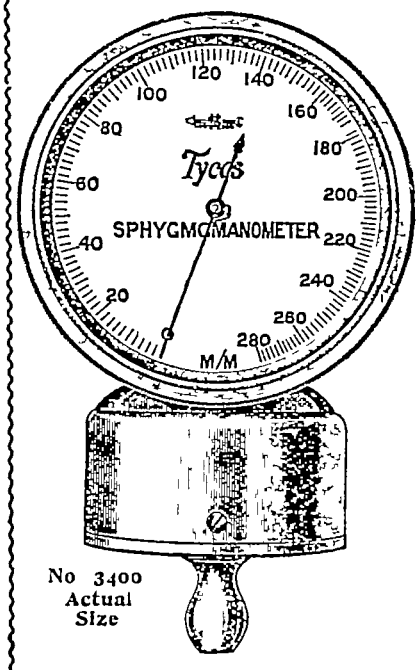
(See BRITISH MEDICAL JOURNAL, *7th July, 1923)*

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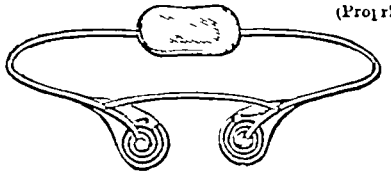
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Easton, B P 7 lbs @ 1/7 lb
Ferri Iodid, P B 7 lbs. @ 1/10 lb
Ferri Phosp Co 7 lbs @ 9½d lb
Hypophosph Co B P C 7 lbs @ 1 3 lb.
Prunl Virg B P 7 lbs @ 1/1 lb
Rhamni, 7 lbs. @ 1/3 lb
Rhei P B 7 lbs @ 1/2½ lb
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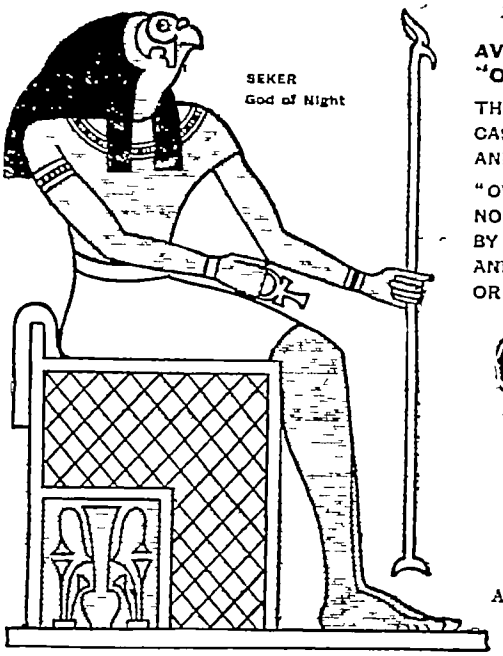
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Ung Acid Boric P B 28 lb pail @ 11d lb
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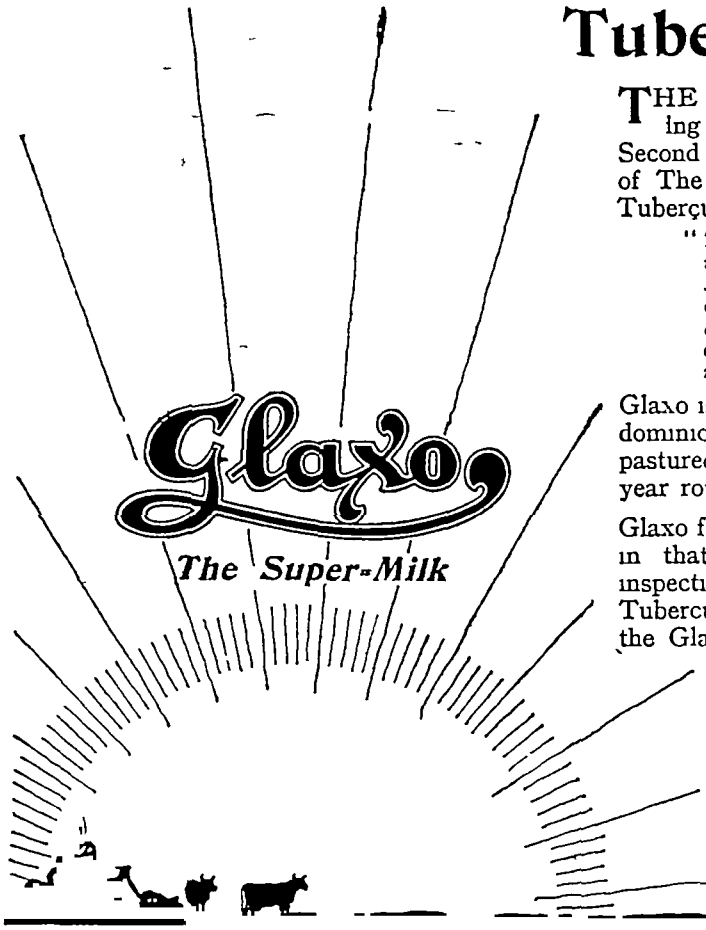
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Tuberculosis *and* Milk

THE following is an extract from an article appearing in "NUTRITION AND PEDIATRICS," Second Quarter 1924, No 17 (published by permission of The National Association for the Prevention of Tuberculosis) —

"*There can be no question that bovine tuberculosis is a very fruitful source of disease in this country No form of food supply is the direct or indirect cause of more deaths and for no food product is so little done to prevent infection as in the milk supply of this country All these dangers may be avoided by the use of guaranteed pure milk powders such as Glaxo*"

Glaxo is made in New Zealand, the premier dairying dominion of the British Empire, where the cows are pastured in sunlit open fields on green grass all the year round

Glaxo forms a striking contrast to ordinary raw milk in that it is always tubercle free Strict official inspection and healthy cattle insure that Bovine Tuberculosis does not exist in the herds supplying the Glaxo Factories

An Invitation—Members of the Medical profession are invited to inspect the Glaxo laboratories and packing factories at the London address. Inoculation and feeding experiments are regularly done to demonstrate bacterial purity and non-destruction of the accessory food factors an experimental drying machine can also be shown in operation

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Malunion, delayed healing, low-grade infections, and other interruptions to recovery can often be forestalled by building up the tissues with

Compound Syrup of Hypophosphites "FELLOWS"

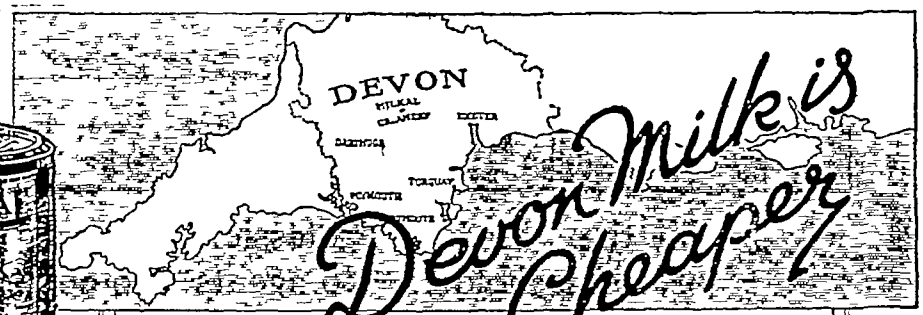
a continued course of which, after a surgical operation, will often accelerate the patient's recovery

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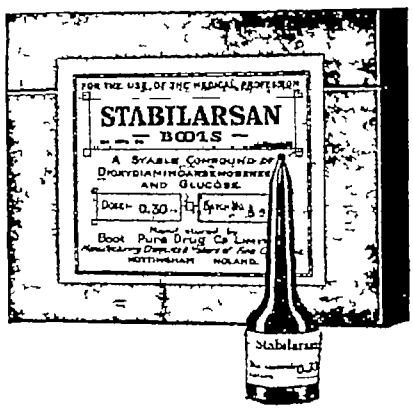
Dioxydiaminoarsenobenzol—Glucose

British Patent No 177283

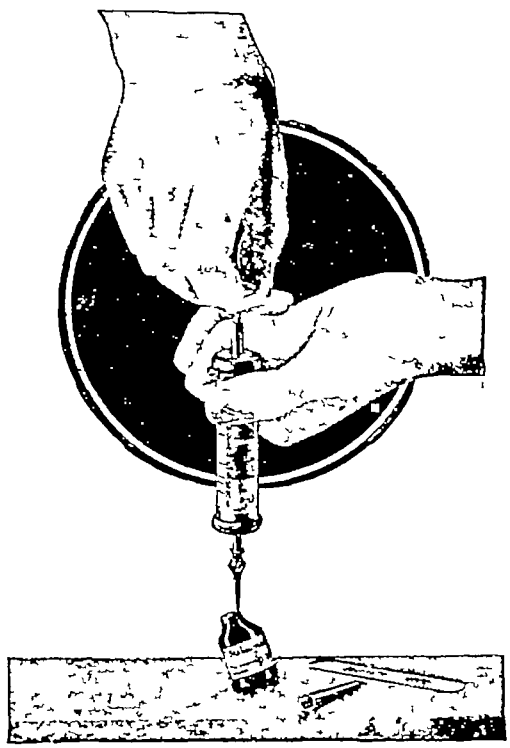
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The analysis made by *The Lancet*, is as follows —

Moisture	**1 50**	**per cent.**
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Maltose and Lactose	**55 80**	" "
Dextrine	**16 00**	" "
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" a complete food, which, owing to its careful method of preparation, is readily assimilated "

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which present animal substances of the highest possible quality and activity

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Pituitary Gland (Anterior Lobe)	gr 1/2 (0·032 gm.)	*Pituitary Gland (Anterior Lobe)*	gr 1/2 (0·03° gm.)
Suprarenal Gland,	gr 1/4 (0·016 gm.)	*Suprarenal Gland,*	gr 1,4 (0·01ᵒ gm.)
Didymus,	gr 1·2 (0·03… gm.)	*Varium*	gr 1,ᵒ (0·022 gm.)
Cerebrum,	gr 1/ᵒ (0·03· gm.)	*Ovarium*	gr 1/2 (0·03… gm.)
		Cerebrum,	gr 1/2 (0·022 gm.)
In bottles of 100, at 4/7 per bottle		*In bottles of 100 at 5/- per bottle*	

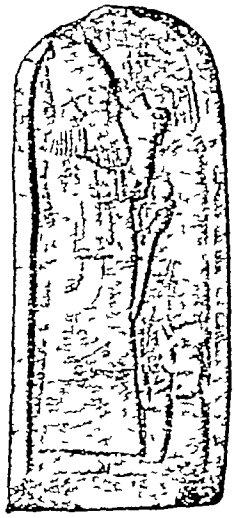


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For full particulars, see Wellcome's Medical Diary

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ESARHADDON WHO CONQUERED LOWER EGYPT AND INCORPORATED IT WITH THE ASSYRIAN EMPIRE.—This king's claim to the title of empire builder is well supported for in addition to holding intact what his predecessors had won, he extended the Assyrian power His most outstanding achievement in this direction was the conquest of Lower Egypt in 672 B C. Taking possession of the ancient capital of Memphis he reorganised the administration of Egypt, making it part of the Assyrian Empire, though as a concession to his new subjects he appointed a native ruler War continued to be the rule in Assyria during Esarhaddon's reign notwithstanding that he reverted to the policy of conciliation of the Babylonians initiated by his famous grandfather Sargon. He began the restoration of Babylon wiped out of existence by the iron hand of Sennacherib his father he rebuilt its great walls and chief temple. He placed new images in its shrines, and led its people back from captivity But Assyria and Babylonia never held together politically and this was a serious element of weakness in the Assyrian empire, and ultimately one of the chief causes of its downfall Esarhaddon conducted victorious campaigns against the Phœnicians and Cilicians and subjugated encroaching tribes of Arabs and Medes. He seems to have been a somewhat less ferocious and ruthless ruler than most of his predecessors an instance of this being his release of Manasseh, King of Judah, from the captivity which followed the repression of his revolt.

DATE 681—668 B C.

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A Lecture
ON
ANGINA PECTORIS AND THE POSSIBILITIES OF ITS SURGICAL RELIEF

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON ON MAY 5TH

BY
DR K F WENCKEBACH,
I. MED CLINIC VIENNA.

IT IS so great a pleasure to me to find myself in London again amongst many old friends, exchanging views and, as in olden times, fighting by strength of argument with many a member of the British profession that I am in danger of overlooking the great and exceptional honour bestowed upon me by being allowed—nay, invited—to address this highly illustrious Royal College of Physicians, of which William Harvey was and is the everlasting glory I want to acknowledge my great appreciation of this invitation, my great indebtedness to your President, to my friend Dr McNee, and to all of you who have honoured me by your presence

It seems madness that I should endeavour to bring new notions, personal conceptions about my chosen subject, to England, the classical country of angina pectoris, where it was and still is a favoured subject of investigation and controversy However, it is exactly this fact which made me wish to bring our problems, our schemes, before a British audience, where I feel sure to find interest, good advice, and help Here I knew I would meet the best authority on angina pectoris of this time—your highly honoured, even right honourable, Nestor of teachers of medicine, my faithful friend in sunny and in dark years, Sir T Clifford Allbutt

There is a special reason why I want to say my say concerning a subject about which I have been silent until now In the *Lancet* a few years ago Dr Alexander Morison wrote to the editor

> Whatever [the] disadvantages of such maturity, one must have attained one's fifth or sixth decade before under the most favourable circumstances from the point of view of personal experience, one can have seen, I shall not say many but a sufficient number of cases of Heberden's disease to be in a position to speak with authority on this always interesting affection.

Now I happen to find myself exactly at that time of life which the authority I have quoted thinks the moment of dawn of knowledge In my younger years I saw many cases of angina in Holland, but not so many by far as my English friends did in this country It is chiefly in the last ten years, spent in Vienna during its struggle for life, that I have had the opportunity of seeing even more than the sufficient number of cases of which Morison speaks. As nobody can possibly give me a guarantee of reaching with sound brain the age of Heberden or Clifford Allbutt, I should speak now or perhaps never

As to what we should mean by angina pectoris, I do not think that there will be any danger of being misunderstood here in England In other countries quite different forms of heart paroxysms are called by this name Cardiac asthma, any kinds of sudden pain in the cardiac area, even paroxysmal tachycardia, or other irregularities associated with sensations of anxiety, are packed together under the name of "stenocardia" or "angina pectoris" This fact makes discussion very difficult, and so confused that the poor pathologist, if asked to name the lesions characteristic of angina pectoris, is at a loss for an answer Here, I think, angina pectoris is always and only characterized by pain—pain of a definite kind and with a typical localization, coming on in attacks, as was described by Heberden It is this purely clinical entity which is the chief subject of my lecture In my description of it I will first of all try to delineate angina pectoris as it is seen in general and private practice, much rarer in hospitals, but covering certainly 70 to 80 per cent of all cases that might be called angina pectoris

A THE COMMON, MOSTLY "CHRONIC," FORM OF ANGINA PECTORIS

(*a*) *The Patient's Sensations*

At first the sensation is spoken of as a pressure, a heavy weight, always a very disagreeable, somewhat alarming sensation, it may be constricting or a stress Sooner or later, sometimes from the first attack on, there is a definite sensation of pain, that may be tearing piercing, or burning as hot fire, you never will hear the expression of "stabbing pain," which is so typical in heart neuroses and in some kinds of irregularities Sometimes it is a spasmodic pain or as if the breast would burst It may irradiate as in neuralgia, and may start or remain in the form of definitely circumscribed hyperaesthesias

A good observer, who knows how to get precise answers out of his patient, will easily recognize this kind of pain were it only by the grave face and awed respect with which the patient speaks about it It is quite different from the pain of the neurotic patient, who with dramatic emphasis and sweeping gestures wants to make an impression upon his doctor, and points with the finger to that part of the chest where he thinks his heart is to be found

(*b*) *Localization of Pain*

The centre of the pain is never at the apex or in what we call the cardiac area It is nearly always somewhere on the sternum, at a higher or lower level, mostly at the manubrium, sometimes beginning at the xiphoid and rising to the middle or the upper parts of the sternum. It may be at a spot lying to the "north-east" of the heart, in the level of the third and fourth ribs, where the patient will place three or four fingers In light cases the patient may move his pointing finger across the chest in the level of the angulus Ludovici speaking of a tearing pain These movements are characteristic and of great diagnostic significance

Irradiation, the most typical quality of anginal pain, spreads first into the back, where it covers an area opposite the painful spot on the chest it runs up to the left shoulder down at the inner side of the arm, and may go down as far as the wrist or the little finger It may ascend to the left or to both sides of the neck, to the angle of the jaw, or even as high as the scalp These sensations in the neck are often felt as a kind of strangulation. At the height of the attack the pain may spread over the whole chest, to the right side and arm, sometimes in the same intensity as in the left (angina duplex), or the whole irradiation may be localized and limited to the right side from the very beginning (angina dextra)

The typical segmental areas of hyperaesthesia and hyperalgesia or, in chronic cases also of hypoalgesia or analgesia, may be accompanied by tenderness on compression and pinching of skin, muscles, and nerves These areas of changed sensibility correspond with the posterior roots of the lower cervical and the first one or two thoracic segments Typical pain points may be present—for instance, above and under the clavicle, where the cervical and brachial plexuses are running down (R Schmidt), and at below the mastoid over the styloid (Libman)

(*c*) *Under What Circumstances does this Pain come on?*

The most important peculiarity of the pain is its absence in rest and during the night. As long as the patient keeps quiet, bodily and mentally, he may feel perfectly well; as soon as he starts moving the pain comes on—at first on severe exertion only, as on going uphill or running after a tram-car, later a quiet walk or even the least effort—dressing, writing, chewing—causes the pain, so as to make life quite unbearable

In exciting these attacks there are three other conditions which make themselves felt in the great majority of cases First, a *full stomach*, the business man may, before noon run into his office, manage his affairs, and bustle about, after a copious lunch, in the afternoon, he is nearly paralysed, the slightest movement or excitement giving rise to terrible attacks, belching brings relief This factor is so obvious that sometimes angina

pectoris is looked upon as a disease of purely abdominal origin

In the second place *excitement* and nervousness, alone or combined with bodily work, may cause the most terrible pain This is so much the case that the whole condition is sometimes regarded as one of nervousness only On the way to the railway station the mere idea of perhaps missing his train is sure to cause an attack, the same thing happens the moment he finds that he has left his nitroglycerin bottle at home

A third factor of great importance is *cold* Nearly every patient tells us that cold weather, a cold room, makes him suffer more Leaving a warm room and going into cold open air invariably brings about the pain Sometimes going to bed has the same effect, which I did not understand until I found out that it is the undressing in a cold bedroom, and especially the cooling of the skin by stretching himself between the cold sheets, which is the active agent A fire in his room and a hot-water bottle in bed prevent this untoward event

From these facts we see that everything which stimulates the action of the heart, increases its output, or raises the blood pressure, causes the pain

(d) The Course and Subsidence of the Attack

Just as the onset of the attack is caused by exertion, excitement, cold, a full stomach, and abdominal tension, or the combination of these factors, anginal pain will disappear as soon as these causal influences are removed Therefore the attack generally lasts only a short time a warm room, a hot stove, a healthy belching or other depletion of the abdomen, mostly have an immediately favourable effect As soon as the patient stands still in the street and keeps quiet, the distress disappears These peculiarities give anginal attacks a typical aspect, the more so as anginal pain is of the most excruciating character, and so dominates its victim that he is forced to stand still immediately The patient does not stop in the street because he finds it convenient or because he knows that it will do him good, but because he *must* Therefore this stopping in the street is one of the most reliable symptoms in the patient's history The man with heart failure and dyspnoea, as soon as he is conscious of overexertion, will slow his pace and make his way to a quiet spot, the subject of angina must stand stock still and can only move when he is out of the devil's clutches, should he not keep quiet long enough the attack will come on again before he has taken a step or two In doubtful cases we should try to get a history out of the patient, or if still in doubt take him by the arm and walk a mile with him

(e) There is no Dyspnoea in the Attack

Symptoms that are absent during the attack are not less important than the characteristic symptoms we see Dyspnoea does not belong to angina pectoris The patient may tell about a loss of breath, he may even mention some curious sensations of suspended respiration and a feeling of constriction which makes respiration nearly impossible (symptoms on which we have to talk later), close observation shows that there is not a single sign of overfilling of the lung circulation or typical forced breathing With the subsidence of the attack these respiratory symptoms immediately disappear, and a deep sigh is the signal of the patient's release and the onset of normal breathing There is a general acknowledgement of these facts, and we will therefore have to look on a pulmonary stasis coming on during the attack as *an event grafted on the attack* and not as an essential part of it The absence of dyspnoea in the typical, most frequent form of angina eloquently speaks against the hypothesis that brings angina in connexion with heart muscle weakness of any kind

(f) The Action of Nitrites

The miraculous action of nitrites is diagnostic for angina In no other condition do these drugs act so wonderfully, in dubious cases the presence or absence of this effect may be of almost decisive importance for diagnosis

(g) Physical Diagnosis

The clinical findings in our patients are not in any way characteristic Percussion and the x-ray screen may or may not show a wide aorta or enlarged heart We may find sclerotic or weak arterial walls, a high or a low blood pressure, you get angina in a body of athletic build as well as in that of a weakling Symptoms may be absent or present in the most different combinations of anginal patients Hence the impossibility of reaching a correct diagnosis by means of a physical examination alone

(h) The Course of the Disease

A small percentage only of cases of this group die in the first or one of the first attacks On the other hand, if the patient survives, a lasting cure is extremely rare The pain may disappear for a short time, nearly always it comes back I do not mean that the patient dies always under the symptoms of angina, we will see later that the pain may disappear and may be replaced by symptoms of developing heart failure In favourable cases a long but necessarily quiet life is possible In a goodly number of instances (in private practice, not in hospital cases) patients may live for a number of years if they will accept our advice and avoid bodily exertion, mental excitement, full meals, and some of our sweet poisons

This full clinical picture belongs to the cases that visit the general practitioner Taking all cases that show the typical paroxysmal pain, in my opinion 80 per cent belong to this type, which I call common angina, or at least belonged to it in the first phases of the disease The changes in the course of the disease and its various aspects are to be explained from superadded factors It was the observation of a very great number of cases which has made it possible for me to reach the essentials and to eliminate conditions which are exceptional, superadded, or which may complicate or lead to a total change of symptoms in certain cases these essential features of angina are fully portrayed in the classical picture drawn by Heberden

B ANGINA PECTORIS CAUSED BY CORONARY EMBOLISM

In a number of cases—very small compared with that of the common form of angina pectoris—we find typical anginal pain, but its onset, its duration, and its consequences are easily (but not commonly) discriminated from the more chronic form There is little doubt about its causation, because generally emboli, or sudden thrombosis of coronary arteries are found in these cases Relatively often there is the opportunity of getting a *post-mortem* examination To these cases the doctor is summoned as only in cases of extreme emergency Until the attack came on the patient may have been in seemingly perfect health, perhaps there had been already some premonitory signs of beginning heart disease, perhaps the patient just "felt his heart" or found himself short of breath on stronger exertion However this may be, suddenly and without any obvious cause a most severe pain in the chest, increasing into a most horrible paroxysm, sets in The patient is unable to move about, sometimes collapsing from weakness, or he may even become unconscious Speaking from personal experience, I may mention a case where a man was seized while quietly sitting in the train on his way to a hunting party and had to be carried from his compartment to the nearest hospital In another case the subject of an attack broke down in the street and was brought to a neighbouring chemist, or a third case—a doctor on his way to a patient is suddenly overwhelmed by pain, and has to be carried to his home In all such cases there is no apparent cause for the onset of the attack, nor is the duration a short one, nor do nitrites relieve the pain in any marked way, the attack does not pass off, but lasts for hours, sometimes days, without any real amelioration Only repeated injections of morphine are able to help him In many of these cases digitalis, caffeine, and injections of other analeptics are necessary to keep up the fluttering heart action The patient may die in this first attack, or the pain, burning like a fire in his breast, disappears after terrible suffering When at last the patient recovers he never, as in our common form, returns to his previous state of health, but

almost invariably becomes a broken man And after that? After lighter, rapidly passing attacks the patient may *seem* a healthy man I have seen a case in which, five years after such a seemingly complete recovery, a new attack left the patient with such a damaged heart that he died of heart failure three weeks later, but without any manifestation of pain In this case all the symptoms of heart failure were present

The most striking feature is that after such a terrible attack the patient nearly always is without pain, but instead shows the well known symptoms of a damaged heart muscle In recent years electro-cardiographic tracings have often disclosed such changes in the ventricular complex as are now known to give proof of changes in the function of the ventricular muscle wall—*changes that in some cases did not exist a short time before the attack, and sometimes disappear sooner or later after the attack is over*

The pain in these attacks is mostly, not always, the severe but usual form of anginal pain, with its typical localization and the same terrible qualities As far as my experience goes, it may sometimes be localized in lower segments of the chest, lower down on the sternum, and even in the heart region Irradiation in *both* arms seems to be not at all a rare occurrence

This variety of angina has so much impressed itself on the mind of the clinician that he has come to regard it as the typical form of the disease, and hence the evil prognosis he has come to attach to the disease Having learned and heard about such angina pectoris as a student I was greatly astonished at finding how rarely these cases occurred The overwhelming majority of cases show the more chronic character of the common form first described Nevertheless the typical character and localization of the pain compels us to include this form in the chapter of angina pectoris—well understood, as a form in itself, to be set apart from the more common form Without this distinction we will never be able to come to a satisfactory agreement on the subject of angina pectoris

I will not dwell on other forms of heart pain, nor on the relation of pericarditis to anginal or seemingly anginal pain In Clifford Allbutt's book enough is said on this subject, and to discuss it fully would lead me too far It is time to come to a discussion on the origin of anginal pain and of the attack

C The Origin of Anginal Pain

What is the constellation of causes, what the pathological anatomy and the pathological physiology of angina pectoris, and how can we explain the attack and its many peculiar manifestations? We must discuss the three chief explanations which have been offered

1 Pathological conditions of heart muscle
2 Disease of the coronary arteries
3 Disease of the proximal part of the aorta

An agreement on the subject is reached neither in literature nor in the manifold discussions in medical societies, on the contrary the defendants of the various hypotheses stand for their opinion So it seems necessary to test these opinions at the hand of the *clinical facts* that ask for explanation

1 *Heart Failure*

Heart weakness, insufficient action of the heart muscle—let the pathological factors be what they may—cause certain definite invariable symptoms, these symptoms being dependent upon the part of the heart which is affected In left-sided insufficiency there will be greater filling and higher pressure in the pulmonary circulation, attended by different grades of dyspnoea In failure of the right ventricle the lung will not be so much overfilled, and stasis will be found in the venae cavae, with enlargement of the liver and oedema If the whole heart is damaged the symptoms will be a mixture of these sequelae, dependent on the preponderance of left- or right-sided heart failure These facts are known to all of us, but we should not forget to apply them to our problem and to ask Are these invariable sequelae of heart failure regular constituents of the anginal attack? There can be only one answer No!

In the very large majority of cases dyspnoea is absent From the very beginning this point has been emphasized by the first and by the most conscientious observers, especially *here in England* There are exceptions by raising the blood pressure and by efferent impulses to the heart the attack itself may lay such a stress on the left ventricle that consequently this compartment of the heart breaks down In the midst of the paroxysm the well known short cough may appear, moist rales may be heard first at the base, later in the higher parts of the lungs, and the sputum may be rose-coloured and frothy The patient even may be choked instantly by oedema of the lung But we dare not forget that this breakdown of the left ventricle is not the cause, but a consequence of the attack We will find that this complication occurs almost regularly in angina due to embolism of the coronary arteries, but it does not belong to the common form of angina The difficulties of respiration, the curious sensation of not being able to breathe, frequently associated with anxiety and uneasiness, sometimes found in angina are not signs of insufficient heart function, but probably reflex disturbances which, as we will see, may be otherwise explained

How far we are off the right track when we ascribe the anginal syndrome to weakness of the heart is seen in long standing cases Here heart failure, developing in the course of time completely alters the clinical aspect *the patient loses his pain and becomes short of breath* Not rarely there is first a period in which the attacks consist partly of anginal, partly of heart failure symptoms, until, sooner or later, the pain disappears completely and the patient complains of dyspnoea on exertion I could tell you about a very great number of such cases, and every one of the colleagues in my clinic is, by ever-repeated experience, convinced of the reality of these events the debility of the heart is a safeguard and prevents the onset of anginal pain In literature a great number of observations lead us to the same conclusion The last writer on this subject, Danielopolu, says in his recently published book

> We see often angina patients who show no single sign of what we call heart insufficiency On the contrary as long as the patient's heart is strong he has numerous attacks of the classical type which disappear the moment the symptoms of insufficiency appear In the end dyspnoea takes the place of pain. To a certain extent both forms of attacks come on in turn *Far from being of common origin* they (angina and heart failure) are antagonists

Further observation at the bedside shows the correctness of this view, it explains many curious events in the course of angina patients who first showed typical angina and later get heart failure may benefit greatly from rest and digitalis treatment It is not at all rare to find that by pushing digitalis the dyspnoea subsides completely, but the half-forgotten pain comes back. These are the well known cases in which we have to be very careful with digitalis and where we must find out the exact dose which controls dyspnoea and leaves the anginal pain *still dormant* A few weeks ago I was treating a doctor who at the outset of his illness, suffered for some months from severe anginal attacks After a very serious attack probably of coronary embolism, he lost his pain but became greatly short of breath Digitalis answered well but to his great disappointment the patient told me (exactly at the moment I demonstrated him in a post-graduate lecture) that the pain had come back two days before—that is with the return of better function of the left ventricle The puzzling fact often mentioned in literature, that so many angina patients die at the end without attacks and without pain, is easily explained along the same lines We can thus understand how it is that all those thousands of cases of myocardial disease have no angina that among thousands or cases of valvular disease it is only the aortic ones which may show typical angina, whether the disease be of rheumatic luetic or toxic origin that all such factors that diminish the output of the heart are inconsistent with anginal pain—for instance, I never saw angina pectoris in cases of lasting auricular fibrillation *What damages the heart muscle wards off angina*

Apart from these purely clinical arguments, other facts, of perhaps more "scientific" character, speak strongly against the heart itself being the starting point of anginal pain Its typical localization is that of the affections of the aorta, especially of aneurysm of the ascending part of it

Asking for the localization of affections of the heart itself, we get the answer from nobody less than Henry Head[1] afferent stimuli coming from the heart enter the upper cervical segments of the spinal cord, skip the four lower cervical and two upper thoracic segments, these being the segments associated with angina, and reappear at the second and succeeding thoracic segments Thus it is explained how an overfilled auricle in mitral stenosis, a heart so large as to be confined by the chest, a sudden dilatation, or a ventricular extra-systole in a strong heart, if there be sensations at all, they will irradiate into the lower segments of the chest covering the heart Cases which demonstrate the different localizations of referred pain in heart and in aortic disease abound in English literature, and in my opinion afford a very strong argument against the ventricular hypothesis of angina pectoris

2 *Coronary Disease as the Cause of Angina Pectoris*

There are three different forms of disease of the coronary arteries which are supposed to cause the anginal syndrome (*a*) embolism or sudden thrombosis, (*b*) chronic sclerosis or syphilis, with more or less marked narrowing of the vessels, (*c*) vasomotor spasm of the coronary system

(*a*) *Coronary Embolism* —As we have seen, there can be no doubt that sudden obstruction of one or both coronary arteries can bring about the most terrible attacks of angina pectoris A sudden termination frequently gives us the opportunity of finding the fresh plugging of the artery, and of reconstructing the pathological event and its after-effects In longer standing cases we find myomalacia, demonstrating the damage done to the heart muscle That there should be during the attack most marked symptoms of disordered and weakened heart function is not to be wondered at The problem is Why is there invariably associated with this pathological condition the terrible pain of angina? Some ascribe it to an insufficient blood supply to a heart which is still in full action Among them Daniélopolu,[2] in his recent book on angina, rejects heart failure and Mackenzie's "exhaustion" of the heart, but speaks of "fatigue," by which he means the effect of a poisoning of the heart muscle by fatigue toxins We will return to this question when I come to discuss spasm of the coronary arteries

We might think, with Clifford Allbutt, that in such cases there will always be some lesion of the aorta, but I must say that my experience has convinced me that this is not always the case I have had autopsies where our attention was mostly directed to the aortic wall, but no lesion of this structure was present I think we may admit that the coronary arteries, put under abnormal stress by their sudden occlusion, are themselves the seat of, or better the starting point of, the pain This matter also we shall have occasion to return to

It is quite clear that this supposed pathogenesis of anginal pain is not inconsistent with Clifford Allbutt's views the coronary arteries spring from the aorta immediately above and still within reach of the aortic valves They are found in higher vertebrates only, represent a direct extension of this part of the aorta, and are of very late phylogenetic origin Therefore we may expect that the central nervous localization of these vessels in the spinal cord should be the same as that of the aorta itself

(*b*) *Chronic sclerosis or syphilis with more or less marked narrowing* is one of the most frequent pathological findings in elderly people Every observer must sometimes have wondered how cases with high-grade narrowing or even occlusion of large branches, accompanied by widespread loss of muscle tissue, were completely devoid of symptoms of angina pectoris Coronary sclerosis is such a frequent condition, where there has never been angina, that we must conclude *that something apart from coronary sclerosis must be present to cause angina* For many years it has been acknowledged that normal coronary arteries may be found in patients who have suffered from typical angina pectoris during life *The conclusion must be that there must be other causes for angina, apart from coronary sclerosis* In order to adapt anatomically normal coronary arteries to this explanation of angina, two hypotheses have been brought forward some say that such cases cannot have been true angina (vera!), but only a pseudo form, which of course is an obvious *petitio principii* Others take for granted that in such cases angina was due to paroxysmal spasm of the coronary arteries This last hypothesis is very popular in many countries, especially on the Continent, and in Vienna is accepted as *the* explanation of angina pectoris It will be discussed separately

When we try to explain the clinical aspect and symptoms of angina pectoris by means of chronic coronary disease, we encounter the greatest difficulties Omitting embolism, which we have discussed already, I cannot see any other way in which coronary sclerosis can affect the heart muscle except by a diminished blood supply I cannot see that any other result could follow from a diminished blood supply, except a damage to the function of the heart muscle We have also seen, and supported with numerous arguments, that diminished strength of the heart certainly does not cause anginal pain, nay, it may even abolish it It must always be kept in mind that angina pectoris is not heart failure—the condition of the heart being one of hyperkinesis rather than of hypokinesis, with hyperkinesis the blood supply of the heart cannot be inadequate Nor must we forget that subjects of angina may live many years without suffering from dyspnœa or from stasis of the great veins or of the venous system of the liver Thus I cannot see how it is possible to accept sclerosis of the coronary arteries as the cause of angina pectoris

(*c*) *Vasomotor Spasm of the Coronary Arteries* —This is a favourite hypothesis of anginal pain If we accept it we should at first try to find an explanation of the mechanism of the pain There are two possible sources of the pain (1) ischaemia of heart muscle, (2) the spasmodic contraction of the vessels In so-called "vascular crises" (Pal) it is the ischaemia which is mostly looked upon as being the cause of the pain, along the same lines as in intermittent claudication Concerning this last condition there is clear experimental evidence MacWilliam and Walker showed that during suspended circulation in the bloodless arm muscular action becomes very painful, even before the muscle reaches a point of complete exhaustion They compared this condition, as others have done, with angina pectoris Although at first this explanation seems almost convincing, it will not stand more critical examination There is a wide difference between the sensory nerve supply to voluntary muscle and to the heart In voluntary muscle the pain is localized in the muscle and is never irradiating, while in heart muscle it is the opposite It must not be forgotten that the segmental localization of pain in heart muscle differs from that in angina Can the coronary arteries themselves be the starting point of the pain? We have admitted that in embolism of the coronary arteries this may be the case Embolism, however, is a well recognized pathological condition, but of vasomotor spasm in general we have little knowledge We must await the results of recent experimental work on the peripheral circulation before attempting to explain seemingly well known phenomena in certain painful conditions Let me remind you that the frozen bloodless limb is not painful—it becomes so only when the blood begins to flow into the vessels and distends them In Raynaud's disease it is not when the fingers are white and bloodless that pain is present, but when they become suffused by a sudden reflux of the circulation These and other facts seem to suggest that it is not the contraction but the distension of vessels which gives rise to pain

There are, too, pertinent arguments against the hypothesis of constriction of the coronary vessels, no one has ever succeeded in obtaining evidence of the existence of vaso-constrictor nerves in the heart (Bayliss)[3] When the fact has to be considered that a local application of adrenaline does cause a coronary constriction,[4] the wider fact remains that adrenaline, exhibited through the circulation, affects the coronary vessels in an exactly opposite way to the effect produced in the vessels in the rest of the body Peripheral vaso contraction causes a rise of blood pressure in the aorta and widens (by this rise of blood pressure) the aorta and coronary vessels, this dilatation of the coronary arteries is accompanied by an increased blood flow through the blood vessels of the heart There is thus an antagonism

between the peripheral and the coronary circulation As far as angina is concerned, it is much more in keeping with the present state of our knowledge to suppose that *peripheral vaso-constriction*, a condition called 'vasomotor angina," by increasing the blood content of the aorta and coronary arteries and thus distending their walls, *may be the condition which excites the attack* In brief, I hold that the theory which ascribes angina to a spasm of the coronary arteries is, in the present state of our physiological knowledge, destitute of substantial evidence

3 *Diseases of the Proximal Part of the Aorta*

Shortly after the appearance of Heberden's first description there were communicated to the Royal College of Physicians accounts of two autopsies made on patients who had suffered from angina of the common form described by Heberden The only lesions found were, in one case, patches in the supravalvular part of the aorta", in the second, severe disease of the aortic valves and of the adjacent part of the aorta itself, with also extensive calcification and destruction In both cases the left ventricle was hypertrophied but otherwise quite healthy One hundred and fifty years later Clifford Allbutt looked up the problems of angina and found that his experience in the wards and in the *post-mortem* rooms led him to verify the findings of his predecessors of a century and a half before As time goes on an ever-increasing number of physicians are adopting Clifford Allbutt's views, but even now there is no sort of general agreement as to the exact cause of angina From my own experience, both clinical and pathological, I am convinced that Clifford Allbutt has put us on the right track I hold the opinion, at least for the time being that all symptoms, all peculiar features of angina pectoris, are best explained on the theory of disease of the proximal aorta Pathological conditions of the heart muscle and of the coronary arteries, become of secondary importance, for nearly always there is also disease of the proximal aorta These pathological conditions may complicate cases they may dominate their clinical aspect they may even kill the patient Nevertheless, they cannot be regarded as the cause of angina In autopsies on patients who have died during an attack of angina I have always been impressed by the condition of the proximal aorta—the presence of syphilitic atheromatous or endarteritic lesions, by which the coronary orifices are often narrowed or the coronary walls affected—still more convincing if we compare them with those cases where there has never been angina where the ascending aorta is free from disease, and yet the heart muscle has undergone extensive damage and the coronary arteries are the seats of marked sclerosis

In endocarditic disease of the aortic valves I have occasionally found a singularly convincing proof that angina is of aortic origin I have seen angina in two young people—one a boy of 16, another a young woman of 22 a third instance was in a man under 40 In all three there was the most marked incompetence of the aortic valves, but there was no sign of heart failure on the contrary, the heart was beating tumultuously during the anginal attacks, the proximal vessels were so under the stress of the enormous pulse waves that a loud systolic arterial sound centred under the manubrium, was audible at a distance of several metres Nine years ago I relieved the attacks of angina in the young woman by giving her amyl nitrite the drug has successfully prevented her fearful attacks throughout the intervening years In her case I do not expect her anginal attacks to cease until the final breakdown of her left ventricle In the case of the boy I have just alluded to severe anginal attacks lasting fifteen to twenty minutes, were instantly relieved by the intravenous injection of half a gram of quinine, which also at the same time caused a marked fall in the systolic and diastolic arterial pressure I do not see that the pain of these cases can be explained in any other way than by supposing that the exaggerated action of the heart has brought about a stretching of the badly dilated aortic wall

We have seen that all factors which ensure a greater filling of the aorta thus increasing the stress on its walls, will give rise to pain, *so long as the heart is equal to its increased task* The hyperkinesis of the heart, manifested during the attack, may be explained by the influence of two factors—psychical reactions brought about by the pain, and a direct action on the reflex pressor centres in the spinal cord Every influence which lowers the action of the heart, diminishes its output, allays excitement, releases peripheral vaso-constriction, reduces abdominal tension, will help in bringing the attack to an end Nitroglycerin owes its efficacy to its power to bring about dilatation of the peripheral vessels, thus relieving the overdistended aorta The alleviating action of atropine, emphasized by Clifford Allbutt, is not so easily explained It is probable that this drug shuts off vagal influences, which in all likelihood play a role in the dramatic events of angina I have found atropine most useful in cases of angina where the pulse was slow I have a tracing of a case of angina where attacks came on after short periods of slowing of the pulse—periods extending beyond some ten or fifteen beats Accepting anatomical lesions of the aortic wall—which may be limited to small areas—as the cause of anginal pain, we can understand how it is that physical signs may be absent, and how patients who live quietly, avoiding mental excitement and bodily exertions, may have long and apparently healthy lives

This conception of the mechanism of the pain of angina and its specific localization are in keeping with what is known concerning the central localization of afferent impulses from the aorta (vide Head, loc cit) the area of irradiation of afferent impulses, in cases where the heart itself is involved, is quite different

THE TREATMENT OF ANGINA BY SURGICAL METHODS

As I regard the lesion of the aorta as the starting point of the pain I cannot agree with those who regard angina as a neuralgia In severe toothache we may find the pain distributed as in trigeminal neuralgia but we do not apply the name 'neuralgia" to such cases and as regards treatment, we attend to the tooth, not to the fifth nerve It is the same in angina In its treatment we must concentrate our attention on the aortic lesion which is the source of the pain We cannot remove such a lesion as we do a diseased tooth, but we can search for the pathway which carries pain-evoking stimuli from the proximal aorta to the spinal cord, and having found it cut or block this *via dolorosa*

The proposal to extirpate part of the sympathetic cardiac nerve system to abolish pain is not new Long ago the idea occurred to François Franck, it was put into practice for the first time in 1916 by Jonnesco of Bucarest, who before then had gained a wide experience of operations on the cervical sympathetic system His first operation for the relief of angina was a complete success, but for a long time no further cases were undertaken

Our conception of angina pectoris, based on Clifford Allbutt's conception of it leads us to attach an ever-diminishing significance to heart failure and to disease of the coronary arteries and to attach an ever growing importance to the afferent nerve supply of the proximal aorta It has been known for long that the depressor branch of the vagus is the principal afferent nerve of the proximal aorta It seemed, therefore, worth considering whether a resection of the depressor branch of the vagus might be the means of abolishing the pain or angina The considerations which weighed with me—both for and against such an operation—were the following I must admit straight away that there is no *curative* treatment of angina It is true that cases may improve by adopting reasonable habits of life patients may successfully stave off attacks, but in the majority of cases sooner or later, the attacks come back Normal life becomes impossible life may become a drawn-out agony The attacks themselves damage the heart further, hasten the progress of various affections of the organ and often kill the patient He who has reached the ripeness of experience to which I alluded in the opening part of this lecture must acknowledge that our attention must be directed, first and most, to the bringing of relief to such patients, even if we have to resort to surgical operations which are attended by great risks

The depressor nerve discovered by Ludwig and Cyon, is

a branch of the vagus, one root splitting off from the main trunk, while the other issues from the superior laryngeal There is proof that this nerve, on stretching of the aortic wall by high blood pressure, brings about a rapid fall, thus relieving the stress on the aortic wall I will mention, ever so briefly, some of the more important results yielded by experimental investigations—some of them old, some quite recent Tschermak, who was one of the first to carry out a systematic investigation of the depressor nerve, published only a few weeks ago[6] the results of renewed experiments As far as it is possible to tell, the depressor has its distribution confined to the proximal part of the aorta Its distribution has never been seen to extend to the heart Its upper termination is in a group of cells contained in the jugular (higher) ganglion of the vagal trunk A second group, lying close to the depressor group, belongs to fibres of the superior laryngeal nerve There are numerous communications between the depressor and branches of the cervical sympathetic system described by Tschermak (loc cit), Braucker,[7] Shawe,[8] and many others, which would account for afferent impulses from the aorta being conducted by sympathetic tracts to the spinal cord Tschermak is still of opinion that the depressor nerve is the only sensory nerve of the aorta, and admits that its stimulation may give rise to sensation and to pain * Another effect of stimulating the depressor is slowing, or even arrest, of respiration Here the curious respiratory phenomena of angina pectoris, which have already been mentioned, and which include difficult breathing or even the lack of any desire to breathe, find a rational explanation

All this evidence gives support to the idea that section of this nerve should bring relief to the sufferers from anginal pain On the other hand, it must seem strange that in a disorder attended by permanent or paroxysmal hypertension we should cut the one nerve which is concerned in the lowering of blood pressure But what holds true for the normal healthy body is not necessarily valid for one which is altered by disease There is definite evidence that the depressor action of this nerve may be reversed and converted into a pressor one under the influence of strychnine and other poisons (Sherrington, Bayliss[9]) In angina the nerve endings, the reflex arcs, and the corresponding spinal centres are thrown into a pathological state—one of over-irritability Head (loc cit) has pointed out how much the normal functions of the affected centres in the spinal cord must be changed by widespread irritations set up by abnormal stimuli The excruciating pain associated with attacks may also play an important part in converting depressor into pressor effects It seems to me that there cannot be any serious objection to section of the depressor nerve in angina, seeing that it has lost all its useful action—that of a depressor

There is another difficulty in carrying out this operation—one of an anatomical nature The formation of the depressor nerve is extremely variable, not only in different mammals, but in individuals of the same mammalian species This is particularly true of man, in him the depressor nerve has no constant recognizable entity Nevertheless, Eppinger and Hofer convinced of the aortic origin of angina, made an exact study of the topography of the depressor nerve in man and animals, and on the knowledge thus gained applied the operation of section of the depressor to a case of severe angina (August, 1922) In this case there was pain both on the left and right sides of the body The operation was carried out on both sides of the neck In this case the depressor nerve was differentiated and recognizable on both sides The result was most gratifying, both attacks and pain vanished at once The patient had good health after the operation Some months ago she died of intercurrent disease

Section of the depressor nerve for the relief of angina has now been performed on some fourteen cases Single cases have been reported from Halle and Basel, in both the result of the operation was satisfactory Detailed histories of the Viennese cases have been reported to the Society of Internal Medicine, Vienna, only a few weeks ago[10] The chief results which emerge from these cases are The operations were well borne, no complications occurred Two patients died In the first case of double-sided angina resection of the left depressor gave a perfect result At the second operation, performed on the right side, no isolated depressor nerve was found, the vagus was divided below the point of origin of its inferior laryngeal branch The pain disappeared, but a fortnight later the patient died suddenly without obvious cause of death In a second case of right-sided angina no depressor was found In this case "sympathectomy" was performed—an operation which has been performed for angina with varying degrees of success In this case extirpation of the whole sympathetic cord was followed by a rapidly developing failure of the heart Five hours after the operation the patient died of pulmonary oedema

Although not unexpected, the absence of a clearly differentiated depressor nerve in so many cases proved a great disappointment This renders it impossible to perform the operation of division of this nerve It is remarkable that it was mostly at the right side that the depressor was found undifferentiated In those cases where a somewhat haphazard resection of communicating twigs between vagus and sympathetic was carried out, the operation failed to relieve the pain of angina But in all those cases where the depressor nerve appeared in its individualized form, as described by Tschermak and others, the pain *disappeared at once on the side operated on*, and in most cases the success was enduring Further, it was observed, where there was an opportunity of comparing the two sides, that the left nerve was thicker than the right The results as a whole I regard as of great promise Failure resulted in those cases where the depressor fibres were not isolated to form a separate trunk

A detailed analysis of the individual cases brings out in quite a striking way the beneficial effects of dividing the depressor fibres If a depressor trunk was recognizable its section gave immediate and complete relief The effects of operation on one case of angina duplex were very instructive The patient had clearly marked segmental areas of exquisite hyperalgesia on both sides of the body Some days after an operation on the left side—a well marked depressor nerve being encountered and divided—the hyperalgesia had completely disappeared on the corresponding side of the body, but on the opposite and unoperated side the areas gave the old reaction when pinched or tested by pin-prick, the right-sided hyperalgesia ending sharply at the mid-line over the sternum

Quite apart from the bearing such a case has on the possibilities of operative treatment for the relief of angina, we obtain, in this instance, evidence of a kind which we cannot hope to elicit by experiments on animals We have here definite proof that the left depressor nerve was the sole pathway for the impulses which gave rise to anginal pain and all its sequelae Knowing that this nerve has its distribution in the proximal aorta, we must conclude that, at least in such cases, the starting point of the pain and of the attack is situated in this structure and in no other

In other words, we are in the possession of experimental evidence which gives the strongest proof of the truth of Clifford Allbutt's theory of angina This, indeed, is my chief motive for laying this communication before my professional brethren in England

QUESTIONS TO BE SOLVED

Of the many matters which require further elucidation only a few can be mentioned now *Is there only one depressor nerve or are there several of them?* In his work on the vasomotor system, Bayliss has summed up all we know concerning depressor reflexes obtained from more peripheral vessels (loc cit , p 41) In one particular way such peripheral depressor reflexes have a bearing on angina pectoris The condition which has been named "angina abdominalis" has all the essential characters of angina pectoris, save only that its localization is different This form of angina is supposed to be produced by a vasoconstrictor spasm of part of the splanchnic arterial field, but the existence of such a spasm has never been verified

* Sharpey Schafer's investigation makes it highly probable that the depressor nerve contains afferent fibres only *Quart. Journ. Exper Physiol* 1922 vol. xii, p 69.

May there not be concerned here a depressor mechanism similar in kind to that attached to the proximal aorta? There are facts mentioned by Bayliss which support such a surmise This problem deserves investigation

'Second wind," a term which we owe to English athletes, often plays a part in angina pectoris It is by no means uncommon to hear a patient say that he suffers most in the first ten minutes of an effort such as walking, and that he finds, if he persists in his effort, that he can walk a longer spell without being compelled to stop, until he may be able to walk for an hour or even longer without bringing on pain I merely touch on this matter, contenting myself with the remark that we are here face to face with a problem which concerns the peripheral circulation, and more particularly its regulation It may be, in such cases, that the heart and aorta, owing to some initial difficulty in opening up peripheral pathways, have a difficulty in discharging the greater amount of blood returned to them by the great veins Indeed, the course of angina may depend not only on aortic conditions but also on circumstances which affect the peripheral circulation

The sudden death of angina patients offers us a problem of its own, and cannot be dealt with extensively We are not often present at the attack which kills the patient I have myself seen death by pulmonary oedema caused by the breakdown of the left ventricle as a sequela of the attack In chronic cases heart failure may be the cause of death, in these cases there is no pain Sudden fulminating deaths I have myself never seen Whether this sudden stopping of the heart is the result of vagus inhibition (Clifford Allbutt), or ventricular fibrillation, as is assumed by many authors, I do not know It may be true that compression of the vagus of the neck often causes a very strong, even somewhat alarming, standstill of the heart (as I pointed out myself), it may be true that atropine is helpful in many cases (Clifford Allbutt) However, clear evidence of the cause of sudden death is rarely obtainable, and we should not decide too readily in favour of one or some other cause

Can our medical conscience justify operative treatment of angina? This question, an ethical one, has been frequently brought to my notice My American friends put the question in this form, "Is it right to extinguish the red light—the danger signal—on the trackway of life ' Is not pain the danger signal for the overtaxed heart? Many reactions, rightly regarded as protective, compensatory or defensive, may in the course of disease become changed into processes which are highly injurious to the organism This may become true of referred pain, *défense musculaire*, pyrexia, high blood pressure, and rapid action of the heart in infections and in cardiac disorders All of these may reach such an intensity that life itself is endangered Their amelioration becomes the most urgent object of our treatment This view, which is generally accepted, must be permitted to guide us in the treatment of angina pectoris As it is anatomically impossible to remove the cause of the pain, we must take such steps as will put to sleep such pain and attacks which threaten life itself, or which render existence quite unbearable We see how the heart suffers with every repetition of the attack Danielopolu has shown us, in the most convincing way, that pathological afferent impulses can bring about a discharge of efferent impulses which have a damaging effect on heart and on blood pressure We cannot afford to neglect any means of giving relief to the most miserable of cardiac patients, particularly if the arguments urged against their adoption are founded only on theoretical considerations It is a rule or commandment we must follow when the heart and aorta are diseased The fact that we cannot mend a broken-down valve or patch up a damaged aorta is no reason why we should not make use of what means of treatment may be at our disposal

What is the best form of operation? As we have seen, resection of the cervical sympathetic nerves was thought out by François Franck and put into practice by Jonnesco When resection of the depressor nerve was first performed by Leppinger and Hofer (who independently and for different reasons adopted this method of treatment), the older operation on the sympathetic was being carried out by various surgeons in different countries

Philip King Brown and Coffey of San Francisco published most interesting and partially successful cases of sympathetic resection. Jonnesco has reported several cases two successful ones In Germany Brüning introduced similar operations, looking on angina pectoris as an affection of the sympathetic system, or at least as a syndrome which might be treated by Leriche's "peri-arterial sympathectomy" for the same reason that the operation is performed for chronic ulcer, intermittent claudication, etc In this country A K Henry of Dublin discussed the chances of this operation

Danielopolu has published very important suggestions as to the part of the sympathetic system which should be excised He points out the necessity of sparing as many efferent augmentory nerves as possible From all these various operations performed on the cervical sympathetic system good results have been reported There seems no doubt that the pathway of pain has been interrupted in the performance of many of these operations, and that patients have derived benefit As to which is the safest and most effective operation it is too soon to give a decisive answer There remains great need for a much fuller and more precise knowledge of the anatomy and physiology of the nerve pathways and ganglionic masses of the cervical sympathetic Great differences are found in the structure of this nerve complex It is our ignorance of this system, as well as of the depressor and other vagal pathways, which offers the greatest obstacles to our obtaining relief by the application of operative procedures In recent literature we find articles which throw vagal and sympathetic nerves in the neck into one common system and even deny the existence of a depressor nerve

Clearly we must wait until anatomists and physiologists, by means of experimental evidence and pathological investigation, can throw more light on the problems I have been dealing with in this lecture A precise history of the results which follow every operation performed on man will place additional knowledge at our disposal As far as the relief of pain is concerned, such means afford the only way of discovering the best operative procedure What is necessary in this problem is that we should not be led by theory only, by hypothesis and speculation, or by a desire to push our personal preconceptions The last word in such matters must rest on clinical evidence and on the facts we can elicit at the bedside

Personally I am greatly in doubt whether resection of the depressor nerve will be the operation *de choix*, seeing how often it is difficult or even impossible to find Theoretically it may be held that this is the safest form of operation because in it only afferent nerves are removed, and the essential augmentory nerves are left uninjured. However this may be, the matter most to be considered by us now is that there should be co-operation of effort and division of labour in the various departments of medicine concerned Why should not this co-operation be international? Some weeks ago a number of men of different nationalities and schools met together, to the benefit of all concerned Knowing well your famous school of physiology, your great and practical experience of angina pectoris, I thought it might be of value for the progress of knowledge if I might bring this problem in all its bearings and lay it before you In Vienna we all hope that you will bring your results and lay them before us Suffering humanity will be the gainer

[At the conclusion of the lecture Sir Clifford Allbutt commented on some of the points dealt with His remarks are reported at page 828]

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ON CERTAIN MINOR INJURIES OF THE BRAIN.

BEING THE ANNUAL ORATION, MEDICAL SOCIETY OF LONDON,

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INTRODUCTORY

THE choice of the subject upon which I am to have the honour of speaking to-night has been guided by two considerations In the first place, the unity of structure which is so characteristic a feature of our society seemed to point towards some topic of which the interest is not limited to any special department of medicine In the second place, the occasion appeared to be one, if I rightly interpret its tradition, in which a very close restriction to technical matters need not be insisted on, while, if the subject chosen developed naturally towards regions outside the strictly medical field, some glance into such wider sources of interest might be, in the circumstances, legitimate

It will, I think, be admitted that the subject of head injuries is of practical interest and importance to the great majority of us, whether our work lies exclusively or chiefly in a special department of medicine, or is distributed over all It is, however, only to a very much limited part of this large subject that I propose to invoke your attention My primary object will be not the gross and at the same time relatively definite conditions that we meet with in immediate consequence of obviously formidable accidents, but the conditions at first sight relatively indefinite, and not obviously serious, which occur as late results or sequels to head injuries of all grades of severity It will be convenient at once to define our subject yet more exactly We are to consider a group of phenomena, including headache, giddiness, and other less definable sensations in the head, defects of memory, concentration and attention, alterations of disposition and mood, and certain kinds of mental deterioration This group of phenomena is to interest us when arising after, and in obvious consequence of, a head injury It will not be necessary to deal with each member of the group, as the single one of headache can be selected as the most characteristic, and as fully representative of the others What can be said of headache, the commonest of them, can be said with all reasonable probability of most, if not all, of the others We have now pruned down our subject until it is adequately represented by that of headache as a sequel of head injury There remains, however, one further stage of definition to be accomplished Headache, and others of the associated group of symptoms, is common as a sequel to head injuries of all grades of severity, and bears no obvious relation to the amount of gross destructive damage that has been inflicted In considering its significance here, therefore, it will simplify the problem if we limit ourselves to headache occurring as the sequel of head injuries of minor severity, and without evidence of local damage to the brain either through destructive injury or in consequence of haemorrhage It might be thought that these restrictions of our subject have reduced it to insignificance This is, however, far from being the case, and it is often of utmost practical importance to recognize the fact that seriously disabling headache is a common sequel to head injuries of an apparently minor kind, in which evidence of any direct local injury of the brain has been altogether lacking

We have, then, ultimately before us the subject of serious headache as a sequel of apparently slight or trivial head injury

HEADACHE AS A SEQUEL OF MINOR HEAD INJURY

It is quite a mistake to suppose that the conditions we are considering are clinically indefinite and difficult to recognize In well marked cases one of the most fully characteristic of clinical pictures is produced

The Causal Injury

There are two types of accident which fulfil the conditions we have laid down Both are fairly common, of quite moderate severity, and seem at the time of infliction to have caused no definite or severe cerebral injury In fact, the mildness of the whole affair often causes both patient and doctor, if one is consulted, to congratulate themselves on no harm having been done, and to ignore the necessity for precautionary treatment

In one type the accident is a fall on the head, as, for example, from a horse The patient develops slight concussion of the brain, there is momentary unconsciousness, which is quickly recovered from, and followed by dizziness and headache, which clear up in a comparatively few hours I may say at once that I use the term "concussion," as I think it should only be used in the strict classical sense to indicate an essentially transient state due to head injury which is of instantaneous onset, manifests widespread symptoms of a purely paralytic kind, does not as such comprise any evidence of structural cerebral injury, and is always followed by amnesia for the actual moment of the accident

In the second type of injury the violence is characteristically limited to a localized area of the skull This may be produced by the patient accidentally running against some obstacle, by a blow from such a weapon as a stick or sword, or by the grazing impact of a bullet In these cases concussion is characteristically absent, there is no loss of consciousness, and the patient retains a clear memory of the moment in which the injury was received If the blow was over some part of the brain, slight functional disturbances in which are capable of being manifested in symptoms, there may be transient numbness, and tingling in the corresponding limb, or clumsiness in the use of it Such phenomena are not relevant to the limited subject we are considering, and perfectly characteristic cases of post-traumatic headache commonly occur without them

We have then a patient who has sustained one or other of these accidents He has been shaken and is in some discomfort for a few hours, or even a day or two, but has already begun to feel that, ugly as the affair seemed at the moment, no harm has been done, and then he begins to suffer from headaches

As I have already said, I take headache as a representative symptom, ignoring for our present purpose the constellation of minor manifestations of which it is undoubtedly the most important and outstanding figure It is necessary now to define the clinical characters of these headaches

CLINICAL CHARACTERS OF TRAUMATIC HEADACHE

Onset.—If headache has been a well marked immediate consequence of the injury it may be continued into the sequelæ headache we are considering If the patient has been laid up as the result of the injury, the headache is apt to come on when he resumes active life In any case it is often a week or two before the patient realizes that he is faced with a distressing and disabling trouble that shows no tendency to early spontaneous recovery

Occurrence.—It is usual and almost characteristic for the headache to occur in attacks which last for periods varying from a few hours even to two or three days Between attacks the patient may feel absolutely well in every way The attacks are apt to be brought on by physical exertion, severe or prolonged, or by mental excitement, anxiety or fatigue, and by such combined influences as walking in bright sunlight or in crowded streets, and the many, not always obviously exacting, activities of town life

Quality of the Headache.—The pain is of a severe throbbing, bursting character Like that of migraine, it is made worse by any effort, and by bright light or loud noise It may prevent the patient from sleeping, but, like many other kinds of headache, is often brought to an end by prolonged sound sleep During the attack the patient is usually restless, intolerant of company or of any kind of attention, and irritable In severe cases, there may be during the attack almost maniacal irritability and some-

times a semi-delirious excitement The severest attacks do not usually last more than a couple of days

Results of Physical Examination.—It is possible and indeed quite common, for these symptoms to occur without there being any physical signs of definite brain injury, such as even the minor grades of sensory disturbance of cortical type, defects of finer motor co-ordination, or alteration of reflexes There is, of course, nothing in the nature of the cases to prevent such a severe grade of injury being present as would produce these signs, but I wish to put emphasis on the statement that many cases of the typical headache are met with in which no physical evidence of brain injury is to be made out

Pathology

It has sometimes been supposed that these symptoms are due to a psycho-neurosis determined by the injury Such an opinion has found support in the total absence of objectively discoverable evidence of cerebral injury in the fact that the symptoms tend to subside under rest and easy conditions, and to be aggravated on the resumption of active life and in the supposed fact that head injuries are particularly apt to lead to the so-called traumatic neuroses

I need not criticize this hypothesis, as I shall immediately be setting before you what I regard as a definitely established organic pathology, but I may pause a moment to remark on the conception that traumatic neuroses are especially likely to follow head injuries It seems probable that an injury is related to the neurosis it determines as a painful and terrifying experience, the memory of which does not lapse in the normal way but becomes associated with other unassimilated memories and repressed impulses It is clear, therefore, that the survival of an actual memory of the accident is an essential factor in the production of a neurosis Now in a large proportion of cases of head injury (including a considerable number of the special group of cases we were considering) the onset is with concussion, and therefore, since a localized absolute amnesia for the accident is always produced by concussion of the classical type, there is no memory at all of the occurrence of the injury This conclusion is supported by actual clinical experience, which thus confirms the view implied above, that the concussion amnesia is a true organic absence of memory caused by cerebral disturbance

There can be little doubt, however, that these traumatic headaches are due to definite organic disturbance within the skull The immediate pathology of headache in general, by which I mean the actual mechanism by which it is produced, has not been the subject of very much attention, though the facts available admit of a reasonably probable sketch being made In the first place, there is no reason to suppose that disease or injury of the brain itself can be the immediate cause of headache, in the strict sense of the term As with other serous cavities, the contained organ itself is relatively, if not absolutely insensitive and pain can be aroused only by disturbances of the lining membrane and its septa As with other serous membranes also, it is probable that the most effective pain producing stimulus is stretching Now the arrangement of the dural septa is such that variations in the amount of intracranial pressure and inequalities in its distribution tell on them by causing alterations in tension Thus it comes about that headache of organic origin is a direct expression of disturbances of intracranial pressure however these may be produced Such a conclusion is in obvious agreement with clinical experience It is probable that in nature a reduction in intracranial pressure is but rarely the cause of headache It is plain, however, from the arrangement of the dural septa that a local reduction in pressure can give rise to painful stretching until the disturbance has become equalized This, of course, is the mechanism by which is produced the headache that often follows the withdrawal of fluid by a lumbar puncture

When a disturbance of intracranial pressure is severe or rapidly progressive the consequent headache is continuous When the disturbance is moderate, and either stationary or only slowly progressive, the headache is apt to be only paroxysmal This latter is the case with a certain number of slow-growing cerebral tumours in their early stages, and, as we have seen, is almost characteristic of traumatic headaches As to the nature of the disturbance in the case of traumatic headaches, we have a large body of direct evidence observed at operations On such occasions there is always some increase in the intracranial tension, but usually this is only moderate in amount, since an operation is not likely to be undertaken during the actual course of an attack This increase of tension is associated with one or other of two conditions of the brain itself In cases where the headache has followed an injury causing concussion the brain is oedematous and exudes an undue amount of fluid when exposed In cases where the headache has followed a localized blow on the head and the region struck has been explored the brain shows by its swelling and blood staining that it is the seat of a localized bruising It is highly probable, therefore, that in both cases the increase of intracranial tension is due to the brain being swollen as the result of bruising—in one type of case probably throughout its substance, in the other type chiefly at any rate at the point struck If it be granted as reasonable to ascribe traumatic headache to a disturbed intracranial tension consequent on bruising of the brain, three points yet remain somewhat obscure and in need of discussion These are the long persistence of the symptoms and the mechanism by which the bruising of the brain is produced

The Persistence of Cerebral Contusions

Traumatic headaches are notoriously capable of persisting for many years, and a difficulty at once presents itself in supposing them to be due to a mere bruise of the brain This difficulty can be met only by the recognition of a very important and perhaps the only really special, principle of intracranial pathology This principle is concerned with the unique status of the brain as the one organ in the body enclosed by a capsule which is wholly inextensible by any physiological force When any other organ is contused and its substance distended by extravasated blood it can swell as a whole practically without limit so that its circulation can be liberated from embarrassment by pressure, and the effused blood carried away relatively soon Again, it is possible for such an organ, only very slowly, or perhaps never to regain exactly its normal size, and yet in no way to be for this reason a cause of symptoms

Neither of these possibilities is open in the case of the brain Enclosed within its inextensible capsule, the skull, the organ can undergo compensatory swelling only to a strictly limited extent The result is that the circulation through a contused area remains embarrassed by the extravasated material present in it and resolution by absorption of the bruise is indefinitely prolonged It is surprising how long after the injury the signs of contusion will remain evident in the injured area I have myself exposed by operation an area of brain that has been bruised by the glancing contact of a bullet with the skull no less than four years earlier The brain showed a bruise that appeared as fresh as if it had been inflicted within a few weeks This inordinate and unique delay in the resolution of contusions is fully adequate to account for the striking persistence of traumatic headaches

The Intermittence of the Symptoms

Although the skull encapsules the brain with a certain closeness it does not do so so closely but what a margin of accommodation is left which permits freely of the variations in the size of the brain due to the circulatory mechanism An encroaching lesion therefore such as an early tumour or a moderate contusion may have its effects, as it were, contained entirely within this marginal space as long as the circulatory movements are tranquil and small. The moment, however, that such movements become active the fact that the intracranial space is actually encroached upon becomes manifest in an evident elevation of the intracranial pressure and consequent symptoms Patients at such a stage often observe that every repetition of an act like stooping, which of course raises the venous pressure and expands the brain causes a momentary qualm of dizziness and headache Along such lines as these are to be explained the intermissions in the symptoms of unresolved

contusions without improvement in the actual condition itself and the mode of action of the various causes that precipitate the attacks

MECHANISM BY WHICH CEREBRAL CONTUSIONS ARE PRODUCED

We have spoken of the complete rigidity of the skull in relation to forces of physiological magnitude We must now turn to its entirely different behaviour in relation to forces of another order It seems natural to think of the skull as a very strong shield and enclosure of the brain, which yields only to extreme violence, and only when it is broken The natural result of the attitude is to put fractures of the skull into a position of primary importance, and to treat injuries of the brain as mere complications of them This conception is, of course, nowadays quite exploded, and I refer to it merely that, by calling attention to the relative pathological insignificance of fractures of the skull, I may give emphasis to the importance of head injury without fracture

In relation to forces of adequate magnitude and kind the skull behaves as a yielding and highly elastic structure, capable of undergoing considerable distortion and recovering its form without fracture It is this property which permits of the occurrence of a whole range of important cerebral injuries altogether apart from fracture of the skull It is out of the question that we should enter here upon a discussion of the many hypotheses that have been produced to explain the various intracranial effects of violence applied to the head It would also be useless, since there can be no reasonable doubt that the essential primary mechanism in almost all cases is distortion of the skull

The skull is apt to be distorted in two different ways One is the result of a fall on the head when the cranium is compressed between the surface the patient lands on and the weight of the body conveyed to the base by the spine In this case a general deformation occurs, diminishing the volume of the cranial cavity as a whole, and causing the acute compressive anaemia which is represented clinically by the instantaneously on-coming paralytic phenomena known as concussion The second type of distortion is a local deformation due to a localized blow on the head Here, of course, there is no general squeezing of the brain and no concussion In both forms of deformation the brain is apt to be bruised, and when this occurs without fracture of the skull and without other cerebral injury we may get the pure form of traumatic headache due to simple unresolved cerebral contusion I would again lay the strongest possible stress on the fact that these conditions can be set up by comparatively trivial-looking accidents, and that once established they are distressing and seriously disabling afflictions

TREATMENT

The headache of unresolved cerebral contusion is fortunately sometimes preventable, and almost always curable Prevention is possible chiefly in relation to the widespread but slight degrees of contusion associated with general deformation of the skull and concussion It is to be attempted by the strict application of the old clinical maxim that every case of concussion must be treated by a definite period of rest in bed, and the very slow and cautious resumption of active life The duration of such precautionary treatment may, to some extent, be regulated by the presumptive severity of the contusion in the given case The best measures of this are the extent of the patient's loss of memory for the period of the accident, and the intensity of the so-called phenomena of reaction that have followed the concussion Supposing headaches to have developed in spite of proper preventive treatment, they may be dealt with by another and lengthened period of rest in bed This failing, a moderate decompressive opening in the skull and dura is practically certain of success It should be made at the place of election low down in the right temporal fossa under the muscles Localized contusion, as it has to be more intense to produce similar symptoms, is less amenable to precautionary treatment by rest, and is more likely to call for primary operative treatment This consists in making an opening in the skull and dura over the contused region, so that the latter may be released from pressure, its normal circulation re-established and resolution occur There are certain cases in which the occurrence of a serious amount of local cerebral contusion may be assumed to be present from the very nature of the injury Such an injury, for example, is a glancing blow by a rifle bullet Here, though the skull seems to be intact, and even the scalp is only grazed, cerebral contusion may be assumed to be present, and operation advised, even in the absence of symptoms

We have now reviewed a limited but very definite and compact section of the great subject of head injuries This review has, I hope, illustrated to some extent an important branch of cerebral pathology—the functional relations of the skull and brain—and at the same time remained in close contact with the practical realities of medical work

The Vulnerability of the Brain in the Individual and in the Race

We may now ask whether this same series of facts and inferences is capable of yielding any idea of more general scope, and capable of application outside the technicalities of medicine There is one suggestion at least conveyed by these facts, which to my mind tempts further inquiry, and that is that, as compared with what one might perhaps have expected, the brain is shown to be a relatively vulnerable organ, and that this vulnerability is due to the failure of the protective function of the skull in face of even comparatively moderate violence of certain kinds

That in very early life the brain has a high vulnerability is no unfamiliar idea We owe our knowledge of the fact largely to the well known researches of our President, published, as I may perhaps remind you, no less than thirty-three years ago He showed in a long series of examinations of stillborn infants that in somewhere in the neighbourhood of half the subjects there was definite intracranial injury in the nature of haemorrhage and bruising [1] It is a good example of the essential unity of all branches of medicine that is upheld in the very structure of our society, that the student of cerebral pathology can still turn gratefully to this classical paper in obstetrics The similar though doubtless less pronounced vulnerability that exists in the adult is revealed to us not so much by direct evidence as through the unique obstacle to the resolution of minor traumatic lesions that is produced by the bony encapsulation of the brain Any extended consideration of this vulnerability of the adult brain brings to light the probability that it is in some special degree a consequence of the characters of the modern European skull It is more or less common and accepted knowledge that, for example, the African races are on the whole much less susceptible to the minor traumatic lesions of the brain than are Europeans Blows on the head that would paralyse the latter are sustained with comparative indifference by the former, and it is obvious that this variation in susceptibility depends on a difference in the resistiveness of the skull in the two races We thus find that our subject, in the first instance purely medical, has led us, as we suggested it might, into matters of a more general interest, and that we are now faced by questions less medical than anthropological It is necessary, therefore, though, of course, with every precaution of diffidence, to inquire whether it is possible for medicine to contribute in any useful way towards the solution of problems specifically those of anthropology In the study of the evolution of man, and the differentiation of the various races, the anthropologist is to a great extent limited to anatomical considerations of form and structure, and to him what may broadly be called functional considerations, though admittedly to be desired, are most often not available The student of medicine, on the other hand, is primarily interested in function, and makes use of structural observations only in so far as they explain function The tendency of medicine is more and more to lay stress on function, and to give emphasis to the principle that, at

any rate in the individual, disturbance of function lags far behind disturbance of structure, while the study of function is a far more delicate method of differentiating the status of living matter than is the study of structure The two races I have mentioned, African and European, afford incidentally a very good illustration of the difficulties of the anthropologist as seen by the student of medicine We have full accounts of the differences of form presented by the two races, we learn that while in detail they are *not very great, they are in sum at least considerable, but* we get nothing in the way of a rational explanation of the immense functional difference that is represented by the fact that while one race is capable of producing a continuously evolving culture, the other remains in this respect completely stationary, both in its native habitat and in transplantation It does not seem that there are differences of cranial capacity or convolutional complexity marked or constant enough to be correlated with this great functional disparity, it would appear, therefore, that the problem is insoluble by anatomical methods, or that the anthropologist must tend to minimize the significance of the functional difference that from our point of view is so great

We have seen that the European skull does not protect the enclosed brain from injury so efficiently as does the African skull This must be because the latter is the stronger and more rigid From the anatomical point of view this superior strength is evidently not very striking, since, as far as I know, it has attracted but little attention and led to no attempt being made to measure it From the functional and medical point of view the superior strength of the African skull is at once obvious, and is plainly a very important racial character The superior rigidity and massiveness that in the African are not anatomically very obvious at once become unmistakable in the skulls of prehistoric and admittedly more primitive races, such as Neanderthal man and Piltdown man, in which the massiveness of the cranium has impressed all observers The relative slightness and flexibility of the European cranium is, then, a leading character of the race, and since, as we have already shown, it brings with it gross functional disadvantages in the resistance of injury, we may assume that it has some deep and real significance in compensation That is to say it "paid" the European, so to speak to develop a type of cranium which put him at a serious physical disadvantage in contest with his primitive competitors and even with contemporary races of to-day, what can have been the "price" he got in return that prevented the transaction from being the bad bargain it so manifestly might have been but was not?

THE EVOLUTION OF THE SKULL IN RELATION TO FUNCTION

If we survey the evolution of the skull in a very broad and general way, it is plain enough to see that the factors that destined the anterior ganglion of the primitive animal to be the brain of the higher vertebrate, rendered it inevitable that the part of the skeleton that should ultimately furnish the capsule of the brain should be from the first involved with other functions—such, for example, as nutrition and respiration The cranium, therefore, in addition to acting as the capsule of the brain, has had to take part in forming the nasal respiratory apparatus, the apparatus of mastication, and in providing extensive areas of attachment for the trunk muscles It cannot but be supposed that these various functions have interacted on one another, and that the interaction has compromised the perfection of the individual function. Thus, for example, the more the cranium had to provide for the attachment of masticatory and neck muscles, the less fully and sensitively could it fulfil its function of cranial capsule, and allow the smaller individual variations of the brain to have their fullest and least restricted scope It is interesting to notice that when the skull was involved in yet another function — providing attachment for horns — cerebral development seems to have been abruptly checked In man, even of the most primitive types, the liberation of the cranium from accessory functions took a large step forward but long remained imperfect In Neanderthal man the brain was not uncommonly as large, or even a good deal larger, than it is in the average European, and yet the great brain was enclosed, and perhaps we may say imprisoned, in a hugely massive cranium that gave attachment to very extensive masticatory muscles, and was encroached upon posteriorly by neck muscles far more widely than is the skull of any other race It cannot be supposed that in such a veritable fortress of bone the brain was as free to develop its potentiality for small individual variations as is a brain less formidably enwalled

It seems probable that a progressive civilization—that is to say, a cultural evolution which, though perhaps aimless, is continuous—depends less on the appearance of unusually able and original individuals in the race than on the free production of quite small variations round the mean. Contributions of originality, in order to be continuously and securely built into the fabric of a culture without disturbance, should be individually small or even infinitesimal, and it is this condition that appears to be realized when the brain is free to develop its minor variability, and to be lacking when the brain is subject to the slight restricting effect of a cranium loaded with accessory functions There seems, therefore, a certain plausibility in the hypothesis that the secret of the modern European type—and I use that term, of course, in the sense of the anthropologist rather than in that of the historian—lies in the capsular function of the cranium having acquired in that type for the first time a definitive supremacy over the accessory functions If it is this *supremacy* of the one function that was the original variation that constituted the European type, and is an inherited character in it, then it must be capable of producing progressive effects, and we ought actually to be able to detect evidence that the accessory functions of the cranium are undergoing decay The relative slightness and low rigidity of the European skull in comparison with the African is possibly a manifestation of this process, and is probably progressive European skulls are without any doubt remarkably variable in density and thickness, as anyone with operative experience can testify, and such variability is at any rate highly suggestive

It is generally recognized that the masticatory apparatus of modern man is undergoing atrophic changes, and at no very slow rate This is, of course, most clearly seen in the teeth, in which the process of suppression of the molars from behind forward has gone so far that already we may almost regard two fully erupted molars on each side as more properly representing the normal than three It is to be remembered that the molars are still physiologically the most valuable of the teeth, and those the loss of which produces the most serious effects On this account alone, and apart from far more serious theoretical difficulties, it seems impossible to assign any value in the explanation of their suppression to disuse A more trustworthy line of speculation is suggested by the fact that it is the anterior teeth which seem least to show the tendency towards suppression—those teeth, that is to say, which are actuated by the masseter muscle, which is not directly connected with the cranium On the other hand, the teeth which do show the tendency to suppression are those associated in function with the temporal muscle which arises directly from the cranial wall The cranium is, so to say, throwing off the remnants of its masticatory function and the temporal molar group is consequently tending to disappear

No one could acknowledge more readily than I do the speculative nature of these suggestions at the same time, it may perhaps fairly be said that they bring into some kind of relation a body of facts that possibly has not been viewed in connexion before. However that may be, I would rather claim my justification for troubling you with them in the attempt to show that even a strictly technical subject, and one of everyday practical importance to the medical man, cannot exist in isolation but tends inevitably to throw out implications of wider and wider reach and of more and more general significance

REFERENCE

1 H. R. Spencer On Visceral Haemorrhages in Stillborn Children, *Trans Obst. Soc.*, 1851

A CASE OF SCLEREMA NEONATORUM

BY

W GIFFORD NASH, F R C S,

BEDFORD

SCLEREMA NEONATORUM appears to be sufficiently uncommon in Great Britain to render the following case worthy of record

A female infant, aged 2 months, was first seen by me on January 11th, 1924 The father, aged 44, and the mother, aged 33, had for some years resided on the Gold Coast This was their first child The mother about a month after she became pregnant came to England suffering from bacilluria, and this was still present in February, 1924 The father denied any history of syphilis The child was born in South Devon on November 9th, 1923, and at birth weighed 8 lb 3 oz It is possible she was a ten months baby At birth she was blue owing to compression of the cord A few days after birth oedema was noticed, and this gradually increased in hardness and extent She was artificially fed from birth On November 28th it was noted that the arms above the elbows were very hard and the buttocks very hard and lumpy This hardness continued to increase until the whole of the back and all the extremities were involved

On January 10th, 1924, when she came to Bedford, the hardness at the back of the neck was getting less It was noticed that the child was more fretful on cold days

On January 11th I saw the infant and found her fairly well nourished The skin was yellowish and the mucous membranes blue There was a widespread hardness of the subcutaneous tissue, which felt like that of a dead foetus in winter The parts chiefly involved were the shoulders, back, buttocks, and all the extremities In the latter the tissues involved felt like hard ropes The face was not affected The skin did not pit on pressure There was no albuminuria or heart disease The temperature was normal The diagnosis was *sclerema neonatorum* The treatment consisted of keeping the child warm with woollen clothes and hot bottles Two hot baths were given daily and were a source of pleasure to the infant One grain of grey powder was given three times a day and has been continued up to the present time, April 28th Under this treatment the child progressively improved, the colour became healthy, and the weight steadily increased The hardness gradually dissolved, the masses and cords breaking up into islets, and now has all but gone

The best description of sclerema neonatorum I have found is in *Diseases of Children*, by Garrod, Batten, and Thursfield They describe a group of four diseases—namely, sclero-oedema, sclerema, pseudo-sclerema, and scleroderma The second and third are the only two which concern us The difference appears to be that sclerema attacks wasted children and is nearly always fatal, and pseudo-sclerema attacks well nourished children and is usually recovered from This distinction appears to me to be artificial

I would suggest that the disease is the same, the difference being in the soil—that is, in the state of nutrition of the infants

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CEREBRAL HAEMORRHAGE AND CONGENITAL OBLITERATION OF THE GALL BLADDER AND DUCTS IN AN INFANT

THIS case was the subject of an inquest I was called for the first time soon after death, and had never seen the child during life

The infant, 2 months old and of corresponding weight, was jaundiced to a lemon colour The history, afterwards elicited, showed that jaundice first appeared at the age of 3 weeks and had persisted No black meconium had been passed and the motions were always white The baby was breast-fed gained weight well, and did not seem ill till a few days before death, when a slight cough was noticed The night before it died it was restless, but early the next morning went to sleep and later on was found to be dead

Post mortem Examination—The baby was well nourished with good fat deposit The gall bladder was absent, but represented by a layer of fibrous tissue where it should have been The common bile duct was found to be patent for some distance, but no entrance into the duodenum existed The liver was hard on section, dark olive-green in colour, and the bile passages were largely obliterated and replaced by fibrous tissue The spleen was not enlarged but very dark in colour The thymus was unusually large and the thyroid was well developed Both lungs presented early signs of bronchopneumonia The brain showed a large haemorrhage in the left hemisphere, composed of a clot the size of a pigeon's egg and semi-clotted blood of about equal amount The haemorrhage was inside the cortex and had evidently come from the internal capsule

This child could, of course, never have lived long It was no doubt the efficient breast-feeding that enabled it to survive for two months It fell an easy prey to infection of the air passages, and the haemorrhage was probably due to a weakening of the vessel wall from the persistent jaundice

The combination of a large cerebral haemorrhage with congenital obliteration of the gall bladder and ducts appeared to make the case worth recording

HOWARD GLADSTONE, M D,
Honorary Medical Officer, Sydenham Infant Welfare Centre.

TARTAR EMETIC IN TUBERCULOSIS

THE beneficial effect of tartarated antimony in acute and chronic bronchitis influenced practitioners to use it in the treatment of tuberculous disease of the lungs, but the depressive effect, associated with the tendency to vomit, that is produced when the drug is given by the mouth rendered it unpopular When given intravenously tartar emetic produces vomiting only when the large doses necessary to eradicate the larger parasites of the blood stream are employed, doses of only half a grain have a stimulating effect on most patients Tartar emetic, therefore, deserves a further trial in the treatment of tuberculous disease of the lungs One or more such intravenous injections might reasonably be supposed to help in cleaning up a "dirty sputum" and thus render the system more able to deal with the presence of the tubercle bacillus, even if no destructive effect on the tubercle bacillus would become evident In the same way, by destroying associated micro-organisms, such drugs as tartar emetic and manganese help the gonococcus to die out more rapidly than it would otherwise

The immediate relief of paralysis and other signs of leprosy following injections of antimony in certain cases indicates that the drug has some more decided effect on the disease than the mere cleaning up of associated conditions, but, even were it to do no more than to help in cleaning up ulcerated patches and other skin conditions that are early or late features of a very intractable disease, it would render the patient better able to deal with the leprosy bacillus and render this bacillus the more likely to die out

The rapid relief that is sometimes experienced in syphilitic and leprotic disease of the eye likewise suggests that intravenous injection of antimony might be of service in tuberculous disease of the eye, its proved value in many skin conditions suggests that it has not yet received the attention it deserves in cleaning up cancerous growths in various parts of the body, even though antimony ointment has been extensively used for these conditions

Durban, Natal F G CAWSTON, M D Cantab

INTRACARDIAC INJECTION OF ADRENALINE

THE following case tends to support the opinion that adrenaline administered by injection into the heart is very greatly superior to the usual cardiac stimulants in cases where there is a sudden failure of the heart

On January 9th, 1924, at about 12.45 p.m., a young, exceptionally well built Chinese male was carried into my office on the back of another man He was breathing rapidly, his whole skin was cyanosed, and he was obviously in a very serious condition, though able to sit up and to talk The apex beat of the heart was slightly displaced outward, no murmurs were heard; the legs were slightly oedematous The temperature was subnormal, nothing else of note was found He was bled a few ounces and injections of ether, digitalin, and camphor given There was no noticeable improvement His condition got worse until there was no pulse felt at the wrist, and finally he appeared on the very point of dissolution, respiration being jerky, extremely shallow, occurring once

in about every twenty seconds, and accompanied by spasm of the facial muscles

About 2½ c cm. of 1 in 1 000 adrenaline solution were then injected with a serum syringe using a needle 1½ inches long introduced up to the hilt into a point about 1 inch below and 1 inch internal to the left nipple The effect was extraordinary The heart at once commenced to beat forcibly whereas previously it had been impossible to feel or auscultate the apex beat. The respiration improved and the man was able to recognize his friends, say a few words and suck greedily from a piece of moistened wool *introduced into* his mouth He announced that he felt better After about a quarter of an hour the whole sequence of events was repeated the man again appearing on the point of dissolution and recovering after the injection of about 2 c cm of adrenaline solution till he could talk suck, and recognize his friends A third time he relapsed About 2 c.cm were again injected This time he did not recover consciousness, but the same forcible apex beat was felt and the respiration improved The relapse came more quickly and further injections were not given At about 3.30 p m he *died* A vague history was obtained of about three weeks illness accompanied by swelling of the legs and getting better and worse It was stated that he had only become seriously ill that day No *post mortem* examination was possible

It would be interesting to know whether adrenaline has been used in this way in syncope due to administration of anaesthetics

J G REED, M R C S, L R C P,
Divisional Medical Officer Third Division Sarawak.

ACUTE OBSTRUCTIVE CHOLECYSTITIS

MR JOHN MORLEY'S interesting article on acute obstructive cholecystitis in the BRITISH MEDICAL JOURNAL of March 15th leads me to think that it will be of interest to place on record a case which I recently operated upon at the Barry Accident Hospital

I was called to see a married woman at 3 p m on Friday and found she had been taken suddenly ill the previous afternoon with acute pains in the right side of the back which later passed to the right iliac fossa She complained of flatulence and of nausea but had not vomited The bowels were freely opened after a dose of salts which she had taken under the impression that the pains were due to some article of diet which disagreed with her The pains persisted throughout the night and were at times so violent as to resemble labour pains and gave her the feeling that her womb was twisted The period was a week overdue

She was suffering great pain and having frequent rigors which shook the bed. The pulse and temperature were normal The whole of the right rectus abdominis was rigid especially in its lower half There was rigidity and tenderness in the right iliac fossa. Exquisite tenderness was elicited at McBurney's point, in which area and downwards towards the pelvis a rounded swelling the size of an orange could be felt. Pelvic examination revealed a soft mass in the posterior fornix, which was too acutely tender to permit of manipulation She was removed to hospital with the provisional diagnosis of twisted ovarian cyst and was operated upon at 5 p.m the same day

The abdomen was opened in the mid line just below the umbilicus. The first thing to present itself in the wound was a turgid blue and greatly distended gall bladder It was almost down in the pelvis and as large as a full-grown plantain a large solitary stone was felt to be impacted in its neck. The ducts were free and the surfaces of the liver normal. The gall bladder was opened the stone the size of a walnut, was expressed and a tube was sewn in for drainage Before closing the abdomen the uterus was found to be enlarged soft and retroverted It was easily replaced in the normal position The first specimen of bile which drained away contained a little mucus and pus but this soon cleared and the patient made an uninterrupted recovery

The unusual features in the case were the low level to which the gall bladder descended and the coincident occurrence of a large retroverted uterus The latter condition suggested the diagnosis of a cyst, and led to the selection of an incision below the umbilicus which fortunately turned out to be quite suitable for the case

J L O'FLYN, M R C S, L R C P

Barry Glamorgan.

LITHOPAEDION SUBSEQUENT PREGNANCIES

A MARRIED woman, aged 75, died on March 23rd, 1924 She had had one child before 1878 in that year she had a "missed labour" My grandfather, who attended her, wrote to my father, who was clerking for the late Matthews Duncan at St Bartholomew's, and the latter's advice came back, "Leave well alone" In the following year my father attended her at confinement, and a living child was born, the labour being uneventful Two more living children were born subsequently, and one stillborn She reared her family and was seldom ill During life a hard mass, about the size of a large coco-nut, could be felt to the left of the middle line of the abdomen, it was slightly movable and was not tender

At the necropsy the lithopaedion was found firmly attached to the anterior abdominal wall over an area of about 4 square inches, the tumour and uterus weighed 3 lb The left Fallopian tube was converted into a thick fibrous band merging into a dense capsule partly calcified, inside this the foetus lay in a mixture of sebaceous and calcareous material.

Wolverhampton. C L SPACKMAN, M B

Reports of Societies.

OPHTHALMOLOGICAL CONGRESS IN GLASGOW.

GLASGOW has for generations been famous for producing men of wide repute in the science and practice of ophthalmology, and therefore, said SIR DONALD MACALISTER, in welcoming, as Principal of the University, the members of the Ophthalmological Society to their annual congress in Glasgow on May 1st, the city of the congress was well chosen, and the congress was happy also in having an eminent Glasgow ophthalmologist, Dr A Maitland Ramsay, as its president The Principal added that had it not been for the disastrous interruption of the war and the almost equally infertile years of the ensuing peace, Glasgow would by this time have been in possession of a chair and institute of ophthalmology, but it was hoped that this ambition would soon be achieved

The congress, which lasted three days, was attended by about seventy members, and more papers were offered than could be discussed or even read in the time available, though one of the sessions extended beyond 11 p m The meetings were held in the new Zoological Department, and in the museum of that building many interesting exhibits were collected, including autochrome photographs of eye diseases, pathological specimens, and ophthalmological instruments A clinical meeting was held at the Glasgow Eye Infirmary, where the use of the corneal microscope and the slit lamp was demonstrated by Mr HARRISON BUTLER and Mr BASIL GRAVES Each read a paper—the one on the anatomy of the normal lens as revealed by the slit lamp, and the other on the slit-lamp features of a limbus tumour Mr Butler praised the slit lamp because it offered for the first time a dependable method of interpreting the anatomy of the lens and he showed a number of drawings of lenses which he had himself made from memory after slit-lamp examination, and which modified to some extent the ordinary textbook picture

Eye Symptoms in Early Disseminated Sclerosis

One of the most interesting discussions of the congress related to the eye symptoms found in commencing disseminated sclerosis Dr BROWNLOW RIDDELL said that during the past few years a special investigation into the pathogenesis of disseminated sclerosis had been carried out at the Glasgow Royal Infirmary and cases with eye symptoms in which a neurological basis was suspected had been referred to those who were undertaking this research He gave particulars of several cases of the kind which had come under his own observation and in which the chief symptom was transient diplopia In one case of diplopia and giddiness of a month's duration in which it was found on sending the patient for further examination that she had disseminated sclerosis with extensive damage already done the fact was elicited that she had had transient diplopia six years previously, indicating no doubt the primary stage of the condition Dr Riddell also associated retrobulbar neuritis with disseminated sclerosis in certain cases The real condition was liable to be overlooked because the eye symptoms were transient and the prognosis ophthalmologically was good, but although the eye symptoms cleared up there were other symptoms associated with the central nervous system which became increasingly manifest He believed that eye surgeons had the opportunity occasionally of seeing patients in the earliest stages of this malady a fact which might in the future have a hopeful bearing upon treatment

Dr DE SCHWEINITZ of Philadelphia said that long ago the exogenous causes of disseminated sclerosis were classified as traumatisms, toxaemias, and general infections Whether a local infection or what was often called a focal infection could have the same significance as had been given in the past to a general infection he did not know, but some observations in his own clinic inclined him to take that view It was worth while considering whether a focal infection in the accessory sinus might not lead to the development of some specific toxaemia and later to disseminated sclerosis He urged very careful examination of the various types of retrobulbar neuritis in their etiological relationships

Dr JOHNSON TAYLOR expressed the opinion that there was danger in the tendency to conclude that eye disturbances of this kind had a functional or hysterical cause As an instance in point he recalled the case of a woman, supposedly suffering from hysterical symptoms, who was sent to him for some transient eye trouble, treatment was directed to the cure of hysteria, but within six months she died of disseminated sclerosis

Iridectomy for Congenital Cataract

Of the surgical papers, that which occasioned the most discussion was on the operation of iridectomy for congenital cataract Dr J ROWAN put forward the view that if there was a clear bit of lens which could be brought into use after an iridectomy, then iridectomy was preferable to needling One of the great advantages of iridectomy was that the patient was able to go about his ordinary work without using spectacles—an important factor from the point of view of employment—whereas if needling were done he was entirely dependent on glasses Iridectomy gave more satisfactory results than needling, and he had seen eyes lost after the latter operation With regard to the position for iridectomy, Dr Rowan favoured in general the downwards and inwards position

Dr W G SYM thought that a better result was obtained if the position of the iridectomy was almost directly upwards He was also of opinion that some of the comparisons between needling and iridectomy were unfair, he would never dream, for instance, of performing needling on a patient who had 6/12 vision, though he might do it in the case of one who had 6/24 Sir ARNOLD LAWSON took the view that provided the iridectomy was opposite the clear portion of the lens it could not make the slightest difference whether it was inwards or outwards Mr J F CUNNINGHAM said that the important thing was that it should be a central iridectomy, if it went near the periphery there was considerable risk of detachment Sir JOHN PARSONS said that when he was at the Hospital for Sick Children, Great Ormond Street, he came across a very definite group of congenital cataracts—small nuclear cataracts, very often of the lamellar type, sometimes unilateral, in which nystagmus developed, he was impressed by the arguments for avoiding needling in these cases At the same time, something had to be done to avoid the nystagmus developing and to facilitate macular vision, and in these cases he had performed optical iridectomy with considerable success

Ocular Complications of Subarachnoid Haemorrhage

Mr LESLIE PATON read a paper on ocular complications met with when an aneurysm of one of the arteries at the base of the brain ruptured and gave rise to a subarachnoid haemorrhage He held that some retinal haemorrhages were the result of the direct leakage of blood through the subpial lymph spaces round the lamina cribrosa and through the perivascular lymph spaces round the central vessels He had seen in two cases large subhyaloid haemorrhages in which no evidence of local vascular disturbance was present, in both cases the blood seemed to come from circles around the disc and around the physiological pit, he showed pictures of the appearance in the second case, in which the patient had survived and was still alive, one of the few cases in which, he thought, the diagnosis of a ruptured basal aneurysm could with justification be made during the life of the patient

Mr HERBERT FISHER said that the fact that cases of subhyaloid haemorrhage might occur anticipatory to intracerebral haemorrhage was within his own observation He was once demonstrating to his students in the out-patient department a case of subhyaloid haemorrhage, when the patient rapidly developed cerebral apoplexy and was transferred to the medical wards, where he died

Congenital Coloboma of the Iris

A paper embodying some original work in embryology, upon which the author was greatly congratulated, was read by Dr IDA MANN, on congenital coloboma of the iris She said that the main factor in the production of a coloboma appeared to be the abnormally long persistence of one, several, or all of the vessels which normally connected the circulus arteriosus iridis major with the terminal branches of the hyaloid vessel around the edge of the optic cup These she had named the irido-hyaloid vessels, they appeared at the fifth week in the human embryo, and began to disappear in the middle of the third month, when the ectodermal part of the iris started to grow forwards in front of the lens She gave a detailed description of the development in this region, illustrated by many drawings She was led to the conclusion that aniridia or total coloboma was really a persistence of the embryonic condition of the later part of the second month before the iris had developed, and that its cause was probably failure of the vessels at the margin of the cup to disappear at the proper time This might also affect the normal development of the spaces of Fontana, and would thus account for the tendency of these eyes to develop glaucoma

Mr TREACHER COLLINS said that there seemed to be three possible ways in which coloboma of the iris might be produced (1) persistence of fibrous tissue and its adherence to the cornea, checking the growth of the iris inwards, (2) abnormal adhesion of the pupillary membrane to the lens capsule, (3) great delay of the lens in separating from the back of the cornea

The Trigeminal Nerve in its Relation to the Eye

The trigeminal nerve considered as an integrating mechanism between the eyes and other parts was the subject of a lecture by Dr IVY MCKENZIE He described the trigeminal nerve as, apart from the nerves of special sense, the most important sensory nerve in the body While it was generally held that the sensory nerves conveyed stimuli from the periphery to the central nervous system, it had been definitely proved that they could also convey stimuli from the central nervous system to the periphery The nucleus of the fifth nerve was the site of stimuli just as much as the sites of its peripheral distribution It was rather taken for granted that the fifth nerve must be stimulated either from the skin or the mucous membrane, yet headache, which was the most common example of trigeminal disorder, was due in most cases to irritation or intoxication of the trigeminal nucleus Dr McKenzie pointed out that the eye was a structure easily picked out because of the refinement of its structure and the delicate balance of its fluids, many optical disorders were nothing more than trophic disturbances produced from the irritation of stimuli, possibly from the teeth, or it might be from the nerve substance itself

Sir JOHN PARSONS believed that headache was not simply referable to the distribution of the trigeminal nerve as a sensory nerve Headache had the characteristics of primitive nerve response, vague in its character and distribution, with gross discrimination or none at all, corresponding in fact to the type of response which had been described as protopathic, whereas the ordinary effects on the skin and nerve were of the epicritic type

Pupil Reactions

The only set discussion of the congress was on the pupil reactions On the physiological side a paper, copiously illustrated, was read by Sir JOHN PARSONS On the pathological side Mr LESLIE PATON discussed the initial lesions causing the Argyll Robertson pupil He thought that spirochaetes might lie in the little recess behind the pineal gland and there remain dormant for some time, so that the Argyll Robertson pupil would correspond with other lesions in tabes in that it was due to a primary change in the

interstitial tissue Mr FOSTER MOORE described seven cases showing reactions, simulating the Argyll Robertson pupil in many respects, but unassociated with syphilis, and presenting no evidence of parasyphilitic or other general nervous disease He believed the condition to be congenital and described it as the non luetic Argyll Robertson pupil

Other Discussions

Several interesting cases were demonstrated to the congress Dr SPENCE MEIGHAN showed two examples of traumatic vesicular keratitis, both with a history of injury and presenting the same corneal lesions, but one showing in addition uveitis, in this case it had been necessary to excise the eyeball Mr GRAY CLEGG, who had already published particulars of six cases of central scotoma in anterior uveitis, described a seventh, in a woman of 55 Dr JOHN MARSHALL showed a case of persistence of the tunica vasculosa in a child aged 3 years, with subsequent buphthalmos The case was similar to instances of anterior staphyloma of congenital origin, but the changes in the form of the globe had occurred after birth The question was raised whether these uncommon cases could be treated if seen at an early stage, by corneo-scleral trephining or other filtration operation Following a paper on strabismus by Professor SNELLEN of Utrecht, Dr G F ALEXANDER mentioned a case of squint in a boy aged 12 who had convergence of about twenty-five degrees, but showed this abnormality only on alternate days, on the other days he was quite free from squint, this alternation had been going on for two years

Professor CRAHAM KERR described an experiment he had conducted on binocular vision, and this led to a discussion of the question whether his theory of binocular summation was a sound one It was contested by Sir JOHN PARSONS, who thought that the evidence was against any doubling of the subjective effect of the brightness of an image Professor KERR said that what appealed to him as a biologist was the argument that in creatures with a large number of eyes any theory of separate images must be ruled out, and it was necessary to fall back upon summation

Mr A F MACCALLAN gave an account of his work in Egypt, and described the ophthalmic hospitals and school clinics (seventeen of the latter) now in that country He mentioned that an ophthalmological research laboratory had been erected on the outskirts of Cairo as a memorial to the men of the Egyptian labour and camel transport corps who fell in the war

Meeting of Ophthalmological Societies, 1925

At the business meeting Mr Treacher Collins was elected president of the society for 1924-25 It has been decided to hold the annual meeting for 1925 in London in July in the form of a conference of English-speaking ophthalmological societies

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A MEETING of the Fever Hospitals Medical Service Group of the Society of Medical Officers of Health was held on April 25th at the City Hospital, Newcastle-upon-Tyne After a tour of the hospital, conducted by the M O H, Dr H Kerr, papers were read by Dr T N V POTTS and by Mr NEIL MACLAY on 'Three years' specialist oto-rhinological treatment in scarlet fever a survey and demonstration" Several illustrative cases were shown In the discussion which followed, the subject of the treatment of conditions of otitis following infectious diseases was dealt with by Mr W T GARDINER (Edinburgh) and Mr J K LOVE (Glasgow), from the point of view of the aural surgeon, and by the President, Dr E W GOODALL (London), Dr C B KER (Edinburgh), Dr F H THOMSON (London), and Dr D S SUTHERLAND (Manchester), from the point of view of the fever hospital administrator A cordial vote of thanks was given to Dr H Kerr and to the Public Health Committee of the City Corporation for the admirable arrangements made for the meeting and the entertainment of the visitors Dr C B Ker, medical superintendent, City Hospital, Edinburgh, was unanimously elected President of the Group for the year 1924-25

Reviews.

THE TOXAEMIA OF ACUTE INTESTINAL OBSTRUCTION

Dr R H PARAMORE of Rugby has written a small book of some seventy pages entitled *The Toxaemia of Acute Intestinal Obstruction, or Vomiting as a Pathological Force* [1] It has been suggested that the cause of the intoxication in cases of acute intestinal obstruction is the absorption of a toxic proteose from the gut, this view the author controverts, the major portion of his book being taken up with the argument He admits that an intoxication occurs and is accompanied by a rise of non protein nitrogen in the blood and damage to the kidneys, but believes the intoxication and kidney impairment to be caused in other ways, especially by the effect on the patient of the persistent vomiting Vomiting is, he considers, the conspicuous feature of a complex of physical disabilities including straining, tenesmus restlessness, and increased abdominal pressure When intoxication subsides the vomiting ceases, but such mechanical relief would not, it is argued prevent the continued production and absorption of intestinal poisons, if such exist The author believes that the removal of stimuli causing pain, the cessation of the violent efforts persistent vomiting entails, and the reduction of the distension by the passage of flatus by the rectum, are the determinant factors in cure In his opinion the toxaemia arises as a consequence of the pernicious vomiting he finds analogies in the vomiting of pregnancy and the distressing after-effects of sea sickness, and illustrates his reasoning with a comparison of the slight disturbance caused by an intravenous dose of arsenic with the intense pain, vomiting, and general upset which would follow the same dose taken by the mouth

Such, in the main, are the author's views They are not supported by any experiments of his own, though in the early chapters he records the clinical history of a few patients whose experience seems to provide some confirmation He makes a determined assault on the work of McQuarrie and Whipple, with whose opinions on proteose intoxication he is completely at variance, and he returns to the attack in every chapter

It is sometimes quite difficult to make out exactly what the author means for many of his sentences consist of disconnected ejaculations, with bracketed interludes, which are perhaps comments, or perhaps contradictions Apart from this, many of his thoughts are clothed in rather vague language, which conveys no clear interpretation to the reader We print as it stands a sentence from page 57

And the impaired kidneys become restored leaving no trace of their former injury The altered mechanical conditions *determine* this just as certainly as the physical changes induced by a decapsulation of these organs—for this is an operation having a purely mechanical effect—in some other clinical states (for instance, puerperal anuria) determine (if the kidney be capable of response) a return of the renal function—the shock of which argument has yet to be felt" On page 9 appears the statement To explain this change in the blood an implication of the kidneys became necessary"

Many equally ambiguous passages might be quoted We must warn those interested in this subject that they must set out to search for the truth with a good stock of patience and perseverance for, though the theme itself is simple and the logic sound, there are many tiresome interruptions on the way

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A TEXTBOOK OF VITAL STATISTICS

THERE cannot be many instances in which the author of a standard textbook has issued an entirely new edition of his work thirty four years after the publication of the first Such, however, is the gratifying experience of Sir ARTHUR NEWSHOLME whose *Elements of Vital Statistics* [2] now

[1] *The Toxaemia of Acute Intestinal Obstruction* By R. H. Paramore M.D Lond. F.R.C.S.Eng. London H. K. Lewis and Co., Ltd. 1923. (Demy 8vo pp viii—66 1 chart. 5s net.)

[2] *The Elements of Vital Statistics in their Bearing on Social and Public Health Problems.* By Sir Arthur Newsholme, K.C.B. M.D. F.R.C.P. New edition, entirely rewritten. London George Allen and Unwin Ltd. 1923. (Demy 8vo pp 623 97 figures. 21s. net.)

published is in effect the fourth edition of the volume first issued in 1889 He would not have it regarded as a text-book of statistical method, but "as showing the important purposes of administration and of administrative research to which statistics can be put, rather than as a guide to statistical technique" The general scheme is for the most part that adopted in the first edition, though obviously with considerable elaboration, necessitated not only by "the introduction of the more elaborate mathematical processes into the study of biological problems," but also by the great advances that have come about in administrative procedure made possible by public health legislation The compulsory notification of tuberculosis and of many diseases other than those scheduled in the Infectious Disease (Notification) Act, 1899, the notification of certain industrial diseases, the Notification of Births and the National Health Insurance Acts have extended the field of investigation of the student of vital statistics These subjects are dealt with in a manner which cannot fail to be of assistance to the administrative officers more particularly concerned

The precise position which should be assigned to bad housing conditions as a factor in producing ill health is still a matter for controversy It is not an easy matter to decide by statistics, and in putting forward those that are available, principally connected with overcrowding, Sir Arthur Newsholme indicates their weakness and the pitfalls to be avoided in their interpretation Nevertheless, a careful study of the chapter on housing statistics ought to stimulate public health officers to undertake inquiries in their own districts on lines calculated to diminish, though it may not be possible entirely to eliminate, the fallacies associated with some existing statistics Though interest has long been shown in the relation between occupation and sickness and mortality, it is only in recent years that the subject has been studied intensively Of the various methods in use for comparing the mortality in different occupations the best is considered to be to contrast the mortality of those of a given age engaged in one occupation with the mortality of those engaged of the corresponding age in another occupation The author draws not only on British reports, but on those issued by the Federal and State governments of the United States Statistics, it is still commonly said, can be made to prove anything, but the reply is that this happens only when they are improperly presented or interpreted To many readers the outstanding value of this work will lie in the references frequently made to the sources of error so often associated with statistics and to the manner in which these can be avoided At the end of several of the chapters illustrations of certain fallacies are given, and in a final chapter some of the more important statistical errors are summarized The inclusion of the text of official documents is to be commended, it is, for instance, of interest to be able to compare the form of certificate of death commonly used in the United States with that in general use in this country The English census form, the rules in use in the General Register Office (England) for selection of one from two or more jointly stated causes of death, and the nomenclature of diseases and causes of death agreed upon by the International Commission, Paris, October 14th, 1920, are given in an appendix

"SILHOUETTE" RADIOGRAMS

MR A P BERTWISTLE, M B, Ch B resident surgical officer General Infirmary, Leeds, has published a *Descriptive Atlas of Radiographs of the Bones and Joints*[3] one purpose of which is to exemplify the merits of what he has termed the silhouette radiograph His idea is that for the ordinary person not handling radiographs daily it will be an advantage to have the outline of the soft parts shown The method of preparation is thus described "The negative is held up to the light, or, better, placed in an illuminator, and the fleshy contour, which is always apparent on the negative is carefully scratched with a mounted needle The print now made reveals the outline of the part as a black line The background is then filled in with Indian ink, completing the silhouette radiograph In the case of films, both sides of the negative require to be scratched, and often reflected light is necessary, as it may be, on rare occasions, with plates The process is necessitated by the inability of printing paper, especially bromide —which is the one almost universally used—to indicate a structure whose density is so slight as is that of the skin without giving an exposure so long that the bony definition is sacrificed" The *Atlas* is divided into six parts, the first illustrates the process, and in the second its application to normal bones and epiphyses is shown in a series of forty-five excellent radiographs, the third part shows fractures of various bones, including the skull, and certain complications of fractures and disorders in amputation stumps, the fourth illustrates diseases of bones, and contains also some examples of myositis ossificans, and one of calcification of arteries The fifth contains a series of instances of injuries and diseases of joints, in the sixth a number of miscellaneous specimens are collected Each specimen is explained in a short note on the facing page

We are inclined to agree with the author that the method "imparts a much needed reality to the radiograph, without interfering with the best possible bony definition" Incidentally it may be said that Mr Bertwistle, having noted the great variability in the times of appearance of centres of ossification, and of the union of epiphyses, has prepared a series showing the appearance at different ages The *Atlas* will, we believe, be found useful by all but the past expert in radiography The radiograms are very well printed, and the book does credit to the publishers as well as to the author

THE LUNACY LAW

No lawyer is better qualified for the task of producing a book covering the whole field of *The Law Relating to Lunacy*[4] than SIR H S THEOBALD, K C, who held the office of Master in Lunacy from 1907 until his retirement in 1922 The comprehensive character of the work is a tribute to the intensive industry of the author, and also to that peculiar quality of courage which has enabled him to carry out the necessary research in spite of the blindness that afflicts him in his declining years An additional interest attaches to such a work at the present time, when public opinion has been focused upon the administration of the lunacy law by the nature of the evidence given in the Harnett case, and, curiously enough, the author, in a prefatory note, says "A remedial Act, while removing one difficulty, as often as not creates another The efforts of the Legislature have not escaped this infirmity, and the end of the long line of Lunacy Acts is not yet" Will the proposed Royal Commission, if appointed, recommend yet more legislation?

Sir Henry Theobald has brought all the relevant cases, from the earliest times when the King's prerogative encroached upon the rights of the feudal lords to Everett v Griffiths and Anklesaria, to support his statement of the law of lunacy as it stands to day, it is concise, but in the voluminous appendices will be found the text of all the Acts of Parliament, rules, regulations, and forms relating to lunacy administration

Such a work, so complete in form, so comprehensive in scope, so terse yet never lacking in relevant detail, is therefore of real value not only to the practising lawyer and to the medical specialists in lunacy, but also to the great body of general practitioners who are brought into frequent contact with mental disease Whatever else the Harnett case has done, it has revealed how necessary it is that every medical man should know the nature and extent of the authority upon which he acts and in what circumstances he is protected when he acts

Sir Henry Theobald contests the suggested change of nomenclature contained in a bill that has passed through most of its stages in the House of Lords, and in the case of many institutions already carried out, that public asylums should be called "mental hospitals" The word "asylum," he says, has a pleasant sound and ancient associations, and

[3] *Descriptive Atlas of Radiographs of the Bones and Joints* For students and practitioners By A P Bertwistle M B Ch B Bristol John Wright and Sons Ltd 1924 (Cr 4to pp xiv + 198 299 radiographs 17s 6d net.)

[4] *The Law Relating to Lunacy* By Sir Henry Studdy Theobald K C M V London Stevens and Sons Ltd 1924 (Roy 8vo, pp xxxvi + 551. £2 10s net.)

although everybody knows it means a place for the treatment of mental cases, it does not insist upon the fact, whereas "mental hospitals" does Why, he asks, use two words where one is enough? We suppose it is a concession to popular sentiment It is on all fours with the reiterated proposal to alter the name of "workhouse" A rose by any other name would still be the same object, and the same with an asylum or a workhouse, but possibly the mind of the public may think differently—at least, so the Legislature imagines

Textbooks are usually such dry reading that they are scarcely, if ever, read for the sake of recreation This book, however, is an exception to the rule, for on page 99 we have an illuminating titbit about a Master in Lunacy who "had peculiar views as to the proper destination of committees' balances in which the Lord Chancellor did not concur", whilst any lover of historical and biographical reading will assuredly revel in the admirably written chapter dealing with the procedure upon the lunacy of the sovereign Two occupants of the English throne have become lunatics Henry VI and George III It is interesting to recall the fact that on each of the two occasions that Henry VI became a lunatic it was the father of his future successor Edward IV who was appointed Protector of the realm during the period of the King's lunacy George III, we read, was several times lunatic, and ultimately a Regency Bill had to be introduced and passed, but there were two short periods of lunacy during which the royal signature was obtained by Lord Eldon, the Lord Chancellor, in circumstances that led to fierce attacks upon him Lord Eldon, however, was a wily lawyer, and stoutly asseverated that the royal signature was never obtained, nor the royal pleasure taken, on any act of State when the royal mind was not clear and collected! Lord Eldon evidently meant this statement to be taken as the literal truth, but the fact that he always held that the royal mind could never in law be otherwise than clear and collected is revealed by a letter found among his papers after his death He wrote

> A king is never in law *non compos* in his cradle in the delirium of fever in the struggle in which the soul and body are parting the law acknowledges no weakness in him This is the view of him which allegiance and the obligations of oath compel his servant and subject to take '

Commenting upon this view, the learned author says that if it be adopted there should be added to the maxims, 'The King never dies," and "The King can do no wrong," the further maxim, "The King cannot by lunacy be prevented from performing necessary acts of State under the advice of his Ministers" This would have rendered unnecessary the farce that was enacted at that time

T SIMPSON PEDLER

NOTES ON BOOKS

IN a volume entitled *Modern Theories of the Unconscious*[1] Dr W L NORTHRIDGE gives a critical exposition of the theories of the unconscious advanced by Myers, Pierre Janet, Boris Sidis, Morton Prince the new Nancy school, and at greater length, the psycho-analytic doctrines of Freud That the development of these theories may be understood a brief historical survey is given of the older theories of the unconscious, commencing with those of Plato and Aristotle Professor J Laird provides an introduction to this volume in which he reminds the reader that if anyone supposes that these modern conceptions of the unconscious have attained the lucidity or the mastery and economy of fundamental principles which characterize a developed science he is most sadly mistaken Dr W L Northridge would seem to concur in this view, and his book which is obviously the product of careful study and reflection, is a balanced contribution to a highly controversial subject

The science of alcoholic fermentation, deemed to be a simple matter by those who know only its outlines, will be found on reading *Alcoholic Fermentation*[2] by ARTHUR HARDEN to contain many more interesting facts than had been suspected The yeast cell has been proved to generate a large group of enzymes, each appointed to a distinct biological service The functions of the enzymes have probably been studied to an extent beyond anything known in other branches of biological chemistry, and the schemes followed have become a general guide to experiment on the mode in which chemical change is induced by living organisms The experimental work by which the enzymes were revealed, and the account of their powers, activities, and antagonists form the subject of Dr Harden's well written monograph The ingenious devices which have been employed to define the issue of an experiment are alone sufficient to repay a perusal of the volume The book (which contains a full bibliography) may be taken as a standard work on the history of the development of the subject and will be a valuable aid to all who engage in researches on parallel lines

Dr HAROLD DEARDEN'S little book on *The Technique of Living* consists of a series of short essays The object of the work, which makes no scientific pretensions is to impart to the neurasthenic patient a little knowledge of psychological processes and the method of treatment Dr Dearden rejects alike suggestion and psycho-analysis, but claims to have obtained uniformly beneficial results by "the daily performance of carefully selected exercises of a rhythmic and perfectly co-ordinated character, details of which are promised in a subsequent work.

[1] *Modern Theories of the Unconscious* By W L. orthridge M A Ph.D With an Introduction by Professor J Laird M.A London Kegan Paul Trench Trübner and Co. Ltd. 1924 (Demy 8vo pp xv + 194. 8s. 6d. net.)

[2] *Alcoholic Fermentation* By A Harden Ph.D D.Sc. F R S Third edition Monographs on Biochemistry London and New York Longmans Green and Co. 1923. (Roy 8vo pp. 194 9 figures. 6s. 6d. net.)

[1] *The Technique of Living* By Harold Dearden, M R.C S L.R.C P London William Heinemann Ltd. 1924. (Cr 8vo pp. viii + 183. 6s. net.)

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY

THE annual meeting of the London and Counties Medical Protection Society was held on April 30th, under the presidency of Sir JOHN ROSE BRADFORD

The report presented by the council stated that during the year 1923 there had been a steady increase in membership and in the financial resources of the society The balance in the reserve fund was £10,149, and in the insurance fund £29,485 The number of applications from members asking for advice and assistance during the year was 662 In the great majority of cases satisfactory results were obtained without litigation, and the results of cases in which litigation ensued were also satisfactory The standing joint committee of the society and of the Medical Defence Union held three meetings, and the work of the two bodies was successfully co-ordinated The death of two trustees—Sir James Reid and Sir John Tweedy—were regretfully recorded, their places have been taken by Sir Anthony Bowlby and Sir Harry Baldwin The solicitors to the society—Messrs Le Brasseur and Oakley—reported that questions on and appeals arising from the National Health Insurance Regulations were on the increase The authorities appeared to be demanding from insurance practitioners almost academic adherence to their terms of service, and practitioners were warned that they could not be too careful in this respect, otherwise they might find that through a purely technical breach they were penalized to a large amount One case of considerable interest arose out of a decision by an Insurance Committee in favour of a practitioner, against which the insured person appealed An important question in the case was whether a practitioner was bound, if so requested by an insured patient, to prescribe medicine which had been given by a practitioner whom the patient had consulted privately On this point the Minister decided that the insurance practitioner was not so bound, but there were other factors in the case, apart from this consideration, which led to the appeal being decided against the practitioner The report went on to state that the treatment of fractures gave rise to many claims for damages every year, and practitioners were strongly advised to insist as early as possible upon an *x*-ray examination in all cases of injury where fracture or dislocation had been or might have been sustained When this was refused or omitted for any reason a member should provide himself with clear evidence in writing to prove that he was not responsible for the neglect or omission The report covered many points in medical ethics, professional secrecy, fees, partnerships, notifications, and certifications, illustrated by cases which had arisen during the year in the conduct of the society's business Special allusion was made to the difficulties in which medical men are frequently involved in connexion

with coroners' inquests Many coroners are scrupulously just to medical practitioners, but some (and more coroners' juries) treat medical witnesses and medical evidence in a manner which is neither considerate nor just No reference was made to an important case which is still proceeding, because the report related only to the work of 1923, but a case was described in which a district medical officer was asked by the relieving officer to see an alleged lunatic The medical officer found that the man had delusions concerning attempts to poison him, and that there was evidence that he had sharpened a knife with which he declared he would kill another The medical officer therefore certified the man Subsequently an agitation was started, much odium was stirred up against the medical officer, and an inquiry was instituted by the guardians The medical officer was advised by the society to explain to the guardians that the man was clearly suffering from a form of insanity which rendered him dangerous to others, apparently this was done, and no occasion arose for further intervention by the society

SIR JOHN ROSE BRADFORD, in moving the adoption of the report, referred at some length to the work of the standing joint committee with the Medical Defence Union, and announced that as a result of the case of Harnett *v* Bond and Adam (in which the society undertook Dr Adam's defence), and the anxiety which the decision in the lower court had aroused in the minds of the profession, it had been decided, after conference with the sister society, that the time had arrived for both organizations to take a further step with regard to the amount of indemnity that could be offered to individual members The limit up to the present time had been £3,000, but both societies had now agreed to grant an indemnity of an unlimited amount He trusted that this would lead to an increased membership, for the fact still remained that on the most favourable estimate not more than half the practitioners of the country were included in the membership of both the defence organizations He went on to refer to other details of the year's work contained in the annual report, and expressed his thanks to the officers and council and staff

DR C M FEGEN, the treasurer and chairman of the council, said that the balance now standing to the credit of the society was sufficient, should the society go into voluntary liquidation to-morrow, to return to every member the equivalent of about five years' subscriptions When a society or business concern was able to show such a state of affairs its financial position was secured beyond all question Nevertheless, the society had had very large expenses during the past year, and during the present year its expenses would be colossal, more particularly in respect to the case which was still *sub judice* The President had overstated the position when he said that one-half the members of the profession belonged to one or other of the defence societies, actually, out of 47,000 practitioners, he doubted whether 20,000 belonged to a defence society Therefore a very large number of medical men were carrying on their practices day after day with the sword of Damocles suspended over their heads He wished to make it plain that the society did not defend a member when that member was in the wrong Such a member was refused help at once Not only that, but if among the members there was a notorious wrongdoer the council did not hesitate to use the power it possessed to remove such a man from the list The society stood for the purity of the profession, but it stood also for the recognition of the true value of the medical man by the general public, and if the society could help it the medical man was not going to be blackmailed by any irresponsible person who thought he could do or omit to do anything he pleased because the medical man would not dare to take action

After the report had been adopted, Sir John Rose Bradford was unanimously and with acclamation re-elected President, and, with similar compliments, Dr C M Fegen treasurer, and Dr Hugh Woods and Mr A G R Foulerton respectively general and financial secretaries The four retiring members of council (Dr P N Cave, Dr R L Cuthrie, Mr P Johnson, and Mr E C Spriwson) were re-elected, and votes of thanks were recorded to those who had served the society with particular devotion during the year

PREVALENCE OF SMALL-POX

IN the first seventeen weeks of 1924—in just under one-third of the year—there have been notified in England 1,424 cases of small-pox The following table shows the returns week by week, as issued by the Registrar-General

Notifications for the first seventeen weeks of 1924

Week.		Week.		Week.	
1	115	7	44	13	89
2	83	8	41	14	69
3	77	9	65	15	142
4	92	10	65	16	93
5	52	11	101	17	104
6	62	12	108		

Within the period covered by these figures the main prevalence of the disease has been in the counties of Derby (594 cases), Nottingham (275), Cumberland (136), the North Riding of Yorkshire (98), and Northumberland (80) In Derbyshire Chesterfield and its neighbourhood have been specially affected, but the disease has occurred in many urban and rural districts The same remark applies to Nottinghamshire In Gloucester city epidemic prevalence prior to 1923 has given place to an occasional notification, but the county has not been entirely free from the disease in any week of the seventeen Cumberland was not invaded until early in March, so that the whole of its 136 cases have occurred in recent weeks Cockermouth and Workington have been principally affected In Northumberland also most of the cases have occurred only recently In the North Riding, where Middlesbrough is the place attacked, there were no notifications until the latter part of February A number of cases have also occurred in the counties of Leicester and Warwick, and in the West Riding

Thus, while small-pox is diminishing in some places, it is invading new districts, and tends to spread rather in a northerly direction On balance the prevalence in the country is very decidedly increasing, though London and the whole principality of Wales remain free from the infection The following table shows that in the corresponding seventeen weeks of 1923 the notifications were only 655, as contrasted with 1,424 in 1924

Notifications for the first seventeen weeks of 1923

Week.		Week.		Week.	
1	12	7	41	13	52
2	48	8	46	14	32
3	46	9	45	15	51
4	48	10	53	16	20
5	37	11	36	17	33
6	27	12	28		

In both years the disease has been of the mild or American type, with a very low fatality The weekly returns of cases cannot, of course, include the corresponding deaths, but in the whole of 1923 they numbered only seven It must be recollected that this increased prevalence as between 1923 and 1924 is only a continuation of what has been going on since 1917, the annual notifications in England and Wales having been as follows

1917	7	1921	376
1918	63	1922	673
1919	311	1923	2 500
1920	280		

The spread of the infection is naturally causing much anxiety in invaded areas, and medical officers of health, as we read in local newspapers, are urging the adoption of the well known means of preventing and controlling the disease A doctor in Whitehaven found that one case waiting to see him was suffering from small-pox, and he promptly took steps to have all the other persons in his surgery vaccinated before leaving the premises Dr Morrison, the county medical officer of Cumberland, has given an address to a meeting of sanitary inspectors and other officials on the value of vaccination, and has also been demonstrating at an isolation hospital the characters of mild small-pox to medical practitioners he had invited to meet him In some places keen arguments are going on regarding hospital accommodation Through it all, the fact remains incontrovertible that everyone who pleases can, by means of successful vaccination and revaccination, remain free from all anxiety regarding himself and his children as to risk of attack by small-pox But in the absence of systematic vaccination and revaccination it is quite possible, perhaps even probable, that attenuated variola may become endemic in Britain The indications, indeed, are strongly in that direction

THE MANCHESTER RADIUM INSTITUTE

THE report of the Manchester Radium Institute for 1923 deals chiefly with two aspects of radiation therapy—namely, the general uses of diathermy, and radium treatment of carcinoma of the body of the uterus and uterine haemorrhage

DIATHERMY

In discussing the employment of diathermy as a preliminary to radium treatment of extensive fungating growths of the palate, tongue, vulva, bladder, etc, the report of the London Radium Institute for 1922 (p 4) remarked that this procedure "has much to recommend it The exuberant masses of carcinomatous material are speedily removed by diathermy, and subsequent treatment of the base and edges of the growth, with numerous small platinum screened tubes, serves to produce degeneration of any isolated scattered foci in the normal tissues, and to excite a *protective fibrosis*, thus arresting the spread of the disease, and greatly diminishing the probability of recurrence"

In Manchester the diathermy apparatus has been used extensively during the past year, and with marked success For carcinoma of the breast diathermy has proved useful in three types of case

1 In *large fungating masses in the breast* excellent results have often been obtained, the main mass is excised by diathermy and radium tubes inserted into the deeper parts where there is possible infection, and where it is doubtful if the heat has acted efficiently

2 *Dense hard masses* in the breast are well excised by diathermy and the lymphatic tracts treated with radium

3 *Malignant tumours of moderate size* are best treated by the burying of radium tubes, in certain cases, especially where a tendency to skin infection exists, it is an advantage to block the lymphatic channels from the breast by cutting a deep incision with diathermy all round the breast at a considerable distance from it

In epithelioma of the tongue, especially when very advanced, diathermy is useful, for it will clean up foul lesions and make the patient more comfortable In less extensive cases, *but beyond the reach of normal surgical* methods, diathermy has been well employed, combined with the burying of small unscreened radium emanation tubes in the mass

Attempts have been made to treat epithelioma of the vulva by diathermy, but when used alone it often fails especially if the disease is very extensive Painful reactions follow the simultaneous use of diathermy and burying of radium, to obviate these Dr Burrows has, at the Manchester Radium Institute, tried burying unscreened emanation tubes in the growth, and a week later, when the reaction has become marked and just before the pain becomes acute the growth is diathermized either to the extent of excision or by the application of superficial electrodes

In epithelioma of the skin and *rodent ulcers* radium alone, though satisfactory for superficial lesions, has not been successful for cases in which the ulcer is very deep, the edges thick, and the growth firmly adherent to periosteum or cartilage For such conditions the report says "excision of the edges of the ulcer by diathermy and deep electrocoagulation around them, together with a similar coagulation of the tissues on the bone or cartilage, has proved to be one of the greatest advances in their treatment" The slough separates, healthy granulations appear, and, though the lesions take a long time to heal, soon the patient is quite comfortable Diathermic sparking and the application of superficial flat electrodes have been used with good results in the treatment of epithelioma of the skin arising on lupus vulgaris

Pigmented hairy moles yield slowly to radium treatment much quicker cures are obtained with diathermy which always clears up this condition, leaving an excellent scar

CARCINOMA OF THE UTERUS

Turning from the uses of diathermy, Dr Burrows makes some general observations on carcinoma, uterine haemorrhage, and uterine fibroids Radium treatment of carcinoma of the body of the uterus he considers offers little prospect of cure In recurrence after hysterectomy no successful results were obtained by radium treatment and alleviation was transient Better results are recorded in cases of carcinoma of the body of the uterus wherein treatment was primarily undertaken by radium for special reasons forbidding operation such as diabetes, heart disease, feeble general health, and extreme fatness In some such treated primarily with radium, the palliative results were often good, but it must be *confessed that no patients* so treated have remained well for more than two years

UTERINE HAEMORRHAGE

Radium treatment has been employed in various types of uterine haemorrhage, such as chronic metritis excessive bleeding at the menopause, cases associated with exophthalmic goitre and simple excessive haemorrhage or haemorrhage associated with dysmenorrhoea in young people In some patients complete arrest of the menses was aimed at these were usually patients over 40 years and they received a "full dose" of radiation corresponding to an exposure of rather less than 2,400 millicurie hours This was practically always successful in stopping uterine haemorrhage, though it gave no relief to pelvic pain Pelvic sepsis and disease of the appendages contraindicate treatment of uterine haemorrhage by radium, such patients are made worse by radiation. In other cases the aim of the treatment was to reduce menstruation, but not suppress it entirely, the patients so treated were mostly under 40 years of age and they received a 'half dose'—that is, 50 milligrams for twenty four hours

Of twenty three patients treated in this way ten returned to normal menstruation, five had complete amenorrhoea, in one there was no improvement, and in one the excessive bleeding recurred and the patient was treated again Four of the ten have remained normal for over five years and two have had amenorrhoea for the same period

It is sometimes stated that radium produces its effects by the action of the rays on the ovary, with this explanation Dr Burrows is not satisfied He agrees that the rays influence the ovary to a slight extent, but he maintains that the action of the radium is chiefly on the endometrium and has collected a number of facts in support of this view

One interesting case, quoted in the report, well illustrates the benefit this treatment promises to suitable patients "The dysmenorrhoea was so bad that the young patient was chronically ill and in terror of it She had submitted to dilatation of the cervix previously without benefit A half dose' of radium was given to her later on The menstruation returned to normal, the dysmenorrhoea disappeared and she has remained well up to the present' (She was treated two years ago)

UTERINE FIBROIDS

Before commencing radium treatment for large uterine fibroids it is essential that an accurate diagnosis should first be made The presence of pain adhesions ovarian tumours and pelvic infections forbids radium treatment these lesions belong to the province of the surgeon Many varieties of uncomplicated large fibroids such as fibroid polyps and submucous fibroids can be *dealt with most rapidly* and effectually by surgeons In Manchester it has been the practice only to treat fibroids with radium for the purpose of stopping the bleeding The intrauterine treatment alone does not as a rule produce much diminution in size of the fibroids and if it be desired to treat the fibroid purely with the object of reducing their bulk it is necessary to continue with external radiation possibly together with vaginal radiation Radium has been used chiefly in Manchester in cases of large fibroids when for special reasons the patient could not spare time to submit to operation or in smaller fibroids simply to stop the bleeding or in young patients where it has been desirable to retain the uterus and at the same time to reduce the menstruation to normal, or in cases in which operation has been contraindicated by the coexistence of other diseases, and in order to stop bleeding and to improve the patient's general health prior to operations The results reported certainly justify these measures When employed as a prelude to operation it happens not infrequently that the pale, weak and anaemic patient, having recovered her health, thanks to radium treatment, then refuses operation!

ANGINA PECTORIS ITS NATURE AND TREATMENT

SIR CLIFFORD ALLBUTT'S VIEWS

A LARGE audience assembled on May 5th to hear Professor Wenckebach's lecture to the Royal College of Physicians on angina pectoris and the possibilities of its surgical relief The lecture is published in full in this issue (p 809 et seq) After Professor Wenckebach had ended, the President, Sir Humphry Rolleston, remarked on the interest in the lecture shown by those present, and their appreciation of the *tour de force* that had been achieved by the lecturer in speaking in English They were very grateful to Professor Wenckebach for the tribute he had paid to British medicine in the past, including physiology and neurology, and especially for the honour paid to Sir Clifford Allbutt personally The audience had shown how greatly they appreciated this tribute, and would approve his asking Sir Clifford Allbutt to say a few words

Sir Clifford Allbutt spoke as follows

I hope that without any undue exaltation of spirit I may confess the pleasure and surprise with which I have listened to the kind and generous words addressed to me by the lecturer—too generous indeed, but there is a joy in the appreciation of a dear friend, partial as it may be And of one thing I am assured—that Professor Wenckebach's affectionate partiality for his friend will not deflect his judgement one hair's-breadth or the veracity of his scientific criticism of postulates or of the facts on which they are founded, whatsoever their origin or advocacy I may therefore take to myself this satisfaction that [illegible] ing angina pectoris which I have propounded to rather deaf ears for five-and-thirty years have now received confirmation from a supreme judge

Professor Wenckebach's insistence on precision of diagnosis is most timely There is a tendency to random diagnosis, with the danger that a patient suffering from angina may be treated as a case of neurosis until a sudden and unexpected death As he says, a medical colleague brings a patient for an opinion as a case of angina The patient says he was walking up the rising ground to his house when he found himself impeded by dyspnoea Now this symptom does not suggest angina, it discountenances it On examination in such a patient one often finds an old hyperpiesis with a large and dilating heart, the first sign of cardiac defect It is true that angina may arise in hyperpiesis, but it may not, in the majority of cases of angina the pressures are not excessive Now angina which arises by strain of the aorta under excessive pressure is of more hopeful prognosis, because as a matter of experience it yields more readily to remedies such as reduce high arterial pressures

Professor Wenckebach forcibly denied the direct dependence of angina upon myocardial failure, he said, indeed, that under this condition angina may be mitigated Not the angina is due to this condition, but death in angina Young persons may suffer from severe angina, and as their hearts are often sound they offer a better prognosis, these young or middle life cases are generally syphilitic—as, unhappily, often contracted by medical men in the course of their duties, and if the aortic valve has not been invaded they recover, at any rate from the pain Many such recoveries were obtained during the war

Professor Wenckebach insisted on the uncanny arrest of angina, and on the value of this point in diagnosis—as from neuroses, tobacco angina, and so forth and not only under such doubts as these, but also in the far graver dilemma of possible coronary embolism, which we have heard so well described to day This terrible calamity is happily rare, I have seen three cases at least, and in each the patient was not only able to move about but writhed in agony The same is true in that alarming but bogus affection tobacco angina, the sufferer can toss about, even from the outset As my explanation of the agony of coronary embolism is not known to Professor Wenckebach I may state that I attribute the pain in these cases to the stretching of the pericardium by that swelling which is consequent upon an embolism

I desire to consult Professor Wenckebach on a kind of angina which I have found very difficult to distinguish, at a single interview For instance, a man in advanced life complains that he is pulled up in his walk by an oppression of the chest, substernal, and even reaching the deltoid area, the pain is rather dull than acute, but the facts are suspicious Now on further inquiry it will be found that the patient, who may be walking with a friend or obliged to keep time, can go on, although uncomfortably It is important to note this Another point is that he finds no difference between the level and an ascent A medical patient, who was considering resignation of work, said that he could visit his patients upstairs quite well, but to walk for a few hundred yards would bring it on The truly anginous man detects a slight incline where before he had been unaware of it Cycling does not bring it on A belch of wind relieves it, and these cases may be explainable by some observations of Dr Poulton on the pain of distension of the oesophagus with air Let the patient be sparing in diet, especially in carbohydrates, avoid fluid with meals, and rest awhile after them, and he will find relief, and what is better, if he can get a holiday away from work and care, he will soon find himself freed from oppression and even able to ascend small mountains

Professor Wenckebach seemed to speak of angina as arising only under effort, however slight, that it did not arise, for instance, during sleep French physicians have on this distinction made two classes of angina—that which follows effort, and that which comes on at night in sleep There is no such distinction, in many a case of effort anginal attacks occur also at night Even a first attack may appear at night in sleep, and afterwards take the ordinary course There are inward efforts as well as outward In a patient who has never shifted, an inward turn, like the opening of a door, may bring on an attack

From the therapeutic point of view I would divide cases of angina pectoris into three classes

1 The high pressure cases, which can often be relieved by reduction of arterial pressure

2 The syphilitic cases, which are many and are curable as a rule by specific treatment

3 The ordinary cases in elderly people, remediable by absolute rest—or operation

The most arresting part of the Professor's lecture is of course the hope of relief by resection of the depressor branch of the vagus In some cases the anginal attacks peter out, but so far the only hope of cure has lain in a long period of absolute rest, in fact the treatment for aneurysm, but with far better hopes of cure In this way I have treated some grievous and obstinate cases with success, but not many persons can or will submit to three or six months of recumbency, mostly in bed Still the chief injunction must always be this Take infinite pains to prevent another attack, as each one paves the way for the next Reduce intra-aortic pressures to the lowest and the sore spot may heal This may prove to be a more radical cure than merely to cut out the pain signal

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THE AORTIC ORIGIN OF ANGINA PECTORIS

ALTHOUGH the general consensus of opinion has turned against the set lecture and favours practical demonstrations, at any rate for instruction of undergraduates, the formal paper or lecture must always retain its place in certain circumstances, especially in the celebration of anniversaries, in the introduction to discussions, and often in the explanation of new researches. The first half of the year is, *from a medical point* of view, full—some indeed might say to overflowing—of discussions and lectures particularly those endowed at the Royal Colleges. Occasionally, in spite of this *embarras de richesses* distinguished medical men have been given the opportunity of delivering a lecture before the Royal College of Physicians of London on a subject to which they have specially devoted their attention: thus in December, 1903, the late Sir Hermann Weber gave a lecture on "Means for the prolongation of life," which in an expanded form has often been republished, the latest (the fifth) edition being in 1919 with an introduction by Sir Clifford Allbutt. The late Dr. F. W. Pavy, who gave the Croonian Lectures twice (in 1878 and 1894) read as a supplementary Croonian Lecture in 1897 a paper on "Points connected with the pathology and treatment of diabetes." Both these lecturers were Fellows of the College, but it is a welcome innovation to find that Professor Karl Friedrich Wenckebach, director of the First Medical Clinic at Vienna and widely known before the war for cardiological work at Groningen, gave a lecture before the Royal College of Physicians on May 5th on "Angina pectoris and the possibilities of its surgical relief," a subject for which his ten years' experience in Vienna, with its trying conditions, has afforded exceptional opportunities, and of which he has made the best use. It is indeed appropriate that this disease should be discussed here, for the first description of it, "Some account of a disorder of the breast," was published by William Heberden the elder in the *Medical Transactions* (vol. ii, p. 59) of the College in 1772. Last year Sir James Mackenzie's monograph on the disease appeared, and another Fellow, Dr. John Hay, devoted the Bradshaw Lecture at the College to its prognosis, based on records of 309 cases.

One of the present senior Fellows of the College, Sir Clifford Allbutt, has for thirty-five years maintained that disease of the suprasigmoid region of the aorta rather than of the coronary arteries is the cause of true angina, after many years of observation of cases and of study of the literature, he has failed to discover an example of unmistakable angina in which whatever the disease of the coronary arteries the aorta on careful examination was shown histologically to be inwardly and outwardly sound. This has appeared to his countrymen to be an example of a leader of the profession ploughing an original and solitary furrow, though recently he has gained support abroad from Professor Vaquez (1915), and now from Professor Wenckebach. In his recent fine monograph *L'Angine de Poitrine* (1924) Professor Daniélopolu of Bucarest has recalled forgotten evidence of the same idea in 1808 Baumes of Montpellier, who called the syndrome sternalgia regarded it as a neuralgia, and some years later Desportes considered it a neuralgia of the vagus or the cardiac nerves. After discussing the recognized theories of angina—namely, coronary disease, aortic disease, and Sir James Mackenzie's of cardiac failure and exhaustion, none of which he accepts—Professor Daniélopolu puts forward his view that angina is due to cardiac fatigue, meaning thereby intoxication of the myocardium by fatigue products incompletely eliminated, and at considerable length shows how his conception differs from that of Sir James Mackenzie.

In his lecture last Monday, which is published in full this week (p. 809 et seq.), Professor Wenckebach discusses the three hypotheses of disease of the cardiac muscle, of the coronary arteries, and of the base of the aorta. Cardiac failure is, in his eyes, not the cause but the result of angina pectoris and its appearance leads to the relief of angina; damage of the myocardium and the resulting diminished cardiac output are regarded as antagonistic to angina. While fully admitting that disease of the coronary arteries is found in many if not most cases of angina, as Caleb Hillier Parry, the distinguished old Bath physician of Sir William Osler's textbook, pointed out in his *Inquiry into the symptoms and causes of the Syncope anginosa called angina pectoris* (1799), Professor Wenckebach insisted that it was often present in the absence of any symptoms, and that there must therefore be other causes for angina apart from coronary disease. Further, the only obvious way in which coronary obstruction could affect the heart is by a diminished blood supply and impairment of the muscular efficiency of the heart—in fact by cardiac failure, which, as he had previously urged, removes rather than causes angina. From his clinical and pathological experience Professor Wenckebach is convinced that disease of the proximal part of the aorta is the essential feature, and that changes in the coronary arteries and the myocardium are only of secondary importance. It might however be argued that atheroma and aortitis are frequently present without symptoms, and that angina is a symptom-complex due to more than one factor or to a combination of lesions, disordered functions or stimuli. A specially pleasant feature of the lecture was the presence of Sir Clifford Allbutt and his appreciative speech in acknowledging this recognition of his views.

As the pathological area of the aorta cannot, like a carious tooth, be removed the next best course, it is suggested, is to cut the nervous tract which conveys afferent impulses from the proximal part of the aorta. Tschermak's recent experiments, published a few weeks ago, show that the distribution of the depressor nerve is confined to the proximal part of the aorta and does not extend to the heart. As Professor Wenckebach said it must at first sight appear illogical to cut the depressor nerve in angina which is so often accompanied by high blood pressure and relieved by vaso-dilators such as amyl nitrite; but the conditions in health and disease may differ, and it has been shown that the action of the depressor nerve may, under the influence of poisons—as for example strychnine, which induces hyperexcitability of the central nervous system such as is present in angina—be reversed and become pressor.

That surgical division of the cervico-thoracic sympathetic containing the sensory nerves of the heart and aorta might relieve the pain of angina was suggested as long ago as 1899 by the physiologist François Franck, but it was not until 1916 that Professor Thomas Jonnesco of Bucarest put this into practice by

excising the whole of the cervical sympathetic with its three ganglia and also the first thoracic ganglion Various surgical measures have since been employed in the treatment of angina by Brüning, Coffey and P K Brown, Hristide, and Stoehelin and Holtz, Danielopolu, indeed, remarks that it is surprising that a certain degree of success appears to have followed all the different methods The operations are usually carried out on the left side only, though Jonnesco and Hofer have performed a bilateral operation It must, however, be remembered that in removing the cervicothoracic sympathetic and its ganglia, or in cutting its trunk, fibres other than the centripetal aortico cardiac fibres, such as the cardiac accelerators and vasoconstrictor filaments for the pulmonary vessels, are interrupted, and thus dangerous results, such as acute oedema of the lung, are possible The ideal procedure is therefore to divide all the sensory fibres coming from the heart and aorta, and at the same time to avoid damage to the motor nerves to the heart Professor Wenckebach has advocated section of what is thought to be the depressor nerve in man, corresponding to the depressor nerve in the rabbit, described in 1886 by Ludwig and Cyon, which is excited when the aortic pressure becomes excessive and thus causes pain This branch, coming from the superior laryngeal or from the trunk of the vagus, has accordingly been divided by Hofer, working with Eppinger, Professor Wenckebach's first assistant, who in April, 1923, reported five cases of angina thus operated upon with much benefit, since then they have carried out this procedure in other cases There is, however, the drawback that this nerve is not by any means constant in man, and in cases in which it cannot be found Hofer has suggested section of the vagus trunk Although more details are wanted about the course of the sensory branches from the heart and aorta, these early but encouraging results of operation for angina pectoris prove the value of applied physiology as well as the need for more knowledge

THE WHOLE-TIME PROFESSOR

WE had occasion last week to publish an article (p 790) on stock-taking in medical education, founded upon communications made to the annual Congress on Medical Education held at Chicago a couple of months

In the course of that article reference was made to the question whether the appointment of whole-time professors in clinical subjects was the best method We have since received from Professor Wenckebach a reprint of a paper he published in the *Wiener klinische Wochenschrift* for February 26th and March 4th He visited Baltimore last year to deliver the Herter Lectures, and took advantage of the opportunity to endeavour to form an opinion on the *vita medica* of America His conclusions are based on inquiries made in all the great centres and most of the States The larger and more immediately interesting part of the article deals with the subject of education, and more especially with that by the whole-time professor and the clinical unit It was expressly stated to Professor Wenckebach that the institution of the whole time professor was an experiment, and that it still remained to make a careful study of the results The full time professor is not universal in America thus the medical faculties of Harvard University and Chicago were unwilling to impose this restraint on themselves The younger universities, however, in the foundation of which the Rockefeller Fund has played a great part, have in almost all cases carried out the whole time principle The great advantages the system offers are obvious It allows the teacher to devote himself entirely to his institution, to his own development, and to teaching, he is enabled to get in closer touch with the students, and is free from the anxieties of practice, above all, he is free to devote himself to scientific research, and there is no doubt that in this particular the hospitals of America have made immense progress Professor Wenckebach considers, therefore, that the main object the supporters of the whole-time system had in view has been attained, and that scientific medicine in America at the present time has reached a high plane

On the other hand, Professor Wenckebach is not blind to the disadvantages of the system Scientific endeavour in the European universities has for many decades tended in a remarkable degree in the direction of practical clinical medicine, and at the present time there is an ever-increasing desire to place purely clinical work more in the foreground As evidence of what may be accomplished in this way we need go no further than Professor Wenckebach's lecture and Sir Clifford Allbutt's speech reported this week For ten years Professor Wenckebach was a general practitioner in an out of-the-way district in Holland, and Sir Clifford Allbutt, although he was never, so far as we are aware, a general practitioner, had experience for many years of the rough and tumble of practice in the West Riding of Yorkshire

In America, Professor Wenckebach tells us, the call is everywhere "back to the bedside," and in his opinion it is right The danger that the practical education of the student will suffer through the emphasis which is being placed on the scientific side is not, he thinks, imaginary He tells us that repeatedly he heard the opinion expressed by leading physicians that "medicine must be made an exact science When we have obtained a complete knowledge of disease," it is argued, "and of our methods of treatment, we shall be able to treat our patients with absolute certainty" Exact science in medical matters, however, considering the infinite differences observable in men, is a mere Utopia, and medicine is above all, and will always remain, a science of man, and is to be learnt by the study of man In every country, indeed, the evil of modern medical education—that it is too far removed from the bedside—is being discussed However perfect the knowledge of the theory of disease may be, it is practically useless without a knowledge of the patient also This serious objection has not escaped notice in America, and certain attempts have been made to counteract it In some places the clinical teacher is permitted to have a certain amount of private practice, and private wards are allotted to him for paying patients, the fees, however, do not go into the pocket of the professor, but are made over to the medical school or hospital In other places an "office" in the hospital is placed at the disposal of the clinician, to enable him to receive private patients, and on occasion he is allowed to have personal assistance in treating his cases, in this way he is relieved from all outlays for his private practice, although the fees go to the hospital In some other universities external consultations are allowed, but in such cases again the hospital takes the fees

These provisions are designed to ensure to the clinician sufficient development on the practical side, but Professor Wenckebach considers that they are not logical and that they do not meet the case The whole-time principle, he points out, is broken by

allowing private practice in any form, the clinician practises, although he receives no fee Secondly, the arrangement is unnatural—it is opposed to the natural desire of a man that the fruit of his labour shall be for himself and his family Moreover, there are some who consider that to take remuneration for treatment is bad for the hospital and school Professor Wenckebach was told by one on whose statement he could rely and who had all his life been a whole time professor, that the clinicians in certain schools were constantly chosen on commercial grounds, that they were expected to assist in the maintenance of their departments by means of extra work that there was frequently an eye for rich patients, and that such physicians were sought for as were influential or had married rich wives I make it clear, Professor Wenckebach says, - that this reproach is not my own but was communicated to me from a distinguished source moreover, similar views are to be found in the literature If a prime supporter of the whole time system holds these opinions the system does not appear to be as deserving of imitation as many including myself, were inclined to believe '

Professor Wenckebach deals with another point upon which he is able to speak from personal experience It is apt to be forgotten that private practice in many respects affords experience which cannot be obtained in a hospital Many diseases and many symptoms which are hardly ever seen in a hospital are met with almost daily outside It was no mere chance that it should fall to the lot of practitioners to revise the whole subject of cardiac arrhythmia and the author states that 80 per cent of his experience in his own subject was derived from private practice Had he remained in general practice he would never have had the opportunity for sufficient research in his subject but had he been a whole time professor he would have lost the greater part of that experience

Many years ago Professor Wenckebach tells us he discussed this subject with William Osler who in his judgement came nearer the ideal physician and academic teacher than any of his contemporaries One of Osler's arguments against the whole time professor was that the regular intercourse between the clinician and the practitioner was of great value to both The professor learnt the needs of the practitioner as regards the extension of his knowledge, and, being in touch with practice, became a better teacher of future practitioners The practitioner on his side learnt to take new points of view, and became acquainted with improved methods of treatment The matter is summed up for us as follows There is much to be said in favour of the whole time principle and it is conceivable that it has a great attraction for teachers and research workers, since it enables them to devote themselves to their work and avoid the troubles and interruptions of the world and society But it has disadvantages for the generality, since those who are perhaps most suited for the task are precluded from taking an active part in problems of general interest It was mainly designed for the benefit of the clinical teacher, but even for him it cannot be regarded as altogether satisfactory, since it removes him, and the future practitioner whom he has to teach, from the bedside and hinders the full development of the clinical teacher in many directions If the development of the clinician is to be effected under this system he necessarily requires, not only a whole-time scientific appointment, but also a whole time practical experience Since the latter is not possible it is Professor Wenckebach concludes difficult to understand, from the purely educational standpoint why the present system of practising clinicians should not be retained, with perhaps certain limitations as to the amount of private practice allowed

STORM HOUSES.

WE publish elsewhere a brief note of the life and death of Dr Roger McNeill It is a short story when it comes down to actual dates and facts, but his was a full and interesting life We are indebted to a Scottish correspondent who knew his work for some notes on McNeill's experience in the construction of houses suitable for a climate so tempestuous as that of the West of Scotland, where gales prevail and the rains descend for many months of the year McNeill was one of the group of men who, when the Local Government Act for Scotland was passed in 1889 undertook the task of instituting a public health service in certain rural areas of Scotland which before that time had been practically without sanitation He was appointed medical officer for Argyllshire, certainly one of the most difficult counties to deal with Its great extent, its numerous islands, its sparse population and small rateable valuation, and, above all, its defective means of transport, presented a problem which seemed almost insoluble The new medical officer, however, was himself an Argyllshire man—a McNeill of Colonsay—who realized the whole situation, understood and sympathized with the people, spoke their language more fluently than English, and appreciated the local point of view in public health questions So equipped he tackled his job with perseverance and discretion, and achieved a large measure of success As an illustration of Dr McNeill's ability to apply his knowledge of the principles of hygiene to local conditions, reference may be made to one of his earliest reports in which he discussed housing in the island of Tiree A crofter's house there had walls about six feet thick The outer and inner parts were of stone, built in the usual rough Highland style, the space between perhaps two feet wide was filled in with sand The roof was of thatch It had no overhanging eaves nor rain gutters of any kind The roof rested on the intervening wall of sand, and when rain fell as it abundantly did the roof water discharged into the sand passed down through it and was lost in the sandy soil underneath An enterprising builder, on a visit to the island, who did not appreciate realities was horrified at these primitive conditions and decided to show the islanders how a house really ought to be constructed He erected, therefore, some up-to-date cottages with slate roofs, overhanging eaves and rain conductors all complete In summer the houses were most attractive and put to shame the rude dwellings of the natives But when the first heavy winter storm came the wind lifted the new roofs right off and dropped them wherever it listed while the old shielings defied the blast and were unharmed Dr McNeill, in his report explained the reason of this satire It, he said, a man stood close to the edge of a high cliff overhanging the sea, in the midst of a storm driving in direct from the Atlantic, he would find that while the wind roared and great waves dashed against the precipice he standing just above it, would be in an apparent miraculous calm If, however, he stepped back some way from the edge of the cliff he would quickly find himself under the influence of the gale The wind driving against the immovable cliff wall, was thrown upward and meeting at a right angle the tempest above the ground level deflected it upwards, so that the spectator was under a windless arch until he went back to where the upward current had spent its force By the same law the new cottage

with its broad overhanging eaves, got the full blast forced upwards after striking the side of the house, and the roof was carried away, while the islander's thatch, set back a foot or more on the wall head, had just the protection which was afforded to the man on the edge of the cliff Dr McNeill had once sheltered in such a house during such a storm, and though the elements were loud at war around the dwelling, inside, according to his own graphic simile, the silence was as complete as in the heart of Ben Cruachan The native house builders in Tiree at that time had such faith in their own system that they sometimes did not even seek to protect the thatch roof by heavy stones or boulders, kept in place by straw ropes But that high doctrine was not always practised, so that often such a dwelling would have the roof placed as described and the boulders in addition—just like the pessimist who wore both a waistbelt and a pair of braces A young medical officer, now at the head of the public health service of Scotland, was much interested in Dr McNeill's exposition of housing ideas in Tiree, and, *more suo*, set himself to test it by means of a kitchen bellows and an article of furniture on top of which a small paper figure was set up He found that McNeill was right If the blast of the bellows was played against the face of the stand the figure stood defiantly if close to the edge, but if set back was immediately blown over One wonders whether the Scottish Board of Health will now have occasion to give any effect to these principles in approving regulations or plans for housing in the Highlands and Islands, where Dr Roger McNeill will be seen no more, but where his memory will be cherished and his work live after him

STANDARDS OF VISION IN EDUCATION

THERE is evidence that difficulties have arisen in various parts of the country with regard to the admission of children to scholarships given by local education authorities, and with regard also to the admission of candidates for training as teachers and to teacherships In the JOURNAL of January 13th, 1923, there was published a paper by Mr Bishop Harman on this subject, in this he gave the evidence upon which was based the necessity for some selection of candidates, and also a table of suggested standards of visual requirements at different ages The paper was read at a meeting of the Ophthalmological Section of the Royal Society of Medicine, and after a discussion thereon it was resolved by the Section to request the Council of British Ophthalmologists to appoint a special committee to inquire into and report on the advisability of establishing 'standards of vision for candidates for scholarships and teacherships under local education authorities" The council has now issued an agreed report[1] In this it is stated that in the interests of the community and of the individual it is important that scholarships and teacherships should not be granted to candidates suffering from such ocular defects as may be aggravated by long-continued study and lead to inefficiency or incapacity in later life It is, therefore, advisable to establish, if practicable, standards of vision which shall exclude unsuitable candidates, the standards should not be fixed so high as to exclude any appreciable number who might in practice prove fit Cases of myopia are those of the greatest difficulty, so that the degrees of admissible myopia and the risk of excessive degrees are commented upon in some detail A report of this nature will without doubt be of the greatest value to school medical officers as well as to all doctors who are asked to advise upon the education of children and young persons The council recommends that in all candidates for scholarships and teacherships the visual acuity, with correcting glasses, should be not less than 6/9 in the better eye A child of 11 with less than two dioptres of myopia in either eye should be passed A child of 11 with more than two and less than three should be passed on probation and re-examined every six months A child of 11 with three or more dioptres of myopia in the better eye should be rejected for scholarship training At the age of 15 those with more than four dioptres of myopia in the better eye should be deemed unfit to train for the teaching profession Candidates for entry to training colleges, who are, as a rule, about 18 years of age, if they have more than five dioptres of myopia in the better eye should be rejected It is considered that simple myopic astigmatism exceeding three dioptres in the better eye should be a cause of rejection of candidates both for scholarships and for training as teachers In compound myopic astigmatism, unless the myopia is stationary, astigmatism of even two dioptres may be a cause of rejection Cases of hypermetropic astigmatism should be rejected only if visual acuity with correcting glasses in the better eye is less than 6/9 Hypermetropia should not be a cause of rejection unless vision with correcting glasses in the better eye is less than 6/9 Certain special cases also are dealt with Thus, if the applicant has only one eye or only one useful eye, the other being amblyopic from non-progressive disease which in no way affects or is likely to affect the good eye, the case should be judged on the condition of the good eye In the case of candidates for university and technical senior scholarships, or those intending to specialize as teachers of certain technical subjects, greater latitude may be allowed after consideration of special circumstances as to nature of work and condition of the candidate's eyes in other respects

[1] *Report on Standards of Vision for Candidates for Scholarships and Teacherships under Local Education Authorities* London The Office of the British Journal of Ophthalmology Thayer Street W 1 Price 6d.

DEMONSTRATION BY PROFESSOR WENCKEBACH

PROFESSOR WENCKEBACH gave a clinical demonstration in the anatomical theatre of Guy's Hospital on Tuesday, the day after that on which he delivered the lecture to the Royal College of Physicians of London, with which this issue of the JOURNAL opens Three patients presenting different forms of heart disease were demonstrated the first was a man of 50 years, suffering chiefly from retrosternal pain and weakness and swelling of the legs Step by step, by means of the history and the physical signs, the deduction was made, in the first place, that there was some disease of the aorta—the Professor paying at this point a tribute to Sir Clifford Allbutt's work—and secondly, some weakness of the heart muscle, resulting in an imperfect discharge of the blood from the heart The conclusion was reached that the origin of the condition was syphilitic, a form of heart disease about which our knowledge had increased very rapidly of late The way in which the symptoms were produced by this condition was skilfully set out, and some suggestions as to treatment put forward, special emphasis being laid upon the value of digitalis and upon the need for great care in making use of antisyphilitic treatment Professor Wenckebach pointed out that the use of digitalis in these cases was very often followed by magnificent results, particularly the cure of the distressing insomnia characteristic of the condition, occasionally such results followed the administration of small doses, at other times they only appeared after the use of large doses for a long period In other cases, however, no benefit was obtained He suggested that an attempt should be made to find the optimum dose of digitalis advisable for this patient, in order that he might take it two or three times a week after leaving the hospital, and so be enabled to carry on some form of employment which would otherwise probably not be possible In the case of the second patient—a boy of 15, with swelling of the upper lids, slight puffiness of the face, slight cyanosis of the lips

but no real oedema, and two bluish patches on the upper part of the cheeks—mitral stenosis was easily diagnosable The history, however, in addition to scarlet fever, tonsillitis, and probably recurrent endocarditis, included a gradual bulging of the chest wall, which was now extremely noticeable, and the development of a systolic murmur, the pulse was very small, there was marked cyanosis of the feet, no swelling of the liver, and no signs of aortic disease Having traced the outline of the heart dullness, and indicated by sketches how the heart enlargement had been brought about in this case as compared with that in the case of aortic disease, Professor Wenckebach explained the method of production of the cyanosis and of the escape of fluid into the tissues The third patient, a lad of 19, enabled the lecturer to give a brilliant discourse on congenital disease of the heart, including patency of the prenatal channel between the pulmonary artery and the aorta, and also perforation of the interventricular septum, together with a detailed description of the heart sounds in this uncommon type of disease and the production of the few symptoms present This lecture justifiably aroused considerable enthusiasm We hope the Professor will take away with him a happy memory of his reception by the Royal College of Physicians, of the rapt attention and appreciation of his audience in Guy's Hospital, and the realization of personal friendships rendered stronger and deeper

THE ROYAL ACADEMY

MEDICAL men and women who read the daily newspapers will be well aware that the one hundred and fifty-sixth exhibition of the Royal Academy of Arts was opened to the public on Monday, and if they lack guidance as to what is the picture of the year" and which are the "notable portraits" and "attractive landscapes" the fault cannot be that of the professional art critics In this brief notice we propose to indicate only those exhibits which have some direct medical interest There is no scarcity of medical portraits this year—seven large oil paintings and three pieces of sculpture Most of them are the work of well known artists, but, with one or two exceptions, that is the best that we can bring ourselves to say of them The ceremonial portrait of Sir Donald MacAlister (187) in his Vice-Chancellor's robes, by George Henry, R A, is disappointing, and the same must be said of the sombre representation, in service khaki uniform, of Lieut.-General Sir John Goodwin (217) by Maurice Greiffenhagen, R A. Augustus John's informal picture of Sir Charles Sherrington (630) is technically as interesting as most of his work, but lacks the distinction of the Thomas Hardy portrait now in the Fitzwilliam Museum, Cambridge W W Russell, A R A, has two presentation portraits of medical men one a good likeness of Sir Alfred Rice-Oxley (55) as Mayor of Kensington, and the other a quiet portrait (somewhat overshadowed by a neighbouring ducal picture) of Dr F W Collinson (106) presented on the occasion of his retirement from the office of senior surgeon to the Preston Royal Infirmary after thirty seven years' service on the staff Not far away is the portrait of Dr Isabella Macdonald (118) painted by George Harcourt, R A, for the Elizabeth Garrett Anderson Hospital, and in the next gallery is Thomas Dugdale's clever and characteristic portrait of Mr Cecil Rowntree (152) Among the sculptures in the lecture room will be found the posthumous bust in bronze of Dr D V Cow of Cambridge (1384) by Henry Pegram, R A, the marble relief of Dr Isabel Wilson (1387) by Allan G Wyon and the bronze relief of Professor Nuttall, F R S (1471), by Mary G Gillick The architectural room contains designs for the Wevbridge Cottage Hospital (1289), the Victoria Cottage Hospital, Barnet (1164), the Kasr-el-Aini State Hospital and Medical School at Cairo (1237), the alterations to Westminster Hospital now being carried out (1237), and the Deal and Walmer War Memorial Hospital (1252), also the Sir William Dunn School of Pathology, Oxford, (1293), which is interesting to compare with the view of the Sir William Dunn Biochemical Laboratories at Cambridge reproduced in our present issue Here, too, should be noted the 'Sketch Project for London" (1283) and the impressive elevations for Castle Drogo Devon (1185 and 1188), by Sir Edwin Lutyens, R A., architect of the British Medical Association's new building in Bloomsbury In the water-colour room is a pleasant view of the fountain in the square of St Bartholomew's Hospital in early summer, by Rose Barton (693) Lastly, and from a pathological point of view, may be mentioned the remarkable study of physical exhaustion entitled "The Resting Acrobats" (3) and the picture of six chlorotic wine-pressers (51), both in the first gallery

INTELLIGENCE AND CRANIAL CAPACITY

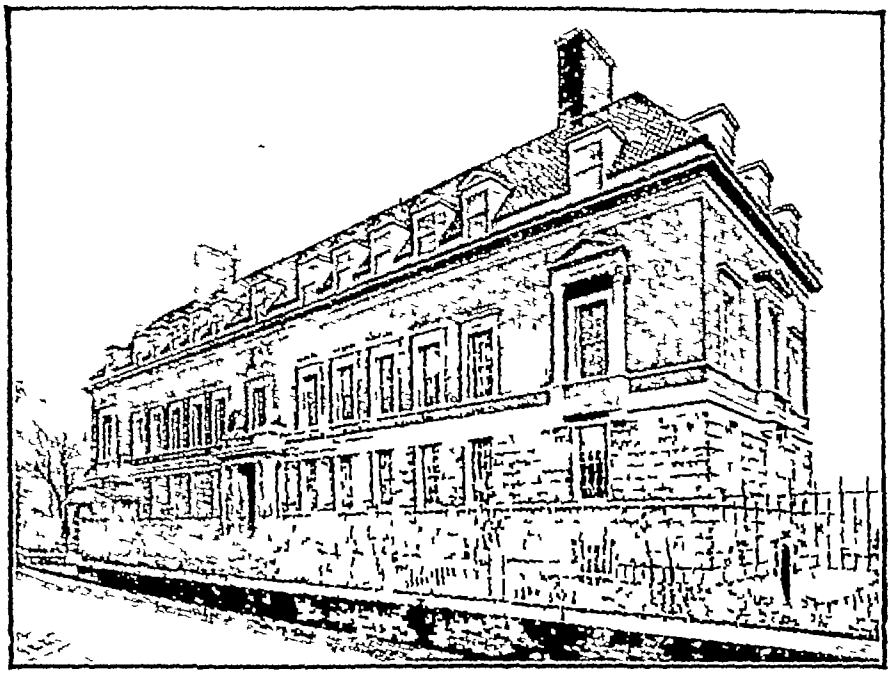
PROFESSOR R W REID of Aberdeen and Dr J H. MULLIGAN have recently published[1] a record of a biometric study of the relation between intelligence and cranial capacity The subjects were 449 male students of undoubted Scottish extraction. The average head length, head breadth, and head height (means of measurements made at the beginning and end of the curriculum) were determined, and the product of these dimensions taken as a measure of cranial capacity As a measure of intelligence the sum of marks obtained in anatomy, physiology, and pathology in professional examinations was used Average age and stature were also taken into account No sensible correlation between examination marks and cranial capacity was found, nor did any emerge when allowance was made for age or stature by the method of partial correlation The authors remark that "the results which we have obtained from the application of a simple uniform test point to the marks gained by the students observed as affording no index as to their cranial capacities, or, to put it in more general terms that the size of the head of a student is no criterion by which to estimate the intelligence of that student as measured by the results of his examinations, thus confirming the opinion already arrived at by Pearson and Macdonell that anthropometric examination of a person's head is no guide to the intelligence of its owner"

SIR CHARLES HASTINGS CLINICAL PRIZE.

THE Council of the British Medical Association has decided to establish experimentally an annual prize—'The Sir Charles Hastings Clinical Prize'—of fifty guineas for an essay or lecture for the purpose of stimulating systematic observation research, and record in general practice The Council believes that systematic observation by general practitioners, along selected lines of clinical study may result in the production of practical contributions of great value by those who are in a favourable position for following disease through its various stages The first prize will be awarded in 1926, and the conditions governing its award as adopted by the Council on April 16th, 1924, are published this week in the SUPPLEMENT

THE position of the Ministry of Agriculture in respect of foot-and mouth disease grows weekly more ignominious It stopped the scientific investigation because it could not afford a few thousand pounds a year but its net expenditure in coping with the 3,060 outbreaks which occurred between the end of August and the end of April was over three millions sterling It now hopes to benefit by the result of researches carried out by two German investigators

[1] *Journ. Proc. Roy. Soc. Edinburgh*, Part iii, 1923, p. 22.



THE CAMBRIDGE SCHOOL OF BIOCHEMISTRY.

THE SIR WILLIAM DUNN LABORATORIES

THE new biochemical laboratory at Cambridge University, founded under the will of the late Sir William Dunn, is now complete save for a few fittings, and most of the rooms are already in use It will be formally opened to-day (Friday, May 9th) by the Earl of Balfour, Chancellor of the University, and it is hoped that later the King and Queen may visit it informally

The New Building

The building which, with its contents, cost about £100,000, is of red brick with stone pillars and carvings It was designed by Sir Edwin Cooper, F R I B A, and is situated on the Downing Street site, lying close to Tennis Court Road It consists of four stories The top floor consists mainly of an elementary classroom, capable of holding about 100 students The first and second floors are devoted mainly to research, though two rooms are reserved for advanced practical classes, and there is a small lecture room, besides a library, common room, and offices The basement besides two ordinary research rooms, includes an engine room store rooms, workshops, animal rooms (one of which is to be an aquarium), and plant for large scale combustions and ether extractions Almost every room besides gas water, and electric light, is supplied with steam, compressed air, and electric power There are two dark rooms—one for photographic work, the other for polarimetry and the like Special provisions, including a hot room and an aseptic room, have been made for bacteriology, and there is a small air-tight chamber for respiratory work

Investigations now in Progress

At the present moment the building contains no fewer than thirty-six people engaged on research, a number which it may be necessary to diminish in view of the limited space and funds available The largest group of workers, under the general direction of Professor F Gowland Hopkins, are dealing with oxidation processes both *in vivo* and *in vitro* His isolation of glutathione, a relatively simple catalyst of intracellular oxidations, has opened up a vast variety of problems in this field, but several other oxidase systems are being investigated Four workers are examining bacterial metabolism by exact quantitative methods similar to those which are used on larger organisms Several workers are dealing with carbohydrate metabolism from different standpoints Others are dealing with the synthesis of various sulphur compounds in the animal body, and with the remoter effects on human metabolism of changes in the hydrogen-ion concentration of the tissues

Besides four plant biochemists, who are mainly concerned with oxidases, individual workers are dealing with problems which range from inositol metabolism and the sulphur content of diseased crabs, to the structure of the haemoglobin, casein, and thyroxin molecules Some hitherto neglected aspects of the vitamin question are being dealt with, and a start is being made on cancer research

Co-ordination of Research

So wide a range of interests can only be justified if it renders possible fruitful co-operation between workers who are masters of very different techniques This has been the tradition of the Cambridge biochemical school in the past, and is fully operative at the present moment For example, during the last year ten different workers, employing techniques for the estimation of twenty-one different substances, were engaged in experiments upon one of their number Exchange of ideas is encouraged by the weekly reading of a paper to the rest of the researchers by one of their number on his or her current work

The present research community includes three Australians, a Canadian, a New Zealander, an Irishman, an Indian, an American, and a Norwegian, while last year Switzerland was represented Eleven of the researchers are women Six—namely, Professor Hopkins, Dr Hele, and Messrs Cole, Haldane, Roughton, and Dixon—hold university posts Of the others four are Beit fellows, two are 1851 Exhibition scholars, and one a Ramsay memorial fellow Most of the remainder are in receipt of grants from the Medical Research Council or the Department of Scientific and Industrial Research

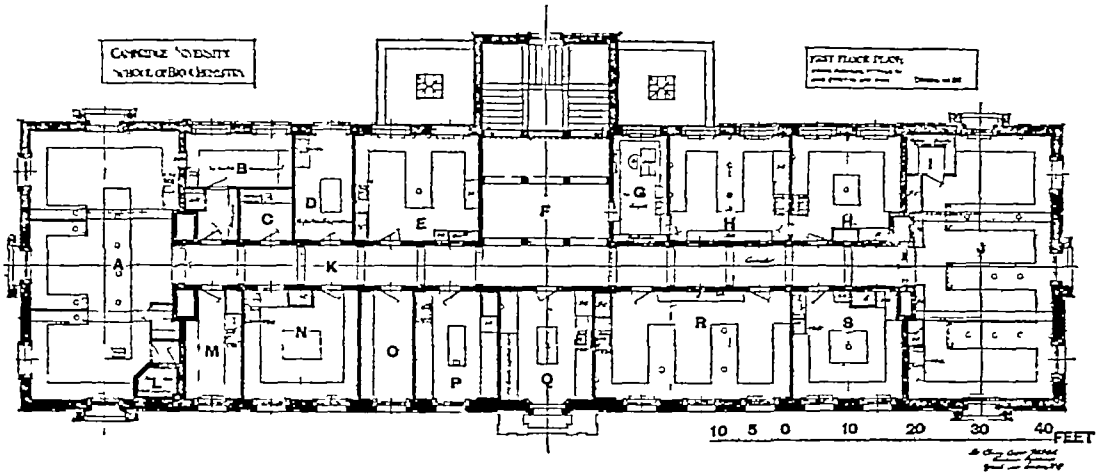
Educational Work of the School

On the teaching side the most arduous task is the supervision of the large practical classes for medical and elementary students, and the keeping up to date of their curriculum. To teach sugar and urea estimations in blood to groups of eighty students is no mean task, and Mr. Cole, who presides over the elementary practical work, has rendered notable services to biochemistry and medicine in rendering certain analytical methods as nearly as may be foolproof. Only about one-tenth of those who take physiology in Part I of the Natural Sciences Tripos devote an entire additional year to it in Part II, and of these only about half take a medical degree often after a year or two of research. Their practical work includes at least two entire days a week in the biochemical laboratory during two terms, one of the days being devoted to modern methods of blood analysis and the study of human metabolism.

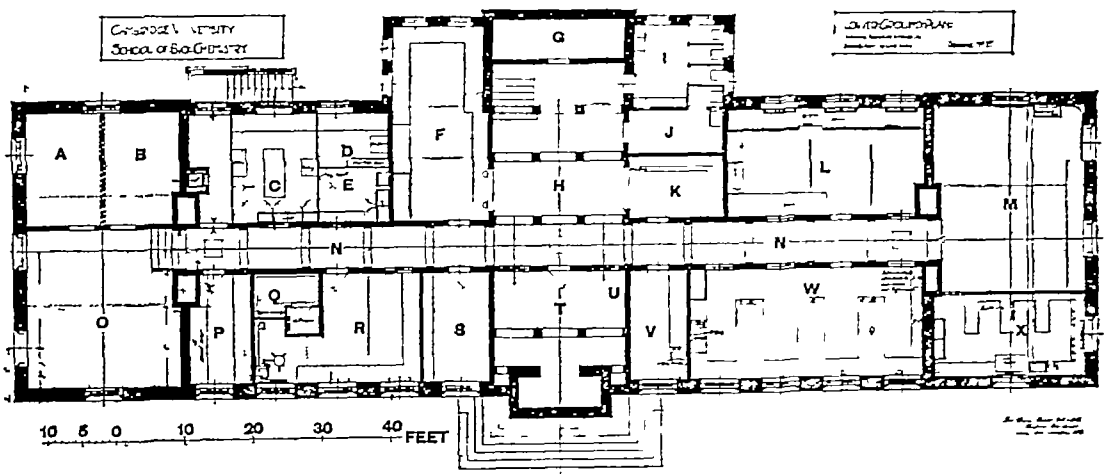
Next year it is proposed to start an examination in Part II of the Natural Sciences Tripos devoted entirely to biochemistry. The course will include a more thorough study of mammalian chemical physiology than is now possible, and much time will also be devoted to the study of bacteria, yeasts and fungi, higher plants, and invertebrates. It remains to be seen how many students this will attract, and how far it will compete with the physiology course. It is however, hoped that a number of students whose previous work has largely been chemical, will take part in it.

The move into the new laboratory involved the evacuation of the old physiological laboratory off Corn Exchange Street and the Balfour laboratory off Downing Place. The former has been divided between the departments of anatomy and zoology. The anatomists have taken over the large classroom, which is well lighted and should be of considerable value, besides a few smaller rooms. The portion taken over by zoologists will largely be devoted to an extension of the museum, many of whose contents cannot at present be exhibited owing to lack of space.

At present the nearest buildings to the biochemical laboratory are the departments of agriculture and parasitology, though the physiological laboratory and the low temperature research station are sufficiently close to render co-operative work possible, and such work is at the moment being carried on. It appears probable, however, that the new pathological laboratory to be erected under the recent Rockefeller benefaction will be built on the adjacent site. If this facilitates the biochemical investigation of immunity in the future, the proximity should be a fortunate one for the future development of both sciences in Cambridge.



A Bacteriological Laboratory. B, Preparation Room. C, Dark Room. D Operating Room. E, Research Room. F Landing. G Professor's Private Room. H Professor's Laboratories. J Stores. J Classroom. K Corridor. L, Hot Room. M, Research Room. N Physical Room. O Balance Room. P Research Room. Q Botanical Room. R Junior Research Room. S Dr Hele's Room.



A Coals. B, Pumps, etc. C, Workshop. D Glass-blowing Room. E, Office. F Preparation Room. G Electric Intake. H Hall. I Lavatory. J Cleaners' Room. K, Store Room. L, Aquarium. M, Animal Room. N Corridor. O Heating Chamber. P Combustion Room. Q Hot Room. R, Evaporating Room. S Spare Room. T Provision for Shelves. U Gas Meter. V Ether Room. W Junior Research Laboratory. X Room for Small Animals.

France.

[FROM OUR OWN CORRESPONDENT]

THE ROAD TO THE PROFESSORIAL CHAIR

IT may perhaps be remembered that not very long ago I gave an account of a proposal to make a drastic change in our method of appointing professors Matters have moved very quickly The thing is done The professors in the medical faculty used to be recruited solely from among the body of "agréges", this title was won at a competitive examination for which the candidate as a rule entered during the years immediately following qualification The obvious result was that a number of men who gained high reputations by their researches, and through their success as hospital teachers, nevertheless remained for ever ineligible for appointments to an official chair Babinski was the most striking example Recently I was able to announce that an exception had been made in the case of Dr Sergent, for whom, though not an agrege, a special chair was created In future the basis on which the competitive examination is to be conducted will be very much broadened it will be held every year and the syllabus will be very wide, the number of candidates will not be limited, and they will come from all the medical faculties in France The new feature is that the staffs of the hospitals appointed as the result of the examination in cities which possess a medical faculty will be dispensed from submitting to this test From this stage onwards the candidates will be required only to show their practical knowledge, and will not be required to submit to a test of mere memory Every three years there will be a second test, which will include a piece of original work and a short lecture upon some subject within the candidate's specialty The results of the two tests of which the competition thus consists will provide a list from which the council of the faculty will choose the future agregés For nine years they will discharge the duties of examiners and lecturers, and it will be from among them that the professors will be chosen This is, indeed, the case now, but nevertheless the change will inaugurate a new era, for, briefly stated, it comes to this, that every doctor who shows that he possesses a knowledge of fundamentals, and in particular all those who are on hospital staffs, will in future be on the high road which leads to a professorial chair It will be seen, therefore, that the old system of aggregation has come to an end, and that the red robe will no longer be beyond the reach of men whose eminence as teachers is recognized both at home and abroad

THE MEDICAL CURRICULUM

The hand of Napoleon is still heavy upon us France was transformed by him into a vast spider's web, of which Paris and "the administration" are the centre But though the spider has disappeared for more than a century, M Weiss at a recent meeting of the Academie de Medecine, gave a striking illustration of how the web yet remains He pointed out that the organization of the faculty of medicine and the system on which the teaching therein is planned are still exactly comparable to those in the faculty of law, the system was established to afford theoretical *ex cathedra* teaching, and has ceased to meet the needs of to-day Students desert the professors' courses and spend their time in the hospitals and the laboratories As a remedy Professor Weiss proposes to entrust the regulation of medical studies to a council containing a majority of doctors This reconstituted council would make the faculty into a technical school giving practical, clinical, and scientific instruction The Academie has appointed a commission to study the question and to make a report Between the diffusion of effort which has been characteristic of our system of training and the insularity of the British school it ought to be possible to find a middle term However this may be, medicine is feeling the effect of the great changes the war has worked in our ways of looking at things, and we begin to see a new world opening before us

EDINBURGH STUDENTS IN PARIS

It is with great pleasure that this year again we have welcomed fifty medical students from the University of Edinburgh to pass a certain stage of their training in the obstetrical services of Paris They were welcomed on the evening of their arrival, and were the objects of many manifestations of sympathy and enthusiasm, but by the next morning they were planted out in the different services, working quietly and working hard This visit has already become a tradition It is a response to an urgent international necessity Such events recall the customs of past centuries, and we feel that upon them looks down the great shade of William Osler

"REVERSED DICHOTOMY"

Distasteful as the practice—and even the very name—of dichotomy is, a very charming illustration of such a deed has been recalled at a meeting of the Societe Medicale des Hôpitaux, in connexion with the memory of the late Dr Triboulet, a leader in the profession and one of whom it may be said that he will never be either forgotten or replaced Shall we call it "reversed dichotomy"? He had been asked by a general practitioner, Dr Z, to see a child The home surroundings told a story of poverty When the consultation ended the father took Triboulet aside and produced an envelope Triboulet pressed it back into the father's hand and made it silently understood that he would not accept a fee The father insisted, but Triboulet again refused Then the poor man whispered in distress, "But I cannot keep it—Dr Z gave it to me for you" The dichotomy of charity! May it cover many sins! The point of the story is that Dr Z, knowing that his patient could not meet a consultant's fee, and not daring to call Dr Triboulet *pro Dei gratias*, had taken the money from his own pocket and handed it over to his patient's father with instructions What I think rather pretty is that both the consultant and the general practitioner wanted their deed of charity to be unknown to the other The fee was certainly split, but it moved from the doctors' pockets towards the patient's—and that is why I call it reversed

G MONOD

England and Wales.

BRITISH EMPIRE CANCER CAMPAIGN IN LONDON

A MEETING in aid of the British Empire Cancer Campaign was held at the Mansion House, London, at the invitation of the Lord Mayor of London, on May 6th H R H the Duke of York, who has consented to become President of the Campaign, was present at the meeting and made a short speech, in the course of which he said that there was no scientific labour more promising of good results than cancer research Although wonderful progress had been made by medical science, we were probably only at the beginning of a great era of preventive medicine The President of the Royal College of Surgeons of England (Sir John Bland-Sutton), who followed, remarked upon the extraordinary change which had come over the attitude of medical men to disease during the last forty years In the past they had been content merely to be agents in the recognition and treatment of disease, to-day they were working to find its cause Therefore anything which could be done to enable experts and investigators to work at the subject of cancer free from the cares of practice would prove of great ultimate benefit The quest was most fascinating, and its success would reduce enormously the sum of human suffering But discoveries could not be made to order, and the cause of cancer was not going to be revealed in a dream

Professor W S Lazarus-Barlow then briefly outlined the history of cancer research Some of those interested in the subject had come to the conclusion that all that had so far been done required co-ordination as the first step to further progress Therefore the various scientific bodies interested in this problem had been linked up, the Ministry of Health had given its aid, and through the Ministry's representatives on the Health Section of the League of Nations the

co-operation of other nations would in course of time be secured, the campaign in this country, therefore, would have its international bearings He could only suppose that, inasmuch as it had already been shown that radium and x rays were potent agents in the treatment of the disease, the work on that side would be energetically prosecuted The question of immunity also awaited further investigation In one form of cancer it was usual for the disease to last about two years In another form a woman had been in hospital with the disease for fourteen years, and had had the disease for four years prior to her admission During all that time she appeared to be holding the disease in something approaching a state of equilibrium, but eventually she died from it He had also found in the records of the Middlesex Hospital the case of a woman suffering from the same type of disease, who was under observation for two years with undoubted cancer, and left the hospital at the end of three years without any trace of cancer whatever These curious variations required further investigation with the object of throwing light, not only upon the cure, but upon the prevention of the disease

The Minister of Health (Mr John Wheatley, M P) testified to the great work done by surgeons and by pioneers in x ray and radium therapy, but hitherto they had had to deal necessarily rather with individuals already afflicted than to tackle the preventive side of the problem In comparison with the work done on infectious diseases, for example, cancer had not called forth the activities of the public health authorities as it should Those authorities could play a great part in educational and investigation work and in discovering the social and personal factors which contributed to the incidence of the disease Further, the public had not yet realized how hopeful was the position of cases submitted to early operation From inquiries which the Ministry had made in urban districts it had been found that not more than 50 per cent of the people afflicted with cancer applied for treatment at a stage when treatment could be of any value The experience of surgeons in this and other countries was that when operations were performed at a very early stage in the history of the disease, from 60 to 75 per cent of the patients could be restored to health The new campaign would co-ordinate existing research work and thereby encourage such work on a larger scale He associated himself with those who said that it was difficult to imagine any purpose more humanitarian or pregnant with more possibilities for the good of mankind

Other speakers were Mr W C Noxon (Agent-General for Ontario) and the Hon E E Farrar (Minister of Labour, New South Wales), both of whom gave assurances of colonial co-operation The vote of thanks to the Lord Mayor was proposed by Lord Cave and seconded by Mr J P Lockhart-Mummery, the chairmen respectively of the Grand Council and of the Executive Committee of the Campaign Among others present were the Archbishop of Wales, Sir James Crichton-Browne, Sir Charles Gordon-Watson, Sir Thomas Horder, Dr Robert Knox, Mr W E Miles, Mr Sampson Handley, Sir Bernard Spilsbury, and the Hon Sir Arthur Stanley

GRADUATES OF THE UNIVERSITY OF LONDON

Two efforts to infuse a sense of corporate life into the mixed body of graduates of the University of London deserve notice The University of London Union Society, which was founded three years ago, is making good progress Its objects are to establish a centre for student activities, including debates, a library and a reading room, to link up the members of the University of London into a single unit, and to represent the students of the University of London in their relation with those of other universities in the dominions and abroad It is established in the Pickwick Huts situated in Malet Street, Gower Street, close to the Institute of Historical Research Two years ago it made an appeal for £3,000 to furnish the premises The appeal yielded £1,800, and a further appeal for the remaining £1,200 is now being made It has already been found possible to provide a debating hall seating 500 persons, and lounges for men and women respectively, as well as certain offices Altogether during last session no fewer than 140 meetings of student bodies were held in the Union premises Funds are now required for the furnishing of the women's common room and the reconstruction of the remainder of the building The Union is open to internal and external students, men and women Donations may be sent to Sir Sydney Russell-Wells, M P, M D, at the Union The other movement was mentioned briefly in our last issue At a meeting on May 1st, under the presidency of Professor Dame Helen Gwynne-Vaughan, D B E the programme of the XXth Century Society of London Graduates was enthusiastically accepted It desires to encourage graduates, especially those of the younger generation, to take, through convocation, an active interest in the government of the University Many graduates are probably unaware that they have the right of electing sixteen representatives on the Senate, or more than 25 per cent of the entire body The promoters of the society consider that the Faculty of Medicine is the most important of all the faculties in London, and that it holds, if not the first, at any rate a leading place amongst similar faculties throughout the Empire A Provisional Council, of which Professor R T Leiper, F R S, of the London School of Tropical Medicine, is a member, was appointed at the meeting to prepare a constitution and draft rules and regulations Further particulars will be furnished by the honorary general secretary, Mr G F Troup Horne, on application to him at the University of London Union, Malet Street, W C 1

MENTAL DEFICIENCY

A conference on mental deficiency will be held in the Central Hall, Westminster, on Wednesday and Thursday May 28th and 29th On the first day, when Sir Leslie Scott, K C, M P, will preside, the Minister of Health will give an opening address at 10 30 a m, and this will be followed by a discussion on the best methods of dealing administratively and educationally with the mentally defective (feeble-minded) child, to be opened by Dr H B Brackenbury, chairman of the Education Committee of the Central Association for Mental Welfare and Mr E Salter Davies, Director of Education, Kent The discussion will be continued at the afternoon session (2 30 to 5), when Dr H Herd, assistant school medical officer Manchester, will read a paper, and short addresses will be given by Mrs Fern of the Renfrewshire Education Authority, and Mr A W Hill, inspector of special schools London On May 29th at the morning session under the chairmanship of Dr W A Potts, there will be a discussion on the influence of heredity and environment in causing mental deficiencies It will be opened by Dr A F Tredgold chairman of the Medical Committee of the Central Association for Mental Welfare The Rev Principal Thomas will preside at the afternoon session, when the value of mental tests to the medical officer the educationist, and the social worker will be discussed The subject will be introduced by Dr Cyril Burt, psychologist to the London County Council, and Dr Robert Hughes, school medical officer, Stoke-on-Trent Advance copies of some of the papers will be available for delegates on application to the office of the Central Association for Mental Welfare 24, Buckingham Palace Road S W 1 Papers will be taken as read but the authors will be invited to speak on the subjects of their papers

CENTRAL MIDWIVES BOARD

The Central Midwives Board for England and Wales held a special meeting, followed by the ordinary monthly meeting, on April 24th, Sir Francis Champney Bt (who had been unanimously re-elected chairman) presiding The Ministry of Health sent a letter informing the Board that its representatives for the year ending March 31st, 1925 were Dr Marguerite A C Douglas-Drummond, Lady Mabelle Egerton, Miss Marion Olive Haydon and Miss Gladys Ivy Le Geyt The Society of Medical Officers of Health informed the Board of the re-election as their representative of Dr R A Lyster

In consequence of the non re-election of Professor Briggs, the Chairman, after expressing in warm terms the great appreciation felt by all of Dr Briggs's long and

uninterrupted service, moved the following resolution, which was unanimously carried

That the best thanks of the Board be given to Dr Briggs for his long and invaluable services to the Central Midwives Board. His tenure of office has been distinguished by unselfish public spirit, by great help from his extensive experience, and by unfailing courtesy which will not be forgotten.

Ireland.

AMALGAMATION OF THE COUNTY GALWAY DISPENSARY DISTRICTS

A WELL attended and representative meeting of the County Galway medical practitioners was held recently in Galway to consider proposals which had been made for the amalgamation of dispensary districts in the county Dr T B Costello, Tuam, was in the chair Dr T Hennessy, Irish Medical Secretary, said that the proposal was one of the most impracticable he had ever heard of, and was evidently drawn up by people ignorant of the conditions under which dispensary doctors work It was, he said, always considered that any district in the provinces of Ulster, Munster, and Leinster, with an area of more than 25,000 statute acres and a scattered population of between 2,000 and 3,000, could not be efficiently worked In all the schemes that were ever considered in Dublin the one thing that everybody agreed upon was that in Connaught most of the districts were vastly too big, most of them had areas of between 40,000 and 60,000 statute acres with populations running up to 6,000 No one doctor, even in an urban area, could work efficiently a practice with a population exceeding 3,000 When a doctor had a bigger population, scattered over 60,000 acres, as in the Connaught districts, he did it on the lines of a bush practice, and when sickness was prevalent he could not see his patients a second or third time

It was proposed by Dr Kennedy O'Brien and seconded by Dr Ryan and carried unanimously

(1) That the dispensary areas in the County Galway are at present too large, and as compared with other districts in Ireland they are almost double the rural population
(2) That the amalgamation will increase the number of red ticket cases lessen the attention that people in rural districts can get increase the necessity for hospital accommodation, and place the people in grave danger in times of epidemics

Proposed by Dr C H Foley, seconded by Dr O'Regan, and passed

That an economical provision of seven cottage hospitals or clearing stations is necessary in certain areas to deal with emergency work

Proposed by Dr Greene and seconded by Dr O'Regan and agreed to

That we protest against further schemes of amalgamation for any county until the question is dealt with on a national basis by well considered legislation

The *Irish Independent*, in the course of an editorial referring to the amalgamation of dispensary districts in the County Galway, said

'On the face of it the new scheme is unjust Already the areas for which dispensary medical officers are responsible in the west are too extensive Dr Kennedy O Brien mentioned at the meeting of protest that even now he has about 5 000 persons in his district, some of whom were living eighteen miles from his residence The proposed extension of his area will add nearly 2 500 to the total number of persons already depending upon him for medical attention Surely it cannot be contended that an Irish dispensary doctor should in a district of scattered hamlets, be responsible for the health of 7 000 persons If any change is contemplated it should be in the direction of reducing the dispensary areas. For many years the dispensary doctors have complained of being overworked and underpaid It seems strange that those whose grievances were most glaring should be selected for the first experiment in making bad conditions worse

LETHARGIC ENCEPHALITIS IN BELFAST

During the past few years sporadic cases of lethargic encephalitis have cropped up, but the disease was thought to have become less prevalent The medical officer of health for Belfast now reports that thirty-nine cases of the affection occurred during April, with four deaths No particular area of the city and no particular class of people seem to be specially affected, and the cases do not appear to be related to overcrowding or insanitary conditions The Parkinsonian and choreic sequelae have been fairly common. A large number of cases have been thoroughly investigated in the pathological laboratory of the Royal Victoria Hospital, but no new facts have been elicited

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

National Health Insurance.

SIR KINGSLEY WOOD asked, on May 1st, whether the Prime Minister could now state the terms of reference of the Royal Commission to inquire into national insurance and the names of the members of the Commission

The Minister of Health replied that the following terms of reference had been agreed with representatives of the medical profession and the Committee appointed by the Approved Societies' Consultative Council:

"To inquire into the scheme of national health insurance established by the National Health Insurance Acts, 1911 1922, and to report what, if any, alterations, extensions, or developments should be made in regard to the scope of that scheme and the administrative, financial, and medical arrangements set up under it"

The Minister added that he was not in a position to announce the names of the members of the Commission and that the form of the Commission had not yet been decided

Medical Referees for Workmen's Compensation—Mr T Williams asked, on May 1st, if the Home Secretary was aware that the registrar of a county court in Yorkshire was appointing as medical referees under the Workmen's Compensation Act, 1923, doctors who were permanently employed as compensation doctors for certain coal-owners, and for the Yorkshire Coal-owners' Mutual Indemnity Company, Ltd He inquired whether the Minister would give instructions that medical referees appointed under Section 11 of the Act should in no case be doctors who were employed permanently either by coal-owners, coal-owners' mutual indemnity companies, or trade unions affected Mr Henderson said that he was unaware of any such case In the only instance brought to his notice it appeared on inquiry that the allegation was not borne out It was a condition of the appointment of a medical referee that he should hold no permanent employment of the kind indicated

The Spahlinger Treatment—Mr Charles Edwards inquired, on May 6th, whether the Minister of Health had received a large number of letters from all parts of the country asking that the Spahlinger treatment should be made available for those suspected of, or suffering from, tuberculosis, and whether the Annual Conference of Approved Societies had passed a resolution requesting its executive to continue their efforts until this remedy was available for those who desired to give it a trial Mr Greenwood replied that not many letters had been received from individuals containing requests of the kind mentioned The answer to the second part of the question was "Yes"

Prison Service—In answer to Dr Fremantle, on May 1st, Mr Henderson said that the number of part-time officers now in the prison service, with allowance for vacancies, were chaplains, 20, medical officers, 27, and Roman Catholic priests, 30 Before the closing of eight prisons (March 31st, 1922) there were chaplains, 23, medical officers, 32, and Roman Catholic priests 37 The salaries of part-time medical officers were as follows Manchester, £300, Hull, £250, Winchester, Newcastle, Bristol, Cardiff, Lincoln, Preston, Durham, Borstal, Aylesbury, Swansea, Shrewsbury, Portsmouth, Gloucester, Nottingham, Norwich, Exeter, Bedford, Wakefield, Oxford, and Dorchester, £150 each, Ipswich Shepton Mallet, and Plymouth, £100 each The population of the prison was the basis for fixing the salary unless there were some special features justifying special consideration The closing of eight prisons had caused some increase in the population of some of the remaining prisons, and in one instance the salary of the part time medical officer had been increased In the remainder the additional population had not so far been sufficient to justify an increase, but a temporary bonus was drawn.

Answers in Brief

The Ministry of Agriculture has received information as to the alleged discovery by two German investigators, Dr Dahmer and Professor Frosch, of the germ of foot-and-mouth disease, and understands that full details as to these investigations will be published shortly

The Ministry of Pensions has issued instructions that when a final award of a pension is set aside on appeal the case should be referred to a medical board as soon as possible, with a view to the award of any further compensation the conditions might justify

The report of the departmental committee on the nursing service in county and borough mental hospitals is to be published very shortly The Joint Conciliation Board had decided that the hours of asylum workers should be sixty six hours, inclusive of meal times but the recommendations of that body were not necessarily adopted by all the hospitals represented

Correspondence.

MILLSTONE FLOUR AND NATIONAL NUTRITION

SIR,—Dr Shelly's letter calls for the support of all doctors There is, however, a "but" I was told that in 1816 a loaf after baking would stick to a wall against which it was flung! In those days the nation had only English grown wheat, and 1816 was a very wet season And before the introduction of American flour the poorer classes learnt to their cost that bread baked from English flour became musty after a time, as did the flour itself Hence, when white bread free from mustiness, was introduced it was hailed with joy by the working classes And now they will not eat stone-milled flour because the bread is not white They have learnt to regard whiteness as the sign of excellence

I have recently induced a local baker at Addlestone to procure from a Horsham miller the same pure whole ground flour as is supplied to the Bluecoat School It makes delicious bread, though less suitable for pastry I am told It has been adopted by a number of local families, but so far as I can learn not one of the working class will touch it Personally, I could make a meal of it alone

This baker tells me that the mustiness which comes in stone-milled flour is due to the retention of what he calls the "oil" of the grain, which is present in the germ and the inner coat If he is correct it is just in those parts of the grain where the nourishment resides He also tells me that stone-milled flour will only keep sweet for a period of weeks whereas American flour will keep for months, because all these highly nutritious parts have been carefully removed from the flour exported, and only the starchy elements sent to us

So there is an underlying justification for the objection to stone-milled flour How can it be overcome? I suggest that the importation of foreign flour be absolutely interdicted and only the importation of grain be permitted This would give an immense stimulus to all our mills especially the small mills scattered *along our streams* But we must either fight or enlist on our side the mighty millers, who look for profit to the immense output from their mills of a poor, innutritious white flour which has only one merit—that is, that it will keep indefinitely

The admixture of American and Indian grain with our own less sun-dried corn should give a flour which will keep for a reasonable time either as flour or as bread But it is no good to conceal the fact that it will not keep as long as the steel-milled white flour —I am, etc,

London E.C. May 5th A OGIER WARD

SIR,—Dr Shelly has done good service in again bringing this important matter to the attention of the profession

Not long ago I discussed this question with a director of probably the largest milling business in this country I urged the same plea for whole-wheat flour as Dr Shelly has put forward, and was met by the following objections

1 The public in this and most European countries demand white bread and the whiter it is the better they like it Every attempt such as that made some years ago by the *Daily Mail* to popularize whole-wheat bread has hitherto failed

2 Unless the medical profession is in a position to tell them with absolute confidence and unanimity that they cannot be healthy if they do not eat whole-wheat bread the people will not set aside their prejudice against it

3 That the loss of vitamins which takes place in the present system of milling can be met by eating other foods which contain them

4 That whole-wheat flour is difficult to keep sweet for any length of time

I pointed out to him that the miller is probably prejudiced in that he gets back as much from the farmer for the 'offal" (which contains the vitamins) as he pays him for the wheat He agreed, but said that it would be more profitable for the miller to use simpler machinery, since less thorough milling would be necessary At present the highest grades of flour are those which have been most thoroughly freed from "offal," and this demands elaborate machinery and more labour

The fact remains that many gross defects in health are now being traced to vitamin starvation, and this in all classes of the community The well to-do are deprived of vitamins by cooking their food to excess, and the eating of foods which are grown and treated artificially in order to get them out of season, the poorer classes often cannot afford to buy sufficient fresh fruit and vegetables, meat and eggs Therefore, it seems all important that the bread which enters so largely into the diet of rich and poor alike should not be deprived of its vitamins

Probably the best way to arrive at a conclusion in this matter is that the whole question should be considered by a special committee, set up by Government, and formed by one or two recognized food experts, representatives of the milling industry, and one or two practical and well known physicians A pronouncement by such a body, issued by the press, would influence public opinion, and if in favour of whole-wheat bread would create the demand. I offer the suggestion to the present Government, who profess to have the well being of the greatest number so much at heart — I am, etc,

London W May 5th. S HENNING BELFRAGE.

LUNACY CERTIFICATION

SIR,—While I quite agree with Dr H Rayner in his general idea, that already we have ample protection in the present Lunacy Act—for the person presumed to be of unsound mind—if all parties act with reasonable care and in good faith, I fear he is wrong in his contention that the whole responsibility rests on the judicial authority

As I read it—from the case of Everett *v* Griffiths and Another, which was carried up to the House of Lords—no action can lie against the certifying medical men, if they were called in under Section 13 by a magistrate, as this at once became a judicial act, not an administrative one, as in the case of an ordinary petition and certificates In the latter proceedings may be started against the certifying medical men, but may be stopped by a judge, if the medical men prove to his satisfaction that they have acted with reasonable care and good faith

At present it is not quite clear whether the onus of proving this falls on the defendants or whether the plaintiff has to prove the want of this care and good faith There is far too much ambiguity in many of the sections of this Act, and I fear the tendency lately has been to strain this ambiguity too much against the plaintiff on the part of our State officials

During my fifty years' experience in mental diseases I have only met with two cases in which a magistrate refused to make an order on the petition and certificates

One was the case of a desperately suicidal patient The magistrate to whom the petition was presented seeing nothing insane in a desire for anyone to take his or her life refused to sign the order Having obtained from him his reasons for refusal I at once had the petition presented to another magistrate specially appointed and the order was made

In the other case a lady of means living in her own house was evidently insane and under no proper care Her house was in a most dilapidated and filthy condition the rain pouring into all the rooms The furniture was falling to pieces and she had evidently eaten off the same unwashed plate for months and used the same unwashed cup for her coffee while her dining room was covered with decaying pieces of food. It was evident she herself had not washed or changed her clothes for months She was very weak minded and deluded and her neighbours had made great complaints to her relatives who at last determined to act. I was called in by a relative and her medical attendant and had no hesitation in signing my certificate. All arrangements were made for her to be sent to a registered hospital but a solicitor into whose hands she had put all her financial affairs on hearing that a petition was about to be presented made a request under Section 6 for a special inquiry To the astonishment of the petitioner myself and her medical attendant on presenting ourselves to give evidence before the magistrate we found the insane lady very clean and very nicely dressed seated by the side of her solicitor who was a *persona grata* in the police court She had evidently been primed to only answer "Yes" or "No" All our statements were disputed and the magistrate decided that he would make no order on the solicitor undertaking that she should be properly cared for! What he did with her not even her relatives could find out

I am a firm believer in the present legal protection of any person presumed to be insane *if all the sections of the Lunacy Act are strictly carried out*, and it is really only an

ignorant public who believe that numbers of perfectly sane people are illegally and improperly placed under care and treatment That there are numbers of patients in mental hospitals that might be happier and have greater freedom in private care I do not doubt, but in a large number of these cases finances prohibit anything but institutional treatment

I welcome a Royal Commission into the whole lunacy system, as my experience proves to me that, however improved that system may be, there is yet much that needs very careful inquiry, and nothing of late years has proved this fact more than the report of that excellent round-table conference of medical superintendents and chairmen of committees of public mental hospitals called together by Sir Frederick Willis, Chairman of the Board of Control, on January 19th and 20th, 1922 —I am, etc ,

Bournemouth, May 3rd LIONEL A WEATHERLY, M D

THE EARLY TREATMENT OF FRACTURES

SIR,—I was much interested to read Dr Heald's paper on the early treatment of fractures in the BRITISH MEDICAL JOURNAL of April 26th (p 743) I had the pleasure of hearing it at Guildford, and chance threw in my way an immediate opportunity of testing its efficiency

Four days previously I sent into the Walton Cottage Hospital a man, aged 50, who had sustained a severe injury to the arm, through having been thrown under a cart, containing a ton of coal he had just loaded up at the railway station The wheel passed over the upper part of his left arm, causing much swelling and bruising of the tissues, the radial pulse was obliterated for the first twenty-four hours after the accident, an *x*-ray examination showed a longitudinal fissure in the humerus The arm was put in a sling and treated with lead lotion, but the swelling slowly increased until the entire limb to the tips of the fingers became oedematous, and the man's general condition one of much pain and discomfort

Treatment by weak anodal current (1 5 ma) was instituted for half an hour every day, and the result was really dramatic The first application practically abolished the pain and the three succeeding ones the swelling, the subsequent recovery was complete and uneventful —I am, etc ,

Walton on Thames April 29th. ARTHUR H MASON

THE "INJECTION METHOD" OF TREATING HAEMORRHOIDS

SIR,—In his reply to the complaints I made against him in my letter to the JOURNAL of May 3rd, Dr Murphy tries to run away from the real nature of the charge which I made—namely, that he had appropriated whole paragraphs and sentences from my book without any acknowledgement—by the suggestion that I did not originate this method of treatment I have never claimed that I did so, and in every article I have written on the subject have invariably disclaimed any originality, excepting for details of technique In my book I devote a whole chapter to the history of the method and mention all those workers in it—Mr Dudley Wrigat Mr Swinford Edwards, and others—to whom Dr Murphy refers in his letter

He accuses me of taking part of my book from Sir Charles Ball's book on the rectum The part to which he refers deals with anatomical matters, and no doubt words like anatomical terms are similar in both books—they must be from the nature of things—but no sentence or paragraph is similar in any other respect It is true, also, that four of the illustrations in my book were taken from Sir Charles Ball's book *But* there is a prominent acknowledgement of the fact below each I could not obtain Sir Charles Ball's permission to use his blocks, because he is dead, but I did obtain his publishers' permission It is in that point of etiquette that the difference between Dr Murphy and myself lies

I will not deal with Dr Murphy's somewhat ill-tempered criticism of my book because I am content to accept the more considered opinions expressed in the numerous reviews in medical and other journals, and in the hundreds of appreciative letters I have received from medical readers

The crux of my complaint is that Dr Murphy appropriated paragraphs from my book without any acknowledgement of their source In my previous letter I chose a short paragraph to quote, out of consideration for your space There are much longer and more striking paragraphs which I might quote I ask your readers to glance at these, and leave them to form their own conclusion as to whether the close similarity is a mere accident or not There are some eleven or twelve paragraphs taken bodily from my book, with the alteration of a word here and there I think, therefore, that my charge against Dr Murphy that he has appropriated paragraphs from my book without any acknowledgement is amply justified, and that he cannot ride off happily with the suggestion that it was not I who was the originator of the treatment—a claim which I have always been careful to avoid

It may be true that Dr Murphy "knew of" the injection treatment before I demonstrated it to him at St Mark's But he had not seen it carried out previously, and it was I who taught him the details of the method and my own technique—to which he still adheres in the main, although with a few modifications

I do not wish to prolong this controversy, which is largely a personal one, but I feel that the above justification of the charges which I made in my previous letter is called for by Dr Murphy's reply I hope he will continue to employ this method of treatment with as much satisfaction to himself and to his patients as both of us have done hitherto, but that if he writes further articles upon it he will be more careful not to appropriate the phraseology of others without using inverted commas or other forms of acknowledgement —I am, etc ,

London, W C 1, May 3rd. ARTHUR S MORLEY

DICHOTOMY

SIR,—With your permission I would like to make a few remarks on your article on dichotomy (April 26th, p 758)

In common with yourself I strongly deprecate any general fee-sharing as between general practitioner and consultant, but under certain circumstances a modification of this practice is, I hold, permissible To begin with, I noticed the letter in the BRITISH MEDICAL JOURNAL of March 8th from certain Birmingham gentlemen anxious to voice their detestation of this pernicious form of professional backsliding, which appears to be peculiarly rife in the Birmingham area, inasmuch as it was deemed necessary to hold a special meeting to deal with the matter

As every effect has its cause, it behoves us to seek for a cause in this matter of dichotomy Why does this practice exist? I humbly suggest that the cause of it all lies at the door of the consultant or so-called specialist It is he who calls the tune—the fee—although he does not pay the piper—the general practitioner It is the consultant who "scoops the pool" and very often leaves the general practitioner to get what he can from the patient, which generally is abuse—a powerful corrective I admit, but still a form of currency one cannot, unfortunately, pass on to the tax-gatherer! So that it comes about that the general practitioner suggests to the rising young specialist that if he wants his (the general practitioner's) work he must be prepared to offer a *quid pro quo*

Referring again to your article, Sir, you say, *inter alia*, "We believe that it is the custom for a general practitioner to charge the patient a fee in such circumstances" (that is, where a consultant has been called in), "and that the patient has no hesitation in paying it" Hasn't he? In fact his hesitation is so remarkably long and sustained in action as to become a permanency It is this hesitancy on the part of the patient to pay the general practitioner a legitimate fee that induces many general practitioners to ask the consultant to include their fee along with his charges Personally I see no great objection to this procedure—it certainly does no harm to the patient, and again, in cases where an "inclusive" fee is mentioned to the patient, I think it is all to the latter's advantage that he

should know just how much it is all going to cost him Particularly is it to the advantage of a working man to know exactly what it is going to cost him to have say, his wife operated on in a nursing home —I am, etc ,

Bradford April 25th. VINCENT P NORMAN, F R C S E

MALCOLM MORRIS MEMORIAL FUND

SIR —The death of Sir Malcolm Morris, K C V O , F R C S Ed , on February 19th last, marks the passing of one who was widely known and greatly respected, both by his professional colleagues and the public generally, for his work in connexion with dermatology, tuberculosis, public health, and medical literature

To perpetuate his memory it was resolved at a recent meeting of representatives of the various hospitals and organizations with which he was particularly associated, to endeavour to raise a sum of money sufficient to provide for an annual lecture on the preventive aspects of public health and dermatology It funds permit it is hoped also to endow a bed for cases of skin disease at St Mary's Hospital, London These objects are known to accord with Sir Malcolm Morris s expressed view that the only fitting memorial to a life of successful endeavour is one that carries on the causes to which that life was devoted

A representative committee has been formed and we invite contributions, in any amounts, which will be gratefully acknowledged if forwarded to the Honorary Treasurers, Malcolm Morris Memorial Fund," at 12, Stratford Place, London, W 1 —We are, etc ,

THOMAS HORDER, Federation of Medical and Allied Services.
C NEVILLE ROLFE, National Council for Combating Venereal Diseases.
E B TURNER, British Medical Association.
A E HAYWARD PINCH, Radium Institute.
E GRAHAM LITTLE, St. Mary s Hospital.
H T HERRING, Cremation Society of England.
W GRIFFITH, St John s Hospital.
N HOWARD MUMMERY, Honorary Secretary

London W.1 April 0th.

THE LATE DR H A BULL, GREAT HAYWOOD, STAFFORDSHIRE

SIR,—We desire to make an appeal on behalf of the widow and three children of the late Dr Bull who, by his untimely death, have been left extremely ill provided for For some three years Dr Bull had suffered from abdominal disease requiring several operations and long absences from duty His expenses for locumtenents, nursing home fees, etc , were very heavy, necessitating a large overdraft at his bank It is estimated that the capitalization of all his resources, with the sale of his practice, will, when suitably invested, realize considerably less than £200 per annum, and there is the overdraft, which will increase until the estate is realized

Dr Bull was a member and honorary treasurer for many years of the Staffordshire Panel Committee, and at a meeting on May 1st it was unanimously decided to issue an appeal, particularly to the practitioners—panel and non panel—in Staffordshire, where he was also well known as a member of the county council and many of its committees, a member of the Conjoint Tuberculosis Board and of the County Insurance Committee, on all of which he worked in the interests of the profession

The county medical officer of health (Dr W D Carruthers) as a representative of practitioners not in panel practice, has agreed to act as honorary treasurer to the fund, and subscriptions should be sent to him at Martin Street, Stafford Several subscriptions, from five to three guineas, have already been promised —We are, etc ,

T RIDLEY BAILEY, Chairman.
GEO L LEFEVRE, Secretary

Stafford May 3rd.

Obituary

DAVID NEWMAN, M D F R F P S GLAS ,

Honorary Consulting Surgeon Glasgow Royal Infirmary

THE death of Dr David Newman creates another blank in the list of Glasgow's distinguished surgeons Though he had retired from active practice he had maintained close association with the medical life in Glasgow and the West of Scotland No detailed information as to the manner of his death has yet reached us Accompanied by Mrs Newman he had made a trip to Australia, where he had been received with acclamation by the surgical profession and it was on the return journey, while crossing the Indian Ocean, somewhere south west of Fremantle, that he died suddenly on April 22nd He was buried at sea

Dr Newman was born seventy years ago in Partick, at that time a suburb of Glasgow, though now incorporated within the city He was the son of Dr Edward Newman, a fleet surgeon in the Royal Navy His medical education was obtained in the University of Glasgow and in the University of Leipzig He graduated M.B , C M in the University of Glasgow in 1878, and M D in 1883 receiving high commendation with the latter degree He held many appointments, beginning as house-surgeon in the Western Infirmary, going on to the position of pathological chemist to the Infirmary and assistant to Dr Joseph Coats, then lecturer in pathology About this period also he was assistant to Professor McKendrick in the physiological department of the University, and Professor McKendrick entertained a very high opinion of his great ability and scientific originality, regarding him as one of the most able of his assistants In 1882 Newman was appointed pathologist and lecturer in pathology in the Royal Infirmary being the first to hold such an appointment A year later he joined the surgical staff of the Western Infirmary, becoming surgeon to out patients, and two years later again was appointed surgeon to the throat department In 1890 he transferred completely to the Royal Infirmary becoming surgeon to the throat department there, resigning at the same time his pathological appointment In 1893 he was appointed visiting surgeon to the Royal Infirmary, and from that time onwards concentrated his energies on the work of general surgery

Dr Newman was recognized in Glasgow as a man of great ability and of originality of mind. He broke new ground in several fields—in the recognition of the need for clinical laboratories for lectures to practitioners, for establishment of throat and nose work as a definite branch of surgery and, most of all, in his special work in renal surgery Very early in his career he published a volume on *Malignant Disease of the Throat and Nose*, which was the fruit of his work as surgeon to the throat department of the Western and Royal Infirmaries He was one of the earliest workers in the department of renal surgery In 1880, after he had been qualified for only two years, he contributed a paper on the " Functions of the kidney " to the *Journal of Anatomy and Physiology* Seven years later his book on *Malpositions of the Kidneys* was published His enterprise in the surgery of the kidney was manifested almost at the outset of his career and it is said that he was one of the first surgeons if not actually the first, to open into the kidney His contributions to the surgery of the kidney were voluminous His works included volumes on *Surgical Diseases of the Kidney Diagnosis of Surgical Diseases of the Kidney, Renal Cases a Series of Lectures and Clinical Reports and Surgical Studies Movable Kidney and other Malformations and Malpositions of the Kidney Operations on Kidneys and Ureters*

Dr Newman's position as an authority on this subject was recognized when he was invited to open the discussion on the surgery of the kidney at the Annual Meeting of the British Medical Association at Sheffield in 1908 He was a very frequent contributor to the medical societies in Glasgow, and held office as president of the Medico-Chirurgical and of the Pathological and Clinical Societies Clinical pathology had always attracted him, and from the first he recognized the necessity for the establishment of

clinical laboratories in connexion with the ordinary surgical work of the wards He was a vice-president in the Urological Section of the International Medical Congress in London The writer remembers the most excellent impression made by Dr Newman at the International Medical Congress in 1913, when he addressed the Surgical Section on "Cystoscopic appearance in kidney disease" Many Continental surgeons were present at that meeting and united in praise of Newman's contribution He was a most accomplished cystoscopist, and spent an enormous amount of time, and money too, in producing accurate drawings and coloured pictures of the changes in the bladder and mouths of the ureters in diseases of the urinary tract

Dr Newman held office as visiting surgeon to the Royal Infirmary of Glasgow from 1893 to 1914, when his retiral took place under the age limit rule When the war came and most of the junior surgeons went abroad on service, he offered his services to the Infirmary and he returned to active duty, taking charge of wards for over a year and a half, doing most efficient and honourable work

Dr Newman was a lucid and informing lecturer to both students and practitioners He took a prominent part a good many years ago in a series of lectures to practitioners organized by Dr Joseph Coats, pathologist to the Western Infirmary These lectures were, so far as we know, the first attempt at post-graduate teaching in Glasgow, if not in Scotland The lectures were afterwards embodied in his published works

Newman's reputation extended far beyond his own hospital and medical school Thirty years ago his work on the kidney was well recognized in Germany, and his name was quoted and his classification of the disease of the kidney accepted in such standard works as Osler's *Medicine* His authoritative position in urological surgery brought him many such cases, both in his public and in his private work He discerned the cases which were suitable for active operative treatment, and at the same time distinguished those most amenable to conservatism He was early in the field in the employment of vaccines in kidney and bladder disease, and, in his later years at least, was a strong advocate of that method

Dr Newman was a man of geniality of disposition, possessed of the gift of friendship, anxious and willing to help his junior colleagues After retiring from the active position of surgeon to the Royal Infirmary he was appointed consulting surgeon, and at the end of his war services to the Infirmary he left Glasgow, living chiefly in London He was married to a daughter of the late William Polson, J P, of Paisley His daughter is in residence in London, and his son is Major E W P Newman, late of the Cameronians, at present occupying the position of secretary of the Anglican Bishopric of Jerusalem

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W. HADDIS, L.R.C.P. AND S.I.,

Medical Superintendent North Riding Mental Hospital York

THE medical profession in general, and those members of it associated with York and its vicinity in particular, has sustained a loss it can ill afford in the death of Dr A I Ludi

An Irishman by birth and training he took the diplomas of L R C P and S I in 1897, and after holding posts at various other asylums was appointed medical superintendent of the North Riding Mental Hospital about nineteen years ago

Of a reserved and retiring disposition he was not one who readily made friends, but those who became intimate with him conceived not only a real affection for him as an individual, but a sincere respect for his professional abilities as well as for his quite remarkable administrative powers Both his medical and lay staff were devoted to him

In some ways he may be regarded as a war victim as the stress and strain thrown upon him by the added difficulties war conditions brought to his work was probably a contributory cause of his untimely end He had to go away for a holiday on account of a breakdown a few weeks ago, and he took his own life on Easter Monday, no one will doubt the finding of the coroner's jury that the act occurred when he was of unsound mind"

The following tribute by the committee of the North Riding Mental Hospital is no mere formal thing, but a genuine expression of their recognition of his work

The Visiting Committee of the North Riding of Yorkshire Mental Hospital desire to express their profound grief and regret for the death of Dr Albert Irwin Eades, their medical superintendent, and to record their high appreciation of his work for nineteen years past during which, by his unrivalled medical skill conspicuous administrative ability and, above all, his unselfishly conscientious devotion to duty, he raised the hospital to the highest standard of efficiency both in the care and treatment of patients and in the administration of its finances They further wish to offer to his relatives their deepest sympathy in their loss and sorrow

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EDWIN BEATON, M.A., M.D. CANTAB.,

Egyptian Public Health Service

DR EDWIN BEATON, who has died in Cairo from pneumonia at the early age of 43, was the son of the late Mr Edwin Beaton, formerly chief constructor at the Admiralty In 1902, as a member of Caius College, Cambridge, he graduated B A with honours in the Natural Sciences Tripos From St Mary's Hospital he took the English Conjoint diplomas in 1906 and the M B and B Ch degrees at Cambridge in 1909 In 1923 he proceeded to the M A and M D degrees After filling one or two house appointments at St Mary's Hospital and acting as resident medical officer to the Royal United Hospital, Bath, he joined the staff of the Inoculation Department at St Mary's, where he worked until, a few months before the war, he was appointed to the laboratory staff of the Egyptian Public Health Service under Dr Charles Todd He continued in this service until his death

A colleague writes from the Inoculation Department, St Mary's Hospital We have heard with deep regret of Edwin Beaton's too early death, for he was held in affectionate regard by all those who worked with him here—and no less, as we well know, by his colleagues in Egypt He joined us in 1910, and set to work on problems connected with the antitryptic power of the blood, which was just then beginning to attract attention After much careful work on the elaboration of accurate micro-methods of measuring this function of the serum he applied these to the study of a great variety of pathological conditions Probably he was the first to recognize the important fact that an increased antitryptic power is associated with every infection In connexion with the study of one or two patients whose blood did not conform to this general rule he attempted to increase the antitryptic power by injections of trypsin Intravenous injection of the ferment failed to change the antitryptic power, while subcutaneous injection was followed by a small increase He was also able to demonstrate by a beautiful technique that the yield of proteolytic ferments from leucocytes was much greater if these cells had recently ingested microbes than it was apart from such ingestion Unhappily he was too little anxious to publish his work—an expression of his very reserved nature—and in consequence a great many valuable observations lie buried in his note-books Throughout the war Beaton was kept fully occupied with the routine public health work of his department, but with the return of peace conditions he again turned his attention to the work he had begun with us In a paper published in the *British Journal of Experimental Pathology*, 1922, 3, 224, he reported observations which deal with the nature of the antitryptic power, and in his thesis for the M D degree (not yet published) he made a further thoughtful and valuable contribution to this subject

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DR BERNARD RICE, O B E, died on April 23rd at his residence in Leamington Spa, after an illness of two years, from aortic regurgitation and general arterial sclerosis, much hastened by the death of his elder son, Captain Rice (who was wounded in the war and who had returned to duty twice when the wound had healed) from septicæmia following the reopening of his original wound Dr Rice was appointed house surgeon to the Warneford Hospital at the age of 21, soon after he had taken the M B Lond with first class honours in medicine and remained there for eight years He took the M D Lond in 1325 whilst he

was house-surgeon He started in general practice, making a specialty of surgery, and was appointed honorary surgeon to the hospital two years afterwards He was a very successful practitioner and an able operator, he performed all the major operations, and had a large general and consulting practice in Leamington and the neighbourhood He was kindly and genial to all, and did very much to assist his colleagues when ill or on holiday His grandfather was headmaster of Christ's Hospital, his father was in practice as a medical man in Stratford-on Avon, his native town, until cut off in early life His mother had died a year previously Dr Bernard Rice was himself educated at King Edward VI Grammar School, and then went to St Bartholomew's Hospital After serving for twenty-four years as honorary surgeon to the Warneford Hospital he was re-elected till he was 60 years of age, and then, when compulsorily retired owing to age, he was elected honorary consulting surgeon The committee of the hospital placed on record "their highest appreciation of his most valuable services as an honorary surgeon" In 1919 Dr Rice was appointed an Officer of the Order of the British Empire for valuable services in connexion with the Warneford Hospital He also took charge during the war of "The Warren V A Hospital" Dr Rice was police surgeon for many years, and was also consulting surgeon to the Leamington Provident Dispensary and the Midland Counties Home for Incurables, and a member of the Warwick and Leamington Division of the British Medical Association He was much beloved and esteemed, and had no enemies His loss will be especially felt by all his colleagues as well as by his numerous friends and patients Dr Rice was also churchwarden to the parish church for twelve years, and was much esteemed for the able way he carried out those duties His wife survives him, and he leaves one son His funeral was very largely attended

F H H

Dr OWEN WILLIAMS, who died at Burry Port on March 24th, was a native of Anglesea, a descendant of the Williams of Penrhyn and the Prytherchs of Man He was educated at Chester Grammar School and received his professional training at Edinburgh and Glasgow, taking the L R C P and L R C S Edin in 1879 After holding hospital appointments under the late Professor Charteris and the late Sir William Macewen in Glasgow, he settled in Burry Port in 1880 and remained there in active practice until his death He was Poor Law medical officer and public vaccinator to the Pembrey District of the Llanelly Union and medical officer of health for Burry Port since the formation of the urban district council He was lecturer for many years for the St John Ambulance Association He was a J P for the county of Carmarthen and a commissioner for income tax Dr Williams was a very active member of the British Medical Association, having been chairman of the South-West Wales Division and in 1919-20 President of the South Wales and Monmouthshire Branch In 1922 he represented the Division at the Annual Representative Meeting at Glasgow He was a prominent churchman and was for more than twenty years a churchwarden at St Mary's Church, Burry Port In 1880 he married Emily, fifth daughter of Mr Richard Mathias of Abercynon, who survives him, along with one daughter and two sons, both members of the profession Dr Williams was a very able and enthusiastic man who throughout his many years in practice had kept up to date with the many changes in diagnosis and treatment He was particularly interested in pharmacology He took much interest in the Panel Committee, of which he had been a member since its inception and was seldom absent from a meeting He will be much missed by his colleagues, by whom he was greatly beloved He was buried at the parish church Pembrey, in the presence of a very representative gathering of the profession and the general public

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There has passed away in Edinburgh a very fine type of old Scottish medical practitioner in JOHN SUTHERLAND MACKAY, M A, C M, M D He was born in the old Free Church manse of Lybster in Caithness on March 26th, 1848, and was educated at the old Aberdeen Grammar School, where he had as fellow pupils Robertson Nicoll and Mackay of Uganda (the latter being a relative) He studied medicine at Edinburgh, but took his degrees at St Andrews Thereafter he did excellent work at the Royal Infirmary, for which he was registrar and afterwards for some time a lecturer to the students of Professor T R Fraser In 1885 he was appointed medical officer to the Rio Tinto Company in Spain, where he had charge of two large surgical and one medical hospital, with a staff which included nine assistants The great cholera epidemic which invaded Valencia took a heavy toll of life, the deaths numbering 1,000 in one day Dr Mackay was called to the town of Huelva, where he aided the Spanish doctors, and at the same time he placed at the disposal of the municipality the fine new hospital of the Rio Tinto Company The situation was complicated by incipient epidemics of small pox, but these Dr Mackay, with remarkable promptitude and energy, stamped out, he changed the whole sanitary arrangements of towns and villages, and by request of the Government exercised a constant supervision over the food and water supplies For his invaluable services the Government of Spain made Dr Mackay a Chevalier of the Royal Order of Isobel the Catholic After three years of hard work—during which he suffered from malaria—Dr Mackay returned to Scotland, bearing with him the unstinted thanks of the authorities and also of the directors of the company, who handed him a substantial cheque Having settled in Kirkcaldy, Dr Mackay was shortly thereafter appointed M O H, and almost immediately had to deal with an epidemic of typhoid fever He showed his old energy in dealing with this new task, forced through a purification of the waterworks, and secured the erection of an infectious diseases hospital In the midst of these labours he was struck down, in 1906, by an attack of uraemia, but with the generous aid of medical colleagues he recovered, though not completely Eventually he had to retire from the active duties of his post, and the corporation gave him the honorary appointment of consulting medical officer, with an allowance of £180 a year He latterly resided in Edinburgh, where he died on the last day of March Dr Mackay had many distinguished friends, among them Dr Morrison of China, the famous Pekin correspondent of the *Times* He himself showed considerable literary abilities, especially in a remarkable series of letters to the *Scotsman*, written from Spain

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We regret to announce the death on April 16th of Dr ROGER MCNEILL He was a native of Colonsay, and was educated at the University of Edinburgh, where he graduated M B, C M in 1877 and M D with gold medal in 1881 in 1889 he took the D P H Camb After serving as assistant medical officer to the Homerton and Deptford Metropolitan Asylums District Hospitals he became resident medical officer at the Gesto Hospital, Edinbane, Isle of Skye In 1890 he was appointed medical officer of health for the county of Argyllshire, and also held the appointment of consulting medical officer for the Argyll County Sanatorium Dr Roger McNeill was a justice of the peace for Argyllshire and Inverness-shire, and a member of the Argyllshire Division of the British Medical Association

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By the unexpected death of Dr CHARLES ROBERT GRAHAM, consulting surgeon to the Royal Albert Edward Infirmary, the town and district of Wigan have lost a most gifted and trusted medical practitioner For though he had retired to his lovely home at Bolton le-Sands, on the shore of Morecambe Bay, his great experience and skill were still ever at the service of Wigan in important medical cases Dr Graham was aged 67, though he had the vigour of a man of 40 He was born in Wigan, and was educated at the Annan Academy, at Owens College, Manchester and at the University of Paris He was one of the students who began their career at the Owens College in Quay Street, Manchester, and passed on to the University

buildings in Oxford Road He took the diplomas of L R C P Edin and M R C S Eng in 1878, and before settling in practice in Wigan was house-surgeon to the Royal Berkshire Hospital and resident medical officer to the Hospital for Children, Manchester He was for many years honorary surgeon to the Royal Albert Edward Infirmary, Wigan He had been a member of the Council of the Lancashire and Cheshire Branch of the British Medical Association, and President of the Wigan Medical Society He leaves a widow, one son (who continues the Wigan practice), and three daughters The eldest is an artist, the second a trained nurse, and now sister-tutor of nurses, and the youngest is assistant school medical officer of the borough of Rochdale A lifelong friend writes "Dr Graham was a most lovable man and had a wonderful capacity for friendships His interests were varied—art, flowers, trees, birds, and antiquarian pursuits—and wherever he lived he was a welcome addition to the social life of the neighbourhood"

A well known figure among Birmingham medical men has passed away with the death, on April 10th, of Dr J D Scurrah, in his 93rd year In the early fifties he was a distinguished student of University College, London, where he had among his teachers Lister, Sharpey, Garrod, Quain, and Erichsen In all but one subject of his curriculum he obtained first-class honours, gaining three gold and seven silver medals After taking the degree of M D Lond in 1857 he was appointed resident medical officer to the London Fever Hospital He settled in general practice in Birmingham, and for some years was honorary medical officer, and afterwards for forty years honorary consulting physician, to the Birmingham Institution for the Blind He was one of the original founders of the Birmingham Medical Mission, and social and religious work always found in him a helper and friend He retired from practice more than twenty years ago, but there are still many who remember with gratitude his kindliness and skill Dr Scurrah retained his keen interest in life to the very last Three days before the end came he was told that Cambridge had won the boat race, and like a flash came the inquiry, "By how many lengths?" He was esteemed and beloved by all who knew him

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Another veteran member of the profession, Dr James Alexander Dewar, died at Arbroath on May 2nd in his 88th year He was born in Nairn, and was educated at Arbroath Academy and Edinburgh University, where he graduated as M D in 1859 and took the diploma of L R C S Edin in the same year He began to practise in Arbroath in May, 1860, as a partner with Dr Traill, to whom he had previously been apprenticed, and on the latter's retirement he continued to practise on his own account, and was joined later by his sons, Dr T F Dewar and Dr W J Dewar Until his retirement in 1917 he devoted the greater part of his active life to his extensive practice Long country journeys often had to be made on horseback or in a gig, and during severe weather in the winter a horse sledge was sometimes needed From the beginning Dr Dewar identified himself with the work of Arbroath Infirmary to which he was early appointed surgeon and subsequently honorary consulting surgeon He also carried out the duties of medical officer to the Dale Industrial School On the occasion of his retirement in 1917 a public testimonial was presented to him as an appreciation of his long service in the medical profession and of the high esteem and affection in which he was held by the inhabitants He took particular interest in St Mary's Episcopal Church where he served as a vestryman for over half a century and he was J P for Forfarshire Dr Dewar is survived by his widow three sons, and two daughters, his eldest son Dr T F Dewar C B, holds an appointment under the Scottish Board of Health

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Professor Vladimir Lukasiewicz a well known Polish dermatologist and director of the dermatological clinic at Lwow, has recently died at the age of 63

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE

At a congregation held on May 2nd the following medical degrees were conferred

M B B Ch—L Lawn F E Graham Bonnalie.
M B—G F Abercrombie A Leuneds (admitted by proxy).

The following candidates have been approved at the examination indicated

Diploma in Medical Radiology and Electrology (*Part I Physics and Electrotechnics*)—A R Colyer G R M Cordiner F H Dommisse C R Enticknap A C Fowler S G Galstaun E E Holdsworth P S Khosla N H Kulkarni H A McCoy, A. G. Macrae F P Montgomery T D Overend J S Riach G D Thomson R S Topham K F Vickery J Wall Barbara G Wood. J Y Wood. (*Part II Radiology and Electrology*)—G R M Cordiner F H Dommisse N Grellier E E Holdsworth N H. Kulkarni H A McCoy A O Macrae G W Mitchell F P Montgomery, J S Riach J V Sparks

UNIVERSITY OF LONDON

The ceremony of presentation for degrees will take place in the Royal Albert Hall on Wednesday next, May 14th, at 2 30 p m. An annual service for members will be held on the same day at Westminster Abbey at 5 45 p m, and there will be a graduation dinner in the Fishmongers' Hall, E C, at 7 30 p m

UNIVERSITY OF DUBLIN

TRINITY COLLEGE

At the First Commencements in Trinity Term, held on April 30th, the following degrees were conferred

M D—C E Brunton
M B B Ch B A O—W R Aykroyd H O D Burke-Gaffney, F C L B B Crawford R R D Crawford P K Dixon E C Downer R E Faussett Norah M Gliddist C R Hillis H J Hugo I J Isaacson S W Jamison J J Laing Bertha H Lawlor C J N Loubser C J M Quillan Evaline E Mooney Isobel G Smith L E J Werner *Anne D Dockrell *R Schaffer *P P van der Morwe *W J J van Rensburg

* In absentia.

NATIONAL UNIVERSITY OF IRELAND

At a meeting of this university held on Saturday, April 26th, 1924, Dr Denis J Coffey, President of University College Dublin, and Pro Vice Chancellor of the university, conferred the following degrees and diplomas

M B B Ch B A O—R E A Davitt Catherine M Barry W Bolton H P Callaghan P Carr A Cassidy Annie Cullen, Toro a G Cunningham M J Daly W J Deighan J J M Doyle M F Dodd J C Finn E J Glynn *J B Hurley J B Keane C P Kelly M J P Kelly, M. Kirby W P Lynch P McBrien Annie Mulhern P Mullins T H Nolan P J O Brien M O Donnell M E O Moore, C A. O Neill, C J O Reilly, J J A. O Sullivan, E L Sharpe
M D—J Duffy *T J Hollins
M A O—D J Cannon *J F Cunningham
D P H—*F Hane Christina J O Brien *P T J O Farrell *J H Schofield *Mary J Farrell

* In absentia

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated

Surgery—H L Bornstein P V Casling E J R MacMahon I Morgan W T Swanton W J Wood
Medicine—F Beinaschewitz R Hare W M Jones J N Wheatley W J Wood
Forensic Medicine—W B Arnold A. J M Davies J Herbert, W R S Jaecques J N Wheatley
Midwifery—E H Boodrie, W R. S Jaecques A Kotbi D G Robinson G H. Shanley

The diploma of the Society has been granted to Messrs P V Casling, W M Jones E J R MacMahon, I Morgan, D G Robinson, J N Wheatley, and W J Wood

The Services.

DEATHS IN THE SERVICES

Major Ignatius Purcell Doyle D S O Madras Medical Service (retired), died recently in Dublin He was born on June 1st, 1863 the son of the late Surgeon Major William Doyle I M S He was educated at Trinity College Dublin and took the I R C S I and L K Q C P in 1884 He entered the I M S on September 30th 1886 he became major after twelve years service and retired at the end of 1903 He served in the Burma war in 1888-89 was mentioned in dispatches in the *London Gazette* of November 15th 1889 and received the frontier medal as well as the D S O also in the Chin Lushai campaign of 1891 92 on the north east frontier of India Both his father and his brother were members of the Madras Medical Service The former entered in 1855 served in the Indian Mutiny including the siege and capture of Lucknow, retired in 1879 and died in 1888 The latter, Major J F Doyle, entered in 1880 and retired in 1901

Medical News.

THE principal firms engaged in the production of insulin in Great Britain are reducing the retail price of insulin to 5s per 100 units as from May 12th The present retail price is 6s 8d , and is the result of a series of reductions which have taken place since insulin first came on the market here at 25s per 100 units early in 1923

THE University of Aberdeen has conferred upon Sir Henry Gray, K.B E , now head of the surgical division of the Royal Victoria Hospital, Montreal the honorary degree of LL D Sir Henry Gray who graduated M B , C M Aberd in 1895, was until a short time ago surgeon to the Aberdeen Royal Infirmary and was consulting surgeon with the British Army in France during the war

THE second Congress of the Italian Association of Medical Women will be held in Rome from May 16th to 18th, when the following subjects will be discussed (1) Past activities of medical women in scientific professional, and social spheres, introduced by Dr Myra Ferrari, (2) Future activities, by Dr Ester Bonomi and Dr Elena Fambri (3) Women in pediatrics, by Professor Francesco Vallardi (4) Women in the sanitary service by Dr Maria Diez, (5) Antituberculous prophylaxis and visiting nurses, by Dr Clelia Lollini, (6) Protection of women and children in industry, by Professor Angiolo Bovrino and Dr Livia Lollini

FROM Monday, May 26th, to Saturday, June 14th, an exhibition of drawings pictures, and other works of art by Fellows and Members of the Royal Society of Medicine will be held in the Marcus Beck Room on the third floor of the society s house, 1 Wimpole Street London W The exhibition will be open to Fellows and Members of Sections and to friends accompanying them, but not to the general public

THE British Society for the Study of Orthodontics offers the following prizes for competition they will be awarded triennially The first award will be for the three years ending December 31st 1926 for which the prizes are as follows (1) a silver medal and an honorarium of 50 guineas, (2) an honorarium of 20 guineas, (3) an honorarium of 10 guineas and in future such sums as the council may from time to time determine The subject for the essays for the first triennial period is "The macroscopic changes which normally occur in the jaws and teeth of man and in their mutual relations, from birth to the complete eruption of the second permanent molars ' The prizes are open to competitors of all nationalities but the essays must be in English Further particulars may be had from the honorary secretary, the British Society for the Study of Orthodontics, 11 Chandos Street, London, W 1

WE welcome the issue by the British Dental Association of a pamphlet for popular distribution on the preservation of the teeth It is short and pertinent and is accompanied by a wall card which embodies the principal do s and ' don ts Prevention of dental disease is a difficult, even contentious, subject, and we are glad to note that in substance this pamphlet runs parallel with similar pamphlets we have seen issued by other dental bodies It should go far to spread a knowledge both of the evils and of the possibilities of prevention of dental disease The pamphlet and card can be obtained from Messrs. John Bale, Sons, and Danielsson Ltd , 39 Great Titchfield Street W 1, price 3d , postage ½d in quantities of 100 or more, 2d each

DURING the winter session 1923-24 there were 16 941 medical students in the universities of Germany and Austria, of whom 1,299 were in their first term, and 9,491 natural science students, of whom 1,077 were also in their first term The medical students in Berlin numbered 1,967, of whom 331 were women , in Vienna 2,943, in Munich 1,394, in Prague 1,136, and in Graz 1 105

THE subjects to be discussed at the conference next July in Geneva on industrial hygiene have already been announced, that on vitiated atmosphere in workshops will, we are informed, be introduced by Professor Leonard Hill, who will deal with ventilation Dr Kohn Abrest of Paris will discuss dust and smoke, and Professor Lehmann of Würzburg, gases The subject of industrial lighting and eye strain will be introduced by Dr Gaster, of London he will be followed by Dr Oslath, of Trieste, who will deal with general physiopathology, and Dr Stassen, of Liège who will discuss light in mines Reports on the value of fatigue tests will be made by Dr F Lee, of New York, Professor M Patrizi, of Bologna, and Mr Wyatt, of London

A COURSE of ten lectures on psychological types is being given by Dr H Crichton Miller on Wednesdays at 5 30 p m at the Tavistock Clinic for Functional Nerve Cases, 51, Tavistock Square, W C 1

AT the annual meeting of the governors and subscribers of Queen Charlo te s Hospital it was announced that a Supplemental Charter of Incorporation had been granted by which the name of the hospital was changed from ' Queen Charlotte s Lying in Hospital to Queen Charlotte s Maternity Hospital and women became eligible for election on the Committee of Management.

DR A G NEWELL of Harringay has been unanimously elected chairman of the Tottenham District Council for the ensuing year He has been made honorary justice of the peace

AN intensive post graduate course in general medicine and surgery will be held from May 19th to 31st at the North East London Post-Graduate College, Tottenham, with which is associated for the purpose the neighbouring North Eastern Fever Hospital the fee for the course is £3 3s., or either week £2 2s From May 5th to 31st a course in venereal diseases will be given at the London Lock Hospitals, including daily clinical work and a lecture on some branch of the subject at the Dean Street hospital. During the same period there will be a course in ophthalmology at the Central London Ophthalmic Hospital with facilities for operative surgery, and a course in psychological medicine at the Maudsley Hospital, including lectures by Dr Bernard Hart, Dr Shrubsall Sir Frederick Mott, and Dr Mapother A course in laryngology rhinology and otology will be held at the Central London Throat Nose, and Ear Hospital from May 12th to 30th A course in proctology at St Mark s Hospital for Diseases of the Rectum (City Road) and also a course in infants diseases at the Infants Hospital have been arranged from May 12th to 24th Particulars of the courses may be had from the Secretary Fellowship of Medicine, 1, Wimpole Street, W 1

THE Executive Committee of the Aden Settlement desires to appoint an executive health officer The salary offered is 800 rupees a month, rising by annual increments of 50 rupees to 1,000 a month, with travelling expenses and unfurnished quarters The appointment is for two years in the first instance, with first class passage to Aden and back on termination of employment Further particulars will be found in our advertisement columns

IN the final of the Medical Golfing Society s "knock out ' tournament Mr Murray Thomson defeated Mr T P Kolesar 2 and 1 The other semi finalists were Dr Cyril Hott and Dr T B Jobson

THE first conversazione of the Royal Society for this year will be held on Wednesday next, May 14th, at 8 30 p m

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are *requested to communicate* with the Financial Secretary and Business Manager 429 Strand W C.2 on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager 429 Strand London W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429 Strand W C.2.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange)

The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL *Aitiology Westrand London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand London*

MEDICAL SECRETARY *Meducera Westrand London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin) and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate Edinburgh* telephone 4361 Central)

QUERIES AND ANSWERS.

X RAY TREATMENT OF RINGWORM

"SOUTH WALES" writes I should be glad if you would dispel my doubts as to the following difficulties in the treatment of ringworm by x rays (1) I find that the pastille (though lying in a plane 3 in. distant from the anticathode) is 3½ in distant from the anticathode and the head of the child is 6 in According to my information I must alter the time of exposure or lengthen the distance of the child s head from the anticathode to 7 in I have lessened the exposure to just under 4 B Is this correct ' (2) When a failure occurs how soon is it safe to repeat the treatment? (3) Are bald or thin and grey patches appearing in a few cases where there has been no sign of x ray redness

but usually giving a history of two to four years' infection, due to the ringworm? (4) Do bald patches arise from *x* ray treatment though no signs of over exposure have been seen? (5) What diameter and make of tube is most in favour for the treatment of this complaint?

*** Our correspondent raises in his queries several difficult points about some of which there is not unanimous opinion Replying to his questions in order, the following observations may be made (1) Unless "South Wales" is an expert physicist, and can calculate out the corrections for the abnormal positions he describes—a matter by no means easy—we think he would be well advised to adhere to the accepted technique for depilating the scalp Even in these circumstances considerable judgement is demanded, for the operation is at all times a delicate one When the variations from the standard method he recounts are present, there are introduced new and very complicating factors (2) There is always more risk of a permanent loss of hair from a second treatment Many competent authorities hold that an interval of six months at least should elapse before a second treatment is given. (3) If *x* rays have not been applied, the bald areas are probably the result of ringworm infection (4) It is a fact that permanent baldness may follow the application of *x* rays without appreciable dermatitis This may be due to idiosyncrasy or to a slight overdose (5) The Coolidge tube is now gaining in popularity in this country, although the gas tube still finds favour with many

INCOME TAX

Payments to Deceased Partner's Executors

"W W F" is paying off his late partner's share in the practice and inquires whether he can deduct tax from the payments made to his executors, and also as to what deduction he can make in respect of his house

*** Tax cannot be deducted from payments made on account of a predetermined price for the late partner's share, such payments are merely instalments of a capital sum On the other hand, if the facts be that the share was purchased on terms that "W W F" paid therefor an annuity, fixed or variable, then the payments appear to be in the nature of an annuity and to be liable to deduction of tax. With regard to the house, the basis of the allowable deduction is the annual value on which income tax is paid and not the amount of the mortgage interest, which, in point of fact, is not deductible

Motor Car Transactions

"X" sold a G W K two-seater car in 1920 and purchased a Ford at a net cost of £250, which the local inspector agreed to allow over a period of five years at £50 per annum In August, 1922, he sold the Ford for £110 and purchased a Chevrolet saloon for £400 The inspector offers to allow as an expense the net cost of purchasing an *open* Chevrolet Our correspondent asks also a question about a motor cycle

*** An allowance can be claimed for "maintenance," but not for improvement of the professional equipment, and in so far as expenditure was incurred for the latter purpose to that extent it represents capital outlay and is not allowable The inspector is therefore right in claiming to deduct from the (£400–£110=) £290 cost incurred the difference between the price of the "saloon" and "open" models The same reasoning applies to the replacement of the motor cycle used by the assistant prior to the purchase of the second hand Belsize car We may perhaps add that we do not understand why the £250 was spread over a period of years, the expense was incurred in 1920, and should have been allowed as a professional expense in computing the profits of the practice for that year

Unborn Child

"INQUIRER" asks, Can an allowance be claimed for the present financial year for a child born alive on April 22nd?

The answer is in the negative The statute gives the allowance in respect of children living on the first day of the financial year, and in a recent case the High Court held that a child *en ventre sa mère* on that day did not give rise to a claim

Proportional Rent

"H I" inquires whether he can put a portion of his rent to practice expenses and also whether the rent received from a house he has purchased should be regarded as earned or unearned income

*** Yes Rule 3 applicable to Cases I and II, Schedule D, as amended by Section 31 of the Finance Act, 1921, gives a right to deduct as a professional expense a portion of the annual value as assessed to income tax Schedule A. The proportion to be deducted should be reasonable having regard to the portion of the premises used and in normal circumstances where there is a waiting room surgery and garage, is frequently regarded as one half The rent of the house cannot be treated as "earned" income for tax purposes

Three Years' Average.

"ANTI PRUSSIAN" practises as a locumtenent, his average earnings for the three years ending 1922–23 amount to £323, and he has been assessed accordingly, but owing to removal of head quarters and slackness of demand his earnings for 1923–24 have been £177 only Can he claim reduction of the assessment to this figure?

*** If 1920–21 was the year in which he commenced (or recommenced) work as locumtenent he can so claim under Rule 8 of Cases I and II, Schedule D If for any definite portion of the year 1923–24 he was not accepting locumtenent work if offered—for example, because he was rearranging his domestic plans—he might request a corresponding reduction of the gross assessment—for example, one twelfth for one month's discontinuance of his profession—but we are doubtful as to whether there is good legal ground for such a claim Otherwise there appears to be no relief from the average basis of the assessment at present If our correspondent definitely gives up locumtenent work during the next three years he is advised to put in a claim for revision of his final three years' assessments, under the rule already mentioned, if he should find it to his advantage to do so, which may possibly not be the case, as the whole of the three years have to be taken and not one or two only

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LETTERS, NOTES, ETC

"SLIPPING RIB"

DR EDGAR F CYRIAX (London) writes I have read with much interest Mr Davies Colley's comment (May 3rd, p 801) on my memorandum on "Slipping Rib," which appeared in the issue of April 26th (p 747) I beg to assure Mr Davies Colley that I have not misread his article of 1922, and quite realize that he was referring to the fact that the anterior ends of the ribs exhibited abnormal mobility What I wished to point out was that, in my opinion, a large number of these cases are primarily due to the fact that the posterior end of the affected rib is loose in its joint, though not in sufficient amount to warrant the diagnosis of dislocation or major displacement In many of these cases fixation of the posterior end by the method I have described has been all that was needed to effect a cure and remove all traces of abnormal mobility of the anterior end

A "JOKE"—OR HOAX

SOME time ago we published a statement received from what seemed to be a trustworthy source to the effect that the first award of the Benjamin Franklin Fund in London had been made to Pierson Worrall Banning, and minor awards to two other persons The story appeared at rather greater length in some well known newspapers here and in America The story is untrue It appears that the Propaganda for Reform Department of the *Journal of the American Medical Association* had received information last summer which had induced it to make inquiries about Banning and a book he sold at a rather high price (3 50 dollars) From the account given of it we gather that this book contains, among other matter, a mixture of Christian Science, Coueism, and something about vibrations recalling "E R A" The publication of the story about the Benjamin Franklin Fund caused inquiries to be made Those made in London failed to reveal any trace of such a fund, and the *Los Angeles Times*, in which city Banning resided, provided some information which the *Journal of the American Medical Association* published in its issue of April 12th (p 1202) It is there stated that on April 3rd the *Los Angeles Times* published in full Banning's confession It appears that he alleged that he did it as a joke in order to win a bet It was a very elaborate joke and we can only express our regret if by inadvertence we did anything to help him to win his bet

NATIONAL BOARDING SCHOOLS

AS a cure for national degeneracy in physique Mr Ernest Remnant writing in the *English Review* of March last advocates the establishment of boarding schools for all, and in particular for the children of the poorer classes of our great cities The proposer does not lack courage in his denunciation of present-day conditions, or in advancing such a tremendous remedy therefor He says that "despite the establishment of medical inspection and treatment of school children, and despite the Insurance Act 'for the prevention of sickness,' the national physique has gone from bad to worse" To cure this he proposes that all children of the towns should be drafted into schools within twenty five to fifty miles of the place of their homes We can picture the cities surrounded by vast barracks of children marshalled in semi regimental fashion, the inevitable consequence of dealing with such hosts of children, and consequences in mental and moral deterioration which would react more disastrously upon the physique of the nations than even present-day conditions

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 34 35 38, and 39 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 35 37, and 38

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 213

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine

363 Erythema Annulare preceding Septic Endocarditis.

ERYTHEMA annulare, as described by Lehndorff and Leiner occurs typically in cases of rheumatic endocarditis In this case of LACCHIA S (*La Pediatria* April 1st, 1924 p 422) the rash appeared an appreciable time before there was any evidence of cardiac involvement The patient a girl of 12, developed a high temperature and an erythema annulare which covered the whole trunk the limbs escaping Pruritus was absent, and there was nothing abnormal in lungs heart, liver or spleen The temperature persisted, but the rash faded gradually Five days later a systolic cardiac bruit loudest at the apex made its first appearance The pulse rate was 100, blood pressure 100/70, and there was rapid loss of weight Three days later the rash reappeared, the colour varying in intensity from deep rose to yellowish Each out break was accompanied by a fresh rise in temperature The Wassermann and Widal tests were negative The blood cultures at first sterile eventually produced a Gram positive diplococcus and towards the end in addition to this, a streptococcus No focus of primary infection was found except three carious teeth On removing these one was found to contain a purulent granuloma the size of a pea at its root Treatment by antipneumococcal serum etc., was unavailing Renal emboli and pericardial friction with precordial pain developed, and finally a small area of con solidation at the base of one lung The erythema reappeared with great intensity vomiting set in and the child died No *post mortem* examination was allowed Iacchia concludes that the source of infection was in the dental lesion, and accentuates the importance of systematic care of the teeth even in babies

364. Significance of the Argyll Robertson Pupil

T E HESS-THAYSEN (*Ugeskrift for Laeger*, January 17th 1924, p 47) has come to the conclusion that when the Argyll Robertson pupil is the only manifestation of syphilis in elderly persons whose cerebro-spinal fluid has shown no morbid changes the prognosis is excellent, and there is no need for instituting specific treatment He found this pupil sign in 43 out of 363 elderly syphilitics, and in 25 cases this was the only clinical manifestation of syphilis In only one of these cases could signs of progress of the disease be detected during an observation period of three years Comparing his findings with those of Dreyfus Nonne and others, the author concludes that the prognosis is good, whether the blood Wassermann reaction be positive or negative, in those persons over the age of 55 whose cerebro-spinal fluid has been consistently normal and in whom the sole symptom is ocular In such cases the Argyll Robertson pupil is most unlikely to be the precursor of tabes, general paralysis or cerebro-spinal syphilis, but it is more likely that one or other of these diseases will supervene when an Argyll Robertson pupil in a comparatively young person is associated with syphilitic changes in the cerebro-spinal fluid In this class of case the prognosis is equally bad whether the blood Wasse-mann test be positive or not The author finds the prognosis for these late syphilitic lesions at least quite as bad for cases which received specific treatment at an earlier date as for untreated cases He refers, in this connexion, to numerous investiga tions, the lesson of which is that the cerebro-spinal fluid is more often abnormal in patients who have been treated for syphilis than in untreated cases, but he recommends specific treatment in every case in which the cerebro-spinal fluid is abnormal, the Argyll Robertson pupil is demonstrable, and the patient is comparatively young Even when the cerebro-spinal fluid is normal, and no specific treatment has hitherto been given it should be prescribed if the Argyll Robertson pupil appears under the age of 55

365. Serum Treatment of Anthrax.

E BODIN (*Bull Soc Française de Derm et de Syph* December, 1923, p 489) describes the treatment of a severe case of anthrax by serum the patient being completely cured in a few days A workman in a tannery, aged 22 had been handling Chinese hides When seen he had had a swelling on the right side of the lower jaw for three days, it extended from the lobe of the ear to the chin, and from the lower eyelid to the middle of the neck Over the centre of the horizontal ramus there was a typical oval black scar sur rounded by the usual vesicles The patient s general condition was good his temperature was 100 2 F and pulse 100 He received 40 c cm of serum between November 17th and 20th, given in daily doses of 10 c cm In addition, compresses saturated in 1 in 1 000 mercuric chloride solution were applied locally, and each day 4 or 5 c cm of 2 per cent phenol solution were injected at four "cardinal" points of the periphery Eight days after the commencement of treatment the oedema had almost completely disappeared and one week later he was completely cured the slough had separated, leaving a pink depression 1 cm in diameter Bodin quotes statistics which show that the mortality of anthrax is low in those cases treated prior to the fourth day of the disease

366. Adrenaline and High Arterial Pressure.

S HETENYI and S SÜMEGI (*Klin Woch* January 23th 1924, p 188) record observations on the reaction to adrenaline in cases of high arterial blood pressure (arterial hypertonus), contradictory results having been previously obtained by other observers The authors employed the method of C Lépai in estimating the sensitiveness to adrenaline (actual adrenaline sensitiveness), which was described in the EPITOME, December 22nd 1923 No 751 After intravenous injection of 0 01 mg of adrenaline the blood pressure was taken every fifteen seconds for two minutes Normally the increase of blood pressure is not less than 10 cm (water) and not over 30 cm (Recklinghausen s apparatus) but when the adrenaline sensitiveness is increased the blood pressure rises above 30 cm The authors estimated the actual adrenaline sensitiveness in 22 cases of high arterial blood pressure (2 were cases of acute glomerulo-nephritis, 7 of chronic glomerulo-nephritis, 2 of essential hypertonus, 7 benign and 4 malignant nephro-sclerosis) In all these cases an increased adrenaline sensitiveness was found the characteristic in crease of blood pressure appearing after the injection of 0 005 mg and even after 0 0025 mg of adrenaline although normal individuals did not react after such a dose or only minimal fluctuations were observed The cases of arterial hypertonus recorded in the literature in which after the in jection of adrenaline diminution of the blood pressure was observed may be attributed to the use of too small quantities of adrenaline In such cases tested by the authors with larger doses of adrenaline increased adrenaline sensitiveness was detected In arterial hypertonus regardless of the form thereof the adrenaline sensitiveness was found (without exception) to be increased.

367 Pellagra in China.

E S TYAU and S C WU (*National Med Journ of China*, December, 1923 p 272) report separately on seven cases of pellagra in China where the disease has not hitherto been known The cases presented the usual clinical features— stomatitis ulceration of the tongue diarrhoea, dysenteric stools abdominal pain, loss of appetite, pigmentation and roughness of the skin on the backs of the hands and the cheeks, and more rarely the neck, upper part of chest feet, and legs vesicles and bullae in these regions, sensations of heat in hands and feet, diminution or exaggeration of knee-jerks One patient recovered after a special course of sodium cacodylate injections and ano her after general treatment The necropsy in one case brought to light cloudy swelling and fatty degeneration with brown pigmentation of the kidneys, liver spleen and heart and marked atrophy of the entire wall of the ileum The patients were male adults from 36 to 60 years of age, of the poorer working classes, living under insanitary conditions on a diet of which rice was the staple article

368 Raynaud s Disease and Parotid Lesions.

DAUNIC and LAURENTIER (*Ann de Derm et de Syph*, December, 1923 p 721) report cases of an association of Raynaud s disease with painful enlargement of the parotid gland and primary or hereditary syphilis, which they claim is not merely accidental Attention is drawn to the fact that a similar parotid condition has been reported by others as occurring in cases of Quincke s disease According to Cassirer the parotid swelling in such cases is secondary to an angioneurotic state but the authors are of opinion that the parotid condition is the primary one and the origin of the syndrome They also consider that the salivary glands may possess an internal secretion, disturbances of which can produce the symptoms of Raynaud s disease It is admitted that little is known of the physiology concerned, but the view

would appear to be supported by the known parotid enlargement which occurs sometimes with menstrual irregularities of ovarian origin and with hyperthyroidism suggesting some interrelation between the parotids and the ovaries and thyroid gland Leopold Levi is quoted as holding similar views regarding an internal secretion of the salivary glands The authors are convinced of the importance of the part played by syphilis in the type of case reported and would designate the syndrome of Raynaud the "endocrinido parotidienne" and the "endocrinide parotidienne syphilitique"

Surgery.

369 Final Results in Perforated Gastric and Duodenal Ulcer

A. BASSET (*Bull et Mem Soc Nat de Chir*, February 23rd, 1924, p 224) discusses the final results in 30 cases of perforated gastric and duodenal ulcer In 20 cases the final results were excellent and no secondary operation was necessary All the patients were in excellent health and exhibited no symptoms, in 11 of these *x* ray examination confirmed the satisfactory result In the remaining 10 cases, 3 were distinctly bad results with pain and vomiting, the other 7 showing symptoms of moderate severity With regard to the situation of the ulcers, 5 were in the anterior wall of the stomach and all gave good results, 8 on the lesser curvature gave 4 good and 4 moderate results, 4 pyloric ulcers showed 2 good and 2 moderate results, whilst 13 duodenal perforations resulted in 9 good results In 12 cases gastro-enterostomy was performed and the results were good in 9 cases, 18 cases without a gastro enterostomy gave 11 good results In 4 cases a later operation showed the ulcer completely healed in 2, whilst in 2 there were dense adhesions surrounding it The conclusions reached are that in 66 per cent of the cases the final results were excellent, in 24 per cent moderate, and in 10 per cent bad Ulcer of the stomach gives better results than duodenal ulcer The results vary with all methods of treatment, the best was found to be suture of the ulcer combined with gastro enterostomy, where 5 cases gave good ultimate results The gastro enterostomy probably favours healing of the ulcer and aids the emptying of the stomach Later *x* ray examination showed that the stomach emptied almost entirely by the stoma, in one case only the anastomosis did not function

370 Renal Tumours

W I DE COURCY WHELLER (*Surg., Gynecol., and Obstet.*, February, 1924, p 143) describes three cases of renal tumour of unusual interest The first case occurred in a child 8 months of age In children there may be no sign, such as pain and haematuria, to indicate the presence of a tumour These renal tumours usually occur under 3 years of age, and there is no means of differential diagnosis Removal is best accomplished by the transperitoneal method, the colon being displaced to the mid line The prognosis is poor, recurrence takes place in 80 per cent of cases The second case, a squamous celled carcinoma, is recorded as an example of the development of cancer as the result of prolonged irritation, at least 50 per cent of these cases are superimposed on renal calculi The third case, a renal angioma with severe haematuria is described The discovery of this condition is only possible after nephrectomy The bleeding condition is only [illegible] without pathological changes, as in so-called "essential renal haematuria"

371 Diverticula of the Hernial Sac

P STAPFINGER (*Deut Zeit f Chir*, November, 1923, p 164) states that during the period 1908–22 1,395 patients with inguinal hernia and 229 with femoral hernia were operated on in the first surgical clinic of Vienna University The ages of the patients ranged from 13 months to 73 years, the average age being 25 to 35 years Among the cases of inguinal hernia diverticula were found sixteen times, and among those of femoral hernia only once Of these 17 patients 13 were males and 4 females, the predominance of the male sex being probably due to the etiological importance of the descent of the testes in the formation of diverticula Three cases were associated with a retained testis In most of the cases the hernia had been in existence for several years, the average time being ten years, a period during which there would have been plenty of opportunities for a mechanical origin for the condition In 12 cases the right and in 5 the left side was affected In 5 cases there was a history of strangulation, though one doubt in each case was mild With the exception of the case in which an operation was performed during the stage of incarceration the hernia was easily replaced In only two cases was the diagnosis of diverticulum of the hernial sac made before operation Starlinger's conclusions are as follows Diverticula of the hernial sac are by no means frequent, as according to the experience of the Vienna clinic there was only one example among every hundred cases of hernia The condition is of importance owing to its liability to give rise to ectopic and recurrent hernias It is therefore most important that the hernial sac should be traced up to its exit from the abdomen in the performance of an operation for hernia For this reason Bassini's method is to be preferred to Kocher's operation

372 Linitis Plastica

V PAUCHET (*Arch de med., air y esp*, February 16th, 1924, p 301) defines linitis plastica as a chronic hypertrophic and retractile gastritis When it is complete the stomach presents the appearance of a horn When it is only partial the fundus is normal, and the lower end is transformed into a cartilaginous cylinder which ends abruptly at the pylorus On section the organ shows hypertrophic sclerosis, enormous hypertrophy of the submucosa, atrophy of the mucous membrane, and slight thickening of the muscular coat The gastric wall is six or eight times thicker than the normal, and is as hard as leather The lumen of the stomach is contracted so as to form a canal. Microscopical examination shows an intense sclerosis, especially in the submucous and subserous coats, with slight involvement of the muscular coat At autopsy or after gastrectomy carcinomatous degeneration is frequently found, so that the condition is almost always a malignant affection The lesions commence in the neighbourhood of the pylorus and gradually extend towards the cardiac area It is possible that syphilis plays a part in the etiology of the disease, at least in the beginning, but, as already stated, a malignant change is the rule, although some cases remain purely inflammatory throughout The condition is twice as frequent in men as in women The onset is slow and progressive, and there are no characteristic symptoms The patient suffers from dyspepsia, vomiting is frequent and gives rise to cachexia On palpation a mass is frequently found in the epigastrium Gastric insufflation shows that the capacity of the organ is considerably reduced A test meal shows a diminution of acidity and absence of free hydrochloric acid The diagnosis is confirmed by *x* rays, which show a stomach with a cylindrical cavity, and enable one to tell if the linitis is partial and limited to the pyloric end or complete If there is any suspicion of gastric syphilis specific treatment should be tried for six weeks, otherwise partial or total gastrectomy should be performed If the patient is in an enfeebled state and there is some gastric tissue left resection may be carried out in two stages, the first consisting of gastro entero anastomosis and the second of gastrectomy

Dermatology.

373. Danish Treatment of Scabies.

A M GREENWOOD (*Journ Amer Med Assoc*, February 9th, 1924, p 466) reports having obtained considerable success from the twenty four hour method of treatment of scabies used in Copenhagen since 1911 An ointment containing [illegible] potassium sulphide prepared in a special manner frees hydrogen sulphide when placed on the skin The patient receives an ordinary cleansing, the ointment is rubbed into the whole of the body, with the exception of the head, and after waiting a quarter of an hour he retires to bed The next day, about the same hour, he receives a bath and fresh underclothing, and the treatment is finished, his clothes have been disinfected in the meantime Out of 84 cases treated in this way the author has only had 3 failures, and in each of these cases the patient did not follow the directions given The importance of correct preparation of this ointment is emphasized and full details are given In brief, sulphur and potassium hydroxide are mixed, and after the reaction is complete the product is added to a mixture of vaseline and lanoline Zinc sulphate and sodium hydroxide are mixed and the precipitate added to the ointment, in which also is included a little oil of bitter almond to check the somewhat disagreeable odour of hydrogen sulphide

374. Lupus Erythematosus

J M H MACLEOD (*Arch of Derm and Syph*, January, 1924, p 1) gives some observations on the etiology of lupus erythematosus based on a study of 200 cases Among predisposing causes the time of life appeared to have some relation to the incidence of the disease, which is commonest between the ages of 20 and 40 years The author notes this point as interesting in view of the suggested tuberculous origin of lupus erythematosus, true tuberculosis generally appears in childhood Females were affected more frequently than

males in the proportion of three to one The disease is stated to be very common in colder latitudes and rare in the tropics, climate therefore, is important, and probably acts by depressing the peripheral circulation For the same reason the colder seasons have an aggravating tendency, but the sun's rays were also found to have an unfavourable influence Chief among the predisposing causes is a weak peripheral circulation and the author has found this to be present in so many of his cases (20 per cent) that he suggests it as an actual cause The situation of the lesions seems to be determined by anatomical factors, such as stretching of the skin over bone or cartilage As regards actual causes the author rejects the theory of local irritation or injury finding no positive evidence of such an origin He rejects also the direct tuberculous origin indirectly, however tuberculosis by weakening tissues or depressing the circulation may exert a predisposing influence He regards the actual cause as being the circulation in the skin of a toxin arising from the defective action of diseased organs or from some local septic focus. This toxic cause is evident in acute cases, and is claimed as the most likely cause in certain chronic cases The association of lupus erythematosus with nephritis, cirrhosis of the liver, and alcoholism is pointed out Whilst admitting that, in some cases, the more chronic *type of lesion may arise from focal sepsis the author has* found his own experience inconclusive He therefore favours the toxic or septic theory of origin as against the focal sepsis theory, admitting, however, that the latter cannot be disregarded entirely

375. Epidermomycosis

M. BURNIER (*Journ de Med et de Chir Prat*, February 10th, 1924 p. 97) refers to the comparatively recent discovery that in addition to bacterial dermatitis there are also lesions produced by microscopic fungi and by yeasts These latter cases are not uncommon, and the author with the help of Tourane-Desvaux has obtained 28 positive cultures in 42 cases of dermatitis examined in three months These yeasts are unicellular fungi, sometimes grouped, but never forming filaments They exhibit various modes of reproduction some form asci containing a number of internal spores (ascospores), these vary but are always arranged in multiples of four These ascospore yeasts form the group of saccharomycetes Burnier describes the various subspecies of these There are also the groups of Cryptococcus Monilia Endomyces, and Mycoderma culture of these organisms is easy, but the precise botanical classification is often difficult and clinically of secondary importance These fungi produce clinical manifestations which have long been known and classified as dyshidrosis intertrigo eczema pityriasis etc. The first is a vesiculo-bullous or squamous dermatitis limited to the hands and feet appearing on the flexor surfaces of fingers or toes in the form of vesicles the size of millet seeds these have no tendency to rupture, are tender on pressure and give rise to itching sensations Seasonal recurrence is common The condition is often found among neuropaths and gouty or syphilitic patients The types of dysidrosis produced by yeasts differ but little from true dysidrosis the skin of the extremities becomes white and *macerated, there is little exudation but exfoliation in large* patches occurs frequently Ointments and powders produce little effect but the lesions subside rapidly when treated with iodine or chrysophanic acid Mycotic intertrigo is also comparatively frequent *it is often impossible to distinguish* it, without cultural methods, from other forms of intertrigo Eczematoid epidermomycosis simulates the various types of eczema—vesicular, papulo-vesicular etc In these cases culture methods have *demonstrated the presence of trichophyton*, or of epidermophyton, or of sporotrichum Yeasts may also produce eczematoid lesions In one case of eczema marginata a monilia was found, and in five cases of eczema madidans culture yielded a cryptococcus Seborrhoeic eczema may also mask a mycosis (trichophyton or a yeast) Burnier recommends 5 per cent silver nitrate compresses (for exudative cases), diluted tincture of iodine 10 to 30 per cent in absolute alcohol, or 5 per cent phenol in glycerin benzoic or salicylic acids in ointment or 1 per cent chrysophanic acid also give rapid relief.

376 Skin Metabolism and Disease.

C G LANE (*Arch of Derm and Syph*, February, 1924 p 176) is of opinion that the occurrence and localization of patchy skin lesions is associated with elimination of acids in the sweat and the action of the capillaries of the skin He cites the conclusions of different investigators who seem to have proved that normal human sweat is acid and that there is a distinct regional variation in its acidity and in the amount of its ash content The sweat produced by exertion and that by heat appear to have the same hydrogen ion concentration, but the latter possesses more ash, as also does the sweat of covered parts Acidity is stated to be greatest in the lower limbs, less in the arms and trunk, and least in the face During the course of the therapeutic bake treatment of arthritis there is a tendency towards decrease in acidity Experimental work has also demonstrated that the superficial capillaries of the skin *respond both to chemical* and nerve influences and that the capillaries and small veins function actively as well as the arterioles Carrier has shown that the capillaries possess a power of contraction and relaxation independent of the *arterial pressure behind them* and he assigns a role to direct mechanical stimulation as well as sympathetic influences in the production of dermographia Furthermore there is evidence that any increase of acidity beyond the degree which can be dealt with by the buffer mechanism' tends to atrophic changes and even destruction, and the author considers that atrophic patches in the skin may have some such origin In conclusion he reviews the recent progress in knowledge of the action of ultra violet rays, showing that they have a distinct effect on cell activity not only in the skin but also in internal organs and in general metabolism He stresses the importance of cutaneous pigmentation as a criterion of effective action Different wave lengths possess different powers of penetration stimulation, and bactericidal action and increased knowledge of these, in the opinion of the author, will lead to more extensive and more effective employment of ultra violet rays in the treatment of skin diseases Attention is directed to the excellent results already obtained in the treatment of rickets cutaneous tuberculosis, and other skin conditions

Obstetrics and Gynaecology

377 A New Sign of Cancer of the Uterus.

K BRANDT (*Forhandlinger ved Nordisk Kirurgisk Forenings*, 14 de Möte i Stockholm, 1924 p 110) refers to senile pyometra as a hitherto unrecognized sign of cancer of the cervix Senile pyometra may be due to a variety of causes, but the predominant cause is cancer At one time the author used to follow the customary procedure of dilating or incising the cervix and then irrigating, cauterizing or draining the cavity of the uterus. Not only did he find it difficult to cure senile pyometra by this procedure but in several cases he saw it followed by the rapid development of cancer For several years he has abandoned it therefore adopting vaginal panhysterectomy as his routine treatment Examining the uterus in several such cases in which panhysterectomy had been performed without any preliminary curetting, cauterization or drainage he has very often found early cancer By accepting senile pyometra as a sign of malignant disease and as an indication for immediate panhysterectomy without the delay that palliative treatment and diagnostic measures entail it is possible in these cases to convert a comparatively bad prognosis into one that is exceedingly good

378. Intracranial Haemorrhage in the Newborn

W SHARPE and A S MACLANE (*Surg Gynecol and Obst* February 1924 p 200) state that intracranial haemorrhage during birth is much more frequent than is commonly supposed and apart from *post mortem* findings report evidence of the incidence of such haemorrhage in infants born alive No fewer than 13 of 100 babies born consecutively in a lying-in hospital were shown by routine lumbar puncture within the first twenty four to forty-eight hours after birth to have blood stained or bloody cerebro spinal fluid Six of these were normal cephalic deliveries 3 prolonged deliveries 2 forceps deliveries 1 face presentation at birth and the remaining child was born of an eclamptic mother Pituitrin was not used in the series which included 10 forceps cases The authors have noticed that if as a result of intracranial haemorrhage death occurs on the first or second day, the effused blood is found at least in part unclotted if on the fourth or fifth day it may be entirely coagulated and undergoing partial absorption If therefore lumbar puncture is done, and repeated if necessary before the clotting has commenced, the dilution of the blood by the cerebro-spinal fluid will be increased and clotting may be prevented Unless the blood can be absorbed without residual organization death results from haemorrhage and cerebral oedema or some form of cerebral spastic paralysis follows with or without mental impairment Lumbar puncture should not be done if the infant shows signs of shock In other cases it is described as a safe procedure and one having considerable therapeutic utility within the first seventy two hours in infants exhibiting cerebral irritation due to intracranial bleeding If repeated punctures fail to bring about progressive diminution in the blood concentration and in the manometric pressure in the cerebro spinal fluid a modified subtemporal decompression operation and cranial drainage are indicated

319 Treatment of Puerperal Sepsis.

S G LUBEP (*Journ Obstet and Gynaecol of the British Empire*, vol 30, No 4, 1923, p 592) deplores the fact that the mortality from puerperal sepsis has not decreased despite all modern preventive treatment He has tried many methods of treatment during the last eleven years in the isolation puerperal septicaemia ward in the London Hospital with but little consistent success Since March, 1922, however, he has used a method of treatment which seems to be much more successful, as it has decreased his death rate from 34 2 per cent to 5 6 per cent The patients admitted to the isolation ward, all of whom have definite septicaemia, often somewhat advanced, are now treated as follows If there is a history of a retained portion of placenta or membranes, or if there is an offensive discharge associated with subinvolution, the uterus is explored with a gloved finger and afterwards swabbed with iodine, followed by an intrauterine douche Antistreptococcal serum is injected subcutaneously in doses of 30 c cm for the first two days after admission and 20 c cm on the third day Quinine bihydrochloride 3 grains dissolved in 10 c cm sterile water is given intravenously on the fourth, sixth, and eighth days, whilst 5 grains dissolved in 1 c cm sterile water is injected intramuscularly into the buttock on the fifth, seventh, ninth, tenth, eleventh, and twelfth days, the buttock being well massaged after injection, and alternate buttocks being injected on successive days The results on the whole have been very satisfactory, and no bad effects such as abscess or cinchonism have resulted Improvement is shown by a fall of temperature and pulse rate a few hours after the intravenous injection The author recommends this treatment not only in acute and chronic cases of septicaemia, but also in early cases of sepsis, when it may act as a preventive or an abortive

Pathology.

380 Tubercle Bacilli in Droplets from the Mouth

BRAEUNING and HOLLMANN (*Zeit f Tuberk*, Bd 39, Heft 4, 1924, p 241) have carried out investigations on the lines followed some years ago by Flüggo and Hippke Among 100 patients in the first, second, and third stages of pulmonary tuberculosis, in whose sputum tubercle bacilli had never been found, there were two whose coughed up or spoken droplets contained tubercle bacilli One of these patients was a child, whose sputum was swallowed Among 12 patients in whom pulmonary tuberculosis was unassociated with adventitious pulmonary sounds, there was not one whose droplets contained tubercle bacilli But among the 48 patients with moist râles and bronchitic sounds there were 28, or 58 per cent, whose droplets contained tubercle bacilli When the cases of open pulmonary tuberculosis were classified according as the disease was of the cirrhotic or of the exudative type, it was found that only 29 per cent of the patients belonging to the first class had tubercle infected droplets, whereas 76 per cent of the patients in the latter class had infected droplets After giving various other statistics, the authors conclude that the number of tubercle bacilli distributed in droplets is exceedingly small compared with the number retained in the sputum Only about 50 per cent of the patients with open tuberculosis scattered tubercle bacilli in droplets when they coughed, and investigations carried out during the three days showed that during this period most of the patients who coughed out tubercle bacilli in droplets produced only about twenty infected droplets, each of which contained only 20 to 100 tubercle bacilli The authors admit that the number of tubercle bacilli distributed in this manner in droplets may vary greatly from time to time in the same case

381 Mechanism of Anaphylactic Leucopenia

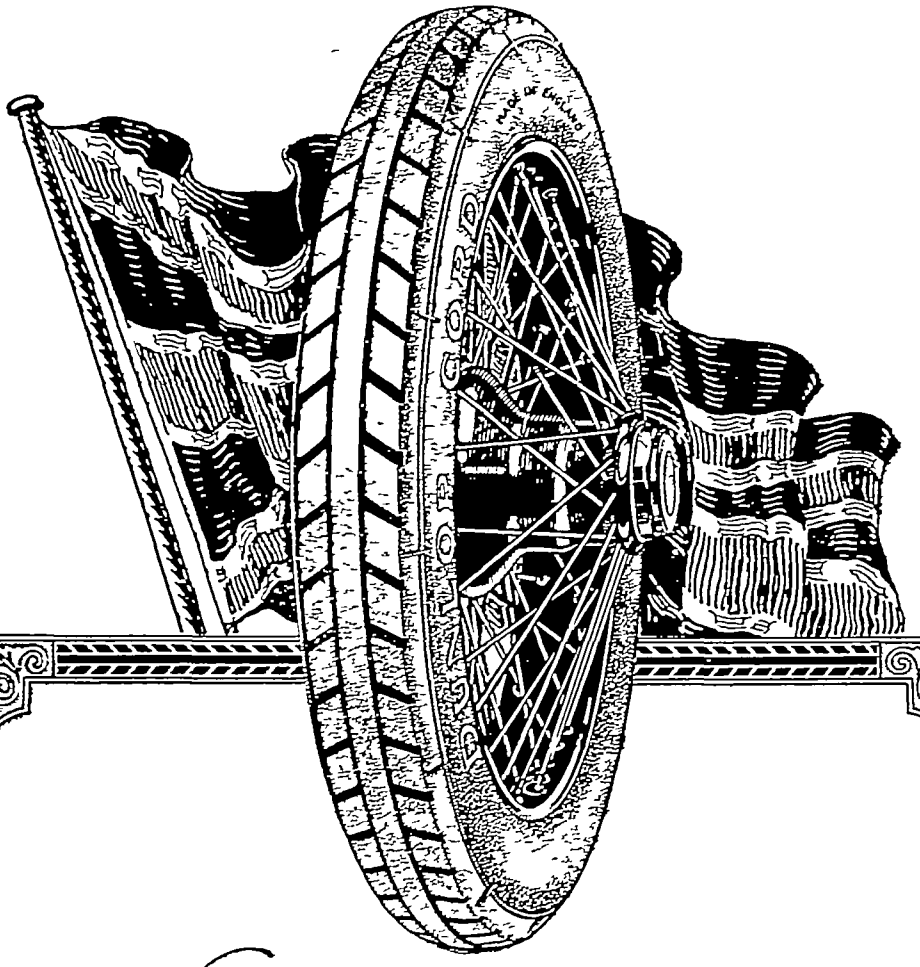
THE intravenous injection of horse serum into a sensitized dog gives rise to a leucopenia the white cells in the peripheral blood being reduced within about five minutes to 25 per cent of their normal number To investigate the mechanism of this reaction, R A WEBB (*Journ Path and Bact*, January, 1924, p 79) has made a considerable number of experiments on anaphylactic dogs the general aim of which was to ascertain what variations in the leucocyte distribution occurred in different parts of the body By making counts directly from the liver, portal vein, intestines, and kidney it was ascertained that a decrease in white cells took place in these organs similar to that in the peripheral blood When the splenic blood was examined a high count of leucocytes was obtained, which at first was thought to explain the decrease in other parts, but further inquiry showed that this high count could also be obtained by operative methods unconnected with the anaphylactic state and when suitable precautions were taken to preclude these a definite leucopenia was found to occur in the splenic blood just as in the other parts The blood of the bone marrow likewise showed a fall in leucocytes But when attention was turned to the lung it was found that the leucocyte count of the blood in the pulmonary artery was higher than that in the pulmonary vein during the five minutes following the injection of the dechaining dose Thus before the injection the white cell count in both artery and vein was 20,000, thirty seconds after the injection the count in the artery was 9,500 and in the vein only 3,600, at three minutes the artery content was 4,400, the vein content 2,300 It would appear, then, that during the early period of shock leucocytes are retained in the lung This surmise was substantiated by a histological examination of sections of the lung tissues removed during this phase The capillaries were seen to be thronged with white cells, mostly polymorphs These findings confirm the work of Andrewes, who demonstrated the aggregation of polymorphs in the lung capillaries of immunized rabbits following the injection of bacterial antigen

382 Test of Bone Marrow Function

P HABETIN (*Wien Arch f inn Med*, December 1st, 1923, p 329) points out that every enumeration of the white cells of the blood is practically an examination of the functions of the bone marrow, leucocytosis and leucopenia are morphological indications of biological changes in the bone marrow In this article the author records very carefully many observations on the blood changes after the injection of sodium nucleinate in various diseases For two or more days before the injection the blood was examined at the same hour Then an injection of a 5 per cent solution of sodium nucleinate was given in the thigh, and the blood examined once or twice in the following day The number of leucocytes before the injection was taken as the standard and the increase or diminution afterwards calculated and expressed in percentage figures Twenty six cases were carefully examined, and the cases were divided into groups according to the results obtained In normal conditions the leucocytic increase was from 100 to 140 or 160 per cent The cases of various diseases examined were divided into (*a*) those in which bone marrow insufficiency existed, (*b*) those in which its functional activity was normal or increased In the first class were cases in which the leucocytes, after the injection were diminished (pernicious anaemia, cancer of the breast, chlorosis), and cases in which the leucocyte increase was only 120 to 140 per cent of the pre injection figure (Banti's disease, pernicious anaemia, typhoid fever, and cirrhosis of the liver) In the second group were cases in which the normal increase of leucocytes occurred after the injection up to 140 or 160 per cent (synovitis of knee, multiple sclerosis, pneumonia, tuberculosis), and cases in which the increase was over 160 per cent (malaria, aleukaemic myelosis, purpura haemorrhagica, miliary tuberculosis, typhoid fever in convalescence) The author considers that the injection of sodium nucleinate is a good method of testing the functional activity of the bone marrow in various diseases

383 Cutaneous Vaccination against Cholera

M CIUCA and I BALTEANU (*C R Soc de Biologie*, February 8th 1924, pp 315 and 317) have carried out some experiments on guinea pigs to determine whether it is possible to immunity against cholera by cutaneous inoculations vaccine Comparative experiments were conducted with guinea pigs inoculated with vaccine given either intraperitoneally or rubbed into the skin Twelve days after the second dose of cholera vaccine an intradermal test was performed with an emulsion of living vibrios The control unvaccinated animals showed twenty four hours afterwards a marked inflammation around the site of injection, accompanied by an extensive oedema Five days later a small abscess formed with caseous contents, which opened spontaneously, leaving an ulcer with perpendicular sides The animals inoculated intraperitoneally showed less reaction, a papule appeared after twenty four hours with scarcely any oedema, and the slight ulceration that followed cleared up rapidly In the case of the animals vaccinated cutaneously there was practically no reaction at all In a further series of experiments it was found that guinea pigs vaccinated intraperitoneally reacted by the formation of antibodies, which could be demonstrated in their serums in the form of agglutinins, bacteriolysins, and complement fixing substances, whereas guinea pigs vaccinated cutaneously formed none of these bodies Yet when their immunity was tested by the intravenous or intraperitoneal injection of living vibrios both series of animals were found to be resistant From this it appears that cutaneous vaccination is able to confer on guinea pigs a substantial immunity to cholera bacilli, without this immunity being demonstrable by examination of the blood for antibodies This immunity must be of a strictly cellular nature, for it is not transmissible to normal guinea pigs



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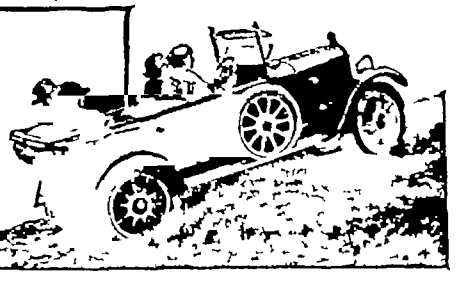
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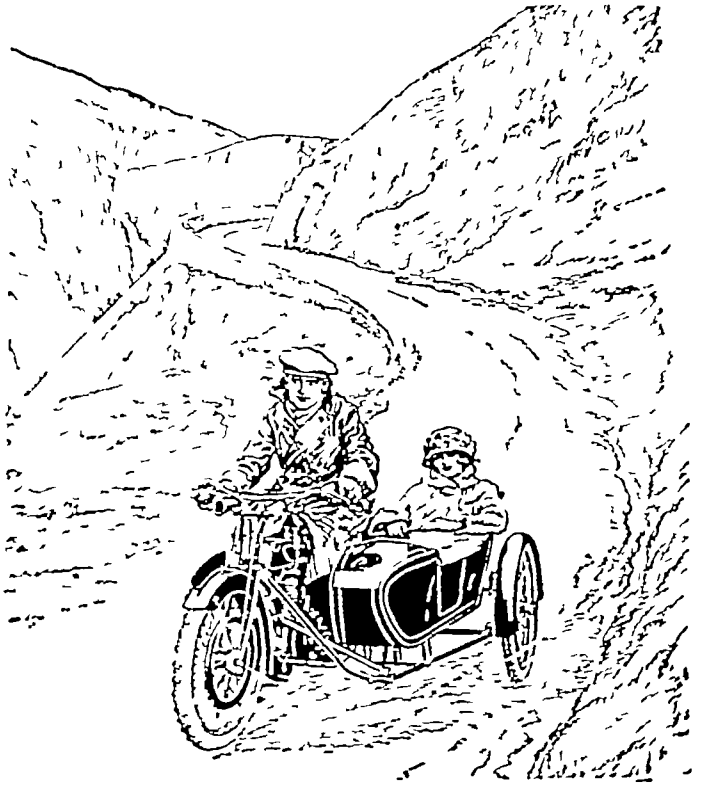
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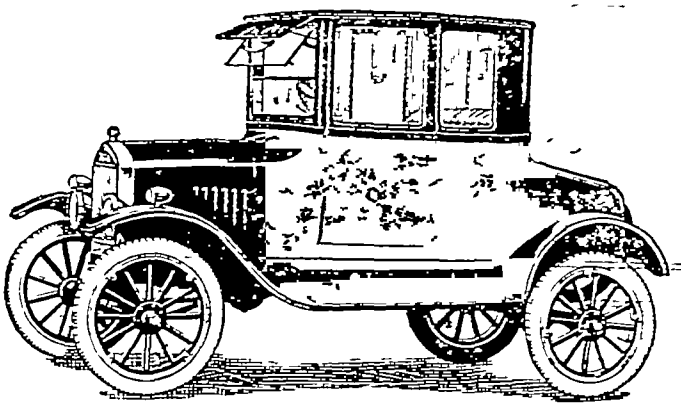
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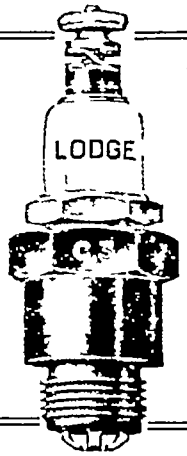
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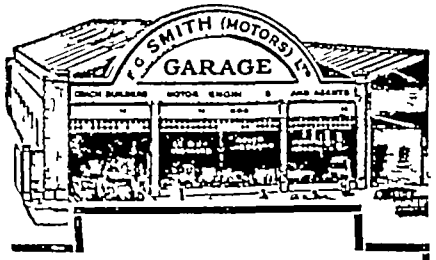
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TELEPHONE No. 56.
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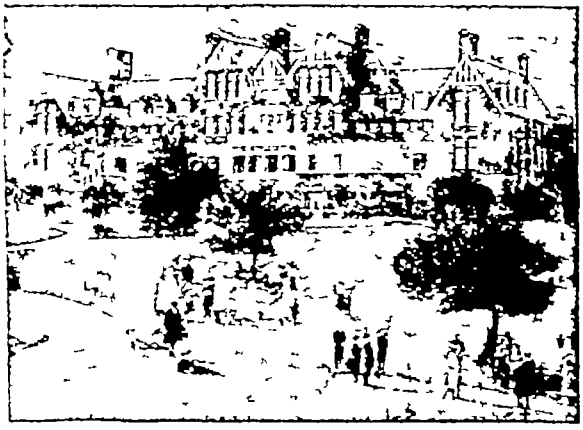
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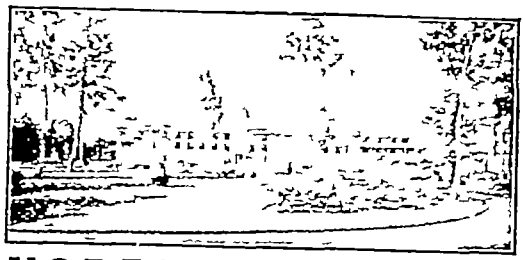
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AT MURTLE, ABERDEENSHIRE

Senior Physician Dr J M JOHNSTON

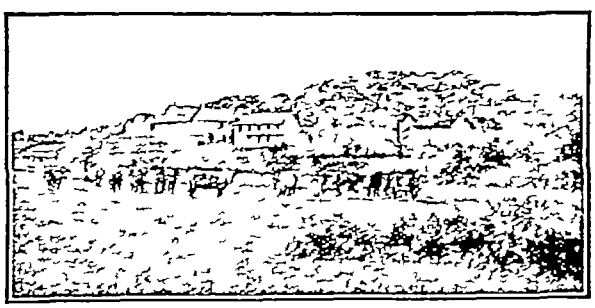
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OPEN AIR WARDS.

[illegible] X Rays, Splints, [illegible]

[illegible]

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The Examination will be conducted both orally and in writing, and will include—

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Intending Candidates are required to send in their names to the Registrar of the Royal College of Physicians, Pall Mall East, London, not later than June 9th, with evidence of the duration of their Medical Studies from the Deans of their respective Schools, and evidence of the date at which they passed their Examination in Anatomy and Physiology. J. A. OLIVEROD, M.D., Registrar.

Pall Mall East, S.W.1.
January, 1924.

University of London

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MAJOR GREENWOOD M.R.C.P. M.R.C.S. (Statistician to Ministry of Health)	"Is the Statistical Method of any Value in Medical Research."
MAY 29TH.	
GORDON M. HOLMES C.M.G. C.B.E. M.D. (Physician National Hospital for the Paralysed and Epileptic)	"The Ductless Glands and Personality"
JUNE 5TH.	
WILFRED TROTTER M.D., F.R.C.S. (Surgeon University College Hospital)	"The Sensibility of the Skin in Relation to Neurological Theory"
JUNE 12TH.	
WILLIAM BATESON M.A. D.Sc. F.R.S. (Director John Innes Horticultural Institution)	"The Determination of Sex."

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A COURSE of FOUR LECTURES on "*The Development of the Human Embryo up to the appearance of the Primitive segments*," will be given by Professor T. H. BRYCE, F.R.S. (Professor of Anatomy in the University of Glasgow) at KING'S COLLEGE LONDON Strand, W.C.) on Tuesday May 15th Friday May 16th Monday May 19th and Tuesday May 20th, 1924 at 5 o'p.m.

At the First Lecture the Chair will be taken by Professor J. P. HILL, F.R.S. (Professor of Embryology in the University). A Syllabus of the Lectures may be obtained from the undersigned.

Admission free without ticket.

EDWIN DELLER, Academic Registrar

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Seamen's Hospital Society.

LONDON SCHOOL of TROPICAL MEDICINE
Endsleigh Gardens, N.W.1.

Next Session will commence 22nd September, 1924.

For Prospectus and further particulars apply to The Secretary, London School of Tropical Medicine, Endsleigh Gardens N.W., or to the Head Office, Seamen's Hospital Greenwich London S.E.

F.R.C.S.(Edin.)

A TUTORIAL CLASS for the next Examination commences shortly

Particulars from CHAS. R. WHITTAKER, F.R.C.S. Anatomical Department, Surgeons Hall, Edinburgh.

Royal College of Surgeons of ENGLAND

ELECTION of PROFESSORS and LECTURERS

Notice is hereby given that the Council are prepared to receive applications for Election to the office of Hunterian Professor and of Arris & Gale Lecturer for the ensuing year

Fellows and Members of the College desirous of becoming candidates must make application in writing to the Secretary on or before the 4th proximo and are requested to furnish a synopsis of the one or more Lectures which they propose to give.

S. FORREST COWELL Secretary

10th May 1924.

London (Royal Free Hospital) SCHOOL OF MEDICINE FOR WOMEN, (UNIVERSITY OF LONDON)
8, Hunter Street, Brunswick Square W.C.1.

A CLASS in OPERATIVE SURGERY will be arranged in the first fortnight in June 1924, for Medical Women reading for the Final F.R.C.S. and M.S. Examinations.

All particulars from the undersigned.

L. M. BROOKS Warden and Secretary

Liverpool School of Tropical MEDICINE.

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 1st and JANUARY 15th.—Prospectus from the Hon. DEAN of the School of Tropical Medicine University of Liverpool

Home School for Backward [illegible]

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC,
Queen Square, W.C.1

MEDICAL SCHOOL.

A POST GRADUATE COURSE on DISEASES OF THE NERVOUS SYSTEM will be held at the above Hospital from May 3rd to June 27th 1924.

The General Course will consist of CLINICAL LECTURES and DEMONSTRATIONS TEACHING in the OUT PATIENT DEPARTMENT and PATHOLOGICAL LECTURES and DEMONSTRATIONS

The fees for this Course will be £5 5s.

A COURSE OF LECTURES on the ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM will be arranged if there are sufficient applicants.

Fee £2 2s.

A COURSE OF CLINICAL DEMONSTRATIONS chiefly on METHODS OF EXAMINATION OF THE NERVOUS SYSTEM will be given.

Fee £2 2s.

A limited number of students can be enrolled as WARD CLERKS or as CLINICAL ASSISTANTS in the Out patient Department

Applications should be addressed to the Secretary, Medical School, National Hospital for the Paralysed and Epileptic, Queen Square London W.C.1

J. G. GREENFIELD Dean

Tickets entitling to attend the Out-patient Clinics only (£2 2s. for three months), may be obtained from the Secretary

The Middlesex Hospital
MEDICAL SCHOOL, W.1

Applications are invited for a PART TIME CANCER RESEARCH SCHOLARSHIP (The Crauxax Memorial Scholarship) tenable at the Middlesex Hospital Medical School renewable yearly for three years, at £150 per annum. Applicants must have medical qualification. Scholar would be expected to undertake laboratory research on cancer

Applications are invited for a PART TIME CANCER RESEARCH SCHOLARSHIP tenable at the Middlesex Hospital Medical School renewable yearly for three years, at £150 per annum. Holder of appointment must have medical qualification and would carry out clinical investigation in the radium treatment of cancer, under the direction of the Radium Committee.

The above posts might be held jointly applications for which with testimonials not exceeding three in number should reach the Secretary to the Council by 12 noon on Monday May 26th 1924

University of Durham
THE COLLEGE OF MEDICINE
Newcastle-upon Tyne.

Applications which should be addressed to the Registrar on or before May 24th 1924 are invited from qualified medical men for a Vacancy on the STAFF of the DEPARTMENT of BACTERIOLOGY

The salary will not exceed £600 per annum, and will be dependent upon the previous experience of the applicant.

Further particulars may be obtained from the undersigned. R. HOWDEN

The College of Medicine, Newcastle-upon Tyne — Registrar 2nd May 1924

Small Private Residential
SCHOOL, established 21 yrs. for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS Special Department Pupils over school age. Under Medical supervision.—Prospectus, Mrs MEIKLEJOHN Principal St. Paul's House, Upper Maze Hill St. Leonards-on-Sea.

King Edward VII Sanatorium,
Midhurst Sussex.

The Council invite applications for the post of MEDICAL SUPERINTENDENT to the Institution. Candidates must be duly qualified and registered, and have had experience in Tuberculosis work.

Salary £1,000 per annum, rising to £1,200 with house Applications (with 12 copies of not more than three recent testimonials) to be sent on or before May 26th to the Secretary 91 Eaton Square London S.W.1

A Resident Medical Officer
(male) is required for the HOVE HOSPITAL (Carr-Burton Memorial) Sackville Road Hove. Must be unmarried and under 30 years of age. Salary £150 per annum, with board and lodging. Applications with copies of recent testimonials should be sent to the Assistant Secretary by the 17th inst. Candidates must prove by reference to the current Medical Register or by a production of a Certificate of Registration that they are legally qualified to practise both Medicine and Surgery. For further particulars apply to Mr. A. P. LEAK Assistant Secretary Brighton Hove, and Preston Dispensary 119 Queen's Road Brighton

Government of the Union of SOUTH AFRICA.

VACANCIES FOR ASSISTANT PHYSICIANS IN THE UNION MENTAL HOSPITAL SERVICE.

SALARY.—£460 per annum plus free board, lodging, fuel light, and washing plus such local allowance (if any) as may from time to time be prescribed.

ENGAGEMENT.—In the first instance for two years on written contract, with prospect of extension or appointment to pensionable establishment of the Public Service and subsequent promotion therein.

QUALIFICATIONS.—Applicants must be British subjects, single, and preferably under 30 years of age. It is desirable that candidates should have held House Appointments, preferably in their own hospitals.

TRANSPORTATION.—Free first-class rail and steamer fares from residence in United Kingdom to destination in South Africa, plus half salary on voyage.

GENERAL.—Successful candidates will be required to produce Birth and Health Certificates (the latter on forms obtainable from the High Commissioner)

Applications and copies of testimonials, all in duplicate must reach the Secretary Office of the High Commissioner for the Union of South Africa, Trafalgar Square London, W.C.2 (from whom forms of application may be obtained) not later than 15th May 1924

Aden Settlement.

The Executive Committee of the Aden Settlement invite applications for the post of EXECUTIVE HEALTH OFFICER. Salary, Rs800 per mensem rising by annual increments of Rs 50 per mensem to Rs 1,000 per mensem with travelling allowance of Rs 150 per mensem, and free unfurnished quarters or a house allowance of Rs 75 in lieu thereof Agreement for two years in the first instance with extension if satisfactory Free first-class passage to Aden on engagement, and back on termination of employment. Three months leave on full pay after two years service. Private medical practice allowed.

Applicants, whose age should not exceed 35 years, should be qualified medical practitioners, and should hold a Diploma in Public Health Preference given to holders of Diplomas in Tropical Medicine. Knowledge of Arabic and Public Health experience in Arabic speaking countries an advantage

Applications in writing only stating age education, qualifications, with copies of three recent testimonials to be made not later than Tuesday May 27th 1924 to The Agents of the Executive Committee, Aden Settlement 2, Queen Anne's Gate London S.W.1

West London Hospital,
Hammersmith Road, W.6

Applications are invited for the post of MEDICAL REGISTRAR for a period of one year eligible for re-election annually An honorarium at the rate of £100 per annum is attached to the post. The successful candidate must hold no appointment at a general teaching Hospital during his term of office The duties include the preparation of the Medical Registrar's report for the year, and the supervision of the records of cases. The candidate appointed must be available as substitute for the Physicians and Assistant Physicians when required, and be prepared to undertake such teaching for the Post-graduate College as may be desired

Candidates are required to be registered under the Medical Act, to send applications so as to reach me not later than Tuesday, 17th June next to attend the Medical Council Meeting on Friday 20th June at 4.30 p.m. and prior to that date to call upon and send copies of application and testimonials to each member thereof; to abstain from canvassing but nevertheless to send copies of application and testimonials to each member of the Board of Management, at whose meeting, on Tuesday 24th June, at 5 p.m., candidates must be in attendance.

H. A. MADGE Secretary

Leicester Royal Infirmary

HONORARY PHYSICIAN

There is a vacancy for an Honorary Physician to the Infirmary and applications are invited for the post. The present Senior Assistant Physician (Dr J. D. Slight M.A. M.D.) is a candidate.

ASSISTANT HONORARY PHYSICIAN

Consequent on the above post being filled there will be a vacancy for an Assistant Honorary Physician.

Candidates must be Graduates in Medicine of one of the Universities of the United Kingdom or Ireland, and duly registered Fifty guineas annually is granted by the Board for out-of-pocket expenses.

Applications for both posts in the latter case accompanied by 10 copies of recent testimonials to reach the undersigned by Monday May 19th 1924

HARRY JOHNSON

House Governor and Secretary

May 1924

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District	Town or District.	Town or District.
CONTRACT PRACTICE.		
ENGLAND.	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	OAKDALE MON *(Medical Officer for Medical Aid Association.)*	LEEDS EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs.)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*	LINCOLN: CITY AND COUNTY BOROUGH. *(Medical Officer of Health.)*
WALES.	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	MORAY: EDUCATION AUTHORITY. *(Assistant School Medical Officer.)*
ABERTRIDWR GLAMORGAN *Windsor Colliery (Medical Scheme.)*	**PUBLIC HEALTH.**	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
EBBW VALE MON *(Workmen's Medical Society.)*	BARNSLEY: COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	SELKIRKSHIRE *(Medical Officer of Health.)*
GILFACH GOCH, GLAMORGAN *(Workmen's Medical Scheme.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer.)*	SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer.)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	HEYWOOD BOROUGH *(Medical Officer of Health).*	STOKE ON TRENT EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou, St. Vincent and St. Lucia).

(c) Overseas Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr R H TODD (Hon Sec. New South Wales Branch) B M.A. Building 30-34, Elizabeth Street, Sydney N S W	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street Brisbane.	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon. Sec., Victorian Branch) Medical Society Hall, E. Melbourne, Victoria.
				WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch No 6, Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address 429 Strand, W C 2.
May 7th 1924.

By order of the Council of the British Medical Association.
ALFRED COX, Medical Secretary

Wolverhampton & Midland COUNTIES EYE INFIRMARY

HOUSE SURGEON wanted It is essential that candidates must possess a knowledge of refraction work Duties to commence about 9th June. There are 50 beds for in-patients, and large out patient department. Salary £200 a year with furnished apartments, board and laundry

Gentlemen applying should state age, and send copies of three recent testimonials to reach the Secretary not later than the 13th May

Wolverhampton EUSTACE LEES
28th April 924. Secretary

The Western Dispensary, 38 Rochester Row Westminster S.W 1

Applications are invited to fill a VACANCY in the Attending Medical Staff of the above institution.

Applications with testimonials must be sent to the Secretary not later than Thursday the 15th inst.

Applicants to be resident in Westminster or Pimlico, doubly qualified British born and of British parents.

Hospital of St John and St ELIZABETH 40, Grove End Road, N W.8.

An ASSISTANT RADIOLOGIST required at once Honorarium £50 per annum.

Full particulars to be obtained from the Medical Superintendent any day after 4 p.m.

East Sussex County Mental HOSPITAL, Hellingly Sussex.

Required JUNIOR ASSISTANT MEDICAL OFFICER (male) Candidates must be registered medical practitioners and unmarried. Preference will be given to a candidate who holds a certificate in Psychological Medicine. Salary £350 per annum, rising by £25 per annum to £400 with board (no stimulants) apartments, laundry and attendance. Appointment subject to the provisions of the Asylums Officers' Superannuation Act 1909

Applications stating when able to commence duties, and accompanied by copies of not more than three recent testimonials, to be addressed to the Resident Physician and Medical Superintendent and to reach him on or before 16th May

Ancoats Hospital, Manchester

HOUSE SURGEON (Lady)

Required to commence duty on June 1st, next

Applications, stating age, qualifications, previous experience (if any) together with copies of three testimonials, to be forwarded to the undersigned on or before the 20th instant.

The appointment is for 12 months, and the salary is at the rate of £100 per annum for the first six months and £150 per annum for the second six months. By order of the Board

HERBERT J DAFFORNE, Secretary

Middleton-in-Wharfedale SANATORIUM.

ASSISTANT MEDICAL OFFICER (NON RESIDENT)

The County Council of the West Riding of York shire invite applications for the appointment of Assistant Medical Officer (Non Resident) at the Middleton-in Wharfedale Sanatorium, near Ilkley (250 beds)

Salary £500 per annum

Further particulars and form of application may be had from the undersigned, by whom all applications together with copies of not more than three recent testimonials, must be received not later than the 19th May 1924.

County Hall FRANCIS ALVEY DARWIN
Wakefield, Clerk to the County Council.
3rd May 1924

The Birmingham & Midland EAR & THROAT HOSPITAL.

JUNIOR HOUSE SURGEON qualified wanted with clinical experience (non resident).

Appointment for three months, and eligible for election as Senior Surgeon for a further six months.

Salary at the rate of £200 per annum, with part board Duties to commence July 1st, 1924.

Applications and testimonials to be forwarded on or before 15th May to the undersigned.

S. G GREW Secretary

Wanted, a qualified Outdoor ASSISTANT in a Glamorganshire Colliery district £350 per annum house and coal Would suit a married man. A recently qualified man entertained.—Address giving age and references to No 2318 BRIT MED JOUR. Office 429 Strand

Wanted — Assistantship in London or near neighbourhood by Honours Grad. G P exp. 4 years Hospital exp. in midwfy Surg. Gynæcology Highest testimonials Young energetic. Reading for higher degree English partner liperntertained.—Add No 2317 B.M.J Strand

Wanted by elderly Medical man, D T M with 24 years exp of Tropical diseases APPOINTMENT in Tropics. Physically fit for any work, used to wild countries no objection to dangerous countries. Almost immune to Malaria. Excel testms. & refs.—Add No. 2331, B.M.J, Strand.

Wanted — Keen Assistant, outdoor Midland City Good anæsthetist, etc. Motor cyclist a recommendation. Usual bond.—Address, No 2333 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Assistant wanted, to help occasionally partners in busy practice and to do locum during summer months Would suit semi retired man. State essential particulars. Further particulars on application Usual bond.—Address No 2336 B M J Office 429 Strand W C

Assistant wanted —Industrial town near Manchester Panel and private Must be keen on work and conscientious View to partnership Sound practice with excellent prospects to suitable man State qualifications etc.—Address No 2316 B M J Office 429 Strand W C

Assistantship, or long Locum, with view to London, wanted by young Scotch, Glasgow graduate. Has had two years experience in large general practice in West Riding Keen abstainer own car Free in a month.—Address No 2101 BRIT MED JOURN Office 429 Strand W C

Assistantship or Long Locum desired immediately by M B Ch.B (woman 26) with experience in Sanatorium Midwifery and G P Excellent testimonials and references Terms moderate.—Address No 2335 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistant wanted, indoor, general practice largely panel south coast. Gentleman with some experience and desirous of permanency preferred.—Address No 2319 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship with, or without view to Partnership desired shortly by M B B Ch. Trinity College, Dublin Well qualified and experienced man.—Address, No 2310 BRITISH MEDICAL JOURNAL Office 429 Strand W C

M.R.C.S (Eng.), male, single, set 25 strong industrious well received by patients recently qual desires post as ASSISTANT (in or outdoor) Colliery panel or otherwise Light mild, and night work not objected to.—Address giving all particulars to No 2307 B M J 429 Strand W C

M.B., Ch.B (Aber.), Scotch, set 30 desires ASSISTANTSHIP or manage trial practice (with view) Ex H S Large experience general practice Excellent anæsthetist motor cyclist etc High testimonials Free mid June.—Address No. 2328 B.M.J 429 Strand W C

M.B., B.Ch., male, aged 30, Brit born energetic, wishes whole or part time ASSISTANTSHIP view pharmacy., London preferred motor cycle, abstainer Good references Free May or June Interview arranged.—Address Dr A 40 Carlton Avenue N.W.9. Tel: Willesden 510

Woman Medical Officer (full time) wanted for September 1924 for WHITELANDS TRAINING COLLEGE, Chelsea (Head Mistress Miss) For forms of application and particulars of terms, apply to the Secretary, Westminster College, Cheyne Walk, S.W.3. Applications must be returned before May 24th.

Welsh-speaking Assistant required for a purely country Practice in Wales.—Apply with testimonials, and stating age and salary expected, for particulars to "Y" c/o Lewis's & Co. Ltd Wholesale Druggists, Liverpool.

Woman Graduate (M.B., Ch.B Liverpool) with some experience, desires ASSISTANTSHIP in General Practice.—Address [illegible] Medical Journal Office, 429 Strand, W.C.

Chief Laboratory Assistant with 20 years experience of Post Mortems and Museum Mounting requires POST Has been in sole charge of Labs Museum arrangement. At present employed in well known Teaching School. Exp. in lumbalining.—Add. No.2305 B M J Strand

M.B., Ch.B Glasgow, aged 27, married desires outdoor ASSISTANTSHIP in City or large town Over two years experience general practice private and panel Keen energetic abstainer Excel testimonials Free in a few weeks.—Address No 2323 B M J Office 429, Strand W C

M.B., Ch.B Glasgow, 1923, (woman, 25), desires ASSISTANTSHIP keen and energetic. Nominal salary in return for good experience.—Address, No 2327 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

M.B. (woman) desires ASSISTANTSHIP in June Experienced. keen energetic, cyclist. Salary £200 (Indoors).—Address No 2122 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2.

Middle-aged Medical Man, having recently disposed of a small Practice held for 20 years desires to ASSIST in good class Seasonal Practice, with a view to acquiring a Share later Seaside Locums considered.—Address No 2314 BRIT MED JOUR. Office 429 Strand W C 2

Secretary —Lady, 35, wishes SECRETARIAL WORK for Specialist No salary required, but wishes for room on the premises.—Address No. 2320 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

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Advertisements should be delivered, addressed to the Manager 429 Strand, London W C 2 not later than first post on Tuesday preceding publication

Note.—It is against the Rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Dispenser, lady, desires re- engagement, doctor or Institution. Hall certificate experienced, well recommended at liberty end of May.—Address No 2311. BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Lady Dispenser Book-keeper, Hall qualification, with experience in Bacteriology desires permanent or temporary POST whole or part time in St. Albans or London districts.—Address, No 2337 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2.

FOR LOCUM TENENS APPLY TO Mr. PERCIVAL TURNER.

The Oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals.

4, ADAM STREET, STRAND, LONDON, W C 2
Teleg: "Epsomian London." Phone: Gerrard 399.
After 5 p.m.—Phone: Ipsom 335

Wanted —Locum Tenencies for June and July by an experienced Doctor who has had own practice. London preferred, not essential Terms £7/7/0 p.w Does some 10 locums annually Well recomd Disengd June 9th. —Add. "MEDICUS," 53, Talbot Road Bayswater W

Would London Doctor EXCHANGE for few weeks from 1st June with Country Doctor 3 miles from Sea Motor used No fee either side.—Address No. 2306 BRITISH MEDICAL JOURNAL Office 429 Strand W C.

Hospitality Locum wanted about end of May, very small practice Country close to London. No night work or midwifery.—Address No 2308. BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2.

Woman, M.B., B.Ch., D.P.H., requires LOCUM or ASSISTANTSHIP Experience panel and private Practice Quick Dispenser Motor enthusiastic Cyclist Very moderate salary required now.—Address No. 2324 BRITISH MEDICAL JOURNAL Office, 429 Strand W C.

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PROVIDED

Without fee to Principals

Apply to

Mr. W. S. ATKINS

(Late of ARNOLD & SONS, London)

43, BEDFORD STREET, STRAND, W.C.2.

Telegraphic Address:
Positions, Westrand, London.
Telephone: Regent —

Locum Tenency desired before June 5th, and after July 10th, by M.R.C.S., L.R.C.P Lond., experienced accoucheur and theatre ex H.S. Country preferred. £6 6s. per week, fares from Bristol.—Locum, c/o Barfield, Bournemouth Road Parkstone Dorset.

Locum wanted for 2 or 3 weeks in June. Hospitality for wife.—Address stating essential particulars No 2313, BRITISH MEDICAL JOURNAL Office 429 Strand W C.

Wanted — Energetic young man to take over good unopposed PRACTICE in New Zealand, doing about £1,800 p.a. on Partnership basis with view to purchase. Scotch preferred. 70% share, and free furnished house.—Address, No 2312 B M J Office, 429 Strand W C

Wanted immediately in Fife, Scotland, a PARTNER must be first class Surgeon in rapidly growing colliery and private Practice. Capital required.—Send full particulars, age qualifications nationality religion, surgical experience and amount of immediately available capital to Box 790 ROBERTSON & SCOTT Edinburgh

F.R.C.S (Eng.), aged 33, after exceptionally wide experience for last five years in Major Surgery as Surgical Registrar and R.S.O requires Surgical PARTNERSHIP with genuine scope for Major Surgery Highest references and testimonials.—Address No 2113 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

L.D.S. Eng. wishes medical man or dental surgeon to join him in large premises in Harley Street or Mayfair £1 0 0 each essential Remunerative apart from practice. Partnership in practice with dental surgeon obtained.—No.2322 B M J Office 429 Strand W C

Lancashire, industrial town — PARTNERSHIP Half share Receipts £4 20 Panel 3 600 Appointments Good house, garden garage 1½ years' purchase. £1,200 down, balance arranged.—Address, No. 2343 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2.

Lancashire —Partnership worth £1,100 to £1,200 2/5 panel and 3/5 private, in industrial area with scope Good house available Purchaser should have necessary capital Premium 1½ years purchase.—Address No 1617, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Newcastle-upon-Tyne or District.—PARTNERSHIP with view to Succession desired in small Industrial Practice.—Address No 2325 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Partnership wanted in West or North-West London by ex H.S., H.P. and C.S.O to large London General Hospital, and G P experience. Aged 30.—Address No 2300 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2.

Yorkshire.—Partner required, aged 30 to 35 with experience of General Practice. Thickly populated country district on Main Line. Very sound middle and working-class Practice Very good house. Share worth £2,000 at approx 1½ years purchase.—Address, No. 2330 BRITISH MEDICAL JOURNAL Office, 429 Strand W C.

Wanted by M.B., aged 37, a middle and working-class PRACTICE of £1,500 or more with good panel in London or the South or Midlands. Now free and can pay cash.—Apply BLUXDELL & Co., 2, Craven Street, Strand W C.

Wanted —Practice, country or small provincial town in Midlands £1,000 upwards Notts preferred Nice house with garden essential.—Address no. 2301 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted good general and Panel PRACTICE in London or any large town Capital up to £5,000.—Apply PEACOCK Harley 10 Craven Street Strand W C. (No clergyman need apply.)

Vanted General Practice

yielding from £800 to £1,500 a year in my pleasant residential district. House on lease preferred Necessary capital at command —Apply HEALOCK & HADLEY 19 Craven Street, Strand W C.2. (No charge unless sale effected.)

Wanted —Provincial Town,

a GENERAL PRACTICE, with scope for surgery and honorary hospital appointment. Income required £1,000 up. House to rent —Apply Mr W H GRANT 50 Wigmore Street, W.1. (No charge unless sale effected)

Wanted —General Practice,

London Birmingham or Home Counties Income, £1,000 to £2,000 per annum with panel. Medium sized house and garden to rent.—Apply Mr W H GRANT 50 Wigmore Street W.1. (No charge unless sale effected.)

Death Vacancy —Small

Seaside Town, South Wales. About £1,500 p.a. Old-established h.p. No opponent. Panel over 1 4 0. Good house facing sea. Rent £60 —Apply No. 7539 c.o PERCIVAL TURNER, 1 Adam Street Strand W C.2

Death Vacancies —

CAMBRIDGESHIRE —Country PRACTICE. Income £1,650 Panel private and appointments. No opposition. House on lease or for sale

DERBYSHIRE. — Small recently established PRACTICE, good chance for extension Offers wanted —G M.A. Ltd. 12 Victoria Street, Nottingham. Telegrams; "LACIDEM" Nottingham. Telephone: 5534 and 5525.

Death Vacancy —Within

12 miles of London. About £700 p.a. Panel about 650 Old established PRACTICE. Detached corner house, large garden, garage, etc. Locum in charge.—Apply No. 7537 c/o PERCIVAL TURNER, 4, Adam Street Strand, W C.2.

For Sale —West of England

Old-established PRACTICE, about £2,000 p.a. including panel, public appointments, etc. together with excellent House (freehold) stabling and garage. Cottages and Poor Law Hospitals. Good hunting country £5,500 inclusive. Principals only —R.B.T., 28 Bardolph Road London, N

For Sale —Practically

unopposed County PRACTICE of £1,400 p.a. increasing £800 p.a. Fine panel and appts. old established compact detached house on rental Transfer easy 1½ years prem. in view of certainty of income. Nr fair sized town.-Add. No. 2334 B.M.J Strand.

For disposal, Quarter Share,

in a fashionable West-end old established Practice over £8,000 per annum. In order to avoid unnecessary interviews kindly give details of experience, etc., in application letter —Address, No 2206 BRIT MED JOURN Office, 429 Strand W C.2.

For Disposal —A good Prac-

TICE is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised —Full information free on application to 4, Adam St. W C.2.

For PRINCE, 32, Charing Cross,

London S W negotiates the Purchase and Sale of approved Medical PRACTICES and PARTNERSHIPS. Purchasers waiting Long Tenens Accountancy a speciality Moderate fees Lists and terms on application. Established 18 5.

London —Well-established

Pane. and Private Cash PRACTICE for sale. Average receipts £700 a year Premium 1½ years purchase or close offer Half down and balance by instalments.—Address No. 2315. BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2.

Newfoundland — Unopposed

Town and Country PRACTICE. Receipts £1,650 a year could be much more. Good family residence. Practice and house to be sold on easy terms Vendor in London.—Apply PEACOCK & HADLEY 19 Craven Street, Strand W C.2.

New Zealand — Unopposed

PRACTICE of £1,800 with great scope. Good 8-roomed house, nice garden garage and up-to-date operating theatre. Price £1,500 but less accepted if property be taken on easy terms.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd 88 King Street.

Practice wanted in industrial

centre of Lancashire. Manchester preferred but not essential Receipts £500—£1,500 —Address No. 2304 BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2.

North of England —Old-

established Country Town PRACTICE. Average receipts £1,460 Good panel. Expenses small. Good house garden tennis lawn, and orchard. Large mortgage arranged. LEE & MARTIN Ltd. 71 Temple Row Birmingham.

North Wales Coast Town —

NUCLEUS Receipts £8 per week. Small panel. Ample scope. Population largely increased in summer House available in June. Practice carried on at rooms. Low premium for quick sale.—LEE & MARTIN Ltd.

Lancashire —Large City

Old-established private and panel PRACTICE Receipts over £2,100 Panel over 1 90½. Expenses small Freehold house, excellent position. Premium payable part down and remainder by instalments.—LEE & MARTIN Ltd.

Liverpool —Partnership worth

£500 per annum, preliminary Assistantship. Old-established good middle-class Practice. Large panel Single young Englishman or Scotsman essential —LEE & MARTIN Ltd.

Staffordshire —Old-estab

Town and Country PRACTICE.—Receipts £1,190 Panel over 500 Appointments. Scope. Freehold house, ample accommodation; good garden.—LEE & MARTIN Ltd

Shakespeare Country —Small

Panel PRACTICE with good scope Doctor going abroad Small premium accepted.—LEE & MARTIN Ltd. 71 Temple Row Birmingham.

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PARTNERSHIPS.—Mr W S. ATKINS (late of ARNOLD & SONS, London) has a large number of Clients who are seeking Practices and Partnerships and wish to settle down at once.—Send full particulars, in confidence, to ATKINS Medical Transfer Agency 43, Bedford Street, Strand W C

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charming country Practice in N W Midlands. Good house on lease Undoubted scope. Reasonable cash offer —Address, No. 2326. BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2.

To Purchasers —Do not Buy

without expert assistance With 40 years experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4 Adam Street, Strand W C.2. Telephone: Gerrard 399 Telegrams: "Epsomian London."

Urgent —Mixed, within 25

miles average over £1,700 panel increasing 1 700 Established 20 years. Held by vendor (who wishes to secure Practice in native county) 10 years, during which time increased three-fold.—Address, No. 2321, B.M.J Office 429 Strand W C

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Coast.—Old established and very successful MEDICAL and SURGICAL NURSING HOME 24 years in same ownership for Sale It contains 24 rooms including newly appointed operating theatre, faces South and overlooking sea. Lease over 11 years unexpired at the moderate rent of £127 p.a. Price for lease, goodwill, furniture, etc. £1,200 —PEDFORD & Co 10 Wigmore Street W 1

Yorks Seaside Resort —Good

PRACTICE near front. Nice house £60 Average receipts over £1,100 Panel 810 Cottage hospital Price 1½ years' purchase, or near offer for quick sale.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd., 88, King Street.

Yorkshire —Good non-panel

NUCLEUS on suburban thoroughfare in University city Twelve months' receipts £923. Good opening for panel, and well-situated corner house for sale. Electric light and heating.—Address, No. 2019 BRIT MED JOUR. Office 429 Strand, W C

For Sale —Histological

MICROSCOPE Bausch & Lomb stand, Zeiss ⅓ ⅔ in case, £8 HALF SKELETON dissarticulated, £2, 160 PATHOLOGICAL SLIDES £2 85 normal ditto £1.—Address, No 2332, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C

Govt. Surp —Major Operty Outfits

£5 to £10 Sterilizers 10" £1 Iod. Catgut 6 tubes 1/6 Sterile silk or Catgut 12 tubes 1/- Wool 3oz. comp. pkts. 1/4 lb Plaster 1 spools 10d. Spencer Well's Forceps 2/6 pr Hypo. Syringes etc.—A. AUTY 62 King's Road, Willesden N W 10

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APPLIANCES urgent. Contents of small private Laboratory Little used, many things new Also Typewriter and small Printing Press. State requirements, enclosing stamp.—KNIGHT Laboratory Wilmington Dartford.

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for Sale scheduled price £105, sell £95 — Apply 3 Douglas Road Maidstone.

X-Ray plant, for treating skin

diseases, for Sale cheap; switch-board 12 in. coil stand tube, all in excellent condition. To be seen and tried in Central London.—Write, Box 121, SCRIPPS'S South Molton Street, W 1

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The opportunity occurs of acquiring accommodation in one of the best houses in this position, the following being available—

MAISONETTE
of 4 bedrooms, bathroom, 2 reception rooms, kitchen, etc. Rent £400 inclusive.

Four fine consulting rooms, two being on the ground floor and two on the first floor

Excellent waiting rooms resident caretaker and reception maid.

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OSBORN & MERCHE,
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FURNISHED with LIGHT, HEAT and ATTENDANCE.

£250 per year or near offer
Apply Owner
c/o Mr ERNEST BARRIS, 123, Salisbury Square, Fleet Street, London, E.C 4.

Consulting Room to let,

including use of waiting room and usual services.—HODGSON 7 Cavendish Place, Cavendish Square, W 1

Harley Street —A Set of Six

Fine ROOMS self-contained and with own private door to be LET without premium Very suitable for a firm of Practitioners of several Partners, or arranging to share with others. Caretaker's Rooms and Workroom in basement.—ELLIOTT SON AND BOYTON 6, Vere Street, W

Large bed-sitting room,

Doctor's house, close to Harley Street Terms, two guineas weekly Part time use of consulting room if required Good service. — Address, No. 2008. BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2.

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Place, facing Ornamental Gardens. Spacious HOUSE to be Let on Lease for approved professional residence, or for conversion into good maisonettes —Apply to JOHN MURRAY F S.I., 11 Suffolk Street, Pall Mall, S.W 1

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CONSULTING ROOMS Mayfair and attendance, from £150 Specialist only —Write, G100 WILLINGS, 3, Knightsbridge, S.W

September, 1922 Wolseley

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West End Hospital for NERVOUS DISEASES, Welbeck Street W 1

The Committee of Management invite applications for male candidates for the vacant post of half time PATHOLOGIST Salary £300 p.a. also for the vacant post of RADIOLOGIST

Further particulars for both these appointments should be obtained from the undersigned to whom applications, together with typed copies of three testimonials written for the purpose should be received not later than Saturday 24th May

J. P. WELBNHALL Secretary

West End Hospital for NERVOUS DISEASES, Welbeck Street W 1

WANTED URGENTLY—A Locum Tenens for post of half time PATHOLOGIST Salary at the rate of £300 per annum Applications to be made immediately to the undersigned

J. P. WELBNHALL Secretary

Royal Southern Hospital, Liverpool

Applications are invited for the following posts viz.:—

1 ...OGIST
2 ...ORTHOPAEDIC

Applicants must possess special qualifications for those respective posts to which work the duties will be entirely confined

Applications and testimonials addressed to the Chairman of the Election Committee to be sent in not later than Friday 23rd May 1924

The canvassing of any member of the Election Committee will disqualify the applicant

ALLEN VALDRINI Superintendent and Secretary

Weymouth Union.

MEDICAL OFFICER WEYMOUTH DISTRICT

The Guardians invite applications for the post of Medical Officer for the Weymouth District which comprises the Old Parish of Weymouth exclusive of Melcombe Regis. Inclusive salary £100 per annum payable quarterly subject to the usual superannuation deductions

Applications stating qualifications etc to reach me not later than Monday the 12th proximo

By Order of the Board

Bank Chambers H. G. STEVENS,
Weymouth 30th April 1924 Clerk.

Great Yarmouth Hospital, (100 Beds)

HOUSE SURGEON required to undertake duties on 1st May Salary at the rate of £150 per annum for the first six months rising to £200 per annum with board residence and laundry

Candidates (Men) who must be fully qualified and registered should send applications with copies of recent testimonials to the undersigned on or before 12th May 1924

CLIFFORD WATTS Secretary

The Miller General Hospital FOR SEAMEN OF LONDON Greenwich S.E.1

HOUSE SURGEON required unmarried (three months' term)

Salary £120 per annum with board lodging and laundry [illegible] Applications [illegible] should be sent to the Secretary

Worthing Hospital

[illegible]

[illegible]

County Borough of WARRINGTON

ASSISTANT MEDICAL OFFICER OF HEALTH (MATERNITY AND CHILD WELFARE)

Applications are invited from properly qualified medical women for the post of Assistant Medical Officer of Health with special duties (under the Medical Officer of Health) in connection with Maternity and Child Welfare and under the Venereal Diseases Scheme

Candidates must have definite experience of Maternity Hospital Work and Children's Diseases and the possession of the D.P.H. or similar qualification is desirable

Salary £450 per annum with board and residence at the Municipal Maternity Home, in addition subject to percentage deductions in accordance with the provisions of the Local Government and other Officers' Superannuation Act 1922

List of duties will be forwarded on request

Applications must be made on forms to be obtained from the undersigned, to whom they must be returned accompanied by copies of three recent testimonials not later than Saturday, the 24th May, 1924

G. W. N. JOSEPH M.D. D.P.H.
Health Dept., Medical Officer of Health
Sankey Street Warrington

Cheltenham General Hospital

The Board of Management invite applications for the post of HOUSE SURGEON Candidates must be unmarried have a registered qualification in Medicine and Surgery and produce evidence that they are qualified to administer anaesthetics

Salary £200 per annum with board and lodging

Applications with copies of testimonials to be sent to the undersigned at the Hospital by the 20th inst.

By order
J. CUMMING SMITH Secretary

The Secretary for Mines invites applications from registered medical practitioners experienced in Colliery Practice, and preferably with administrative experience for a post of TEMPORARY MEDICAL INSPECTOR. The successful candidate will be required to visit coalfields throughout Great Britain to enquire into and advise on the best arrangements for applying the existing First Aid Regulations (particularly under ground) and to suggest improvements in the Regulations The appointment is for a period not exceeding twelve months and the salary will be at the rate of £1 000 per annum (including bonus) with travelling and subsistence expenses at the usual official rates in addition

Applicants who must not be more than 40 years of age should state their qualifications and give details of their experience Other things being equal candidates with military service will be given preference

Applications should be addressed to the Establishment Branch, Mines Department Dean Stanley Street, Millbank London S.W.1 No application received after 31st May 1924 will be considered

West Derby Union

RESIDENT ASSISTANT MEDICAL OFFICER

The Guardians invite applications for the above position at the WALTON INSTITUTION Liverpool, at a salary at the rate of £200 per annum together with the usual resident allowances

Candidates must be single fully qualified and registered. Appointment will be for a period of one year in the first instance subject to extension for a further period not exceeding twelve months at the option of the Guardians

Applications to be sent stating age qualifications etc., with copies of three recent testimonials to the undersigned not later than 20th inst

Union Offices G. W. COSTER
Brougham Terrace Clerk to the Guardians.
Liverpool

Elizabeth Garrett Anderson HOSPITAL, Euston Road N.W.1

STAFF APPOINTMENT

Wanted fully qualified medical woman as PHYSICIAN IN CHARGE of the Mechano-Therapeutic Department Applications with testimonials should be sent to the Secretary, from whom particulars of the appointment can be obtained on or before 7th June

IMOGEN H. MURPHY Secretary

Elizabeth Garrett Anderson HOSPITAL, Euston Road N.W.1.

Wanted fully qualified medical women for the following posts HOUSE PHYSICIAN OBSTETRIC ASSISTANT two HOUSE SURGEONS Appointments for six months from 1 July Salary at rate of £50 per annum, with board residence and laundry

Applications with testimonials should be sent to the Secretary not later than 31 May

IMOGEN H. MURPHY Secretary

Queen Mary's Hospital for THE EAST END Stratford E.15

Telephone Maryland 1016 and 2121
Beds 150 Out patient Attendances 1[illegible]

HONORARY ASSISTANT PHYSICIAN.

There is a vacancy on the Staff of this Hospital for an Honorary Assistant Physician.

The Assistant Physician will have some Beds allocated to him in the Hospital, and will be required to see Out patients

Applications accompanied by copies of testimonials from candidates, who must be duly registered practitioners either Graduates of a University or Fellows or Members of a Royal College of Physicians, should be lodged with the undersigned not later than the 10th day of June 1924.

RAPHAEL JACKSON Major Secretary

Liverpool Hospital for CONSUMPTION & DISEASES OF THE CHEST, Mount Pleasant Liverpool.

The Committee of the Hospital invite applications for the post of ASSISTANT MEDICAL OFFICER AND PATHOLOGIST

Salary £150 per annum (non resident), with liberty to private practice Candidates must be Graduates of a British or Irish University, or Members of the Royal College of Physicians

Applications with copies of three recent testimonials, to be sent in endorsed "Assistant Medical Officer" not later than the 24th inst., to the Secretary 70 Mount Pleasant Liverpool, from whom further particulars may be obtained

Queen's Hospital for Children, Hackney Road Bethnal Green E.2.
Telephones Dalston 605 and 601

CASUALTY HOUSE SURGEON required on 6th June Six months appointment Open only to duly qualified men or women who have held resident appointments in recognized hospitals. Salary £100 per annum, with board, residence and washing

Applications, giving full particulars, should be sent to the Secretary by 19th inst.

T. GLENTON KERR
3rd May 1924 Secretary

Jessop Hospital for Women, (Sheffield 90 Beds.)

GYNECOLOGICAL AND MATERNITY DEPARTMENTS

The Board of Management invite applications for the appointment of ASSISTANT HOUSE SURGEON for six months from July 1st 1924 Salary £100 per annum together with board, residence and laundry

Applications, stating age with copies of recent testimonials to be forwarded to

W. H. BOOTH Superintendent & Secretary

Aberdeen Royal Infirmary.

There is a vacancy in this Hospital for an HONORARY ASSISTANT MEDICAL ELECTRICIAN Particulars of the appointment may be had from the Subscriber with whom sixteen copies of application and of three recent testimonials, should be lodged not later than 3 p.m. on Monday, 12th May 1924

343 Union Street, A. SCOTT HYNIE,
Aberdeen. Clerk and Treasurer
24th April 1924

The Royal Infirmary, Sheffield. (487 Beds)

Wanted a HOUSE PHYSICIAN who must be fully qualified and registered one who has taken an Honours Course in Physiology preferred Salary £60 per annum with board and residence

Applications with copies of recent testimonials, should be addressed to

Board Room JNO. W. BARNES
30th April 1924 Secretary

National Hospital for the PARALYSED & EPILEPTIC Queen Square W.C.

REGISTRAR.

Applications are invited for the post of Registrar The salary is £200 a year Applications with recent testimonials should reach the undersigned from whom any further particulars may be obtained, on or before Monday May 12th 1924

GODFREY H. HAVILOCK Secretary

Bradford Children's Hospital

HOUSE SURGEON wanted duly qualified Salary £100 with board residence and laundry Applications, stating age with testimonials not later than May 14th to

C. V. WOODCOCK, Secretary

etropolitan Asylums Board

\ lications are invited for the appointment of COND ASSISTANT MEDICAL OFFICER in ro Tuberculosis service of the Board There is ono > at each of the following hospitals:—

(1) PRINCESS MARY'S HOSPITAL FOR CHILDREN Cliftonville Margate. Accommodation -71 beds for children suffering from non pulmonary tuberculosis Preference will be given to candidates with experience in Orthopædic or X ray work

(2) HIGH WOOD HOSPITAL FOR CHILDRE\ Brentwood, Essex. Accommodation 3 3 beds for children suffering from pulmonary tuberculosis. Experience in diseases of the chest in children will be a recommendation

Salary £500 per annum. The candidates inted will be required to reside in the institu and to pay for boar l lodging and washing at rate fixed from time to time by the Board nance Committee. At present the rate is £130 annum Married quarters are not available.

The Second Assistant M dical Officer at each of the hospitals is required to take charge of the institution in the absence of the Medical Superintendent There are two other Medical Officers at each of the hospitals.

Application to be made not later than 10 a.m. on Wednesday 21st May on forms obtainable from the undersigned by forwarding stamped addressed envelope. By order

Office of the Board, Victoria Embankment E.C 4 G A. POWELL, Clerk to the Board

Hampstead General & North-

WEST LONDON HOSPITAL, Haverstock Hill, N W.3.

APPOINTMENT OF RADIOLOGIST

Applications are invited from registered medical practitioners for the appointment of *Radiologist*

The officer appointed will be required to attend on three half-days in each week and will be paid an honorarium at the rate of £100 per annum in addition to the usual share of the fees due to him from special departments.

Applications, stating age, qualifications, and experience accompanied by copies of not more than three testimonials, should reach the Secretary not later than noon on 17th May

The Sheffield Royal Hospital

Applications are invited for the post of CASUALTY OFFICER, which falls vacant on the 22nd of May Candidates must be registered medical practitioners and unmarried. They must have held a previous resident Hospital appointment. Salary £150 per annum with board and residence in the Hospital Ladies are not eligible

Applications with copies of testimonials to be sent to me as early as possible

The Board Room 30th April 9 4 JOE W ROBINSON Secretary

Applications in confidence are

invited for the post of SUPERINTENDENT and SECRETARY at THE *SHEFFIELD ROYAL* HOSPITAL. Applications should be made in writing stating previous experience and salary required, to the Hon Secretary House Committee before 16th May 19 4. Further particulars will be supplied on application

Manchester Royal Eye HOSPITAL.

HOUSE SURGEON required. Salary Senior £150 or Junior £120 with board, residence &c. Applications, with copies of testimonials endorsed House Surgeon" to be addressed to the Chairman of the Board of Management, not later than May 15th.

W S PROPHET Secretary

Hospital for Epilepsy and PARALYSIS Maida Vale W

HONORARY MEDICAL OFFICER FOR X RAY AND ELECTRO-THERAPEUTICS REQUIRED

Applications are invited for the above post They should be accompanied by copies of not more than three testimonials and should reach me by 14th May There is an honorarium attached to the post.

H W BURRIDGE Secretary and General Superintendent

THE MEDICAL AGENCY,

WATERGATE HOUSE, York Buildings, Adelphi, W C 2.

Managing Director J A. REASIDE.
Telegrams: Telephone:
"TUBERCLE, LONDON" GERRARD 8351.

The Agency undertakes the Transfer of Practices, Introduction of Partners, Investigations for Purchasers, Valuations, Negotiation of Terms, the Supply of Locum Tenens and Assistants, and Medical Accountancy

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31, BEDFORD ST., STRAND W.C 2.

Gerrard 3073) (Estab. 1850)

This Agency (the Oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS and the SUPPLY of LOCUMS and ASSISTANTS

No Charge to Purchasers. All Business receives Mr NEEDES personal attention.

1 PARTNERSHIP in good class Country Practice within an hour of Town and returning about £3 000 a year with excellent scope for an active Third Partner Quarter Share rising to a third short preliminary Assistancy arranged.

2 CONFINES OF CITY —General PRACTICE of £1 250 a year including £550 from appts and small panel. No midwifery Exceptional Convenient residence on long lease at £125 Premium £1,500

3. OLD ESTABLISHED LONDON PRACTICE conducted as a "Lock up" and *returning* £1,300 a year No panel, midwifery night work or appointments. Convenient house at low rental. *Efficient intro* and moderate price

4. COUNTRY TOWN PRACTICE with in 3 hours of London and averaging about £840 including panel and transferable appts Convenient house and garden Rent £60 Premium 1½ year purchase.

5. BIRMINGHAM.—General PRACTICE, over £800 a year with panel and great scope, as Vendor has held same 10 years and has refused all *midwifery and night work. Convenient* house and garden on lease at low rental.

6. SEAPORT TOWN —Old-estab. PRACTICE held by Vendor many years and averaging about £1,500 a year over £600 being from panel and appointments Very considerable scope for active man of ability the opposition being of no *serious import.* Convenient residence on outskirts and admirably situate can be leased or bought. Premium 1½ years purchase

7 GOOD CLASS PRACTICE in Hospital Town within 2½ hours West. Receipts over £2,200 a year Visits 5, to 21/ mail extra. Capital family residence and grounds can be leased Efficient Partnership introd. Prem. £3,000

8 SCOTLAND —Island PRACTICE of £1,800 including over £600 from panel and appointments. Convenient residence, rent £70. Price £500 cash and £500 spread over 2 years.

ESTABLISHED 1868.

PEACOCK & HADLEY,

(Mr A. HADLEY)

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W C.2.

Telegrams Herbaria Westrand—London. *Telephone* Central 1112.

This old-established reliable Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application No charge made unless a sale be effected. LOCUM TENENS and ASSISTANTS supplied

FOR SALE.

1. SOUTHERN COUNTY —PARTNER wanted for town and country Practice. Receipts about £2,000 p.a. Panel and appointments about £850. House or rooms to be selected. Prem. for half or third share 2 years' purchase.

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4. DEATH VACANCY —ESSEX —Pleasant town 15 miles from City Middle-class PRACTICE. Receipts £800 per annum. Panel 734. Good house. Will sell or let Premium £1,000 or near offer

5 CHESHIRE.—*Half share of middle-class* and panel PRACTICE. Receipts £4,000 a year Panel 1,400. Good house available. Rent £54 Premium 1½ years purchase

6 NORTH WALES —Town and Country PRACTICE Receipts £550 p.a. Small panel Commodious residence, large garden etc. Rent £50 Premium £650

7 SOUTH WALES —Coast town. General PRACTICE yielding £1,700 a year Small but convenient house Rent £50 Premium £1,500.

8 SOUTH LONDON —General and Panel PRACTICE. Receipts £1,700 p.a. About 2 3 Panel patient Good residence. Rent £50 long lease separate surgery small rent Premium £2,000

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SUSSEX.—A General PRACTICE situated in a charming district Receipts £1,400 Fees 4/ to 21 Cottage hospital and scope for surgery Excellent double-fronted house, containing 8 bedrooms &c. Prem 1½ years purchase.—Folio 593.

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GLAM —General PRACTICE in thickly populated district on Coast. Receipts £1,700 Fees 3 guineas upwards. Panel 1 Considerable scope House, containing 4 bedrooms etc. rent £50 p.a. Premium £1 500 Folio 887

SALOP —PARTNER required for Country Practice Share worth £850 *Scope.* Good society sport &c Nice house containing 5-6 bedrooms, &c garden and garage at rental Premium for half share £1,000 Folio 889.

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PRACTICES AND PARTNERSHIPS FOR SALE

1 SEASIDE RESORT NORTH WEST COAST —Old-established good-class PRACTICE (held 25 years by present incumbent) averaging £1,310 per annum for the past three years No panel and practically no midwifery or night work Visits 7/6 to £1 1s Car not kept. Good house (facing sea) Rent £150 Premium 1½ years purchase. Vendor selling on account of ill health

2 WARWICKSHIRE.—Unopposed old-established PRACTICE situated in the centre of a hunting district, and within 10 miles of a large town. Average receipts for last 3 years £1,691 including various appointments and panel of 1 167 Visits 2 6 to 10/6 Midwifery 2 to 5 guineas about 40 cases yearly Very good house with ample accommodation bathroom etc. garden tennis lawn etc. Water laid on Electric light Vendor's freehold. Price £2 200 Premium for practice £2 200 Hunting shooting, etc. Plenty of social life Ill health reason for disposal.

3 GLOUCESTERSHIRE —Country PRACTICE held by Vendor nearly 20 years Steady average income of £1,450 Patients are mainly working class but the Practice is situated in extremely beautiful country Panel list of 1 177 Good freehold house with garden Price £1 200 £1 000 of which can remain on mortgage at 5 % Premium £2 000 £500 of which can be paid by instalments.

4. PARTNERSHIP —LONDON WEST END —The two-third share of a high-class established general Consulting Practice worth at least £1 500 a year can be secured by [illegible] Held over 20 years Consultation fees 2 guineas upwards but plenty to be had at 1 guinea. Rent of Consulting Rooms (including rates and taxes) £180 on lease Premium £2 500 Scope

5 SURREY —Attractive residential district within 20 miles of London. Better-class PRACTICE producing about £1,000 a year with large scope Good fees Panel 710 Very nice house and garden Rent £75 Premium £1 600

6 DEATH VACANCY — PEMBROKESHIRE —Unopposed PRACTICE in small seaside town within a few miles of a large one is for immediate disposal Receipts average £1,694 p.a. including appointments and panel of 1 370 Visits 3 6 to 10/6 medicine extra Little midwifery at 2 to 5 gns Motor cycle used. Good house, overlooking the sea with 4 and 5 bedrooms etc. Small garden and garage Will be let on lease at £60 p.a. Premium £2,000 or near offer

7 CHESHIRE —PARTNERSHIP —Pleasant Residential Town A half share in an old established Practice producing an average income of about £1 000 Panel 1 300 Fees 2/6 to 5/, visits 2 6 to 1 gn medicine extra. Good house with 6 bedrooms etc, rent £61 Prem £3 000 £2 000 down and balance by arrngmt.

8. CHESHIRE —PARTNERSHIP In large Town (population nearly 100 000) close to a seaside resort Partner required (under 35) for the third share of a middle class and panel Practice worth £3 200 per annum including 1 600 panel patients Visits 2/6 to 5/ Midwifery 2 to 3 gns. About 120 cases yearly Car not required No house at present available but comfortable rooms can be had Premium £1,100, payable £500 or £600 down and balance by annual payments over 2 years

9 PARTNERSHIP —LONDON, NORTH —The fourth share (with option of purchase up to one-third on October 1st next) in an old established middle-class Practice producing about £3 200 per annum including 1 000 panel patients and appointment worth £60 (a fine station. Visits 5/ to £1/1/0 Midwifery £5/5/0 upwards about 50 cases yearly Good house available with ample accommodation for purchaser If a bachelor could reside with the Vendor Price £1 250 *or near offer* Premium *for share* £1 000

10 BRISTOL —Very sound middle and working class PRACTICE held nearly 25 years by present Incumbent who is relinquishing on account of ill health Average cash receipts over £1,200 a year including several small appointments and a panel of over 1 000 Visits 3/6 to 10 6 Midwifery from 3 guineas about 50 cases Very good house specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance 5 bedrooms etc. Garden. Premium £1 800

11 LANCASHIRE —SMALL TOWN —PARTNERSHIP — One half share in a well-established Practice averaging for the last three years about £2 000 including 1 000 panel patients Fees 2 6 to 5 Goods, of increase Suitable house available price £950 Premium for share £1 000 cash, or £1,800 by instalments

12. NEW ZEALAND (NORTH ISLAND) —Unopposed and increasing PRACTICE, in a very beautiful district on main line, about 30 miles from a large city, and worth nearly £1,300 a year, including easily worked appointment at £100 Visits into Township 10/ mileage 6/, midwifery 5 gns. Good and up-to-date house (built by Vendor's predecessor) containing surgery 3 reception rooms, 3 bedrooms and sleeping porch bathroom etc, with an acre of ground tennis court, etc. Rent £120 on lease Climate perfect, sport of all kinds telephone churches, and shops of every description Premium £1 000

13. DERBYSHIRE.—HOSPITAL TOWN -Old-established PRACTICE, held 13 years by present Incumbent who is relinquishing on account of ill health. Cash receipts for the past 3 years average £3 373 per annum including about £1 500 from panel Fees 3 6 to £1/1/0 About 50 cases of midwifery a year at 2 to 5 guineas. Centrally situated house (3 reception rooms consulting and waiting rooms 4 bedrooms bathroom etc) on lease at £100 a year Premium £5 000 Good scope for surgery, and Vendor is on the Staff of the Hospital

14. INLAND HEALTH RESORT —Old-established practically unopposed PRACTICE in very pleasant town within 150 miles of London amidst beautiful scenery Estimated income nearly £1,800 a year including appointments of £50 and panel of 600 Visits up to £1/1/0 Very little midwifery Excellent residence in its own grounds of ¾ of an acre Ample accommodation Premium for practice and house £5 400 Exceptional future prospects tennis golf hunting shooting etc

15 SOUTH WEST OF ENGLAND -COUNTY TOWN -A ONE THIRD SHARE producing £800 to [illegible] in a good-class, non panel and non-dispensing practice with a considerable amount of surgical work There is a good Hospital in the town and the incoming partner (who must hold the F R C S) will eventually be elected to the Staff Premium £1 000

16 SOUTH SEA ISLANDS —In a Capital City a well established lucrative and increasing PRACTICE averaging over £1 200 per annum Good climate; malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards. Midwifery from 5 guineas Dispensing optional. Practice can be worked on foot. Good bungalow residence in excellent position with ½ of an acre of garden. Electric light, etc. *Rent £10 a month on lease Premium £800* Income Tax 1/ in the pound over £500

17 LONDON NORTH —Old-established PRACTICE producing an income of £1 400 a year including appointments worth £320 Panel of 300 but this can be largely increased if desired Visits and medicine 3/6 to 7/6 Midwifery 2 to 5 gns Practice is very easily worked with no conveyance. Nice house in good decorative repair with fair garden Price £1,250 a good portion of which could be obtained on mortgage Premium £2 000

18 KENT —LARGE TOWN —PARTNERSHIP —A third share (with succession to one-half in 5 years) is for disposal in an old established practice. Average income for the last 3 years £1 800 No appointments Visits 3/6 upwards Midwifery 2 to 3 guineas about 60 cases Good schools Purchaser who must be energetic and fond of work must accept a preliminary assistantship of one year Premium 1½ years purchase payable chiefly by instalments

19 OUTLYING SUBURB OF LONDON (South) —Old established good middle-class PRACTICE Income for the immediate past year about £1 300 Vendor has no panel but there is a very large scope in this direction. Visits 5/ upwards. Very little midwifery and no lying under £5 5/0 Exceptionally attractive residence with good accommodation garden etc Vendor's freehold Price £2,000 a good part of which can remain on mortgage Premium for practice £1 500

20 LONDON WEST END —PARTNERSHIP —A quarter share (to commence with) and up to one-third in 2 years and one half in 4 or 5 years with ultimate succession if desired is for disposal in a first class general Practice. Income for the immediate past year £3 020 Fees mostly 1 guinea upwards and a few at 10 6 Purchaser should be a Graduate or hold some higher qualification Premium for the quarter share £1 500

21 SUITABLE FOR TWO LADY DOCTORS —Well established and flourishing middle and working class PRACTICE situated in a populous neighbourhood in East London Income over £1 150 with panel of 1 3 0 Surgery fees 2/6; visits 3/6 upwards No midwifery Small house will be let or sold Premium £1 750 Large scope for increase

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Home County—Partnership in very old-established Practice, share producing about £1,000 a year Good panel and appointments.—Apply No. 7505

West County—Partnership About £2,800 a year Very old-established. Panel 800 Good fees. Quarter or one third share for disposal. Very moderate premium. Apply No 7500

Riverside Suburb—Nucleus about £500 a year Small panel. Fees 5/ to 7 6. Increasing district. Good house and garden to rent. Apply No. 7474.

South Coast—Partnership Share about £800 a year Good fees. Partner should be about 35, and a good all-round man.—Apply No 7440

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SUSSEX.—Old-established Country PRACTICE. Income £900 (non-panel) scope. Premium two years' purchase.

LONDON—DEATH VACANCY.—Suburb (N W) Old-established, good-class, non-panel. Income over £2,000 p.a. Good fees. Nice house with garage, to rent, £150 p.a. Premium £2,000

CHESHIRE.—PARTNERSHIP in old-established G.P Income nearly £4,000 p.a. Panel 1,400. Fees 5/- to £1/3/6. Mids. £3,3,0 to £10/10,0 Nice house with garden, rent £56 p.a. Premium for half share, 1½ years purchase, £2,000 down. Suit married man about 30

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DERBYSHIRE.—Old-established G.P Panel over 600. Income nearly £800 Premium £1,000 Scope for increase.

YORKS — Old established Country Town G.P Panel 1,500 Income £2,500. Three appointments. Detached house with garden and garage, to let on lease. Premium £3,500

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West End—Partnership Share worth over £2,000 in first-class Practice. Partner should be English and used to good class society Very good fees. Reasonable premium.

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East Coast—Practice of £1,150 in favourite seaside place. Panel 850. Appointment £40 Cottage hospital Rent £80 Premium £1,400

South Coast—Practice of £1,300 in favourite resort. Small panel and appointment £40. Rent £60 Prem. £1,800.

Cheshire—Partnership. Half share of £3,000 in residential place. Panel 1,400 Compact house, rent £55. Prem. 1½ years purchase, £2,000 down.

London, S W—Good class PRACTICE of £1,200 in residential district. Fees 10 6 and 15. House with large garden on rent at present, and can be bought later. Premium 1 years' purchase.

Surrey—Rapidly increasing PRACTICE of £540 in residential suburb. Practically no panel. Rent £60.

Death Vacancy—Increasing PRACTICE in small town in S.W County Receipts about £1,200. Panel 640 Few midwifery Good modern house with large garden. Rent £50 Premium one and a quarter years' purchase.

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HOME COUNTY.—(3) Junior PARTNER required in old established Practice over £3 100, in good town under 12 miles from London. No panel. One-fourth share at two years purchase. Partner should hold University degree, or preferably, F.R.C.S. England to secure election on staff of Hospital.

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LONDON, S.W.—(5) PARTNER required (after short preliminary assistantship) in middle and working class Practice well over £2,000 p.a. in well populated Suburb. Panel 1 450. Rent of house £50. One third share (about £700) would be sold for £1 400.

SOUTH COAST.—(6) PARTNERSHIP in Panel and Private Practice over £4 000 p.a. in popular S. aside Resort. Panel 1 150. Premium one-third share two years purchase. Partner must be energetic and not over 35.

DERBYSHIRE.—(7) Well-established PRACTICE of between £700 and £800 per annum in Manufacturing Town. Panel 850. No Midwifery. Nice detached house (4 bedrooms) in acre of ground to let. Great scope for increase. Premium one and a half years purchase.

SOUTH-WEST OF ENGLAND.—(8) Very old established middle and better class PRACTICE over £4 200 in important Seaport Town. No Panel or Appointments. Commodious house in excellent position. Rent £100. Premium one and a half years purchase.

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LONDON.—(13) Pleasant Residential Suburb. Well-established better middle class PRACTICE over £3 000 per annum. Panel 1 000. Excellent well situated house. Particularly suitable for a Catholic. Premium £4 500.

DEATH VACANCY.—(14) South Wales. Unopposed PRACTICE about £1,700 in small Seaside Town. Panel 1 433. Good house. Rent £60 on lease.

SOUTH COAST.—(15) Good class PRACTICE of £1,350 per annum. Excellent house. Premium £1 250.

SOUTH MIDLANDS.—(16) Well established unopposed PRACTICE averaging £1 181 per annum in good agricultural district. Panel 850. Detached house (5 bedrooms) in grounds of half acre. Rent £65 on lease. Premium £1 700.

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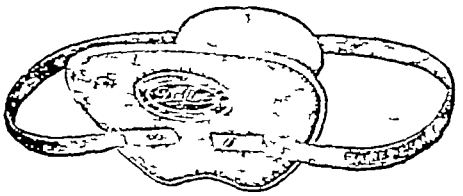
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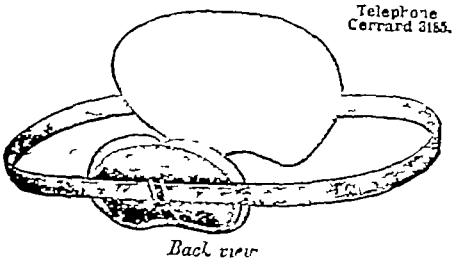
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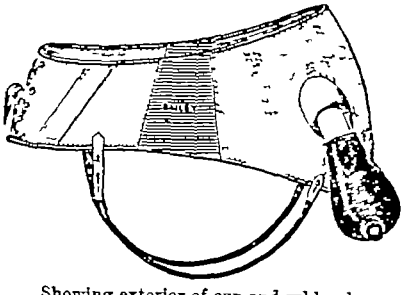
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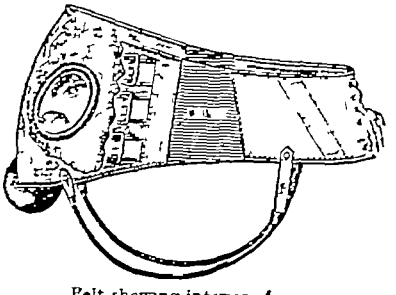
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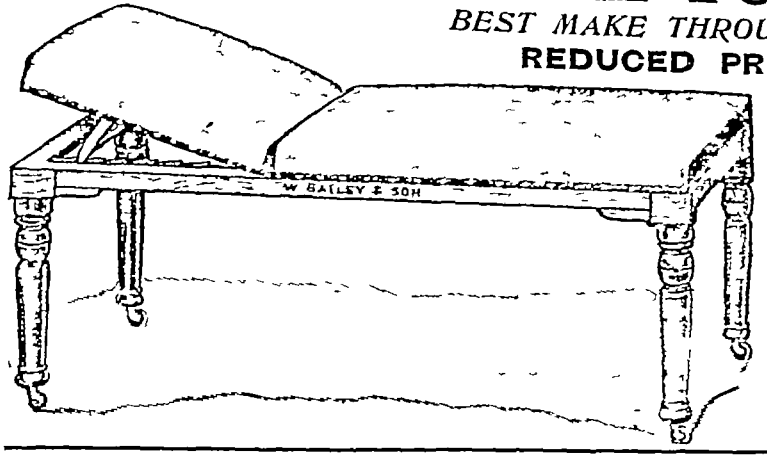


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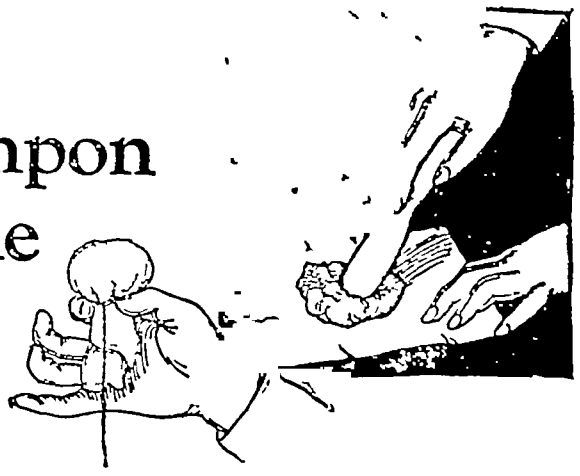
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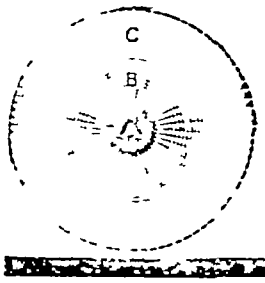
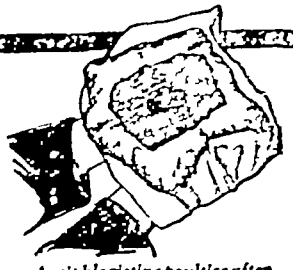


Diagram represents inflamed area. In zone "C" blood is flowing freely through underlying vessels. This forms a current away from the Antiphlogistine whose liquid contents therefore follow the line of least resistance and enter the circulation through the physical process of endosmosis. In zone A there is stasis no current tending to overcome Antiphlogistine's hygroscopic property The line of least resistance for the liquid exudate is therefore in the direction of the Antiphlogistine. In obedience to the same law exosmosis is going on in this zone, and the excess of moisture is thus accounted for



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British Medical Journal.

MAY 17TH, 1924.

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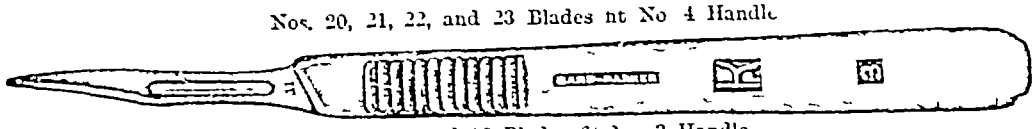
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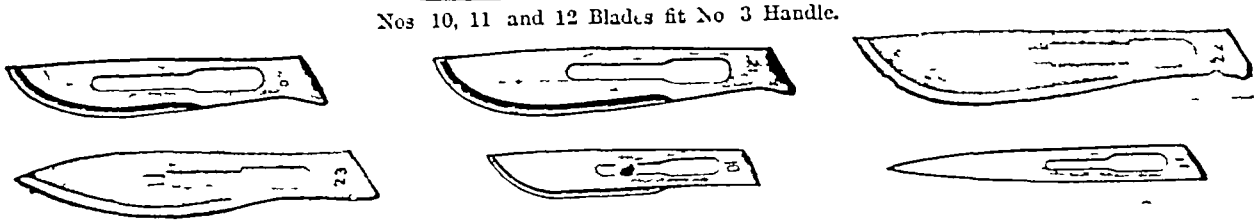
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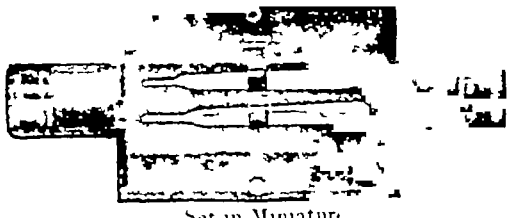


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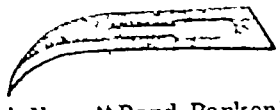




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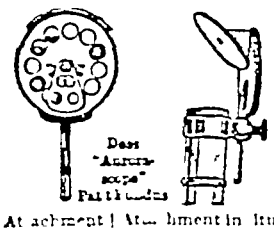
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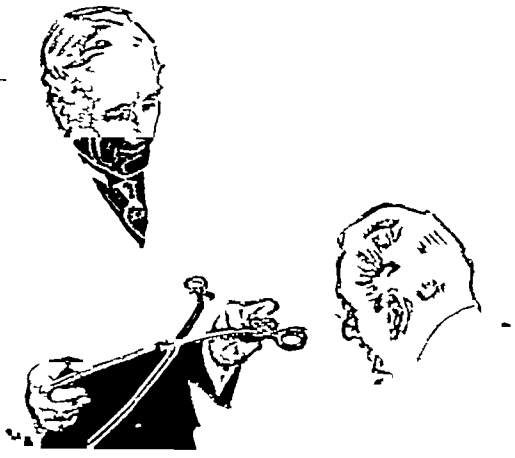
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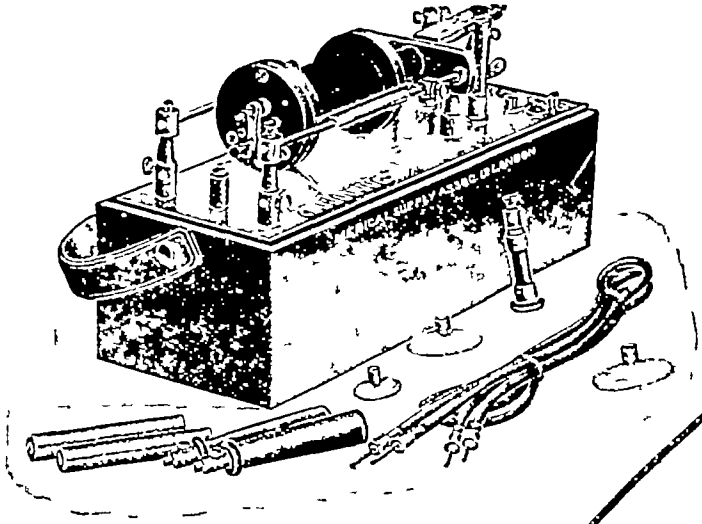
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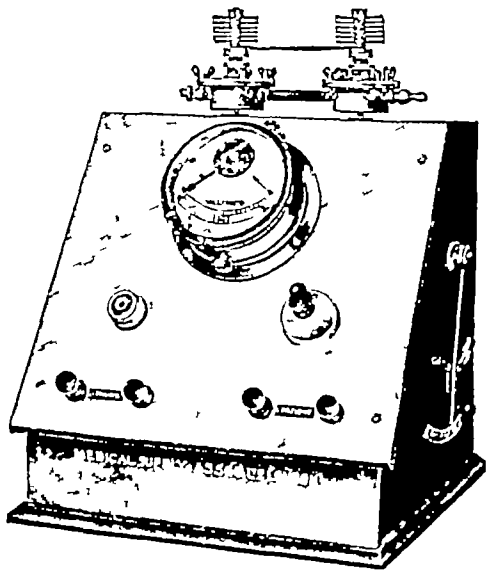
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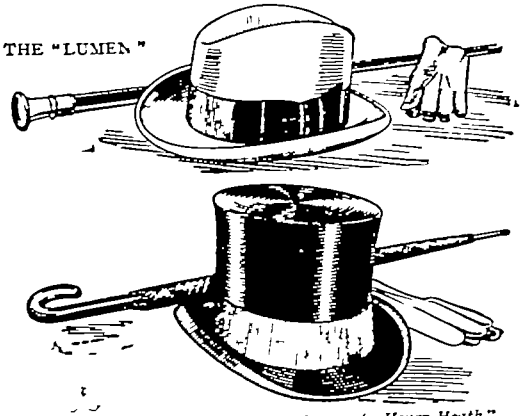
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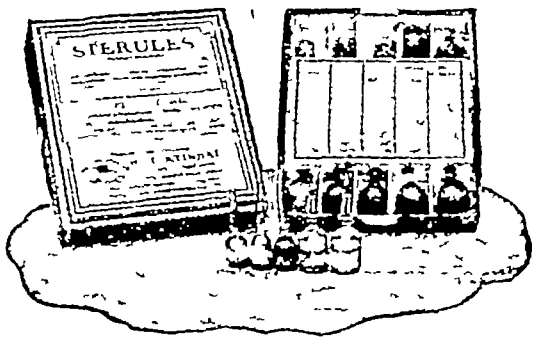
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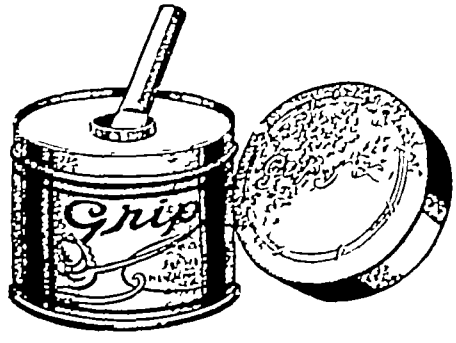
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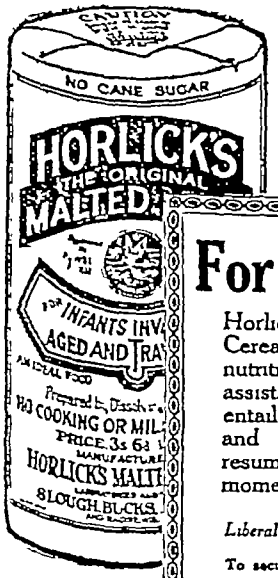
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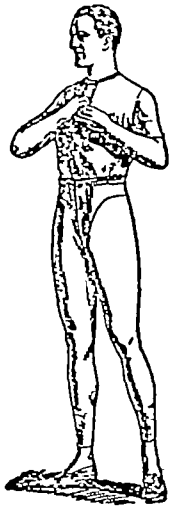
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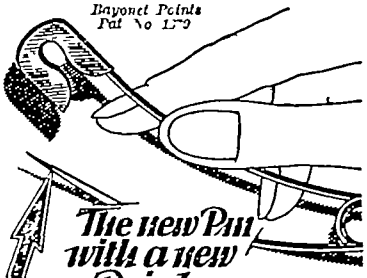
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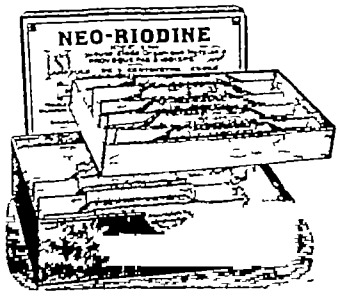
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No 9.

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ONE of the most noted authorities on Alimentary Toxæmia is firmly convinced of the importance of this condition in the production of cancer

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Phials containing 5 c c or 100 units **4/8** each
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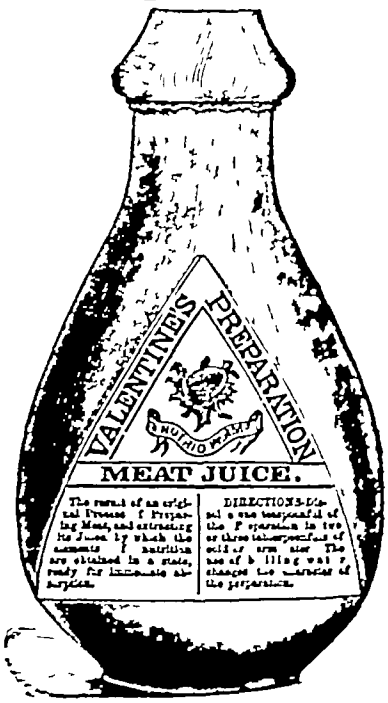
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ordinarily resistant to other methods

The use of iodides in these conditions is well known to be of benefit This preparation remains stable in the gastric intestinal juices and is absorbed in the tissues It therefore does not undergo the decomposition in the alimentary tract which has so seriously detracted from the value of many organic preparations of iodine





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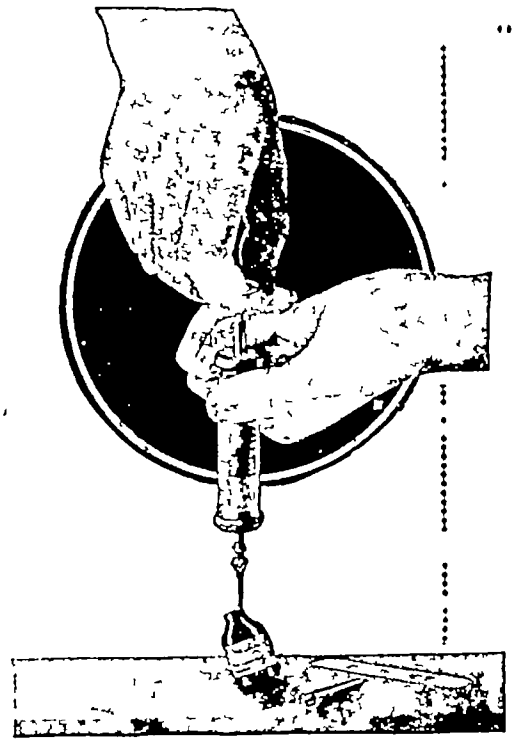
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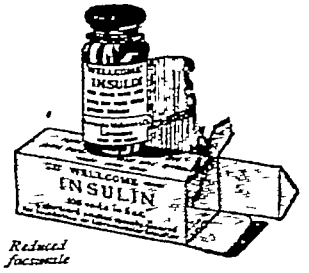
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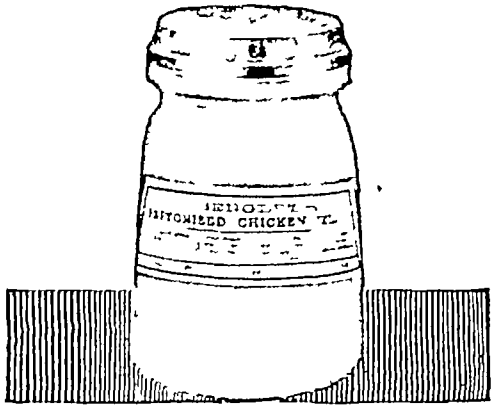
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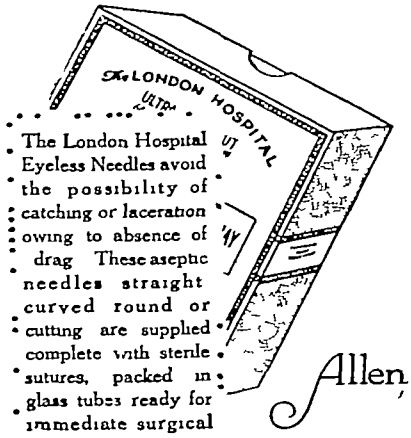
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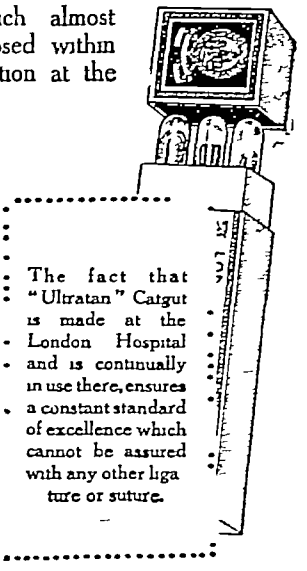
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Ambulatory Treatment of Fractures of the Limbs;

Tuberculous and Arthritic Disease of Joints.

By CAREL A. HOEFFTCKE

7, HARLEY STREET, LONDON, W 1

Extract from the Medical Press and Circular, April 9th, 1924, pages 293—296

RHEUMATICS.

BY AN EMINENT PHYSICIAN

"GENTLEMEN—The subject you have chosen for discussion is one which, though of the greatest importance, happens to be, at the moment, very obscure and difficult

" Thus one finds as one blunders about in this swamp of 'Rheumatics' that each stone you try to step upon tilts you up and plays you false

" Lastly, there is one method upon which I would like to say a few words, though I must deal with it cautiously There are cases of severe arthritis in which the disease has become quiescent, but in which, either owing to the initial severity, or from lack of knowledge, or the character of the patient, severe contractures have resulted, one or both knees, for example, have become fixed at a right angle and the patient has been unable to walk, possibly for years These are sometimes dealt with by forcible extension and elaborate splints, a treatment associated with the name of Mr Hoefftcke No one I think, is more afraid than I am of forcible wrenching of joints, or more cognisant of the amount of suffering that patients have to face in the course of this method of treatment I am, moreover, not a surgeon, and have not the requisite knowledge to appreciate how much value the element of traction possesses This, however, I must say, that in three out of four cases, all of the worst type, in which I followed through the results, they were eventually remarkable The fourth case, a hip-joint affected with osteo arthritis, was a failure, but I am not prepared to alter my mental attitude because this was a failure, for the cases I am dealing with are most difficult, and there must be failures I can only repeat that I have seen three remarkable successes When I am faced by a patient with contractures of long standing, unable to walk or earn his living, I ask myself, What method other than this is open to use? Gradual extension is out of the question, at least I have never seen a great success If, then, forcible extension has to be undertaken, is this splint the best, or is it unnecessary, complex, and expensive? Can we deal with these extreme cases any other way? Is the traction an important factor in eventually restoring function? I have had conflicting answers, and yet it seems to me that it is of importance, and, if so, any splint that can achieve this must, I imagine, be complicated and expensive"

Two of this Physician's cases are described and illustrated in my book, entitled "The Ambulatory Treatment of Fractures and Diseased Joints," published by Messrs Heinemann, Medical Books, Ltd, and results of cases are described also by other eminent medical men, where the disease was active, and explaining why the amount of suffering is diminished by the use of extension in gradual straightening of the knee-joint, also in manipulating and after-treatment

---

"The Lancet," January 5th, 1924 review —

' And it should be stated clearly that he works only with the medical profession and not as do other practitioners who substitute for medical services.

A British Medical Association Lecture

ON

THE WASTING INFANT *

BY

ROBERT HUTCHISON, M.D., F.R.C.P.,

PHYSICIAN TO THE LONDON HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN

THE terms malnutrition, dystrophy, atrophy, athrepsia, "food disorders of infancy," and marasmus, are used more or less indiscriminately in textbooks to designate that condition which is familiar to all of you under the simple name of "wasting." There is no need to describe in detail the clinical characteristics of the wasting infant; they are, unfortunately, only too familiar, although I think one may truthfully say for our comfort that the severe degrees of wasting are not so often met with as they used to be. None the less, the condition in greater or less degree is still common enough and is a source of great trouble and anxiety in practice.

CAUSES OF WASTING

In order to have any success in the treatment of wasting it is important to realize that it may have many different causes, which may be classified as follows:

1. *Organic Disease*

Any organic disease of course is apt to be attended by wasting as one of its consequences; but we are now concerned only with those cases in which the wasting is what is sometimes called the "presenting symptom," and the signs of organic disease are inconspicuous or even altogether absent.

Naturally one thinks first of that great wasting disease of childhood—tuberculosis. It must be remembered, however, that tuberculosis is not, as a matter of fact, common during the first six months of infancy, when wasting usually occurs. Nor is it likely to occur without producing some evidence of its presence in the shape of physical signs in the chest, abdomen, or glands, although occasionally one must admit it is found after death when its presence had not been suspected during life. In these cases however one may be dealing with a secondary infection. Tuberculosis is most to be suspected when there are no signs of digestive derangement and when the rectal temperature is persistently raised.

Congenital syphilis has also to be thought of, but here again I would remind you that compared with the number of cases of wasting you will meet with congenital syphilis is a rarity. Apart from the more florid cases of the disease in which wasting will not be the presenting symptom, it must be admitted that a syphilitic "taint" may interfere with nutrition, and it is possible that some of the wasting infants who improve so remarkably under the administration of grey powder, as some of them undoubtedly do, may be affected in this way. If in doubt a blood test should settle the matter.

Diseases of the lungs, such as chronic bronchopneumonia and "latent" empyema, may be unsuspected causes. The former is often curiously unobtrusive in young infants and may be entirely afebrile, so that its presence is only revealed by a few moist sounds in the lungs of doubtful significance. On the other hand, careful percussion ought to detect an empyema, provided it has been looked for.

The only remaining organic cause to be borne in mind is congenital disease of the heart. Here again there will usually be signs on auscultation, but it must be remembered that every now and then congenital disease of the heart occurs without a murmur, and such cases are apt to be overlooked, although they may in some obscure fashion, interfere seriously with nutrition.

2. *Starvation*

It is apt to be forgotten that wasting may be due to nothing more recondite than mere insufficient intake of food. This may be the result of pure *underfeeding* either from ignorance or carelessness or, sometimes, with the best intentions on the part of the mother. Thus I once saw twins who had been fed for some weeks on barley water *only*, and yet, curiously enough, they were not as wasted as might have been expected. A common cause is the use of condensed milk in too high a degree of dilution or the giving of too small feeds.

Inability to suck from some mechanical difficulty such as hare-lip, facial paralysis, nose-blocking or mere weakness may obviously and naturally lead to insufficient nutrition. The same result ensues if sucking is painful, as in some cases of stomatitis or if the hole in the teat of the bottle is too small.

A child for instance was once brought to me a month old and weighing only 6 lb. 5 oz. At first I could find no cause for the wasting. A slight *modification of the* feeding was made but at the end of a week the weight was an ounce down. Still I could find no cause. Next week another two ounces were lost. I then looked at the teat and found that the hole in it was very small. A new teat was ordered and in a fortnight the weight had gone up 1 lb. 8 oz.

3. *Prematurity*

Premature infants are very apt to become the subjects of wasting. There are probably several reasons for this. In the first place the child is often too weak to suck properly, so that it gets an insufficient quantity of food. In the second place I think it is probable that the premature infant is metabolically speaking an extravagant machine and requires a large amount of fuel to maintain its body temperature which leaves no surplus for the purposes of growth. In the third place such infants have often but a feeble power of digestion and possibly also of assimilation. It is not to be wondered at therefore that with all these difficulties to contend with they often waste.

4. *Improper Feeding*

This is such a common cause of wasting that some people are apt to speak of wasting as if it were synonymous with the "food disorders of infancy." This however as we have already seen is by no means always the case. None the less unsuitable feeding is undoubtedly the starting point or the majority of cases of wasting.

The error may be a *quantitative* one—as in the case of giving too small or too weak feeds which we have already considered. Paradoxically enough however too large or too strong feeds may have a similar result and a child will therefore sometimes start to gain weight when the amount or strength of the feeds is reduced. Far oftener however the error is a *qualitative* one and consists in giving an ill-balanced mixture which is too rich in one of the food constituents, a relative excess of fat being the commonest fault. It should be noted that the want of balance in the diet need not be an absolute one but only relative to the digestive capacity of the particular infant. Some babies for example appear to have a congenital inability to deal with a normal proportion of fat in the diet, especially the fat of cow's milk, and in them a fat dyspepsia is easily set up. In other and less common cases there is a similar disability as regards casein or sugar.

Although a lack of balance in the diet may result merely in a failure to gain weight (the so-called "disturbance of equilibrium") it is very apt if persisted in, to lead to the next great cause of wasting—

5. *Dyspepsia*

This is so common either as a cause or as a concomitant of wasting that there are few marasmic infants who are not also dyspeptic.

The symptoms of dyspepsia may arise suddenly, as in cases of summer diarrhoea and become persistent, leading eventually to chronic wasting; or more frequently the dyspepsia comes on gradually as the result of the continued use of an unsuitable or ill-balanced diet. Finkelstein, Czerny and Keller, and others have attempted to make a classification of the different varieties of dyspepsia according to the food constituent responsible for the digestive derangement and Finkelstein has described their culmination in a condition to which he applies the ill-omened term

* Delivered before the Sheffield Division on February 8th 1924.

"decomposition"—which appears to be very much marasmus as we usually know it—and finally in a state of intoxication," the symptoms of which appear to be indistinguishable from those of a severe case of infective diarrhœa His views have obtained a considerable amount of support both here and in America, but, although they are undoubtedly suggestive, I must confess for my own part that I am unable to reconcile them satisfactorily with the actual conditions seen at the bedside, and they appear to me to be an attempt to effect a rather arbitrary simplification of a very complicated subject Be that as it may, there is no doubt that some guide to the nature of the feeding error can be derived from a study of the stools Excess of fat in the diet is the commonest starting point of a dyspepsia, and is indicated by constipated, pale, crumbly or soapy stools which do not adhere to the napkin Excess of casein—contrary to what was long supposed—is much less likely to be a source of difficulty, and when it occurs leads to vomiting of curd and the passage of tough white particles in the stools, which are insoluble in a mixture of alcohol and ether Sugar is the most easily digested of all the food constituents and least likely to lead to trouble, but if present in the food in an amount which is beyond the infant's digestive capacity the stools are apt to be loose, watery, and acid, and their passage attended by much flatulence It is rare, however, to meet with pure examples of any of these different forms of dyspepsia Usually the digestion of all the food constituents is impaired, and in severe cases it always is so

The matter is further complicated by the fact that a secondary bowel infection may be grafted upon a simple dyspepsia and the green slimy stools of a true enteritis make their appearance It must be remembered, too, that wasting of itself impairs digestive capacity, so that a case of marasmus which originated in, say, underfeeding may easily pass into a state of dyspepsia which accelerates the downward progress

6 *Primary or Idiopathic Wasting*

It is to primary or idiopathic wasting—that is to say, wasting of unknown cause—that the term "atrophy" should be specially reserved In cases of this sort there does not seem to be anything wrong with the food and there are no signs of dyspepsia, but the child simply wastes, and after death no cause can be found for the failure of nutrition Such cases are commonest in very young babies and often the patient is the youngest child of a large family or is a twin or illegitimate We appear to be dealing here with a true failure of assimilation, but why it fails is quite unknown I need hardly say that some "endocrine" disturbance has not failed to be invoked as an explanation but such a hypothesis is purely speculative It is best to admit frankly that the true nature of such cases has so far baffled us

Complications

However wasting may have come about it is apt to become attended by complications of one sort or another Thus such babies are—understandably enough—very prone to infections by pyogenic organisms which cause boils and abscesses, by the tubercle bacillus, and by the *B coli* They are also very apt to contract an infective enteritis or a bronchopneumonia The clinical picture may further become blurred by the supervention of symptoms of acidosis or nephritis, or by the appearance of an "idiopathic" œdema on the one hand or of the signs of "dehydration" on the other It will thus be readily understood how protean the signs and symptoms exhibited by a wasting infant may be and how they may vary greatly almost from day to day

Prognosis

The prognosis in a case of wasting is always doubtful Even when things seem to be going well at the moment there is always the possibility of an abrupt and apparently inexplicable collapse which proves fatal On the other hand, a steady and seemingly spontaneous improvement may occur and does occur even in the worst cases More frequently, in the case which ultimately do well one finds a very gradual progress interrupted by many relapses Ground lost is rarely regained rapidly after the acute

cases death is usually the result either of gradual inanition or of the supervention of an infection, a sudden food "intoxication," or of an attack of diarrhœa In all cases the outlook is decidedly more rosy in private than in hospital practice It is also better, curiously enough, in the cases in which there seems to be most wrong It there is dyspepsia it may be possible to correct it, but the worst cases are those in which everything seems to be right except the power of gaining weight

Treatment

The treatment of a case of wasting demands the highest degree of patience, optimism, and resource on the part of both doctor and nurse At the outset it must be realized that the treatment is not merely dietetic—the general hygiene of the infant is of the first importance Fresh air, sunshine (if obtainable) cleanliness, and *warmth* (especially keeping the feet and legs warm) are all great aids to success

Nothing, probably, makes more difference than good "mothering" To look after a wasting infant is one woman's job, and he should not be left to lie alone in his cot, but should spend a good deal of his time in the mother's or nurse's arms, he wants plenty of "cuddling" and amusing Great care should be taken that he does not get chilled when being washed The impossibility of providing all these desiderata in institutions is one of the main reasons, I believe, why these cases often do better even in a poor home As to the all-important question of feeding, it is only possible to indicate some general principles

You will do wisely, in the first place, to go slowly and play for safety, remembering that overfeeding is more perilous than underfeeding, and that one must not be too ambitious in the matter of increasing the weight I believe that many cases of wasting are really brought about by the exaggerated importance attached to mere weight as an index of a baby's progress which is now so prevalent Monthly nurses are frequent offenders in this matter The nurse is so anxious to get the baby "on" and to have a good result to show at the weekly (or daily!) weighing that she tends to increase the strength of the feeds to a point which is beyond the digestive capacity of the infant, with the consequence that though all goes well at first a dyspepsia is soon set up which rapidly leads to wasting My next advice is always to change the feeding reluctantly, cautiously, and never without good reason, bearing in mind that fat is the ingredient most likely to cause trouble Before starting a new food it is well to clear out the bowels with a small dose of castor oil, and if acute symptoms of "intoxication" have supervened to suspend all food (except glucose and water) for a few hours, but not for long, remembering that wasted infants stand starvation badly If the food has been too rich in sugar do not reduce the proportion of the latter too rapidly or collapse may ensue

Breast milk is the best food in most cases, but is unfortunately often unobtainable In selecting an artificial food begin with one which is rather poor in fat and relatively rich in carbohydrate and whose protein is in a digestible form Sweetened condensed milk (2 drachms to 3 ounces) or a half-cream dried milk (1 drachm to 1 ounce) with the addition of dextri-maltose fulfils these conditions Some indications for feeding will also be furnished by the stools If they point to severe fat indigestion it may be necessary to feed on a mixture of whey and Mellin's food (dextrimaltose), or whey with the addition of a modified starchy food, if casein is the difficulty the milk should be fully peptonized or citrated, or a dried milk may meet the case

A useful formula is as follows Take 2 flat dessertspoonfuls of Benger's or Savory and Moore's food and mix in a basin with 5 oz of milk Bring 15 oz of whey (prepared with rennet) to the boil in a double saucepan and pour slowly on to the cold mixture, stirring meanwhile Allow to stand covered up for thirty minutes then stir and bring slowly to the boil strain through a linen handkerchief, and the food is ready for use Such a mixture is poor in fat and casein but relatively rich in lactalbumin and carbohydrate

In those—fortunately less common—cases in which there is sugar indigestion and "intoxication" so-called "protein milk" is often very useful It is most easily prepared by the use of casein*

* Sold (with directions) by Messrs Allen and Hanbury and Co

As to the size or intervals of the feeds you must feel your way in each case and not be bound by too rigid rules, but the more wasted and exhausted the child is the smaller and more frequent must the feeds be

Drugs are of little use in cases of wasting except to meet special indications such as flatulence, colic, etc I have already pointed out, however, that grey powder sometimes does good even in cases in which there is no reason to suspect a syphilitic taint—possibly by correcting constipation or by stimulating the digestive secretions—and alcohol is also helpful, especially if there is much exhaustion with a subnormal temperature It should not be added to the feeds, but given as a medicine and not too dilute The administration of thyroid, which is sometimes advocated, appears to me to be irrational

It is a common custom to anoint wasting babies with cod-liver oil This is a dirty practice, the utility of which is in the highest degree doubtful It is inconceivable that the child can obtain any appreciable amount of nutriment by such a method, and at the most it can only help to a slight degree in the conservation of body heat Almond oil would do this as effectually and much less offensively than cod liver oil, while adequate clothing is far more effective than either

When all is said and done, you will lose a good many of your marasmic babies in spite of all your care and skill Do not be cast down over it, the fault is not yours It is a delusion to suppose that there is for every one of these cases some magic plan of feeding which, if one could only hit upon it, would immediately change the whole situation On the contrary, the fault in many, perhaps most, cases is in the child and not in the food, and once at least that the disorder has progressed to a certain length no treatment makes any dramatic difference, all one can do is to keep patiently "pegging away," but remembering always the first rule of therapeutics—not to do harm

THE MECHANICAL EFFECTS OF ENLARGEMENT OF THE PULMONARY GLANDS *

BY

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THIS subject is one in which I have been particularly interested during the last ten years, and whilst I make no claim for discovery or priority I do claim that my statements are largely based upon my own observations and deductions

The *anatomical position* of the lymphatic glands is all-important in the consideration of the mechanical effects of their enlargement The lymphatic glands are said not to extend into the lung beyond the fourth branching of the air tubes or where the tube is less than 1 mm in diameter A section through a bronchiole at a level where there is lymphoid tissue shows the bronchiole accompanied by arteries, veins, lymphatics, and nerves

The various systems of tubes lie with glands in close relationship and are surrounded by alveolar lung tissue These glands are anchored by the lymphatics which anastomose round about the veins and arteries, and any enlargement of the glands must of necessity press upon these systems of tubes In part, at any rate, the result of such pressure will depend upon the power of resistance of the tubes The resistance will depend in each case upon the resistance of the wall of the tube and the distending pressure within the tube The tube with the greatest resisting power of the wall will be the bronchiole strengthened as it is by the scales of cartilage Where there is a gland there will also be found at least one scale of cartilage ready to protect the wall of the bronchiole against the pressure which would arise should the gland enlarge

The resistance of the wall and the pressure of the blood within the vessels is greater in the arteries than in the veins The veins will therefore be compressed earlier and to a greater extent, at first than the arteries—given that the advantage of position of the gland in the case of artery and vein is equal Last in order of effective resistance come the lymphatics, for the exceedingly thin walls and the low pressure of the contained lymph offer the least resistance of any of these systems of vessels Moreover, upon the lymphatics the obstructive effects of the enlargement of the lymph glands is caused in two other ways beside that of the direct pressure upon them by the enlargement of the gland as a whole When there is active congestion of the gland there is obstruction to the passage of lymph and also the lymphatics may be nipped in the hilus of the glands and where the lymphatics pass obliquely through the capsule Enlargement of the glands will therefore affect these tubular systems in the following order lymphatics veins arteries, and, lastly and least the bronchioles

What part does the enlargement of the glands play in various pulmonary diseases? Let me take first *pneumonia* In this condition the enlargement of the glands is often enormous The glands in the hilus of the lung are in a position of great mechanical advantage from the point of view of pressing upon the large blood vessels as they leave or enter the lung, and there can be no doubt that at first there is a considerable amount of back pressure in the veins which drain the parts first affected resulting in the addition of passive congestion to the active congestion already begun

The back pressure in the lymphatics and veins assists the outpouring of the fibrinous exudation from the actively inflamed part This passive congestion assists in causing the haemorrhage that occurs at the same time The passive congestion where only a portion of a lobe is pneumonic would be greater than it is were it not for the freedom of anastomoses in the veins—a freedom that is in sharp contrast with the absence of anastomoses in the arteries of the lung Not only is there enlargement of the glands round the medium-sized bronchioles leading from the pneumonic area but also of those in the hilus and this explains the alteration in percussion note of the non pneumonic areas of the affected lung

What is the advantage of this pressure upon the veins? Many chains of lymphatic glands in the body lie against veins and cause a similar pressure In the leg a passive hyperaemia produced by the glands responding to a distal septic focus that has no external outlet would go some way towards producing the line of treatment associated with the name of Bier If there is any advantage in Bier's treatment then that advantage is obtained for the affected lung, with the difference that the hyperaemia is continuous Should a septic focus in a leg be open then this obstruction will help to maintain a toxin-containing discharge toxin that otherwise would have circulated round the body Should the wound be sealed by drying the general toxaemia becomes obvious The lungs however are kept moist but the alveoli are soon plugged by fibrin which prevents a further outpouring In bronchitis the outpouring are expectorated more or less freely, in pneumonia the expectoration is not large in amount as a rule

May the enlargement of the glands play a part in the causation of any complications or sequelae of pneumonia? Dr Percy Kidd says that out of 128 fatal cases of pneumonia oedema was found *post mortem* either in the lobe nearest to the one consolidated or in the opposite lung How much of this oedema is due to heart failure—the usual explanation given—is difficult to estimate but in the case of oedema of a lobe adjacent to the affected lobe back pressure from gland enlargement is certainly a factor to be reckoned with Had heart failure alone been the cause then the other lung would also be oedematous Again to quote Dr Percy Kidd "collapse of a whole lobe, although by no means rare is far less often observed than the oedema, it has a similar distribution"

Whatever other factors there may be in the causation of collapse of a lobe, the enlargement of the glands plays a large part Should there be, early in a case of pneumonia, a temporary occlusion of the bronchiole aerating the

* Abridged from a Presidential Address to the Bath and Bristol Branch of the British Medical Association 1921

pneumonic area, collapse of that portion could not occur for some time, because the contents of the alveoli would not flow out

Pressure upon the arteries is a factor in some of the cases of arterial thrombosis, although endarteritis is at times a sufficient cause Given the cutting off of the blood supply, the presence of certain organisms in that part of the lung supplied by the artery occluded is sufficient to produce a gangrene

Delayed resolution of the lung after pneumonia is in a large part due to persisting glandular enlargement obstructing the veins and causing passive congestion, for resolution depends upon the presence of at least a fairly free circulation of blood and lymph Should the swelling of the glands still persist chronic fibrotic changes occur in the lung

It must be emphasized here that acutely inflamed lymph glands which lie close under the skin, and are therefore easily observed, are found to be smaller after death than they were during life, and it must be borne in mind that during life the size of acutely inflamed pulmonary glands was greater than when seen *post mortem* Where the glands have become fibrotic there is less difference in the size of the gland before and after death

In *acute bronchitis*, glandular pressure has a well marked effect Inflammation of the mucous membrane results in alteration of function, and the gaseous exchange is interfered with to a greater or less extent, with resulting dyspnoea The glandular pressure upon the blood vessels lessens the rapidity of the pulmonary circulation and a further cause of dyspnoea is introduced Moreover, the increased quantity of blood in the lung means that less air can get into the lungs during normal expansion of the lung As is elsewhere the case, an excess of the inflammatory processes involved in healing may cause trouble, and in some cases results in the death of the patient, reminding us of the line "Gettin' 'em killed as we saved 'em once" Persistence of the enlargement helps to develop chronic bronchitis

In *Hodgkin's disease* the effect upon the lungs and pleurae of primary enlargement of the glands is often seen The part played by the glands in the causation of a *pleuritic effusion* is a very important one There have been various explanations of the fact that some cases of pleurisy are "dry" and others have an effusion It has been suggested that there is some abnormal constituent that is present in the blood in the cases with effusion But this will not explain those where there is pleurisy on both sides but effusion only on one The effusion passes into the pleural cavity through the inflamed and roughened pleural surface, at any rate where there are inflammatory exudates In these cases there is an enlargement of the glands sufficient to obstruct both lymphatics and veins draining the inflamed parts Were the enlargement sufficient to occlude the arteries there would be no effusion But an increase beyond the normal, of fluid poured into the pleural cavity is not enough to account for the effusion collecting in the cavity, there must also be interference with the power of the pleura to absorb the fluid poured out, and therefore there is always found a considerable enlargement of the glands at the hilus of the lung

What part the parietal pleura plays in the absorption of fluid I do not know, but the temporary enlargement of certain glands of the thoracic wall in some cases of pleuritic effusion or of an actual empyema is at least a fact in favour of the parietal pleura being also concerned, but the greater part of the lymphatics of the parietal pleura are connected with intrathoracic glands, and a wide spread enlargement of these glands is constantly found in cases of pleuritic effusion where the case comes to a *post mortem* examination The comparatively little attention paid to the obstruction by glands as a factor in pleuritic effusion is probably due to the diminution of the size of the glands after death

I have not been able to derive much help from the examination for dullness over the spine, and the lateral extension of the dullness into the interscapular spaces, in cases of [illegible] enlargement of the interbronchial glands. It is probably due to faulty technique on my part, and I might profit by a practical demonstration It is so much easier to copy a demonstration accurately than it is to reproduce a method described even in the most lucid article The description and the practice are often at variance The physician whose percussion of an infant's chest was the hardest and most merciless that I have ever seen or heard, was also the most insistent that percussion should be light

In another and fairly well defined spot I have found the recognition of an area of dullness to be always of interest and often of great value In the cases of pleuritic effusion where the fluid is not large enough in amount to obscure this area of dullness the latter will always be found It is not only present in pleuritic effusions but in other conditions, and it will simplify my task if I describe this area with its associated signs, as it occurs without an effusion

The patient to be examined bends forward in such a way as to increase the antero-posterior curve of the dorsal spine The vertebral borders of the scapulae are removed as far as possible from the spine by bringing the elbows together in front of and some inches away from the patient's body The line formed by the prominent angles of the ribs is then defined by palpation or by inspection A line is then drawn across from the lower angle of the scapula to the line of the angles of the ribs so as to form with the vertebral border and the line of angles an isosceles triangle, although it must be admitted that the upper angle of this triangle is often open The greater part, and sometimes the whole of an area of dullness may be found within this triangle It is important that the scapulae should be drawn outwards equally, because, whilst defining the limits of the oval area comparison with the opposite side is usually of assistance In this triangle may be found dullness that is a sign of present disease or a record of previous lung trouble

The area of dullness is usually oval, with its longer diameter parallel with the line made by the series of angles of the ribs Dullness may begin just below the level of the lower angle of the scapula and extend nearly up to the inner end of the spine of the scapula Often it is much less in size, half a crown being large enough to cover the area of maximum dullness, there being an area less impaired in resonance round it Again, it may extend outside the boundaries of the triangle When the scapula is fully drawn outwards there can be felt a small muscle free triangular area near the lower end of the vertebral border of the scapula Above and to the outer side it is bounded by the rhomboid, above and to the inner side by the trapezius and below by the latissimus dorsi Here the sixth and seventh ribs are in part exposed, and dullness is sometimes found here when not demonstrable elsewhere A comparison with the other side of the chest, if unaffected, makes the change in resonance obvious The dullness, if due to glands alone, is accompanied by weaker breath sounds

Over this area sometimes the breath sounds are harsher or bronchial There is then some infiltration or consolidation of the lung Below this area of dullness there is over the whole base posteriorly, or only over and beside the line of the angles, a distinctly impaired resonance and with it diminished breath sounds as compared with a normal opposite side Another method of demonstrating the oval area is to percuss downwards parallel with the vertebral border and an inch nearer the spine If the scapula is fully drawn outwards this line will usually touch the area

One important point must be stressed In the region referred to, and below it, the lung is peculiarly sensitive to percussion, and in many of these patients a firm percussion is liable to produce instantly an impaired resonance which may last for a minute, more or less, and which is accompanied by weaker breath sounds The experiment of producing this condition by a sharp blow on the side of the chest is well known, but this hypersensitiveness of the lung to percussion does not seem to me to be sufficiently recognized The condition may be called "blushing of the lung" The signs are entirely independent of that impairment of resonance and weakness of breath sounds which may occur in a ticklish child, which are due to a sudden lateral curvature of the spine in response to percussion In the latter case the dullness with weakened breath sounds is due to mechanical compression of the lung as compared with the expansion on the other side

It is important to bear in mind this blushing of the lung, for the recognition of the existence of the variability of the resonance of a part of the chest under firm percussion will reduce the occasions when we feel that we are "off" our percussion, much as we are sometimes "off" our putting To find at one moment that the two apices in front are equal in resonance, and the next moment very unequal, is, to say the least, disconcerting, but it is also informing

Now, to return to this area of dullness in a case of pleuritic effusion where the effusion does not reach to a

point above the angle of the scapula when the thorax is in the vertical position Percussion downwards, close beside the spine, will demonstrate the upper limit of the fluid Just above this line of dullness percuss horizontally outwards from the spine and a hump of dullness will be met with, often nearly as dense as the dullness over the undoubted fluid below In the axilla the upper limit of dullness is again level with the dullness close to the spine If in order to examine the front part of the chest the patient is made to lie down, then a curve, with its concavity upwards and inwards, is found in front The resulting line running round the side of the chest from the spine to the sternum is the shape of an S on the left side, and on the right side a reversed S The hump is the triangle described by Garland, and is formed of the upper portion of the oval area In effusions that are not too large to obliterate this oval area completely, if the patient is made to lie horizontally upon his face, the whole oval area can be made out, unless the effusion has compressed the lung for so long a time that a few coughs are not sufficient to re-expand the base of the lung behind The oval area is obviously not due to free fluid

An *x* ray examination will show that the oval area of dullness corresponds in position with a greatly increased shadow of the bronchial tubes and their neighbourhood, an increase far more marked on the side where there is the effusion Glands enlarged in the hilus are also constant, and again these are more distinct on the side where there is fluid It is not certain what is the actual cause of the increased width and density of the normal shadow round the tubes It is I think, in the majority of cases where there is a pleuritic effusion, due in varying proportions to two factors—one is the engorgement of the larger and medium sized veins due to the back pressure caused by the glands, and the other is the enlargement of the small lymphatic glands which are in close relationship with the larger air tubes and down to tubes 1 mm in diameter

In serial sections I have had made of some of these tubes and their immediate neighbourhood, the enlargement of these glands and the pressure which they exert upon the veins and lymphatics are quite obvious The material in one series was obtained from a child dying of some condition other than pulmonary, but where there was some early acute bronchitis with consequent enlargement of these ordinarily tiny glands The enlargement is far more easily seen in stained sections than in the lung as opened on the *post-mortem* room table There is at least one more point to bear in mind, and that is that in the triangular region the medium sized tubes and their surrounding vessels are much more close to the external surface of the chest than they are in any other part of the thorax

After the pleuritic fluid has been withdrawn the oval area is at first still very dull and extensive, after a day or two it becomes much less, but it can usually be made out for a very long time The failure of the enlarged lymphatic glands to contract sufficiently to restore the balance between fluid poured out into the pleural cavity and the fluid absorbed from it will cause the reappearance of the effusion

It is clear that when the fluid has increased to any great extent, the pressure of the fluid upon the lung increases the mechanical obstruction from the enlarged glands Even if later on the glands do contract somewhat, the fact that the lung is pressed against the glands may neutralize, to a large extent, the advantage of such contraction, and there is then little hope of absorption of the fluid without removal of a large quantity by tapping The pressure of the pleuritic effusion will also lessen the freedom of the passage of blood through the venous anastomoses, and therefore impede the absorption.

In some other *tuberculous conditions* of the lungs the recognition of the oval area is of value, because at times the only abnormality may be found here, and to a less extent in the area drained by the affected intrapulmonary glands That unsatisfactory term the "pre-tuberculous state" would be heard less often were these triangular areas examined more frequently and more thoroughly In a school where I am the honorary physician this region is carefully examined in every new pupil, and when any abnormality is present it is duly noted. These notes are of great value should these pupils later on develop some slight swinging of the temperature, and such cases are carefully watched

One pupil returned to school having developed an oval area on one side This rapidly enlarged with signs of back pressure in the lower lobe behind and on the other side a smaller oval area higher up was found with dullness of the apex of the upper lobe When the temperature had ceased to swing she was sent to the seaside for a few months and now only a slight impairment is to be made out where the large oval area of dullness had developed

These oval areas are by no means necessarily due to tuberculous glands When the oval area is found to be present a large proportion of the cases have a slight impairment of resonance, with weakened breath sounds, over the lower lobe or over a great part of it These signs would generally be said to be due to 'deficient air entry" It is true that there is less air entering that portion of the lung owing to back pressure congestion, but the lessened air entry is not the explanation of the weakened breath sounds It is because the presence of an abnormally large quantity of blood in the capillaries of this region damps down the sound that is made at the larynx by the air entry such as it is, and the impairment of percussion resonance is also due to the increase of blood present

There is in tuberculous cases where the apex of the upper lobe is threatened or involved an area abutting on and higher up than the oval area I have referred to hitherto and this upper area is rather more difficult to demonstrate It corresponds in position with the *x*-ray shadow going upwards from the first division of the tubes, and is well seen in early tuberculous cases where the apex is affected The *x*-ray shadow of an infiltrated apex does not become much clearer upon taking a deep inspiration Should a well marked shadow clear on taking a deep inspiration, the apex is declared free from infiltration We are neglecting a valuable help in diagnosis if we are satisfied with the mere fact that the apex cleared Why was there a shadow at all, and why did the shadow clear up?

If there were pressure only on the pulmonary veins as a whole at the hilus the passive congestion would affect the whole lung, but in these cases it is the apex alone or chiefly, that is affected In some of these cases the clearance of the shadow has a peculiar characteristic It is not an even clearance corresponding to the even expansion of the lung but it is sudden, as if a veil were dropped The most obvious explanation is that the veins alongside the first upwardly directed air tubes are narrowed by enlarged local glands and cause a passive congestion of the apex. As the thorax expands the elasticity of the alveolar tissues expands the veins at the obstruction, and also draws them away from the obstruction suddenly removing the obstruction, and thus allows the blood in this congested apex to respond to the suction of the chief veins and left side of the heart, due in part to the suction action of the thorax with the elasticity of the lung When the glandular enlargement is due to tubercle, the importance of the recognition of the enlargement needs no emphasis

We are accustomed in the earliest stage of pulmonary tuberculosis to find an apex with impaired resonance and weaker breath sounds, and in the congestion due to back pressure we have the explanation When the breath sounds become puerile, or later still, bronchial we have reached a later stage There is now infiltration Huggard pointed out that if in the earliest stage of disease you percuss and auscultate an apex before you have asked for or allowed the patient to take a full breath, the signs are sometimes present and then as soon as a deep breath is taken the condition alters and for a time you may lose the signs Again I would give the warning as to the necessity of confining oneself to very light percussion over the apex although to be able to produce blushing of the lung at one apex but not at the other is in itself a sign of some value

I was called in by a surgeon to see a child where a tuberculous gland had been removed from the neck on the left side There was slight impairment of resonance over the left apex in front on the first percussion but in order to demonstrate the difference to those standing by I somewhat increased the force of the percussion, and the left apex at once became dull and the breath sounds were found to be weak. I examined the back and later returned to

that after pressing lightly I again found only slight impairment of resonance. It was a case of blushing of the lung and there were enlarged glands on the left side in the lung. I believe the child did perfectly well afterwards under proper treatment.

An important group of cases where there is a chronic enlargement of the intrapulmonary glands is that group wherein the original cause has been some acute bronchitis or other inflammatory condition at the bases of the lungs. *Measles* and *whooping-cough* are probably the commonest primary causes in children. When one of these two is closely followed by the other we are very liable to get a chronic trouble at the base lasting for many years or as a permanent condition.

In whooping cough search is always made at the bases for the fine sticky rales which are usually to be found, at any rate in the early days of the disease. When these are found the oval area of dullness will also be found, and the variations in intensity and dimensions are of assistance in judging of the progress of the disease and the efficiency of treatment. In these cases there is a slight diminution of the basal resonance on percussion, and a slight weakening of breath sounds. Where the dullness becomes more marked all over the base—or more frequently with a patchy distribution—and the breath sounds become harsher and then bronchial—again more frequently with a patchy rather than general distribution—then we have something more than back pressure: we have either a lobar pneumonia or, more frequently, bronchopneumonia. It is usual after an attack of whooping-cough to find the signs of pulmonary gland enlargement for a month or so after the patient has been freed from isolation. In some cases a slight impairment of resonance in an oval area may be detected for many years, and when the enlargement has been much greater on one side, as it generally is, every little attack of bronchitis will bring out clearly the signs of enlarged glands on that side, and the basal signs are then far more marked on that side or present on that side alone.

The frequency with which *bronchiectasis* follows whooping-cough and measles is in great measure due to the frequency of chronic enlargement of the intrapulmonary glands following these diseases. Where tuberculosis is not present as a complication the glandular enlargement must be, in part, due to the acute inflammatory condition in the area drained by the glands affected, but once the glands have become more or less permanently enlarged, they produce a more or less permanent passive congestion in the area which they govern. This chronic passive congestion will produce changes in the lung quite independently of the activity of the original trouble in that part. The original local trouble may continue or new causes of inflammation may take its place. Any such cause, inasmuch as it produces further enlargement of the glands will intensify their obstructing power. It is not claimed that in even the majority of cases of bronchiectasis the chronic enlargement of the glands is the sole cause, but it is claimed that it is, in the majority of cases, a very potent factor. That enlarged and caseous glands may obstruct the air tubes, and in rare cases thereby cause bronchiectasis, is stated in most lists of the causes of that disease. It is also stated that the occlusion of the arteries by gland pressure may be a factor. But long before this can occur the glands have obstructed the lymphatics and then the veins, which obstruction is obviously a very potent factor in the production of the disease. Even where the primary cause is a foreign body in the tubes, as soon as the tube becomes inflamed the glands enlarge and have also to take their share in the causation of the disease. The importance of bearing in mind the gland factor in the production of bronchiectasis is obvious when the prevention and treatment of the disease are under consideration.

Anyone who is afraid that his favourite theory as to the causation of bronchiectasis is being attacked may rest content, for I do not emphasise an important factor that is [illegible] I have neither time nor space to discuss the part played by enlargement of glands in producing [illegible] frequent illnesses or tonsil and adenoids [illegible] or the presence of the oval area of dullness [illegible] upon glands in the neck.

[illegible] of the lung—a condition which [illegible] in adult—probably finds part of its explanation in the great mechanical advantage which the glands have at the narrow origin of this lobe. The anastomosis of veins is far less a relieving agency here than elsewhere in the lung. It may be mentioned how much more readily glands enlarge in the early years of life.

Again, the influence of this enlargement in favouring *haemorrhage* in pulmonary tuberculosis must be mentioned. The relief to the patient's breathing after a moderate haemorrhage is more easily explained by the reduction in the size of the glands than in any other way. The value of calcium in reducing the size of tuberculous glands may well be borne in mind in treating cases with a haemorrhagic tendency, and the frequency with which haemorrhages have followed "colds" in some cases of phthisis would suggest a means to lessen or prevent secondary infections.

I have not referred to any effect that pressure may have upon pulmonary nerves. As to the possibility of *treatment* affecting the intrapulmonary glands there is much to be said, but I must condense my remarks very considerably.

The enlargement of these glands is a part of a healing and protective process. A certain amount of passive congestion is advantageous to the patient, but the congestion may be too prolonged or be excessive and cause delay in the return of the diseased lung to normal, or even the congestion itself may produce lesions of the lung. Can we in any way prevent disadvantageous enlargement of the glands or have we any power of reducing their size when they are disadvantageously enlarged? There is no doubt that we can do one or the other in many cases, and the attempt should be made.

In acute conditions, by the application of moist heat to the chest, whether by means of the despised poultices, or the now more popular pastes of siliceous earth with glycerin, the inflammation of the glands can be reduced. In pneumonia this is with many almost a routine treatment, and is valuable in the severer forms of bronchitis. In measles or whooping-cough rubbing with a stimulating liniment night and morning the bases of the lungs behind until the skin is reddened is with me a routine treatment in every case, however mild it may appear to be.

Are there any drugs which, apart from there being any direct effect upon the primary lesions of tubes or lung tissues, have an effect upon the size of the glands? Iodine and iodides have an action upon enlarged lymphatic glands quite apart from their action upon the rest of the lung. In combination with creosote, iodide is given in pneumonia by many, although potassium iodide was at one time looked upon as a drug given only in the more chronic forms of pulmonary disease. Its effect upon glands in the neck is not questioned. It is given in pleuritic effusions, and in whooping-cough, when given with tannic acid, it has strong advocates. In fibroid conditions of the lung and in certain forms and stages of pulmonary tuberculosis, its action upon the glands is probably the method by which it makes breathing more easy—by lessening the deficient aeration of the blood, the result of a widespread enlargement of the pulmonary glands.

Centuries ago digitalis was applied externally for the king's evil, and although it was formerly used for phthisis it is rarely so used now. I have found it of great value with potassium citrate in assisting the absorption of pleuritic fluid, but the action may well be due to some other cause than the diminished size of the glands, in some cases diuresis, for instance, may explain its mode of action.

Cod liver oil with malt and phosphate of iron is useful in the condition of the lung following whooping-cough or measles. Ammoniacum with oil of garlic is a very efficacious though disagreeable combination (best masked by syrup of ginger), and it is greatly assisted by frequent rubbing of the bases of the lungs posteriorly with stimulating liniments. Both ammoniacum and oil of garlic, which contain sulphur, are most useful in chronic bronchitis, particularly where there is profuse expectoration—conditions where the glandular enlargement is well marked.

The climatic treatment prescribed for glands in the neck is equally advantageous in pulmonary diseases with enlargement of the pulmonary glands except where the pulmonary condition generally contraindicates it.

ARTERIO-SCLEROSIS

ITS CLINICAL SIGNIFICANCE, MODE OF ORIGIN, STAGES, AND CONTROL

BY

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INTRODUCTORY

THERE still exists widespread doubt both regarding the mode of production and the clinical significance and importance of arterio-sclerosis, even when it is recognized as present. Owing to this both the individual and the community suffer. The questions which surround its mode of production have much and urgent significance when the fully developed condition is present, as it is only by understanding the former that indications are provided for the management of the latter. The first clinical step is the recognition of the fact that the arteries used for clinical examination contract and relax—that is, that they become smaller and larger—irrespective of the pulse wave travelling along them. This variation in size indicates the degree of myotonia of the arterial wall. It is appreciable to the finger on the radial artery, but it is often more easily recognized in the brachial artery. It is, of course, the physiological sequence of the fibres of the muscular coat being placed transversely and not longitudinally. As in all hollow viscera, it varies, and there is a hypertonia and a hypotonia. The degree of myotonia is determined by two factors: (1) the nervous mechanism of the arterial wall, and (2) blood composition or blood content acting directly on the vessel wall and independently of central nervous control.

The next step is the biological and pathological fact that involuntary muscle hypertrophies under conditions such as prevail in arterial hypertonia. Persistent or recurring hypertonia leads to hypertrophy of the middle coat, and it is this thickening of the middle coat which constitutes the *first stage* of arterio-sclerosis. That this increase in thickness and consequent hardness (sclerosis), of the arterial wall adds much to sphygmomanometer readings seems still to be questioned, or ignored, or tacitly denied in certain quarters. When this attitude is adopted it is hopeless to expect that contraction and relaxation of the thickened wall will be noted, or the fact that such contraction raises sphygmometer readings, while readings fall with relaxation. Unless the great clinical fact of this play of the arterial wall, even when sclerosed, is accepted, observed and acted upon there can be no widely diffused understanding of the origin of arterio-sclerosis, or, when developed, of the significance of its clinical manifestations.

The persistence of this attitude to the matter under consideration is, I think, due in the main to thinking as well as speaking and writing of sphygmometer readings as "blood pressure." Another unfortunate term is "hypertension." The terms "high tension" and "low tension" were applied to the pulse before the sphygmometer was used in clinical medicine but even then the question was asked what was meant. Was it the pressure of the blood on the arterial wall, or the condition of the wall itself? The same questions may be repeated to-day, for the terms "hypertension" and "blood pressure" are applied to sphygmometer readings. Warfield ignores the arterial wall as taking any part in this, but both terms are used in America and whichever may be used it always means instrumental readings. Trunecek of Prague, in an interesting communication writes of *hypertension vasculaire*, but it is quite clear that he means increased blood pressure in the aorta and its branches, which possess an elastic and not a muscular coat for he enlarges upon the physical signs of dilated aorta and dilated subclavian artery. He does not mention the sphygmometer, but he recognizes constriction of the arteries, with diminution of their contained blood as leading to aortic hypertension.

THE CLINICAL SIGNIFICANCE OF ARTERIO-SCLEROSIS

The view which is taken of the clinical significance of arterio-sclerosis seems to depend upon the pathological conception formed of the condition. As long ago as 1901 I showed that the pathological change in the arteries used for clinical examination, and to which the term 'sclerosis' was applied, was thickening of the tunica media due in the first place to hypertrophy of its muscle fibres and that it was totally different from atheroma. Many observations since that date have confirmed my earlier observations. Recently I have examined a further series of arteries by a newer staining method to demonstrate the amount of fibrous tissue which had replaced the muscle tissue. In all of them the middle coat was much thickened, and although the arteries were taken from old persons they all showed the persistence of normal muscle fibres, especially in the outer part of the coat. The amount of fibrous tissue varied in inverse proportion to the amount of muscle tissue present. This partial fibrous transformation constitutes the *second stage* of arterio-sclerosis.

In this series of cases there were several in which the radial arteries were recognized during life as calcareous, and they were examined with a view to determine the situation of the calcareous deposit. In all the calcareous change was confined to the thickened middle coat. Even in these muscle fibres persisted. The middle coat was in no instance entirely infiltrated. Infiltration occurred irregularly in the inner segment of the media, while external to it there might be two or more layers of normal muscle cells. This calcareous deposit in the thickened and devitalized parts of the tunica media constitutes the *third stage* of arterio-sclerosis, and it is totally different from atheroma.

While those are the changes in the arteries used for clinical examination, the arterial change in the branches of the renal artery inside the kidney, and possibly the arteries inside other organs, is an obliterative endarteritis with sometimes thickening, at other times atrophy, of the tunica media.

The Effect of these Changes on Sphygmomanometer Readings

The effect on instrumental readings of the diffuse and uniform thickening and hardening of the artery wall can be illustrated by two cases recently under observation. The first was a lady about 82 years of age. The mental faculties had been slowly deteriorating for a few years; she spent much time in bed, and latterly was entirely confined to bed. The radial pulse was regular and of moderate power; the artery wall was thickened. When the armlet was put on and blown up a pressure of 300 mm. which was the upper limit of my mercurial manometer had no effect whatever on the radial pulse. On palpation with the finger the whole brachial artery was felt so hard, rigid, and pulseless that I came to the conclusion it was an example of complete calcification. In due time I got the artery but it was not calcareous. Sections showed the thickened media to consist of mixed fibrous and muscle tissue. This is of course an extreme example of the resistance a sclerosed arterial wall offers to the armlet, but the greater includes the lesser.

The second case was a man, a metal worker, aged about 60 years who, while convalescent from a severe acute pneumonia, was transferred from the Royal Infirmary to the men's sick room in Queensberry House. When I saw him the morning after admission he was listless, apathetic, and had no pulse at the wrist. The radial artery was partly calcareous. At the bend of the elbow the brachial artery was superficial, large, thickened, and tortuous and the artery higher up the arm was in the same condition. The tap of the pulse could be felt but it was a mere tap. When the armlet was applied the pulse at the bend of the elbow was stopped at a pressure of 110 mm. With the stethoscope over the artery no sound was audible as the armlet was tightened. The heart sounds were inaudible. Under treatment he revived sufficiently to enable the radial pulse to be felt and counted. The armlet then gave a pressure of 125 mm., both with the finger at the wrist and at the elbow. In this case the circulation was so feeble that the pulse-wave felt at the elbow did not reach the wrist, yet the armlet gave 110 mm., next day, when the heart had

recovered sufficiently to drive the pulse wave to the wrist, the armlet gave only an extra 15 mm Every clinician will realize the conclusion to which the facts in these two cases inevitably lead

Age and Arteries

That a man is as old as his arteries has long been a medical aphorism, and it has so biased medical thought that at the present time arterio-sclerosis is, apparently, in many quarters regarded as the inevitable result of advancing years It has followed from this that the thickening artery, with its rising sphygmomanometer reading, is regarded as normal, and has led to the enunciation of the doctrine that "blood pressure (sphygmomanometer reading) rises 1 mm for every year of life, beginning with 100 or 120 mm"

At the time of the inception of the above aphorism, and for long afterwards, it was probably not far off absolute truth, for the feeding and drinking habits of past generations fostered arterio-sclerosis and shortened life The aphorism must not, however, be construed to-day as warranting the doctrine that age and thickened arteries are necessarily and naturally associated Every doctor of experience must know that there are many persons in the later decades of life who have soft arteries and sphygmomanometer pressures of, say, 110 to 130 mm I have seen many such From the medical reports now coming into a life assurance office this statement receives confirmation Further confirmation is available from America I quote from an address delivered to the Association of Life Insurance Presidents in December, 1923, by Mr Arthur Hunter, chief actuary, New York Life Insurance Company, on "Blood pressure, what affects it?" This definitely means sphygmomanometer readings, and is defined as the pressure the blood exerts on the arterial wall The "average blood pressure" in a quarter of a million male lives "accepted for insurance at the regular rate of premium" according to age is given as follows

Age	Systolic Pressure	Age	Systolic Pressure
20	120 mm	50	130 mm
30	123 "	60	135 "
40	126 "		

These figures are taken as the standard of normal lives He then gives the figures of risks accepted, with an additional premium, by his company, and the extra mortality as follows

No of mm over average for age	Extra Mortality
Plus 10 to 25 mm	46%
" 26 to 35 "	88%
" 36 to 50 "	148%

These figures ought finally to dispose of the doctrine that arterio-sclerosis with its increased resistance to pressure is to be accepted as normal and inevitable In America the "blood pressure" of every proposer is as much a necessary part of examination as the examination of the urine, but as British offices have not adopted this procedure no statistics are available here

The big fact is that the thick-walled, sclerosed artery, with its high resistance to the pressure of the armlet of the sphygmomanometer, is no necessary accompaniment of advancing age It is on the contrary, the pathological product of a long course of disordered or overtaxed physiological processes

There are however many old persons with markedly altered arteries and sphygmomanometer pressures of 200 mm or more and it is probably this class of person which is responsible for the belief that these phenomena are merely a manifestation of old age and of negligible clinical significance I have always under observation individuals showing the arterial changes 60 70, or 80 years of age, but they are persons who have led a life of manual and physical labour They are all broken down, unfit for work, and require suppression and care Some are confined to bed and present various symptoms referable to their cardio-vascular condition The ultimate is develop further manifestations 'attributable' to that condition and die Some of these [illegible] signs of slowly failing myocardium and [illegible] a pressure of 200 or more gradually falls, but the sphygmomanometer registers 100 or more so long as there is a pulse to feel Corresponding cases occur in very different social conditions, of which the lady with the incompressible artery referred to earlier is an example

Mode of Production of Arterio-sclerosis and its Control

From the foregoing it will be seen that arterio sclerosis with its high sphygmomanometer readings is no necessary accompaniment of advancing years, that, on the contrary, it must be regarded as the product of pathological processes The first step is *hypermyotonia*, appreciable to the finger applied to the radial and the brachial arteries This is the stage of *pre-sclerosis* Continued hypertonia is caused by, and is proof of, blood impurity, using the word in the special sense of something in the blood which has an irritant or stimulant influence on the arterial wall This irritant has two sources—it is absorbed from the alimentary tract, or it results from the retention of the waste products of cell metabolism which ought to be excreted Another factor has now to be added—namely, increased activity on the part of endocrine glands whose internal secretions act as vaso constrictors The discussion of these various factors can be only briefly entered upon here On the threshold of it stands the fact of differences in the chemico-vital constitution, or activities, or responses of individuals I have seen and known of individuals under 30 years of age with sphygmometer pressures of 170 and 200 mm, lowered to normal by abstention from red flesh In insurance practice I have had to deal with persons of this age with pressures of 160-170-180 mm, apparently in perfect health otherwise, and yet, in my judgement, unsuitable for life insurance They belong to the small group of persons who die between 40 and 50 years of age with advanced arterial thickening, combined with cardiac and renal results of a persistent blood impurity, acting as a vaso-constrictor or as an irritant These persons seem to possess a vessel sensitiveness to certain common articles of food it is a food idiosyncrasy, manifesting itself by its action on the arterial wall This is fortunately the extreme type, but the extreme example is valuable as establishing a law suggested by less pronounced types Passing from idiosyncrasy to the big protein feeder—the person who eats red flesh three times a day—various examples are suggested, but this is a widely recognized type I am informed that arterio sclerosis is alarmingly common in Australia and that it is attributed to excessive flesh eating The sheep-shearers are paid by the hundred fleeces, they work at great speed for hours, they consume three pounds of flesh daily, and they all have sclerosed arteries in early life This is again the extreme example, but every medical man of experience must know this type, although in lesser degree When the large eater also possesses an appreciative palate for wines or spirits the results become more readily apparent

The gross type does not form a large group and need not be enlarged upon There are, however, very many persons who illustrate various phases and degrees of corresponding effects, although in a minor measure Of these the following are examples, and illustrate how the constriction may be controlled

M., a retired medical man, aged 65, came to me in May, 1920 as his life had been declined for life insurance because his 'blood pressure' was too high Some time before he had had a left hemiparesis which was practically recovered from when I saw him On examination I found the pressure 210 mm, the arteries were thickened and to my finger hypertonic He had a gouty inheritance The urine was normal He complained of inability for slight effort and of mental apathy His past history was medically uneventful He was not a big eater, but took a little whisky and enjoyed a glass of port after dinner He had been troubled with constipation The port was stopped, red flesh was reduced to a minimum, he was given a laxative to relieve the colon without purgation, and 5 grains of sodium iodide thrice daily Under this treatment the sphygmometer readings came down to 150 mm in thirteen days The hypertonia of the arteries was checked but the arteries remained somewhat thickened He regained mental interest and took considerable physical exertion without fatigue In August he went for a fishing holiday and gave up taking the iodide At The result was that the pulse resistance rose to 185 mm It fell with resumption of the iodide, and has remained stabilized between 150 and 160 mm down to the present time and within that period he has weathered a smart attack of pneumonia and a surgical operation of some magnitude

MISS D aged two or three years over 70 had sclerosed arteries and a mitral and aortic systolic murmur She was having recurring headache attacks of disordered vision which made her temporarily unable to read and pa sing attacks of aphasia and or unilateral disturbances of sensation The pulse resistance measured from 200 to 210 and 220 mm By means of rest careful dieting and suitable medicinal management aided by the understanding watchfulness of the lady s local doctor and her own intelligent co-operation the pulse resistance was stabilized to round about 170 mm But it took ten months to effect this

Mr S aged 68 came to me in November last saying that he had ' high blood pressure He complained of listlessness and somnolence so great that whenever he began to read he fell asleep The arteries were sclerosed and tortuous and the pulse resistance to the armlet 210 mm The heart apex was one and a half inches beyond the mammary line The aortic second sound was accentuated The urine was normal He had always been of costive habit and took a daily laxative He was not a big eater but he drank burgundy and suffered somewhat from gastric hyper acidity Wine was stopped the acidity was checked and the laxative modified The result was that the somnolence passed off mental activity returned and he felt quite well and the pulse resistance fell to 180 mm He has continued to follow out instructions and the arterial condition remains stable

It will be noted that in these three cases a stable pressure of 150 to 170 to 180 respectively—which was a lowering of 50 to 30 mm —removed symptoms, and the patient kept well so long as instructions were followed The arteries being sclerosed no attempt was made to lower the pressures further Treatment was directed to removing and checking the hypertonia The structural resistance of the thickened arterial wall could not be removed

The foregoing cases illustrate the limitations of treatment when dealing with sclerosed vessels The following case illustrates the progressive character of sclerosis when its early manifestations are not understood

Mr B was seen by me in 1913 for digestive disorders He was then 44 years of age His pulse resistance to the armlet was 170 mm the artery was thickened the heart and urine normal I did not see him or hear of him again until the end of February, 1924 when he was again sent to me He was by this time 54 years of age He complained of apathy and drowsiness he could not remember what he had read in the morning newspaper half an hour after he had read it The radial artery was small and calcareous The pulse wave was moderate The brachial artery was hard and tortuous the pulse resistance was 240 mm The sounds of the heart were faint There was a trace of albumin in the urine Such was the advance of the arterial changes with their accompaniments in the ten years between the ages of 44 and 54 The immediate prognosis of course was very bad

CONCLUSION

I have mentioned Trunecek's definition of vascular hypertension He recognizes, as I have long preached that the raising of aortic pressure results from constriction of the arterial wall and consequent diminution of the content of blood in the constricted arteries He further recognizes that the true blood pressure is determined by the response of the left heart to the increased aortic pressure and that the left heart may become embarrassed and commence to fail, so that the arteries may be constricted without elevation of the blood pressure The arterial constriction he attributes to blood composition, regarding it, as I have suggested elsewhere, as due to acidosis, traceable to ' la dyspnee cellulaire " I frequently find that the application of the doctrine of acidosis is effective in some of the clinical manifestations of arterial hypertonia, both when the arteries are sclerosed and when they are normal Whatever the precise nature of the blood *impurity*, it is more than a vasoconstrictor, for it leads to obliterative endarteritis in the kidneys and to capillary occlusion

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ACUTE APPENDICITIS AND INTESTINAL OBSTRUCTION

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THE occasional occurrence of intestinal obstruction as a complication of acute appendicitis has long been recognized and there must be very few abdominal surgeons who have not had to face this sinister association many times It is difficult to estimate with any accuracy the frequency of the complication if we examine the terminal causes of death in fatal cases of acute appendicitis, as revealed in the published lists of individual surgeons we cannot fail to notice a considerable discrepancy in the incidence of ileus and general peritonitis, though the mortality rates in these lists differ but slightly, nor is it possible for us to obtain any clear notion as to the type of ileus whether mechanical or paralytic in many of these cases The same uncertainty in regard to ileus is encountered when we examine the non-fatal complications of acute appendicitis

In the light of my own experience I believe ileus and that frequently of a mechanical type is associated with acute appendicitis much more frequently than the literature would lead us to believe and that some if not many, of the deaths ascribed to general peritonitis or to intestinal paralysis are due primarily to mechanical ileus McWilliams,[1] in describing a series of 687 cases of acute appendicitis (1906-9) states that ileus, mechanical or paralytic, developed to such a degree in 18 cases as to require secondary operation and of these 14 died On the other hand, Beekman, in describing a more recent series of 500 cases of acute appendicitis with 34 deaths, ascribes the cause of death to ileus in only 2 of these 34, but in the same paper stated, It must be assumed, however, that some of our cases of diffuse peritonitis had a paralytic ileus and therefore the above statistics may be misleading ' (18 of the 34 deaths were stated to be due to diffuse peritonitis) McNeill Love[2] has recently reviewed a series of 1 500 cases at the London Hospital (1919-22), and in a set of 421 of these in all of which the operation was performed through the gridiron incision and drainage established through this he records 102 complications and of these 17 were instances of ileus or intestinal obstruction (10 fatal) and 14 of general peritonitis

Furthermore we must not lose sight of the occasional and very unwelcome appearance of acute obstruction as a remote sequel of appendicitis that may occur months or years afterwards and is particularly prone to follow operations for acute appendicitis that have required drainage It is noteworthy because the patient and even his doctor may be disposed to minimize the gravity of the trouble during its early stages knowing that the most common cause of acute abdominal disease—the appendix—has been previously removed yet many *of these late attacks* two three or more years after the appendix operation are due to strangulation of the bowel and call therefore for immediate recognition, whilst those developing some weeks or months afterward are more commonly due to adhesions McGlannan[3] has recently recorded 276 cases of acute intestinal obstruction in 25 of which there had been a previous operation for acute appendicitis and in 23 of these drainage had been employed

It is however, with intestinal obstruction as an immediate complication of appendicitis that I am concerned here, and I will now describe the pathological conditions as seen at operation responsible for obstruction At least three distinct types can be recognized.

1 *Adhesion by Lymph Exudate of Lower Ileum to Pelvic Wall or, less frequently to Neighbouring Loops of Small Intestine*

This I believe to be the commonest cause of intestinal obstruction occurring before or soon after operation for acute appendicitis This condition is most commonly set up by perforation or gangrene of the pelvic appendix, in

either case a lymph-forming exudate is poured out in the right posterior quarter of the pelvis, by this means a barrier, more or less complete, against the spread of infection is created, and in the formation of this barrier neighbouring viscera, particularly the terminal ileum, inevitably participate

Sometimes a perforated appendix lying above the pelvis may by gravitation of its contents give rise to the same state A loop of the terminal ileum at a point about 6 to 18 inches above the ileo-caecal valve is fixed to the posterior wall of the pelvis just to the right side of the rectum and at a varying depth in the pelvic cavity The acute angulation—and rotation also in some cases—of the bowel at this fixed point can usually be readily revealed to the eye or, according to the depth of the point in the pelvis, appreciated by a cautiously inserted finger The bowel above the fixed point is usually well filled, and may be distended if actual obstruction has already begun, and the efferent loop can be seen rising steeply out of the pelvis to reach the caecum, this loop is usually of normal calibre and empty A typical example of this is described later (see Case II)

In other cases where there is diffuse peritonitis the terminal ileum may be found to be stuck to other loops of small intestine in such a way as to produce acute kinking at one or more points

It is not suggested that lymph adhesion and angulation of the bowel of this type will, if unrelieved, invariably produce obstruction of noteworthy degree, but it is suggested that this is a common cause of obstruction, particularly if other related factors come into play, many patients with such a condition may weather through the post-operative stage with nothing more than a certain degree of "paralytic ileus," but a few of these will surely return to the surgeon with acute or subacute obstruction within a few weeks owing to the organization of the lymph coagula and a consequent increase in the distortion of the bowel

2 *Ileal Band*

The presence of a well marked ileal band is responsible, though rarely, for intestinal obstruction in acute appendicitis the band contracts and becomes more rigid owing to acute inflammatory changes, so that its normal action in tethering down the bowel to the posterior abdominal wall, and in causing a rotation of the bowel, is so intensified that it holds the terminal ileum in a contracted and fixed condition the freely mobile bowel above this is, in the presence of a spreading peritonitis, more or less distended and clearly demarcated from the contracted portion in the grip of the ileal band the junction of the two under these conditions is often marked by a kink The following case is an example of this type of obstruction

Case I

A man aged 50 was admitted to a nursing home in September, 19[illegible] and operated upon the same day for localized suppurative [illegible]itis of five days duration—appendix behind mesentery of small intestine removed drainage Four days after the operation he presented the typical picture of acute intestinal obstruction—abdomen distended visibly distended coils of intestine showing active peristaltic movements one small faecal coloured vomit proper expulsion of flatus since operation despite enemata and use of tube face pinched and dried up in appearance Re-operation Marked distension of small intestine particularly of jejunal coils which were like inert water bags no evidence of peritonitis Obstruction located at lower ileum and due to angulation produced by well marked ileal band the distension ceased abruptly at the ileal band Lateral ileo-colostomy (transverse colon), ileum drained before establishing anastomosis The patient made a good recovery and required no aperient medicine, he is in good health to-day

3 *Ileus Duplex*

This condition of the terminal ileum was described by [illegible] Upon Handley in 1915 in his Hunterian lecture on ileus duplex This is due to involvement of the lower [illegible] pelvic peritonitis The coils of the pelvic [illegible] show evidence of acute inflammation [illegible] The bowel wall is swollen and [illegible] coil is empty presently collapsed, and between adjacent coils are sharp angular kinks sometimes fixed by flakes of stick lymph" Victor Bonney noted in an earlier description that the bowel is flattened like a strap

I have recognized the condition of ileus duplex on two occasions at least, and the appearance of the terminal ileum in both at once arrested attention and created a profound distrust in the capacity of the affected bowel to transmit its contents, it appears to me that the lesion I have described in Section 1 is due essentially to the same processes as is the ileus duplex of Handley, and that between the two distinct types various intermediate forms occur in which the obstruction is in part due to fixation and in part to paresis from inflammatory infiltration of the bowel wall When the condition of ileus duplex is encountered the second lesion, affecting the pelvic colon, must be kept in mind

Handley's work on this subject has been of the greatest service to the surgeon in directing attention to the importance of the obstructive element in appendicular peritonitis, to the need for careful inspection of the terminal ileum, and thus to the possibility at the primary operation of preventing obstruction

Clinical Types and Features

Intestinal obstruction may occur at any period in the course of an attack of acute appendicitis except within, approximately, the first twenty-four hours, and we can conveniently distinguish, according to the time relationship, the following groups—pre-operative, post-operative, convalescent, and remote

Pre-operative Group

The distinctness of the clinical picture of intestinal obstruction varies greatly and depends on the duration and type of appendicitis In some cases the evidence of obstruction may be so slight that the examiner may easily overlook it (though a careful consideration of the history should afford some indication), whilst in others the signs of obstruction predominate to such an extent that the primary and underlying disease may be overlooked

The cases that present a fully developed picture of intestinal obstruction are those with a well shut-off abscess, usually in the pelvis, the history in these, therefore, extends over one or two weeks, and is occasionally marked by an interval of improvement, or apparent recovery, some three or four days after the onset and which lasts until the obstructive symptoms begin

Some degree of pre-operative obstruction is commonly seen in pelvic appendicitis after the first forty-eight hours It is important to bear this in mind, because the condition, if recognized, can be remedied at the primary operation The following is a typical example

Case II

A man, aged 50, was admitted to a nursing home in June, 1922 History Onset forty-eight hours previously with severe abdominal pain and repeated vomiting About eight hours after onset began to improve, pain became much less and vomiting ceased improvement continued for about twelve hours, then vomiting began again with pain of a griping character and eructation of wind Repeated enemata at home without result

On examination the abdomen was distended and tense no rigidity nor any tenderness pulse 84, temperature 99·4° Operation fifty hours after onset Pelvic appendix with minute perforation at its tip sealed by plate of lymph, considerable turbid exudate in pelvis lower ileum at a point 12 inches above ileo-caecal valve, fixed down to posterior wall of pelvis by lymph adhesions bowel above this point distended and empty below it The efferent loop filled up rapidly after setting free the ileum The patient made an uninterrupted recovery

Post-operative Group

The patient in this group never makes really satisfactory progress in the first few days after operation, though during this time there may be nothing to create much anxiety The abdominal distension gradually increases, purgatives produce no result except an increase in the discomfort of the patient Enemata are not followed by satisfactory expulsion of flatus Vomiting usually ceases after the anæsthetic nausea has passed off, but begins again about the third or fourth day and is commonly small in amount and infrequent at first About the fourth to the sixth day the evidence of intestinal obstruction increases and the general

picture becomes unmistakable, the patient's facial appearance alters noticeably, the pulse shows little acceleration but its volume is diminished, the vomit, at first bilious, becomes intestinal or even faecal in character, the abdominal distension becomes marked, and in thin or moderately nourished patients the outline of distended coils of bowel can be seen Frequent griping pains and sensations of wind rolling about the abdominal cavity disturb the patient A secondary operation, under depressing conditions, appears inevitable, however loath the surgeon may be to perform this

Convalescent Group

In this group obstruction develops approximately between the tenth day and the eighth week The group cannot be sharply distinguished from the post-operative or remote groups but in general I may say that there is a certain degree of liability to obstruction during convalescence and that the clinical and pathological features of obstruction in this period differ from those of obstruction in the other periods Obstruction in this period is due essentially to an increase in the fixation and kinking of the bowel owing to organization of lymph deposits or to the shrinkage of an abscess cavity after drainage Abscesses in the pelvic and hypogastric regions provide most of the examples of the last type, abscesses outside the small intestine area—for example, retrocaecal or retrocolic abscesses—very rarely give trouble of this kind

The onset of obstruction during convalescence is sometimes distinctly subacute and gradual, and at such times the significance of the early symptoms may be overlooked The prognosis is decidedly better in this than in the post-operative group

TREATMENT

(a) Primary Operation for Appendicitis

The whole of this article constitutes an additional reason, if one were needed, for the early operation—that is, within the first twenty-four hours, when the diagnosis is clear and the circumstances reasonably favourable After twenty-four hours have elapsed since the onset, or more precisely after perforation and spread of infection have occurred then if operation is decided on, the case and particularly the history, should be examined for any evidence of the presence of an obstructive element The incision employed should be one which will give easy access to the terminal ileum and pelvis A vertical incision through the outer third of the lower rectus muscle, splitting the rectus muscle or displacing it medially, answers the purpose best in my own experience After removal of the appendix and careful cleansing of its bed, the mobility of the last 12 inches or so of ileum should be examined, particularly in the presence of a pelvic peritonitis

When the ileum is fixed in the pelvis as previously described, a finger should be passed gently down to the apex of the angle and the intestine slowly disengaged by pressure from below, this done the bowel can be readily lifted up into the wound, and the plate of lymph on its walls which marks the site of the previous adhesion, is apparent No bleeding at all should arise from this mobilization The fixation of the bowel should not be overcome by pulling on the afferent or efferent loops When the terminal ileum is stuck to neighbouring coils it should be gently separated at points where there is obvious kinking, lymph coagula should not be removed, but long trailing strands of lymph should be lifted out

In the more uncommon cases of obstruction by a well developed ileal band relief may be obtained by its division but if this is inadequate, or if such a step appears unwise in the presence of advanced peritonitis then ileo-colostomy should be performed The lesion of the terminal ileum described by Handley in "ileus duplex" urgently calls for the performance of ileo-colostomy and probably also for a caecostomy (by a self-closing method) the operative procedures recommended by Handley

The treatment after operation for acute appendicitis has some influence in determining the incidence and severity of obstructive troubles That the administration of purgative medicines is unnecessary I feel sure, that it is also very harmful, by producing intestinal turmoil and distension I believe For the past three years I have abandoned the use of purgative medicine in such cases and rely on the administration of a simple enema, *daily or on alternate* days, to procure an evacuation of the bowels Morphine in small hypodermic doses is given during the first day or two if necessary

A satisfactory action of the bowels is a very favourable indication of the patient's progress in peritonitis, but it must not be regarded as the cause of the improvement and I think it possible that we defeat our purpose by trying to force the appearance of this welcome sign A suggestive paper on this subject by Le Roy Long[4] treats the matter in more detail than is possible here

(b) Post-operative Obstruction

This, I believe will rarely arise if the treatment already outlined is carried out

The management of a case of post-operative obstruction presents one of the most anxious and difficult tasks with which the surgeon has to deal The following plan of treatment, which I believe should in all cases be adopted in the first instance is based on the fact that the obstruction is rarely a complete one and that the intestine will frequently recover its function if relieved of some of its load

(1) All nourishment and drinks by mouth are stopped but chewing of fresh fruit (orange grape pulp), etc is encouraged

(2) Subcutaneous infusion of saline solution

(3) Evacuation and lavage of stomach by stomach tube

Morphine, too, in many instances will be found beneficial despite the apparent contraindication to its use, in producing rest and sleep

For the subcutaneous infusion of saline solution Souttar's apparatus answers admirably the rather stout needles fitted to this can be painlessly introduced by previously injecting novocain through a hypodermic needle at the selected site About 3 pints should be introduced in the first twelve hours

The passage of the stomach tube is an unpleasant task with a very poorly patient especially with a child but its use is of the greatest value By retaining the tube in a position for a few minutes after the stomach has been emptied it is often possible to withdraw several ounces more of intestinal contents The drainage of the stomach may need repeating in twelve or twenty four hours

The following is an instance of the value of this treatment

CASE III

P H. aged 13 years Onset of acute appendicitis fifty hours before operation Abdomen distended but not tense hypogastric tenderness Pulse 140 (after repeated counts, patient mentally tranquil) temperature 104·4° Operation revealed a greatly distended appendix almost entirely gangrenous but unruptured and lying in the pelvis Lower abdominal peritoneum everywhere red and inflamed but no effusion Appendix inevitably ruptured during removal. Terminal ileum noticed to be tethered down into pelvis but was not interfered with owing to the child's toxic condition and technical difficulties arising from tenseness of abdominal walls Pelvic drainage tube

Four days later the patient had vomited 3 pints of intestinal fluid in the past twelve hours—the later vomit faecal in appearance No flatus at all after enema or tube for past forty-eight hours. Belly globular in shape from extreme distension and as hard as a well inflated motor tyre Face pallid and shrunken as compared with appearance a few days previously Lips cyanosed. Pulse 140 but fair volume

Stomach tube withdrew 2½ pints of faecal-coloured fluid Subcutaneous infusion instituted and all drinks stopped Morphine 1/8 grain Marked improvement within twelve hours as shown by decrease in the tenseness of abdomen improved facial appearance and action of bowels after enema. Made progressive improvement afterwards, and was discharged home one month after admission healed and without having had any aperient beyond paraffin.

If treatment on these lines is not followed by definite improvement in the course of one to two days then operative interference will be necessary The scope of the operation depends entirely on the condition of the patient, but drainage of the small intestine above the obstruction either

by ileo-colostomy or enterostomy (using a self-closing method for tube insertion) is the essential objective of the operation. Separation of the adhesions at this stage will prove insufficient, and will involve more exposure and handling of distended coils than a simple drainage operation.

Obstruction during Convalescence

Operative treatment is necessary in almost all cases in this period. Separation of organized adhesions about the lower ileum, followed by a gentle milking down of the intestinal contents through the liberated bowel, will be sufficient in the majority of cases, but in cases developing early on in this period or in cases presenting widespread adhesions an ileo-colostomy or even an enterostomy may be necessary.

General Remarks

As some basis for the substance of this paper I ought to refer to my own experience of acute appendicitis. Taking a series of 126 consecutive cases (since January, 1921), which includes an average proportion of desperate cases, there have been four deaths. The cause of death was determined after a *post-mortem* examination in each case, except the first.

1. Delirium tremens following pronounced alcoholism: a case of fulminating perforative appendicitis.

2. Cardiac muscle failure in a man of 63, whose arteries were rigid and tortuous: a case of diffuse peritonitis in which there appeared no possibility of recovery without operation. *Post-mortem* examination revealed no evidence of spread of peritonitis.

3. General peritonitis in a woman of miserable physique.

4. General peritonitis and ileus duplex: enterostomy performed at primary operation and this acted freely up to the time of death on the third day after operation. *Post mortem* examination showed general peritonitis: there was an absence of intestinal distension and a definite diminution in swelling of the intestinal wall at site of the ileal lesion.

In this series one patient required re-operation during the first week for intestinal obstruction due to ileal band (Case 1), two patients required re-operation during convalescence—on the twenty-fourth and forty-second days after primary operation. All recovered.

Very little mention has been made in this paper of paralytic ileus, that some degree of paralytic ileus occurs in bowel which is exposed to acute peritonitis cannot be doubted and I believe it to be a factor in the production of the types of obstruction already described. The presence of a kink or of an angulation, which in normal circumstances would be insufficient to produce obstruction, will in the case of bowel already sluggish and inactive (from paralytic ileus) lead to acute intestinal obstruction. This contention is borne out by the observation that treatment directed to the reduction of intra-intestinal tension above the obstruction, but which ignores the actual site of the obstruction, is usually effective in affording complete relief, on the other hand the liberation at the primary operation of a fixed and kinked terminal ileum will lead to the speedy disappearance of ileus in a case where this is a conspicuous feature before operation and will, moreover, materially reduce the patient's liability to ileus during the post-operative and convalescent periods.

Finally, in regard to the influence of a drainage tube in the production of intestinal obstruction I believe a drainage tube may be a factor in cases of pelvic peritonitis when no attempt is made to release an adherent terminal ileum: under such conditions a tube passing from a wound in the right side straight down to the floor of the pelvis, will lie over the point of angulation in the ileum and must tend to intensify the effects of this by pressure and irritation. If however the terminal ileum is free or is mobilized at the operation then I believe the risk of obstruction from adhesions around the tube track is a very small one and is no greater than that attaching to the abandonment of drainage in cases of purulent pelvic peritonitis.

ACUTE INTUSSUSCEPTION IN CHILDREN

FIFTY CONSECUTIVE CASES *

BY

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Acute intussusception is comparatively common in the first year of life, especially from the fourth to the eighth month; it is more common in boys than girls. The most important features are (1) periodic attacks of crying because of acute abdominal pain in a previously healthy child, (2) a swelling in the abdomen, (3) vomiting, which may become persistent, (4) passage of blood and mucus once or several times from the rectum, (5) emptiness of the right iliac fossa, and (6) the abnormal quietness of the child.

The persistent periodicity of these attacks of abdominal colic with the associated crying is one of the most important features. Fifty consecutive cases were observed and all gave this typical history, many displayed it during their short sojourn in the ward prior to operation.

In all the cases save four blood had been passed by the rectum. The cases where no blood was passed were ileal intussusceptions, two of which required resection. In four cases blood was passed soon after the commencement of the attack, then not for a period of almost a day, and then more blood was passed, all four were on operation seen to be two intussusceptions—one, the original, an ileo-ileal which had proceeded to the ileo-caecal valve, and, sticking there, was replaced by an intussusception which had for its apex the ileo-caecal valve.

In some cases a tumour cannot be felt, partly because of the position of the intussusception, it may be tucked up under the ribs at the splenic flexure, or the patient's abdominal wall may be too resistant to permit its palpation. In these cases the tumour can readily be felt under light anaesthesia. If deep anaesthesia be induced, only the mass swelling of an advanced intussusception will be detected, as the spasm of the intestinal musculature, to which the early tumour is due, will not then occur, or, if present, will disappear.

In some cases the "signe de Dance"—that is, emptiness of the right iliac fossa—can be made out, this will obviously only be present when the intussusception has progressed beyond the caecum, and when the caecum is mobile.

The abnormal quietness of the child may be commented upon by the mother. It is usually a grave sign, and may mean that gangrene has occurred or that severe toxæmia is present. The possible explanation is that the toxins have paralysed the nervous mechanism of the musculature of the sheath, which no longer attempts to pass on the enclosed bowel. This is probably the reason why the intussusceptum, in every case that is left to itself, does not present at the anus. The toxæmia which kills the child has previously paralysed the bowel.

At the onset there may be no rise of temperature, but later on, especially after twenty-four hours, the temperature may be anything from 100° to 105°. In this series there is one in which the temperature was 108·2° prior to operation. Intussusception is associated with an abnormally mobile colon, and all are agreed that it occurs after intestinal upset with succeeding irregular peristalsis, but there is probably some other important factor. Intestinal upsets are frequent, yet few develop intussusception.

A pedunculated tumour growing in the lumen of the gut would, of course, tend to give rise to an intussusception, this does occur sometimes in the adult, but I have never seen such a condition in the child. Neither have I seen or palpated anything in the lumen which was capable of giving rise to this condition. An enlarged Peyer's patch is said to cause intussusception, and that is theoretically possible, but cannot be asserted as the cause, for had it been normal when it got in with the apex it would soon become enlarged and congested.

Latterly I have been looking out for possible causes outside the lumen, and I have noticed the presence of enlarged

* A graduate lecture delivered at the Royal Liverpool Children's Hospital, December 1923.

mesenteric glands in the ileo-caecal neighbourhood in about 80 per cent of cases operated on In some these glands were close to and in front of that portion of the gut which was the original apex of the intussusception, in others they were situated as far as 1½ inches from the original apex and almost at right angles to it In some cases they were connected by a well defined band (often containing one or two small glands) to a portion of the intestine in front of the apparent apex, in other cases they were not so connected The glands were about the size of a hazel nut (in five of the cases half as big again), and often distinctly congested

The constancy with which one meets these enlarged ileo-caecal glands in young children of the poorer classes and their almost complete absence in infants from more fortunate surroundings seems to suggest a reason why intussusception is common in the former, and rarer in the latter

When from any cause, such as enteritis, these glands become more enlarged, this enlargement may cause traction through the bands, when present, or through the mesentery itself to a portion of the gut, which becoming relaxed, permits that piece of intestine immediately above to pass inside, where it is engulfed passed on, and becomes the apex of the intussusception. The gland itself is dragged in and when of moderately large size may prevent the intussusception passing beyond the ileo-caecal valve This actually appeared to have occurred in two of my cases A large gland may prevent an intussusception progressing for a time by hindering its commencement, and the symptoms may subside and recur again, giving rise to a condition of recurrent incipient intussusception I have had one such case in my practice

In the differential diagnosis we have to consider

1 *Henoch's Purpura* —In this there may be a rash associated joint pains or haemarthrosis, an oedematous feeling in the rectum on examination, and albumin and sometimes blood in the urine Henoch's purpura is more common in older children It is worth remembering that an intussusception may occur in Henoch's purpura

2 *Ileo-colitis* —In this there is frequent passage of blood stained liquid stools

3 *Rectal Prolapse and Rectal Polyp* —Careful examination easily verifies these

Operation

A vertical incision 2 inches long is made to the right of the umbilicus through the rectus muscle near its inner side one-third of the incision being above the umbilicus The intussusception is mainly reduced inside the abdomen, using one finger inside and the index finger and thumb of the other hand outside to manipulate it back from the apex The terminal portion should be reduced outside where it can be thoroughly examined When difficult to reduce this portion should be covered with gauze wrung out of hot saline and firmly and gently squeezed for about one minute when it usually reduces easily The abdominal cavity is then filled with warm saline and the incision closed in three layers for better security

ANALYSIS OF 50 CONSECUTIVE CASES OF INTUSSUSCEPTION
(Males 34 Females 16)

Age.	Cases.	Age.	Cases.
3 months	3	11 months	2
4	6	12	2
5	9	13 ,,	1
6	8	15 ,,	2
7	4	2 years	1
8	4	3 ,,	1
9	3	10	1
10	3		

Types

	Cases.	Deaths.
Ileo-ileo-caecal	22 = 44%	7
Ileo-caecal	14 = 28%	2
Ileo-ileal	8 = 16%	1
Ileo-colic	4 = 8%	2
Colic or colo-colic	2 = 4%	0

Mortality 24 per cent. Includes 7 resections.

Duration of Attack prior to Operation

	Cases that lived.	Cases that died.
24 hours or less	26	2
24 to 48 hours	10	4
48 to 72 hours	1	4
Over 72 hours	0	2
Uncertain	1*	0

* case of recurrent incipient intussusception where symptoms subsided and recurred over a period of several days.

Observations

1 Eighty-eight per cent of cases occurred in the first twelve months of life.

2 Sixty-two per cent occurred between the fourth and the eighth month

3 The ileo-caecal type only includes those cases where the intussusception apparently started at the ileo-caecal valve and where this remained as the apex (28 per cent)

4 The majority of cases started as ileo-ileal (60 per cent), in which the last portion to be reduced was ileum. The commencement of the intussusception in the ileum was recognized as a well defined dimple Of these, 8 cases or 16 per cent, progressed only to the ileum, they have been called "ileo-ileal" (that is, ileal or enteric) The remaining 22 cases (44 per cent) were made up of two intussusceptions —the original an ileo-ileal which, when it reached the ileo-caecal valve was superseded by a second which had the ileo-caecal valve for its apex (that is, an ileo-ileo-caecal intussusception)

5 The jejunal type of intussusception described in so many textbooks was not met with in this series It is found *post mortem* in children dying from other diseases It is probably of no pathological importance

6 The ileo-colic type was the most fatal (two deaths out of four cases)

7 Perhaps the ileo-colic type may occur in those cases where the caecum is less mobile at any rate in two of these cases I experienced great difficulty in delivering the caecum to the abdominal wound

8 Ten cases required resection, because of irreducibility or strangulation Of these three recovered and are still well, one of which was an infant of 3 months in whom a resection involving 6 inches of ileum caecum, ascending colon, and part of the transverse colon was required. This case was published in the BRITISH MEDICAL JOURNAL of October 20th, 1923 The others, aged 2 years and 10 years respectively were published in the BRITISH MEDICAL JOURNAL of June 9th 1923 One other patient lived nineteen days and then died of bronchopneumonia The remaining six cases died without recovering from the initial and operative shock

Memoranda:

MEDICAL SURGICAL, OBSTETRICAL

TREATMENT OF GASTRO-DUODENAL ULCER

SEEING how common and how serious a disease gastro-duodenal ulcer is perhaps I may be permitted to make a suggestion on its medical treatment from mainly theoretical considerations and without any personal experience—the absence of which is due to my now not being in clinical practice My suggestion is to use emetine in small repeated doses (say 1/8 grain hypodermically twice a day) in suitable cases cautiously increasing the dose or its repetition if well borne

Emetine is used at present mainly for its amoebicidal action in amoebic dysentery and hepatitis This action is now known to be an obscure indirect one for it is a poor direct amoebicide *in vitro* and it does not cure amoebic dysentery in cats even if experimentally infected with human strains of amoebae It does act directly on the whole gastro-intestinal and bronchial mucous membranes as evidenced by hyperaemia of these part in animals after fatal doses

I am not suggesting that peptic ulcer is associated with amoebae—which is perhaps not so very unlikely—but am suggesting that the stimulant action of emetine on the gastro-intestinal mucous membrane is despite its obscureness a sufficient indication to give the drug a good trial In this connexion the following statement in Hale-White's *Materia Medica* is not without significance The compound powder (of ipecacuanha) has been praised in cases of gastric ulcer probably any good effect it may have is due to its stimulating power" I do not know on whose observations this statement is founded but it does indicate a trial of the more refined preparation, emetine given hypodermically to begin with, in cases where ordinary medical

treatment—preferably under the older idea of rest for the alimentary tract—is being tried Recent haemorrhage would be a contraindication

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TUBERCULOUS CARIES WITH ABDOMINAL ABSCESS

THE sudden and unexpected death which occurred in the following case after so short an illness and so soon after the patient had been at work must be very unusual in the record of tuberculous caries, it is on this account that the case is reported

A man, aged 31 attended on March 28th 1924 complaining of having lost appetite and of being short of breath He had been treated for lumbago a year before, but did not mention this He had been on active service in Egypt and Palestine for four years, and had never been well since his return His chief complaints throughout were inability to swallow and eat, with progressive weakness, shortness of breath, and sleeplessness He had, however, managed to follow his employment as a plasterer up to the day on which I first saw him His physical condition was as follows Expression anxious, colour fair, no appearance of anaemia, emaciated The breath sounds were harsh in places, but there was no evidence of serious pulmonary tuberculosis The pulse was rapid and of poor tension the heart sounds were normal On the left side of the abdomen a rounded mass could be felt, larger towards the costal margin tense and hard Fluctuation could not be detected in it and it could not be moved The urine was normal, the bowels regular, the teeth in order, and the tongue was clean

He was admitted to hospital on April 9th, being then considerably worse The pulse was thready and sometimes intermittent Between the time he was first seen and his admission he had scarcely swallowed anything He was too weak to stand and was unable to swallow a barium meal An effort was made to improve his general condition by dieting, careful nursing, and cardiac stimulants, and it was hoped that he might become strong enough for x ray examination He appeared to be improving, and was taking plenty of liquid nourishment, when he died suddenly on April 13th

At the necropsy a renal shaped tumour was found in a paravertebral position on the left side of the abdomen The tumour was as large as a normal stomach after a meal and was smooth, tense and rounded Its upper half extended into the left hypochondrium, displacing the stomach and was larger than the lower half which approached the pelvic brim both upper and lower margins were rounded and well defined The tumour was covered was parietal peritoneum under which a few fibres of muscular tissue appeared The spleen was normal in size and position, as were both kidneys the liver and the gall bladder All the alimentary tract from the oesophagus to the rectum was normal, with the exception of a few chronic adhesions round the appendix On incising the tumour it proved to be an abscess containing about three pints of pus which came from foci of tuberculous caries in the third fourth and fifth lumbar vertebrae and the crest of the ilium The abscess showed no tendency to track downward and gave the impression of bulging up towards the diaphragm

The case presents some interesting features The patient was at work until fifteen days before he died, and made no mention of any pain during his last illness The situation of the tumour suggested the possibility of an enlarged spleen but otherwise there was no resemblance, and the malarial history was unconvincing in the absence of positive evidence in the blood Gastric cancer seemed a possibility or a renal tumour, but no positive evidence was available After admission to hospital the weak condition of the patient precluded the use of x rays, which would have given a clue to the nature of the tumour

Carmarthen J H GROVE WHITE, M D Dub

MALFORMATION OF VULVA STENOSIS VAGINAL CAESARIAN SECTION

THE following case is remarkable for several reasons, not the least being that neither the patient nor her husband had consulted a doctor about the malformation

On March 27th 1924 a married woman aged 36 was sent into [illegible] Hospital with a note from Dr H W Johnson of Low [illegible] Yorks asking for Caesarean section The patient was in labour at full term and the foetal heart was normal The [illegible] was found to have rudimentary labia majora and [illegible] representing the external labia minora, and [illegible] There was a half inch skin bridge in front of the anus and a small [illegible] opening larger than an ordinary urinary meatus [illegible] into the [illegible] passed readily into the [illegible] with [illegible] Caesarean section was [illegible] child delivered The [illegible] escaped from the [illegible] and the cut [illegible] closed on the [illegible] with [illegible] The [illegible] dried up in a few days the [illegible] bar [illegible] water to and the patient made a [illegible] recovery

Malformation so extreme as this is rare, and the occurrence of pregnancy with a vagina so stenosed as this must be unusual The after-treatment and the drainage of lochia may also be noted

On April 30th I made a rectal examination, but this did not assist me in ascertaining the extent of the stenosis of the vagina, and bimanual examination was unsatisfactory because of the abdominal wound still

Bradford. W E RAWSON, F R C S Ed

A CASE OF LINGUAL FIBRO-LIPOMA

THE rare occurrence of simple tumours of the tongue prompts me to record the following case

A finely developed young woman of the Yezidis (devil worshippers), aged 20, presented herself early in March, 1924 complaining of a lump in her throat of several years duration, which had recently caused her difficulty in swallowing on account of its size, and also interfered with respiration and sleep

A smooth, soft, broadly pedunculated swelling about the size of a duck's egg could be felt in the middle line at the base of the tongue, overhanging the epiglottis to which it was not adherent On straining it was just visible Its colour was that of the tongue, whose mucous membrane appeared to invest it I diagnosed a lipoma, and the patient readily agreed to its removal As anticipated, a little difficulty was experienced with the anaesthesia for as soon as this was complete the tumour obstructed the airway to a considerable degree With the aid of a gag, which had been introduced previous to the administration of the chloroform, it was just possible to reach and hook forward the tumour on the flexed index finger, when it was easily enucleated through a small mid line incision No haemostatic measures were necessary, and the patient was discharged on the third day

The specimen was sent intact to Dr E A Mills, chief pathologist to the Central Laboratory, Baghdad, who kindly submitted it to histological examination His report is as follows 'Numerous sections at various angles have been cut and examined, and all present the same type of structure—namely, that of a fibro lipoma There is no evidence of malignant change"

I am indebted to the Inspector-General of Health Services in Iraq for permission to publish this note

Mosul Iraq G S WOODMAN, M B, B S Dunelm, I R C S Ld Surgeon Specialist, Iraq Health Service

Reports of Societies.

CRIMINAL RESPONSIBILITY OF THE INSANE

AT a meeting of the Section of Psychiatry of the Royal Society of Medicine on May 13th, Dr T B HYSLOP presiding, a discussion on proposed changes in the law regarding criminal responsibility of the insane was opened by Mr DONALD CARSWELL, barrister-at-law

Mr Carswell examined at some length the M'Naghten rules, which he declared to be unique in English law in that they had acquired the force of law and yet were neither parliamentary enactments nor judicial decisions, they were merely the personal opinions of judges, and it was very doubtful whether the judges themselves expected their opinions, given in reply to questions set by the House of Lords, to pass into the *corpus* of English law The rules had never been argued before the Court of Criminal Appeal, the only question for argument had been whether they were modified by subsequent judicial decisions There was another point, which was left to the ingenuity of Mercier to discover—namely, that the questions set by the House of Lords were not the questions which the judges answered The judges did not like the questions set, and so they substituted other questions and answered those The M'Naghten rules were "squatters," and it was of no use to pretend, as was often done, that they were an old landed family The question, however, was whether the law ought to be amended The initial objection to interference with the M'Naghten rules was that, unsatisfactory though they might be, they did afford a measure of certainty and dispense a rough justice There were two false conceptions which beset the question of criminal responsibility The first was expressed in the vulgar saying that everybody was a little mad, or that nobody was perfectly sane Strictly speaking, that meant nothing at all What the chemist had said was that insanity was a relative thing, which, of course, was true but that was taken to mean that it was a question of degree, although to say that a thing was

relative was not exactly the same as saying that it was a question of degree The second error which beset the question of criminal responsibility was expressed in the argument that one could not define criminal responsibility without entering into the whole concept of responsibility in general It was held that a just statement of criminal responsibility must involve a roving commission over the whole field of ethics But, in penal law, punishment was awarded or not awarded in accordance with the standards which prevailed at the time There was no eternal and absolute standard Criminal responsibility did involve wide ethical questions, but the practical issue narrowed down to this, that reference must be made to the prevailing moral standards and need go no further The speaker then turned to the memorandum prepared by the Medico-Psychological Association[1] and submitted to Lord Justice Atkin's Committee That memorandum laid it down that no man should be liable to punishment for a criminal act committed during and by reason of insanity, and that if it be proved that the act was committed during insanity there was a presumption that it was committed by reason of insanity That was a simple, straightforward, and just proposition But the Atkin Committee detected what it held to be a fatal flaw "That is all very well," the Committee said in effect, "but how are we ever going to get juries to convict lunatics?" That was in substance what the Atkin Committee said, and he thought it conveyed its own refutation The speaker's own opinion coincided generally with the Medico-Psychological Association's memorandum He believed the M'Naghten rules to be juridically bad, useless, anomalous, and calculated to defeat the ends of justice The view most in favour at the moment was that it should be a good defence to show that the accused was, by reason of mental disease, irresistibly impelled to commit the act with which he was charged The British Medical Association[2] had put this forward as the only possible amendment of the M'Naghten rules it had been approved by the Atkin Committee, and within the past few weeks Lord Darling's Criminal Responsibility (Trials) Bill[3] had embodied the same principle He believed this to be impracticable It would be fatally easy for the plea of irresistible impulse to be abused for example obsessions might be talked about as constituting irresistible impulse, but so far from being a reason for exempting a person from punishment mere obsessions formed a powerful argument for penal action Penalties were ordained for this very reason that without them an impulse would not be resisted In justice to the Atkin Committee it must be said that in proposing to allow the doctrine of irresistible impulse all it sought to do was to fill out what it described as the logical insufficiency of the M'Naghten rules, though why the waters should be troubled in order to remedy the logical insufficiency of a set of rules which themselves were juridically bad he could not say His submission was that the criminal responsibility of persons alleged to be insane could not justly be determined by a set of invariable rules, but that this was a matter to be decided by a jury in accordance with the prevailing moral standards and after due consideration of all relative facts, including the evidence of medical witnesses The submission of fact to the jury would be simple The jury would be asked if it was satisfied that the prisoner's act proceeded from disease of the mind If the jury was satisfied it would acquit him Questions quite as difficult were submitted to juries every day Surely if a jury could be trusted—as it was trusted—to pronounce on the testamentary capacity of an alleged lunatic it could be trusted to pronounce on his criminal responsibility

Dr R H COLE said that he thought the Atkin Committee was hampered by having two separate reports from medical associations to guide it, instead of one It was hampered also by an older report of the Medico-Psychological Association prepared in 1896 Feeling in 1896 was very strongly against the M'Naghten rules but the committee which was set up then came to the conclusion that the rules, though perhaps not satisfactory could not be displaced He was not surprised that the Atkin Committee came to the decision it did, and, in fact, accepted the views expressed by the British Medical Association to a greater extent than those put forward by the Medico-Psychological Association The question was whether injustice had been done to the insane in these trials Possibly injustice had not been done in the eventual result but in the course of the trials what disturbed most of them was to hear sentences pronounced which everybody knew were not going to be carried into effect He felt that the difficulty of the jury would be increased if the question of responsibility were left to its decision without the guidance of the M'Naghten rules There was one outstanding difficulty—namely, that they were not all agreed as to whether lunatics should or should not be punished In the eyes of the law lunacy was a question of degree, whereas medical men, in whose conception the mind was one and indivisible took a different view But he thought there would have to be some compromise with the legal profession, and that it must be acknowledged that there were certain minor degrees of insanity in which the person could not be regarded as altogether irresponsible and should not be altogether immune from punishment He added that he believed judges now allowed more latitude to medical witnesses and were much more learned in medical psychology than in his own early days

Mr A H TREVOR, a member of the Board of Control, entirely agreed with the opener of the discussion The M'Naghten rules laid it down in the first place, "Did the man know the difference between right and wrong? If he did did he know the nature and quality of his act" It did not require very much experience to learn that there were hundreds of people who committed crimes and who were as insane as it was possible to imagine, yet were quite aware of the nature and quality of their act, knew that it was wrong, and were capable of extraordinary forethought and caution in carrying out their object He was afraid that all concerned had felt that the Atkin Committee would not carry matters much further forward He did not think that the view of the British Medical Association would have prevailed with the Committee if it had not been the view of Sir James Fitzjames Stephen, and supported with filial devotion by his son, who was a member of the Committee That Committee had not been out for much change It had not been concerned to do anything very drastic From his own point of view he thought that this was an academic discussion In the view of some of them as soon as it was proved that an accused person was suffering from mental disorder the whole question of responsibility went by the board Why then should the solemn farce be kept up of sentencing to death, to penal servitude, or to shorter terms of imprisonment, persons who, as the judges and everybody else must know, would be at Broadmoor within a week? It was a blot on the law of England that that sort of fiction should continue

Dr JOHN CARSWELL said that the claim of the Medico-Psychological Association before the Atkin Committee based as the Association believed it to be upon the sound judgement of those best entitled to speak on the matter, amounted in plain language to the request that the question of insanity should be put to the jury In Scotland for many years the testimony had been put to the jury plainly, subject of course to cross-examination, and subject to comments from the bench and the judge had asked the jury to consider whether in its view, as a body of intelligent men, the prisoner was or was not insane In England what was put to the jury was whether the man was insane so as not to be responsible in law in the sense of the M'Naghten rules—a very different proposition

The PRESIDENT (Dr T B Hyslop) in summing up the discussion said that sanity and insanity were incapable of definition The same argument held good with regard to responsibility Until there was forthcoming a definition of responsibility one could not define irresponsibility Unfortunately questions of insanity and of responsibility were confused Medical witnesses were questioned in courts of law on sanity or insanity but when the question of responsibility arose—and that was the crux of the whole matter—the medical man was held to be dumb, he was not allowed

[1] BRITISH MEDICAL JOURNAL, March 24th 1923 p 540.
Ibid. March 24th 1923, p 518
[2] Ibid. April 26th 1924 p 756

to express my opinion, the learned judge holding this to be his province in charging the jury With regard to the M'Naghten rules, one had often come across cases in which those rules had been applied to the criminal who did not come within their provisions at all What about somnambulism, the dream state, epileptic automatism, and various forms of epilepsy? The M'Naghten rules did not apply to the case in the slightest degree To his mind it was pathetic to sit in court and hear the charging of the jury to apply rules which had no bearing whatever upon the case That was what one saw over and over again This early Victorian ruling of 1843 was made to apply to all and sundry indiscriminately, and it was a ruling which was based on quicksand There would be no such thing as justice until medical men could give evidence on the question of responsibility, not merely on the question of insanity, until each case was treated on its merits, and until this absurd ruling —which only in a limited number of cases might be applied with justice—was banished from the law courts Harley Street must be allowed some "say" on the question of responsibility With regard to the common remark about everybody being touched with insanity, this was a very frequent idea among insane people themselves

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY

A CLINICAL meeting was held at Leeds on April 11th, with Professor CROFT in the chair

DR D DOUGAL (Manchester) showed a specimen of chorion-epithelioma of the ovary from a patient aged 29 Her first pregnancy terminated at seven months, two and a half years ago the second at four months in March, 1922 Until the end of 1922 she menstruated every five to six weeks A fall, with mild head injury, in December last year was followed by vaginal bleeding which continued till September, 1923 when abdominal enlargement was noticed There had been amenorrhoea from then till admission to hospital five and a half months later For several years she had had pain in the left side of the lower part of the abdomen, and this became worse with the onset of bleeding During the present year there had been intermittent vomiting and the abdominal pain had increased in severity On admission she was thin and emaciated, her skin had a yellowish tinge, her temperature was normal, pulse 100, and there was abdominal tenderness A tense and very tender tumour in the pubes and umbilicus with its centre to the left middle line suggested a pregnant uterus with concealed hæmorrhage, the cervix was drawn up and pushed hard by an elastic swelling filling the pelvis and continuous with the abdominal swelling the uterus appeared to be in front and to the right Total hysterectomy with removal of both appendages was performed After a month's uninterrupted convalescence the pelvis appeared to be quite clear but a week later a small swelling, the size of a Fingerling orange, was felt high up on the left side close to the rectum The specimen comprised (*a*) the uterus, soft and enlarged with no visible growth in it, but the endometrium was 1 cm thick and had been transformed secretory (*b*) the right ovary enlarged about four times, containing a number of small luteal cysts and some [illegible] luteal tissue, (*c*) on the left the tumour 6 by 5½ —rotten in bright red in colour surface nodular, partly [illegible] above and in front by the broad ligament, the [illegible] round the upper anterior portion of the [illegible] ovary was merged in the tumour Histological examination showed the tumour to be a chorion-[illegible] infiltrated peripherally by a compressed layer of [illegible] with [illegible] several follicular cysts ovarian tissue to [illegible] centre of the mass and in front were [illegible] broad ligament The Fallopian tube [illegible] the uterine cornu to the outer pole [illegible] although flattened by pressure, was [illegible]

[illegible] showed an ectopic gestation [illegible] from a patient aged 26 [illegible] married to had with reputed [illegible] regular, ceased after June, 1923, three weeks' haemorrhage in September was followed by irregular bleeding Both appendages were removed and showed tuberculous lesions, the right one contained blood clot with degenerate villi

DR FLETCHER SHAW (Manchester) reported a case of perineal haematoma during labour The patient was a primigravida, 39 years of age, and the haematoma was first noticed soon after labour commenced It rapidly increased in size and formed a large swelling all over the perineum, up both sides of the vulva, and into the recto-vaginal septum, slight albuminuria was present Cæsarean section was performed and the patient did quite well for two days after the operation, the intestines then became gradually more and more paralysed, and the patient died on the fifth day

DR MCGREGOR YOUNG (Leeds) gave a report on blood transfusion for post-partum haemorrhage at the Leeds Maternity Hospital Intravenous saline and gum solution had been tried without improvement or with relapse in four cases of placenta praevia, one of accidental ante-partum haemorrhage, one of hydatid mole, and one of abortion Before transfusion the patients presented the appearance, signs, and symptoms of impending death All recovered, in three cases the improvement was immediate, in four cases after two hours The correct grouping was determined in all except one case of extreme urgency All the patients complained during transfusion of precordial oppression and fullness in head and neck, here was laboured breathing and cyanosis No excruciating lumbar pains, no abnormal dropping of the pulse rate, no high fever, and no haematuria followed the signs of agglutination and haemolysis from incorrect grouping The probability is that the rate of transfusion was too rapid for unfilled veins and the empty right side of the heart, although usually twenty five minutes was taken in transfusing a pint Sodium citrate was used, about 4 ounces of 2 per cent solution to the pint A [illegible] prompter resort to blood transfusion is to be advocated where a donor can be found, since most of the disasters are due to delay

DR MCGREGOR YOUNG reported on 1,000 consecutive patients examined at the Leeds Maternity Hospital on the twelfth day after the termination of labour with a view to detecting any malposition of the uterus Retroversion was found in 50 cases—that is, 5 per cent No pessary was inserted, no treatment given, and the patients were discharged without remark At the end of six months these 50 patients were asked to attend for re-examination, and 32 came Of these, 30 were found normal and anteverted—that is, 93·7 per cent, 2 only remained retroverted in one the cause was not apparent, in the other several fibroids were present in the posterior wall of the uterus No cause of the puerperal retroversions was found in 21 cases, the puerperium having been perfectly normal In 6 cases there had been sapræmia of mild type, in 3 cases placenta prævia, and in 2 cases severe post-partum haemorrhage This report was thought to be of interest because (1) in most maternity hospitals it is a common routine to insert pessaries for puerperal retroversion, and (2) in most textbooks this treatment is advocated as the correct procedure

MESSRS W GOUGH, M H PHILLIPS LLEWELLYN ROBINSON, and J ST GEORGE WILSON reported specimens and cases, and MR WILSON and DR DOUGAL showed instruments

THE ETIOLOGY OF CANCER.

THE Medico-Chirurgical Society of Edinburgh met on Wednesday, May 7th, SIR DAVID WALLACE, K.B.E., being in the chair

DR J YOUNG read a paper, with lantern demonstration, entitled "Further investigations into the cause of cancer" In 1921 he had described an organism obtained with considerable constancy from cancerous growths of all kinds It appeared as large fungal, coccal, and bacillary forms growing true to type in each His earlier conclusions were based on the following findings (1) If contiguous fragments of the same growth were incubated in different media the cultures obtained often differed (2) Although between the extreme bacterial types there were sharp

differences, gradations in size were commonly found (3) One type (for example, coccal) could commonly be transformed into another type (for example, bacillary) (4) This instability tended to disappear on subculture (5) A fungus was obtained from cancer from which coccal, bacillary, and yeast forms could easily be derived For these reasons in former years he had expressed the view that there was a basic identity underlying the various forms, and as none of these "saprophytic" types were recognizable histologically in the fresh tissue they must spring from a common "parasitic" source intimately locked up in the living tumour He referred to the investigations of Löhnis and Smith, who had shown that throughout the bacterial kingdom the same organism might possess large fungal, coccal, and bacillary forms Lohnis's views were supported by Henri, Mellon, de Negri, Hort, Almquist, Bergstrand, Wade and Manalang Reid and Orr, and others The key to bacterial morphology, according to Lohnis, consisted of the symplasm or amorphous phase From this all the other phases were derivable, and, being capable of becoming stabilized, were commonly classed as separate species The discovery of this toti potential plasm phase, according to Dr Young, linked the bacteria with other forms of primitive life—for example, synchytrians, mycetozoa The symplasm of Lohnis, in its primitive state, appeared as unstainable globules and masses, and during its earliest organization as unstainable rods and filaments From an early stage in his research, before he was aware of Löhnis's investigations, Dr Young had described an amorphous link in the bacterial chain of his organism, which he considered as the parasitic phase living in symbiosis with the cell—the phase from which were derived the coccal and bacillary forms which he had described as emerging from the cell in incubated tissue He now believed that he had confirmed this view, and showed microphotographs illustrating the "cancer plasm" emerging as unstainable globules and rods from the nuclei He showed how the plasm rods and globules, under the artificial conditions of culture, changed rapidly into coccal, bacillary, or fungal forms On rare occasions the unstainable plasm emerged from the cell as filaments on which the plasm globules were developed He described a sclerotial phase, in which the plasm became transformed into a glistening material producing forms similar to those previously observed by Jackson Clarke, in this stage it was often encysted with a capsule rich in pigment A conclusive proof of the morphological claims was the fact that all the various forms might arise from the germination of a single sclerotium. Dr Young believed that the new bacteriology explained the cancer parasite and opened up new avenues to other problems of infective disease

Professor GULLAND expressed doubt as to the significance of the unstained globoid bodies described by Dr Young

Sir HAROLD STILES said that while in America recently he had studied the research work of Dr Irvine Smith on tumour formation in plants His results were very striking, and in consequence Sir Harold had an open mind as regards the result obtained by Dr Young on human tumour growth

Dr D GUTHRIE then gave a communication to the society on the styloid process of the temporal bone, its variations, and their surgical significance He pointed out that the average length was 25 mm., and showed a lantern photo of a skull belonging to Mr Greig, Curator of the Royal College of Surgeons in which the styloid was 68 mm in length. Reference was made to the literature on the subject, and lantern slides were shown illustrating the styloid and hyoid formation in various animals. Man was peculiar in being the only animal to possess a styloid process firmly ossified to the skull. Comparisons were drawn between the styloid and hyoid bone in man, apes, and the dog, and the development from the primitive arches was shown The majority of styloid abnormalities were of interest only from the anatomical point of view, and as a rule caused no symptoms Dr Guthrie had seen two cases in which the styloid process was encountered after tonsillectomy Cases were quoted from the literature showing that irritation or pain in the tonsillar region, or difficulty in swallowing might be due to a styloid process inclined too far inwards, rather than to its excessive length

Reviews.

AMERICA IN THE WAR

AMERICA is not forgetful or the wide use that has been made of the volumes in which, at the instance of Woodward, were recorded the medical features of the long-drawn-out war between the North and South. It is natural, therefore that its intentions in regard to a corresponding record of the work of *The Medical Department of the United States Army in the World War*[1] should be ambitious That record promises indeed, to be of a monumental character in every sense of the word Upwards of fifteen volumes are in course of preparation and the first of the series, though it relates ostensibly only to the work done in the office of the Surgeon-General at Washington, contains about as much matter as a dozen issues of the JOURNAL in which this note appears

But though so bulky it cannot be said that the volume is in the least degree wordy On the contrary, it is succinctly written and its great length is due to the wide ground that it is intended to cover—and in fact does cover both fully and in a very effective manner There are possibly some to whom the appearance of a record of the magnitude which this history will attain may be a little surprising in view of the late entry of the United States into the war, of the relatively small part that its troops played in the fighting operations, and of the comparatively small army it had actually landed in France by the time the German *debacle* had commenced But it is to be remembered that the United States was only at the beginning of its effort, that it had come into the war with the intention of never letting go until its object was attained, and that, as it knew that the effort required might be great, its preparations were wisely of proportionate size

How many men at the time of the armistice were under arms in training camps in the United States in transports on their way to France, or in France itself, this volume does not state. But this at least is clear in the medical department alone the enlisted men outnumbered the whole of the American army as it stood before the war and the commissioned ranks of the army included over 30 000 medical men serving under that department Nor does this figure include several thousand other officers belonging to the Sanitary Corps the Veterinary Corps and the Dental Corps all three of which in the army of the United States are under the command of its Surgeon-General

The foregoing figures are striking but still more impressive are the details to be found in the volume as to the fashion in which the work of the Surgeon-General's office was organized This officer is in the United States one of the direct advisers of the Secretary of War, and, partly with an eye on future possibilities, partly in consequence of certain occurrences on the Mexican frontier he had like all other such direct advisers been overhauling his department during the year or two preceding the entry of the United States into the war Nevertheless at the date of the declaration of war—April 1917—the professional staff of the office of the Surgeon-General consisted only of the Surgeon-General and six other officers who between them controlled the four divisions into which the general work was divided By the date of the armistice these divisions had expanded to thirty-one and the officers on the Surgeon-General's staff numbered as many as 181 apart from a clerical staff of over 1 500 persons These great numbers are comprehensible when the character of the divisions is appreciated All were elaborately organized and twelve dealt with work of a strictly professional character such as general medicine infectious diseases and laboratories neurology and psychiatry the psychology of men in training camps, urology combating venereal diseases Roentgenology, general surgery, orthopaedic surgery, food and nutrition surgery of the head, dental diseases

By way of illustration of the general system, the organiza-

[1] *The Medical Department of the United States Army in the World War* Volume I. The Surgeon General's Office. Prepared under the direction of Major-General M. W. Ireland M.D. Surgeon General of the Army by Colonel Charles Lynch, M.C. Lieut.-Colonel Frank W. Weed, M.C. Loy McAfee, A.M., M.D. Washington Government Printing Office. 1923. (Sup. ro. 8vo. pp. 1,330. 3 dollars.)

tion of the division of orthopædic surgery may be quoted It included even branches, which dealt with (1) the procurement, classification, and distribution of personnel, (2) the inspection and supervision of orthopædic services, (3) the planning and conducting of courses of instruction on orthopædic work, (4) the tabulation of orthopædic statistics, and watching the progress of the work in camps and hospitals, (5) the development and standardization of orthopædic appliances, (6) the editing, and arranging for the publication of, books, pamphlets, and special reviews on orthopædic questions, and (7) the meeting of demands from hospitals and camps for supplies of an orthopædic character Otology, rhinology, and laryngology, brain surgery, and oral plastic surgery were subdivisions of the division of surgery of the head, which in its other arrangements resembled closely the division just described Ophthalmology was also controlled by the division of head surgery, and it seems to have been early decided that spectacles should be supplied to all recruits and soldiers with less than normal vision

Although, as indicated, all the professional divisions had subdivisions which dealt with questions of personnel, the initial and main work of this kind was in the hands of a separate division of the Surgeon-General's office This attended to the supply of both officers and men for all branches of the Medical Department, and made all recommendations for the granting of first commissions and for the grading, classification, and primary distribution of those selected In the course of its work this division seems to have overhauled all the medical resources of the country Approved medical students who had reached a certain stage in their work it enabled to continue their studies by enrolling them in a special reserve corps After some variation it became the rule to give no medical man under the age of 35 a higher rank on first appointment than that of first lieutenant and promotions seem to have been comparatively rare They were certainly rarer in the Medical Department than in any other branch of the United States army Much importance was attached to the acquirement by medical officers of a knowledge of the military aspects of their work and whenever possible they were sent to training camps on first appointment

In regard to the volume as a whole, a noteworthy point is that no names are mentioned in the text, though those of officers employed in the different divisions described are given in alphabetical order at the end of each article The names of the writers of the articles are to be found only in the table of contents and few of these writers seem to have been members of the Editorial Committee formed to supervise the production of the history as a whole During practically the whole period of the world war the Surgeon-General of the United States army was Major General William C Gorgas of Panama Canal and yellow fever fame Of this great organizer and highly talented officer, as also of his successor Major General M W Ireland, portraits are provided in the volume but otherwise the whole record is of a singularly impersonal character

Included in the contents are a reproduction of all War Office orders of special interest to the Medical Department, as also of all promulgations by the Surgeon-General himself This part of the volume alone constitutes a veritable mine of information as to the sort of questions which may arise in connexion with the medical department of an army during any considerable war and as to ways in which they may be met A further notable point is the extensive character of the bibliography Practically any statement of any importance is supported by a reference to the original document on which it is founded Information is also supplied as to the relations of the Medical Department with other branches of the War Office as also with the American Red Cross Society and various other forms of activity brought into existence by the war An understanding of much of the matter as also of the arrangements of the division in the Surgeon-General's office, is facilitated by a carefully revised chart

In listing as a whole one of the most interesting sections of the volume will probably be that in which is traced the evolution of the Medical Department of the United States army by means of a history of nearly all army medical services A footnote to this article indicates that it is founded on the researches of three or four officers before and during the war, the account, beginning in pre-Roman times, is carried steadily through the ages till practically the present date

We note that though the foundation of the Josephinum at Vienna in 1784 is recorded, there is no mention of the names of Brambilla and Sax or other direct reference to their work Apparently, therefore, those who made the researches on which the article is founded do not share the view of the correspondent of this JOURNAL, who last year attributed such great importance to the influence of these two Austrian army medical officers On the other hand, several English army medical officers, and notably John Pringle, James McGrigor, and Andrew Smith, receive honourable mention, as also Napoleon's chief surgeon Larrey, and Baron Percy But the chief definite piece of progress in the latter half of the nineteenth century is credited to Letterman, P M O of the Potomac army in 1862, during the war between the North and South Nor is this without a considerable show of reason, for the system that he introduced of dealing with battle casualties seems to have been practically on all fours with the *bearer company* and field hospital system adopted in the British army some twenty years later

We note that in the work of testing the credentials of applicants for commissions and other like questions, the American Medical Association was of much assistance to the personnel division of the Surgeon-General's office, and congratulate this body, not only on the work it did, but on the frank acknowledgement of its services accorded to it

Despite the relative brevity of the time during which the United States army was engaged in actual battle operations, sixty-three medical officers were killed or died from wounds received in action, and twenty-four others similarly lost their lives while on loan to the British forces Nearly seven hundred other medical officers died from disease, chiefly in training camps in the United States The war lasted, it is to be noted, from the American point of view, up to September 1st, 1919 For many reasons this history of the Medical Department of the United States army is *likely to* become a classic, and if the other volumes are as well prepared as the first the work will thoroughly deserve that honour

THE TRANSPLANTATION OF TISSUES

MUCH as surgery has advanced in its aims and achievements in the past quarter of a century the principles governing the artificial replacement of tissues remains ill defined Any scientific presentment, therefore, of the subject is welcome Dr NEUHOF, in the introduction to his interesting monograph entitled *The Transplantation of Tissues*,[1] frankly admits that our present knowledge of the subject has not attained textbook certainty He has studied and sifted the extensive literature and gives a full bibliography of each branch of the subject, which will be invaluable to future workers He clearly distinguishes between our uncertain understanding of the biological processes which take place in a graft after transplantation, and the practical results which may be obtained in clinical surgery His presentation of this side of the matter shows him to be a practical surgeon as well as a scientific observer, his own experimental work is of no little value, especially in relation to the transplantation of fascia

The biological principles which underlie the successful transplantation of tissues are clearly defined, and interesting parallels are drawn with the problems of metaplasia and tumour growth and tumour culture

Separate chapters are devoted to the consideration of the transplantation of the different body tissues That on the skin and cornea does not carry us far beyond the generally accepted knowledge of the subject The importance of nerve control as well as blood supply in securing the viability of grafts is emphasized and a method designed to produce *haemostasis before operation* is described Reference is made to the relation between blood compatibility and the

[1] *The Transplantation of Tissues* By Harold Neuhof, M D with the collaboration of Samuel Hirshfeld, M D London and New York D Appleton and Co Ltd (Super 8vo, pp xiii + 211, 110 figures)

viability of epithelial homografts, it would appear that, though this subject must have an important practical bearing on the success of such measures, scientific proof is not yet forthcoming

The section on the various uses of fascia is full of interesting information, the author having an extensive experience of the use of this kind of graft and being strongly impressed with the possibilities of its practical application He considers it to be the most easily transplantable of all tissues because it is *not highly differentiated but* is vascularized and replaced slowly after transplantation The practical applications he advocates for this tissue will probably exceed the estimate of most surgeons but the evidence adduced certainly justifies a full trial of the material

In the section on bone and nerve grafting the experience gained in the late war is freely drawn on Our ignorance of the basic factors which control success in homografts is clearly brought out The transplantation of whole organs is dealt with briefly The author makes it clear that the permanent viability of such grafts is open to question in a large proportion of the reported cases It is interesting to note that grafting of the testicle is dismissed in two paragraphs

The monograph contains reproductions of many interesting microphotographs taken as a whole it presents a stimulating and well balanced review of the subject

THE CHEMICAL ANALYSIS OF BLOOD

THERE can be few pathological laboratories in which a copy of Professor V C MYERS s *Practical Chemical Analysis of Blood*[3] is not found, and we are as confident that such a copy is not permitted a life of tranquil neglect upon the shelf The book is pre-eminently one for use

The field of biochemical analysis, of blood analysis in particular, is at that difficult age of congested activity which we are wont to call adolescence The chemistry of the animal and its pathology wait upon the elaboration of safe and certain methods of analysis The demand is constantly for better and still better technique for the quantitative examination of health and disease The work of many chemists—we recall particularly the names of Folin, Van Slyke and Benedict—has diligently pursued the elaboration of biochemical method which shall alike in exactitude simplicity, and in adaptability to physiological manipulation be of service to those who would examine the chemistry of the living The literature is filled to overflowing with constant contributions to the subject, and whilst little may survive the experience of a few years it is from this welter will be garnered the armament of sound technique which has been tested and proved The special service which such a volume as that under review performs is the winnowing of the huge harvest We expect the author to make the choice for us and we feel that Professor Myers has done this from a wide experience and with diligent care for our limitations

It were invidious to pick and choose between the individual methods recommended—to confirm here and there to offer an alternative personal predilection counts for much where methods are so empirical The chapters are each dedicated to a particular blood constituent, and follow the order of decreasing pathological significance A discussion of the significance of variations from the normal concentration prefaces the description of the recommended method of analysis, and the chapter is closed with a useful bibliography An introduction is devoted to practical advice in the collection and preservation of blood samples and in the interpretation of analytical results With considered intention the colorimeter is made the chief equipment, and the majority of the methods described require its use Whilst it is admittedly an imperfect analytical instrument with many limitations, it will be generally conceded to effect a valuable economy in time and manipulation in hands tutored to its vagaries

The new material of the present edition deserves special welcome Methods for the determination of haemoglobin, oxygen, calcium, phosphates, and acetone bodies have been included A chapter is devoted to methods of micro-urinary analysis of interest in relation to the blood findings We may be permitted to ask why one should be at pains to analyse very small amounts of urine when, in human examinations, sufficient is always available for the gross methods, with their simpler technique and less rigid limitations The complete Folin-Wu system of blood analysis has been introduced as a separate section complementary to the main chapters An appendix discusses the main types of colorimeter, and gives complete directions for the preparation of all reagents

He who seeks to learn what contribution biochemistry proffers to the clinical unit will find one answer in this book All who have *recourse to blood analysis will* be glad to have a copy to their hand

[3] *Practical Chemical Analysis of Blood* By Victor Carvl Myers, M A. Ph D Second revised edition London Henry Kimpton. 1924. (Double crown 8vo, pp 232 33 figures 25s net)

UROLOGY AT THE NECKER HOSPITAL, PARIS

THE volume entitled *Endoscopie Operatoire des Voies Urinaires*[4] furnishes a concise account of cystoscopic and urethroscopic methods of examination and treatment Originally the author Dr E PAPIN, of the Genito-Urinary Clinic at the Necker Hospital Paris had intended only to give a description of certain instruments designed by himself but he has wisely broadened the scope of his work until it has become a short manual on the subject The first section deals with instruments and the second with the commoner lesions found in the urethra and bladder and their treatment along endoscopic lines In the section dealing with enlargement of the prostate he utters a note of warning against the indiscriminate use of diathermy and of such instruments as the punch cautery He, however, regards cases of obstruction following the operation of prostatectomy as a legitimate field for diathermy and quotes examples of cures obtained by this means It is interesting to note that the author has found an additional use for diathermy in the treatment of intravesical conditions, by applying it to certain cases of tuberculosis in which difficulty is found in distinguishing the ureteric orifices A few days previous to attempting catheterization he lightly touches the area of bullous oedema surrounding the orifice and finds that this enables him to distinguish the ureter with comparative ease at the second examination Endoscopic interventions on the ureter are described in the later sections of the book

In dealing with renal lavage Papin states that his best results have been obtained with colloidal iodine After having washed out the pelvis of the kidney with weak boracic until the fluid returns clear he injects the cavity with a quantity of iodargol slightly less than its total capacity and then removes the ureteric catheter As a rule two irrigations a week are sufficient they are continued until microscopic examination of the urine gives a negative result The coloured plates are of a high order of merit Many of these have apparently been prepared from sketches made by the author

The first part of the fourth volume of *Archives Urologiques de la Clinique de Necker*[5] edited by Professor F LEGUEU of that clinic contains articles on the treatment of gonorrhoea of infections associated with enlargement of the prostate of strictures and of lesions of the urethra and also on the radiographic diagnosis of renal calculus In the section on the treatment of gonorrhoea an account is given of intravenous and intraprostatic injections of methylphenol serum, which is a solution of methylene blue and carbolic acid associated with the serum of an animal rich in proteins and globulins which has previously been freed from other albumins The results of the treatment of fifteen cases by this method are summarized at the end of the section and the deductions drawn are that the injections prevent complications, that they hasten the resolution of these once they have occurred and that they constitute even a cure for chronic gonorrhoea

[4] *Endoscopie Operatoire des Voies Urinaires* By E. Papin. Paris A Maloine et Fils. 1923. (Imp 8vo, pp. 110 65 figures 8 coloured plates Fr 25)

[5] *Archives Urologiques de la Clinique de Necker* By F Legueu, Vol. iv Fasciculus I Paris A. Maloine et Fils. 1923. (Imp 8 vo, pp. 97 9 figures Fr 12.)

In the section on lesions of the urethra Dr Anghel of Bucarest lays stress on the danger of ulceration of the urethra occurring when an indwelling catheter is employed, he quotes six cases in support of his views He advises that the catheter should be removed during the day and reinserted at night, or that it should be tied in for two days and then removed for a day Finally, every effort should be made to replace as soon as possible a gum-elastic catheter by a soft one In no case, whether a soft rubber or a gum elastic catheter be employed, should an instrument of greater calibre than 18 or 19 French be selected

TWO FRENCH YEAR BOOKS

We have received the third issue of *L'Année Médicale pratique*,[8] edited by Dr CAMILLE LIAN, who had got together a staff of thirty-three contributors It is a review of advances made in clinical medicine and therapeutics during the year The special feature of the new issue is the addition of a chapter entitled 'A l'Horizon,' in which some account is given of certain methods of diagnosis or treatment, the value of which is not firmly established, though the results hitherto obtained are encouraging, such as capillaroscopy, surgery of the valvular orifices, pleuroscopy, and the prophylactic and curative treatment of scarlet fever by serum

A smaller publication, rather more critical in character, is *L'Année Thérapeutique*,[7] now published for the fourth year The aim of the author, Dr CHEMISSE is to keep his readers informed of recent advances in the art of medicine He divides his book into two sections the first deals with new therapeutic measures classified according to diseases and symptoms, the second reviews the actual technique of these measures The information of which Dr Chemisse avails himself is drawn from medical publications in many countries and forms of treatment are described with which many practitioners may be unacquainted Thus Dr Chemisse, who had noted previously the doubtful value of vaccine sera intramuscular injections of the patient's own blood have been found useful administration of pancreatic extract in seborrhoeic in infants has been suggested, on the principle that of fat in the milk is the cause of many infant ail- It is noted that intraspinal injections of casein have tried in epidemic encephalitis, and intravenous injecor novarsenobenzol together with mercury perchloride erperal fever The treatment of whooping cough and arlet fever with the blood of convalescents from these es is described

Chemisse's book is not a mere record of other people's iments and investigations It is enlivened by many sions of his own views and by criticisms of the work ers Thus in discussing the treatment of tuberculosis hemisse says that it would seem that the atmosphere rmany "is particularly propitious for the production rapeutic mirages, more deceptive than those of the and far more dangerous" When Urriola of the nity Hospital in Panama describes injections of the of the umbilical cord as a 'specific" in the treatof the vomiting of pregnancy, Dr Chemisse remarks he word testifies to an enthusiasm which would to be a little excessive In describing the treatment menorrhoea by means of injections of testicular , the author says In general, experiments in apy are far from giving results which are uniformly tory" It will be seen, therefore, that Dr Chemisse out his desire to avoid both irrational enthusiasm tematic scepticism

A COLLATION OF PHARMACOPOEIAS

THE ninth edition of *Squire's Pharmacopoeias of London Hospitals*[8] includes a systematic comparison formulae of thirty-one London hospitals, including children's hospitals and the French Hospital, the for being arranged under the heading of the various pr tions in order to facilitate immediate comparison b those employed by different institutions The first was published by the late Peter Squire in 1863, an eighth edition in 1910, since when twenty-five h have published new editions of their pharmacopoeias with the division into sections representing the hospital formulae and those of the different depar The formulae of these special departments are spe indicated The value of the book to the medical pr is even greater than that of its predecessor, since prises a practical compendium of all the best treatments The section dealing with the prep foods and nutrient enemata calls for particular In spite of the large amount of additional in given the book remains conveniently small in size

NOTES ON BOOKS

THE 1924 edition of *The Yearbook of the Universities of the Empire*[9] retains those features which during it years of existence have made it an indispensable reference in all matters relating to university Each section—dealing with the universities of G and Ireland, of Canada, of Australia, of South Af Canada—is preceded by a chapter of information history, regulations, and the general methods share in common Each section also contains a the officers and members of the university staff of museum, library, and laboratory e[illegible] degrees and scholarships, and reports of any interesting event that occurred during the p year, together with statistics of students in att degrees conferred In the present issue an ac new University of Nagpur appears for the fir book contains two appendices, one dealing wit statistics and the other with university exten in the United Kingdom There is a general compression of much information into a small s 'sely performed that reference is facili[illegible] nots receive adequate pr

The fortieth annual issue of the *Year book of the Scientific and Learned Societies of Great Britain and Ireland*[10] contains an account of the work done in science, literature, and art by numerous societies and government institutions A short description of the objects and a record of the meetings of each society is followed by a list of papers read and published during the year 1922-23 The book is slightly larger than was the edition of last year All branches of science are dealt with, including mathematics, chemistry, naval and military science, agriculture, and archaeology, whilst the portion dealing with medicine has been increased by ten pages, occupying 53 pages out of 389 The section devoted to the British Medical Association contains, in addition to a list of officers, both of the Council and of the various Divisions, a list of the papers communicated to the Sections at the Annual Meeting at Portsmouth The titles of the papers read at the Royal Society of Medicine and of the publications of the Medical Research Council and the Lister Institute will be found useful The year book increases in value with each new issue, and it has become a useful book of reference for scientific workers and those interested in social and industrial progress

The sixth edition of *Taylor's Sanitary Inspector's Handbook*[11] has been edited and to a large extent rewritten by MR JOHN H CLARKE It is a very excellent practical manual alike for aspirants to a sanitary inspector's certificate and for inspectors already at work Much common sense is displayed in its contents There is no attempt to discuss such problems

[8] *The Pharmacopoeias of Thirty-one of the London Hospitals* By Peter Squire and Peter Wyatt Squire Ninth edition revised by William S Bevan Jack London J and A Churchill 1923 (Foap 8vo pp xiv + 431 12s 6d net)

[9] *The Yearbook of the Universities of the Empire* 1924 Edited by W H Dawson and published for the Universities Bureau of the British Empire London G Bell and Sons Ltd 1923 (Cr 8vo pp xi + 199 7 6d net)

[10] *The Year Book of the Scientific and Learned Societies of Great Britain and Ireland* Forty-fourth annual issue London C Griffin and Co Ltd 1924 (Roy 8vo pp viii + 389 15s)

[11] *Taylor's Sanitary Inspector's Handbook* Sixth edition Edited and rearranged by John H Clarke London H K Lewis and Co Ltd 1923 (Cr 8vo pp viii + 203 with 116 figures 12s 6d net)

as, for example, the possibilities of conveyance of infectious disease by emanations from drains or sewers, the exact value of aerial disinfection of apartments in which such diseases have been treated, or the nature of the injury to health caused by dampness of dwelling house walls Instead, the laws and by laws of the statutes relating to public health are clearly set forth, and the reader is instructed in the exact duties of an inspector in all matters coming within his sphere of work The illustrations are numerous and relevant though letters relating to them (as in Figs 89 and 91) are not invariably explained in the text In referring to impurity of air (p 253) it should have been made clear that 0 2 part of CO_2 per 1,000 of air is not itself to be regarded as impurity, the CO_2 being only a convenient measure of air pollution water vapour is of far more practical importance The list of notifiable diseases (p 260) is incomplete, mention not being made of the additions by General Order in 1912 and again in 1919 The volume as a whole, however, is very well suited o its purpose, and does credit to its new editor

Dr G W SMITH has undertaken the revision of the late Dr E G YOUNGER s little volume on *Insanity in Every day Practice* [12] That this book meets the requirements of the general practitioner is evidenced from the fact that it has now reached its fifth edition Particular attention is paid to he legal aspects of insanity, and following a section on the examination of a patient with a view to certification is an account of the various procedures necessary for the commit ment of a patient in England Scotland, and Ireland For the assistance of those practitioners who have not had experience n certifying the insane an appendix is included, giving the statutory forms of the ordinary lunacy certificate and of the urgency order

Synthetic Colouring Matters [13] by Dr J T HEWITT, F R S, s one of the series of monographs on industrial chemistry produced under the editorship of Sir Edward Thorpe It is chemical treatise dealing with the constitution, properties, nd reactions of the series of colouring matters derived from pyridine, quinoline, acridine, and xanthene These substances are of kindred origin and constitute an important section of the dyeing materials known to commerce The escription of this group of materials is a task for which the uthor is eminently qualified by experience The material or its production is of a nature that could only be sifted and elected by one possessing an intimate first-hand knowledge f the substances Great care has been taken to render the olume useful to those concerned with members of the series t contains no superfluous description but presents the salient icts in clear and well arranged connexion Reference to original publications is facilitated by separate indexes of subject-matters and authors The monograph is therefore not only a useful source of direct information, but is a valuable guide in any search for details of a special or subordinate nature outside its immediate scope

Few manuals of chemistry have had a continued existence for a period equal to that of BLOXAM, and the new eleven h edition [14] is no less likely than its forerunners to satisfy the needs of a large class of students The multiplication of compounds derived from the common elements has reached a stage which renders the production of an elementary treatise difficult If the student s knowledge is to be grounded on the most favourable basis, the scope of teaching must not be too much restricted or the outlook becomes narrow on the other hand, the detail must not be too far enlarged or the per ception may be confused It thus becomes necessary to select for prominent presentation carefully chosen key facts relating to materials and their reactions To distinguish what facts are best representative of properties in this sense and which serve best as a basis for the anticipation of untried qualities is a baffling problem Fortunately for the editors of the work before us, the lines on which former editions were shaped were of the most helpful kind. It is this characteristic which has done more than anything else to preserve the esteem in which the book has so long been held The reader can feel that he sees the substance described, and is helped to an understanding devoid of obscurity No defence is needed for the inclusion of organic with inorganic chemistry in this manual There is but one kind of funda mental chemistry from its basic principles the specialized branches emanate it properly includes at least an introduction to the chemistry of carbon compounds Information connecting chemical materials with their industrial or economic uses appears in great abundance and the subject matters are fully indexed For the manner in which the groundwork of the science is treated Bloxam s *Chemistry* may be fairly described as one of the best exponents of the subject

[12] *Insanity in Every-day Practice* By E. G Younger M D Brux. M.R.C P Lond. Fifth edition, revised and edited by G W Smith O B.E. M B Ch B Edin. London Bailliere Tindall and Cox. 1924 (Cr 8vo pp x + 134 5s. net.)

[13] *Synthetic Colouring Matters Dyestuffs Derived from Pyridine Quinoline Acridine and Xanthene* By J T Hewitt M.A D Sc. Ph.D F R.S. Monographs on Industrial Chemistry London and New York Longmans Green and Co. 1922. (Demy 8vo pp xi + 405. 14s. net.)

[14] *Chemistry Inorganic and Organic with Experiments* By C L. Bloxam. Eleventh edition revised by A G Bloxam F I C and S Judd Lewis, D Sc. F I C London J and A. Churchill. 1925. (Roy 8vo pp ix + 832 310 figures. 36s. net.)

PHYSICAL EFFICIENCY TESTS

THE Medical Research Council has published a report by Dr Lucy Cripps on *the application of the Air Force physical efficiency tests to men and women* [1] It is the third publication based on material specially collected by or placed at the disposal of the Council s staff which collects and analyses physical measurements of different sections of the population with a view to the assessment of physical fitness Members of the medical profession are frequently called upon to express an opinion as to the physical condition or fitness of healthy individuals The objects for which such examinations are undertaken differ and standards vary accordingly Thus, a medical examiner for life assurance wishes to know whether or not the candidate is likely to live a normal number of years for sickness assurance, to determine whether the candidate is likely to experience more than a normal incidence of days of sickness in war time, to ascertain whether the candidate is likely to be able to perform arduous duty for a relatively short period in peace time, to throw light on the suitability or the candidate for a particular industrial career Though satisfactory standards have been established for these particular purposes, it is still very difficult to define in general terms what is meant by physical condition or fitness Hopes have been entertained that by the application of physiological tests, such as the vital capacity test and its correlation with physical measurements, reliable data would be obtained for the more accurate estimation of physical efficiency such hopes remain unfulfilled Another thought that has directed anthropometric researches is that possibly other less familiar systems or measurements or tests would serve to found a rational and accurate mode of judging goodness or badness of physique, these, if they exist remain undiscovered

Dr Lucy Cripps s contribution to this subject consists of an analysis of the response of groups of women to the Royal Air Force tests introduced by Group-Captain Flack and a comparison with the results obtained with 1 258 candidates for the Royal Air Force The groups of women comprised 115 students at Bedford College 241 students at the South-Western Physical Training School and 125 civil servants, the last including 65 typists, 35 clerks and 25 stampers

Comparative Results of Observations on Men and Women

The vital capacity expiratory force and breath holding tests were compared in women at the Physical Training College and in Air Force candidates The women of this group had been passed fit by medical examination and they did not wear corsets or any constricting form of dress The tests made on the women were the same as those used in the air service and were carried out under like conditions and with the same technique

The vital capacity test was lower in women than in men. This is not unexpected since vital capacity measures the volume of air that can be breathed out by the deepest possible expiration following the deepest possible inspiration and therefore corresponds to the volume capacity of the whole respiratory apparatus Though no dissimilarity exists in the mechanism of respiration in men and women there are anatomical differences between them in that the larynx trachea and lungs of the male are larger than those of the female

The breath holding tests showed that the time during which a man can hold his breath is longer than the time that a woman can do so When the breath is held organic acids due to deficient oxidation stimulate the respiratory centre or make it more sensitive to carbon dioxide in the meantime the increased carbon dioxide pressure of the alveolar air causes a like change in the carbon dioxide tension of the blood, and an increased activity of the respiratory centre follows Eventually the stimulus becomes irresistible and respiration is compelled This breaking point occurs earlier in women than in men. There

[1] *The Application of the Air Force Physical Efficiency Tests to Men and Women* By Lucy D Cripps M.B. D P H. Medical Research Council Special Report, No 84 H.M. Stationery Office. 1s. 6d.

may be a physiological explanation for this lower tolerance, or it may have to be explained on psychological grounds. The breath holding test serves also as an index of the subject's power to endure unpleasant sensations, an aspect to which Group Captain Flack has called attention.

With the expiratory force test the readings are higher in men than in women. In this test a subject is required, after he has taken a full expiration and then filled his lungs, to blow steadily into a mercurial manometer, his nose having been firmly closed by a clip; this estimates the force of the respiratory muscles. Since the respiratory apparatus of the female is smaller than that of the male, it follows that the strength of the structure necessary for its adequate functioning is relatively less in the female than in the male.

Application of the Tests to Groups of Women.

Similar tests were applied to the three groups of women before mentioned. Dr. Cripps distinguishes the characteristics of these groups as follows:

> The South Western Polytechnic (Physical Training School) women lead an out-of-door life, engage in regular physical exercises and games throughout the year, and do not wear any constricting form of dress. A large proportion of the Bedford College students play games, but do not engage in regular physical exercise, and they wear corsets. The civil servants at Somerset House lead a sedentary life indoors. Those who play games form a small percentage of the whole, and they all wear corsets."

The respiratory tests were taken with the subject wearing her usual form of dress. There was a good deal of variation in the results. The Polytechnic students differed significantly from both the others in their higher vital capacity. The Bedford College and Polytechnic were, as groups, definitely better than the civil servants of Somerset House in all three respiratory tests.

The application of these tests to subgroups of Polytechnic women showed that those students who had had a longer training gave, on the whole, worse results than those in the earlier stages of training; the third year students were not so good as the first. The suggestion is that these girls may be overtrained in their third year.

Correlations between Respiratory Tests and Physical Measurements.

The intercorrelations of the respiratory tests were not very distinct. Thus breath holding and expiratory force showed little intercorrelation, and the correlation coefficients of breath holding and vital capacity were small, and of the same order in men and women. In the women examined the correlation coefficients of vital capacity and physical measurements were smaller than those in the sample of men. Dr. Lucy Cripps appears to think little of the value of the correlation of respiratory and other tests with physical measurements as a means of ascertaining physical efficiency. She concludes that—

> The variations of the respiratory tests even in a highly selected sample of men and women are so large that the fixation of a normal standard is rendered impossible even when a certain part of the variation is effected by the use of multiple correlation.

We have drawn attention only to Dr. Lucy Cripps's own investigations. There is much matter of historical interest which the author presents in her survey of the opinions of others, such as the review of earlier researches on the comparative vital capacity of men and women and the comparison of the type of respiration and respiratory apparatus in men and women.

ROTUNDA LYING-IN HOSPITAL

REPORT FOR 1922-1923

THE latest report on the work of the Rotunda Hospital, Dublin, is a long document covering the period from November 1922 to October 1923. It is signed by the Master, Dr. Gibbon Fitzgibbon, and his assistants, Drs. J. S. Quin and G. W. Theobald. Patients admitted to the maternity wards numbered 1,877, and of these 1,624 were confined there; the number of women visited at home was 2,098, of whom 1,824 were attended in their confinements; admissions to the gynæcological wards numbered 440, making a total of 4,415 treated by the hospital. In all 3,448 confinements were attended.

Of the 1,624 women attended in their own homes during confinement 181 were cases of abortion or miscarriage. There were 4 cases of placenta prævia (with one death) and 12 of antepartum hæmorrhage. Prolapse of the cord was found in 10 cases; 7 of these were vertex presentations, 1 was brow, and 2 were breech presentations. In the brow case version was done, and the infant was born alive. Version was performed for one of the vertex presentations with prolapsed cord, but the child was born dead. There were 24 cases of excessive hæmorrhage during the third stage, and one of these patients died. In one case a hydatid mole was spontaneously expelled. A hydrocephalic head was perforated. Forceps were used 36 times in all in the extern cases.

ANALYSIS OF INTERN MATERNITY CASES.

The 1,624 confinements which occurred in the intern maternity department included 38 abortions or miscarriages. The deaths numbered 17, including 7 from septicæmia, 3 from eclampsia, and 2 from cardiac failure, 2 with placenta prævia, 1 from rupture of the uterus, and 1 from concealed hæmorrhage.

Presentations were normal in 1,463 cases, 18 were delivered as persistent occipito-posterior. No active treatment was employed for occipito-posterior positions till arrest occurred in delivery, when the application of low forceps was effective. If rotation did not result from forceps traction the head was guided out without any attempt at artificial rotation. Face presentations numbered 11. The principle of treatment in these cases was: when the head was well down in the pelvic brim early in labour it was left alone, but if the head was above the brim, or only engaged in the brim, flexion was done (if the cervix admitted a hand), or, failing this, version, delivery was then left to the natural forces. Transverse and compound presentations were found 4 times each, and breech presentations 54 times. Cases of twins numbered 26, of these, 10 were cases of double vertex presentation.

Prolapse of the cord occurred in 14 instances, 7 infants being subsequently born alive. This complication was found in 7 cases of contracted pelvis.

Forceps were applied in 133 cases—23 multiparæ and 110 primiparæ. Infants dead numbered 17, including delay in second stage, 4, prolonged first stage, 2, persistent occipito posterior with delayed second stage, 1. Contracted pelvis caused delay in 29 instances.

Version was performed 28 times, placenta prævia being the indication in 15 instances. Except in cases treated for placenta prævia, the infants delivered after version were all alive. Perforation of the head was required in 6 cases to effect delivery, decapitation once. In one case of placenta prævia with an 11 lb. infant in a primipara, delivery of the arms was impossible with version; the thorax was perforated and the clavicles divided. The mother died of shock.

Contraction ring dystocia occurred in 3 cases, all the patients being multiparæ. In one the contraction passed off under anæsthesia, version was performed and a live infant delivered; the uterus contracted irregularly in the third stage and the manual removal of a retained, but detached, placenta was necessitated. In the other case the ring formed below the shoulders and the head was held above and away from the brim, after version delivery was easily accomplished.

Labour was induced in 8 cases where the death of the fœtus was the indication, also in 15 of the cases of contracted pelvis, in 3 cases of severe albuminuria not responding to treatment, and 1 of eclampsia after recovery. Another induction was done on account of difficult labours in a 13-para without any pelvic contraction, it ended in rupture of the uterus.

Cases of Hæmorrhage.

The accidental hæmorrhage table gives brief particulars of 19 cases. The view is expressed by Dr. Fitzgibbon that the majority of accidental hæmorrhages requiring treatment are the result and not the cause of toxæmia, and that accidental hæmorrhage is more likely to develop as a symptom of toxæmia in a multipara, the subject of recurrent nephritis of pregnancy, than in a primipara, or as an accentuation of nephritis due to pregnancy in a woman suffering from chronic nephritis. (The common outcome of the pregnancy was death of the fœtus with extravasation of blood into the uterus, not always due to ablation of the placenta.) Only one of the 18 cases of placenta prævia occurred in conjunction with marked toxæmic albuminuria, 3 had a faint trace of albumin. On the other hand, all except 3 of the cases of accidental hæmorrhage showed

albuminuria This difference between unavoidable and accidental haemorrhage seemed to Dr Fitzgibbon too great to imply that the toxaemia in both conditions was attributable to the same cause Also, in placenta praevia cases, 14 infants were alive when the patients came under treatment, all deaths except one being due to treatment interfering with the foetal circulation, whereas in the cases of accidental haemorrhage 11 infants were dead when the patients came under treatment, and in none was the treatment such as to interfere with foetal life Toxaemic albuminuria occurred twice as frequently in primiparae as in multiparae, in accidental haemorrhage and placenta praevia 17 and 14 cases respectively were multiparae, but only 2 and 4 were primiparae One death occurred after Caesarean hysterectomy Except in this instance treatment was chiefly expectant, with rigid management as for toxaemia after collapse was combated—namely, by tight vaginal plugging, or by puncturing of membranes and application of a tight binder Rupture of membranes is always beneficial, but haemorrhage, if it is declared, should first be given a chance to stop if symptoms of concealed haemorrhage are absent and the patient is not much affected Most cases fell into labour in a few hours, and spontaneous delivery ensued

In hospital 18 cases of placenta praevia were treated with 6 deaths, including 3 patients admitted in a hopeless condition Version is regarded as the best treatment, except in primiparae who have reached term and present the added risk of a possibly difficult breech delivery in a debilitated patient The position of the placenta is not considered so important as the likelihood of difficulty in delivery of a breech when the foetus has reached term Caesarean section for placenta praevia is said to be indicated in primiparae at term, and should be performed at the time of the first haemorrhage unless the patient was much weakened The infants were all lost in the instances where the mother died, of the other 12, 9 children were delivered alive One case of lateral placenta was delivered with forceps

Post partum haemorrhage occurred 9 times In 4 the bleeding became excessive before the placenta was delivered, and in those cases the placenta was removed manually, the uterus being packed when necessary

Contracted Pelvis

Cases of contracted pelvis numbered 185 The principle of treatment adopted was that of allowing the patients to go into labour, and then, if progress was not satisfactory, resorting to Caesarean section, but if patients were seen during the last weeks of pregnancy and the conditions suggested that disproportion would be marked at term induction was performed Caesarean section was performed 15 times, pubiotomy 4 times, induction 15 times Forceps were used on 21 occasions, and perforation was performed 3 times

In regard to pelvimetry, the routine practice was to take the external measurements and the internal only when disproportion was suggested Many women were examined under anaesthesia by Müller's method But the opinion is expressed that treatment cannot be determined from actual measurements, internal or external

Caesarean section was performed 15 times for contracted pelvis, including 5 on patients who had previously undergone the operation It was employed once for anterior fixation of the uterus, and once for placenta praevia One infant was lost through haemorrhage from the divided cord —an argument for clamping the cord immediately Pubiotomy was performed in 4 cases in which the head failed to pass the brim and would have required excessive traction with forceps

Premature labour was induced in 15 instances for contracted pelvis, 9 of the patients were multiparae who had had previous difficulty In 5 cases forceps completed delivery Only one labour was induced before the end of the thirty seventh week In one case 1/2 oz glycerin was injected between the membranes and uterine wall in another 10-grain doses of quinine were repeated and pituitrin injected, in all others a soft rubber tube was introduced

In addition to cases with other predominant symptoms of toxaemia, albuminuria was pronounced in 78 cases, besides over a hundred others whose condition cleared up on water diet and purgatives, which was the routine treatment Eclampsia was recorded in 6 patients (3 multiparae, 3 primiparae), all ante partum 3 died No case admitted in the pre-eclamptic state who was treated for seven hours developed eclampsia

Morbidity and Mortality

The standard of morbidity adopted was a rise of temperature to 100° F on two occasions on a bi-daily chart, between the second and eighth days of the puerperium, all deaths were included The cases numbered 114 (7 per cent) Except in one case of uterine origin douching was not employed Dependence was placed on promoting free drainage from the uterus by making the patient move about and sit up (Fowler's position was considered of little use for uterine drainage) The report insists on the immense value for diagnosis of taking cultures from the vagina and uterus in febrile cases Pyogenic organisms were found only in the seven fatal cases The deaths in the intern maternity department numbered 17, in the extern department 4, giving a percentage mortality of 0 6 per cent Several cases were moribund on admission and five were profoundly septic after protracted or complicated labour

A large number of statistical tables accompany the report.

Nova et Vetera.

AN EARLY PRESCRIPTION IN ENGLISH

THE early prescription in English, of which a reproduction appears on page 870, is taken from John Langley's MS book *Reseyt off Pentes of Farmes in Kent, 1495-1505* Transcribed in modern printing characters the prescription runs

Probata Medicina flor ye ffrenche Poxe

Take a li[bra] & a halfe off Barrowese grease & a quartanne off a pownd off brymston & as moche off Turpentyne and halfe an ounce off quicksilver & stampe all these yn a morter to ye quicksilver be slayne & then a novnte the pasient therwith all hes body & lape hym ffast in a schett & ley him in hes bedd with clothes ye nowe that he maye swett And serve hym thus iij or v tymes & lett hym swette at yche tyme iij oures & yff he be sore yn hes mowthe yo must vette him melly together & make ye pacient hold it betwene his tethe that hes Rosar[um] in a sawser & take a quantete off lynte & Roll it mouthe maye be open that ye water and ye corripsion mave Ryne owth

In modern English this is

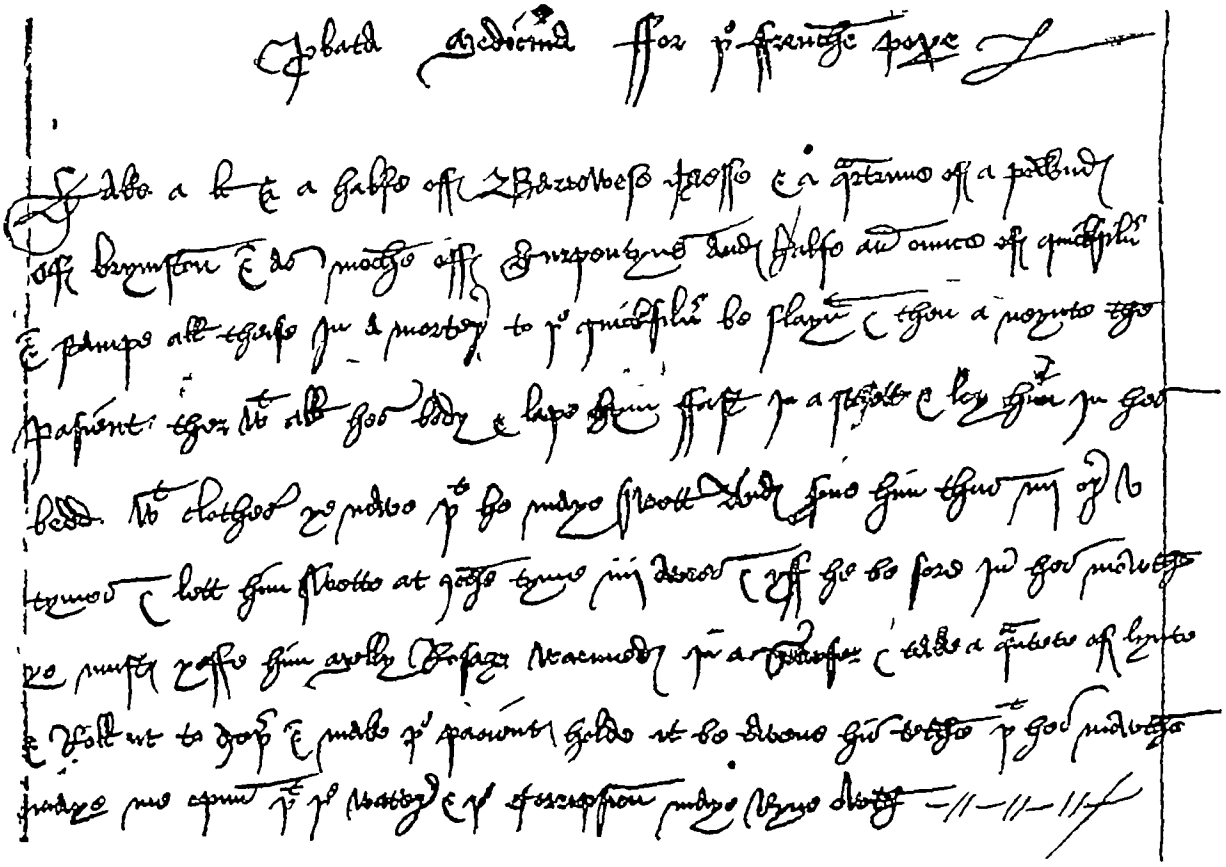
An Approved Medicine for the French Pox

Take a pound and a halt of Barrowese grease a quarter of a pound of brimstone and as much of turpentine and halt an ounce of quicksilver, and stamp all these in a mortar until the quicksilver be fully amalgamated with the other ingredients and then anoint the patient with it all his body and wrap him closely in a sheet and put him to bed with plenty of clothes over him so that he may sweat Serve him in this fashion four or five times, and let him sweat each time four hours And if his mouth is sore you must give him honey of roses* in a saucer and take a quantity of lint and roll it up and make the patient hold it between his teeth so that his mouth keeps open and the water and corruption may run out

This must be one of the earliest or perhaps the earliest prescription in English for syphilis The book from which it is taken is one in which John Langley notes Rescrtes of Rents" for various manors living in the neighbourhood of Sandwich He apparently had to do with Staple Inn, as he mentions it in connexion with some of his business It is a quarto bound in parchment with the gatherings sewn with catgut into oblong tags of brown leather on the back Among many short notes on the upper cover is one saying the book ended in 1497, on looking at the back it is quite clear that extra leaves have been added and fastened on to the back by sewing over little rolls of paper in a somewhat unskilled way This would account for the later dates in the book

There are several loose slips of paper with notes in the same writing as that in the book these are in some cases

* Honey of Roses" is in all the old prescription books it was used as a mild astringent and antiseptic and also as a basis for many mixtures.



pinned on to the page The pins are of the same kind as those used till machine-made pins came in—that is, the head is made of a thinner piece of wire wound round and soldered on to the shank Such pins go back certainly to the fourteenth century I bought the book at the sale of my old and close friend the late Leland Duncan, M V O, F S A, who had drawn my attention to the page Leland Duncan bought the book more than forty years ago He was walking through Holywell Street, Strand, and saw it tied up with some old deeds swinging from a hook outside one of the many second-hand bookshops He looked at it, and recognizing that it was of considerable age, walked into the shop and inquired the price He was told a few shillings, but if he liked to take it and the rest of the bundle which was in the shop he could have the lot for thirty shillings He paid the money and found that he practically had the deeds, charters, and agreements, with what might be called a rough ledger, of the manors from Richard II to Henry VIII We had arranged that I should publish this prescription with his supervision, but his death put an end to this

The book belongs to a series of land documents, some of which are in the British Museum, some in private hands, others in the Lambeth Library, but all belonging to the family Miss Churchill, F R Hist S, has recently

THE latest Dublin, is a the Records Branch of the Kent Archaeological ber, 1922, to c interesting and learned volume on part of Gibbon Fitzgibbo ove the prescription is a short musical com- G W Theobald line stave looking like an excerpt from a

numbered 1,877, and formula is perfectly plain, the only the number of women v in of being "Barrowese" I take 1,824 were attended in their still used locally for a gilt or gynaecological wards numbered is of finer and softer quality treated by the hospital In a attended

Of the 1,824 women attended in little light on this use of the confinement 181 were cases of abortion vine B Googe's *Husbandry* were 4 cases of placenta praevia (with (1599) Take the greace ante-partum haemorrhage Prolapse of w flick is defined in in 10 cases, 7 of these were vertex presenta n unguent made of and 2 were breech presentations In the b (1725) under the was done, and the infant was born alive. Yc Lard.

Of course, mercury and sulphur in ointment form were used long before 1495 I am well aware that some authorities think that syphilis was known in Europe, say, before the last quarter of the fifteenth century, but I think the evidence for the earlier date is not so good as that for the later one Now the book belonged to a man whose property lay on the main routes from France and the Continent, and thus it was likely enough that he got the formula from some doctor friend for use in emergency It must be remembered that venereal disease was little understood and did not connote immorality in any way Being on the main road from the Continent, people living along it were of necessity, in those times, in close touch with travellers Two to six people slept in a bed, cups were not washed, cleanliness was a virtue not much cultivated, and personal contact was incessant without being of a sexual nature, though that in the camps was exceedingly promiscuous So the roads were always occupied by soldiers, sailors, camp followers, and such like, and many infected abroad must have brought their disease with them into this, the nearest part of England to foreign parts It is like enough the lues was pretty well known in this district and that a squire, such as John Langley, would have made a note of "an approved remedy" to help his dependants, for medicine in those times was largely practised by heads of families

"French pox" this is certainly an early use of the term Most nations labelled it with the name of some other people than their own The writing is undoubtedly late fifteenth century The thorn letter þ for the modern th is largely used The language is English of the time, and the general characteristics of the whole book show it to have been the work of an English gentleman, well educated and occupying a good position The writing, as a whole, is not that of a lawyer's office The reader looking at the þe for "the" will see the origin of the ye of the seventeenth and eighteenth centuries This is so absurdly retained in modern pseudo-antique names for inns, curiosity shops, and such like, such as "Ye Golden Cross" or "Ye Bargaine House," and pronounced as if it were the plural of "thou"

F WILLIAM COCK, M D, F S A.

British Medical Journal.

SATURDAY, MAY 17TH, 1924

TOXIC EFFECTS OF LOCAL ANAESTHETICS

THE increasing use of local anaesthetics gives to the toxic effects which occasionally follow the use of these drugs an importance almost comparable to that which attaches to the toxic effects produced by general anaesthetics. A considerable number of local anaesthetics are in use, they are employed in several different ways, and toxic effects are comparatively rare; hence any estimate of the relative dangers of different procedures can only be formed by the survey of a large number of cases. Such a survey has been organized by the Board of Trustees of the American Medical Association, who provided the funds and authorized the appointment of a special committee to collect and study the occurrence of accidents arising out of the use of local anaesthetics.

The report of this committee has now been published.[1] In the course of its inquiries it obtained records of no fewer than forty-three unpublished deaths following the use of local anaesthetics, a result which indicates that such deaths are a good deal more common than is generally supposed. Cocaine was responsible for the majority of these deaths (26 out of 43); butyn and apothesin for four deaths each, and novocain for one or at most two, deaths. These figures agree with other less extensive statistics that have previously been published.

In considering the significance of these figures regard must be paid to the frequency with which the different local anaesthetics are employed, and the committee consider that novocain, which is by far the most frequently employed, is also by far the safest. The evidence obtained leads to the conclusion that butyn, cocaine, alypin, apothesin, and stovaine are probably about equally dangerous when injected into the tissues. The possible dangers attending the injection of cocaine are now fairly generally recognized, and the committee advises that cocaine should not be given hypodermically. The report also shows very clearly the danger of applying concentrated solutions of cocaine to mucous membranes, for most of the deaths reported as due to cocaine followed the application of the drug to the tonsils or the urethra.

The committee emphasizes the need for using known concentrations and amounts of local anaesthetics, not only when the drugs are injected but also when they are applied to mucous membranes. It recommends that not more than 15 minims of 10 per cent. cocaine should be applied to the throat or nose, and that in general not more than 1·5 grains should be given when the drug is applied to a mucous membrane. Urethral injections, it is mentioned, constitute a special source of danger. Other recommendations are that novocain should not be injected in concentrations above 1 per cent. and that butyn should not be injected, but may be applied in a 2 per cent. solution. This last recommendation is, of course, of considerable interest and importance. The committee considers that adrenaline increases the toxic action of cocaine and that not more than 10 minims of 1 in 10,000 adrenaline solution should be employed with cocaine, but that larger quantities can be given safely with novocain.

The report deals with a number of other questions, such as the nature of the toxic symptoms appearing and the best antidotal measures. The committee states that the characteristic feature of all the cases of poisoning reported to it was the occurrence of dyspnoea followed by the arrest of respiration within a few minutes of the administration of the anaesthetic, it is held to be questionable whether deaths occurring later should be charged to the drug. Although different degrees of individual susceptibility probably exist, yet in many cases the disaster is referable to avoidable mistakes. Stress is laid on the importance of artificial respiration in the treatment of the condition, and cardiac massage seems to be useful also. The routine use of ether and adrenaline in treating cases of poisoning by local anaesthetics is considered unwise, and the use of morphine as an antidote is considered distinctly harmful.

As regards the all important question of the prevention of toxic effects the committee recommends the restrictions already mentioned regarding their mode of employment, and emphasizes the necessity for care in measuring accurately the concentrations and amounts of local anaesthetics which are given, giving solutions of cocaine by mistake instead of attention is especially directed to the danger of novocain. No evidence of the existence of a special susceptibility in epileptics was obtained, and the committee is of the opinion that status epilepticus is not a frequent cause of death following the use of local anaesthetics. The use of these drugs in small amounts in such operations as tonsillectomy is considered to be devoid of appreciable risk.

The committee is of opinion that further information concerning the frequency of deaths following the administration of local anaesthetics is required, and has appointed a subcommittee to receive confidential reports from medical practitioners and manufacturers concerning toxic effects produced by local anaesthetics. This should provide further valuable information as to the dangers attending the use of local anaesthesia and the best means for their avoidance. The present report will however have done a very useful service if it results in the fixing of recognized limits for the concentrations and doses in which local anaesthetics should be employed.

[1] *Journal of the American Medical Association* March 15th (p. 876).

GUESSES AT TRUTH

DURING the Pasteur centenary celebrations in Paris last year Professor Calmette made a brief reference to Jean Hameau a country doctor who at the very beginning of the nineteenth century enunciated the opinion that the causes of disease behaved like living things and in particular like parasitic insects that certain antagonisms existed between them—as for instance between vaccinia and small pox—and that these causes seemed to be unable to reproduce themselves in a patient who had once overcome an attack. The *Journal de Medecine de Bordeaux* has taken up this allusion by Professor Calmette and in a recent number give an interesting account of the life of this precursor who groped dimly in those realms which Pasteur later illuminated.

Hameau was born in 1779, and was the son of a country tailor. His industry attracted the attention of the parish priest, who taught him Latin. At the age of 15 he was apprenticed to Dr Desquives, at Ychoux, and in that wild forest-clad district gained his first

experience of country practice Three years later he travelled on foot to Paris, his father having sold half his small property to his brother-in law in order that the boy might have money for his further medical education Afterwards he went to the medical school of Montpellier, and in 1804 passed the examination for *officier de santé*, a minor medical diploma abolished only a few years ago He began practice at Alès, and in 1807 took the full doctorate at Montpellier with a thesis on the physical and medical topography of his birthplace, La Teste de Buch, to which he had then returned, and where he practised until his death He managed to combine a strenuous practice in a rough country district with research, and in 1810 he pointed out—not as a guess but as a fact—that glanders was communicable from the horse to man, reporting to the Bordeaux Society of Medicine details of a case he had personally dealt with Later he urged the necessity of treating "intermittent fever" by quinine four or six hours before the beginning of the paroxysm, and taught that these fevers were due to some external infection, this was eighty years before Laveran In 1836 he communicated to the Bordeaux Society of Medicine a paper, which in 1842 was reported to the Académie de Médecine, and eventually published in the *Revue médicale* (de Cayol) in 1847 In this essay, covering a hundred pages, Hameau maintained that the cause of disease was to be found in the environment of man, and he expressed the suspicion that pellagra was due, not to the eating of maize, as was then and long after commonly believed, but to some living organism transmissible from sheep to man Throughout his work he insisted on the parallelism between the behaviour of the causes of disease and the life history of insect parasites He suggested to his readers that just as in the animal kingdom there were animals as large as elephants and as small as mice, so in the kingdom of the causes of disease—which included insect parasites—these parasites might well be as many times larger than other causes of disease as the elephant was larger than the mouse There might, indeed, be agents actually invisible, but yet transmissible through space by channels so far undetected He recognized an incubation period—"*un repos perfide*"—varying in duration in different diseases, and he even spoke of the prodigious multiplication of the particles of matter concerned in contagion He suspected marshes and water generally to be the natural home of these agents and their route of transmission He drew up a list of diseases which he regarded as caused by such particles—it included small pox, typhus, cholera, yellow fever, tetanus, and scarlet fever—and definitely suggested the possibility of prophylactic vaccination In 1850, after a grave epidemic of cholera, with which he had to wrestle, Hameau again discussed and enlarged upon the application of these principles to specific diseases, and, realizing the infectious nature of the faeces, recommended resort to what we now term "antiseptic methods" Towards the end of his life he was recognized as an outstanding figure, even in his own country, and honours were paid him by the medical schools of Paris and Bordeaux It is sad to record that by the irony of fate his death, in 1851, followed a small operation upon himself, upon which, as a result of the scanty antisepsis characteristic of the period, fatal septicaemia ensued

Hameau seems to have been a careful and far sighted student of Nature, ready to follow where he believed she was leading But it is a curious fact, not without significance, that when any new principle in disease comes to be established it is found that some few persons of insight have had some inkling of it, or, what is perhaps still more common, there has been a general impression that the next step forward would be in one or other of two or three directions The various hypotheses are present to the mind of everyone interested, but it is only the temerarious few who commit themselves to one and shut their eyes to the others If one hypothesis is eventually established, its early adherents may then be called "fore runners," but their merits should be judged, not by the confidence they expressed, but by the weight of the evidence they produced, and the degree to which it helped the eventual discoverer With regard to cancer, we seem to be in this stage of more or less confident hypotheses at the present time One person is impressed by the parallelism with a chronic microbial infection, another with the fact that the increase of cancer is coincident with the introduction of "canned" foods, a third by the influence of chronic irritation, perhaps due to certain classes of chemical substances, and a fourth by the part played possibly by nematodes or perhaps by insects It is now some thirty years or more since another French country doctor, practising in a sparsely populated forest district, read a paper suggesting that a prevalence of cancer he had observed in certain houses was due to their relation to the forest and its insect life He has since made valuable contributions to other departments of medicine, but so far as we know he has not recurred to this hypothesis Should it eventually be proved that insects play some part in the causation of cancer, ought he to be regarded as a forerunner? Have we not here a distinction similar to that drawn between the *obiter dictum* of a judge and his considered judgement?

MEMORIAL TO SIR WILLIAM MACEWEN

MANY of our readers will be pleased to learn that it is proposed to commemorate in some suitable manner the memory of the late Sir William Macewen A preliminary meeting to discuss the proposal will be held in the hall of the Royal Faculty of Physicians and Surgeons, St Vincent Street, Glasgow, on May 22nd, at 4 30 p m All members of the medical profession are invited to attend Communications may be sent to Dr Andrew Freeland Fergus, 14, Newton Place, Glasgow, or to Mr Archibald Young, 5, Park Gardens, Glasgow

CASSEL HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS

THE second report of the Cassel Hospital for Functional Nervous Disorders is of very great importance, especially at the present time, for it contains much valuable information about the diagnosis and nature of functional nervous disorders The report was drawn up at the end of 1923, and refers to patients who were in the hospital during the years 1921 and 1922 The committee considers it inadvisable to issue any report of the results of treatment until a patient has been away from care and back in his usual environment for at least six months, the period has been exceeded in nearly all the cases, and a considerable number of the patients have stood the test of ordinary life for some two years or more The report of the medical director, Dr T A Ross, deals with the patients who were in the hospital during the years 1921 and 1922, but the notes on the present condition of the patients are brought down to the end of 1923 The report will well repay careful study, at present we can only give a general impression The cases are divided into five groups, and in the first, psycho-

neuroses, a large majority of the patients is included, the second deals with the small number of cases of drug addicts admitted, the third with psychoses, the fourth with patients who were suffering from organic disease and were unsuitable for the institution, the fifth is a miscellaneous set of cases The main interest of the report is in the section on psychoneuroses Here, under date 1922, details of 97 cases are given, all of whom had been heard of at least six months after discharge, and the majority, as has been said, for longer periods The first table contains 75 patients who were all better after intervals varying from six to twenty months after discharge, of these 75 patients 29 reported that they were absolutely well Of the remainder, all were at least considerably better and many of them very much better, 41 were definitely at work but this does not represent the increased working power of the group, for some married women who are probably looking after their houses are not included, and several men had been unable to get work, often because they had been so long out of it that nobody would employ them In addition three patients who were at work considered that they were no better, four other patients were better, but reported that the improvement had nothing to do with their residence at the hospital, but was obtained elsewhere Finally, there were fifteen patients who at periods varying from six to twenty months after discharge reported that they were no better, two of them went back to the hospital and improved more than on their first visit Dr Ross summarizes the treatment by stating that it consists in (1) obtaining the patient's confidence, so that he may discuss his troubles, in order that the attempt may be made to get him to see them from another point of view, (2) keeping him at rest in bed until he has in some degree obtained this point of view, (3) encouraging him to enlarge his way of living, and to drop the "rules of health" which have hitherto been hemming him in Most patients when admitted complain of fatigue, and are kept at rest till they feel that it has disappeared The patients outlook on life is enlarged by getting them to engage in various occupations, such as carpentry, working on the golf course, and playing games Some patients when they leave still complain of most of their symptoms, but some months later report that they have experienced steady improvement A few who leave saying that they are well speedily relapse, but on the whole the state on discharge is an index of the character of the further report Dr Ross makes the curious note that in comparison with a few years ago symptoms referable to the lower part of the body are less frequently met with, even dyspepsia, though still a common complaint, does not seem to obsess the patient in the way it did in former years, and food faddists are now hardly ever encountered On the other hand, a larger proportion of patients complain of odd indescribable sensations in the head, more of phobias, and more of headaches The number of patients with gross hysterical disability was small—only seven during the period—and of these six when discharged had lost their obvious symptoms On the whole, therefore, the results are very encouraging The committee of the hospital, which contains a number of medical men and women who have given special attention to functional nervous disorders, hopes that in a few years the annual reports of the hospital may help to create a standard by which the value of various methods of treatment may be judged With this hope we associate ourselves, in the confident expectation that it will be fulfilled Consideration of the forms of psychoneuroses admitted to this hospital, which is the only one of the kind in the country, has already thrown much light on the diagnosis and character of functional nerve disorders, it shows on the one hand how psychoneuroses merge into grosser forms of mental disorder, and on the other, how closely some of the symptoms of organic disease resemble psychoneuroses

ROYAL SOCIETY'S CONVERSAZIONE

THE first conversazione of the year given by the Royal Society was held on Wednesday evening in the Society's rooms at Burlington House Sir Almroth Wright, F R S, Mr A Fleming, and Mr L Colebrook contributed an interesting series of preparations illustrating new methods for the exploration of bacterial disease and for the study of the effects of treatment The phenomena of leucocytic emigration and admigration were demonstrated, and also their relation to bacterial growth Another series of preparations showed the growth of the tubercle bacillus in plasma and in blood, with the production of cavernous spaces, which may possibly have some relation to the development of pulmonary cavities The third series of preparations showed the growth of other pathogenic organisms in blood, illustrating particularly the influence exerted upon this growth by vaccination, both in the living organism and under laboratory conditions, by treating blood with ordinary antiseptics and certain differentially bactericidal chemical agents, and by light For example, in each series the amount of growth of organisms in untreated blood was contrasted with blood to which different dilutions of other chemical agents, such as quinine and iodine, had been added, the increasing strength of the chemical agent, for example, up to the point of 1 in 200 for quinine, resulted in considerable increase in the numbers of colonies This brought out the point that there were stages of dilution in which such agents interfered with the blood more than with bacteria, later on interfering equally with both Mr T S P Strangeways demonstrated dramatically living cells of the choroid in process of division Cultures of the choroid in a thermostat at body temperature could be watched under high microscopical magnification, and the various phenomena of cell division observed, the cells taking about five to ten minutes to complete the whole process He showed also a series of microscopical preparations illustrating the effect of exposure to x rays upon the different phases of mitosis The irregular retardation of different stages was clearly brought out and the abnormalities developed in the final product of division were demonstrated Horace P Groom showed cultures of fungi which caused dry rot in buildings by growing in timber some of them are restricted to damp wood, the others when once established can attack the driest wood, rendering it moist by means of water excreted by themselves Dr F G Parsons demonstrated the method of obtaining average standard contours or series of skulls of different races, in order that the chief points of resemblance and divergence might be apparent The exhibits of the Department of Zoology of the British Museum included specimens showing ambicoloration in flat-fishes, some interesting and rare varieties of cephalopoda from South African waters, and also the evolution of the dentition in various genera of pigs The Royal College of Surgeons of England showed anatomical specimens from the museum, illustrating the process of bone growth in pigs The young animals were fed on madder root which stains developing bone and thus the progress of the addition of new bone and the absorption of the old could be detected, and also the modelling of the skeleton to its final shape Replicas of the two telescopes used by Galileo were shown by the Science Museum, and in contrast with these was the exhibition of sixteen photographs by Sir Howard Grubb, F R S of the huge reflecting telescope for Johannesburg Observatory and Nikolaieff, South Russia, and the reflecting telescope for the Simeis Observatory Crimea Two lectures were given during the course of the evening, the one by Mr R Campbell Thompson, on travel and archaeology in Mesopotamia, and the other illustrated by experiments, on modern navigational devices, by Mr F E Smith, F R S

EPISCOPAL VIEWS ON SPIRITUAL HEALING

THE report of the Committee on the Ministry of Healing, appointed by the Archbishop of Canterbury in accordance with resolution 63 of the Lambeth Conference of 1920, was reviewed in the BRITISH MEDICAL JOURNAL on January 19th, 1924 A debate on it was opened in the Upper House (the House of Bishops) by the Bishop of London on May 6th He had become, he said, what he, rather strangely, called a "reactionary" on the whole question of spiritual healing, he had no use for the ignorant fanatic who would scrap all the learning, skill, and practice of the medical profession He saw dangers in the disappointment of false hopes, and in the attempts of young curates to cure difficult cases, thereby, perhaps, robbing the unhappy victim of the one chance of recovery by an early operation No one, he went on—and least of all, we will add, members of the medical profession—could doubt the extraordinary part which a revival of faith and hope played in the recovery of a patient Notwithstanding the fallacies and errors of Christian Scientists, he thought it must be admitted that they had called attention to a truth neglected by the Church—the power of the mind over matter, and the influence of the soul full of faith and hope over both mind and matter Consequently the clergy had every right to ask for some guidance from the bishops with regard to spiritual healing Those engaged in this healing might not be able to refer to many actual cases of cure, but they could, the Bishop said, point to an enormous increase of spiritual force and spiritual power, and, while deprecating the holding of massed healing missions, he suggested consideration of the encouragement of quiet healing missions He, however, made his real attitude of mind rather obscure by saying that he favoured the use of unction and anointing of the sick The Archbishop of Canterbury, who spoke on the following day, also showed himself anxious to remove the misapprehension, which he said had had considerable vogue, that in talking about a ministry of healing the clergy were in some sense adverse to the normal administration of the medical and surgical profession There was need for co-operating with, and thanking God for the gifts given to and exercised by, the men upon whom so much depended in matters of sickness As he truly said, the subject of prayer and its bearing upon physical and mental health was not new, but he did not go farther back in its history than the Lambeth Conference in 1908 He was, he said, profoundly and humbly conscious of the vastness and mystery of spiritual healing, and thought that something was distinctly wanted at the present time beyond the mere circulation of the report of the Committee on the Ministry of Healing presided over by the Bishop of Oxford But he went on to utter a word of caution on some of the expressions in the recommendations of that Committee, particularly in regard to the anointing of the sick At a time of rapid growth of popular interest in what were called psychical questions, it was necessary to exercise the very utmost caution in promoting such measures as physical anointing Such usages, the Archbishop said, if they became common, would change the whole attitude of half-informed people to the doctrine of seeking the guidance of God in the curing of human ills It was necessary, therefore, to be exceedingly watchful and exceedingly cautious and reserved in regard to what it was possible for the bishops to say, or as to how they encouraged the use of means which were widely adopted and found an immense welcome in many quarters In this connexion it may be recalled that Sir Clifford Allbutt and Sir Robert Armstrong-Jones, in signing the report of the Bishop of Oxford's Committee, desired to dissociate themselves from the recommendation of the use of unction It seems to us that the difficulty of the bishops in giving guidance on spiritual healing is due to the fundamental difference in the point of view of the scientist and the mystic The former seeks for an explanation of everything in nature, while the mystic is content with an attitude of reverence and awe in the presence of anything that he does not understand Both desire to benefit humanity, but co-operation is only free from danger within narrow limits The Bishop of London has become more restrained and "reactionary" owing probably to his discovery of the harm done by massed healing missions, which too nearly resemble outbreaks of revivalism, of which history has many to recall This danger has been recognized, apparently, by the latest exponent of spiritual healing, the Rev H Anson, curate of St Martin-in-the-Fields, who desires to eliminate from his services the element of "crowd suggestion," but may find difficulty in doing so after the interview he gave recently to a daily contemporary On the other hand, the Archbishop of Canterbury, notwithstanding his word of caution, would seem to have moved a little to the less cautious side when he talked of his profound and humble consciousness of the "vastness and the mystery belonging to" spiritual healing It is this appeal to vastness and mystery which has been made the basis of every outbreak of faith healing, honest or dishonest, in all ages The medical scientist seeks for an explanation of this phenomenon in human psychology The enthusiast and the quack exploit it

COPPER IN MILK

IT has now been well established by many different workers that the antiscorbutic vitamin of milk is readily destroyed by oxidation This observation has an important bearing on the question of preservatives in milk These are, of course, prohibited in this country, but in Germany and elsewhere hydrogen peroxide as a preservative has escaped from the censures by which other chemicals have been condemned, a 0 4 per cent solution of hydrogen peroxide has been used extensively in Germany to prevent milk from souring It would be interesting to know to what extent the notable increase of infantile scurvy in Berlin during the last few years is to be attributed to the addition of this apparently harmless preservative to the milk supply Evidence has also been advanced to show that this oxidation of the antiscorbutic vitamin in natural milk is accelerated by heat, so that in the common practice of pasteurization it is likely that the greater part of this vitamin is destroyed unless special precautions are taken to exclude oxidation In an article on the catalytic action of minute amounts of copper, Hess and Weinstock[1] have shown that catalysis by copper increases the velocity of oxidation and thus furthers the destruction of this vitamin They found that when minute amounts of copper were added to milk (2 5 mg of copper per litre were sufficient) the antiscorbutic vitamin was appreciably reduced in the course of heating Charts illustrating the growth curves of guinea-pigs fed on milk pasteurized in a copper retainer, together with controls, are offered to support these conclusions These are observations which must not be neglected in considering the pros and cons of pasteurization In well constructed pasteurizing plants milk does not take up so much copper as this into solution, but when the apparatus is not in good repair or well cared for there exists a real danger of copper contamination In other foods also the catalytic action of minute amounts of copper has to be considered It is customary to condense milk in copper vacuum pans, butter and cream have opportunities of contact with this metal, tinned green vegetables, alas! all too frequently So far attention has been focused only on the antiscorbutic vitamin, but since vitamin A is likewise sensitive to oxidation and readily destroyed by oxidative processes, it becomes imperative to inquire to what extent the catalytic action of copper

[1] *Journ Amer Med Assoc*, March 22nd, 1924, p 953

accelerates the destruction of this even more important accessory food factor We must wait for further research to answer this question Hitherto the case against copper in food has been based on standards of toxicology We called attention recently[2] to a contribution submitted to the Society of Public Analysts, wherein it was reported that when rats were kept on diets containing a high proportion of peas with added copper, nearly all this metal was excreted by the alimentary tract Though a little copper was absorbed into the blood, these animals grew normally and did not suffer in health But we must not allow such experiments to dispel our suspicions of the danger of the presence of this metal in human food, since we are learning that copper, even when present in quantities which the toxicologist could not condemn, may yet act indirectly in a most injurious fashion by accelerating the destruction of accessory food factors

RESERVOIR OF PLAGUE IN SOUTH AFRICA

BUBONIC PLAGUE, though not common, is endemic in certain districts of South Africa The source of the infection baffled epidemiologists for many years, but was ultimately traced to wild rodents We gave an account at the time of the way this mystery was unravelled (1921, vol ii, p 1125), and how it became established that the gerbille and the multimammate mouse (and possibly other rodents) act as a reservoir for plague Infection in man results from bites of fleas which have fed on infected rodents That plague is not more common is due to the fact that the complicated chain of infection between rodent, flea, and man can seldom be completed because these rodents rarely enter buildings In the report for the year ended June 30th, 1923, of the South African Department of Public Health, Dr J A Mitchell throws further light on the problem In December, 1922, two natives on a farm in the Molteno District of Cape Province were found to be suffering from bubonic plague No trace of rodent infection was discoverable in the farm buildings or vicinity, but inquiries showed that both patients, some days before the attack had been on a neighbouring farm, Steraadsfontein, and after extended search on this farm plague infection in gerbilles was discovered A survey of the surrounding country to a radius of about 100 miles from this focus of infection showed that plague infection either existed or had recently existed among wild rodents in a wide area Maps have been prepared on the basis of these surveys showing in distinctive colours areas where there is positive evidence of plague, either recently or within the last two or three years, areas where gerbilles and associated wild rodents are abundant and healthy, and areas where gerbilles and associated wild rodents are very scarce or absent owing to the unsuitability of the soil and herbage The latter constitute barriers to the natural spread of infection The method of tracing infected rodents makes an interesting story Trained rodent inspectors note the presence or absence of surface indications of gerbilles and other wild rodents and the proportion of deserted burrows, checking their conclusions by occasional excavations Experience has shown that extensive mortality in gerbille colonies can safely be attributed to plague Useful information is also gained by examining the excreta of the yellow mongoose This carnivorous animal lives on friendly terms with the gerbilles, and does not attack them so long as they are healthy, but it kills and devours the sick and eats the carcasses of the dead gerbilles Under natural conditions the yellow mongoose appears rarely, if ever, to contract plague Where a mongoose has devoured dead gerbilles its excreta show the fur of these animals, furry mongoose dung has come to be regarded as strongly suggestive of sick gerbilles and plague A publicity campaign has been carried on with a view to keeping the public and the local authorities informed of the position and warned of the danger and of the necessity for preventive measures Special measures have been taken at ports to destroy rats and prevent the introduction or conveyance of infection Attempts have been made to render narrow belts of country gerbille free, thus limiting extension of infection Finally, representations have been made to the authorities urging the protection of natural enemies of wild rodents, such as wild cats and owls

[2] BRITISH MEDICAL JOURNAL, April 12th 1924 p 630.

IMPERIAL SOCIAL HYGIENE CONGRESS

THE Social Hygiene Congress organized by the National Council for Combating Venereal Diseases opened at the British Empire Exhibition, Wembley, on the morning of May 12th The large audience included representatives of the Army Council the Air Ministry, the Admiralty, the India Office, the Ministry of Health, delegates from the British Dominions and Crown Colonies, local authorities, organizations specializing in welfare work, the universities, the British Medical Association the Royal Society of Medicine, and the Royal College of Surgeons of Edinburgh The Minister of Health, in declaring the congress open, gave statistical information about recent progress in the treatment of venereal disease In England and Wales 194 treatment centres had been provided, fifteen hostels for women and girls, and ten other special institutions for treatment of women and children, at a total annual cost of about £400,000 Since the start of the scheme in 1917 about 540,000 persons had attended the treatment centres, 100,000 of whom were found after examination not to be suffering from venereal disease The attendances reached a maximum in 1920, after which there was a steady decline In 1923 there were 23,927 new cases of syphilis, as compared with 42,805 in 1920—a fall of 44 per cent With regard to gonorrhoea, there were 30,908 new cases in 1923, compared with 40,284 in 1920—a fall of 23 per cent The total attendances at these centres now exceeded a million and a half per annum, and the importance of persevering with treatment was being increasingly appreciated, the percentage of patients ceasing to attend before completing their treatment having fallen from 47 per cent in 1921 to 33 per cent in 1923 Sir George Newman, chief medical officer to the Ministry of Health, dealt particularly with the problems of compulsory notification and treatment and with the principles of prevention He said that the Ministry was in favour of the education of the public as to the incidence and danger of these diseases, and the extreme importance of precluding the contracting of them by avoiding all risks of infection The Ministry was not prepared to recommend a general practice of self-disinfection apart from skilled advice and supervision In the afternoon Dame Rachel Crowdy discussed the international position with regard to prostitution, and Dr Winifred Cullis, Sir Arthur Newsholme, and Miss Alison Neilans spoke about the necessity for the education of the general public, which subject was considered in detail by the congress on the following morning The whole of Wednesday was devoted to a discussion on the treatment of venereal disease, and on Thursday a special medical section was held At the conference held on Thursday afternoon which dealt with the position of the general practitioner in antivenereal disease schemes, Dr Alfred Cox, representing the British Medical Association drew particular attention to the importance of the general practitioner in any effective antivenereal scheme He emphasized the necessity for adequate training of medical students, and for close co-operation between medical practitioners and the staff of venereal diseases centres These centres should gradually

come to be regarded as educational and consultative institutions for cases sent for diagnosis, and for treatment by methods that cannot well be applied at home Dr Madeline Archibald had previously pointed out very pertinently that while the general practitioner dealt with the family, the venereal diseases centre was concerned with the individual, and Dr Cox therefore urged that full use should be made of the opportunity arising from the access which the general practitioner had to the home, and of his knowledge of the family, which would be most valuable in detecting contacts and persuading them to seek treatment

MALARIA IN MAURITIUS

As the result of the visit of Dr Andrew Balfour to Mauritius, it was decided to appoint an entomologist to carry out a thorough investigation on malaria and on its anopheline vectors, and in June, 1922, Mr Malcolm E MacGregor began work in this capacity In a report recently issued[1] he expresses surprise at the amount of antimalaria work, such as canalization, drainage, "filling in," oiling, etc, which had been done in the island since Sir Ronald Ross's visit in 1908, unfortunately much that was attempted was not productive of useful results, owing partly to the absence of a definite plan of action and partly to the utter inadequacy of staff, a great deal of work that had been splendidly done had been rendered useless by failure to include all the dangerous breeding grounds, although often only a little additional work was required to bring success Mr MacGregor is, however, convinced that the non-success of the antimalaria measures as a whole in Mauritius is only partly to be explained by these defects, and that, more than to any other cause, it is due to the fact that in the past essential information regarding the malaria problem has been lacking Since 1908 all the work has been based on the assumption that the vector of malaria in Mauritius is *Anopheles costalis*, whereas, as the result of his investigations, it has now been proved that a hitherto unrecognized species, *Anopheles funestus*, is—at least in many of the coastal regions—an equally important or probably in some areas even the principal vector Furthermore, *Anopheles maculipalpis*, formerly considered a rare species, was found to be quite common in some localities, and to be a vector, though one of minor importance, in areas where it can obtain suitable breeding places The bionomics of these three mosquitos differs so materially that even had the efforts directed in the past against *A costalis* been thoroughly and efficiently carried out, MacGregor feels certain that a large amount of malaria would have persisted in Mauritius It has actually been shown that measures taken against *A costalis* result, in certain circumstances, in the production of a state of affairs favourable to the breeding of *A funestus*, and that many of the normal breeding places of this mosquito would be untouched by measures directed only against *A costalis* An account is given of the distribution and bionomics of each of the four species of anopheles found in the island—namely, *A mauritianus*, *A maculipalpis*, *A funestus*, and *A costalis* The interesting observation is made that while the dispersion of the first three is not very difficult in winter and in summer, the last—*A costalis*—increases its altitude range from 1,200 feet in winter to at least 1,800 feet in summer, this is a matter of great importance, for the rise from 1,200 to 1,800 feet on the central plateau means that the species advances over a very large area Moreover, in contradistinction to the other three species, *A costalis* increases very greatly in numbers during the summer months Experiments showed that *A costalis* and *A funestus* could easily be infected with the malaria parasite, that *A maculipalpis* could be only infected with difficulty, and that *A mauritianus* could not be infected A number of recommendations and suggestions are made for a new antimalaria campaign, they relate mainly to measures to be employed against the breeding grounds of the three anophelines capable of spreading malaria The report, which should be of considerable local interest, is well illustrated by maps, by drawings showing the anatomy of the various anophelines, by photographs of breeding grounds and drainage canals, and by general views of the island

[1] Report on the Anophelinae of Mauritius and on Certain Aspects of Malaria in the Colony with Recommendations for a New Anti-malaria Campaign London Dunstable and Watford Waterlow and Sons Ltd. (Pp 48 4 maps 2 plates and 33 figures.)

FOOT AND MOUTH DISEASE.

MENTION was made last week of the ignominious position of dependence on research made for the corresponding State department in Germany, to which the Ministry of Agriculture has been reduced by its obscurantist attitude to scientific inquiry into the nature of the infective agent in foot-and-mouth disease The German investigators have now been permitted to publish something about their results, but without certain essential details which would allow their claims to be directly tested At a meeting of the Berlin Microbiological Society on April 7th Dahmen and Frosch reported that they had succeeded in isolating and cultivating the virus of the disease, and a preliminary report has since been published in the *Berliner tierärztliche Wochenschrift* Dahmen, it was stated, had succeeded in cultivating a very minute organism on solid media, had maintained the cultivation for twenty-five generations, had succeeded in producing the disease in guinea-pigs, and had caused salivation in a cow by inoculation on the muzzle From this cow another was inoculated, and, it was said, developed typical foot-and-mouth disease The manner in which the cultivations were obtained was not stated, although it would appear that the virus was derived from the spontaneous bullae Frosch said that the colonies were so minute that they could only be seen on the media with a microscope, they formed rounded or oval masses with a slightly crenated edge By the use of ultra-photographic methods it was found that the colonies consisted of minute rods Similar bacilli were found by the same methods in filtered fluid from the bullae We understand that Mr Daubney, of the Veterinary Research Laboratory of the Ministry of Agriculture, has recently visited Berlin with the view of obtaining information on the subject, before any definite opinion can be formed of the value of the research it will be necessary to await a full report

THE MEMBERSHIP OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON

THE Royal College of Physicians of London has determined at once to take a step which changes in the practice of the secondary schools must sooner or later have rendered inevitable The by-laws prescribe that a candidate for the Membership shall satisfy the Censors' Board of the sufficiency of his or her general education and acquirements in general science and literature This has hitherto been interpreted to include a working knowledge of Latin, and it has been optional for candidates to submit themselves for examination in Greek, French, or German also At the meeting of the College last week it was resolved that in future candidates should be informed that the languages are not compulsory, but that credit will be given to those who show knowledge in these subjects The motion, which was made on behalf of the Censors, was accepted without opposition and with a good grace, but undoubtedly it is a milestone

CAMBRIDGE SCHOOL OF BIOCHEMISTRY

OPENING CEREMONY

THE new Biochemical Laboratories at Cambridge, of which a description, with illustrations, appeared in our last issue (p 834), were formally handed over to the University by the Sir William Dunn Trustees on the afternoon of Friday, May 9th, in the presence of a distinguished gathering The ceremony was held in the large classroom which occupies nearly all the top floor of the new building The Chancellor (the Earl of Balfour, K G , O M) was attended by the Vice-Chancellor (the Rev E C Pearce, D D , Master of Corpus), Dr F Gowland Hopkins, F R S (Sir William Dunn Professor of Biochemistry), and the Esquire Bedells. The Trustees under the will of the late Sir William Dunn—the directors of the Commercial Union Assurance Company—were represented by Sir Jeremiah Colman, Bt (chairman), the Hon A N Holland Hibbert, Sir James Leigh-Wood, and Mr J D Seligman

Almost all the Heads of Colleges and many Professors and University lecturers were present The visitors to Cambridge included Sir Archibald Garrod (Regius Professor of Medicine at Oxford), Sir Humphry Rolleston (President of the Royal College of Physicians of London), Sir Walter Fletcher (Secretary of the Medical Research Council), Sir William Hale-White (President of the Royal Society of Medicine), Professor H E Armstrong, Dr H H Dale, Colonel R McCarrison, Sir J K Fowler (Honorary Secretary and Trustee of the Beit Fellowships), and Professors R A Peters (Oxford) and E Mellanby (Sheffield) Among the many representatives of the Cambridge Medical School were Sir Clifford Allbutt (Regius Professor of Physic), Professors J B Bradbury and H R Dean, and Dr W E Dixon (Reader in Pharmacology) Other schools of science in the University were represented by eminent teachers Sir J J Thomson, Sir J Larmor, Sir E Rutherford, Sir W J Pope, Sir A E Shipley Sir H K Anderson, Professor Langley, Professor Seward, and Mr W B Hardy (Secretary, Royal Society) A large proportion of the company were in academic dress, and doctors wore scarlet.

The Sir William Dunn Bequest

SIR JEREMIAH COLMAN, in formally presenting the building to the University, expressed the gratification felt by himself and his fellow Trustees that the Chancellor found himself able to receive their gift in person, and acknowledged the help given them in the early stages of their consideration by the Medical Research Council officially and by Sir Walter Fletcher unofficially He congratulated his old University upon the reputation achieved by its medical school, which had secured for it that gift in the face of keen competition He wished also to acknowledge the services of Sir Edwin Cooper, the architect of the building, who had given them the best of his professional skill, but was unable to attend the opening ceremony Sir Jeremiah Colman explained that Sir William Dunn, under his will, instructed the Trustees that after payment of certain bequests and annuities his estate was to be applied in such manner as they thought fit, and among the objects to be supported was the alleviation of human suffering The Trustees, after full consideration by a small committee, decided to allocate £210,000 for the establishment of a school of biochemistry at the University of Cambridge On behalf of the Trustees he asked the Chancellor to accept the building, which with its contents cost nearly £100 000, and also the endowment fund which had already been handed over In making this gift out of funds entrusted to them they felt fully confident that under the guidance of able hands the school would achieve world-wide fame They believed that the teaching and research carried out therein would result in healthier, happier, and longer lives for the community, and that the wishes of the benefactor would thus be fulfilled by providing means for alleviating human suffering Sir Jeremiah Colman added that, in appreciation of many kindnesses received by him as Chairman of the Trustees and in acknowledgement of his personal debt to the University, he, after consultation with Professor Hopkins, had asked leave to give funds for providing a library to fill the handsome room which formed part of the new building

The Chancellor's Speech

Lord BALFOUR, in accepting the munificent gift of the Sir William Dunn Trustees, praised them for their wise discretion in using the large funds placed at their disposal The Trustees, he said, had shown themselves able to carry out duties alien from those connected with their ordinary functions, they had realized that to promote the alleviation of human suffering they could not do better than present to the University of Cambridge this great educational institution which would be the means of carrying on fruitful researches While thanking the Trustees he doubted, however, whether they could have built the important fabric opened that day but for the work of their predecessors, who with far less means at their command and amidst many difficulties first established the study of biochemistry in Cambridge He was proud that Trinity, his own college, had led the way in connexion with biological work, and initiated the arrangements which had at length given them this great school with Professor Hopkins at its head Other benefactors who had preceded Sir Jeremiah and his colleagues were Emmanuel College St John's College the Beit Trustees, and individual friends like Mr T H Riches of Caius, the present institution was the final crown and consummation of all those former benefits But buildings, equipment, and apparatus were of little use without men of genius to turn them to account Fortunately for the Cambridge School of Biochemistry, it possessed the imaginative scientific genius needed to make its laboratory, not a place where ancient experiments were repeated but a place where new knowledge was created

Lord Balfour then discussed the function and purpose of biochemistry among the sciences which serve mankind It might be asked Why multiply schools? Why take the borderland between chemistry and physiology Biology and chemistry had part of their field in common, but unless the part which affected the physiologist were approached from the chemical side, and the part which concerned the organic chemist were approached with biological considerations in mind then unquestionably secrets of Nature would remain hidden and the progress of knowledge would be indefinitely retarded Again the Trustees had had the wisdom to see that to fritter away that great benefaction on small, obvious, ever present evils and difficulties was really to waste one of the greatest opportunities that had ever come to a University or any other public body They had perceived that if human suffering were to be alleviated on a large scale, action must be based upon theories deeply grounded in study and experiment That was a great truth, but a truth difficult to get into the public mind How many were there who realized that the best way to serve mankind was so to master the secrets of Nature that as Nature turned her forces to our benefit instead of as too often happened, turning them to our destruction? Taking the instance of cancer now so much before the public, he hazarded the conjecture that if the time were ever to come when the intimate cause of that scourge was discovered, and a flood of light thrown on the detailed facts which generations of medical men had accumulated it would be through some discovery made by a student who was not thinking particularly of cancer or any other morbid growth, but who in his study of the secret operations of Nature came upon something which illuminated that profoundly obscure question If that happened it would surely be in some school of biochemical research and why should not the discovery be made by a student of genius, or some body of students working together, in the building where they were assembled that day? He felt confident that under the leadership of Professor Hopkins and those who worked with him, pursuing knowledge for the sake of knowledge, this school would succeed in carrying

out Sir William Dunn's wishes In that faith, on behalf of the University, he accepted the gift of this school and now declared it open

Work of the Laboratories

After the opening ceremony the visitors had an opportunity of seeing something of the current work of the laboratories as illustrated by demonstrations given in all parts of the building These demonstrations and exhibits covered a wide range of investigations The principal subjects were as follows micro-methods of blood analysis, biochemistry of animal pigments, plant respiration and plant pigments, perfusion of organs and biochemical defensive mechanisms, sugar metabolism in the potato, the chemistry of active muscle, work on the thyroid gland, bacteriological chemistry, illustrated by the metabolism of bacteria, the effect of parasitism on the velocity of chemical reaction, tissue oxidations, measurement of respiratory changes in human beings and in small animals, the preparation and control of insulin, enzyme activities, biochemistry of fermentation, illustrated by chemical changes in the yeast cell, the technique of micro-dissection of cells, the electrical determination of acidity, and lastly, an exhibit illustrating the importance of vitamins in foodstuffs and their relative proportions, and showing how the results of animal experiments are borne out by human experience

Dinner in Trinity College

In the evening a dinner to celebrate the opening of the new laboratories was given by the Master and Fellows of Trinity, who entertained the Sir William Dunn Trustees and many other visitors in the beautiful Hall of Trinity College The health of the Trustees was proposed by the Chancellor (Lord Balfour), and responded to by Sir Jeremiah Colman The toast of the School of Biochemistry was proposed by the Master of Trinity (Sir J J Thomson, O M, F R S), and Professor Hopkins replied After [illegible] the guests were received by Lady Thomson in the Master's Lodge

BALNEOLOGICAL CONGRESS AT BAD HOMBURG

THE thirty-ninth Congress of Balneologists took place at Homburg v d H on April 14th-17th, under the presidency of Professor Dr Dietrich The general secretary was Dr Max Hirsch of Charlottenburg, and the meeting was remarkable for the variety of the communications and for the scientific nature of many of them

Diet and Baths

Dr Paul Weiss (Bad Homburg) spoke on the history of Bad Homburg from Roman to modern times The Homburg diets' for various diseases had, he said, obtained much recognition amongst medical practitioners, the subject of dietetic treatment at mineral water health resorts was discussed by Dr Latz (Bad Homburg) One of the foreign members of the Congress, Dr Hans Jansen (Copenhagen), compared the modern 'stimulation methods" for chronic articular affections with the established physical methods in use at German and other health resorts—notably tepid baths and local mud applications

Rheumatism

Professor Dr Alwens (Frankfurt a M), in discussing the causes and treatment of chronic articular affections, expressed the view that the part played by tuberculosis had not been sufficiently emphasized He spoke of good results to be expected from early treatment with tuberculin and light therapy Amongst the causes of chronic deforming joint diseases he attached considerable importance to certain bone diseases, the frequency of which had increased during and after the war, especially late rickets, in the treatment of which strontium salts seemed to be of some use Dr Burwinkel (Bad Nauheim) argued that acute articular rheumatism was connected with an increase of the fibrin constituent of the blood, due to sudden destruction of red cells Besides this and an inherited predisposition, other causative factors might be intestinal auto intoxications and purulent conditions in the tonsils, teeth, and accessory sinuses of the nose Salicylic acid did not cure He recommended atophan in association with large doses of sodium bicarbonate Dr van Breemen (Amsterdam) regarded "chronic rheumatic diseases" as of great importance in regard to insurance against invalidity, and dwelt on the need for investigating possible preventive methods Consideration should be given to the relative importance of cutaneous activity, chill, individual constitution, foci of infection, and carious teeth After arthritic diathesis tuberculosis was the next in importance in the etiology Dr Lieven (Aachen) considered that systematic movements were useful in the treatment of gonorrhoeal articular affections, and that diathermy, local electric light baths, local mud applications, and early balneotherapy were also of value Dr Bieling (Friedrichsrode) regarded the methods of Cornelius in regard to therapeutic massage and 'pressure points" as of value in the treatment of myalgic affections, although he could not agree with all his theoretical views, for the treatment rested on a psycho therapeutic as well as on a physical basis Dr Fritz (Wildbad) praised the steam douche as an adjuvant method of treatment in chronic muscular and articular affections One advantage was that it could be applied to a more limited area than the ordinary hot-air boxes It had a local anodyne effect which assisted the carrying out of active and passive movements

Light Treatment

Dr A Laqueur (Berlin) made a communication on the biological effects of light Experiments showed that the result on the white cells in the blood picture varied according to the richness of the light in ultra violet rays applied to the mucous membranes (vagina, mouth) A considerable increase of lymphocytes was obtained accompanied by a relative diminution of polymorphonuclear neutrophiles, an increase in the total number of the white cells, and also almost always a relative increase of the eosinophiles Similar changes occurred also on exposure of the outside of the body, but not when only a limited surface of the skin (of the same size as the surface of mucous membrane) was exposed to the light Professor Dr Küster (Oberursel) spoke of the use of the quantitative estimation of the Abderhalden reaction bodies by the method of Paul Hirsch of Jena Its value lay in the diagnosis and treatment of various conditions—tumours, tuberculosis, pregnancy, ulcers, endocrine disturbances, and internal diseases It might also find a place in connexion with balneotherapy

Other Papers

Amongst many other communications were the following

Dr Martin (Nauheim) on the development of baths and bathing in Europe from earliest to modern times Professor Dr V Sticker (Honnef), on the radio-activity of potassium waters, Dr Liatsikas (Athens), on the therapeutic springs of Greece Professor Dr Hugo Lang (Carlsbad) on the estimation of the concentration of hydrogen ions in mineral waters Dr L Fresenius (Wiesbaden), on the significance of the new theories of solutions for the physiochemical examination of mineral waters, Dr S Hirsch (Frankfurt a M), on Roentgenological examinations as to the mode of action of natural mineral waters, Dr Uollmer (Kreuznach) on balneological and cellular-chemical problems Dr Hubert (Nauheim), on the causation and development of arterial hypertonia as investigated by the "water test", Professor Dr Bickel (Berlin) on the influence of salts on the secretion of bile, Dr Haeberlin (Wyk a Fohr) and Dr Groedel (Nauheim), on the treatment of digestive disorders in diseases of the circulatory system, Dr Siebolt (Bad Flinsberg) on the treatment of chronic intestinal catarrhs at health resorts

ANALYTIC PSYCHOLOGY

LECTURES BY DR C G JUNG OF ZÜRICH

(From a Correspondent)

I

ON May 12th the first of two lectures was given in Mortimer Hall by Dr C G Jung of Zurich in response to the invitation of a number of medical men and women, educationists, and others The arrangements for the lectures were made by the *New Era* The lectures consisted of a statement of what analytic psychology is and is not, a distinction necessary at a time such as this, when it is confused with the method known as psycho-analysis, and when inquirers are liable to suffer from the enthusiasms of rival schools

With reference to the theories of Freud, Dr Jung said that in spite of the undeniable importance of sex, anything and everything did not depend upon that instinct Such a broad hypothesis worked like coloured spectacles, and other colours were obscured Dogmatism and fanaticism were always compensations for secret doubt

There was no tendency in man that was not balanced by another As sex was a force that swayed man, there was always a natural power of self assertion in him which helped him to resist any kind of emotional explosion Severe restrictions upon the sex instinct and other impulses were to be found even among primitive races

The instincts should not be regarded as fixed elements in the psyche If the continuous operation of a single instinct were assumed, man would be as sexual as Freud said he was or as intent on power as Adler said he was But the two theories would be irreconcilable if regarded as fixed elements of the psyche Instincts varied in strength and power to dominate A mere bad mood could alter a man's psychic reactions profoundly To recognize the psyche's protean life and constant metamorphoses was to admit a truth less comfortable than a one-sided rigid theory, but in this way the inquirer was liberated from the incubus of the "nothing but" Psychological studies should not be restricted to the psychological spheres without assumptions as to the nature of underlying biological phenomena Things should be taken more on their face value There was no race or tribe among whom religious phenomena were absent, and there was no justification for the assumption that religion or art were due to repressed sex Sex was even an integral part of some religious experiences, and even animals had aesthetic and artistic instincts There was at the present time no correct appreciation of sex Whenever an important instinct had been undervalued, an abnormal overvaluation was certain to follow Where the one had been unjust the other would be unsound No moral condemnation could make sex so repulsive and disgusting as the blindfold stupidity of certain Freudian literature It amounted to a still more formidable depreciation of sex, and its intellectual crudities made scientific toleration superfluous The school of Freud was carrying on repression in an effective way Immense damage was done to feelings through the Freudian doctrine, although it was through decent feeling alone that we could hope to solve the sex problem

In discussing the various methods of analysis Dr Jung laid stress on the fact that the analysis of the unconscious only began when the materials reproducible by consciousness were exhausted He preferred to speak of the analysis of the unconscious Analytic psychology was concerned with complex mental phenomena and their manifestations in conduct It reduced complexity to its elements, but it also tried to understand the psyche's creative activity The desire to know into what formative elements the mental functions could be resolved might be very strong, but they must be dealt with as if they were definable organs of the mind Analytic psychology had no academic laboratory, its laboratory was the world. The tests were real events in daily life, the persons tested were patients, friends, and ourselves The pains and joys and terrors and achievements of real life were the material The analytic method was the understanding of life, as represented in the psyche of man The adjustment of human conduct was its purpose It was eminently practical It investigated to give help, abstract science was its by-product, not its main purpose It was medical as well as educational, and therefore as individual and experimental as possible

Every living truth was individual, and not to be derived from a previously established formula Each individual was an experiment and an attempt at a new adaptation To the doctor and teacher this meant the study of each individual, they should be ready to drop all theories for the one purpose of finding the truth It was wrong to assume that whenever a content was unknown it was necessarily repressed The patient's mental independence must be preserved People were incredibly eager to get rid of themselves Practical medicine had always been an art, and the same was true of practical analysis True art was creation, and creation was beyond all theories

Learn your theories as well as you can, but put them aside when you touch the miracle of the living soul Not theories, but your own creative individuality alone must decide"

England and Wales.

THE SIMS WOODHEAD MEMORIAL AT THE CAMBRIDGESHIRE TUBERCULOSIS COLONY

A VALUABLE addition to the Cambridgeshire Tuberculosis Colony at Papworth primarily intended as a memorial to a man whose name will ever be associated with the colony, was opened on May 8th The memorial is to Professor Sir German Sims Woodhead K B E, who at the time of his death was Professor of Pathology at Cambridge University and who was one of the founders of the colony

The memorial consists of an attractive detached building, built of brick with tiled roof, standing in the grounds near the lake Over the entrance is a massive stone canopy supported by four stone pillars, and carved under this is the following inscription

TO
SIR GERMAN SIMS WOODHEAD K.B.E,
1855-1921
PROFESSOR OF PATHOLOGY
IN THE
UNIVERSITY OF CAMBRIDGE
AND
ONE OF THE FOUNDERS
OF PAPWORTH COLONY
A VERY GALLANT ATLAS GENTLEMAN

The double doors give on to a small hall in which hangs a memorial portrait A door on the right leads into the pathological laboratory, a room of convenient size well lit by three large windows furnished with teak benches warmed by radiators, and supplied with electric light The floor is of terrazzo On the left of the entrance is the x ray room, well equipped with a modern installation, with radiometric technique director Out of this leads an excellent dark room ventilated by an electric fan There is a third room at the back which will be used for stores The building was designed by Mr H H Dunn and was erected by the labour of residents in the colony, it reflects great credit on all concerned in its conception and completion

The memorial was opened by the Hon Sir Arthur Stanley G B E C B, C V O president of the British Red Cross Society The Rt Hon Sir Clifford Allbutt K C B president of the colony welcomed Sir Arthur Stanley and referred to the presence of Lady Woodhead Those who had known Sir German and Lady Woodhead knew that he himself would be the first to say how much he owed to her and her inspiration and help all his life All who knew him and all who now affectionately remembered him, were well aware of the great and generous powers he possessed There was no man he could go to with such confidence for information, and get it in such a clear lucid manner, without reference to any books, as he could to Sir German Sims Woodhead But there was something they valued in him even more than his scientific attainments and that was his honourable generous, unselfish character he was almost too unselfish, he was too apt to forget himself in his work for others

Sir Arthur Stanley said that he counted it a very high honour that as one of the colleagues of Sir German Sims Woodhead on the Council of the Society for the Prevention of Tuberculosis and also in view of the connexion of the British Red Cross Society and Order of St John with that colony, he should have been given the privilege of performing the opening ceremony and unveiling the tablet He gave a sketch of Sir German Sims Woodhead's career as a pathologist, and mentioned in connexion with his war work that he was appointed by the War Office to look to the very important question of providing water for the troops and camps and it was literally true to say that thousands of lives must have been saved by the system of chlorination of water the efficiency of which he dwelt upon and finally got adopted by the War Office Those who had the privilege of working with him could never forget the ardour, enthusiasm, and very great knowledge which he brought to bear on all the problems that came before them He had shown very great interest from the very beginning in the institution of that colony at Papworth, and in the

earlier days of the work, when the greater difficulties had to be faced, it was very largely his enthusiasm and wonderful support that enabled those difficulties to be surmounted His character, perhaps, did even more than his knowledge and attainments to make him, as he was, one of the most valued citizens of this great Empire He congratulated the colony on the wonderful work which was being done, and opened that building in grateful and revered memory of their friend, who had done so much for suffering humanity

Mrs Marcus Dimsdale, honorary secretary of the Executive Committee, in moving a vote of thanks to Sir Arthur Stanley, said that it was the first memorial at Papworth, and they had given of their best Dr Varrier-Jones, medical director, said his heart was too full to speak of Woodhead, who was his greatest friend Without him he could not even have started He gave of his very best, always and ever, and it was because he gave his help in that way that his life was cut short

After the proceedings the company inspected the building and made a tour of the colony Amongst those present were Sir R Douglas Powell, Sir J Kingston Fowler, Sir R Armstrong-Jones, Dr Mitchell Bruce, Professor A E Boycott, Professor H R Dean, and the Master and Tutor of Trinity Hall

The Baths of Bath

At the end of the course of medical hydrology held by the University of London last week a two-day visit was paid to Bath for the study of balneological and allied treatments Demonstrations were given at the Queen's Baths of the throat and nasal sprays the inhalation of radio-active gas, Scotch and alternating douches, the vapour bath, and the local Berthollet bath A visit was paid to the Royal Bathing Establishment to inspect the local whirlpool treatment the aeration bath, the Plombieres douche, the Vichy douche-massage, deep and rechning baths, with the various forms of undercurrent douching the Bourbon Lancy douche for reducing high arterial tension, and the Aix douche-massage Demonstrations were given also of voluntary and controlled movements which have proved of benefit in the treatment of spastic and flaccid paralysis During the second day, at the Royal Mineral Water Hospital, there were lectures and demonstrations on cases of osteo-arthritis and spondylitis, fibrositis, infective arthritis and gout, a visit was paid to the biochemical and bacteriological laboratory Electrical treatments of various kinds were shown, including hot-air baths, radiant heat and light bath, ionization high frequency current, diathermy, and arc lamp treatment The visitors were also shown over the Roman baths, where they had the opportunity of seeing how the hot mineral waters were used in the first century

Manchester Hospitals

Manchester and Salford together constitute the largest hospital centre in the country with the exception of London, and in certain respects serve an area, it is claimed, stretching from the Potteries to the Scottish border During the last twenty years it has not been possible to make any substantial increase in the number of beds in voluntary institutions although the population served has probably increased by 20 per cent in that time It is estimated that to-day there are nearly two cases waiting for each of the 2,444 beds in these hospitals Several schemes of hospital extension have been contemplated, but financial considerations have so far prevented the start of most of them Moreover, these hospitals are not receiving a sufficient income to meet current expenses In 1922—the last year for which complete figures are available—the ordinary income of the hospitals in Manchester and Salford was £290,000, as compared with an expenditure of £350,000, leaving a deficit of £60,000, which had to be met by special grants received through the Voluntary Hospitals Commission by the use of money that should have been devoted to investment and by the sale of securities The Lord Mayor's Shilling Hospital Fund last year, reported in our columns of November 17th 1923 (p 944) resulted in the raising of £73,000, but this only served to wipe out accumulated debts and the hospitals are now going back, in the financial sense, at the rate of £1,000 a week According to the secretary of the Hospital Sunday Fund, the middle-class contributors in Manchester and Salford give three times as much as similar classes of subscribers in Liverpool, the donations of the churches and schools are twice as much as those of Liverpool and Birmingham, and the patients' payments amount also to twice as much as those in Birmingham The amount collected in Manchester and Salford from the wage-earning classes is, however, only one-fifth of the sum so raised in Glasgow, one-half in Birmingham, and considerably less than in Leicester—a town with about a quarter of the population of Manchester This is apparently due to the want of any efficient organization for collecting such subscriptions, since there is no doubt that the working wage-earners fully recognize their responsibilities in this matter

Royal Surrey County Hospital

On April 30th, the Duke and Duchess of York visited Guildford to open the new out-patients' wing and other extensions of the Royal Surrey County Hospital They were received by the Earl of Midleton, who greeted them as residents in Surrey The chairman of the hospital then read an address, in which he pointed out that the foundation stone of the hospital was laid in 1863, the funds for its erection being provided by voluntary contributions It was opened in 1866 and its progress in the years that followed had been most gratifying At the end of the war the hospital committee realized the need of enlargement, and it was decided to build an extension on the eastern side of the main building and to provide a new out-patients' department The estimated cost was £30,000, and as a result of a public appeal £21,864 had been raised up to the present About a hundred purse-bearers handed over gifts to the Duchess on behalf of the hospital, one contributor being a lady who had been present at the laying of the foundation stone in 1866 The Duke of York said that the hospital was proof of the existence of provident far-sightedness in the people of Surrey The Duchess of York, having unlocked the door of the new building, made, together with the Duke, an inspection of the main wards before leaving the hospital

Queen Charlotte's Hospital

The annual report for 1923 of Queen Charlotte's Maternity Hospital records some financial improvement, although the hospital is still far from being free of debt During the year 1,936 patients were admitted to the wards as compared with 1,820 in 1922, the proportion of married women continues to increase—of the 1,936 in-patients only 388 were single A large number of emergency cases was admitted, many patients being in a critical condition owing to serious complications of labour There was a slight decrease in the number of patients attended in their own homes by the hospital midwives and medical officers, and among these 2,132 patients there were no maternal deaths In the ante-natal department there were 4,689 patients, as compared with 4,605 last year The infant consultation centre recorded 2,546 attendances of children, as compared with 2,359 in 1922 The midwifery training school continues its satisfactory progress, of the 173 candidates for the Central Midwives Board examination, only seven failed to pass, the percentage of failures being thus 4, as compared with a percentage of 21·7 for the whole of the country Queen Charlotte's Convalescent Home was closed in June, 1923, it was founded in 1882 by the late Mrs Charles Roundell, and was taken over by the hospital in 1892 It served as a most useful adjunct to the hospital especially for the reception of single women with their babies on discharge from the hospital The need for this home has diminished, since the committee is now able to obtain beds for such patients in convalescent homes Ample accommodation for waiting patients is provided in other homes near the hospital In the course of 1923 arrangements were made to receive students from St Mary's Hospital medical school for courses in practical midwifery, and for the whole of the pathological work of Queen Charlotte's to be dealt with in the laboratories at St Mary's

WEMBLEY EXHIBITION

A conference organized by the People's League of Health will be held at the British Empire Exhibition from May 21st to 24th inclusive On the morning of the first day, after the presidential address by Lord Burnham there will be a discussion on housing and house sanitation, the speakers including the Parliamentary Under Secretary for Health for Scotland, and Drs J Robertson, F E Wynne, and Leonard Hill In the afternoon there will be a session dealing with food, under the presidency of Sir W Arbuthnot Lane, the speakers being Professor E Mellanby, and Drs R H Aders Plimmer, J C Drummond and D Somerville The morning of the second day will be devoted to air, light, and water, Sir Henry Gauvain presiding, Dr A Rollier of Leysin, Drs Leonard Hill, R Fortescue Fox, and C W Saleeby will be the speakers In the afternoon, under the presidency of Sir William Simpson, overseas diseases will be discussed by Sir Leonard Rogers, and Drs George Low, Manson-Bahr, and Andrew Balfour The speakers at the morning session on the third day will deal with mental hygiene, and include Sir Frederick Mott, and Drs. Farquhar Buzzard, H Crichton Miller, and R G Rows In the afternoon industrial hygiene will be dealt with by Professor E E Collis, Drs C S Myers, F Shufflebotham, and R C Matson At the final session on the morning of May 24th will be considered legislation desirable with regard to health matters, the speakers will be Drs W E Dixon, C J Bond, G M. Robertson, and F E Fremantle, M P

Ireland.

LETHARGIC ENCEPHALITIS

WE referred last week to the occurrence of a considerable number of cases of lethargic encephalitis in Belfast We are informed that fifty four cases have now been verified and that another death from the disease has taken place It is reported that between ten and twenty cases have been observed in Dublin, and that eight cases have been isolated in hospitals Dr Russell, medical officer of health for Dublin, states that every precaution is being taken and that the corporation will probably immediately make the disease notifiable He also states that none of the cases have been serious and that there is no evidence of high infectivity, for these reasons he considers that no undue anxiety need be felt that the disease will spread Study of the cases has not afforded any new information, and those interested may be referred to the report[1] issued by the Ministry of Health in 1922, a review of which was published in our issue of October 7th, 1922 (pp 649, 654)

COUNTY WEXFORD MEDICAL PRACTITIONERS

At a meeting of the medical practitioners of the county of Wexford a vote of condolence with the relatives of the late Dr Thomas Kelly, for many years chairman of the County Wexford Medical Practitioners' Association, was adopted

After discussion the following resolutions were passed unanimously

1 That the resolutions passed at the Delegates Meeting at the Royal College of Surgeons on February 13th 1924 are unanimously approved

2. That the medical practitioners of County Wexford protest against the delay in appointing the Committee of Inquiry in regard to the working of the Insurance Acts and the medical services generally in the Free State as promised by the Minister of Finance

3 That the Committee of Inquiry should be representative of all the interests affected, as otherwise its recommendations will not carry proper weight

4 That unless the Inquiry promised by the Minister of Finance formulates a scheme satisfactory to the medical men working the public medical services of the Free State including certification, we hereby recommend that the Irish Medical Committee should summon a delegates meeting of the medical profession in the Free State to organize for the resignation of all medical officials in the public medical services

[1] Ministry of Health Reports on Public Health and Medical Subjects No. 11 Encephalitis Lethargica. London H.M. Stationery Office or through any bookseller Price 10s.

India.

THE LADY READING HOSPITAL

LADY READING performed the ceremony of opening the hospital in Simla bearing her name, for Indian women and children on April 25th the laying of the foundation stone was reported in our columns on August 18th 1923 (p 302) It will take the place of the Lady Dufferin Hospital which has now become inadequate for the needs of Simla The old hospital will perform a most useful function as a welfare centre and an out-patient department from which patients may be sent to the new hospital Generous support was given to Lady Reading's appeal and the new hospital is therefore exceptionally well equipped and endowed It is expected that it will be in full running order before the end of May

PLAGUE IN THE PUNJAB.

Plague is increasing in the Punjab and is arousing some alarm, when the mail left forty to fifty deaths were occurring daily in Lahore, and during one week at the beginning of April the total number of deaths in the district was over 9,000 The *Pioneer Mail* reports a statement by the Director of Public Health that the plague is now more severe than at any time since 1918 The mortality in March 1924, was approximately 25 000, as compared with 5 582 in the corresponding month in 1923 The present epidemic is not however, to be compared with the epidemics in 1915, 1907 1905 1904, and 1902, when the March mortality averaged 50,000 to 90,000 The Public Health Department has received an extra grant to employ a special emergency medical staff in severely stricken rural areas and also another grant for the purpose of plague vaccination and plague inoculation equipment The examinations of the Punjab University have been postponed until the middle of May in consequence of the epidemic In Delhi the municipal authorities have organized an extensive campaign of rat destruction and as many as 13 000 rats have been killed weekly Although Delhi is surrounded by plague infected areas it has remained comparatively immune the few cases occurring being mainly those imported from a neighbouring area This is in satisfactory contrast with the severe plague outbreak that occurred last year in Delhi and gave ground for serious anxiety with regard to this present year

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Grants for Experiments on Living Animals—Commander Kenworthy asked on May 7th what payment from public grants was made for experiments on living animals and whether it was proposed to continue these grants Mr Wheatley replied that animal experiments were a necessary part of the research work done by or for several Government departments No separate provision for such experiments was made in the expenditure from public funds and it was impossible to analyse the expenditure on research in such a manner as to isolate the expenditure involved in this particular class of experiments. Annual returns furnished to Parliament by the Home Office gave the names of persons licensed by the Home Secretary to perform these experiments together with the number of animal experiments performed and a list of the laboratories approved and registered for the purpose In the present state of scientific knowledge he did not see any ground for discontinuing expenditure from public funds on such experiments

Milk and Dairy Produce Joint Committee—Mr Perry inquired on May 7th whether the Minister of Health would consider the desirability of appointing a representative of the National Veterinary Medical Association of Great Britain and Ireland on the Joint Committee set up to advise his department and the Ministry of Agriculture and Fisheries on matters concerning the production handling and distribution of milk and dairy produce including questions relating to education and research. Mr Smith in response, said that the Committee was primarily representative of various branches of the industry and the Minister of Health considered that if expert advice on veterinary questions either for the Committee or for the Ministries concerned was desired it could be best obtained from the expert veterinary officers in the Ministry of Agriculture

Washington Maternity Convention—Mrs Wintringham asked on May 7th whether the Minister of Health intended that the terms of reference of the Royal Commission on National Insurance should allow for consideration the possibility of the ratification by Great Britain of the Washington Maternity Convention of the International Labour Office Mr Wheatley replied that the terms

of reference would enable the recommendations of the Washington *Maternity Convention* to be considered as regards applicability to the insured population of this country

Milk Designations.—Mrs Wintringham asked, on May 7th, whether the reports of health inspectors showed that the public could rely on the high hygienic quality of the large quantities of milk described on sale as nursery, invalids', or guaranteed, and, if not, whether the Minister of Health would consider how the public could be safeguarded The Minister of Health answered that according to the information he had the answer to the first part of the question was "No" He would consider what steps could be taken to safeguard the public, but thought the consumer would be well advised not to place too much reliance on descriptions and designations implying special hygienic qualities other than those authorized by the Milk (Special Designations) Order Mrs Wintringham also asked whether the Minister of Health knew that a large part of the milk sold as raw milk in the City had been pasteurized or otherwise treated by heat, and whether he was prepared to take steps to ensure that purchasers might know whether their milk had been so treated Mr Wheatley replied that he was aware of what was stated and would consider the suggestion, though he doubted whether it could be made effective He hoped the provisions of the Milk (Special Designations) Order, 1923, as to the use of the term "pasteurized" might contribute to the enlightenment of consumers and lead to the disuse of unapproved processes Mr Simon asked, on May 8th, whether, having regard to the responsibility of local authorities for safeguarding the cleanliness and purity of the milk supply, the Minister of Health would add an adequate number of representatives of the local authorities to the newly appointed Milk Advisory Committee, on which they had not at present any representative Mr Greenwood said that the Committee was originally appointed to act as an advisory body on questions relating to the technique of the production, handling and distribution of milk as they affected the dairy industry The Committee consisted mainly of representatives of the various branches of the industry It was thought desirable that representatives of daily workers and of consumers should be added, but the Minister did not think it would be practicable to include representatives of local authorities The fullest consideration would always be given to their views on all questions touching the cleanliness and purity of milk If the representation were to be extended on the lines suggested it would mean putting on representatives of various classes of local authorities with differing powers as regarded public health

Salaries of Public Health Nurses.—On a question by Mrs Wintringham, on May 7th, whether the Minister of Health knew that many local authorities paid trained nurses engaged in public health work salaries as low as £130 a year, Mr Wheatley said that according to his information such low rate of salary was exceptional He fully appreciated the importance of the work of health visitors, and the question of their salaries would continue to engage his attention Mrs Wintringham said that within three months there had been several advertisements for nurses at salaries of £130 to £150

The Betterton Report.—In the course of a debate on May 7th, raised by Sir John Marriott, as to the growth of national expenditure on public assistance and the extent to which the several services overlapped, the President of the Board of Trade stated that the first recommendations of the Betterton Committee, which referred to the prevention of the conflict between health and unemployment insurance in regard to medical opinion as to physical or mental capacity to work, had been accepted, though points of detail and procedure were being discussed amongst the departments The eleventh recommendation—that maternity and child welfare authorities should make arrangements with the Poor Law authorities concerned—was being considered by the Ministry of Health Mr Webb referred also to a number of other recommendations which were either under consideration or had been adopted He did not think local voluntary registration of public assistance could be successfully carried out He agreed that overlapping was serious in its demoralizing effect, but what was often regarded as overlapping was not so To feed a child at school and make inquiries afterwards whether the parents were getting outdoor relief did not come within the term It was the duty of guardians if they gave outdoor relief at all, to give it adequately That meant that they should give enough to supply food and shelter sufficient for the health of the head of the family and all his dependants It might be that the children suffered because the relief was not sufficient He wished to see the whole expenditure on the Poor Law not diminished but swept away and to substitute for the relief of destitution the treatment and prevention of each of the causes before destitution set in

Opium Traffic.—In reply to the Duchess of Atholl, Mr Thomas, on May 8th stated that the only British Colony, dependencies, and protected States in which the smoking of opium was permitted were Hong Kong the Straits Settlements, the Malay States North Borneo Sarawak Ceylon and Weihaiwei In Hong Kong the Straits Settlements the Malay States, and North Borneo there had been established Government monopolies for the manufacture and sale of prepared opium, but this was done under stringent regulations at a high price intended to discourage consumption In [illegible] 900 as compared with [illegible] of opium were registered In [illegible] Act of £60,000, might only issue licences to persons [illegible] through the W deprivation from the accus- [illegible] that should [illegible] hands of a licensed [illegible] of see Government, but this [illegible] Mayor's Shilling Hospital Fund [illegible] Department monopoly columns of November 17th 1923 (p 944) as stated in reply [illegible] ing of £73 000 but this only served [illegible] cases it was the observation with If the disability had been accepted by the Ministry of Pensions as due to, or still aggravated by, service, full treatment allowances for the man and his family were paid, in other cases allowances were paid in respect of the family In reply to another question it was stated that if encephalitis lethargica occurring in ex-service men were shown to be connected with service, as had been established in certain instances, the Ministry of Pensions accepted responsibility

Health and Unemployment Insurance.—At the instance of Sir T Robinson, on May 7th, Mr Shaw gave the following comparative figures of persons insured under the national health and unemployment insurance schemes respectively

Year	Health Insurance		Unemployment Insurance			
	Men and Boys (16–18 years)	Women and Girls (16–18 years)	Men.	Boys (16–18 years)	Women.	Girls (16–18 years).
1913	9 645 000	4 005 000	2 250 000			
1923	10 200 000	4 800 000	7 830 000	540 000	2,500 000	380 000

He added that at the date of the last valuation of approved societies (December, 1918) males and females between the ages of 16 and 18 years insured under the health schemes were 6 and 10 per cent respectively of the total number of males and females In 1913 those insured against unemployment consisted almost wholly of males The National Health Insurance (Cost of Medical Benefit) Bill is estimated to involve an additional charge on the Exchequer of £392,000 in a normal year, but in the current year supplementary estimates will be presented to provide £490,000 for the period of fifteen months from January 1st, 1924

Medical Services in India.—Mr Snell, on May 12th, asked the Under Secretary for India whether the recommendations of the Medical Services Committee were forwarded by the Government of India to the Secretary of State for decision some two years ago, whether a decision had yet been given by the Secretary of State for India, especially about the transfer of certain appointments ordinarily held by Indian Medical Service officers to the provincial medical services in the various provinces, whether questions regarding medical research and the reduction of the military assistant and sub assistant surgeons forming part of the recommendations were still undecided and whether, in view of the protests made lately in the Indian Legislative Assembly, the Minister would expedite his decision Lieut Colonel Fremantle asked whether this delay was not seriously prejudicing the recruitment for this most important service Mr Richards, Parliamentary Under Secretary, in a written reply said that it had been found impossible to adopt the fundamental proposal of the Medical Services Committee—that is, the creation of a single medical service in India With the addition of posts under the central government the civil positions now reserved for Indian Medical Service officers in the provinces numbered 333, as compared with 380 recommended for reservation by the Committee and 422 before the war In the interests of economy the research service had been reduced to a skeleton cadre of six posts, all held by Indian Medical Service officers In the case of military assistant surgeons no question of reservation arose, and the provincial authorities were, he believed in some cases effecting reduction In regard to sub assistant surgeons he was not clear what information was desired

Notes in Brief

The Secretary for Scotland stated, on May 7th, that he was aware that another case of spirochaetosis icterohaemorrhagica was under treatment in the Royal Infirmary, Edinburgh The circumstances were being inquired into and he would consult the Secretary for Mines as to the expediency of holding a public inquiry

In reply to a question as to a case in which a *post mortem* examination had been made, and the brain, as was alleged, removed without the widow's knowledge or consent, the Home Secretary said that as the case had some element of doubt in regard to the legal position he would send the information to the Director of Public Prosecutions for consideration

The Minister of Health has recently had a special report upon the Belmont Colony for persons chargeable to Poor Law guardians, and he finds that the general conditions, including the dietary and the work required of the inmates, are satisfactory

The total number of deaths due to starvation in England and Wales during the last eight years as registered was 143, of which 93 were males and 50 females The comparative figures are

	Males	Females		Males	Females
1916	16	15	1920	14	2
1917	18	12	1921	11	8
1918	12	1	1922	8	6
1919	7	4	1923	7	2

Total 93 males 50 females

Asked by Brigadier General Spears whether there was any retiring age for coroners, and if not, how many were over the age of 75, Mr Davies said the Home Office had no jurisdiction as to the age of a coroner He was therefore unable to reply to the question whether proceedings in a recent murder case were conducted by a coroner over 90 years of age

The Government has introduced the Lead Paint Bill to give effect to the provisions of the draft convention in regard to white lead If Parliament passes the bill without amendment inconsistent with the convention, the Government will ratify the convention

Correspondence.

DUODENAL ULCER AMONG MEDICAL MEN

SIR,—Dr Forsyth in the JOURNAL of May 3rd (p 780) compares the results obtained in cases of duodenal ulcer by operative and non-operative methods, basing his findings on the histories of a number of cases as reflected in the records of the Medical Sickness, Annuity, and Life Assurance Society His conclusions briefly are that the total period of incapacity and the tendency to relapse remain about the same whether operative or non-operative treatment be adopted, furthermore, the operation cases show a death rate of 9 per cent, whereas there were no deaths in the non-operated cases Such findings are so out of accord with one's experience that further consideration of the premisses on which he bases them is desirable

Passing over the fact that the series of cases studied is altogether too small to supply the material necessary for a statistical study, the conclusions appear to be generalizations made from the available facts such as could not have been arrived at had a more intimate knowledge of the clinical details of the cases been accessible

In the first place the balance of the two groups is disturbed by the fact that in all the operation cases the diagnosis was established by direct evidence, whereas in the non-operation group it was a clinical diagnosis and therefore, in an appreciable number of cases, was probably incorrect Furthermore, in considering a group of cases in which admittedly both operative and non-operative treatment have a place, it must be supposed that operative measures will tend to be applied to the more intractable cases, and those complicated by haemorrhage, threatened perforation, or stenosis—that is, to the failures in the non-operative group The occurrence of three deaths in an operation group of 33 cases would appear to indicate that many in the operation group were bad surgical risks, for all the evidence there is to the contrary the two cases that died immediately after operation may have been patients who having previously refused operative treatment, were compelled to resort to it as an emergency measure for perforation or haemorrhage

There is admittedly great difficulty in getting a suitable group of non-operative cases to contrast with statistics of operation cases The benefits and risks of the latter method of treatment are, however well set out in the two following sets of figures

Balfour[1] reports the findings of the Actuarial Society of America which carried out an investigation on behalf of some of the American insurance companies in a group of 1 684 cases of duodenal ulcer operated on at the Mayo Clinic The operative mortality was 2 per cent The surviving cases (1 651) were examined at an average period of 3 4 years after operation and it was found that 85 of the cases had died in this period If a group of the general population similar in number, age, and sex distribution was contrasted with these cases some 93 would have died in the period—that is the expectation of life of the post-operative case of duodenal ulcer was slightly better than that of the average person Moynihan[2] in a group of 531 cases examined at various periods after operation, states that failure to give relief by operation is present in 10 per cent of his cases

The figures of Dr Forsyth's paper are based on cases in which medical men are themselves the sufferers from the disease studied and it is interesting to speculate whether this fact assists or warps their judgement in arriving at a conclusion as to the moment to change from a non-operative to an operative line of treatment Certainly the surgical picture as presented by him is unduly dark and not in agreement with that in the larger groups mentioned above —I am, etc,

Birmingham May 7th. SEYMOUR BARLING

[1] Balfour *Annals of Surgery* vol. 70 1919 p. 522.
[2] Moynihan *Lancet* i 1923, 631.

MILLSTONE FLOUR AND NATIONAL NUTRITION

SIR,—I have used in my house and advocated this "grey" flour (as our miller styles it) for many years It differs from the "best" and best biscuit" flour in that it contains the germ of the grain, which, in its turn is the chief protein- and vitamin-containing part of every seed of corn

People in general prefer something that looks clean and refined but they little think that what is taken out and put into the pig meal is the most valuable part of the grain

It would help us a great deal to have definite answers to the following questions

1 Do these modern roller mills of necessity remove the germ?

2 What is meant by "bolting"?

3 What is 'mineralized bran"?

Let not people imagine that brown flour necessarily contains the valuable germ The brownness is due to the presence of bran, and bran can perfectly easily be mixed into the most wretchedly 'emasculated" flour that can be made Bran is a useful constituent for mopping up the mucous membranes of the colon, so to speak, but it is of little value as a food

In a stone mill the germ may or may not be removed from the flour Removal is done I believe by means of a silk sieve after the grain has become flour by passing between the stones

Let me add my testimony to the sweetness and satisfying nature of this grey flour, and to the fact that it is perfectly satisfactory also for cakes and pastry as well as bread

I trust we shall hear more from those who have a more thorough knowledge of this somewhat technical matter than I have—I am, etc,

Doncaster May 7th. W REGINALD WILSON

SIR,—May I crave space for dealing with some points in the kindly comments by Drs Ogier Ward and Henning Belfrage on my recent letter?

There seems to be some confusion with regard to the nomenclature of the several kinds of flour referred to Discussion of the subject will be clarified if we recognize that

(*a*) *Stone milled* flour refers to any flour produced by a stone-grinding mill it may vary in regard to the percentage of germ and the presence or absence of bran—but it is always a product of that kind of *milling*

(*b*) *Wholemeal* flour contains *all* the constituents of the original grain including the bran and the germ

(*c*) *Millstone* flour contains all the constituents of the grain *except* the bran it includes a full 87 to 90 per cent of the *germ* Other qualities of millstone flour are distinguished by secondary titles—such as stone-ground households which contains from 76 to 80 per cent of the wheat-corn and so on

Wholemeal flour and bread are not well adapted to general or continuous use They are apt to produce discomfort, flatulence, and diarrhoea this is probably due to the bran—said to contain a considerable portion of siliceous matter which is valuable in stiffening the stalk of the young wheat plant, but which irritates the gastro-intestinal mucosa although our remote ancestors with their primitive querns," seem to have been able to tolerate it Wholemeal flour does not make good pastry does not keep well and soon palls on the appetite

Ordinary brown bread—made by adding a coarse bran to white flour—is open to similar objections and the working man is economically justified in refusing to have anything to do with it But if a small proportion of rye flour (itself highly nutritious) be substituted for the bran, the result is a very sweet and palatable loaf

It is well known that, after a wet and sunless summer, English wheat contains an excess of moisture The dough made from its flour "does not sit up"—as the bakers say—and thus a cottage loaf" settles down before the heat of the baking oven has had time to stiffen it This is evaded by baking the bread in tins The addition of a proportion of the drier Australian or Indian flour is another effective method of meeting the difficulty

Mustiness I believe to be largely due to the presence, in wholemeal flour, of the hygroscopic bran which tends to ferment when wet and warm, and I have

known it to occur with the (branless) white roller-mill flour if this be kept under unsuitable conditions I have never heard of it in connexion with millstone flour, even when the household obtained it by the sack or half-sack at a time In any case it scarcely applies to the baker who possesses a properly constructed loft and who has a steady trade, or to the working-class home, where flour is bought only in small quantities at a time

The "oil" of the germ is the fatty portion, so rich in vitamins, and I believe that there is no reliable evidence incriminating this as a cause of mustiness

The apology for the roller mill flour quoted by Dr Belfrage stands to a large extent self-condemned The mass of our population had little voluntary choice when the roller mill had ousted its ancient predecessor and captured the flour market The medical profession does not recommend whole-wheat flour or bread, for reasons already stated That "the loss of vitamins can be met by taking other foods that contain them" begs the question Can it do so in practice? How, and to what extent, could the thousands of wage-earners in the crowded areas of any large industrial centre, where the evil is most acute, carry out this specious advice, more especially in winter, and at what extra cost? And, after all, what would be achieved by some additional vitamins (which may be likened to specially skilled workmen) without a sufficient supply of the necessary body-building material (which may be likened to sound bricks and mortar) to work with?

America, the birthplace of the roller mill, speedily became the paradise of dentists But America is awaking to the serious results entailed by its starchy bread, and is striving frantically to combat them by the addition of various substances to that flour—eggs, milk, sugar, lemon juice, etc This is mostly mere "eye-wash," and is trying to begin at the wrong end It recalls the Yankee inventor in *Very Hard Cash*, who complained of the rival who had appropriated and modified one of his ideas that the man had broken two of the commandments—"first stealing his invention and then adulterating it."

In any case the education of the poorer classes in this matter must be a very slow process, though the officials of the various friendly societies and similar bodies could carry out valuable missionary work in this direction For they would realize that any general dietetic improvement of the masses, such as would increase their power of resistance to disease, hasten recovery from accident and illness, and add to their working ability, must materially lessen the drain on their sick-pay funds, etc Yet it is quite obvious that something in the nature of prompt legislative action is the one most effective step, and that its need is urgent A useful beginning might be made by a short enactment making it penal on both wholesalers and retailers to sell as wheaten flour or bread, etc, any flour or bread and the like from which the germ had been removed in milling, unless conspicuously labelled and described as denatured flour or bread, etc This would attract attention, arouse interest, and provoke discussion amongst all those concerned

Personally I have found little difficulty in getting poor people to accept—and then to enjoy—the millstone bread, and once adopted I have not yet known a case in which its use has been abandoned Its real economy quickly appeals to them—I am, etc,

Hertford May 12th. CHARLES EDWARD SHELLY

SOME CONSERVATIVE OPINIONS

SIR,—In the BRITISH MEDICAL JOURNAL of April 19th there are two articles—one by the late lamented Surgeon Morison on a new method of treating carbuncle by a solution of magnesium sulphate, and another by Dr Kennedy Murphy on the correct technique of the "injection method" of treating haemorrhoids, etc Both these papers, able and well written as they are, produce confusion in the treatment of two very common conditions which is quite unnecessary Neither will or should take the place of the well established methods of free incision in the case of carbuncle, and preferably Mitchell's operation for the ligature of haemorrhoids I have had charge for half a century of probably the largest county hospital in Ireland, presenting every variety of surgical ailment, and amongst the latter no end of carbuncles and haemorrhoids, and I have never had the least trouble in curing either complaint by the methods to which I have referred I may mention that, in incising a carbuncle, I seldom employ a crucial incision as I find it is quite sufficient to make a free up and-down cut, and a subcutaneous side cut under the skin This is thoroughly satisfactory and leaves little mark The great thing in these incisions is, of course, to incise the fascia freely Dr Kennedy Murphy spends much time and space in describing the technique of his examination and procedure Surely this is unnecessary, as there is nothing novel or unusual in any of his recommendations

In reading the medical journals I am often perplexed by the variety of suggestions for upsetting old and well established methods of surgical and medical practice This is specially evident in the treatment of diseased conditions by endocrine extracts Young medical practitioners especially, and others older who should know better, arm themselves with hypodermic syringes and inject all sorts and conditions of men and women and even children with these extracts, of which they in reality know little or nothing instead of curing disease probably sowing the seed of future trouble Take tuberculin, for instance I have sent in my time every variety of tuberculous disease to sanatoriums officered by well known specialists, and in not a single instance of medical, as distinguished from surgical, tuberculosis has one of these authorities recommended the use of tuberculin What our profession sadly wants is some central authority, representative, say, of the Royal Colleges of Surgeons and Physicians, who would meet occasionally and discuss all new and improved methods of treatment and then inform the profession through the medical press of the result of their investigations As we are at present we each resemble a ship tossed about in a rough sea with no rudder to guide us into a harbour of safety, and almost submerged in our methods of treatment by competing chemists—I am, etc,

Omagh, May 3rd. EDWARD THOMPSON, F R C S I

STUDIES OF CAPILLARY PULSATION

SIR,—I have read with more than usual interest the abstract of a lecture on the above subject by Sir Thomas Lewis in your issue of April 26th I think if he will take the trouble to read my Toronto address on "The circulation viewed from the periphery" (BRITISH MEDICAL JOURNAL, August 25th, 1906, p 401) he will find that in most of his discoveries on the capillary circulation he has been forestalled by eighteen years

He rightly deprecates the faulty habit of medical writers in associating perfectly natural phenomena, many of which he enumerates, with certain morbid conditions as their underlying causes, yet he seems oblivious of the fact that he falls into the same pit when he associates the respiratory rhythm of the pulse and capillary pulsation with youth These phenomena, although more frequently found in the young, are not simply the effects of immaturity Sir Thomas Lewis says "The idea is put forward that the appearance or non-appearance of capillary pulsation in the circumstances described may serve to test the condition of the vessels in question" Capillary pulsation is certainly of no advantage to the individual who exhibits it, and it is only evidence that the arterioles and capillaries are dilated A better evidence of their soundness would be the celerity with which they recovered their tone The smoother and more uniform the onward flow in the capillaries the better Dilatation of the arterioles and capillaries gives rise to a great fall in the pressure gradient in the arteries, and this fall is most pronounced when the dilatation affects a large area such as occurs after a very hot bath When there is a great disparity between the systolic and diastolic arterial pressures you get longitudinal straining of the arteries which extends to the arterioles and capillaries, and the velocity of the blood is a potent factor in the causation of capillary pulsation In aortic regurgitation the higher the pulse pressure the greater the danger of the heart getting rapidly worn out The powerful contraction and subsequent recoil of a huge heart may be sufficient to shake the bed on which the patient is lying, but its force is only poorly represented

at the periphery owing to the positive and negative waves set up obstructing one another The most efficient circulation is one with a moderately low systolic and a relatively high diastolic arterial pressure Whether capillary pulsation be considered evidence of the soundness of the vessels or not, the less visible it is the better

Sir Thomas Lewis scarcely does himself justice when he seems to give the impression that the pulsation is due to the arterioles, capillaries, and venules, *rather than to the* waves or oscillations of the blood in them He would get a little further from the faulty habit of mind which he deplores, and nearer to the realization of cause and effect, if he devoted as much attention to the static and dynamic condition of the blood as he does to the state of the walls of the vessels

I have written so much from time to time on the so-called pulsus paradoxus that I am loath to again deal with the subject, *I have often shown that* it depended on respiration varying the intrathoracic and consequent intracardiac pressure in the different chambers of the heart In the long since defunct *Medical Times and Gazette* of January and February, 1877, in a lengthy paper on Reduplication of the cardiac sounds," I showed how the *cardiac rhythm and consequently that of the pulse varied* during respiration The modern theory that the cardiac rhythm depends on the so-called pace maker has led to *much confusion* of thought and a lack of a clear apprehension of facts

Whatever be the function of the sino-auricular node it is automatic and in no way under voluntary control It can have no *a priori* information as to when I am going to take a deep inspiration or suspend my breathing, yet I can vary the rhythm of my heart at will, the sino-auricular node and nerve supply maintain the tone and irritability of the cardiac muscle, and then the reflex which starts and maintains the contraction arises from the variation in the intracardiac pressure, just as the anterior crural nerve maintains the irritability of the quadriceps femoris, and the knee-jerk is much more rapid than the time required for a reflex to the spinal cord

Dr Wilfrid Edgecombe has advanced the view that the disappearance of the pulse at the wrist in many cases of deep breathing is due to *compression of the axillary artery* as it crosses the first rib There is no doubt that it is an extremely easy matter to thus suspend the radial pulse but this will not explain the pulsus paradoxus as even under this condition the respiratory rhythm remains in the vessels of the head and neck and in the lower extremities Moreover, when the arms are held at right angles to the body or raised above the head you cannot thus compress the axillary arteries, yet the respiratory rhythm remains

Sir James Mackenzie has long since called this respiratory rhythm the juvenile type of pulse, and now Sir Thomas Lewis follows suit with 'a respiratory arrhythmia in children" My pulse still exhibits this rhythm in a fairly pronounced degree, and, however youthful I may feel, I do not think that Sir James Mackenzie or Sir Thomas Lewis *would look upon me as a mere juvenile* These *variations* in the pulse do not depend on age but on the variations of the *intracardiac pressure* associated with the vital capacity, the intrathoracic and intrapulmonary pressures

Among pseudo-scientists the reason why medical writers adopt faulty methods of reasoning, and have any number of causes for the simplest phenomenon in nature, is due to the fact that the majority of them have never been taught or acquired the use of Occam's razor" Even Sir Thomas Lewis had better allow his facts to stand alone, or if he be ever anxious to explain them—and it is not always easy to explain a fact—he should get a little more closely to the groundwork It seems to me childish to say that I have got a juvenile pulse when I know that it depends on my capacity to vary my intrathoracic pressure In Müller's experiment I can abolish the pulse at the wrist for several beats By pressure or tension on my left vagus I can stop my heart—but this is a *form of amusement in which I do* not often indulge

In correctly removing "pallor" as a sign of aortic disease it is quite possible that he has fallen into the *opposite pit*, and in future he may be quoted as an authority that flushing or blushing is a sign of aortic incompetence As a matter of fact, aortic regurgitation is one of the most easily recognized cardiac lesions, and its gravity fairly easily appraised, so the majority of medical men do not take the trouble to look for capillary pulsation *unless* it obtrudes itself on their unaided vision Sir *Thomas* Lewis tells us that "Spontaneous capillary pulsation is more frequent in patients who are standing than in *those who are lying in bed, it is rarely seen in skin other* than the facial," but he does not tell us why In the *standing posture* in aortic regurgitation there is a *great* fall in the pressure gradient from the aorta to the forehead, and the blood waves come up in jerks which are carried right through the unfilled arterioles into the capillaries

Capillary pulsation is not a thing to be admired but corrected, and, as I have often taught, when the pulse pressure exceeds 40 mm of mercury it is time to be thinking about repairs I should like to remind Sir Thomas Lewis that although a very anaemic person is pallid a pallid individual is not necessarily anaemic When you get a low mean pressure the arteries most readily dilate and the dilatation is chiefly longitudinal, so the large waves become visible and may be carried right through *the capillaries into the venules* The physics of the circulation are very simple—in fact too simple for most physicians to take the trouble to learn or understand — I am, etc,

Liverpool May 3rd. JAMES BARR

DICHOTOMY

SIR,—I was surprised to see lately the question of *dichotomy raised with special reference* to the Midlands and Birmingham, and in your issue of to-day Mr Vincent P Norman goes so far as to say that "this pernicious form of professional backsliding appears to be peculiarly rife in the Birmingham area"

I have been in practice in this area for more than thirty-five years, and have had frequent dealings with Birmingham consultants during all that period I have never seen the least trace of anything savouring of dichotomy No consultant has ever mentioned to me the subject of my fees or charges, nor did I ever expect one to do so though the question of the consultant's fees *has constantly been* discussed between us—generally I am bound to say as a *result of my raising a plea for the lenient treatment* of poorer patients a plea which I have never known to be disregarded I cannot imagine that my experience has been in any way exceptional

The only possible approach which I have encountered towards any of the different forms of dichotomy mentioned by your correspondents has been when the surgeon would politely inquire whether I wished to give the anaesthetic and would even more politely conceal his obvious relief when I replied in the negative'—I am etc,

Bromsgrove May 10th. H CAMERON KIDD

SIR,—Dr Norman, in his letter (May 10th p 840) on this subject appears to imply that those who denounce dichotomy object to an inclusive fee But of course the objectionable feature is the secrecy

If a surgeon were to name a fee for an operation which included the nursing home charges and then said to the owner of the home I wish you (without letting the patient know of the arrangement) to give me a commission on your fee in return for my recommending your home,' I think Dr Norman *would admit* that the surgeon was not playing the game indeed any surgeon who so acted would presumably be *liable to penalties* under the Secret Commissions Act

Probably any surgeon will be prepared to tell a patient what an operation is likely to cost including charges for *home*, anaesthetist, and assistant, and if the family doctor assists or administers the anaesthetic he will be entitled to the sum named for these services

But a secret arrangement between surgeon and general practitioner makes it possible for the surgeon to bargain on the lines of, "You send your cases to me and I will give you a share of the receipts—say double the usual

anæsthetic fee," and so opens the door to all sorts of ugly possibilities

It is surely a case in which the most well meaning man or woman has need to pray, "Lead me not into temptation," and the only way to ensure that the prayer is answered is to keep rigidly clear of *secret* arrangements—I am, etc,

Bradford May 13th. JAMES PHILLIPS

BRAIN AND MIND

SIR,—The article on brain and mind by Professor R J A Berry of the University of Melbourne (BRITISH MEDICAL JOURNAL, April 19th, p 707) is most opportune At the present time there are many armchair philosophers who know little of the structure of the brain, but nevertheless weave fancy theories which would have been stillborn had their knowledge equalled their imagination These philosophers, however, and their theories, are indirectly a product of our own ignorance, because wherever men find themselves face to face with phenomena they are unable to explain they always turn to vague theories As a word in season this article is exemplary It calls attention to the very real, albeit insufficient, knowledge we have obtained, and may tend to check the present tendency in psychology to unwise speculations, which is as likely to bring discredit on psychology as the speculations of these same armchair philosophers did on phrenology

I would, however, venture to criticize the very materialistic standpoint from which Dr Berry discusses the whole question It is such extreme views which give an opportunity for criticism

There is, I think it will be agreed, in a crowd a psychological factor not found in any individual unit of that crowd, and in the same way by analogy there is reason to believe that the function of any particular neuron is determined, not only by its actual, physical synaptic relationship with other neurons, but also by its mere presence amongst a crowd of neurons Whatever may be one's personal opinions on this matter, the possibility of a crowd of neurons demonstrating certain psychic phenomena beyond the inherent capabilities of these neurons individually is not open to serious question, and to limit our conception of mind to the extremely materialistic conception put before us in Dr Berry's very capable paper is to go a little less far than we are entitled to go in discussing this question, and is likely to give excuse, if not just cause, for the romantic visionaries of the armchair to continue to dream their dreams to their personal gratification and to the subversion of knowledge—I am etc,

Todmorden April 26th CECIL L WILLIAMS

THE TEACHING AND PRACTICE OF OBSTETRICS

SIR,—In the report of the Annual Meeting at Portsmouth of the British Medical Association in the JOURNAL of October 6th, 1923 (p 600), references are made by the openers of the discussion on the use and abuse of obstetrics forceps to the incidence of sepsis Idealists at the meeting were unanimously agreed upon the proposition that every case of childbirth should be regarded as a surgical operation and that every case consequentially should have institutional treatment Obviously, then, it is seriously contended that under these conditions forceps would only be applied when the indications called for such interference, and that in all the circumstances sepsis would be conspicuous by its absence At least, that is how I read the account of this lively discussion Such teaching is entirely unsound, and I trust that those who are to undertake the reorganization and remodelling of obstetric teaching of medical students will not perpetuate the oft-repeated fallacies it contains

Mr Comyns Berkeley reminds us that normal labour is a natural process "just as much as defaecation and micturition" I think it an extravagant suggestion that institutional treatment should be required for these processes Does it not occur to any of those who took part in the meeting that the institution is the most dangerous place to send a case of confinement? Dr John Fairbairn says it is desirable to "convey the assurance that she is a normal woman who will have a natural labour" I would that he had left her there and in her own home but he spoils it all by teaching that "The chances of success are much greater in institution management—an additional argument to that advanced by your President—because of its better provision for surgical technique."

In his reply Mr Berkeley quoted statistics of childbirth deaths showing that for 1919-20 the rates were higher than in any other period He knows also that all over the world the mortality has been steadily increasing, and that the majority of the deaths are due to sepsis He also knows—as everyone knows who reads the BRITISH MEDICAL JOURNAL, and the few who do not—that this increase has occurred *pari passu* with the spread of modern midwifery It must also be admitted by the same well read medical community that this increase is not found in the places where primitive midwifery flourishes—where it is in the hands of the untrained and often illiterate midwife or "Gamp"

What, then, is wrong with the institutions—with the hospitals? Nothing is wrong with them They provide as nearly a perfect aseptic environment as it is possible to attain The nursing staff conscientiously follow the instructions of the medical men who have ordered their training The patient is admitted in normal health to perform a physiological parturient act She evinces no sign or symptom of septic infection At the critical hour the obstetrician arrives, immaculate in the gown and gloves provided and perfect in his aseptic technique On a subsequent visit to his patient he is informed that she has been running a temperature, perhaps has had a rigor Who has done this thing? From such dramatic situations has arisen the spectre of auto-infection, the ano-perineal region has lately been the cynosure of all eyes by the pointing of the accusing finger, and to bring its guilt into greater relief has been painted "brilliant green" *Qui s'accuse, s'excuse*, to invert a well known proverb! A serious attempt will now be made to bring home the guilt to the right party

The names and callings of those present when the crime was committed are before us The exact location is set out in the depositions The nature of the disease is described as infectious Prosecuting the inquiry from the fact last admitted, it is stated on expert evidence that an infectious disease is one capable of being carried from one person suffering from it to another person susceptible to it The word "infectious" means "likely to infect"—that is to say, that to carry infection successfully conditions must be favourable If, therefore, this patient, isolated in a hospital and surrounded by healthy attendants, becomes infected, the guilty person must be the one who habitually comes in contact with recent contagia And so the inquiry proceeds, and I will give one guess upon whom the guilt was laid

When the verdict was announced no one was more surprised than the individual convicted, and his consternation knew no bounds when the rider added to the verdict declared that in the opinion of the jury "as long as he, the convict visited the institution it must be regarded as a dangerous place for women to be confined"—I am, etc,

Brisbane Queensland Dec 24th 1923 A C F HALFORD, M D

THE IMMUNIZING AND STYPTIC PROPERTIES OF HUMAN SERUM

SIR,—The following is a translation of extracts from a paper I read at the International Esperanto Congress held in Nuremberg, Bavaria, last August, and which appears in the current number of the quarterly *Internacia Medicina Revuo* published in Budapest

'I propose to deal briefly with the curative and prophylactic properties of human blood and human serum particularly the latter Much attention has been given to the use of animal vaccines and animal sera it would however perhaps be more advantageous to devote greater attention to the advantages to be derived from the use of human toxins and antitoxins which are ready to hand which do not require so much elaboration in a laboratory and which do not cause anaphylaxis nor require desensitization

My attention was first drawn to this subject a few years ago when I learned that a Japanese physician had drawn off a

small quantity of toxic blood from one of his children who was suffering from measles and that he had injected hypodermically a few drops of the infective blood as a prophylactic against measles for his other children I also noted that American observers had successfully made use of convalescent serum as a curative agent In my practice excellent results were obtained from the use of the latter in cases of bronchopneumonia accompanying pertussis in children The temperature fell the respirations became less frequent, and the cases recovered I procured the convalescent serum by means of a blister applied to the chest of a brother or sister convalescent after an attack of pertussis and bronchopneumonia. The contents of the vesicle were injected hypodermically and were repeated if necessary

Many remedies have been employed to arrest recurrent haemorrhage, but, in my opinion, the most effective is normal human serum A short time ago I began to treat a young girl aged 14 rendered profoundly anaemic by repeated haemorrhages from nose gums, and uterus She had suffered much of many physicians because of her issue of blood I tried the customary styptics including horse serum but as others had done found them useless to effect a cure One realized that horse serum had proved efficient in some cases of haemorrhage in this case however it had no effect I selected a strong healthy sister of the patient and as in the cases of bronchopneumonia blistered the chest and injected the vesicle contents Recovery resulted and it is worth noting that the coagulation time of the blood was shortened Relative to the use of human serum precaution is necessary One ought to exclude tuberculosis syphilis and malaria from the convalescent or normal serum '

I may add here a note on the further progress of the last-mentioned case Towards the end of last year there was a recurrence of the haemorrhage, though to a much less extent and entirely menorrhagic in type The same treatment was adopted, and the recovery was much more rapid I do not anticipate a recurrence, for there now seems to be a complete cure Instead of being confined to bed with haemorrhage and anaemia she is now working on the pithead —I am etc ,

Fife March 19th. J B PRIMMER, M B , Ch B , D P H

GARDEN CITY SANITATION

SIR,—Looking through some back numbers of the BRITISH MEDICAL JOURNAL, put aside for me while away on a holiday, I have just seen the letters of Drs Picton and Macfadyen on earth sanitation (BRITISH MEDICAL JOURNAL, February 9th, p 250, February 16th, p 294) My own experience of about fifteen years may be of interest It was gained in two country cottages—one, the smaller, used chiefly at week-ends, and another, rather larger, continuously occupied by four to six people

The method adopted, suggested by Dr Vivian Poore's *Rural Sanitation*, was as follows

In the closets one in the smaller house three in the larger, under the hinged seat were a pail, a plentiful supply of dry earth, and a scoop In a small outhouse (a disused coalhouse in one case and a washhouse in the other) were a series of bins, about 1 ft 6in. wide 2 ft 6 in. deep, and 3 ft. high. The front of each bin with the exception of No 1, consisted of loose boards sliding in vertical slots. In the larger house there were about a dozen of these. All but No 1, which has no boards in front and is left empty, are filled with loose dry earth from the upper layers of the garden soil. Earth from No 2 bin is used to supply the closets. After using the closet the contents of the pail are immediately covered with sufficient earth to keep the surface dry this is the essence of the whole scheme Every day or at longer intervals according to use the contents of the pail are emptied into bin No 1 and immediately covered with a shovelful of earth from No 2, sufficient to keep the surface dry a little earth is thrown into the bottom of the pail, and it is again ready for use As the contents of No 1 bin increase, and those of No 2 decrease the loose boards, which should be interchangeable, are one by one removed from No 2 and dropped into the slots of No 1 When No 1 is full No 2 will be empty No 2 is then filled up from No 3 in like manner and so on, until all are full This hould take something approaching six months. At the end of this time one begins over again The earth in No 1 will now be found perfectly clean, with no trace of faeces or paper As the process of destruction is bacterial the more the earth is used the richer the bacterial content becomes, and the more rapid and more efficient its action.

There is no necessity to separate the urine from the faeces if one did so, a slight economy of labour would be effected, as less earth would be required, that is all The one essential is to maintain a dry surface, both in the closet and in the outhouse Both are absolutely inoffensive and inodorous, so much so that for many years a box containing an earth closet on these lines was part of the furniture of the bedroom of an invalid and regularly used, with far less inconvenience and unpleasantness than the ordinary commode, and emptied once a day

For years I have used a similar arrangement in the saloon of a small yacht with complete satisfaction, with this variation a stout paper bag (the e used by vendors of shellfish are best, but greengrocers' bags are good enough) is placed in the clean galvanized pail, and the earth put in this After use the bag is lifted out by its open end and thrown overboard with its contents The pail remains quite clean and dry, or at most requires a rinse Covered with a cushion the apparatus forms a settee During inland navigation molehills form a convenient source of supply Sawdust answers the purpose perfectly and is pleasantly aromatic, and is more easily stored than earth, but will not look tidily

The smaller cottage had no bath and all slop water was quite easily disposed of by throwing it on the garden In the larger, water from the kitchen sink and the bath was conducted through a pipe for a few yards to an open drain and thence to a ditch, where it soaked away A soaking pit could be used in case of too much water to be dealt with in this way Slops were all emptied on the garden or thrown on to an adjoining meadow

The whole thing worked perfectly, no costly drains to get out of order no stinking cesspool to empty, no chance of contamination of well water, and a valuable supply of richly manured soil for the garden, available at any time in exchange for an equal quantity of fresh soil

This plan is more convenient for a small house with a small garden than that of transferring the closet contents to the garden daily, which involves regularity in all weather, and a space of ground always uncultivated If no man is kept, a village boy will do all that is necessary for a few pence a week I want nothing better —I am etc ,

London W.1 April 23rd. J H BADCOCK

THE "INJECTION METHOD" OF TREATING HAEMORRHOIDS

SIR —I was much interested to note Dr Kennedy Murphy's article in the issue of April 19th partly because I am glad to see that this method is beginning to receive the attention it deserves, and partly because the success of the method depends essentially upon a strict adherence to the correct technique I read a short paper to the Liverpool Medical Institution (briefly reported on page 748 BRITISH MEDICAL JOURNAL, April 26th) describing my technique and relating cases in all of which I have had unqualified success, the complications mentioned by Mr Kelly at that meeting in other cases seen by him could, in my opinion, only have arisen from faulty technique—either injecting too much fluid or injecting it too low down

I consider that Dr Murphy's article sets out in admirable fashion, the routine that should be followed I should, however, like to make the following observations upon his article

1 I have found that the taking of the laxative on the evening before the injection often leads to the presence of almost fluid faeces in and above the rectum at the time of the operation especially in nervous subjects One may swab this out but more still comes down from above to the scene of action I now advise patients to take a laxative on the evening but one before the day of injection and to be reasonably sure that their rectum is empty when they come for their treatment

2. The 1½ inch anoscope is an excellent plan the pile-bearing area prolapses even when the anoscope is fully inserted whereas using the proctoscope one may have withdrawn it further than one thinks and so injected too low down

3 A Mummery's (fenestrated) speculum is most useful for the inspection of the rectum if a fissure be present

4 As regards the number of haemorrhoids to be injected at one time experience can alone decide A patient would prefer to come for two or three extra injections rather than endure any immediately subsequent aching If the haemorrhoids be large I inject only two at a time if small then all. I give my injections every week

5 Dr Murphy omits a small but important point in the after treatment The patient should be told that if the haemorrhoids prolapse after an injection he should wash them with *cold* water

and then replace them Dr Murphy recommends reposition with vaseline it seems to me that the soaking in cold water for two or three minutes materially aids the process

In conclusion, it seems necessary to state that the injections set up a mild aseptic inflammation which leads to the formation of fibrous tissue in the submucous coats of the bowel That thrombosis does not occur is shown by the complete absence of pain, and of such complications as pylephlebitis, which would certainly occur occasionally if thrombosis were the rule

This method of treatment appears to me to be the method of choice in all cases in which other coincident pathological conditions are absent, and in those cases where the haemorrhoids are dependent upon other pathological conditions, such as cardiac disease, or an enlarged prostate which it is impossible or inadvisable to remove, then relief can safely and speedily be obtained by the injection method Moreover, in all cases the method commends itself by its advantages—no pain, no period of lying up or disability, no anaesthetic, no risks of impairment of sphincter control, or of constrictions, or of fistulae But if the claims for the treatment are to be realized in practice it is necessary to adhere strictly to the technique—especially to inject neither too low nor too much —I am, etc,

Liverpool, April 29th STUART MCAUSLAND, M D

SIR,—I have answered Mr Morley's complaints of May 3rd fully in the JOURNAL of the same date His sole complaint in JOURNAL, May 10th, of appropriating his "phraseology" in several paragraphs is also inaccurate These paragraphs contain descriptions of those technical details on which all agree, and anatomical points (e g anatomy of anal canal and pile-bearing area) Such descriptions are necessarily similar in all writings Reference to Wright's *Treatment of Haemorrhoids by Interstitial Injections* and Ball's *The Rectum* will demonstrate this Mr Morley did not teach me, nor do I practise his technique, of which I disapprove

I thank you for your courtesy in publishing both Mr Morley's letter and my reply simultaneously in your issue of May 3rd —I am, etc,

London W C 1 May 13th P KENNEDY MURPHY

*** We cannot continue this correspondence

LUNACY CERTIFICATION

SIR,—The purport of the letter appearing in your issue of April 19th, and referred to by Dr Rayner in his communication of May 3rd, was simply to advocate such an alteration in the law as that an alleged lunatic, *if he desired it*, should have the benefit of legal help in putting his case before the magistrate A person in a state of violent mania would, in the nature of things, be too far gone to make application for such aid But the vast majority of the inmates of asylums have not reached this stage of insanity As matters stand at present the alleged lunatic is very nearly destitute of any constitutional or legal protection

Dr Rayner's assertion that it is a "monstrous" thing that both sides should be heard is a startling illustration of the degree of infallibility so often assumed in medical pronouncements He goes on to say that the judicial authority with the powers at present at his command, has no excuse for making mistakes, but what judge can be certain of arriving at a reliable conclusion when only one side of the question is presented to him, and no chance is afforded of testing the truth of the statements made by petitioner or doctor Dr Rayner has depicted in his letter the procedure which he says "may be adopted in every case of insanity" but he has forgotten that Section 6 applies only to private patients and is not available (as has been pointed out by Lord Justice Atkin) for any of the thousands committed to public asylums So that what in Section 6 bears a certain resemblance to judicial procedure is denied to all who come under the heading of paupers Even in the case of private patients the curious provision that the magistrate, after perusal of the medical certificate, can, if he chooses, decline to see the alleged lunatic—in conjunction with the anomalous arrangement in Section 8, which leaves the subsequent obligation to serve a notice of right of appeal entirely at the discretion of a medical superintendent—furnishes a very manifest loophole for abuse

The letter referred to did not enter upon the question of the liability entailed in certifying It merely quoted Section 28, where the reception order is described as founded on the medical certificate Even if the procedure were eventually so altered as to admit of both sides being heard the magistrate might still conduct the proceedings in private, if the individual concerned should so desire

It has long been my view that all puerperal cases should be dealt with, not in asylums, but in annexes to maternity homes Similarly, no case of pyrexia with delirium should ever enter an asylum, but be retained in an ordinary hospital or infirmary —I am, etc,

London, E. May 12th S E WHITE.

DR SLOP OF "TRISTRAM SHANDY"

SIR,—The question is simple How came it that Lord Carlisle, who knew Mr Goddard, made him out to be the original of Dr Slop? As Dr Philip Turner explained in the JOURNAL of May 3rd (p 799), there cannot be the least doubt that, by Dr Slop, Sterne meant Burton of York, nor, like all who have studied *Tristram Shandy* before him, can he find any place for Mr Goddard, a name not associated with the earlier English devisers of forceps

Dr Turner alludes to the damage to Uncle Toby's knuckles and Tristram's nose May not this deplorable accident refer to some damage inflicted in a labour where Burton employed his own forceps? In the article in the *Journal of Obstetrics and Gynaecology* for 1913 there is a photograph of the Burton forceps taken from a copy of that obstetrician's *New System of Midwifry* (*sic*) in the library of the Royal College of Surgeons of England It was a clumsy instrument, with short, strongly curved blades There is also a photograph of the forceps which Burton actually used in practice, now in the library of the York Medical Society, a good instrument, quite different from his own pattern, with long and moderately curved blades, not likely to damage the foetal nose or to tear the knuckles of a man's fist introduced between them — I am, etc,

London, May 3rd. ALBAN DORAN

RADIATIONS IN THE TREATMENT OF MALIGNANT DISEASE

SIR,—In his reply of April 19th (p 730) Dr Curtis Webb concludes his letter "I have since been informed that deep therapy is still very largely used in the Wertheim Klinik as a curative, as opposed to merely prophylactic, treatment in cancer of the uterus and cervix" I have received the following letter from Privatdozent Dr Paul Werner

My dear Dr Forsdike —I have read the article by Dr Webb in the BRITISH MEDICAL JOURNAL and your reply thereto, and beg to say that your remark fully comes up to the facts In the Wertheim Klinik the operative treatment of cancer has never given way to *x* rays Only as a matter of exception have operative cases been treated with *x* rays for scientific reasons but could never compare the results attained by *x* rays with those achieved by operation X rays have only been employed in non operative cases and after operation as a prophylactic measure

I am very grateful to you for having upheld the standpoint of our Klinik so clearly and place this letter at your service for possible publication in the BRITISH MEDICAL JOURNAL

Very respectfully yours
P WERNER

This letter should serve to correct any rumours Dr Curtis Webb may have heard —I am, etc,

London W, May 8th. SIDNEY FORSDIKE

Obituary

PROFESSOR S G SHATTOCK, F R C S, F R S,

Pathological Curator of the Museum of the Royal College of Surgeons of England

It is with very sincere regret that we have to record the death, on May 11th, of Professor Shattock, Pathological Curator of the Museum of the Royal College of Surgeons of England. He had suffered from arterio-sclerosis and had been incapacitated for a good many months, the immediate cause of death was pneumonia.

Samuel George Shattock was born in 1852 and became a pupil of University College School in 1867. He matriculated at the London University in June, 1869, and in October entered as a medical student at University College. He took the diploma of M R C S in 1874 and became Fellow by examination in 1881. His bent was shown early, for the original essay with which he won the Liston gold medal in 1875 was illustrated by drawings, models, and preparations. In the following year he began, under the supervision of the late Mr Marcus Beck, a descriptive catalogue of the specimens of surgical pathology in the museum of University College Hospital. His long connexion with the Museum of the Royal College of Surgeons of England may be said to date from 1878, in that year he made a series of microscopic sections of human hair from various races to illustrate the late Sir William Flower's anthropological lectures of that year, and began to outline a series of human bones with the attachments of the muscles which was incorporated in the anatomical collection of the College. When Dr Cossar Ewart was appointed professor of comparative anatomy at Marischal College, Aberdeen, Shattock succeeded him as curator of the anatomical and pathological museum of University College. He joined the Pathological Society of London in 1880, and from that time onwards not a year passed without his presenting one or more papers to the society. He continued his contributions after the society became the Pathological Section of the Royal Society of Medicine. In 1898 he undertook to make the index to the preceding twelve volumes of the Pathological Society's *Transactions* and to act as editor of future volumes; two years later he became general secretary of the society, his energy was shown by an enlargement of the size of the page and various other improvements. He continued to edit the *Transactions* until the society became a section of the Royal Society of Medicine. He was President of the Section in 1907. At the request of the Royal Medico-Chirurgical Society and the Linnean and Physiological Societies he undertook the indexing of British publications for the international catalogue of scientific literature, published under the auspices of the Royal Society of London and continued to discharge this onerous duty until towards the end of his life.



PROFESSOR S G SHATTOCK.

In 1884 he was made curator of the anatomical and pathological museum of St Thomas's Hospital. In the following year he established a voluntary class in surgical pathology; in 1886 he was appointed to give demonstrations on surgical pathology, and in 1888 became lecturer on the subject, his course of that year being the first set of lectures on surgical pathology given in London. In the following years he spent much time in preparing a new pathological catalogue of the museum at St Thomas's Hospital, which was ultimately published in four parts, with appendices; the first part was published in 1890 and the fourth in 1894. In the same year he gave the Morton lecture to the Royal College of Surgeons on cancer and cancerous disease, in which he related a series of experiments he had made with Mr (now Sir) Charles Ballance. These experiments were designed to test the theory that cancer was a micro-parasitic disease. His conclusions were stated with the caution characteristic of the lecturer, but it may be worth while to recall that he pointed out certain analogies with vegetable galls, he had indeed at that time been interested for a good many years in plant pathology. In 1891 he had read a paper to the Linnean Society on the reparative processes in plants and had presented to the Royal College of Surgeons a series of specimens illustrating that subject, which were shortly afterwards included by Sir James Paget in a new edition of the pathological catalogue of the museum then in course of preparation. His interest in pathological botany continued and he made a number of other contributions to the subject. In 1897 he was appointed pathological curator of the Museum of the Royal College of Surgeons of England and commenced the preparation of a series of cultures of pathogenic bacteria rendered permanent by formol vapour. Of his work for the Royal College of Surgeons it is difficult to say enough. In addition to regular work in the preparation and classification of the many new specimens annually received by the College he accepted an invitation to edit a new edition of the pathological catalogue. The second had been prepared by Sir James Paget, Dr F G Goodhart, and Mr Alban Doran, and in the preparation of the third Mr Alban Doran was, on Shattock's suggestion, deputed to prepare the gynaecological section. In his labours on this catalogue, which began in 1909, he was assisted by Mr C F Beadles. Shattock's idea of making a new catalogue was something a good deal more than the mere registration of existing entries; he determined to make a special feature of general pathology, and this involved transferring all, or most of, the chief specimens illustrating special pathology and the remounting and further dissection of every one. In addition microscopic sections of new growths were prepared and mounted. The work was completed in 1916 and forms a new and distinct feature of the museum. The last section had to do with foreign bodies and gunshot injuries, and it had hardly been completed when Shattock had to turn his attention to the preparation of specimens sent from the seat of war in France and elsewhere to the College.

When the University of London was reconstituted he became secretary of the Board of Advanced Medical Studies. When special examiners were appointed in pathology by the University he was one of the two, the other being Professor Sidney Martin. He was also external examiner in pathology to the Victoria University for three years. In 1902 he was appointed a member of the Nomenclature Committee of the Royal College of Physicians of London,

and was a member of the new committee constituted in 1913 He was elected a Fellow of University College, London, in 1910

When the International Congress of Medicine met in London in 1913 Shattock was elected president of the Section of General Pathology and Morbid Anatomy, he gave a short introductory address, and contributed to the *Proceedings* an illustrated paper on morbid thickening of the calvaria, which at that moment had a topical interest, owing to the thickness of the recently discovered Piltdown skull In the following year, when a meeting of American surgeons was held in London, he gave a lecture at the invitation of the President of the Royal College of Surgeons, and in 1922 began a revised catalogue of the department of special pathology in the Museum of the Royal College of Surgeons, a task he was not to live to complete

Professor Shattock was a member of the British Medical Association for some thirty years At the annual meeting in London in 1895 he was senior secretary of the Section of Pathology and Bacteriology In 1896, when the Association met in Carlisle, he was vice-president of that section, and in 1910, when the annual meeting took place in London, he was president of the Section of Pathology, and gave a short address in which he enumerated certain subjects to which the general practitioner was particularly competent to make important contributions, mentioning, among other matters, the construction of medical pedigrees to help in the solution of problems which concern the heredity of such diseases as gout, cystinuria, alkaptonuria, tuberculosis, cancer, and insanity

His association with the BRITISH MEDICAL JOURNAL began in 1892, when he undertook to report the proceedings of the Pathological Society, he continued to do so when the society became a section of the Royal Society of Medicine, and only gave up the task when the society recently decided that formal reports of its meetings should not be published In many other ways he assisted the JOURNAL by supplying information and giving advice

These are the bare facts of a life characterized all through by a single-minded devotion to the advancement of science Shattock was of a strangely reserved and shy disposition He did not make friends easily, and for many years was content to be known only to the few actively engaged in pathology To those who tracked him to his workroom at the top of the building of the College in Lincoln's Inn Fields he was cordially accessible and ready always to help out of the vast stores of his observation and reading No inquirer was ever turned away if Shattock could help, and it was very seldom he could not, but if he did not know he would say so with quite uncompromising honesty In his own subject he was a man of immense erudition, and among his accomplishments was a good working knowledge of Latin In 1900, when editor of the *Transactions* of the Pathological Society, he introduced the practice of putting a Latin summary to some of the contributions, and in regard to his own continued the practice to the end of his life In 1905 he revised the Latin synonyms in the new edition of the *Nomenclature of Diseases*

His election in 1917 to be a Fellow of the Royal Society of London was a source of unalloyed pleasure to him, the honour had been well earned by many years of unrecognized work

Professor Shattock is survived by his wife and three sons and a daughter One son is Mr Clement E Shattock, F R C S, assistant surgeon to the Royal Free and other London hospitals, and an assistant also in the Pathological Department of the Royal College of Surgeons

We are indebted to Sir CHARLES BALLANCE for the following tribute to Professor Shattock's memory

The death, after a long illness, of Samuel Shattock removes a striking figure from the scientific workers of this country It breaks, too, for me, a greatly valued friendship which has been unclouded and ingravescent for forty years

When I returned from Germany in 1884 Shattock and I became closely associated He was already a first-class microscopist, and I had been learning bacteriology in Leipzig We settled down to study together the intimate pathology of carcinoma We met in St Thomas's Hospital Medical School in the evening, from 7 to 11 o'clock, two or three times a week for some years Our dinner consisted of a snack of food and a cup of coffee in a dirty little Italian restaurant in Westminster Bridge Road But this did not matter to Shattock He cared nothing for food or clothes or time or place He had no idea of the value of money, and it was often difficult to make him take a fee for a report on a pathological specimen obtained in private practice It was quite on the cards, too, that on his way home he would present the fee and any other money he had in his pocket to the first beggar who appealed to him for charity

While in Berlin I had attended lectures on general pathology by Professor Virchow The language used by the great professor was very clear, simple, and easily understood Not long after my acquaintance and work with Shattock began it dawned upon me that I was privileged to be a companion and co-worker with the English Virchow

Unlike other men, Shattock possessed but one ambition Beyond work and discovery in the department of science to which his life was devoted nothing seemed to matter He despised notoriety, and did not understand those who sought it He was very shy, reserved, elusive, but transparently sincere His heart was "white as driven snow" He made few real friends, but the number of his admirers was legion His opinion on a pathological specimen was universally accepted as final, and was practically never challenged He was a scientific worker of untiring and endless industry He had a keen sense of humour, which added to his usefulness and distinction as a teacher While at work in the Royal College of Surgeons, in his room at the top of the building, he sat at a table placed close to one of the windows I have often observed him in deep thought with the chin raised, looking forwards and upwards through the window In this pose he reminded me irresistibly of the picture of John Hunter in the Council room and, indeed, Shattock in many respects was comparable with John Hunter My friendship with Shattock has been one of the privileges of my life His death to me is an irreparable loss The book that he loved best was the *Imitatio Christi* of Thomas à Kempis He knew this book by heart, and on its teaching his life and conduct were based R I P

Dr HENRY SLYMAN MICHELL, of Smithdown Road, Liverpool, died on April 30th Born at Truro, in 1852, the son of a well known medical practitioner of that city and a member of an old Cornish family, he received his early education at King's School, Sherborne, and studied medicine at King's College, London He took the diploma of M R C S in 1876 and L S A in 1878 After serving as resident in various institutions he practised for seven years at Prestatyn and subsequently settled in Liverpool, where he built up a large and successful practice He was loved by a large circle of patients and was highly esteemed by his professional brethren in the neighbourhood During the war he worked at the Toxteth Military Hospital For the past few years Dr Michell's health had been failing and he gradually gave up work By his own direction he was cremated at Anfield Crematorium

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We regret to announce the death of Dr JAMES ALEXANDER FRASER, on May 8th, at his residence in Romford, Essex, at the age of 69 Dr Fraser was born in Mauritius, and was educated at Blackheath, Oxford, and Guy's Hospital, where he took the diploma of M R C S in 1882 and L R C P in 1883 In addition to his private practice he held the post of medical officer of the Romford Union from 1887 to 1922, and under his supervision the infirmary increased very considerably in size, various buildings being added, including a children's hospital and a nursing home He was also consulting surgeon to the Romford Cottage Hospital, and visiting surgeon to the Scattered Homes for Children In his early days he was a well known Rugby football player and played for Blackheath and Guy's Hospital He had been a member of the executive committee of the Stratford Division of the British Medical Association since 1919

Universities and Colleges

UNIVERSITY OF OXFORD

Radcliffe Prize 1925

THE next award for the Radcliffe Prize will be in the year 1925 The prize, which is of the value of £50 is awarded by the Master and Fellows of University College every second year for research in any branch of medical science comprised under the following heads Human anatomy, physiology, pharmacology path logy medicine, surgery obstetrics gynaecology forensic medicine hygiene The prize is open to all graduates of the University who have proceeded or are proceeding to a medical degree in the University Candidates must not have exceeded twelve years from the da e of passing the last examinati n for the degree of Bachelor of Arts and must not at the date of application be Fellows on the Foundation of Dr John Radcliffe Candidates must send in their memoirs to the Assistant Registrar at the University Registry on or before December 1st 1924 The award will be made in March 1925 No memoir for which any University prize has already been awarded is admitted to competiti n for the Radcliffe Prize, and the prize will not be awarded more than once to the same candidate

ROYAL COLLEGE OF PHYSICIANS OF LONDON

AN extraordinary comitia of the Royal College of Physicians of London was held on May 8th when the President Sir Humphry Rolleston occupied the chair Fellows newly elected at the meeting on April 24th (BRITISH MEDICAL JOURNAL May 3rd p 802) were admitted.

Licences to practise physic were granted to the follow ng candidates who had passed the required examinations since the last meeting of the comitia

J Carver Margaret Corner H A. Cowan H S Edwards Dorothy E Galbraith H Hamilton R. F L Hawlett Violet E. M. M zen Doris E O Doherty Margaret Swete L J Watkins Muriel M Yates

Diplomas in Public Health were granted jointly with the Royal College of Surgeons to the following who had passed the required examinations

J D Benjafie d Victoria E. Brander B. Broadbent, J A Cruickshank, D Davidson P Hardy J Hughes L. M. Jennings D G Kotibhaskar G Macdonald H H Madan J A. Manifold D S V E Perera D Reynolds Margaret M. Sande H Singh V A. T Spong Marjorie P Taylor Edith L Thornley E W Wade L E. H. Whitby S J Woodall Carolina L Wright.

Membership Examination

The following resolution was carried on the motion of Dr Thorley Fletcher, Second Censor seconded by Dr John Fawcett, Senior Censor

That candidates for the Membership be informed that the languages are not compulsory but that credit will be given to those who show knowledge in these subjects

Tercentenary of Sydenham

A letter was received from Professor Ch Achard general secretary of the Académie de Médecine of Paris inviting the College to send a representative to the celebration of the ter centenary of the birth of Sydenham *The President nominated the* Treasurer as representative of the College.

Royal Institute of Public Health

It was left to the President to nominate a representative of the College at the Congress of the Royal Institute of Public Health to be held in Bordeaux

Professor Wenckebach

A letter was read from Professor K. F Wenckebach returning thanks to the Fellows of the College for his reception on the occasion of his recent lecture

ROYAL COLLEGE OF SURGEONS OF ENGLAND

AN ordinary Council meeting was held on May 8th when the President Sir John Bland Sutton was in the chair

Diplomas of Membership were granted to 169 candidates (The names of 158 candidates were printed in the report of the comitia of the Royal College of Physicians published on May 3rd p 802)

Diplomas in Public Health were granted jointly with the Royal College of Physicians to 23 candidates (The list is printed above in the report of the comitia of the Royal College of Phys cians)

Diplomas in Tropical Medicine and Hygiene were granted jointly with the Royal College of Physicians to 11 candidates. (The names were printed in the report of the comitia of the Royal College of Physicians published in our issue of May 3rd p 802.)

Sir Cuthbert S Wallace was re-elected a member of the Court of Examiners

LONDON INTER COLLEGIATE SCHOLARSHIPS BOARD

SIX medical entrance scholarships and exhibitions of an aggregate total value of £630 tenable in the Faculty of Medical Sciences of University College and in the medical schools of University College Hospital the London Hospital, and the London (Royal Free Hospital) School of Medicine for Women, will be offered The examination will commence on June 24th 1924 Full par ticulars and entry forms may be obtained from the Secretary of the Board S C Ranner, M.A. the Medical School King s College Hospital Denmark Hill, London, S.E.5

Medical News.

THE next session of the General Medical Council will commence at 2 p m on Tuesday, May 27th, when the President, Sir Donald MacAlister, Bt, K.C B, M D will take the chair and give an address

THE Voluntary Hospitals Commission which was recently asked by the Minister of Health to undertake an inquiry into the shortage of hospital accommodation, as reported in our columns of May 3rd (p 794), has now issued two forms for statistical returns—one applicable to cottage hospitals and the second to other types of hospitals They are to be returned to the Local Voluntary Hospital Committees not later than June 14th with observations (1) on the possibility of elimi nating duplicate entries, owing to patients inserting their names in the waiting lists of more than one hospital, (2) on the need in the area of more hospital or convalescent beds, (3) on any existing local scheme for increasing the number of available beds, (4) on accommodation for convalescing patients apart from beds controlled by the hospitals (5) on any arrangement for utilizing vacant Poor Law infirmary accommodation to supplement that of the voluntary hospitals, (6) and on the possibility of utilizing any existing vacant beds by a system of transfer of patients The views of the local medical officers of health with regard to hospital accommoda tion are asked for also The opinion of the local committee on the general position is invited and it is asked to make suggestions as to the possibility of shortage of accommodation being remedied by co-operation between adjoining areas

THE next council dinner of the Royal Society of Medicine will be held at the Langham Hotel on Thursday May 22nd, when the president, Sir William Hale-White, will take the chair at 7.30 p m As this date is reckoned to be the anniversary of the foundation of the society in 1805, it is hoped that there will be a large attendance A few copies of the history of the society, written jointly by Sir Norman Moore and Mr Stephen Paget, are still to be obtained by Fellows from the secretary, price 10s., post free

THE Minister of Health lately received a deputation, introduced by Mr F A. Broad, M.P, on the subject of birth control The speakers for the deputation included also Mr H G Wells, the Hon Mrs Bertrand Russell, Dr Frances Huxley, Mrs Jenny Baker and a statement was read from Dr Sloan Chesser The deputation urged that the Minister should remove the embargo on the giving of information with regard to methods of b rth control at maternity centres and asked that the Minister should make it quite clear that doctors in the public health service were free in their public capacity to give this information when they considered it medically advisable The Minister in reply said that a clear distinction must be drawn between allowing access to know ledge and actually distributing knowledge No one would seriously maintain that access to knowledge should be forbidden but public opinion on this question was no so definite that it would allow State and rate aided institutions to do more than direct people in need of advice as to where it should be obtainable The decision in fact, must be with Parliament and not be assumed by administrative action

A POST GRADUATE course in medicine and surgery, including various specialities and clinical pathology will be given from May 19th to 31st at the Prince of Wales s General Ho pital, Tottenham Courses in laryngology rhinology and otology at the Central London Throat Nose and Ear Hospital and in psychological medicine at the Maudsley Hospital, are now in progress At this latter hospital the third of a series of six weekly clinical demonstrations of types of mental disease will be given by Dr Mapother on May 21st A course in oph thalmology is being held at the Central London Ophthalmic Hospital, Judd Street, W C, and also a course of clinical work and lectures on venereal diseases at the London Loch Hospitals for both of which entries can still be received On May 19th begins the second week in two special courses—one at St Mark s Hospital for Diseases of the Rec um and the other at the Infants Hosp tal Further particulars can be obtained from the Secretary Fellowship of Medicine, 1 Wimpole Street W 1

A LECTURE on the skull and portraits of Sir Thomas Browne, author of *Religio Medici* will be given in the department of applied statistics and eugenics at University College London, by Miss M. Tildesley research assistant Royal College of Surgeons of England on Tuesday May 20th, at 5.30 p m A review of Miss Tildesley s book on the subject was published on November 3rd last (p 815) The lecture will be illustrated by lantern slides and is open to the public free without ticket.

THE annual dinner of the Federation of Medical and Allied Services has been postponed to Friday, June 20th, to suit the convenience of the Prime Minister, the Right Hon J Ramsay MacDonald, M P , and other official guests who will be present Sir Berkeley Moynihan, Bt , M S , will preside, and it is requested that, as the accommodation at the Langham Hotel is limited, members will make early application for tickets to the Secretary, 12, Stratford Place, London, W 1

AT a meeting of the medical council of the Federation of Medical and Allied Services and representatives of the Church of England Temperance Society held on April 29th, with Sir Charles Gordon Watson in the chair, the following expressions of opinion regarding the institutional treatment of inebriates were adopted unanimously (1) That suitable homes for the treatment of inebriety serve a useful purpose beyond the relief they afford the patients' relatives (2) That inebriates should only be admitted to institutions for treatment if considered by medical experts suitable cases for such treatment, boards or committees of management of inebriate institutions should include one or more medical practitioners with expert knowledge of inebriety, treatment in such institutions should be under the direct supervision and control of medical practitioners experienced in the scientific management of inebriety, clinical research and psychic treatment are essential to the success of any method adopted in dealing with the condition, and institutions for the treatment of inebriety should be of sufficient size to justify the employment of experienced resident medical officers.

THE annual provincial meeting of the Section of Balneology and Climatology of the Royal Society of Medicine will be held on Saturday, May 24th, at Buxton

DR. JAMES DUFFUS of Auchinblae, Kincardineshire, on the occasion of his retirement after forty years' practice, has been presented by his friends and patients with a silver tea service and a cheque as a mark of their esteem and respect, Mrs. Duffus was at the same time presented with a platinum and gold necklace

DR. WILLIAM NORWOOD EAST, for many years senior medical officer of Brixton Prison, has been appointed medical inspector of His Majesty's Prisons

THE first annual Congress of the Incorporated Association of Hospital Officers will be held at the Central Hall, Westminster, on May 22nd and two following days, under the presidency of Mr H L Eason, medical superintendent of Guy's Hospital On the first day Mr H J Waring, Vice Chancellor of London University, will read a paper on voluntary hospitals and paying patients, and in the afternoon Mr J E Stone, accountant to St Thomas's Hospital, will speak on accountancy in relation to hospital administration On the second day, when Viscount Burnham will be in the chair, Mr A E Mason, secretary of the Midland Eye Hospital, Birmingham, will contribute a paper on the changing character of the voluntary system In the afternoon Mr F G Hazell, general superintendent and secretary of the Royal Infirmary, Manchester, will read a paper on maintenance

THE fifth International Neurological Congress will be held in Paris on May 30th and 31st at La Salpêtrière, when a discussion on disseminated sclerosis will be introduced by Professor Georges Guillain of Paris and Dr. Otto Keraguth of Zürich.

A POST GRADUATE course in English will be held at the oto rhino laryngological clinic of Bordeaux by Professor E S Moure and Dr E Portmann from June 9th to July 12th The subjects of the course will be oto-rhino laryngological surgery, surgery of the neck, plastic surgery, and broncho-oesophagoscopy Further information can be obtained from Dr E Portmann, 25 bis, Cours de Verdun, Bordeaux.

IN furtherance of the proposal to establish an international society of medical officers of health—which was reported in our columns of May 3rd (p 807)—a meeting of public health medical officers was held in Geneva on April 15th, and was attended by representatives of twenty one nations It was unanimously agreed that an International Society of Public Health Medical Officers should be formed, with headquarters in Geneva, all medical officers who had taken part in the interchanges organized by the Health Section of the League of Nations being invited to become original members. The objects of the society were defined as being the advancement of preventive medicine and public health administration in their international aspects, exchange of information on public health matters, the organization of international conferences and publication of reports in medical periodicals, and the promotion of the international activities of the Health Section of the League of Nations The provisional committee elected to draft the constitution and rules of the society included Dr Saimon (France), Dr Grimani (Italy), Dr. Bregei (Germany), Professor Wladimiroff (Russia), Dr Tubiasz (Poland), Dr Pareja (Ecuador), and a representative of Great Britain to be nominated by the Society of Medical Officers of Health The draft rules of the society are to be circulated to those invited to become members, with a request for criticism and suggestions. After the approval of the constitution and rules, the provisional committee will retire and a general council be formed, consisting of about ten members, two of whom will retire annually The first duty of this general council will be to elect honorary officers.

THE annual report of the Society for the Relief of Widows and Orphans of Medical Men for 1923 shows that the invested capital now amounts to £147,650. The total income during the year amounted to £4,965 8s. 8d , the working expenses were £350 7s. 10d. The sum of £4,497 was distributed in grants, and on December 31st there were fifty-one widows and six orphans in receipt of them Two orphans during the past five years have received together £575 to enable them to study for the medical profession, both completed their studies this year, and are now holding appointments in hospitals Membership of the society is open to any registered medical practitioner who at the time of election resides within twenty miles of Charing Cross. Relief is granted to the necessitous widows and orphans of deceased members of three years' standing and of life members. Income only is used for the payment of grants and for expenses

THE issue of the *Dental Surgeon* for May 10th is devoted exclusively to the subject of pyorrhoea It includes a contribution by Dr. A Bulleid on the applications of immunotherapy to dentistry, an article by M G de Libouton on progress in the treatment of alveolar pyorrhoea, an account of the discussion on pyorrhoea at the meeting of the Section of Odontology at the Royal Society of Medicine, in November last year, and other articles dealing especially with vaccine treatment

THE sixth Italian Congress of Industrial Medicine will be held at Venice from June 1st to 4th under the presidency of Professors Corbino and Devoto The following subjects will be discussed (1) Effects of monotonous labour, introduced by Professor E Cevidalli, (2) Pre-natal assistance to healthy and sick working women, introduced by Professor Ferrannini, (3) Professional intoxications, introduced by Professor Preti, (4) Reduced hours of working for the partially incapacitated, introduced by Professors Pieravicini and F Vitali, (5) Recent studies on the pathology of labour, introduced by Professor G. Giglioli, (6) Medico-legal report on compulsory insurance in Italy, by G Pisenti

MR HENRY KIMPTON announces for early publication the *Antidiabetic Functions of the Pancreas and the Successful Isolation of the Antidiabetic Hormone—Insulin*, by Professor J J R Macleod and Dr F G Banting, in one small octavo volume of sixty nine pages

THE *Rivista Medica Subalpina*, which is the continuation of the *Rivista di Ginecologia, Ostetricia, Pediatria e Medicina generale*, is, like its predecessor, to be issued monthly It will be edited by Professor Quadrone and is the organ of the Maria Vittoria Hospital of Turin The original articles in the first number consist of clinical notes on chronic endometritis, by Professor L. Bergesio, a description of orthopaedic surgery at the Maria Vittoria Hospital, by Professor D Bargellini, and a paper on the functional activity of the kidney, by Professor G Barco Dr G Goytre contributes a clinical memorandum on the treatment of whooping cough by injections of ether. Medical society intelligence, which contains an account of the proceedings of the Royal Academy of Medicine of Turin, is followed by abstracts from current literature and notes on news

A MEDICAL congress will be held at Brussels from June 29th to July 2nd, under the patronage of the King and Queen of the Belgians, and, as in the three previous years, it will comprise lectures, clinical demonstrations, and various social functions, specialists from other countries, including France, America and Rumania, have promised to contribute papers On the fourth day members of the congress will travel to Liege, where, in addition to the consideration of scientific matters, there will be opportunities to visit the historic sites in the neighbourhood A charge of 40 francs is being made, with reductions for ladies and for the medical subscribers to the *Bruxelles Medical* Further information may be obtained from Dr René Beckers, 36, rue Archimède, Brussels

AT a meeting of the Royal Statistical Society, to be held at the Royal Society of Arts, Adelphi, on Tuesday next, at 5.15 p m , Dr Major Greenwood, F.R.C.P , will read a paper on the mortality statistics of Sweden and of England and Wales an essay in international comparison

DR W E ELLIOT, Parliamentary Under Secretary for Health for Scotland in the late Government, has been nominated as Conservative candidate for the by election in the Kelvingrove Division of Glasgow. A Liberal and a Labour candidate have also been nominated. Polling day is Friday next, May 23rd.

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager 429 Strand W C 2 on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager 429 Strand London W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor BRITISH MEDICAL JOURNAL 429 Strand W C 2

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2930 (Internal Exchange)

The telegraphic addresses are

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MEDICAL SECRETARY *Reducera Westrand London*.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin) and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone 4361 Central)

QUERIES AND ANSWERS.

INCOME TAX.

Proportional Rent

"C G H." has a house containing thirteen rooms of which three on the ground floor are used for professional purposes The local inspector of taxes refuses to agree to a deduction of more than one-quarter of the rent.

** We consider that one-quarter is clearly insufficient No fixed rule can be laid down for determining the value of the three rooms professionally used, but the ground floor is the most valuable part of the house from a rental point of view and on that ground alone the proportion is inadequate. Has C G H. taken into account the garage and the bedroom or bedrooms occupied by the surgery maid and chauffeur—if kept? These would still further affect the proportion. If the inspector will not reconsider the matter, our correspondent has a right of appeal to the local commissioners or to the special commissioners who travel on circuit from London Formal notice of appeal should however be given in due time—that is twenty-one days from receipt of the formal notice of assessment—and that objection might reasonably claim that the basis of deduction in respect of rent should be one-half instead of one quarter

Subletting

A. A M." is subletting a few unfurnished rooms in his house should he declare this in his income tax return?

** No the letting of unfurnished rooms is not assessable under Schedule D the income therefrom is in the nature of rent and should be so regarded. A. A. M" will however have to take the subletting into account in deciding what is the proper amount to include in his professional expenses as rent paid for that portion of the premises used in his practice—for example if £150 is the total amount of his rent and rates and £30 is the rent for the sublet rooms A. A. M" can charge as an expense a proportion of £150 − £30 = £120 and not a proportion of £150

Purchases and Sales of Practices

"AJAX" sold his practice on April 1st but is still receiving payment of debts for work done before then. What is his position as regards tax on that income, and will it be affected if he purchases another practice?

** He is not liable for tax on such receipts His position in the matter is as follows During a period of years he did professional work for which he was entitled to payment he paid income tax on his earnings and those earnings included year by year the whole of the profits of the practice, whether received in cash or not (It is immaterial that the tax may have been calculated on the amount of cash received that was only a convenient method of computing the full earnings.) The cash receipts now coming to hand are part of the profits on which Ajax has already accounted for his tax liability If he has not been doing professional work between April 5th and the date when he fills in his income tax return his simplest course perhaps is to say so on the form but a return of Nil in respect of professional profits would be sufficient and correct If Ajax' purchases another practice his liability will be determinable according to the past average profits of that practice and will not be affected by the profits of or by receipts from his former practice

Travelling Allowance

"W H S" is a school medical inspector and receives an annual travelling allowance from the county council He has recently incurred certain expenditure in replacing his motor cycle Has he any claim on that account?

* W H S is entitled to expenses incurred wholly, exclusively and necessarily in the performance of his duties The expenditure in question is of that nature but we anticipate that W H S' will find it impracticable to displace the assumption that the allowance from the county council taking a series of years covers the amount he is entitled to claim for income tax purposes In our opinion his claim is not worth pressing unless there are some quite abnormal circumstances.

Motor Car Transactions

"C F G" was originally given a Ford as a present, but in November 1923 bought a Morris-Cowley for £221, being allowed £50 for the Ford payment was effected by £71 cash plus three bills of exchange for £35. What can he claim?

He can claim as an expense of the year 1923 the cost incurred through the replacement of the Ford the amount of that cost is (£221 − £50 =) £171, less the excess of the cost of a Morris-Cowley over the cost of a Ford of quality etc., similar to the original one. "C F G can claim all expenses incurred in running the car—chauffeur's wages etc—except that from the total amount should be deducted any reasonable sum for non professional use of the car or employment of the chauffeur's time

LETTERS, NOTES, ETC.

SEVERE OPHTHALMIA DUE TO A DIPLOCOCCUS.

DR. CYRIL HELLI (Great Horkesley Colchester) writes The following case of an extremely contagious and severe ophthalmia is I think of interest A girl, aged 8 contracted a mild conjunctivitis which rapidly cleared up on the usual treatment. A few days afterwards her brother aged 5 began to suffer from the same condition in one eye it spread rapidly to the other In his case the condition became extremely grave both eyes being closed, much swollen and discharging large quantities of pus Fearing that the trouble might be due to the gonococcus the case was treated accordingly and strict isolation maintained In spite of this, however two other members of the household became affected. The report of the smear sent for examination was that the condition was due to a Gram positive lanceolated diplococcus morphologically resembling the pneumococcus

SECOND ATTACK OF MEASLES

DR. D MONTAGUE B SNELL (Nottingham) writes Last month I attended a married woman aged 32 suffering from measles, with characteristic rash on face, trunk, and limbs accompanied by slight rise of temperature Three days after a child sleeping in the same room developed the rash and in both cases there was slight bronchial trouble. In December 1922, I attended this same woman for her first attack of measles for she does not recollect ever having had it when a child.

DR. PERCY B. SPURGIN (London) writes I have frequently seen measles attacks occurring more than once in the same subject in my own practice. My son is now recovering from his third attack of measles, his younger brother has had it twice my wife twice and her father was said to have had measles five times. My wife visited her dentist last week his son has had it three times This statement, which I can verify so far as my own family is concerned, may be of interest to those who doubt repeated attacks of measles in the same subject

A BROKEN DENTURE.

MR. K. M HIRANANDANI L.C.P.S Bombay L.A.H.Dubl. (house-surgeon Hume Street Hospital Dublin) writes A man aged 55. was admitted at about sunset to the hospital with a history of having swallowed a broken upper plate while having his dinner. At the time of admission he was in great distress as he could neither swallow nor breathe at ease He said he had been using this plate for the last three weeks or so without any trouble The back of the plate had been swallowed and the other half he had in his hand He was operated on the same evening by the throat surgeon and the senior surgeon. The plate was removed with difficulty as the wire of the plate had pierced the wall of the oesophagus The patient was fed by the rectum for nearly two weeks and subsequently made recovery I quote this case on account of the dangers resulting from wearing of broken plates My thanks are due to the medical superintendent, Mr A. Charles, F.R.C.S for permission to publish the same.

ENURESIS AND SUGAR.

DR HENRY BAZETT (Torquay) writes In your report of the discussion on "Enuresis" at the meeting of a Section of the Royal Society of Medicine on March 28th (BRITISH MEDICAL JOURNAL, April 5th, p 629) I notice no allusion by any speaker to what I found when in general practice, one of the commonest causes of the disorder in children, and that was the ingestion of more sugar than the digestion could deal with—generally the eating of many 'sweets" between meals One should suspect the excess in the urine of some irritative substance in enuresis, and I made it a routine practice to test the urine, and was not surprised to find, in a considerable proportion of cases, definite evidence of the presence of sugar In these cases knocking off of the sugar intake resulted generally in immediate improvement and ultimate cure Dr Smellie regarded it I note, as "questionable" whether restriction of fluid was a good line of treatment My experience led me to regard it as often the very worst In cases—and they are not few—where the urine is concentrated and overloaded with irritative substances (in solution) *greater dilution* is the logical treatment, often again quickly followed by improvement, with or without the help of belladonna, which I found distinctly useful Another very useful adjunct to treatment I found was after getting the child, before going to bed, to empty the bladder in the usual way, to order the mother to sit the child in a sitz bath of water, deep enough to cover the bladder, of as high temperature as can be borne for about ten minutes, then making the child dip or sit for a few minutes in a similar bath of cold water, this to be followed by a vigorous rubbing with a coarse towel and a second emptying of the bladder In this way complete emptying of the bladder was secured and tonus of the bladder wall and nerves improved With children so young as to go to bed some hours before their parents and troubled with this complaint, I always enjoined the mother to take the child from bed the last thing before retiring herself—it can be done without complete waking of the child—and get it again to empty the bladder This proved a most useful aid to other measures But I regarded the restriction of sugar as the most important line of treatment in the largest number of cases

PETROL FOR CLEANSING THE SKIN BEFORE OPERATION

DR I DAVID (Colombo) writes I was glad to see in the BRITISH MEDICAL JOURNAL of March 8th (p 447) a letter signed by Major Porter on the use of petrol for cleansing the skin prior to operating I have been using it in combination with iodine for cleansing and sterilizing the skin since 1910, and, like Major Porter, have found it very satisfactory My letters on this subject have appeared in the BRITISH MEDICAL JOURNAL of February 24th, 1912 (p 465), and of April 27th, 1912 (p 981)

AN ABDOMINAL ACCIDENT

DR M S DOUBLE (Somersham) writes I recently had an urgent call to a farm four miles away where the farmer's son, aged 20, was said to have run a pitchfork into his body I found the patient fairly comfortable in bed, but very nervous He said that the accident happened when he was descending from a loft with his face to the ladder rungs Near the foot of the ladder he jumped off, and as he did so the handle of a pitchfork, which was stuck into a heap of straw, caught him in the scrotum, he was sure that a piece of cloth missing from the fork of his breeches was now inside him He was wearing at the time a spinal support for long standing Pott's disease There had been practically no bleeding, and he had passed urine and flatus shortly before my arrival I found that a skin flap about 2 inches square was reflected up over the front of the right testicle, the separation being through the cellular tissue, but I could find no indication of the wound leading up into the abdomen The perineum was normal and there was no abdominal distension, but to the right of the umbilicus was a red puffy spot 3½ inches in diameter I concluded that the shaft had torn the scrotum, slipped up under the pelvic band of the spinal support, and butted him in the abdomen, thus producing the illusion that it had entered the belly I put five stitches in the scrotum, leaving ample room for drainage between each On the second day after the accident I re dressed the wound, which looked healthy, the dressings showing only a little blood stained serum, the abdominal condition was as before Two days later the scrotal wound was healthy, but a brownish stain, as of bruising, extended from the pubes to the right of the umbilicus, apparently confirming the idea that the shaft had passed up between the pelvic band and the skin Three days later he had a restless night and complained that his abdomen was swollen, he was feverish, and I found a very red sausage-shaped swelling extending from the pubis to the right of the umbilicus This swelling fluctuated and gurgled, but the scrotum was not then or at any time distended and the scrotal wound was healing well Although unprepared for an operation I incised the middle of the tumour about half a pint of foetid fluid with a faecal odour, accompanied by gas and their international of pus, escaped The character of the fluid and health matters, the perforation of the bowel I found something and publication of wound, and this on withdrawal proved to be promotion of the inches square I improvised a drainage tube of the League of Natio in the wound Next day the patient was to draft the constituti erature was only 99° F, but the dressings Dr Saimon (France), ith the stinking brown discharge I (Germany), Professor With a solution of chloramine T, none of (Poland), Dr Paroja (Ecu On the following day there was not Great Britain to be nomina enough discharge to come through the dressings, but it was still thin and brown I again syringed and repeated this daily until the fifth day, when all smell and discharge ceased

LATE RESULTS OF X RAY TREATMENT OF CANCER OF THE BREAST

DR F F CARR HARRIS (Formosa) writes with reference to paragraph No 326 of the EPITOME of November 3rd, 1923, which records H E Walther's statement that the treatment of breast cancer by operation, followed by treatment with *x* rays, results in 64 per cent of living patients after three years have elapsed, as compared with 31 9 per cent after operative treatment alone. Dr Harris, from an examination of Walther's figures, comes to the conclusion that, out of 90 cases treated by him, he is only able to report on 63 cases three years or more after operation These cases fell into three categories in the first, including 13 cases of inoperable disease in which *x* ray treatment was used, after three years 7 were alive and 6 dead, in the second category, out of 28 patients who were suffering from local recurrences or metastases when *x* ray treatment was started, none were alive after the three year interval, in the third category, consisting of 22 cases, 14 were alive and 8 dead Walther's conclusions are based on this third category alone, whereas the figures relating to the 63 cases as a whole, in all of which *x* ray treatment was used, were 21 alive and 42 dead, a percentage of 33 3, which is not so good as the 31 9 per cent of the 9,000 cases who were living three years after operative treatment alone Dr Carr Harris considers that the second category should certainly be included when estimating the results of treatment, since among the 9,000 cases there must have been a considerable number in whom secondary growths were also present, and he suggests that if Walther were to delay *x* ray treatment until fear of the recurrence of secondary growths was past he would naturally get better results, possibly some of his 22 cases were of this kind

*** Walther's point would appear to be the comparison between the cases of breast cancer treated only by surgical operation and those treated by surgical operation and *x* ray therapy simultaneously He based his statistics, therefore, on 22 cases only, as pointed out by our correspondent, and it would certainly seem to be a little unwise to compare the results of the treatment of so small a number of cases with the 9,000 results of operative treatment It would obviously be more desirable to make a larger collection of cases treated simultaneously by *x* rays and surgery before drawing a definite conclusion, and Walther apparently recognizes this

THE ARGUMENT FOR THE GOAT

THERE exists a society named "The British Goat Society," one of whose objects is "to circulate knowledge and general information upon goats with a view to counteract the prejudice and ignorance which prevail in a great degree concerning these animals" This prejudice is deep rooted Farmers complain of goats that they bark young trees and damage hedges, that the males smell, and that there is no market for goat's produce But the goat is not an animal to have complete liberty and when tethered does little damage Goats thrive on food which other stock neglect they consume house and garden refuse, hedge trimmings, leaves and small branches, thistles, docks, and weeds of all sorts It has been estimated that five to ten million goats could be kept in Great Britain without interfering with or lessening the number of other stock The milk of goats is used extensively in other countries and can easily be made up into excellent butter and cheese There is no doubt that an old he-goat has a rank smell For this reason he should be allowed constantly to run with the nannies For the smallholder the goat is more suitable than the cow as a source of milk On a farm the cost of keeping one cow is equal to that of ten goats, but the former gives an average of 600 gallons of milk, the latter 1,000 gallons Goat's milk contains nearly twice as much fat as cow's milk and is less likely to be infected with pathogenic microbes For the feeding of infants unmodified goat's milk is no more suitable than unmodified cow's milk, but by suitable corrections it may be made into a safe substitute For children and adults unmodified goat's milk is an excellent food

A second object of the British Goat Society is "to extend and encourage the keeping of goats, particularly by cottagers, so as to increase the supply and consumption of milk in rural districts where this article is frequently unobtainable" In furtherance of this the Society issues a year book to all its members and associates This well illustrated little manual contains much practical advice on the keeping of goats and instructions for making butter and cheese from goat's milk The year book for 1924 is now published, price 1s 6d The book cannot be purchased in the ordinary way, but copies may be obtained from the office of the British Goat Society, 5, Fenchurch Street, E C 3

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35 38, 39, 40, and 41 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 36, 37, and 38

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *251*.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

384. Serological Treatment of Lobar Pneumonia.

E A LOCKE (*Boston Med and Surg Journ.*, February 7th, 1924, p 196) discusses the value of the Type I antipneumococcic serum of the Rockefeller Institute and of the "antibody solution" of Huntoon Type I antipneumococcic serum is a horse serum of high and constant potency and accurately standardized, it is administered intravenously in 80 to 100 c cm doses every eight hours until the temperature becomes normal. In order to avoid anaphylaxis the reaction of the patient should first be tested by the intracutaneous injection of 0 02 c.cm of the diluted serum with a control even if the reaction is negative a single desensitizing dose of 0 5 to 1 c.cm should be given subcutaneously prior to commencing intravenously As a result of its use the mortality rate of only 9 2 per cent was obtained comparing thus very favourably with the general mortality rate in Type I lobar pneumonia, which is between 18 and 20 per cent The "pneumococcus antibody solution of Huntoon possesses the same potency as the original serum produced by the active immunization of horses against Types I II, and III pneumococci, but it only contains very minute traces of horse serum, being mainly composed of antibody, sodium chloride and bicarbonate Locke adds that this preparation has the advantages of being polyvalent and capable of administration as soon as pneumonia is diagnosed without the delay necessitated by having to determine the particular organism present in the sputum, and to test the patient for foreign protein sensitization It does not cause serum sickness nor true anaphylactic shock The subcutaneous appears to be the best method of administration, being as effective as the intravenous, the usual dose is from 100 to 200 c cm every ten or twelve hours for two or three days as required In 49 cases so treated the mortality rate was 16 3 per cent, as against 35 8 per cent in 53 untreated controls

385. Hydrochloric Acid Treatment of Rickets.

MARTHA R JONES (*Journ Amer Med Assoc* February 9th, 1924, p 439) reports three cases of the successful treatment with hydrochloric acid of children suffering from rickets, and discusses generally the value of this treatment Since it appears that rickets may follow a too high degree of alkalinity in the intestines of children on a well constituted diet she suggests that this disease may possibly be the result of insufficient hydrochloric acid in the gastric secretion or of excess of alkalinity in the intestinal secretions The addition of hydrochloric acid to milk in children in whom rickets appears to be developing seems to have met with considerable success, and animal experiments so far support this method of treatment The author proposes to extend her investigations and to publish more fully later

386. Late Relapse in Epidemic Encephalitis.

J PITICARIU (*Bull et Mém Soc Méd des Hop de Bucarest* November, 1923, p 144) states that in epidemic encephalitis early relapse is comparatively frequent, but that only one case of fatal relapse occurring six months after the original attack and verified by necropsy findings has been recorded In the author's case the relapse occurred after three years. The patient was a woman, aged 44 who at the commencement of the original illness had a high temperature and was somnolent for thirty days she recovered except for frequent headache, and was able to work for eighteen months Progressive rigidity of the limbs then appeared, her features became mask like, the eyelids were half open and immobile, saliva dribbled from the flaccid lips and there were tremors of the limbs and trunk Her condition became worse, and on admission to hospital she fell if she attempted to walk without assistance, the muscles were rigid, with rhythmic tremors of the arms, especially on the right side, and the tendon reflexes were exaggerated She spoke slowly with defective articulation, her mentality was very dull, but there was no evidence of any cranial nerve lesion, and the temperature was normal The cerebro-spinal fluid was clear and there was a slight lymphocytosis. She became drowsy, then comatose, and died eight days later At the necropsy numerous clots were found in the cerebral sinuses, with hyperaemia, punctiform haemorrhages were present and the cortex and basal ganglia were brownish grey The left corpus striatum was softened and disorganized, but the pons and medulla appeared normal.

387. A Cause of Pain in the Knee.

F SADOLIN (*Ugeskrift for Laeger*, March 20th, 1924, p 243) describes a condition which, he says, is often mistaken for arthritis of the knee although there are no signs indicative of a lesion of the joint On walking the patient complains of pain referred to the back of the patella, and there is frequently a history of constant walking up and down stairs or walking upstairs with a heavy burden In several of the author's cases the pain had gradually become so troublesome that work had to be given up, but rest, even rest in bed, had not helped much. This condition, which may be unilateral or bilateral, forms a remarkably definite clinical picture which the author associates with a lesion of the median head of the gastrocnemius He has found that if this median head is massaged for five minutes at a time every other day for about three weeks the symptoms disappear without any other treatment, even in cases which have been refractory to rest, baths, and massage of the joint and thigh.

388. Epidemic Pemphigus in Infants.

A B MARFAN (*Paris méd* November 3rd, 1923 p 353) states that epidemic pemphigus in the newborn and older infants has been known for a long time but has been thoroughly studied only since the nineteenth century by Billard Ollivier and Ranvier Hervieux, Homolle and E Vidal, the last of whom showed that it was auto-inoculable The condition is never congenital but it may appear as early as the third day of life and usually develops before the tenth day It is exceptional after the end of the first year It may be seen in well nourished children as well as in the weakly and cachectic. The number of bullae varies but is usually small there may be only two or three and there are rarely more than twenty The lesions may develop all over the body except on the palms and soles They are almost always confined at least at first, to a single area, such as the neck, nuchal region shoulder, back or a limb especially in the neighbourhood of a joint The fluid in the bullae contains only a few cells, almost all of which are leucocytes and mostly eosinophils. As a rule *Staphylococcus aureus* is found in the bullae from the first often in pure culture Pure cultures of *Streptococcus pyogenes* and pneumococci have also been isolated in some cases At a later stage a variety of micro-organisms is present The general symptoms as well as the complications and sequelae depend on the infant's previous state of health and its surroundings. In healthy breast fed children the condition remains purely local without causing any fever or digestive disturbance but in weakly and artificially fed infants complications such as diarrhoea bronchopneumonia, and cutaneous diphtheria may arise and prove fatal. The disease is contagious and epidemic. Outbreaks are liable to occur in families or among infants attended by the same nurse or midwife It is to be distinguished from syphilitic pemphigus, which is usually congenital exclusively localized or predominating on the palms and soles and is generally accompanied by other syphilitic manifestations In urticaria bullosa the bullae are smaller and rest on a large papular base In impetigo contagiosa the bullae are more definitely purulent, rest on an inflamed base and give rise to the formation of crusts Dermatitis herpetiformis, which is neither contagious nor inoculable, is characterized by a mixture of herpetic vesicles, bullae and lesions due to scratching and gives rise to considerable itching, which is absent in epidemic pemphigus Local treatment consists in bathing the lesions with a solution of iodine 1 in 500, and the application of a mixture of equal parts of sterilized lanoline and vaseline General treatment includes breast feeding when possible. Rigorous asepsis of the nurses midwives and doctors hands and the use of aseptic napkins for the infants, have prophylactic value

389 Mustard Gas Poisoning.

J E R MCDONAGH (*British Journ. of Derm and Syph*, February, 1924 p 64) deals with his investigations into the action prevention, and treatment of poisoning by mustard gas (dichlor ethyl sulphide) and gives reasons for his view that it does not act as an intoxicant by undergoing hydrolysis and producing hydrochloric acid. He believes that the element sulphur is the active principle of mustard gas and that the intoxication results from the adsorption which takes place between the drug and protein particles. It is important to measure the degree of condensation to which the protein particles have been subjected, and to distinguish in treatment between the lytic and the stable forms of condensation.

He points out that individuals sensitized by mustard gas may develop symptoms of vesication upon the subsequent introduction of a lytic condenser of a different nature—for example, chloroform—and that they are also more susceptible to bacterial invasions than other people With regard to treatment, painful lesions should be dressed with the most soothing applications possible, and reliance placed upon the injection of metallic substances to counteract the intoxicating effects of the gas

Surgery.

390 Quinine Injections in Varicose Veins

H BARDY (*Finska Lakaresallskapets Handlingar*, January and February, 1924, p 47) confirms the favourable opinion formed by Geneviier of the treatment of varicose veins by the intravenous injection of the following solution quinine hydrochloride 4, urethane 2, aqua dest 30 The patient sits with legs hanging down, while the surgeon injects from 1/4 to 1/2 c cm of this solution into the lumen of a varicose vein An ordinary hypodermic syringe and a needle with a fine point are used, a little blood being aspirated into the syringe to make sure that the point of the needle is in the vein before the solution is introduced It does not, however, matter much if a little of the solution escapes into the wall of the vein or the surrounding tissues, and when the vein is much dilated it is even desirable that such a perivenous infiltration with the solution should take place The site of the injection is dressed with collodium and the process is repeated about 8 cm further up the leg, as a rule Genevrier does not inject more than a total of 4 c cm at one time This artificial thrombosis is somewhat painful for the first few days A second series of injections is given about a week later According to Genevrier numberless such injections have been given, and he has himself given over 4,000 without any embolic complications At the Maria Hospital in Helsingfors the author has given more than 500 injections to 26 patients, and has experienced no misadventures His investigations have led him to believe that the artificial quinine thrombus is more firm and adherent to the walls of the vein in which it has first formed than is the thrombus which forms spontaneously in the proximal end of a resected vein

391 Prognosis in Epiphyseal Line Fractures

M K SMITH (*Annals of Surgery*, February, 1924, p 273) records a study of 33 cases of epiphyseal line fractures The average age of the patients was 12 years, 28 were boys and 5 were girls, and all have been followed up Epiphyseal fractures are common injuries, but are often classed as fractures or sprains Fifteen per cent of the cases showed premature or earlier ossification, this was found six months after injury in one case and as late as two and a quarter years in another Retardation of growth to a slight degree is common and was present in 7 out of 21 injuries to actively growing epiphyses in long bones there was decided deformity from shortening in two cases, or about 10 per cent, shortening may be the result of retarded function of the cartilage alone, or there may be premature ossification Probably the reason why deformity and shortening are not more often observed in epiphyseal fracture is that they occur as a rule in the second decade, when growth is largely completed From this series it appears that retardation of growth is seldom compensated later In lower radial injury with retardation a lesser ulnar retardation often occurs whether there is fracture of the ulna or not There seems to be a marked tendency for natural correction or compensation of epiphyseal separations to take place in untreated cases

392 Statistics of Recovery from Malignant Disease

R WERNER and ELSE BORCHARD (*Deut med Woch*, January 4th, 1924, p 3) have prepared statistical tables showing the fate of the 17 437 patients who had been treated by various writers for malignant disease by an operation or radiotherapy, and about whom information was obtained three or five years later In 4,288 cases, or 24 per cent of the total, a recovery could be claimed after one or other of these observation periods With regard to the two systems of treatment, it should be noted that while radiotherapy is often extended to inoperable cases, an operation is usually undertaken only when there is some prospect of removing the entire growth As only about 51 per cent of the cases of malignant disease are operable in this sense, it follows that the recovery rate of 24 per cent referred to is too high, were all the cases of malignant disease to be included in these statistics the recovery rate would be considerably less Taking this factor into consideration, the authors conclude that, after an observation period of three years, an operation is capable of effecting a recovery in only 13 per cent When the observation period is increased to five years this recovery rate is reduced to 12 per cent The combination of operative treatment with radiotherapy shows a recovery rate of 23 3 per cent after three years, and of 13 per cent after five years The authors tabulate their findings according to the situation of the disease, the nature of the treatment, the number of cases treated in each category, and the duration and percentages of the recoveries Their tables also show the proportion of cases which were operable when treatment was instituted and the percentages of recoveries for every organ or structure

393. Acute Pancreatitis with Fatty Necrosis

J OEHLER of Hanover (*Zentralbl f Chir*, February 16th, 1924, p 269) records six cases of acute pancreatitis with fatty necrosis which he has observed in the course of the last six months Two were men and four women, the ages varying from 20 to 40 Five were admitted to hospital with the diagnosis of gall stones and one as a case of intestinal obstruction All showed tenderness in the gall bladder region, and five had severe attacks resembling those of gall stone colic, but the general condition was more affected than in ordinary biliary colic The operation findings were as follows In two cases the gall bladder was completely normal, in one there was cholecystitis without calculus formation, and in three the gall bladder was inflamed and contained numerous calculi All the cases showed fatty necrosis, which was confined to the region of the pancreas, gastro hepatic ligament, and mesocolon The pancreas was swollen and hard and showed some haemorrhages All the patients made a good recovery after drainage of the gall bladder and removal of the calculi Oehler thinks that the occurrence of so many cases in so short a period cannot be due to mere coincidence, and is probably due to something in the diet

Neurology and Psychology.

394 Criminality and Hystero-epilepsy

IN discussing at some length the question whether the criminohystero-epilepsy syndrome of Bratz, the psychasthenic epilepsy of Oppenheim, and the narcolepsy of Gélineaud Friedmann should not be grouped together under the single term "psycholepsy," as suggested by Morselli, rather than considered as separate nosological entities, E PATINI (*Il Policlinico*, February 18th, 1924, p 211) gives in detail the case of a barber, aged 34 The family history included alcoholism, syphilis, insanity, and infantile convulsions The patient suffered from the latter during his first year, he was late in learning to walk He did fairly well at the elementary school, but his career at the technical college was cut short by imprisonment for wounding a comrade with a stone After this he gave himself over to a life of vagabondage and petty crime, with occasional intervals of barbering While on active service with the army for two years his record was good, except for some lack of discipline, until one night he stumbled over the dead body of an Arab, when he passed into a state of stupor, like narcolepsy, until dawn There followed nervous disturbances, with ten to twelve convulsions at various intervals These usually occurred when he mounted guard, and occasionally after wine, and culminated in an attack on a non commissioned officer during what Patini regards as a state of pre epileptic automatism immediately followed by a fit, on recovery from which he was found to be mentally deranged and kept under restraint After discharge he was twice imprisoned for theft, once with violence Various stigmata of degeneration, many cutaneous scars, and symbolical tattoo marks were present, and zones of dulling of tactile, painful, and thermic sensibility, some astereognosis, and lack of precision in joint, muscle, and co-ordination tests The visual fields were generally contracted, more so on passing from centre to periphery than vice versa, taste, smell, and hearing were diminished The tongue showed fibrillary tremor and dextro protrusion, and there was asymmetry of the lower part of the face on the right side Muscle power was normal, but there was marked fibrillation of the pectorals and tremor of the hands Romberg's test brought out some temporary swaying, the reflexes were normal Vasomotor skin reflexes were very easily provoked by emotional or mechanical stimuli (dermographia) The fits were ushered in by a feeling of weakness and by sweating, he became pale and fell without initial cry, he had on occasions injured his head, bitten his tongue, and passed urine and faeces involuntarily After violent general convulsions lasting twenty to thirty minutes the attack ceased and he regained his senses with a feeling of malaise, general weakness, dazedness, and no recollection of what had happened during or just before the fit Superficially he appeared psychically normal, but special tests showed poorly sustained, easily distractable attention,

deficient intellectual capacity, and a good memory except for the period of and immediately before the fits Morally he was surprisingly normal, showing affection for his family, inclination for friendship, sensibility to kindness, and no pride in his crimes nor penitence He did not try to excuse them, but adduced many extenuating circumstances such as his being orphaned at a tender age and his lack of upbringing, he bore a deep grudge against society, which instead of helping him to reform had sent him to gaol There was no evidence of malingering Patini dissects the case and the differential diagnosis minutely He points out that this case combines some of the characteristics of all the above mentioned types of epilepsy, a pleomorphic disease in which variations, symptoms, and syndromes may easily multiply without forming a nosological entity He concludes that cerebral vasomotor disturbance in an individual of such a potentially morbid type may cause impulsive acts and further convulsive disturbances, and that the underlying psychical degeneracy forms the foundation for the three factors which constitute the grand triad of the Bratz type

395. Epidemic Encephalitis and Dementia Praecox.

G PADÈANO (*La Vie Méd Hebdom* February 22nd 1924, p 317) recapitulates Kraepelin's classification of dementia praecox (1) simple type, (2) the hebephreno-katatonic type, (3) the delirious type Kraepelin stated that all these syndromes were produced by an auto-intoxication associated with puberty, but Padèano believes that many other toxaemias may produce dementia praecox Trepsat has described a case of a woman who developed the syndrome after streptococcal puerperal septicaemia, and has found cases due to gastro-intestinal and hepato-renal intoxications P Kahn described a patient with puerperal mania who recovered, but after a second confinement the psychosis returned and was followed by dementia P Kahn has also described a case of a patient who recovered from tuberculous peritonitis and pleurisy, but subsequently developed the hebephreno-katatonic form of dementia praecox. Bascaino believes that the lesions of dementia praecox are due to a chronic intoxication by a substance allied to histamine, which in susceptible patients attacks the nerve centres Roubinovitch and Levaditi think that the association of dementia praecox with syphilis is a coincidence On the other hand, Bahr when examining the cerebro-spinal fluid of twenty four cases of dementia praecox found a positive Wassermann reaction in 31 per cent. Kraepelin, Obregia, Urecchia and Margasu have described a schizophrenic type of general paralysis of the insane Epidemic encephalitis is essentially polymorphic and in some cases has been followed by dementia of the hebephreno-katatonic type or by paranoia. Padeano describes a case of dementia praecox in an alcoholic subject who suffered from severe cerebral concussion during the war There was no evidence of syphilis, and he concludes that dementia praecox may be due to several toxins—syphilitic tuberculous, encephalitic, etc. The syndrome may have a prolonged evolution extending throughout the patient's life, or, on the contrary lasting only for a few months or years There are predisposing circumstances (injury alcoholism, mental overwork, sexual excess etc), and above all a special susceptibility of certain definite regions of the brain which are the same in every case. These factors produce a pathological state of unstable equilibrium and open the way for the action of certain pathogenic agents or toxins

396. Laboratory Methods in Neuro-psychiatry

C RIZZO (*Revista med de Barcelona*, January, 1924 p 40 emphasizes the importance of confirmatory laboratory investigations in neuro-psychiatric practice and divides the possible fallacies in clinical diagnosis into two groups In the first he places cases where a clinical diagnosis of general paralysis of the insane was not confirmed by testing the cerebro-spinal fluid, or by necropsy He quotes four examples (1) a male, aged 35, alcoholic, suffered from insomnia, hand and eyelid tremors dysarthria, dysgraphia, mental confusion, and disorientation, the pupil and tendon reflexes were normal. Discovery of a normal cerebro-spinal fluid with a negative Wassermann reaction caused the diagnosis of general paralysis to be discarded in favour of that of alcoholic dementia. (2) A male, aged 58, with a history of seven years epileptic fits, difficulty in speech, and periods of violence and excitement, was admitted in a state of profound dementia almost complete dysarthria, and some disorientation The knee-jerks were present, the pupils pin point and almost immobile The diagnosis was altered to dementia epileptica on discovery of the negative Wassermann reaction the cerebro-spinal fluid gave a positive Nonne-Apelt reaction The necropsy disclosed multiple cysticerci (*Taenia solium*) of the brain alone (3) Another patient with cysticercosis of the parenchyma of the brain lateral and fourth ventricles, admitted as a general paralytic had a history of three years increasing mental deterioration. There was no dysarthria the left pupil was larger than the right and almost immobile to light the tongue showed a trombone tremor, the tendon reflexes were exaggerated the Babinski reflex was negative and both Wassermann and globulin tests were negative in the cerebro-spinal fluid. (4) A syphilitic and alcoholic patient on admission was grandiose, fatuous and disarthric, the pupils reacted the blood Wassermann reaction was strongly positive but the spinal fluid was normal in all respects a diagnosis of alcoholic pseudo-paralysis was confirmed at the necropsy The positive symptoms in all these cases were characteristic of general paralysis, in which also a history of alcoholism is obtained in 30 per cent and a series of epileptiform attacks of toxic origin may precede the onset of general paralysis whereas dysarthria sometimes considered a cardinal symptom is usually absent in early cases In the second group Rizzo places cases with symptoms of various nervous or mental diseases in which the cerebro-spinal fluid examination suggested general paralysis which diagnosis was confirmed by necropsy He describes (1) A typical intractable hypochondriac without dysarthria, alteration in pupil or knee reflexes but showing an anaesthesia of the upper air passages with dryness of the mucosa. (2) A woman of 45 who had whilst intoxicated fallen from a wall on to her head six hours later she had no recollection of the accident ate food she used to dislike did not know her friends and became incontinent noisy and restless She threw herself out of a window of the clinic and again injured her head this act suggested the probable cause of the previous accident, in reality the first indication of dementia paralytica (3) A man aged 34 developed delusions of persecution and on admission was confused noisy sleepless without dysarthria or alteration in reflexes Rizzo does not believe in a preclinical phase of neuro-syphilis For instance in patients who have had syphilis and present symptoms such as gastric crises suggesting incipient tabes without physical signs, the cerebro-spinal fluid should always be examined before diagnosis is made.

Obstetrics and Gynaecology

397 Diphtheritic Puerperal Infection.

G MIRONE (*Riv d Ostet e Ginecol Prat* January 1924 p 11) insists that a diagnosis of diphtheritic puerperal infection should only be made after full bacteriological tests since pseudo-diphtheritic bacilli—Hoffmann's bacillus and similar organisms—are found in the bodies of about 10 per cent of febrile and afebrile patients post partum In the majority of cases the first region to show membranous ulceration is some portion of the external genitalia, but the primary site may be the vagina the endometrium or even the rectal mucosa Pseudo-membranous formations are not very rare in streptococcal or other non-diphtheritic puerperal infections In true diphtheritic cases the prognosis is generally good and the sequelae associated with faucial diphtheria are rare In treatment the use of antidiphtheritic serum is very generally advocated, but its specific act on is open to some doubt. In one case recorded by Mirone in which a diphtheria was associated with a streptococcal infection injections of anti streptococcal serum were followed by marked improvement A similar non specific protein effect was shown in a second case treated with injections of sterilized milk. Clinically there is little to distinguish puerperal infections due to Loeffler's bacillus from those due to other organisms signs pointing to diphtheria are oedema of the vulva and enlargement of the inguinal lymphatic glands and possibly a pulse frequency below that usually associated with the degree of pyrexia which is present

398. Chronic Endocervicitis and Focal Infection.

LAURA M. MOENCH (*Journ of Lab and Clin Med.* February 1924, p 289) bases the frequency of bacterial infection of the cervix, 'the tonsil of the uterus on its histology and function The association of a cervical discharge with a hyperplastic congested and oedematous cervix hyperaemic and frequently eroded with or without laceration, is sufficient to establish the lesion as primary in the cervix The mucoid discharges contain relatively few organisms while the purulent and especially the seropurulent show heavy infection The organisms are mainly anaerobic Gram-negative bacilli diphtheroid pleomorphic Gram positive bacilli and streptococci Aerobic streptococci are also encountered On inoculation of the leucorrhoeal material into animals anaerobic streptococci were recovered from the joints in pure culture in heavy growth the other organisms seem to be saprophytes. These virulent and specific organisms are found deeply embedded in the submucous and muscular tissues of the infected cervix, and on repeated

subculture acquire aerobic properties, diminished virulence, and a lower specificity for joint tissues In their marked affinity for joints and in their preference for anaerobic growth they resemble the organisms recovered by Rosenow from glands draining arthritic joints, and are morphologically similar to that recovered by Poynton and Paine from cases of rheumatic fever Serological and immunological evidence further support their specificity in joint affections Vaccine treatment may be expected to give good results following eradication of the focus of infection The Schroeder operation for the excision of the mucous membrane, modified by Sturmdorf, is perhaps the best of the surgical procedures Interstitial injections into the cervical tissues of equal proportions of gentian violet and neutral acriflavine for the Gram positive and the Gram negative bacteria, respectively, in dilutions of 1 in 1,000, have given excellent results Several cases were rendered bacteria free with one injection, in others a few staphylococci and streptococci persisted until a second injection secured sterility

399 Cardio-pulmonary Symptoms during Delivery

COUVELAIRE (*La Vie Medicale*, February 1st, 1924, p 183) states that symptoms indicating an upset of the cardio-pulmonary equilibrium, such as attacks of dyspnoea, cyanosis, and profuse blood stained expectoration, may occur in the last months of pregnancy or during delivery among three groups of women—namely, subjects of kyphosis, of renal disease, and of cardiac disease In kyphotic subjects the syndrome may develop without the existence of any valvular lesion or any obvious renal manifestations The lower the kyphosis is situated the more likely it is to give rise to difficult labour and the less likely it is to produce the cardio pulmonary syndrome, whereas kyphosis localized higher up in the vertebral column does not cause contraction of the pelvis, but may produce cardio pulmonary symptoms during pregnancy and delivery The same syndrome may occur in women with slight renal and hepatic lesions who are not actually suffering from Bright's disease As regards cardiac subjects, out of 75 women with a genuine mitral lesion 18 passed through two or three periods of pregnancy and delivery, and often lactation, without any untoward symptoms whatever, and 57 had symptoms of some kind, which in 36 were mild and did not require special treatment, and in 21 were more severe If the condition does not yield to oxygen, bleeding, or injection of camphor oil, then intravenous injections of ouabain should be tried Abortion or premature delivery is not indicated unless persistent cardiac failure, with oedema, albuminuria, and enlargement of the liver, sets in, when the uterus should be rapidly emptied by the introduction of bougies

Pathology.

400 Pathological Changes in Hodgkin's Disease

IN presenting a pathological study of 14 cases of Hodgkin's disease D SYMMERS (*Amer Journ of Med Sci*, February and March, 1924, pp 157 and 313) observes that the first histological change is a hyperplasia of lymphoid cells in various parts of the body, these alien cells, discharged from the bone marrow, appear in varying numbers in the lymph or blood sinuses, or lying free among the lymphocytes or in the tissue spaces Two types are invariably present—non granular mononuclear cells and multinuclear myeloid giant cells, there may be in addition polymorphonuclear eosinophils and eosinophilic myelocytes These cells are arrested by the hyperplastic lymphoid masses, carrying on their function as filters, and there is a connective tissue formation in these tissues which is a mechanical process designed to support the excess of cells by which they are burdened On the pathological findings cases of Hodgkin's disease fall into two large groups The first comprises those in which the characteristic histological changes are limited to the lymphoid tissues—that is, to the lymph glands proper and to the lymphoid follicles in the spleen, in the walls of the portal vessels, and in the interstitial tissues of the lungs, kidneys, bone marrow subcutaneous tissues, serous membranes, etc, ten cases in the present series belong to this group In the second group are those cases in which, in addition to the above distribution, there is a mechanical infiltration of skeletal muscles, blood vessels, serous mucous membranes, and loose tissues, and by direct pressure erosion of bone or partial replacement of organic structure, four cases belonged to this group It is of interest to note that the large mass of lymphoid tissue the submucosal collections, represented by the faucial and lingual tonsils, and by the minute lymphoid follicles which are strewn through the submucosa of the gastro-intestinal, respiratory, and urinary tracts, almost invariably escapes in Hodgkin's disease The fact that the histological composite tends to maintain its individuality throughout all changes of environment appears to be an argument in favour of the inflammatory nature of the disease

401 Studies on the Bacteriophage.

BÜRGERS and W BACHMANN (*Zeit f Hyg und Infektionskrankh*, 1924, 101, 3, p 350) have made some experiments with a view to obtaining a bacteriophage for Gram positive bacteria The growth off agar slopes was rubbed up in sterile saline and added to various concentrations both of hydrochloric acid and of potassium hydrate solution In the case of many of the organisms used it was found that after incubation in both the acid and the alkaline mixtures they lost their capacity for retaining the Gram stain After twelve days in the incubator many of the suspensions had become clearer, these were taken, adjusted to a slightly alkaline reaction, filtered, and the filtrates tested for lytic properties In the case of one of the acid suspensions a lysin was obtained for a pseudo diphtheria bacillus but on further trial it proved non transmissible in series A similar experiment made with *B anthracis*, in which the organism was incubated in distilled water for fourteen days, resulted in the production of a lysin which was transmitted through two series of subcultures, but was then lost Another lytic principle to *B anthracis* was obtained through filtration of a suspension of this organism in saline, which had been incubated for forty eight hours, this principle was transmitted successfully for five passages before its activity was lost Dialysing experiments made with this filtrate showed that the principle remained active within the membrane, after forty eight hours a very small amount only had passed into the distilled water on the outside An attempt was made to obtain an active principle to both anthrax and pseudo diphtheria bacilli by Buchner's method Large quantities of culture were mixed with quartz sand and kieselguhr, rubbed up in saline, put into a fine cloth, and submitted to a pressure of 400 atmospheres The turbid liquid thus obtained proved, whether filtered or unfiltered, to be entirely devoid of lytic action The authors doubt whether the lysins obtained by their acid, distilled water, or saline incubation method are really comparable with the bacteriophage of d'Herelle, since they are only slighly transmissible, it would appear more probable that they are of the nature of those inhibiting substances which occur in ordinary broth cultures

402. The Wildbolz Reaction in Tuberculosis

G C ORNSTEIN (*Amer Rev Tubere*, December, 1923, p 366) reviews the literature on this reaction (see EPITOME, February 17th, 1923, 157), pointing out that the results and conclusions of various observers are by no means uniform Although all investigators have obtained skin reactions in a large percentage of cases, the important question is whether the reaction is specific and caused by tuberculo proteins or whether it is due to the urinary salts As the tuberculoproteins are not easily diagnosed and the urinary salts are, Ornstein attempted to settle the question by separating out the urinary salts by dialysis, so as to eliminate the possible source of error that might be due to the presence of the salts Guinea pigs were used 0 2 c cm of the concentrated urine before and after dialysis was injected intracutaneously into tuberculous guinea pigs and into normal guinea pigs used as controls A reaction in the form of an area of necrosis occurred both in the tuberculous and normal guinea pig within half an hour after injection of the concentrated urine, but injection of the dialysed urine produced no reaction in either the normal or tuberculous animal Ornstein therefore concludes that the autourine reaction does not indicate the presence of a specific antigen in the urine of cases of active tuberculosis, but is probably due to the normal urinary salts

403. Obesity and Blood Pressure

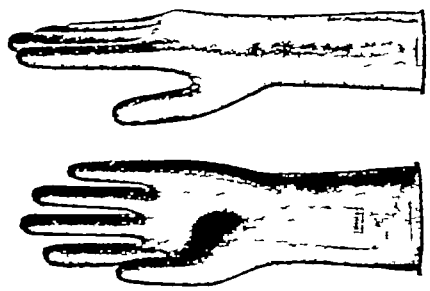
SOME writers say that the blood pressure in obesity is raised, others that it is not, and therefore GOFFIN (*Le Scalpel*, January 19th, 1924, p 61) has analysed the records of 250 people who came to him for insurance examination Any diseased person was excluded, so that the influence of obesity *per se* might be determined The ages were from 20 years upward, and the author classified his obese subjects according to degrees of obesity from a weight of 130 lb with a height of 5 ft 6 in to 190 lb and upwards He finds that the blood pressure is increased in obese subjects, and believes that the explanation lies in the plethoric condition of corpulent patients and the hyperviscous state of their blood Attention to diet and the reduction of obesity usually brings the pressure down

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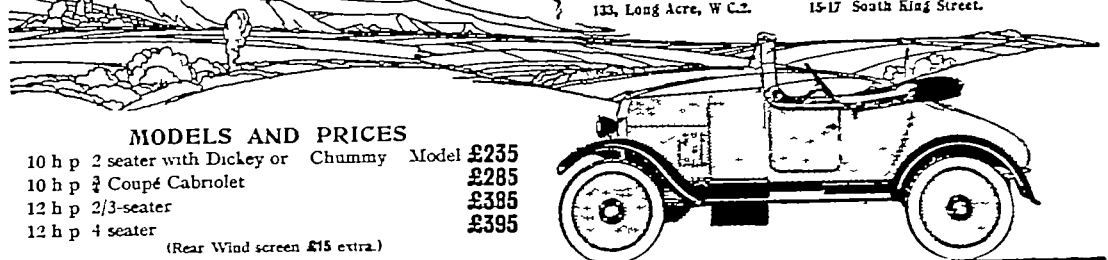
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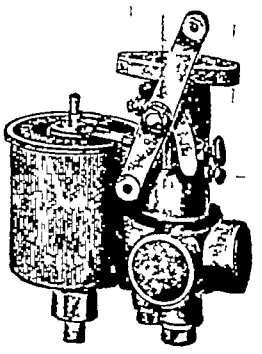
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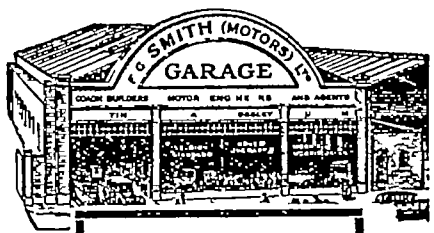
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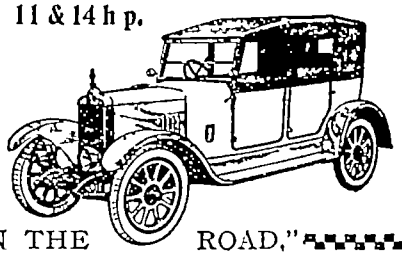
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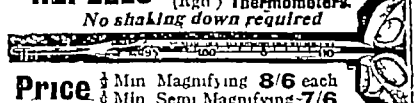
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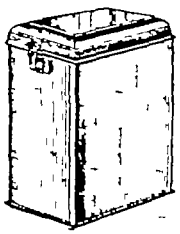
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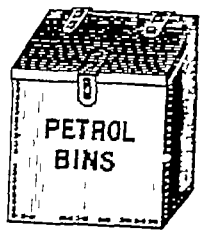
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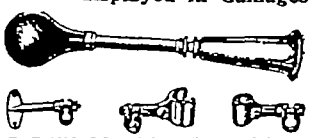
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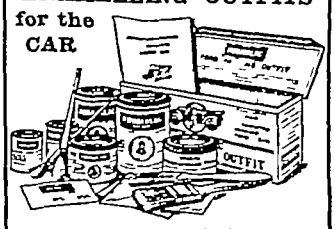
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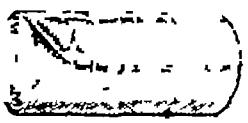


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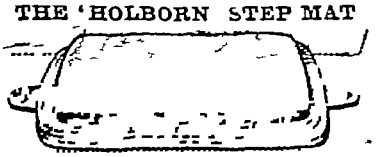
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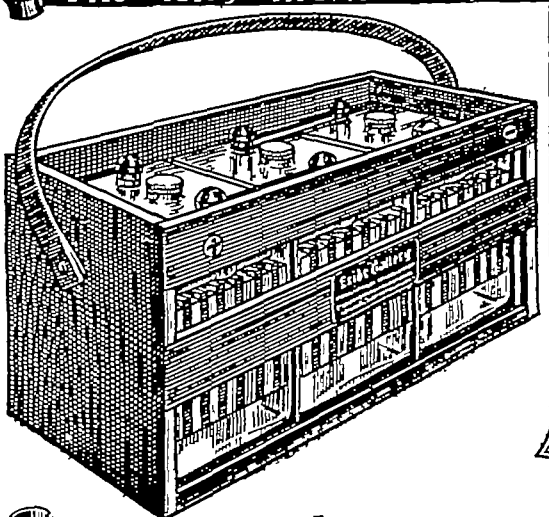
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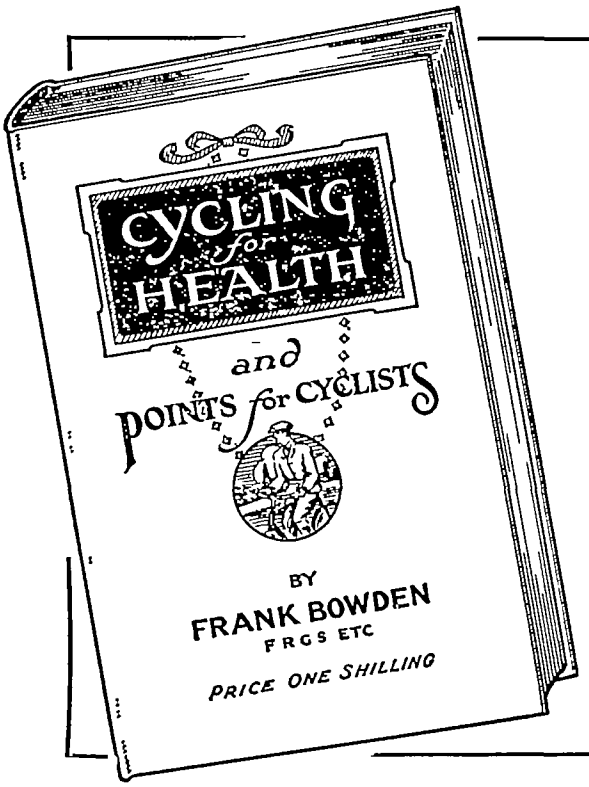
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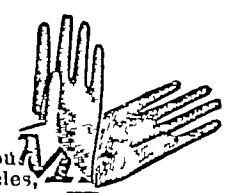
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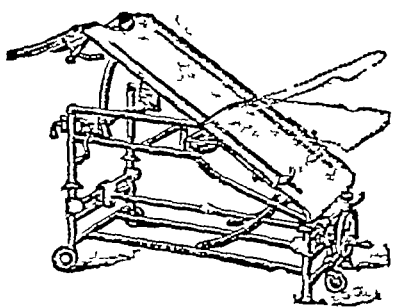
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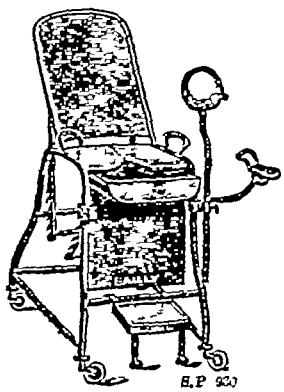
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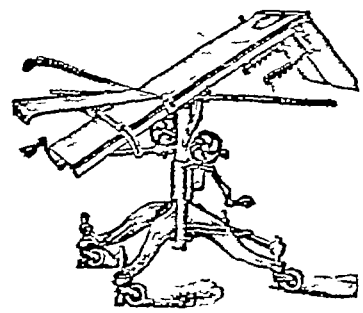
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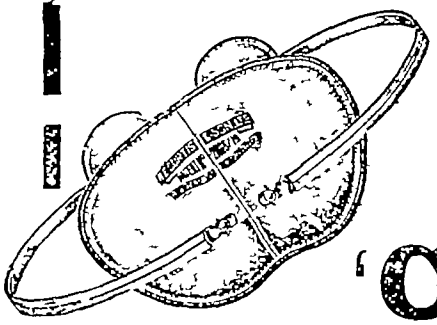
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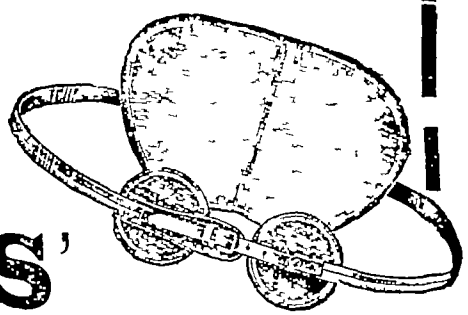
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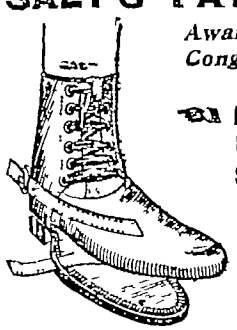
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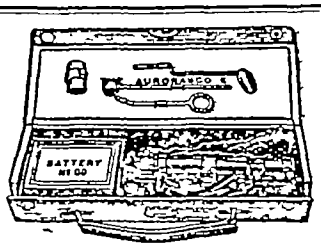
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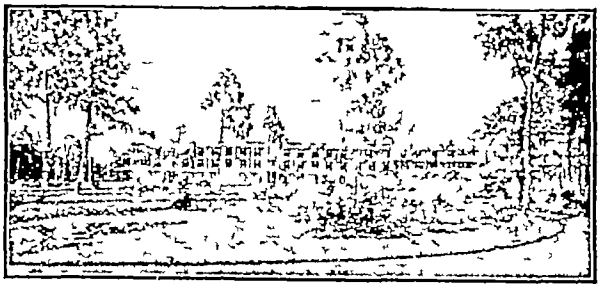
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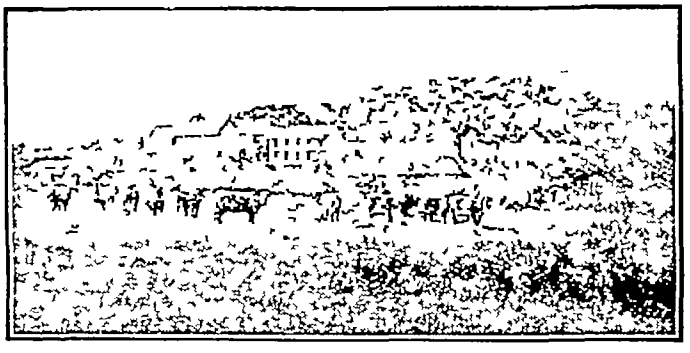
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D J A. BROWN
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University College,
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April 8th, 1924.

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The College of Medicine
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Royal Water'oo Hospital for CHILDREN AND WOMEN Waterloo Road, S.E 1

HOUSE PHYSICIAN

There will be a vacancy on the 1st July 1924, for a House Physician (male) at the above Hospital. The appointment is in the first instance for a period of six months salary at the rate of £100 per annum with board and residence.

Applications, with copies of testimonials, should be forwarded not later than Monday 26th May to the Secretary at the above address from whom further particulars can be obtained.

Royal Waterloo Hospital for CHILDREN AND WOMEN Waterloo Road, S E 1

HOUSE SURGEON

There will be a vacancy on the 15th June, 1924, for a House Surgeon (male) at the above Hospital. The appointment is in the first instance for a period of six months salary at the rate of £100 per annum with board and residence.

Applications with copies of testimonials, should be forwarded not later than Monday 26th May to the Secretary at the above address from whom further particulars can be obtained

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The Hospital for Women, Soho Square W 1

A vacancy being about to occur in the office of RESIDENT MEDICAL OFFICER applications are invited from fully qualified Medical Men and Women. The salary is £100 per annum and board residence, and washing This appointment is for six months from the 1st July next Applications and testimonials must be in the hands of the undersigned by Saturday 31st May Candidates are invited to call upon the Members of the Medical Staff from whom further information may be obtained.

ALFRED HAYWARD Secretary

Wanted—Assistantship by M.B (N U I) 27 reliable experienced. Excellent refs Free immediately Capital avail able to buy share if mutual satisfaction given. *London or neighbourhood preferred*—Address No 2420 BRIT MED JOURN Office, 429, Strand W C 2.

Wanted.—Assistant (male), with view to Partnership, to two practi tioners in Provincial town in South Midlands Private, panel Dispenser kept Salary £400 Indoor at first.—Address, No. 2422, BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Wanted by South London Woman Doctor with long-established and increasing practice, Woman ASSISTANT with view to Partnership—Applicants should address fullest particulars to No 2406 BRITISH MEDICAL JOURNAL Office 429 Strand, W C.2

Wanted part-time work (temporary or permanent) Woman M.R C S, L.R C P doing part time work in general Practice seeks work with general practitioner on free evenings and mornings London area. Good dispenser Good refs -Add., No 2413 B M J Strand

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Wanted—Young indoor ASSISTANT, single. Salary £200 per annum. Panel and private Cambridge district. Some experience necessary—Address No 2429, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted by retired Colonial Medical Officer APPOINTMENT in the Eastern Tropics 25 years experience in Tropics. Good references—Address No 2405, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted—Men to call on Doctors to sell well known Medical Publishers Books Must be well educated and of good address Commission (liberal) basis only—Box 468 POTTER'S ADVERTISING AGENCY, Imperial House, Kingsway London W C 2

Wanted—Post with Doctor, Surgeon or Professional man Intelligent girl (London) good family B Sc London Univer sity Languages Experienced, willing to travel —Address, No 2419 BRITISH MEDICAL JOURNAL Office 429, Strand W C 2

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Assistantship, or Locum, wanted—pref with view to Partnership or succession—by M.B, D P H three years hospital and G P Aged 28 Capital London or Midlands preferred—Address No 2446 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistant (male), wanted, about July 1st to live at Branch Surgery, South Coast Work light Must be recently qualified British and well received Previous ex perience not essential Good prospects Usual bond —Address No 2497 B M J Office, 429 Strand W C

Assistant required for Panel and private Practice must be reliable and willing to sign bond—Address with full particulars No 2496 BRITISH MEDICAL JOURNAL Office, 429, Strand W C 2

Assistant, man or woman, wanted Indoor Church of England country town Public Health private, panel State age and all other essential particulars.—Address No 2435 BRITISH MEDICAL JOURNAL Office 429, Strand W C 2.

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Experienced young Physician, with sound references holding Hospital Appointment 10 to 12 mornings would give REMAINDER OF TIME for 6 guineas with hospitality or 7 guineas without.—Address, No 2417, BRIT MED JOURNAL Office, 429, Strand, W C

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c/o Mr ERNEST BARKER 133, Salisbury Square, Fleet Street, London, E.C 4

Bournemouth —In local Harley Street —CONSULTING ROOM and use of Waiting Room to Let Dark room available Suitable for Radiologist or other Specialist — Address No 2437 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2.

Birmingham —Villa RESIDENCE for Sale with possession Admirably adapted to the requirements of a medical man In a residential district Ideal position ample garage accom Adjacent to main thoroughfare train and tram — E JONES, 3, Whitehall Rd Handsworth.

Consulting Room —Required for afternoon only, preferably with another Ophthalmic Surgeon. Advertiser wishes shortly to transfer good nucleus to younger man —Address No 2444 BRITISH MEDICAL JOURNAL Office, 429, Strand W C 2

Consulting Room and use of Dentist's furnished Waiting Room to be Let, Victoria Street, S W 1 —Address No 2401 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Harley Street —To Let, furnished CONSULTING ROOM use of Waiting Room attendance, 'phone no name plate, two or three mornings or afternoons Rent £50—£60 —Address No 2499 BRITISH MEDICAL JOURNAL Office 429 Strand W C.2

Hoxton —Corner House and SHOP Suit Surgery, TO LET— M BARNETT, 9 Moorfields, E C 2

Large bed-sitting room, Doctor's house, close to Harley Street Terms, two guineas weekly Part time use of consulting room if required Good service. — Address, No 2008 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Park Crescent, Portland Place facing Ornamental Gardens Spacious HOUSE to be Let on Lease for approved professional residence or for conversion into good maisonettes. —Apply to JOHN MURRAY, F S I. 11, Suffolk Street, Pall Mall S W 1

Two or three Rooms wanted by Medical Man in Park Crescent Portland Place or immediate neighbourhood Ground floor Moderate rental —Address No 2402. BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

To Let, No 65, Eastgate St, STAFFORD First-class Motor district Suitable for Doctor or Dentist, immediate possession.—Apply Mrs FINNEY No 68 Eastgate

The "Alvis," the World's best light car See them at Wembley Try them at HENLYS —91 and 155-167, Great Portland Street, W 1

Don't Purchase your Car UNTIL you have consulted us. We are Agents for all leading makes, and will supply you with any Car on DEFERRED PAYMENTS Your old car taken in PART EXCHANGE. Call write or phone.—ERNEST GRIMALDI Ltd, 87 Great Portland Street, W Langham 2983

Doctors' Testimonials printed for all posts Best work quick dispatch Send your testimonials for estimate of cost DOCTORS A/C FORMS printed in best style—also Letterheads Post Card Heads, Calling Cards &c R ANDERSON & SON Printers 1 Hill Pl Edinburgh

Wolverhampton & Midland COUNTIES EYE INFIRMARY

HOUSE SURGEON wanted It is essential that candidates must possess a knowledge of refraction work Duties to commence about 9th June. There are 50 beds for in patients and large out patient department. Salary £200 a year, with furnished apartments board and laundry

Gentlemen applying should state age, and send copies of three recent testimonials to reach the Secretary not later than the 20th May

Wolverhampton EUSTACE LEES, 26th April, 1924 Secretary

County Mental Hospital,

Whittingham Preston, Lancs.

LOCUM TENENS MEDICAL OFFICER required (Gentleman) £8 8s. per week together with board furnished apartments, attendance and laundry One who has held House Physician's or House Surgeon's appointment preferred

Well equipped and well staffed Laboratory for Research Work Candidates must be unmarried and registered under the Medical Act

Apply stating age and full particulars, to the Medical Superintendent

Chelsea Hospital for Women,

Arthur Street S W 3.

There will be a vacancy for HOUSE SURGEON on 1st July Salary £120 Candidates must be duly registered and unmarried The appointment is for one year

Applications accompanied by copies of three testimonials should be sent not later than Thursday, 29th May, to the Secretary

HERBERT H JENNINGS.

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

CONTRACT PRACTICE.

Town or District	Town or District.	Town or District.
ENGLAND.	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	OAKDALE MON *(Medical Officer for Medical Aid Association.)*	HEYWOOD BOROUGH *(Medical Officer of Health)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs.)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*	LINCOLN CITY AND COUNTY BOROUGH. *(Medical Officer of Health.)*
WALES	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	MORAY EDUCATION AUTHORITY *(Assistant School Medical Officer.)*
ABERTRIDWR GLAMORGAN *Windsor Colliery (Medical Scheme.)*	**PUBLIC HEALTH.**	NORFOLK EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
EBBW VALE MON *(Workmen's Medical Society.)*	ARGYLLSHIRE EDUCATION AUTHORITY *(Executive School Medical Officer.)*	NOTTINGHAMSHIRE *(County Medical Officer of Health.)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme.)*	BARNSLEY COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	SELKIRKSHIRE *(Medical Officer of Health.)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer.)*	SOUTHWARK METROPOLITAN BOROUGH (Tuberculosis Officer.)
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	GELLYGAER URBAN DISTRICT COUNCIL. *(Medical Officer of Health.)*	STOKE ON TRENT EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou, St. Vincent and St. Lucia)

(c) Overseas Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C. 2.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec. New South Wales Branch) B.M.A. Building 30-34, Elizabeth Street, Sydney N.S.W.	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr. R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street Brisbane.	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr. FRANK DAVIES (Hon. Sec., Victorian Branch) Medical Society Hall, E. Melbourne, Victoria.
				WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, No. 4, Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address: 429 Strand, W.C. 2.
May 12th, 1924.

By order of the Council of the British Medical Association.
ALFRED COX, Medical Secretary

Queen Mary's Hospital for
THE EAST END Stratford, E.15.

Telephone: Maryland 616 and 2317
Beds: 160 Out patient Attendances 1,9 512.

HONORARY ASSISTANT PHYSICIAN

There is a vacancy on the Staff of this Hospital for an Honorary Assistant Physician.

The Assistant Physician will have some Beds allocated to him in the Hospital and will be required to see Out-patients.

Applications accompanied by copies of testimonials, from candidates, who must be duly registered practitioners either Graduates of a University or Fellows or Members of a Royal College of Physicians, should be lodged with the undersigned not later than the 10th day of June, 1924.

RAPHAEL JACKSON Major Secretary

Elizabeth Garrett Anderson
HOSPITAL, Euston Road N.W.1

STAFF APPOINTMENT

Wanted, fully qualified medical woman as PHYSICIAN IN CHARGE of the Mechano-Therapeutic Department. Applications with testimonials should be sent to the Secretary from whom particulars of the appointment can be obtained on or before 30th June.

IMOGEN H. MURPHY Secretary

Royal Southern Hospital,
Liverpool.

Applications are invited for the following posts viz.:—

1. HONORARY GYNÆCOLOGIST
2. HONORARY ASSISTANT ORTHOPÆDIC SURGEON

Applicants must possess special qualifications for the respective posts, to which work their duties will be entirely confined.

Applications and testimonials addressed to the Chairman of the Election Committee, to be sent in not later than Friday 23rd May 1924.

The canvassing of any member of the Election Committee will disqualify the applicant.

ALLEN NALDRETT
Superintendent and Secretary

West End Hospital for
NERVOUS DISEASES
Welbeck Street, W.1.

The Committee of Management invite applications for male candidates for the vacant post of half time PATHOLOGIST. Salary £300 p.a. also for the vacant post of RADIOLOGIST.

Further particulars for both these appointments should be obtained from the undersigned, to whom applications, together with typed copies of three testimonials written for the purpose, should be received not later than Saturday 24th May.

J. P. WEIR-HALL, Secretary

Hampstead General & North-
WEST LONDON HOSPITAL,
Haverstock Hill, N.W.3.

APPOINTMENT OF RADIOLOGIST.

Applications are invited from registered medical practitioners for the appointment of Radiologist.

The officer appointed will be required to attend on three half-days in each week, and will be paid an honorarium at the rate of £100 per annum in addition to the usual share of the fees due to him from special departments.

Applications, stating age, qualifications, and experience accompanied by copies of not more than three testimonials, should reach the Secretary not later than noon on 14th May.

Ancoats Hospital,
Manchester.

HOUSE SURGEON (Lady)

Required to commence duty on JULY 1st next.

Applications, stating age, qualifications, previous experience (if any) together with copies of three testimonials to be forwarded to the undersigned on or before the 31st instant.

The appointment is for 12 months and the salary is at the rate of £100 per annum for the first six months and £130 per annum for the second six months. By order of the Board

HERBERT J. DAFFORNE, Secretary

Lancashire County Council

APPOINTMENT OF ASSISTANT COUNTY MEDICAL OFFICERS

The Lancashire County Council invites applications from registered medical practitioners for the post of Assistant County Medical Officer

Applicants must not be over forty years of age and must possess the Diploma of Public Health

The duties of the post include the Medical Inspection of School Children under the Education Acts, work under the Maternity and Child Welfare Acts, and such other duties as may from time to time be imposed by the County Council

The person appointed will be required to devote his or her whole time to the service of the County Council The salary will be £800 a year rising (subject to satisfactory service) by annual increments of £50 to a maximum of £1 000 a year together with first-class railway fares and other reasonable expenses. The person appointed will be required to subscribe to the Council's Superannuation Scheme which will probably, be operative from 1st October next

Applications must be made upon a form which can be obtained, together with further particulars from the County Medical Officer of Health, School Medical and Child Welfare Department County Offices Preston, to whom the completed forms should be returned not later than 7th June 1924.

All communications must be endorsed Assistant County Medical Officer Any form of canvassing is strictly forbidden and will disqualify

County Offices, G HAMMOND BIBERTON
Preston Clerk of the County Council
14th May 1924

City of Manchester

The Public Health Committee of the Corporation of Manchester require the services of a fully qualified whole-time LADY MEDICAL OFFICER, experienced in Midwifery and Children's Diseases to hold (under the direction of the Medical Officer of Health) Consultations and Infant Clinics at the Maternity and Child Welfare Centres of the Manchester Corporation and (under the like direction) to perform such other duties as appertain to the office

The salary will be £450 per annum, and bonus £182 7s 8d (subject to revision or revocation)

A statement of the duties and conditions of the office may be had on application in writing to the Medical Officer of Health Civic Buildings, 1 Mount Street Manchester

Applications stating age and experience and endorsed on the envelope "Medical Officer Child Welfare must be addressed to the Town Clerk only and not to members of the Committee or Council not later than Friday May 30th 1924 and be accompanied by not more than three recent testimonials.

The successful candidate will be required to contribute to the Corporation Superannuation Fund and to execute their deed of service.

Canvassing in any form, oral or written direct or indirect is prohibited

P M HEATH Town Clerk
Town Hall Manchester 13th May 1924

The Urban District Council

OF GREAT HARWOOD

APPOINTMENT OF MEDICAL OFFICER OF HEALTH

The Council invite applications from duly qualified medical practitioners for the appointment of a part-time Medical Officer of Health for the Urban District of Great Harwood The appointment in the first instant, will be for a period ending 31st of March 1925 and will be subject to the approval of the Ministry of Health and also to the terms of the Sanitary Officers Order 1922

The duties will be those prescribed by the Ministry of Health, and such as may from time to time by resolution of the Council, or by any modification of the above Order be imposed on him The salary will be at the rate of £90 per annum and the person appointed will be required to reside in the district, and to attend the fortnightly meetings of the Maternity and Infant Welfare Centre, for which last mentioned service he will be paid an additional sum of £10 per annum

Applications in sealed envelopes addressed Medical Officer" giving full particulars of qualifications and experience must be addressed and sent to me at the Town Hall Great Harwood, not later than Wednesday the 28th instant

Town Hall JOHN B INGHAM
Great Harwood Clerk to the said Council.
9th May 1924

Longton Cottage Hospital,

Stoke-on Trent
(40 Beds and Out-patient Department)

HOUSE SURGEON required Must be fully qualified and registered Salary £150 per annum with board and residence Duties to commence at once Applications, INCOME MEDICAL estimonials should be sent and 1923 Offer 5/ —A before the 28th, BRITISH MEDICAL JOURNAL [illegible] Strand W C 2. etary

St Bartholomew's Hospital

A DEEP X RAY INVESTIGATION DEPARTMENT is being established at the above Hospital, which will be devoted to treatment of Malignant Disease

Applications are invited for an experienced RADIOLOGIST to carry out research The appointment will be for from two to five years If thought desirable an opportunity will be afforded the successful candidate to study this subject in similar departments at home and abroad

The salary will be based upon the qualification and status of the successful candidate for this special work.

Applications, which must be accompanied by references and full particulars of training and experience, to reach the undersigned not later than Monday, 30th June, 1924

THOMAS HAYES,
May 1924. Clerk to the Governors

St Bartholomew's Hospital

OFFICE OF ASSISTANT MEDICAL OFFICER, X RAY DEPARTMENT

Notice is hereby given that a meeting of the Election Committee will be held on Monday the 16th June, 1924 To elect an Assistant Medical Officer to the X Ray Department of this Hospital

Candidates must be registered medical practitioners Applications with testimonials (30 copies) must be lodged with the undersigned on or before Monday 26th May 1924

THOMAS HAYES, Clerk to the Governors.
9th May, 1924.

St Mary's Hospital, W 2

SURGICAL REGISTRAR

The Board of the management invite applications for the above post Candidates for the appointment must be registered Medical Practitioners and Fellows or Members of the Royal College of Surgeons of England or graduate in Surgery of a University in the British Empire. The salary is £200 per annum with luncheon and tea. Copies of the regulations for the Surgical Registrar may be obtained on application at the Secretary's office

Applications with copies of testimonials should reach the undersigned on or before Tuesday 27th May W PARKES Secretary

Royal Devon and Exeter

HOSPITAL, Exeter

Applications are invited for the posts of HONORARY ANÆSTHETIST and one or two HONORARY ASSISTANT ANÆSTHETISTS at this Hospital

Particulars as to duties, etc may be obtained from the undersigned

Applications, together with certificates of birth and registration and original testimonials should be delivered at the Hospital addressed to the President, on or before Monday, 26th inst

The Committee desire that there shall be no canvassing by or on behalf of any candidate

Signed on behalf of the Committee
8th May 1924 S S COLE Secretary

King Edward VII Sanatorium,

Midhurst Sussex.

The Council invite applications for the post of MEDICAL SUPERINTENDENT to the Institution Candidates must be duly qualified and registered and have had experience in Tuberculosis work

Salary £1,000 per annum, rising to £1 200 with house Applications (with 12 copies of not more than three recent testimonials) to be sent on or before May 29th to the Secretary 94, Eaton Square London S W 1

Ministry of Pensions

HOSPITAL, Knotty Ash Liverpool

CONSULTING PHYSICIAN required Two attendances per week Honorarium £300 per annum

Applications stating age, qualifications, experiences and present staff appointment should be addressed to the Secretary Ministry of Pensions (M S I B) 2, Sanctuary Buildings, Westminster, S W 1 Preference will be given to applicants who served in the Great War

Cumberland Infirmary,

Carlisle

Applications are invited for the post of third qualified R M O as JUNIOR HOUSE SURGEON (Male) Six months appointment from 15 h June, 1924 Salary at the rate of £150 per annum board residence and laundry provided.

Applications stating age with copies of not more than four testimonials must be received by Wednesday May 28th by the undersigned who will supply particulars of duties if required

J G HOWITT Secretary

Bolton Infirmary and

DISPENSARY
SECRETARY'S OFFICE
(230 beds including Auxiliary Hospitals)

Applications for the appointment of a RESIDENT SURGICAL OFFICER salary £250 per annum TWO HOUSE SURGEONS salary £150 per annum and an ASSISTANT HOUSE SURGEON salary £100 per annum with apartments, board, and attendance are invited from ladies and gentlemen having a registered Medical and Surgical qualification

Applications, stating age with copies of testimonials, should be forwarded to the undersigned (from whom further particulars may be obtained), not later than Monday May 26th

ALBERT E BRISCOE, Secretary

County Mental Hospital,

Burntwood near Lichfield

MALE SENIOR ASSISTANT MEDICAL OFFICER required Salary £750 rising to £850 per annum with £50 additional to those possessing or obtaining D P M No emoluments. Charge of £130 per annum made for board lodging and attendance Candidates must be fully qualified Medical Practitioners, and have had experience in Mental Hospitals

Applications together with copies of not more than three recent testimonials to be sent to the Medical Superintendent, not later than Saturday May 31st

Addenbrooke's Hospital,

Cambridge

Applications are invited for the post of HOUSE SURGEON (Male) The appointment will be for six months from June 28th 1924 Salary £130 per annum with board residence and laundry

Candidates who must be duly registered are requested to forward their applications stating age, qualifications etc. together with copies of not more than four recent testimonials to the undersigned on or before Tuesday June 3rd 1924

W H HEAD Secretary Superintendent

Qualified Medical Women

required for Two WOMEN'S MISSION HOSPITALS in INDIA. Good and attractive sphere offering wide experience. Passage paid both ways for four years appointment. Applicants must be in full sympathy with Missionary work and aims. Missionary's salary outfit, and other allowances. Well known and old established Interdenominational Missionary Society Applications stating age qualifications, and experience, with copies of testimonials should be sent to Medical Missionary Secretary c/o F ALDRIDGE 26 Paternoster Row E C 4.

Medical Officer wanted for

the East. 3 years agreement Salary about £728 per annum Free furnished quarters and free servants but without messing Free passage out and home on completion of engagement Candidates should be fully qualified in Medical and Surgical practice Age under 30, single. Some knowledge of the East desirable but not essential.—Apply stating age particulars of training and experience giving dates to Box M c/o THE REGENT ADVERTISING SERVICE LTD 4 London Wall Bldgs, London

The Royal Infirmary, Hull

Wanted on 3 st May CASUALTY HOUSE SURGEON Must be fully qualified willing to hold office for not less than six months and should give and receive one month's notice to terminate engagement.

Salary at the rate of £130 per annum with board and lodging

Applications with copies of testimonials, to be sent in addressed to the undersigned

ROBERT BROOKS Secretary

National Hospital for the

PARALYSED & EPILEPTIC,
Queen Square W C

REGISTRAR

Applications are invited for the post of Registrar The salary is £200 a year Applications with recent testimonials should reach the undersigned from whom any further particulars may be obtained on or before Monday May 26th 1924

GODFREY H HAMILTON, Secretary.

West Norfolk and Lynn

HOSPITAL

A RESIDENT SURGICAL OFFICER is required on or about July 1st next. Salary £300 for first year £350 for second Applications stating age with full particulars of surgical experience should be addressed to the Secretary, Hospital Kings' Lynn, not later than May 31st

West London Hospital,
Hammersmith Road W 6

Applications are invited for the post of MEDICAL REGISTRAR for a period of one year eligible for re-election annually An honorarium at the rate of £100 per annum is attached to the post. The successful candidate must hold no appointment at a general teaching Hospital during his term of office. The duties include the preparation of the Medical Registrar's report for the year and the supervision of the records of cases. The candidate appointed must be available as substitute for the Physicians and Assistant Physicians when required and be prepared to undertake such teaching for the Post graduate College as may be desired

Candidates are required to be registered under the Medical Act to send applications so as to reach me not later than Tuesday 17th June next to attend the Medical Council Meeting on Friday 20th June at 4.30 p.m. and prior to that date to call upon and send copies of application and testimonials to each member thereof; to abstain from canvassing but nevertheless to send copies of application and testimonials to each member of the Board—Management at whose meeting on Tuesday 4th June at 5 p.m candidates must be in attendance.

H A. MADGE, Secretary

The Hospital for Sick
CHILDREN
Great Ormond Street London W C 1.

The following appointments will shortly be vacant:—

HOUSE SURGEON } 1st July 1924
HOUSE PHYSICIAN }

Gentlemen are invited to send in their applications, addressed to the Secretary before 12 o'clock, on Monday 2nd June 1924 with copies of not more than three testimonials given specially for the purpose and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months. Salary £50 laundry allowance £2 10s. and board and residence in the Hospital.

Candidates must be unmarried, and possess a legal qualification to practice.

All candidates must be in attendance on Wednesday 4th June, 1924 at 5 p.m. precisely to appear before the Joint Committee, if required.

Forms of application and copies of the rules may be obtained from the Secretary

By order of the Board of Management,
JAMES McKAY
May 1924 Secretary

City of Leicester
RESIDENT MEDICAL OFFICER.

Assistant Resident Medical Officer (unmarried) required for CITY ISOLATION HOSPITAL & SANATORIUM The Institution provides accommodation for some 300 patients, of which the greater proportion are cases of tuberculosis. Previous experience in treatment of infectious diseases and tuberculosis is necessary Salary £350 per annum with board and residence.

The appointment will be a full time one, and the person appointed will be required to contribute to the Leicester Corporation Superannuation Fund

Applications stating qualifications age and experience, accompanied by copies of three testimonials to be sent to the undersigned not later than 24th May WILFRID CARR
Grey Friars Secretary Health Department.
Leicester 16th May 1924.

Oldham County Borough
EDUCATION COMMITTEE.

Wanted immediately ASSISTANT SCHOOLS MEDICAL OFFICER (male) Salary (including bonus) £600 per annum. Applicants must have had at least three years' experience since qualifying The person appointed will not be permitted to undertake any other duties.

List of duties and form of application which must be returned before Saturday the 24th May may be obtained from the undersigned

Education Offices, W KERSHAW
Oldham. 8th May 1924. Sec. for Education

Clifton Dispensary,
Dowry Square, Bristol

A RESIDENT MEDICAL OFFICER (male) will be required at the end of June. Salary £300 per annum with furnished house

Applications stating age and qualifications, should be sent to WILLIAM MOLINE, Hon Secretary Clifton Dispensary Dowry Square, Bristol

Clayton Hospital, Wakefield

There will be a vacancy for a male HOUSE SURGEON on 1st July

Applications are invited from duly qualified and registered practitioners. Salary at the rate of £200 per annum. There are 168 beds, and two Resident Officers.

HENRY MAW Secretary

Mildmay Mission Hospital,
Austin Street, Bethnal Green E.2

Applications are invited for the post of SENIOR RESIDENT MEDICAL OFFICER which becomes vacant on July 1st, 1924. Salary £140 per annum with board, residence, and laundry Candidates must be duly registered under the Medical Acts and the Mildmay Council are anxious that they should be fully in sympathy with the religious work of the Hospital. Applications, with copies of recent testimonials, should be sent to the Medical Superintendent at once.

Mildmay Mission Hospital,
Austin Street Bethnal Green E.2

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER which becomes vacant on July 1st 1924. Salary £100 per annum, with board residence, and laundry Candidates must be duly registered under the Medical Act and the Mildmay Council are anxious that they should be fully in sympathy with the religious work of the Hospital. Applications with copies of recent testimonials, should be sent to the Medical Superintendent at once

Radcliffe Infirmary & County
HOSPITAL, Oxford.

Applications are invited for the following posts which will become vacant on 1st July 1924.

HOUSE SURGEON
CASUALTY HOUSE SURGEON who will also have charge of Accident Ward.
RESIDENT ACCOUCHEUR.

Appointments for six months, with salaries at the rate of £120 per annum with board, etc.

Candidates must be male and qualified

Applications, with four copies of three testimonials, to be sent to the undersigned on or before 9th June.

A G B SANCTUARY Administrator

Reeth Union and Reeth
RURAL DISTRICT COUNCIL.

Applications are invited from duly qualified Medical Practitioners for the appointments of MEDICAL OFFICER (Muker District) of the Reeth Union, and MEDICAL OFFICER OF HEALTH for the whole of the Reeth Rural District Population 2 527 Area 73 000 acres. Salary as Medical Officer £45 per annum and as Medical Officer of Health £155 per annum. Total £200

Applications to be sent to the undersigned by the 30th instant

Reeth, Yorks. E. E. GREATHEAD
6th May 1924. Clerk to the Council

Glamorgan County Council
PUBLIC HEALTH (VENEREAL DISEASES) REGULATIONS 1916

The Council require the services of a MEDICAL OFFICER for a period of two months from July 1st to do duty at the V D Clinics in the County Special experience essential.

Salary at the rate of £10 10s per week plus necessary first-class return rail fares.

Applications, stating qualifications and experience in the diagnosis and treatment of Venereal Diseases, should be sent to Dr E. COLSTON WILLIAMS, County Medical Officer County Hall, Cardiff, not later than Saturday May 31st, 1924.

Jessop Hospital for Women,
(Sheffield 92 Beds.)

GYNÆCOLOGICAL AND MATERNITY DEPARTMENTS

The Board of Management invite applications for the appointment of ASSISTANT HOUSE SURGEON for six months from July 1st, 1924. Salary £100 per annum together with board, residence, and laundry

Applications, stating age with copies of recent testimonials, to be forwarded to

W H BOOTH Superintendent & Secretary

The Royal Infirmary,
Sheffield. (363 Beds.)

Wanted a HOUSE PHYSICIAN who must be fully qualified and registered one who has taken an Honours Course in Physiology preferred. Salary £80 per annum with board and residence.

Applications, with copies of recent testimonials should be addressed to

Board Room JNO W BARNES
30th April 1924. Secretary

Cambridgeshire Tuberculosis
COLONY

Applications are invited for the post of HOUSE PHYSICIAN Salary £100 per annum with board lodging and laundry Applicants must be unmarried —Apply to the Medical Director Papworth Hall Cambridge.

Worthing Hospital
HONORARY X RAY THERAPIST

The Committee invite applications for the above post which they propose to create. Full particulars on application to the Secretary

MR. HERBERT NEEDES,
31, BEDFORD ST., STRAND W.C. 2.

Gerrard 3813. (Estab. 1350)

This Agency (the Oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS and the SUPPLY of LOCUMS and ASSISTANTS

No Charge to Purchasers. All Business receives Mr NEEDES personal attention.

ESTABLISHED 1868.

PEACOCK & HADLEY,
(Mr A. HADLEY)
MEDICAL TRANSFER AGENCY,
19, Craven Street, Strand W.C.2.

Telegrams Herbaria, Westrand—London. *Telephone* Central 1112.

This old-established reliable Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms which can be obtained on application. No charge made unless a sale be effected. LOCUM TENENS and ASSISTANTS supplied.

IRISH
MEDICAL AGENCY,
(Dental and Scholastic Inc.),
20 HARCOURT STREET DUBLIN

Telegrams "Locums, Dublin." *Telephone* Dublin 4.5.

Reliable Assistants and Locums supplied at short notice. All Doctors employed T T's.

ALL BRANCHES OF AGENCY WORK UNDERTAKEN

Particulars on application to Secretary

Telephone Langham 2728.
Telegrams: "Assistamo, London."

NURSES
MALE OR FEMALE

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL AND FEVER CASES

Nurses reside on the premises and are available for urgent calls, Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION)
29 York Street, Baker Street, London, W 1
(Mrs.) MILLICENT HICKS *Superintendent.*
W J HICKS *Secretary*

ST. LUKE'S HOSPITAL.
ESTABLISHED 1751

PRIVATE NURSING STAFF DEPARTMENT

TRAINED NURSES for MENTAL and NERVOUS CASES can be had immediately Apply to LADY SUPERINTENDENT 19 Nottingham Place, London, W 1 Telephone Mayfair 1420

NORTHERN BRANCH.—Apply LADY SUPERINTENDENT, 5 Clarendon Rd Leeds Phone Leeds 2 755

THE
NEW MENTAL NURSES CO-OPERATION,
139, Edgware Road Marble Arch, W

Specially trained Nurses for Mental and Nerve cases. (All Nurses are insured under the Employers Liability Act 1906.) Apply the SUPERINTENDENT.

Telegrams "Psyconurse Padd, London." *Telephone* No. 6165 Paddington

York Road (General Lying-
IN HOSPITAL) Lambeth, S.E.—Established 1765. Patrons, H.M. THE QUEEN and H.M. QUEEN ALEXANDRA. Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Telephone 961 Central. For rules, fees, etc. apply ROSE E. WHITE, Secretary

THE

SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION,

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LONDON, S.W. —(7) PARTNER required (after short preliminary assistantship) in middle and working class Practice well over £2,000 p.a. in well populated Suburb Panel 1 450 Rent of house £50 One third share (about £700) would be sold for £1,400

SOUTH COAST —(8) PARTNERSHIP in Panel and Private Practice, over £4 000 p.a. in popular South aside Resort Panel 4 150. Premium one-third share two years purchase. Partner must be energetic and not over 35

DERBYSHIRE — (9) Well-established PRACTICE of between £700 and £800 per annum in Manufacturing Town Panel 850 No Midwifery Nice detached house (4 bedrooms) in acre of ground to let. Great scope for increase Premium one and a half years purchase

SOUTH-WEST OF ENGLAND —(10) Very old established middle and better-class PRACTICE over £4 200 in important Seaport Town. No Panel or Appointments Commodious house in excellent position Rent £100 Premium one and a half years purchase

DEATH VACANCY —(11) East Coast Old established PRACTICE about £2 000 in important Seaport Town No panel Comfortable and well situated house.

SOUTH-WEST OF ENGLAND —(12) PARTNERSHIP in Very old-established Country Practice in first rate hunting centre. Convenient house (8 bed and dressing rooms) Garden and orchard Rent £60 Share worth about £1,150 per annum.

KENT —(13) Old-established unopposed Country PRACTICE over £900 p.a. in beautiful district. Panel under 400 Attractive residence (5 bedrooms) with gardens, orchard &c. to be sold. Considerable scope Premium one and a half years purchase

EASTERN COUNTIES —(14) Old established PRACTICE £1 855 p.a. in pleasant Market Town Panel 1 100 No midwifery Excellent detached house (7–8 bedrooms) Very good garden Cottage Hospital Premium one and half years purchase

DEATH VACANCY —(15) South Wales Unopposed PRACTICE about £1 700 in small Seaside Town Panel 1 430. Good house. Rent £60 on lease

SOUTH COAST —(16) Good class PRACTICE of £1,350 per annum Excellent house Premium £1,250

SOUTH MIDLANDS —(17) Well-established unopposed PRACTICE averaging £1 181 per annum in good agricultural district. Panel 800 Detached house (5 bedrooms) in grounds of half acre Rent £65 on lease Premium £1,700

LONDON, S.E. —(18) PARTNERSHIP in old-established middle and working class Practice about £3,300 in outlying Suburban District Very convenient corner house (3 bedrms.) Premium one third share £1,500

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WEST OF ENGLAND —(21) Well-established good class panel and private PRACTICE over £1,080 per annum in favourite Town Panel 955 rapidly increasing Good house Premium £1,650

SURREY —(22) PRACTICE about £500, in Residential Suburban District under 15 miles from London Small panel Rent of house 4 bedrooms &c.) £60 Premium £700

INLAND HEALTH RESORT —(23) Well-established PRACTICE in first rate Residential Town Receipts 1923 £1,818 Panel 2 600 House contains 7 bedrooms &c. Premium £2 400

YORKSHIRE (W. RIDING) —(24) Old established PRACTICE over £1 700 in clean Manufacturing Town. Panel 1 125. House contains 3 bed and 2 dressing rooms Garden half acre Pretty surrounding country Premium £2 000, to include book debts tenants fittings &c.

EAST ANGLIA —(25) Well established PRACTICE in important Town and Agricultural centre near the Coast. Receipts average £2 675 per annum Panel 2 100 Excellent house (6 bed and 2 dressing rooms) Premium one and a half years purchase

LONDON, W —(26) Within a short distance of the Marble Arch Old established non dispensing PRACTICE of the better middle-class type. Receipts £1,200 to £1,500 p.a. Small select panel 40 Large house to let Premium one and a half years purchase.

LONDON, N —(27) PARTNERSHIP in Cash and Panel Practice of £1,800 in Residential District. Panel 3 400 House contains 5 bedrooms &c One third share at first. Premium £1,200 Incoming Partner must be married

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SOUTH OF ENGLAND —(33) PARTNER required in very sound old-established Practice in Seaport Town Panel under 3 000 Share worth £700 to £800 at two years purchase Partner must be keen and energetic and not much over 30.

COUNTY DURHAM —(34) Well established unopposed Country PRACTICE near important Town Receipts, 1923 £1,200 Panel about 700 House to rent. Premium 1 200

MIDDLESEX —(35) PARTNER required in very old established and lucrative practice over £4 500 per annum in industrial district Panel 4,000 Small house (4 bedrooms) Rent £52. Premium one-third share two years purchase

SOUTH OF ENGLAND —(36) PARTNERSHIP in an old established PRACTICE of £2 000 in beautifully situated Country Town Panel 1 100 Very good educational advantages. Cottage Hospital. One-third or one-half share at 3 years purchase

MANCHESTER —(37) Old-established and increasing middle-class PRACTICE, over £1 400 per annum in Suburb with Hospital and opportunities for Surgery Small panel. Good house (8 bed rooms) in excellent position. Rent £90. Premium one and a half years purchase.

SCOTLAND NORTHERN HIGHLANDS — (38) PRACTICE averaging over £1 600 per annum in a Town. No panel House (5 bedrooms, &c.) in best residential part. Ample scope for midwifery and panel Premium £1,200

SHROPSHIRE —(39) PARTNERSHIP in Country Practice, nearly £1 350 per annum. Detached house (6 bedrooms) with nice garden, Rent £65 Cottage Hospital Premium one half share £900

SOUTH OF ENGLAND —(40) PARTNERSHIP in a good class non panel practice of £2 400 per annum in beautifully situated Country Town near the coast One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate, not over 35 and preferably F.R.C.S. England. Preliminary Assistantship Salary £500 p.a.

EAST COAST —(41) Old-established good class PRACTICE £1 700 per annum in pleasant Seaside Town and favourite Resort No panel Nice modern double fronted house (6 bedrooms) Rent £75 on lease Premium one and a half years purchase.

MIDLAND TOWN —(42) Old-established PRACTICE about £1 100 per annum in Residential Suburb. Panel 700 Good house and large garden Premium £1 600

NORTH-WEST COAST —(43) Sound middle class PRACTICE about £2 400 Conveniently situated house to rent. Premium £2 000 part by instalments.

NORTH OF ENGLAND —(44) Old established PRACTICE of £1 650 per annum in Country District Panel 810 Very good house (5 bedrooms) in charming grounds two acres Premium practice house and grounds £4,000 Mortgage could be had on house.

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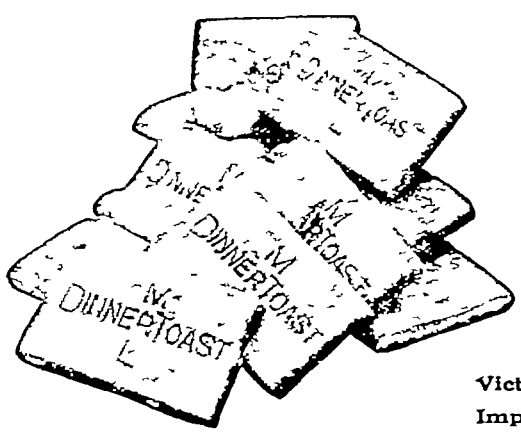
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In any case, it is certainly the course of prudence to pay far more attention to the regular and—what is fully as important—thorough emptying of the large bowel, than is customary For this, it is to exercise and diet that we should chiefly look, but most people of middle or advanced life need to supplement these measures if intestinal stasis is to be truly avoided

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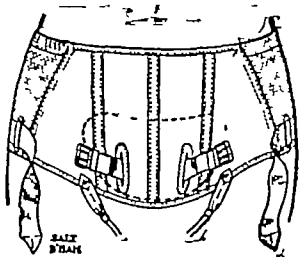
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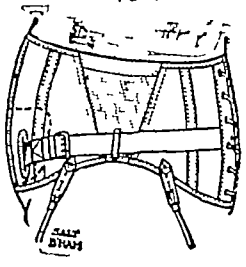
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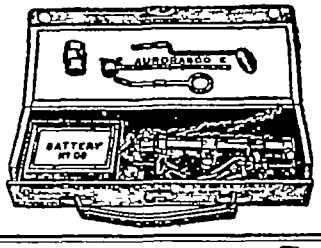
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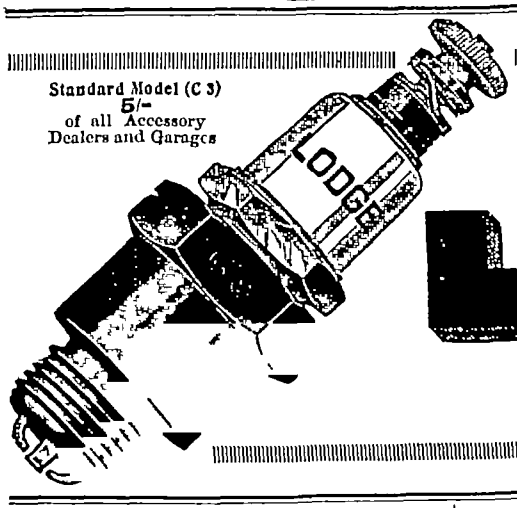
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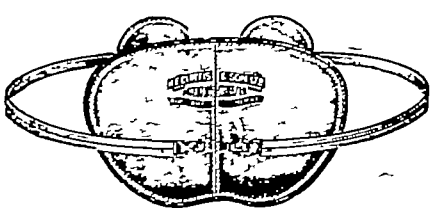
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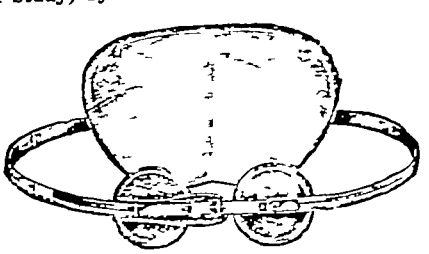
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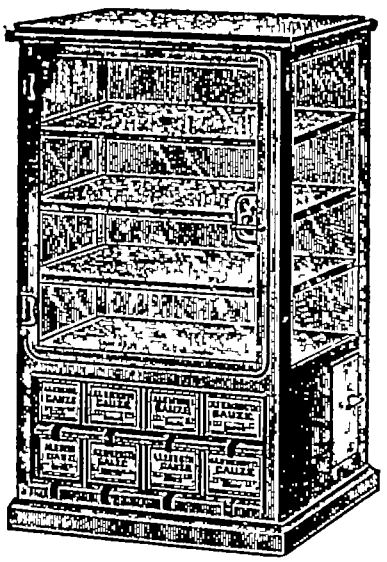
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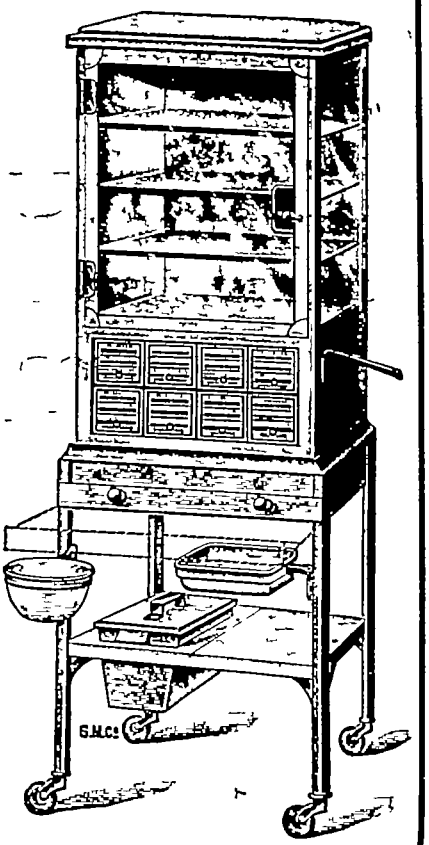
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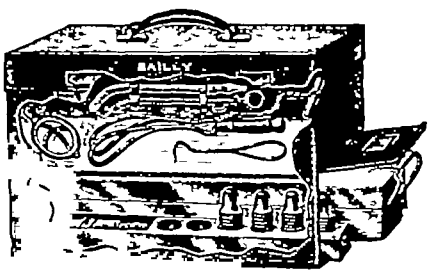
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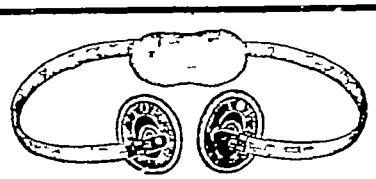
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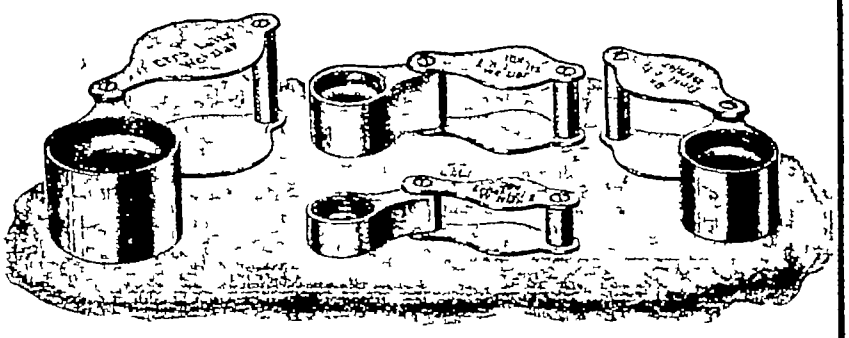
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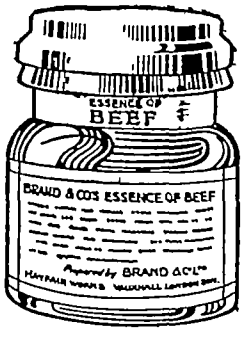
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Extract from BRITISH MEDICAL JOURNAL, 10th May 1924, page 66

DERMATOLOGY

Danish Treatment of Scabies

A M Greenwood (Journ Amer Med Assoc February 9th 1924 p 466) reports having obtained considerable success from the twenty four hour method of treatment of scabies used in Copenhagen since 1911 An ointment containing potassium sulphide prepared in a special manner, frees hydrogen sulphide when placed on the skin The patient receives an ordinary cleansing the ointment is rubbed into the whole of the body with the exception of the head and after waiting a quarter of an hour he retires to bed The next day about the same hour he receives a bath and fresh underclothing and the treatment is finished his clothes have been disinfected in the meantime

Out of 84 cases treated in this way the author has only had 3 failures and in each of these cases the patient did not follow the directions given The importance of correct preparation of this ointment is emphasized and full details are given In brief sulphur and potassium hydroxide are mixed and after the reaction is complete the product is added to a mixture of vaseline and lanoline. Zinc sulphate and sodium hydroxide are mixed and the precipitate added to the ointment in which also is included a little oil of bitter almond to check the somewhat disagreeable odour of hydrogen sulphide"

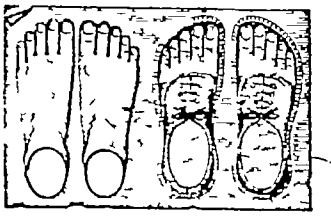
The Ointment referred to is known as KATHIOLAN—Marcussen's Ointment for Scabies, and is supplied by Messrs Chas Zimmermann & Co (Chem), Ltd, 9-10, St Mary-at-Hill, London, E C 3, packed in tins containing 200 grammes, and in 1 and 2 kilo tins for Hospital and Municipal authorities Literature and Sample to Medical Men on request

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(See BRITISH MEDICAL JOURNAL, *7th July, 1923)*

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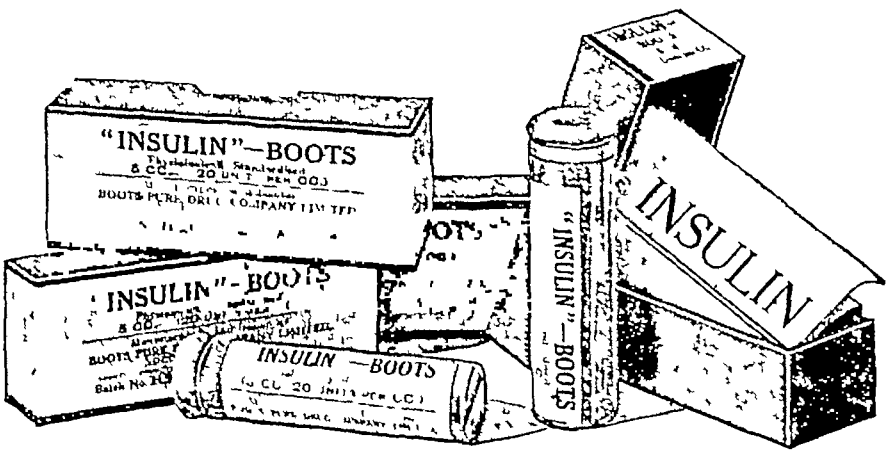
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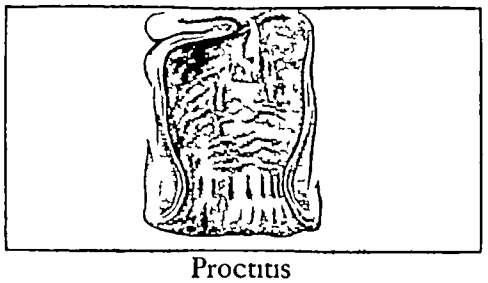
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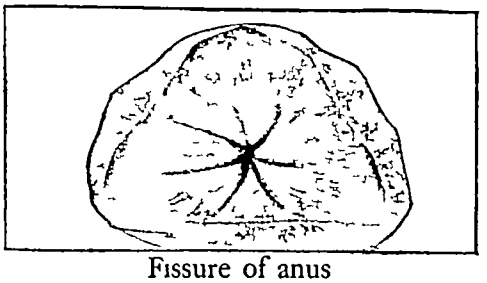
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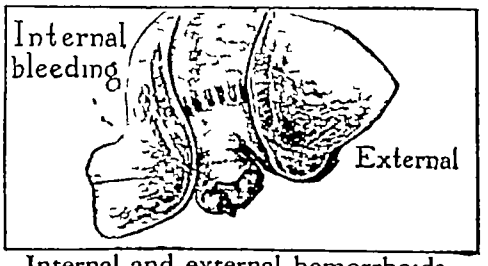
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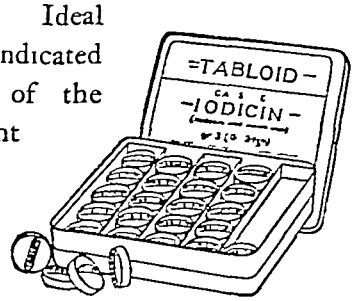
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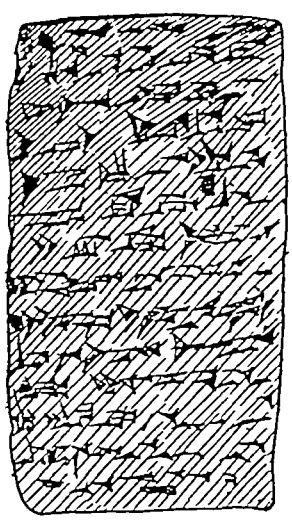
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LETTER CONCERNING A PATIENT WRITTEN BY AN ASSYRIAN PHYSICIAN TO THE KING.—Arad Nana appears to have been consulting physician to King Esarhaddon, who had evidently asked him to give medical attention to a patient in whom he was interested. The letter reads To the king my lord thy servant Arad Nana may there be peace for ever and ever to the king my lord. May Ninip and Gula grant health of soul and body to the king my lord All is going on well with the poor fellow whose eyes are diseased I had applied a dressing covering the face. Yesterday toward evening undoing the bandage which held it (in place) I removed the dressing. There was pus upon the dressing the size of the tip of the little finger If any of your gods set his hand thereto let him say so. Salutation for ever! Let the heart of the king my lord be rejoiced. Within seven or eight days the patient will recover' Another letter written by the same physician in similar circumstances runs: "As regards the patient who has a bleeding from the nose, the Rab-Mag (or chief physician) reports Yesterday toward evening there was a hæmorrhage. The dressings have not been properly applied. They have been placed outside the nostrils oppressing the breathing and coming off when there is hæmorrhage. Let them be put inside the nostrils, and then the air will be excluded and the hæmorrhage stopped. If it be agreeable to my lord the king I will go tomorrow and give instructions (meanwhile) let me know how the patient is. Assyrian physicians did pioneer work, for although they never broke away from the Babylonian trend towards magic, they did add to the little science they found in medicine.

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A British Medical Association Lecture

ON

DEFICIENCY DISEASES, WITH SPECIAL REFERENCE TO RICKETS *

(*With Special Plate*)

BY

EDWARD MELLANBY, M.A., M.D. CANTAB.,

HONORARY PHYSICIAN ROYAL INFIRMARY SHEFFIELD PROFESSOR OF PHARMACOLOGY UNIVERSITY OF SHEFFIELD

RECENT investigations on diet have profoundly modified our views on nutrition so that emphasis on the importance of quality of foodstuffs, which developed as the result of the discovery of vitamins, has now in turn been supplemented by equal emphasis of the importance of balance and interaction of dietetic elements. With the advance of knowledge the question arises as to the adequacy of the term 'deficiency diseases," about which it is suggested I should address you this evening. The phrase is obviously only adequate at least as regards rickets if it be remembered that deficiency" is merely a relative term and what may be an ample amount of a food factor allowing good health in one diet and under one set of conditions may be a real deficiency' having dire results in other circumstances. At all points of the advance in knowledge of this new aspect of nutrition the pathological side of the subject has forced itself upon the notice of the investigator and, speaking from both the laboratory and clinical point of view, I propose in this lecture to show how some widespread diseases are related to common dietetic faults.

As regards the two earliest known and best recognized of the deficiency diseases—scurvy and beri beri—I do not propose to say much, because neither from the academic nor the practical standpoint, has recently acquired knowledge of these diseases greatly modified or extended the earlier views. Although both diseases are comparatively rare as definite syndromes in this country we still do not know to what extent they are responsible for milder conditions of ill health whose cause escapes detection. In the case of scurvy most recent work is concerned with the relative amount of antiscorbutic vitamin in different foodstuffs and more especially in the different forms of milk including dried milk on the market. On the whole as regards this latter point the general opinion among workers is that milk dried by the roller process has a greater amount of antiscorbutic vitamin than spray-process milk. My own experience is in agreement with this view. Many practical points remain to be cleared up in connexion with scurvy, for we are still ignorant both as to the nature and mode of action of the antiscorbutic vitamin. There are however, but few diseases which yield so readily to treatment as does scurvy to the addition to the diet of foods rich in antiscorbutic vitamin such as oranges and lemons.

The rapid disappearance of beri beri which is reported from Japan and other parts of the world where the disease was very common, as the result of the application of facts concerning the relation of this disease to vitamin B, is a triumph of which the pioneer workers on this subject including among others Eijkman, Grijns, Braddon, Fraser and Stanton may well feel proud. There are still however some authorities who do not believe that the etiology of beri beri is fully explained by the simple dietetic deficiency of vitamin B, and this view has recently been revived by McCarrison [1]. The subject merits further work.

Great attention has been given both by physiologists and those interested in experimental medicine to fat-soluble vitamin, or vitamins if they should ultimately prove more than one, during recent years. The reason for this interest is no doubt the feeling that deficiency of these particular substances in the diet of many people in this country is a reality, and is responsible for great defect both of bodily structure and of health. As I propose to spend most of the time this evening describing the defects for which these vitamins are responsible, as well as their mode of interaction with other dietetic substances and with the environment, it may be well to point out that intrinsically vitamin A is of no greater importance than any other element of the diet which is essential to life. Actually, however, it seems to be of greater importance to us as medical men, for a number of circumstances have assisted in bringing about a state of affairs so that a deficient intake of this vitamin has become of serious import in the national life. In the first place the distribution of the vitamin is restricted to comparatively few foods—such as milk eggs, green vegetables etc.—and these are often dear or difficult to procure. Secondly, the element calcium with which vitamin A works in conjunction, is also deficient in the average diet. Thirdly cereals which are cheap and therefore form a large part of the dietary contain some substance or substances which actively antagonize the action of the fat-soluble vitamin in some important respects. Finally the climate of this country and especially the lack of sunshine is such that we require relatively large quantities of the vitamin to bring about normal development and health.

I shall now describe to you the evidence—most of it obtained by experimental work on animals—which indicates that some of the physical defects commonly seen among the people in this country can be ascribed to simple dietetic error whose mode of action centres round fat-soluble vitamin. After dealing with the experimental side of the subject I shall briefly sketch attempts made to apply the facts to the treatment of various clinical conditions.

Fat-soluble Vitamin and the Bone Abnormalities of Rickets and Osteoporosis

The most potent factor in the diet so far discovered which stimulates the formation of bone is vitamin A or a substance having similar distribution and properties as vitamin A. Whether this calcifying substance, or the antirachitic vitamin as I have elsewhere called it is identical with vitamin A—that is the vitamin discovered by McCollum and Davis—and a substance necessary for growth of young rats and for the prevention of keratomalacia is still uncertain. Some of the apparent differences between vitamin A and the antirachitic vitamin I have previously discussed and other points of difference have been emphasized by McCollum and his co-workers and also by Goldblatt and Zilva. The point will not be settled until the synthetic diets used in the growth experiments and in the rickets experiments on rats are identical. In the experiments on rickets carried out by these workers the diet used has been deficient not only in the antirachitic vitamin but also in phosphorus whereas in the growth experiment only vitamin A has been deficient. Accurate comparison between the properties of growth formation and bone calcification is therefore impossible. A more complete consideration of this problem as to whether vitamin A is identical with antirachitic vitamin can be found in the recently published Report on the Present State of Knowledge of Accessory Food Factors (Vitamins) [Special Report Series, No. 33 (revised) Medical Research Council]. In this lecture I shall use the term antirachitic vitamin when referring to rickets and allied problems, but shall use the term vitamin A' when referring to growth and keratomalacia.

The experimental work upon which is based the view that the antirachitic vitamin controls bone calcification was carried out on puppies and was as follows. When puppies eat diets made up of food such as separated milk 150 to 300 c.cm. lean meat bread or other cereal yeast orange juice and some vegetable fat such as olive oil—that is to say diets which are physiologically perfect so far as is known except for a deficiency of fat-soluble vitamin—the calcification of their bones is defective and has the structure typical of rickets or of osteoporosis. A similar diet to which some foodstuff rich in fat-soluble A such as cod-liver oil egg yolk whole milk, butter or suet is added will bring about improved bone calcification to varying degrees often resulting in fact in perfect bone calcification and a normal animal. It is possible in some cases to destroy the antirachitic vitamin by heat and oxidation and then the food will no longer bring about improved calcification of

* Delivered before the Bradford Division of the British Medical Association March 26th 1924.

bone For instance, although the fat-soluble vitamin content of cod-liver oil is high, it can be destroyed by heating the oil to 120° C., and at the same time bubbling air through for about thirty-two hours If this oil after heating be now added to the diet described above, the bone calcification remains defective In the case of butter the vitamin content is more readily destroyed, and four hours of the same treatment will leave a substance with little or no power to stimulate bone formation

Butter has presented the same difficulties as regards its fat-soluble vitamin content both in growth experiments in rats and in the problem of rickets in puppies, because its action is rather different from that of cod-liver oil In the case of cod-liver oil, even when the calcium of the diet is low, the influence of the oil on bone calcification and growth is great But the effect of butter on bone calcification and growth is small so long as the calcium of the diet is small in amount, but when extra calcium in a correct form is added to the diet the butter influence becomes correspondingly great The practical importance of this observation is that the separation of butter from milk spoils both products from the point of view of antirachitic effect To get the best antirachitic effect from butter extra calcium, preferably in the form of calcium carbonate, ought to be added to the diet

The antirachitic action of whole milk has been found to vary greatly according to the diet of the cow and the degree of exposure to sunlight These facts have been worked out recently by Luce,[2] who found that, when the cow was pasture-fed and exposed to sunlight, 2 c.cm. of its milk had approximately the same antirachitic action, when tested on rats, as 15 c.cm. of milk of the same cow when fed on a diet of white maize meal, gluten meal, oats and barley, and mangolds, and kept in a dark stall

A closely related point of importance, made evident by animal experiment, is the necessity of including in the diet during pregnancy and lactation a good supply of foodstuffs containing fat-soluble vitamin as well as other vitamins and substances which cannot be synthesized by the animal body Under these conditions the maternal organism must supply these substances to the developing foetus, and, if her own intake is reduced, the sacrifice of her own stores may be more than she can afford, thus bringing about ill health No doubt both the maternal organism and the offspring frequently suffer from defective feeding, either because she sacrifices too much of her own essential stores or because the young are insufficiently supplied Experimentally we find that, when bitches are poorly supplied with antirachitic vitamin in the diet during pregnancy and lactation, especially when associated with excess of cereal, the puppies develop rickets more easily than when the maternal diet during the same period includes a liberal supply of this vitamin, especially in the form of cod-liver oil

The Interaction of Cereals and Antirachitic Vitamin

The effect on bone formation of antirachitic vitamin would be a more simple problem from a practical standpoint were it not that other dietetic influences are at work modifying and interfering with its action Generally speaking, the more food that is eaten by a growing animal, the more rapid is the growth Consequently there is always the question of a race between growth of pre-bone tissue and its calcification to be considered The greater the growth the more the need for those dietetic factors stimulating bone calcification This is not the end of the matter, however, for certain foodstuffs actually prevent calcification independently of their effect on growth Cereals appear to have this anticalcification effect to varying degrees Of the cereals examined, oatmeal is the worst, while, other things being equal, white flour and rice are the best cereals from this point of view A mixed diet deficient only in antirachitic vitamin and containing a lot of oatmeal cooked in the form of porridge produces bad rickets, the intensity of the rickets depending on the amount of oatmeal eaten Thus, if a puppy eats 100 grams of oatmeal a day under these conditions it will develop much worse rickets than if it eats only 50 grams daily Another cereal product which interferes with the action of the calcifying vitamin is the germ of wheat It might be expected from this that wholemeal flour would give worse rickets than white flour There is, however, such a comparatively small amount of germ in wholemeal bread that it can have but little influence Thus the wheat kernel only contains 1·5 per cent embryo, and this amount does not, according to my experiments, have a powerful influence The presence of the rickets-producing substance in wheat germ does not, therefore, present a problem as regards ordinary human diet, but may be of great importance, as I have pointed out elsewhere,[3] in cases where animals are largely fed on cereal offal

A point of interest about the cereal effect is that it is most potent in those foods having the largest calcium and phosphorus content Oatmeal, for instance, which contains most calcium and phosphorus, opposes most strongly the retention of these elements in the body in the form of calcium phosphate in bone I have discussed elsewhere the possible cause of the rickets-producing effect of cereals, and pointed out that it appears to be best explained by assuming that there is in cereals a substance or substances actively preventing bone calcification This substance, whose composition and properties are unknown, appears to act in a diametrically opposite way to the antirachitic vitamin The cereal effect can be completely antagonized by the antirachitic vitamin, especially by cod-liver oil Milk and egg yolk and butter, if associated with calcium salts, are all capable of antagonizing completely the cereal effect On the other hand, the more the cereal eaten and the more potent from the point of view of rickets the type of cereal in the diet, the greater must be the antirachitic influences necessary to produce normal development

The Effect of Fat-soluble Vitamin and other Dietetic Factors on the Structure of Teeth

It has been shown by M. Mellanby that the structure and arrangement in the jaws of teeth of animals depend largely on their nutrition during the period of development, so that it is now possible to produce almost any degree of imperfection of the teeth by arranging the diet of puppies Here again a fat-soluble vitamin plays a powerful part, and those substances containing it, such as milk, egg yolk, cod liver oil, suet, and green vegetables, all favour the production of perfect teeth, while cereals, and especially oatmeal, tend to the production of badly formed teeth It seems reasonable to suppose that, if teeth are badly formed, they will be more susceptible to caries, but when this was suggested by M. Mellanby it was met by opposition Dental authorities said there was no relation between dental structure and caries, because when the deciduous teeth of children are examined only 1 to 3 per cent. are badly formed, whereas 90 per cent. of children in this country develop carious teeth It is true that, according to present standards, the temporary teeth of children on naked-eye examination seem well formed, but examined microscopically these teeth show quite a different picture In fact, of 302 teeth examined microscopically by M. Mellanby after being ground down, as many as 85 per cent. were defectively formed, whereas the dentists supplying them reported that only 2 to 3 per cent. were hypoplastic Of 226 temporary human molar teeth examined only one was perfectly formed and quite free from caries It seems clear therefore that, generally speaking, more perfectly formed teeth are more free from caries For exceptions to this rule the original papers ought to be consulted If this be true the first method to be employed to reduce the scourge of tooth defect in this country is to improve the formation of children's teeth by better feeding of the mother during pregnancy and lactation and of the children so long as the teeth are being calcified—that is, for the first eighteen years Better feeding means the greater consumption of such foodstuffs as promote good teeth formation and the diminished consumption of foodstuff antagonizing this development These experimental results have completely changed the point of view as to the causation of dental defect, for previously all attention has been directed to the action of bacteria and their end-products externally on the teeth, and the toothbrush has been the great stand-by It has proved but a bruised reed It will be realized from this

brief account how very important even considered from the point of view of teeth alone, are the calcifying vitamin and the substances with which it reacts

Fat-soluble Vitamins and Muscle Structure and Function

So far attention has been confined to the effect of the fat-soluble vitamin on processes of calcification But in rickets other organs besides the bones are abnormal and among these probably the most noticeable is the condition of the muscles, as evidenced by the flabbiness and lethargy of the average child suffering from this disease in an active form

Recently a more detailed study has been made into the effect of diet on the muscles, and the preliminary results described to the Physiological Society (1923) by Clifford Surie, and myself Degenerative changes in muscles of animals suffering from scurvy have also been described (Havem,[4] Aschoff and Koch,[5] Hart and Lessing[6]) Our results are, briefly, that those dietetic changes which are responsible for rachitic changes in bones are also on the whole, responsible for certain defects in muscle These defects, besides being evident from the weakness of the muscles, can also be determined and analysed by their microscopic structure and alteration of their chemical constituents Fat-soluble vitamin again plays a dominant part in controlling the muscular structure and function and is opposed in its work by the cereal portion of the diet, as described above in the case of bone structure A diet deficient in fat-soluble vitamin and containing excess of cereal is capable of producing muscles which are extraordinarily defective in structure and have the appearance of pseudo-hypertrophic muscular dystrophy In the case of puppies it is possible, by slight alterations in feeding to produce all degrees of muscle change so that the animals may show the greatest activity or all grades of abnormality down to absolute paralysis Results of this type demonstrate clearly the dominant position held by diet over muscular activity, and show that given a normal young animal, its activity can be controlled by its diet rather than by the space allowed it in which to move about It is interesting also to note that Nature has so arranged matters that a strong active muscle is developed along with a well calcified bone, and a weak muscle with a defectively calcified bone Teleologically this arrangement would be expected

I have described from an experimental point of view a number of tissues of the body whose structure and function are controlled by a few dietetic factors—factors which there is reason to believe bring about the same defects in corresponding human tissues in a widespread manner Other physiological functions are undoubtedly interfered with by the same apparently small dietetic abnormalities and these are gradually coming to light On the other hand it is equally certain that other dietetic elements not dealt with here are fundamentally responsible for many pathological conditions and that these will also be unfolded gradually by investigation Before attempting to show how the experimental results are being applied to clinical problems, I shall first discuss briefly the recent work on light treatment and give the evidence which indicates that the influence of light, as regards some physiological processes at least is closely bound up with the dietetic factors the fat-soluble vitamins and cereals

The Relation of Light Radiations to Deficiency Disease

Although the therapeutic influence of light radiations has been long recognized more particularly in respect to bone tuberculosis it is only in the last two years that the subject has been put upon an experimental basis The experimental work already done has led to the discovery of interesting facts so that it can now be claimed that light therapy has been raised from a position of empiricism to one with some scientific foundation It is true that the foundation is as yet fragile but this drawback will undoubtedly rapidly disappear in view of the many investigations now being made on the subject I do not propose to deal here with the great pioneer work carried out by various clinicians on this subject, but will simply mention the more recent results which are germane to the subject of deficiency diseases, and which have brought it under the scrutiny of the investigator both in the laboratory and the hospital In 1919 Huldschinsky described the curative effect of exposures to the ultra violet rays of a mercury-vapour lamp on rickets in children These observations have been abundantly confirmed both as regards children (Chick, Dalvell *et al*) and in the case of experimental rickets in rats (Hess Unger and Pappenheimer Shipley Park Powers, *et al*) and in puppies by myself Before and throughout the period during which the effect of light on rickets was being investigated, the above described results dealing with the influence of antirachitic vitamin on bone calcification were also being widely discussed, and it soon happened that the two influences became associated in the minds of those investigating the diseases

It was found that the effect of the ultra-violet rays striking the skin was a more general one than at first imagined Huldschinsky for instance, described cases of latent and actual tetany cured by exposure to these rays whereas Powers Park, Shipley, McCollum, and Simmonds found that sunlight brought about a greater consumption of food in rats, stimulated their activity improved their appearance, and increased their reproductive capacity when fed on vitamin-deficient diets In general exposure of animals to ultra-violet rays acted in many respects like adding fat-soluble vitamin to their diet when devoid of or deficient in this substance Of the two hypotheses, then suggested as to the mode of action of the radiations—namely, (1) the possible synthesis of the vitamin or (2) the activation of the fat-soluble vitamin already stored in the body, it is now known that the second is the true one. The establishment of this hypothesis rests largely upon the experiments published respectively and simultaneously by Hume (1922) and Goldblatt and Soames (1922) It will be remembered that both these investigations dealt with the effect of exposure to ultra-violet radiations on the growth of rats and the results were in close agreement When young rats were fed on a diet devoid of vitamin A and exposed at the same time to the ultra-violet rays they were stimulated to grow at the normal rate for a period if the rays were applied at an early stage of the diet In course of time—that is after about eight weeks—all growth ceased presumably because the vitamin A supplies of the body were exhausted This cessation of growth took place in spite of the continued application of the radiations Other evidence pointing to this conclusion was that the longer the period on vitamin A-deficient diet before the rays were applied the less was the effect on growth produced by the exposure so that, after a period of eight weeks on the vitamin-deficient diet the radiations lost all influence and the rats declined in weight and died

Further suggestive evidence pointing to the interaction of exposure to light and the liberation and activation of fat soluble vitamins has been referred to previously in connexion with the observations of Luce on the influence of diet and light on the antirachitic effect of cow milk Miss Luce does not claim that her experiments have definitely proved that sunlight has a specific influence on the antirachitic vitamin content of milk but it would appear probable that such is the case

Thus the experimental work on vitamins and the light influence is not only bringing together into close accordance clinical and laboratory observations as to the influence of diet and environment respectively on the development and cure of rickets—observations which at first sight appear to have no point in common with one another—but is also providing a working hypothesis as to the mode of action of the ultra-violet radiations which reopens the question of light therapy It is no doubt true that light striking the skin acts in other ways besides mobilizing the fat soluble vitamin supplies of the body but what these other ways are we have no knowledge as yet In the meantime we realize some of the important actions of these vitamins in the body and on this basis alone it seems possible to understand partially at least some of the physiological and therapeutical effects of the ultra-violet rays But this interaction of fat-soluble vitamin and light is not the whole of

our present knowledge, for just as vitamin A and cereals are opposed in their actions on bone and muscle, so also is the light effect antagonized by cereals When the antirachitic vitamin in the diet is greatly reduced the influence of ultra-violet radiations depends on the amount and type of cereal in the diet If it is small in amount light has a good stimulant effect on calcification and other physiological processes, but as the cereal increases the light influence becomes more and more negligible There are undoubtedly other dietetic factors involved in the action of light, but even now it is clear that there is a constant battle going on in relation to calcium and phosphorus metabolism, for, on the one hand, the light influence is constantly stimulating and making more prominent the antirachitic vitamin supplies of the body, and, on the other hand, there is the antagonistic influence of other food constituents, especially the cereals, which are tending to deprive this vitamin of all influence The practical outcome of the battle, at least so far as animal experiments indicate, is almost as might be expected When the diets are only moderately defective from the point of view under discussion, the influence of the light radiations is potent and the bone formation and general condition of the animal is much improved When the diet is very defective in make-up, containing much cereal and little or no fat-soluble vitamin, the influence of light is negligible, so that, for instance, intense rickets may be produced in spite of exposure to the rays Even so far as diets of moderate defect are concerned, however, when calcification is used as evidence of intensity of action, the addition of vitamin A in large quantities, as by adding cod-liver oil to the diet, is much more effective than exposing the animal to ultra-violet radiations If the influence of light on calcification be interpreted in terms of antirachitic vitamin, it means that the addition of a large supply of this substance to the diet is more potent than the stimulation to activity of supplies already in the body The same facts apply to the calcification of the teeth (M Mellanby[7]) Further evidence of the relative potency of diet and light can be seen in the fact that a good diet rich in antirachitic vitamin will prevent the development of rickets even when the animal is brought up in the dark

It may be asked, What is the effect of combining a good diet of strong calcifying influence with exposure to ultra-violet radiations? It might be thought that the effect of the combined action would be very intense and that such a procedure would have great therapeutic possibilities It is this combination that we are endeavouring to develop at Sheffield, both by animal experiments and clinically Reference will be made later to this type of therapy

To summarize sunlight and ultra-violet radiations of a mercury-vapour lamp increase the effectiveness of fat-soluble vitamin in the body, and thereby greatly improve the nutritional value of moderately defective diets of the type mentioned Absence of sunlight aids in the development of such a deficiency disease as rickets for the same reason A good diet can more than counterbalance darkness or absence of ultra-violet influence, but sunlight and other radiations cannot make up for a really defective diet

Clinical Application of the Foregoing Facts

Many of the above described results are known to apply also to man The effect of antirachitic vitamin in stimulating bone calcification in children is definite, while, as to the action of light, the fact was originally observed by Huldschinsky in the case of rachitic children and only later was the subject studied on animals Until all the points have been tested on human beings it is impossible to dogmatize on the subject, but it is probably permissible to assume, in view of the direct and indirect evidence, that most of the facts I have described can be extended to man

If, then, diets are to be made up for the preventive and curative treatment of particular clinical conditions, more especially those affecting bones, they ought to be so constituted as to contain an abundance of fat-soluble vitamins and calcium without excess of cereals, and especially of oatmeal as well as having the other qualities of what is usually regarded as a good diet

Some specimen diets that I have used are as follows

Child 3 Months Old
Milk 2 oz
Water 1 oz
Egg ½
Cod liver oil ½ drachm *bis in die*
Orange juice ½ drachm *bis in die*
Milk 16 oz in 24 hours—3-hourly feeds

Child 5 Months Old
Milk 5 oz
Egg 1
Marmite 1 drachm
Cod liver oil 1 drachm *bis in die*
Orange juice 1 drachm *bis in die*
Milk 25 oz in 24 hours—4 feeds during day; 1 feed early morning

Child 9 Months Old
Breakfast
Milk 7 oz
Lunch
Milk 7 oz
Bread ½ oz
Cod liver oil 1 drachm
Orange juice 1 drachm
Dinner
Scraped raw meat ½ oz
Potatoes ½ oz
Rice pudding
Marmite 1 drachm
Cod liver oil 1 drachm
Orange juice 1 drachm
Tea
Milk 7 oz
Egg 1
Supper
Milk 7 oz
Cod liver oil 1 drachm
Orange juice 1 drachm
Milk 36 oz in 24 hours, water *ad lib*

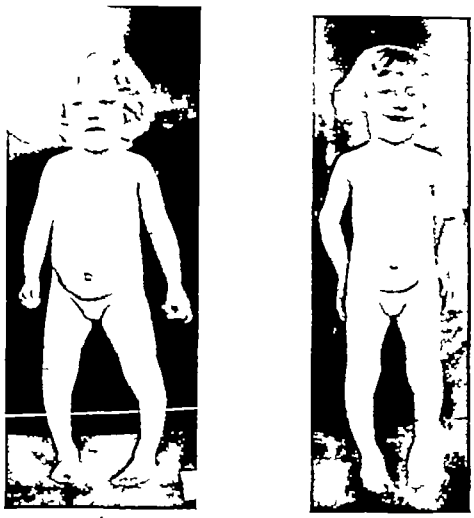
Diet for Adults
Breakfast
Milk ½ pint
Bread 3 oz
Egg 1
Butter ½ oz
Cod liver oil 1-3 drachms.
Dinner
Meat or fish 3 oz
Potatoes 4 oz
Green vegetables 4 oz
Milk pudding
Half an orange
Cod liver oil 1-3 drachms.
Tea
Milk ½ pint
Bread 3 oz
Egg 1
Butter ½ oz
Jam
Cod liver oil 1 3 drachms.
Supper
Milk ½ pint
Bread 2 oz
Add Calcium carbonate 10 grains thrice daily

The above diets only represent general types given to hospital patients at the different ages It may be necessary to make other modifications, such as increasing, decreasing, or diluting the milk or adding extra carbohydrate, especially in the case of the younger children, either in the form of cereals, malt, or cane sugar I avoid the numerous empirical manipulations of the diet, especially the milk portion, which have become so popular, including such procedures as adding barley water and lime water, adding cream and sugar to diluted milk, and making protein milk Care must be taken in giving cod liver oil, as both children and adults can be easily upset when the doses are too large I seldom give more than two drachms thrice daily to any patient Larger doses may be well taken by some adults, but even so they will sometimes develop tachycardia and cardiac discomfort Until the child is a year old the egg is uncooked and mixed up with the milk Moderate amounts of extra cereal or carbohydrate can be given to young children with impunity, so far as rickets is concerned, if the diet is constituted as described

The Treatment of Rickets

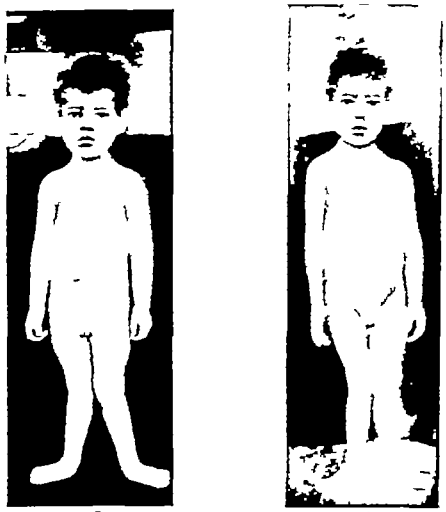
Rachitic changes improve rapidly on the above diets Bone calcification and growth are resumed, and can be readily observed by radiographic examination (see Fig 5) Concurrently with the bone change the clinical condition is transformed lethargy is replaced by activity, even when the infant is confined to a cot, the flabbiness of the muscles disappears, and with this the protuberant abdomen becomes less prominent When great bone deformity has been produced by rickety changes the restoration to healthy growth will ultimately bring about striking reduction in this deformity, but the process is slow Figs 1 (A and B), 2 (C and D) illustrate the reduction in deformity of the legs in cases of genu varum and valgum respectively after the children had been eating the above diets for about six months No doubt the legs would still further improve and become practically normal if the feeding of the children continued along these lines for a longer period Fig 3 demonstrates the reduction in size of the abdomen resulting from improved muscular tone following good feeding over the same period

In the case of adult rickets—a disease rarer than it was a few years ago—treatment is not so satisfactory as in the case of children The bones begin to calcify on giving the



A B

FIG. 1.—A child aged 3 years with leg deformity (genu varum) owing to rickets. B shows improvement after six months on diet described in text. No splinting or other treatment.



C D

FIG. 2.—C child aged 5 years with leg deformity (genu valgum) owing to rickets. D shows great improvement after six months of calcifying diet described in text. No other treatment.



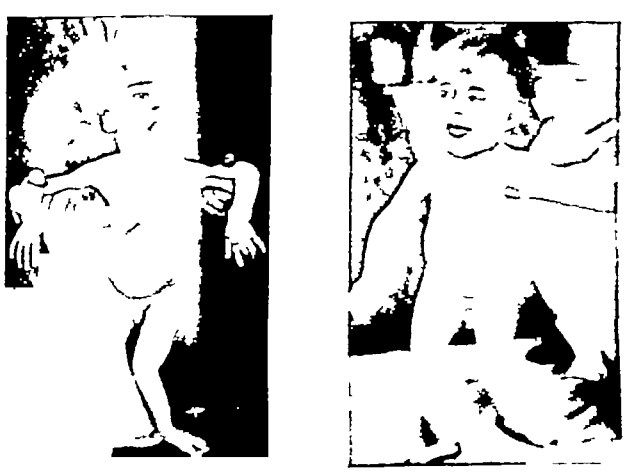
G H

FIG. 4.—Radiographs of wrist of youth aged 17 years with late rickets and osteop[orosis]. G, as on admission. H after three months on diet described in text. Note the curative changes both as regards rickets and osteoporosis.



E F

FIG. 3.—Showing the effect of a good diet over a period of six months on the abdominal muscu



L M

FIG. 6.—Severe malnutrition and rickets of child aged 3. L, photograph taken a week after admission. M photograph after one month's diet as in text.



J K

FIG 5.—Radiograph of wrist of child, aged 3 years, with acute rickets. J as on admission K, after three weeks treatment with diet and ultra violet light. Note the great improvement in calcification

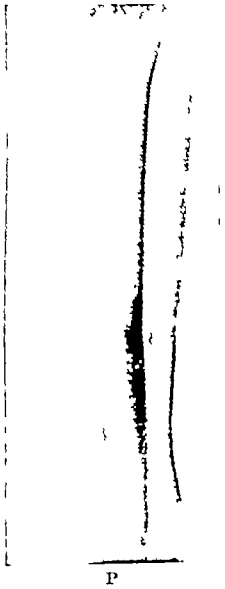


N



O

FIG 7.—Severe malnutrition of child aged 10 months. N, photograph before the treatment O photograph after two months of diet as in text



P

FIG 8.—Radiograph of lower leg of boy 16 years old In the position of the fibula a bone graft has been fixed by my colleague Professor Connell. Much new bone can be seen surrounding the grafted bone. Taken after nine weeks of a diet promoting bone calcification.

diet (Fig 4), but the limited powers of growth that remain do not afford the same chance of recovering from the bone deformity In these cases, therefore, the assistance of the surgeon to correct deformity may be more necessary Another cause of relative failure in the satisfactory treatment of late rickets is the difficulty of overcoming the tendency to infantilism and delayed general development so often met with in these cases No doubt in infantile rickets there is the same cessation of all mental and physical development as in the adolescent, but in the former case curative treatment has a longer time and better chance of bringing the patient up to the normal standard than in the case of adolescent rickets

After osteotomy for rachitic deformity it is essential that a diet with strong calcifying influence should be given otherwise the deformity may be actually increased by the operation

In cases of very bad deformity of the legs in young children it is possible, although I do not advocate the practice, to give a rickets-producing diet and, while keeping the bones soft, straighten them by wrenching and splinting Having improved the alignment the bone-hardening diet may then be started In one case Professor Connell and I treated bad deformity of the lower limbs in this way and obtained a satisfactory result

Malnutrition and Wasting of Infants

Apart from the treatment of rickets, diets made up along the lines indicated will often be found to bring about great improvement in other conditions of malnutrition and wasting in infants I do not put forward these diets as a panacea, more especially in the case of the marasmic child under 3 months of age, but the form of treatment has at least a rational and an experimental basis and ought therefore to be tried, and, if possible developed The solution to the problem of the marasmic infant under 5 or 6 months seems to me to lie with the proper feeding of the mother during pregnancy Experimentally it is easy, by feeding pregnant bitches on diets defective in the directions already discussed in this lecture, to produce litters of puppies which die off one by one in the first few weeks of life and it is probable that the production of true marasmus in children has often a similar cause

The older methods of feeding children suffering from malnutrition, still widely practised and even recommended by those who do not appreciate modern work on diet, are usually based on the teachings of either Czerny or Finkelstein Since these methods were advocated before the development of recent views on dietetics it is perhaps not surprising that sharp conflict exists between the old and the new views The basis of this conflict has not however, been previously formulated

Any method of feeding sick children which begins by reducing or completely removing fat-soluble vitamins from the diet must, in my opinion be wrong While fat dyspepsia in infants is undoubtedly a reality, although probably greatly exaggerated, it is, after all only symptomatic of a more general disturbance, and ill health cannot be permanently improved by cutting out of the diet what is definitely known to be an essential constituent Reduction in the fat *qua* fat is probably of but little importance in the nutrition of children so long as they get sufficient food to eat, but if its vitamin content goes with it then ultimately further ill health will ensue Thus if fat is reduced in or removed from the diet it is essential that the concomitant reduction in fat-soluble vitamin *should at least be restored by adding small quantities* of cod-liver oil or egg yolk

A specific instance of the detrimental results of the older views on infant feeding has been definitely proved by Hess who found that *Eiweiss-milch* actually produced acute rickets in children This fact is not unexpected in view of the results of my animal experiments It can hardly be hoped that a concoction which produces rickets will prove an ideal diet, even over short periods for other conditions of malnutrition in children

The conflict between the old and the new views is not confined to the feeding of children, but embraces all dietetic treatment of disease The following instance, recently brought to my notice by Professor Hall illustrates this The patient, a girl of 19, of well to-do parents, had been first treated for dyspepsia at the age of 9 by having the fats removed from her diet As her indigestion continued vegetables were then excluded and ultimately she lived on little but bread and other cereals The development of very bad scurvy associated with late rickets is not surprising in the light of our present knowledge nor her rapid improvement when her diet was made complete This is only a gross example of what is probably in a less degree a common result of dietetic treatment, but serves to emphasize that although our knowledge of dietetics is still limited, we must feed wasting infants and other conditions of malnutrition by giving diets which experimental evidence has shown to be complete in quality and balanced in quantity Only diets of this character are compatible with the proper development and functioning of each organ, including the alimentary canal The results of treating two cases of severe malnutrition by the diets described can be seen in Figs 6 and 7

Combined Dietetic and Light Treatment

Experimental evidence having shown that one method by which exposure to light works is by stimulating to activity the fat-soluble vitamin supplies of the body, and since the only means of access of this substance is via the food, it would seem desirable, when making use of light therapy in the treatment of disease, that the diet should be controlled at the same time This is also borne out by the fact already described that, at least as regards bone calcification, the influence of light can be completely antagonized by a defective diet Whether exposure to ultra-violet rays enhances the calcifying influence of a very good diet still remains to be proved I have treated rickets and many other pathological conditions by the combined therapy, but in no case has it been possible as yet to control the results by treating precisely similar cases only by diet or only by exposure to light Cases of rickets respond well to the combined diet and light therapy, as can be seen in Fig 5, where intense stimulation to bone calcification is obvious after three weeks' treatment but correct feeding alone also brings about rapid cure of this disease

The diets given are those already described, and the mercury-vapour quartz lamp is used as the source of the ultra-violet radiations Patients are exposed for intervals gradually increasing from five to thirty minutes back and front daily at a distance of about 5 to 6 feet from the lamp Care is taken that only a mild degree of skin irritation is ever produced, and, of course, the eyes are protected during exposure either by dark spectacles or by bandaging in the case of infants

For the past three years many of the cases of fracture of bones under the care of my colleague Professor Connell at the Royal Infirmary, Sheffield, have been placed on special diets with the object of hastening the calcification processes of repair An instance of this is seen in Fig 8, where there is a rapid laying down of new bone round a bone graft in the position of the fibula shaft in the case of a patient on a diet which strongly stimulates bone calcification

Cases of bone fracture and other bone conditions, including chronic osteomyelitis chronic mastoid infections, as well as tuberculosis of bone, are now being treated by combined dietetic and light therapy Under this treatment the general condition of the patients has improved, often very greatly, and some of the results have been sufficiently good to merit a further and closer study of the best means of using these therapeutic methods in combination There are obviously at least two problems to be solved—one the effect of the treatment on a normal physiological process such as calcification, and the second concerned with the bactericidal and resisting powers of the body to infection The successful treatment of bone and gland tuberculosis by light therapy seems to involve both of these actions, but of lupus only the second The problems may or may not be closely related The knowledge necessary for the best therapeutic results can only come through further accurate testing

I have endeavoured in this lecture to show how recent experimental work has provided information as to the potent controlling influence of some dietetic factors over the

development and function of certain organs, and more particularly of the bones, teeth, and muscles On the clinical side it would appear that most of these facts as regards nutrition are of immediate application, and the work has indicated the diets which are capable of bringing about the cure of rickets and also great improvement in the general health of many suffering from other diseases It has also provided a scientific basis for light therapy which will stimulate interest and promote further investigation into this interesting method of treatment

It must also be pointed out that the diets which bring about these curative changes will also prevent the development of the diseases treated The application of the facts ought, therefore, to ensure not only the complete eradication of rickets from the country, but also the formation of teeth and jaws of a type which are far too rare at the present time Thus, from the standpoint of preventive medicine also these facts about diet seem of great importance

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The Milroy Lectures, 1924,

ON

THE PLAGUE.*

BY

LIEUT.-COLONEL W GLEN LISTON, C I E, M D, D P H, I M S

I.—THE HISTORY OF PLAGUE

THE study of plague presents a favourable opportunity to comply with the wish of Dr Milroy, the founder of these lectures, that from time to time "spreading epizootics should be weighed and sifted by medical men who have paid special attention to the study of the course of epidemics among the human race, in order to determine whether the natural laws which regulate or effect the development and progress of the two classes of morbid phenomena are analogous, or otherwise" "Such a comparative scrutiny," says Dr Milroy, "could scarcely fail to advance the cause of general scientific truth, and would serve also to the elucidation of sound principles for the guidance of safe prophylactic and preventive legislation"

There are few diseases which can be followed into remote antiquity with greater certainty than plague One of the earliest references to the disease is contained in the first book of Samuel, in the fifth and sixth chapters The date when this book was written is not definitely known, it was probably compiled over a series of years extending from 900 B C The narrative tells us how the Philistines defeated the Israelites at the battle of Ebenezer, and captured the Ark of the Covenant They carried it into their own country, depositing it in the temple of Dagon in the city of Ashdod Shortly after the arrival of the Ark a grievous disease broke out among the people of Ashdod, so that many died "And he smote the men of the city, both small and great, and they had emerods in their secret parts" After seven months of the pestilence the Philistines consulted their diviners and priests who advised them to send the Ark back to Canaan, enjoining them to take care that it did not go back empty They were instructed to prepare golden images of their emerods and the mice that marred the land They were to place five of each of these images in the Ark, one for each of the lords of the Philistines, before they sent it back into Canaan

The story of the plague in the land of the Philistines has been cited not only because it is perhaps the earliest and clearest reference in history to an epidemic of bubonic plague but also because the now well recognized association of rodents with the disease is referred to in the narrative It is noteworthy that this feature of an epidemic of bubonic plague is seldom mentioned by the chroniclers of European epidemics, an anomaly for which an explanation will be advanced later

Certain early epidemics of disease called plague (λοιμος) were probably not true plague epidemics, but epidemics caused by other diseases often confused with plague—for example, typhus, relapsing fever, or even influenza Discarding these, let me instance certain epidemiological features of the well recognized epidemic of plague known to historians as the plague of Justinian These have been recorded by chroniclers of the sixth century A very complete list of these authorities has been compiled by Dr Raymond Crawford in his book entitled *Plague and Pestilence* The earliest is Evagrius, who lived at Antioch and was himself attacked by the plague (A D 540) He considered the disease to be contagious and to be acquired in various ways, such as by sharing beds, by actual contact, by visiting infected houses, or even by casual meeting in the market-place He observed that some escaped in spite of running every risk of infection

Procopius describes the plague as progressing by definite stages, expending its virulence in one country before passing to another, as though intent on overlooking nothing Indeed, if at first it touched a place lightly it always returned to it subsequently, till the full measure of punishment was exacted He observed that the disease almost always began at the sea coast, and that from there it spread into the interior, suggesting that infection was often sea-borne This is an observation which has been made over and over again in the history of plague, and is therefore one which demands special attention Procopius also observed that physicians, nurses, and those who buried the dead were not specially affected in spite of their constant contact with the sick, while many contracted the disease without any contact at all This also is an observation which has been confirmed in many subsequent epidemics of plague

Agathias continued the history of plague at Byzantium (Constantinople), and describes a sharp recrudescence of the disease in 558 A D He states that it never quite disappeared after the outbreak described by Procopius in 542 A like experience has been a feature of other epidemics of plague Gregory of Tours testifies to the widespread diffusion of the disease in France In 567 it caused a great mortality in Lyons, Chalons, and Dijon It broke out at Marseilles in 587, brought there by a merchant ship from Spain Rome was attacked in 590 The epidemic was preceded by a great flood The Tiber overflowed, destroying on its banks many buildings which contained grain We can imagine that on this occasion infection was imported into the city with grain brought thither to replace that which was destroyed In recent times infection has frequently been carried in this way from one country to another

Hirsch states that it is impossible to decide whether the outbreak of plague in the second half of the sixth century was the first general diffusion of the disease on European soil, or whether it had been epidemic there before, and, if so, to what extent It is certain, however, that this outbreak gave it a firm hold in Europe, and that it kept its grip there for more than a thousand years

Nevertheless, after an epidemic in Rome in the end of the seventh century (680 A D) which subsequently extended over the greater part of Italy, there seems to have been a lull of more than a century in the prevalence of the disease in Southern Europe The disease, however, still lingered in Constantinople, and epidemics are again recorded in Southern and Western Europe at the end of the eleventh century Here it will suffice to note that extended periods of quiescence in the epidemicity of the disease have been recorded in Europe

Chroniclers of the Middle Ages frequently refer to pestilences, and from references to epidemics associated with buboes and high mortality there can be little doubt that plague figured prominently among these pestilences It is equally certain that other diseases, such as typhus and relapsing fever and influenza, were confused with plague, and were probably epidemic at the same time

* This course of Lectures has been slightly abbreviated for publication.

There is one undoubted epidemic of plague, however, which has arrested the attention of the chroniclers of those days because of the great mortality associated with it and because of its widespread and rapid diffusion. Accounts of this epidemic show that it shook the whole framework of society, leaving a lasting impression on the social and economic history of Europe. This epidemic began in Europe in the end of the year 1347, and it is generally known as the Black Death.

One of the most interesting and instructive accounts of this epidemic of plague is by Gui de Chauliac, a physician at Avignon. He tells of the terrible mortality associated with the disease, and clearly distinguishes two types—the one, pneumonic, brought prominently to notice by the spitting of blood, extreme infectiousness, and death in three days, the other, recognized by the formation of carbuncles of buboes developing chiefly in the groins and in the armpits, and characterized by slight infectiousness, and fatal after a longer interval. According to this physician, the only safe way to avoid the disease was to flee from it. He himself, however, remained at his post, and, although attacked by the disease, recovered. Gui de Chauliac's description of this epidemic is so intelligible and lucid that there can be no doubt that the Black Death was an epidemic of plague, which, while showing the usual features of a bubonic epidemic of that disease was associated—as occasionally happens, especially in cooler climates—with some pneumonic cases. This accounts for the infectiousness, the rapid and widespread diffusion, and the very high mortality of the epidemic. The Black Death swept over England in 1348, as it did over other parts of Europe, carrying off nearly half of the population. Its effects upon the inhabitants of the country who survived will be discussed presently.

It is difficult to state for how long plague continued to exist in Europe in the form of the Black Death; certain it is, however, that epidemics of plague-like diseases prevailed sometimes in one place, sometimes in another, throughout the remainder of the fourteenth century and the whole of the fifteenth.

Hirsch states that better epidemiological records are available for the sixteenth century, and these show, too, that scarcely a year passed without outbreaks of plague, sometimes confined to small areas, at other times of the nature of a pandemic. During the first two-thirds of the seventeenth century also the disease was distributed widely over Europe, but in the last thirty years of that century plague was observed to be retreating gradually from Europe. At the beginning of the eighteenth century it became still more certain that a turning point had been reached. Only twice did plague become widely diffused in Western Europe in that century. Plague still lingered in the south-eastern parts of Europe, and made frequent excursions northwards from this area, yet rarely did the disease extend beyond the Balkan peninsula. These epidemic extensions, when they occurred, were becoming less virulent, less prolonged, and more concentrated on the larger cities.

The following table, compiled from data contained in Hirsch's *Handbook of Geographical and Historical Pathology*, shows the dates of the last appearances of plague in certain countries of Europe during the seventeenth and eighteenth centuries:

Country	Year of the last epidemic with certain exceptions
Denmark	1654*
Sweden	1657†
Italy	1657‡
England	1666
The Netherlands	1668§
Switzerland	1668
France	1668
Western Germany	1668
Eastern and South-eastern Germany	1681¶
Spain	1681

* Elsinore and Copenhagen were attacked by plague between 1707 and 1714.
† Karlskrona, Upsala, and Stockholm during the same period.
‡ An outbreak occurred in the province of Bari in 1691, and at Livorno in 1743.
§ An outbreak of limited extent occurred in Bruges in 1692.
¶ The disease was introduced into Marseilles from Syria in 1720 and spread over a great part of Provence, disappearing in 1722.
¶ An extension of the disease into Silesia, Prussia, and Pomerania from Russia and from these places to Holstein and Brunswick occurred in 1707 to 1714, and from Prague in 1713 visiting Austria, Styria, and South-east Bavaria.

It was possible to follow the outbreaks of plague in Europe during the eighteenth century with greater exactness than those of the previous centuries because of the relatively narrow limits to which the disease was confined. An important contribution to the study of the disease was then made by Eggerdes, who, writing of these epidemics and of the nature of infection, says:

> If my history of plague and those of others is to be credited this transference of infection has taken place either through goods in which there had been concealed a certain material poisonous entity that could infect man when he came in contact with it or it had been handed on to others by men who were themselves already infected with it. If then the plague arises from such a material poison-entity which can be carried *per fomitem*, as by a tinder from one place to another, it follows necessarily that such poison must be organized and that it can likewise multiply to infinity.

In these terms the discovery of the plague bacillus was foreshadowed as early as 1720.

During the first part of the nineteenth century plague continued to prevail in the Balkan peninsula especially at Constantinople. The plague epidemics of Egypt during this period are important, for the disease was for the first time scientifically studied there chiefly by French physicians. They found it to be less contagious than generally maintained by European physicians, indeed, many of them went so far as to deny the contagiousness of the disease altogether.

By the middle of the nineteenth century plague had practically disappeared from Asia Minor, Africa, and Europe, but new centres came to be recognized in Arabia, Mesopotamia, Persia, India, and China. An illuminating account of the plague in Mesopotamia in 1876-77 is given by Dr Dickson in the BRITISH MEDICAL JOURNAL of March 1879. This paper is based on notes made by Dr Giovanni Cabiadis. He points out that while the Mohammedans, discarding all sanitary precautions, lived with and handled plague patients, the Jews and Christians, on the contrary, firmly believing in its contagious properties, very seldom touched them; yet all of them equally caught the disease, if (and this is the important point) they lived in the same house with the plague patient, but were safe if they quitted the house the moment the case of plague occurred in it. Plague thus came to be recognized as a "house" disease. Dr Cabiadis styles the plague 'miseria morbis' because, in his experience, he found the poor were seldom spared, the wealthy hardly ever attacked. In Hilla he describes the houses encumbered with a horse, with poultry, and with two or three buffaloes.

The history of plague in India is very deficient and sketchy, but one fact stands out prominently in almost all the recognized accounts of the disease in that country—namely, the association of a mortality among rats with it. The frequent notice of this fact may perhaps be due to the influence of the teaching of the *Bhagavata Purana*, which warns men to quit their houses when a rat falls from the roof, jumps about on the floor in a drunken fashion and dies; for then," it is stated, 'be sure that plague is at hand.' But there also can be no doubt that in subtropical countries—in Syria, in Egypt, and in parts of China and of India—epidemics of plague were rarely complicated by the prevalence of that highly contagious pneumonic form of the disease, and were not confused with concurrent epidemics of typhus; for these reasons their form a mortality among rats preceding or even coinciding with plague among men, must have been more frequently observed.

Conversely, because in the cooler climates of Europe epidemics of plague were often mixed epidemics of the pneumonic and bubonic types of the disease (as was the case in that great epidemic the Black Death), and because epidemics of typhus fever often prevailed at the same time as plague, and were not distinguished from plague epidemics, so it followed that a mortality among rats was less frequently observed preceding or occurring concurrently with the disease among men. When dead rats were found, this phenomenon was classed together with the casual occurrence of murrain among cattle or deaths among domestic animals such as hens, pigs, etc., the mortality

among rats was, of course, a matter of very much less importance than sickness and death among cattle, and therefore was seldom recorded, except in such inclusive terms as were used by Nicephorus Gregoras, for example, who wrote "Nor was it mankind alone that the plague thus harassed, as with a scourge, but all other animals which dwelt with or associated with human beings who took the disease, dogs and horses and fowls as well, and even the mice that lived within the walls of their houses"

In following the history of plague we have seen that the confines of the disease have surely and steadily receded from Europe This remarkable recession, starting in North-western Europe shortly after the middle of the seventeenth century, persisted for nearly two centuries, till, at the close of the nineteenth century, the disease was almost forgotten and was known to exist only in remote parts of Africa, Persia, Arabia, India, and China Few realized at that time that the world was to see a new and vast extension of the disease before the close of the century A study of plague would be incomplete without an attempt to explain this remarkable shrinkage in the area affected by the disease Simpson, in his treatise on the disease, has offered an explanation which may be summarized in the following extract

"The abandonment of the Mediterranean as the centre of commerce for Europe, the shutting up of the Levant as the high road for the conveyance of the produce of the East to the West, and the transfer of commercial activity to Amsterdam and London, whose connexions with the East were by sea and not by land, and consequently the avoidance of the former intimate connexion with endemic centres, were changes which came into operation in the early part of the seventeenth century, and it appears that it is in these great changes in the commercial relations of Western Central Europe that the explanation of the rapid disappearance of plague from Europe is to be sought, once the influence of war in Central Europe and famine in France was over, rather than in any great social change effected at that period"

This explanation takes no cognizance of the fact that infection is frequently imported into a country by ships, that trade between Europe and the East has greatly increased since the seventeenth century, and that, in spite of the frequent importation of infection into almost all parts of Europe in recent years, the disease has never become epidemic there On these grounds alone this theory must be rejected

One of the most prominent features of Europe in the Middle Ages is that organization known under such terms as the feudal system, the manor, or the village community It is a social organization closely connected with agriculture, and one, modified in detail perhaps in different countries, which is natural to a state of primitive or early civilization Sir Henry Maine, for example, in his *Village Communities*, showed that a somewhat similar social system exists in India to-day It is in this social organization and all it connotes, in which every man may be said to be his own farmer, that, I hold, we shall find the *fons et origo* of plague epidemics

In the first place let me attempt to draw a picture—it can only be a sketch—of the condition of England in the days of the manor, and then let me try to trace the successive impulses which led to the ultimate destruction and replacement of this social system by a new order of things It should be noted that the conditions in England, and the changes which took place there from the thirteenth to the eighteenth centuries, have a close parallel in a large part of Europe also

The population of England and Wales in the beginning of the thirteenth century did not amount to quite five million souls Few towns were to be found, and the inhabitants were distributed over the country in groups which cultivated the land in certain fertile valleys Small clumps of trees marked the village sites in the hedgeless expanse of arable land Clustered beneath the trees were the clay-walled, open-roofed, chimneyless homes of the peasants, covered with straw, reeds, or heather, they consisted of a single room in which the cattle, the pigs, and the poultry lived with the people Close by were the tofts and crofts of the open-field farmers, each with its miniature hay-rick and straw-stack Here were also situated the small gardens in which the few vegetables then cultivated were grown The people subsisted mainly on peas, beans, and rye, occasionally a piece of salted meat or fish, half-cured, half-putrid, was added to the list Houses were built in bays, and this space was fixed as that which was required to stall a "long yoke" of oxen, equivalent in modern measure to a space of sixteen feet In the Middle Ages, even as late as 1637, houses were bought, sold, or let according to the number of bays they contained The character of the material used in the building depended upon what was available Where stones were readily secured they might be used, but wood, rough hewn, was generally more easily worked and therefore selected A framework of this material was constructed and the spaces in the framework filled in with wattle and daub or with mud, and at a later period with bricks Houses built in this way are common to-day in many parts of India Indeed, it is only necessary to visit that country to visualize the manner in which the people of England lived in the Middle Ages In such circumstances rats are brought into close propinquity to men, and so favourable conditions established for plague

The cultivators of the soil grew their produce for their own consumption, and not for sale, each village was self-sufficing Markets were available only in the immediate neighbourhood of the few towns, for roads scarcely existed The demand for manufactured articles was small, salt, tar, iron, millstones, clothes for the people, a few vessels of brass, copper, or earthenware, were sufficient for the simple needs of the population Cattle were seldom fattened, even for the table of the rich, oxen were valued for their power of draught, cows for their milk Pigs were the almost universal livestock of the rich and poor, and acted as the village scavengers Sheep were the mainstay of many farmers, they were valued, not for their mutton or for their milk—which was, however, often used—or even for their skins, which were also utilized for a variety of purposes, but chiefly on account of their wool

It was in these circumstances that the Black Death swept over England, leaving behind it, as it declined, a great reduction in the population As a result, many lands went out of cultivation for lack of men to till them, and many bondmen threw up their holdings and escaped into the towns, which were then increasing in size, and joined the ranks of free labourers The supply of agricultural labour became so scarce that a royal proclamation was issued ordering all men and women, "bond or free," unless living on their own resources, tilling their own land, employed in merchandise, or exercising some craft, to work on the land, where they had lived, at the rate of wage current in 1346 Those who gave or took higher wages were fined double or treble the sums received The King's proclamation was not universally obeyed Employers had either to lose their crops or yield to "the proud and covetous dues" of the men Parliament intervened and passed the first Statute of Labourers Those who refused to work were punished at the stocks, or with branding or imprisonment, These hardships, aggravated by the imposition of a poll tax in 1379 and 1381, were the direct causes of the Peasants' Revolt, which resulted in a certain, though perhaps temporary, measure of emancipation from the thraldom of the feudal system The landowners meanwhile directed their energies towards sheep-rearing, which required less labour, so that, as Peak remarks in his *English Village*, "wool rather than corn became the chief item of production, and, even at this date, it became clear that the future of England lay in industry rather than agriculture"

During the Tudor period money came into more common use, rents were paid in cash and labour was rewarded in wages On the agricultural side the spirit of trading gave a fresh impulse to the system of enclosures and individual occupation of the land, the wool trade was still further stimulated, the substitution of pasture for tillage, sheep for corn, went on apace Thus was initiated the slow and gradual change known to students of economic history as the First Agrarian Revolution (1450 to 1600)

Other powerful forces were also at work on the social revolution of the country The capture of Constantinople by the Turks in 1453 and the flight of the Greek scholars to Italy opened anew the science and literature of the old world, and a stage of development in Italy, extending to nearly half a century, was followed by the diffusion of the 'new learning" over other countries in Europe The discovery of printing, about this time, led to the rapid and widespread distribution of books This, again, occasioned a vast increase in the number of schools and more were founded in the last years of the reign of Henry VIII than in the three preceding centuries The pace thus set was accelerated in the reigns of Edward and Elizabeth

The translation and publication of the Bible at this time had a marked influence on society Copies were provided in all the churches, and it thus became, in truth *the* book of the people, so that their very thoughts and speech were affected by it This religious revival fostered by Luther, Calvin, and Knox, brought about the Reformation with its long and bitter wars

Meanwhile in England the distress caused by the extension of enclosures, aggravated by the disbanding of the great retinues maintained by the feudal lords and still further accentuated by the suppression of the monasteries was disappearing with the increase of prosperity following the commercial policy developed during the comparatively tranquil times of Elizabeth's reign Companies were founded for trading and it has been said that in ten years more oak was used for building than had been used in the previous hundred Manor houses were built not of timber but of brick and stone and the mud and wattle and daub huts of the country people were being replaced by dwellings constructed of brick and stone The abandonment of salted meat and fish and the greater consumption of fresh meat, pointed to an increase in the refinement of the country people This general prosperity was held in check during the civil war in England (1642-1652) and during the Thirty Years War on the Continent (1618-1648), but, when these came to an end, a fresh impetus was given to social progress

In the towns however many hovels and much social degradation still remained, and a few remote areas in the country were unaffected by these impulses Plague therefore continued to visit certain parts of Europe after the close of the seventeenth century Many years were still required to complete the social reformation now well established Nevertheless the sting of the disease had by this time been removed and such epidemics of plague as did occur subsequently were generally shorter and more circumscribed The influence of the agrarian revolution on the disappearance of plague was due to its effects on the *housing of the people and on their social habits*, the value of the Reformation to this end lay not in the substitution of one creed for another but in the new spirit of inquiry the new freedom of thought and discussion, which it had awakened

Plague may thus be said to be a disease of primitive civilizations It can be shown, in like manner, that malaria was banished from England by the great changes which were effected in the country during the second agrarian revolution, which began about 1730 and lasted until 1845 this was the period of "high farming" Other diseases in addition to plague and malaria now often called tropical diseases—such as leprosy, relapsing fever, cholera dysentery typhus fever, trench fever, and typhoid fever—were at one time common in England, but like plague they have been banished as a result of the further development and extension of social reforms the civilizing principles and the sanitary measures which had *their unrecognized beginning* in the conquest of the plague

I shall show in another lecture that a high atmospheric temperature such as may be said to be a characteristic feature of the tropics is unfavourable for the development of plague, surely then it is misleading to call plague malaria, and the other diseases I have mentioned tropical diseases" when in truth they are diseases of a primitive stage of civilization

C

THE TREATMENT OF INFANTILE TETANY BY CALCIUM CHLORIDE

BY

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THE most common form of treatment for infantile tetany in this country at the present time would seem to consist in the administration of sedatives of which the most frequently used are chloral hydrate and the various bromide preparations In severe cases of tetany, where convulsions are a prominent symptom, chloroform anaesthesia is often resorted to, although it is realized that this affords only temporary relief and it is admitted by most practitioners who are frequently called upon to deal with such cases that these forms of treatment are far from satisfactory

Calcium therapy has been employed by others on account of the fact that active tetany is frequently associated with a diminished content of calcium in the blood The salt most commonly employed for this purpose is the lactate, but the results have been disappointing

During the past year we have had the opportunity of treating many cases of tetany, varying in severity from the latent form in which few distressing symptoms were present to the severe type in which frequent convulsions or severe laryngismus were endangering the life of the patient We have invariably been successful, by the oral administration of calcium chloride in doses of from 15 to 20 grains at intervals of four hours in causing not only a rapid cessation of the convulsions, but a complete disappearance of all signs of tetany The dose to be given depends on the severity of the symptoms and the condition of the patient In the severe form, where convulsions, laryngismus or carpopedal spasm are urgent symptoms, it has been our practice to give 30 grains every four hours until these active signs have disappeared In the cases showing only signs of latent tetany 15 to 20 grains every four hours for three or four days will cause complete disappearance of all the signs of increased mechanical and electrical excitability

It is not our purpose here to dwell on the various manifestations of tetany nor to discuss at length the mode of action of the calcium chloride In another paper we gave evidence to show that acidosis no matter how produced would cause the signs of tetany to disappear and cited cases in which acidosis developing in the course of latent tetany caused a temporary disappearance of all the signs of mechanical and electrical hyperexcitability both of which returned on restoring the acid base balance to normal by the administration of sodium bicarbonate Haldane has shown that a relative acidosis can be produced by oral administration of calcium chloride in large doses and the beneficial action of the salt in tetany appears to depend on this property rather than on the fact that an increased amount of calcium is being administered since an equally good effect can be produced by the use of *ammonium chloride* which also produces acidosis The latter salt however is probably not as suitable for general use owing to the fact that it may produce toxic symptoms if used in large doses possibly because the ammonia radicle has to be converted into urea before it can be excreted Where calcium chloride is used the calcium is merely excreted by the bowel as insoluble calcium phosphate

The action of these salts in tetany is only temporary signs of increased electrical and mechanical excitability usually returning in two to three days after cessation of treatment The administration of cod liver oil along with the calcium chloride and its continuation after the calcium has been stopped will however prevent the return of any active symptoms and we have found that all signs of tetany usually disappear permanently after about three weeks of treatment along the above lines The great advantage of the administration of calcium chloride is its power of controlling the dangerous convulsions and laryngismus which are the urgent symptoms of active tetany

The following cases are illustrative of this form of treatment

CASE I

C H, aged 8 months, was admitted with a history of convulsions The facial phenomenon was markedly positive and there was severe laryngismus with increased electrical excitability On February 15th 1922 administration of calcium chloride, 30 grains every four hours, was commenced No more convulsions occurred and on February 18th all signs of tetany had disappeared and the electrical reactions were normal Calcium chloride was accordingly discontinued, cod liver oil was given, and fifteen days later the patient was dismissed from hospital perfectly well, all signs of tetany being absent

CASE II

A girl, aged 11 years, was admitted with late rickets and pyuria On March 27th, 1924, the patient suddenly developed severe carpopedal spasm the pain of which caused her to cry out There was a very marked facial phenomenon and greatly increased electrical excitability a cathodal opening contraction being elicited with 0 8 milliampère At 4 p m 30 grains of calcium chloride were given by mouth At 5 10 p m carpopedal spasm had entirely disappeared and the child was absolutely free from pain The facial phenomenon was still very marked, and Trousseau's sign was readily elicited Calcium chloride was therefore continued and, on March 19th, there had been no return of the spasm, the facial phenomenon was negative, and the cathodal opening contraction was elicited with 4 5 milliampères Calcium chloride was discontinued and cod liver oil commenced On April 2nd the facial phenomenon had reappeared, but there has since been no other sign of tetany

CASE III

M F, aged 9 months, was admitted with marked laryngismus and positive Trousseau's sign and gave a history of frequent convulsions The facial phenomenon was markedly positive On February 5th 1924, calcium chloride 30 grains every four hours, was prescribed, with cod liver oil in 30-minim doses three times a day There were no more convulsions After three doses of the calcium chloride Trousseau's sign was negative, there was no facial phenomenon, and the presence of laryngismus was doubtful The calcium chloride was stopped but two days later signs of tetany returned After three doses of calcium chloride they again disappeared, and six days after the beginning of treatment the patient was discharged from hospital, no sign of tetany being then present

The following two abstracts illustrate the similarity in the action of ammonium chloride

CASE IV

J M aged 12 months was admitted with a history of convulsions Trousseau's sign and the facial phenomenon were positive, and there was increased electrical excitability Ammonium chloride 30 grains were given every four hours, and after six doses all signs of tetany had disappeared

CASE V

A Q aged 11 months On admission the facial phenomenon was positive and laryngismus and carpopedal spasm were present The administration of ammonium chloride 30 grains every four hours was followed in two days by the disappearance of all signs of tetany

The following case is of special interest in view of the age of the child, the absence of rachitic changes, and the fact that none of the classical signs of tetany were present on admission, though the subsequent course of events justified a diagnosis of tetany

CASE VI

W B aged 15 days was admitted on account of generalized convulsions which were occurring so frequently that they could not be counted Facial phenomenon and Trousseau's sign were negative there was no marked increase in electrical excitability, and no history of laryngismus was elicited The calcium content of the serum on this date was 5 6 mg per 100 c cm Treatment by 10 grains of calcium chloride every four hours was begun Four mild convulsions occurred after the commencement of the administration of the drug but within two days they had ceased and have not since recurred The calcium was discontinued after three days when the child developed mild laryngismus and a positive Trousseau's sign, thus justifying the diagnosis of tetany

It is generally recognized that active tetany in the infant is a disease requiring urgent treatment Deaths from convulsions figure largely in the infant mortality statistics, and it seems probable that many of these convulsions are due to tetany Treatment of such cases by calcium chloride has been attended with such invariable success in our hands, as well as in the hands of some others that we feel justified in making a plea for the wider use of a treatment which is simple to use and unattended by any risk to the patient

REMARKS ON THE DIAGNOSIS AND TREATMENT OF CHRONIC INTUSSUSCEPTION *

BY

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CHRONIC intussusception in children is a somewhat rare complaint According to Morison "the chronic variety may be called a disease of adults, and the acute one of children, but there are exceptions to both these statements" Still recently reported four cases of the condition seen in eight years He draws attention to it on account of its rarity and the fact that the diagnosis is often missed, as the usual idea of intussusception is a case of acute obstruction with bloody stools He uses the word "chronic" "to mean cases in which the intussusception is present for many days or even weeks without producing any acute obstruction" I quote his excellent description of a typical case in full

On a particular day the child seemed to have pain in the abdomen and vomited once or twice During the next few days he occasionally vomited, generally in association with a colicky pain The vomiting has become less frequent, only once in two or three days, and the pain is only occasional The bowels, which before were open daily, have since the onset been less regular aperients have been necessary, but when given have worked well and the stools have been normal there has been no blood in the stool, or at most there has been only a streak once or twice such as might be seen on the stool of any constipated child The symptom which has troubled the parents most is the wasting the child after three or four weeks of these vague troubles is obviously getting thin The temperature throughout has been normal' [2]

The diagnosis is made by feeling the sausage shaped tumour, which varies in consistence under the fingers at different times, and by the sense of unnatural emptiness in the right iliac fossa—a negative sign which, personally, I always find difficult to elicit Dr Still recommends examination of the child when asleep as of great help in feeling the tumour, but states that the association of the transverse tumour with wasting led to a diagnosis of tuberculous peritonitis being made by one or other who saw the child, in all four of his cases X rays were used in only one case and did not help in diagnosis All his cases were operated on and did well, the ages of his patients were respectively 13 months, 14 months, 23 months, and 3½ years, and the corresponding duration of symptoms up to the time of operation respectively 32, 42, 32, and 21 days

Morison mentions a case in a boy of 3½ years of ten days' duration The medical attendant made a diagnosis of intussusception, but "this was rejected by an eminent physician who was called in consultation" Blood appeared in the stools on the ninth day Mr Morison confirmed the diagnosis and operated, reduction was easy and the patient did well [1]

Schlink reported a case of two months' duration in a girl of 7 years There was a well marked tumour in the lower abdomen and a mass by the rectum, and emaciation was marked X rays, after a bismuth meal, showed the case to be an intussusception No blood had been passed, and the many diagnoses made by the many doctors who saw the girl included malignant disease of sigmoid, sarcoma of kidney, hydronephrosis, enlarged retroperitoneal glands, and malignant cyst of the ovary! Complete recovery followed operation [3]

The following is the history of a case I treated recently

I first saw the child, a girl of 6 years on February 4th, 1923, on account of epigastric pain and vomiting, present since the previous day A careful examination of the abdomen revealed nothing abnormal, and the symptoms were attributed to fish taken on February 3rd On February 5th I saw her again and as she appeared better removed her name from my visiting list On February 27th (I had been away a few days) my locum saw the child and promised I would call the following day The mother then told me that 'the child had not been really well since my visit on February 5th, as though she was all right some days, on others she had had awful agony', there had been no vomiting, and the bowels had been open daily without aperients the child, however, had lost her appetite and was wasting to a shadow, and" the mother continued she was sure there was something radically wrong as the child had always been so bright before"

I now found that there was marked tenderness in the right iliac

* A paper read before the North Glamorgan and Brecknock Division of the British Medical Association December 13th 1923

fossa assured the mother she was quite right that the child had *chronic appendicitis* and advised operation. On March 1st I could feel a tumour in the region of the transverse colon and altered my diagnosis to *intussusception*. The child was admitted to hospital the same evening. On March 2nd—on the operating table—I did not feel nearly so certain of the tumour nor would my colleague who assisted (a very skilled diagnostician) *commit himself to a diagnosis*. I made an incision as for appendicectomy and found an ileo-caecal intussusception. The apex of the intussusceptum had *reached as far as the splenic region* but the intussusceptum was unravelled very easily. The intussusceptum was thickened, oedematous anaemic, and greyish in colour—very different from the engorged and purple intussusceptum of an acute case. The appendix *which had accompanied the intussusceptum* and partook of its characters was removed and the stump buried with a purse-string suture; this was difficult on account of the thickening. No raw areas were seen and no attempt at pleating the mesentery or at fixation of the caecum was *made*.

The symptoms had lasted twenty-eight days before operation was performed. There was never any rise of temperature or quickening *of pulse whilst I had* her under observation, nor was blood passed at any time. Rectal examination was always negative. The general condition, except for the wasting, had been excellent. I saw the child on May 8th and was astounded at the increase in weight.

It will be seen that the case closely resembled the clinical picture given by Dr. Still. I was impressed by its rarity at the time but had not then seen Dr. Still's paper. The diagnosis of chronic appendicitis first made seems to be a variation from the usual. I did not even consider the possibility of tuberculous peritonitis, the sudden onset—a point on which Dr. Still lays stress—ruled it out. Not being well acquainted with the child, I must confess I did not realize the extent of the wasting; this I can better imagine now. *I have seen the increase in weight since operation* and the mother assures me that the child is just her normal weight. It was difficult to feel the tumour as often happens in the acute cases. No vomiting took place after the first two days; and, extraordinary as it may seem—but I have closely questioned the mother on this point—and she is an intelligent woman—the bowels were open daily without purgatives, the child had not, however, eaten normally.

It will be noticed that, in spite of the difficulties in diagnosis, all the cases I have referred to recovered after operation. That this happy event is not invariable is exemplified by a very interesting case of *chronic intussusception* of at least five months' duration, recorded by Spencer.[4] In this case there was present an additional physical sign—namely, ascites.

> This patient, a boy of 7½ years, presented the following features:
> 1. The first symptoms occurred *four months before his parents sought medical advice*.
> 2. There was present a tumour in the epigastrium associated with ascites of an extreme degree.
> 3. There was marked wasting *present with intermittent* abdominal pains and occasional vomiting associated with regularity and even frequency of the bowels. The latter were however constipated at first but were kept open by purgatives.
> 4. At the beginning of the illness blood was present in the stools once bright red and twice just sufficient to streak the stools.
>
> This child attended the out-patient department of the Great Ormond Street Hospital as a case of abdominal tuberculosis for several weeks and on admission a provisional diagnosis was made of tuberculous peritonitis with ascites and obstructive symptoms. Mr. George Waugh operated and in the upper abdomen a large firm and rigidly fixed tumour was found, apparently retro-peritoneal. Death took place thirty-six hours later from general peritonitis and *post mortem* the tumour was found to be an intussusception.

This instructive case we may look upon as an instance of the terminal effects of a chronic intussusception. No doubt there was a stage in this case when no ascites was present—it is *difficult to imagine* parents so lax in seeking medical attention. Probably the other cases would in time have ended similarly if unrelieved by operation.

Are these cases commoner than we think, and do some of them after causing a few symptoms which are labelled "bilious attacks" reduce themselves? That such is the case seems to be supported by Mr. Morison's account of a girl of 6 years, who was suffering from intussusception, but whose symptoms and tumour vanished on her removal to the infirmary, she had several attacks, followed each time by spontaneous reduction and subsequently operation was performed—shortly after spontaneous reduction evidence of the condition having existed was found, and the mesentery was pleated to prevent recurrence.[1] I saw a similar case a month or so ago—a very thin boy of 10. I have never seen a more typical case of tumour with visible peristalsis than was felt through his thin abdominal wall. I advised the parents that I feared an operation would be necessary, but in a few hours the abdomen appeared normal and the symptoms—acute pain and bilious vomiting of two days' duration—had abated. Recently I was asked to operate on a young woman of 22 with the history that she had had three attacks of appendicitis. At operation I found a very similar condition of appendix and intestine, only to a lesser degree as I found in the case detailed above. I do not remember having seen anything like it except on these two occasions, and I have no doubt that the case was one *of chronic intussusception* which had reduced itself. The attacks of "appendicitis" corresponding to the attacks of pain and vomiting observed in the other cases; the only difference was the age of the patient. I could get no history of a tumour from the medical attendant in this case, but in view of the difficulty of feeling "the tumour" one cannot attach much importance to this. As the mesentery was not pleated in this case nor the caecum fixed—and it was certainly very mobile—it will be interesting to see if removal of the appendix will be followed by freedom from further symptoms.

In the light of the case recorded by Mr. Spencer we can at least assume that a good many of these cases have been and will continue to be treated in sanatoriums, and who is to say the number that are counted yearly by the Registrar-General as cases of tuberculous peritonitis?

All the cases mentioned above were ileo-caecal with the exception of one of Dr. Still's cases which was ileo-colic.

TREATMENT

As in all other abdominal conditions the earlier the diagnosis the easier the treatment. Fortunately the condition is very tolerant of the diagnostician, and even when it has lasted two months as it did in Schlink's case, reduction may not be very difficult, but in a case of many months' duration such as Waugh's—where the parents were to blame—not only reduction but even diagnosis at operation may be impossible. With the exception of the last named case reduction was fairly easy in all the cases reviewed above. After reduction some peritoneal tears on the wall of the intestine from the separation of adhesions may require a few Lembert's sutures.

In the event of the intussusception being irreducible or gangrenous *or both the various operations for these conditions*—namely short-circuiting, removal of intussusceptum *through the ensheathing layer* or resection with end-to-end union—will have to be considered always on the assumption of course that the patient's condition is good and that the relations inside the abdomen can be made out. I should think that successful resection for a chronic intussusception in a child must be very rare; a case of Dowd's of recovery after resection of a gangrenous subacute invagination in a boy of 4½ years is mentioned in Jacobson's.[3] I have not seen the account of the case so do not know the duration of the disease. The mortality of resection must be very high; one cannot imagine the patient's condition to be very favourable for a severe operation. More often I imagine in a case of *long standing* one would be confronted with the state of affairs that *existed in* Mr. Waugh's case where everything was bound down by adhesions and it was *impossible to do anything*.

It is usually stated that the mesentery is unduly long and the caecum and ascending colon unduly mobile in these cases; hence the question arises in non-urgent cases: Is it advisable to shorten the mesentery by pleating, or to fix the caecum by suture[4] or otherwise? It might be thought that once the intestine has formed a bad habit it is liable to continue with it. Certainly in Mr. Morison's case of recurrent intussusception it did so, and pleating cured the habit. It therefore one is satisfied that the habit exists in a particular case—and such cases are very rare—then one has an indication for one or other of these operations. Alexander reported a case of chronic intussusception in a boy of 4 years *which became acute* after sixteen days' duration; he employed the appendix to tether a mobile caecum to the parietes, though he mentions as an additional reason for this procedure his desire to keep the caecum near the surface as its viability was in doubt.[5] Are any of these operations, with the reservation above (the recurrent case)

really necessary? With the exception of Morison's recurrent case and Waugh's case, they were performed in only one of the other eight cases mentioned—another reason for the performance being given They were not performed in any of Dr Still's cases, and though "the earliest was nearly eight years ago and the latest a year ago"[2] none had recurred

My best thanks are due to Dr G F Still for kindly supplying me with one of the references

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TREATMENT OF TUBERCULOUS AFFECTIONS BY INFLATION WITH OXYGEN *

BY

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THE subject of this communication was first brought to our notice in a paper published by Lieut.-Colonel Rost, I M S, in the BRITISH MEDICAL JOURNAL of December 10th, 1921 [1] He stated that he was led to try oxygen gas in the treatment of various affections by the desire to reach the inaccessible parts of a psoas abscess He reports altogether 32 cases, including psoas abscess, tuberculous peritonitis, tuberculous joints (with effusion), chronic synovitis, pyaemic abscess, and fibrous ankylosis of the knee-joint The results he obtained were extremely good, improvement or cure having been obtained in almost every case

During the past two years we have employed this method in a number of tuberculous cases and epitomize here notes of 21 of these which we have been able to trace and recently verify

The method consists in evacuation of the abscess (by aspiration, trocar and cannula, or incision) followed by inflation by oxygen gas Evacuation by the aspirator is usually inadequate owing to the frequent presence of large flakes of lymph, and it has been found better to use a large hydrocele trocar and cannula, after making a preliminary nick in the skin In deeply situated abscesses evacuation by free incision commends itself Evacuation is frequently facilitated by changing the position of the patient

The apparatus required consists of oxygen in the usual cylinder, connected by tube to a wash-bottle containing hydrogen peroxide solution, this is connected in turn by a tube to a hydrocele cannula, or to a Potain's aspirator needle fitted with a two-way tap, which tap connects with the aspirator bottle and the suction syringe Midway in the tube connecting the wash bottle and the two-way tap is interposed a length of glass tubing containing a filter of sterile cotton-wool This union and a coil of the rubber tube on either side lies in a basin of hot water to warm the gas

The Procedure

Rigid asepsis is essential, the aspirator or trocar should be introduced through sound skin, and if possible in such a manner as to produce a valvular closure on its withdrawal If the abscess is evacuated by incision the needle or trocar for introduction of the gas may well be inserted at a distance from the incision, after the cavity is evacuated and so arranged as to be in a convenient position The incision is then closed, in layers if possible, before the gas is introduced A similar procedure is applicable to the abdomen Rost used flushing with saline or other fluids to aid in evacuation of large masses of lymph

The abscess having been evacuated or the abdomen prepared for the introduction of gas by separation of adhesions, the oxygen is introduced through the cannula until a distension equal to that produced by the pus is obtained In plastic tuberculous peritonitis the degree of distension is less easy to gauge, but it may be carried to the point of a tight distension, with a high tympanitic note on percussion, care must be taken to permit the patient to emerge from deep anaesthesia as the gas is being introduced, and, in order to avoid respiratory embarrassment, to regulate the flow of gas so that it is slow Frequently only a small pocket, which may be in any part of the abdomen, may be attainable amongst the adhesions Having once entered the abdomen, the line of least resistance is the line to follow, resistance to any but the gentlest pressure by the gloved finger should divert the efforts to another quadrant A sponge on a holder, to reach a more distant point than the finger can reach, is dangerous, as at any point the easy yielding adhesion may be replaced by a dense one and the relatively non sensitive pressure of the swab on a forceps, compared with the finger itself, may lead to a tear and a subsequent faecal fistula The closure of the puncture is effected best of all by one or two Michel's clips The purse-string suture used at first was found to be liable to produce necrosis of the edges of the puncture

Selection of Cases

Cases with sinuses or redness of the skin are not suitable The presence of a mixed infection appears to lead to failure So far tuberculous peritonitis with effusion has not yielded any good result (See table, p 907)

Part Played by Oxygen

A point of speculative interest is the part played by the oxygen Rost suggests

1 *Mechanical*, in separating the adherent surfaces by the pressure of the gas, and by preventing readhesion We have observed that on the second or third inflation of a tuberculous abdomen the space amongst the adhesions had markedly increased (notably in case No 2), we have noted also the cessation of vomiting after each inflation

2 *Pressure* prevents exudation of fluid (Limited observations do not confirm this, at any rate in regard to the abdomen)

3 *Reduces blood supply*

4 Pressure reduces pain by separation of joint surfaces. (To this we agree)

5 Probably may exert some inhibitory action on the pathogenic process

The chief interest lies in the possible inhibitory action of the oxygen on the tuberculous process The tubercle bacillus is a fairly strict aerobe and does not, in the laboratory, grow under anaerobic conditions Rost states that "The gas in passing through the wash-bottle is freed from any particles, and is *rendered nascent*" We have been unable to obtain any confirmation of this change taking place Mr C R Houseman, chief chemist to the British Oxygen Co, Ltd, has informed us "That cylinder oxygen after passage through hydrogen peroxide solution contains no trace of ozone, and is no more chemically active than before entering the solution, that no reaction occurs"

We may therefore seek for another explanation, and the work of MacLeod and Gordon,[3] of the pathological department of the University of Leeds, suggests another method of action They find (1) that an inhibitory substance is developed in pneumococcal cultures to which there is abundant access of oxygen, (2) that this inhibitory substance is hydrogen peroxide, (3) that the early death of the pneumococcus in culture is usually due to accumulation of excess of hydrogen peroxide, (4) that in addition to pneumococci the only bacteria which have yet been shown to produce hydrogen peroxide are many streptococci, both haemolytic and non-haemolytic, and a few other coccal forms

Another observation bearing on the question is that Pasteur made use of oxygenation to attenuate cultures of anthrax and of the virus of fowl cholera [3] Apparently, oxygen may have a deleterious effect on bacteria other than those capable of producing hydrogen peroxide

* This article is based upon a paper read before the Nottingham Medico-Chirurgical Society

Notes of Cases

No	Age	Condition	Other Evidence of Tuberculosis	No. of Applications	Time since Discharge	No of Relapses	Result
1	♂	*Abscess of right iliac fossa*	None	Evacuation and emsol 1 oxygen 2	2 years	None	Well
2	15	Plastic peritonitis and obstruction	Both lungs slightly	Oxygen 5	1 year	Two	Much improved.
3	22	Abscess from seventh right rib	None	Oxygen 4	1½ years	one	Well
4	17	Abscess in neck from gland	None	Aspiration 2 oxygen 4	1½ years	one	Well.
5	4	Abscess of left iliac fossa	None	Oxygen 2	2 years	None	Well.
6	18	Tuberculous elbow with abscess	None	Aspiration 1 oxygen 1	2 years		Broke down at once
7	25	Psoas abscess in thigh	None	Oxygen 6	1 year		Broke down after sixth application
8	30	Peritonitis with effusion	Advanced pulmonary	Oxygen 1			Died within few days from generalized tuberculosis
9	9	Abscess from fifth and sixth ribs	None	Oxygen 2	1½ years	None	Well
10	51	Tuberculous hip with abscess	None	Oxygen 7	1½ years		Broke down after seventh application not traced.
11	11	Abscess in neck from gland	None	Oxygen 1	1 year		
12	18	Abscess over scapula	Marked pulmonary	Oxygen 1	1½ years		Broke down at once
13	19	Abscess right lumbar region	None	Aspiration 1 oxygen 4	3 months	One	Well.
		Abscess left lumbar region	None	Oxygen 1	8 months	None	Well.
14	?	Plastic peritonitis	None	Oxygen 2			Died from faecal fistula.
15	27	Abscess left lumbar region	Right lumbar sinus	Oxygen 2	10 months		Broke down but patient much better
16	27	Psoas abscess in left thigh	None	Oxygen 1	1 year		Broke down soon after
17	11	Tuberculous hip with abscess	None	Oxygen 1	1 year	None	Well.
18	0	Abscess from sacro-iliac joint	Lupus of face	Oxygen 2	1 year	None	Well.
19	27	Abscess right buttock	None	Aspiration and iodoform 1 oxygen 1	6 months	None	Well.
20	25	Abscess from sacro-iliac joint	None	Aspiration 1 oxygen 1	4 months		Broke down two months later

Note—No 13 represents two separate conditions treated at different times
Summary of Results—Well 10 Improved 2 failures 6 died 2 not traced 1.

Conclusions

Although our results have not equalled those related by Rost the method appears to us distinctly helpful and worthy of further trial.

It should be noted that the cases recorded were in no way selected except that no case with a sinus was treated and all the patients returned to their homes often to convalesce under very adverse conditions The procedure is as simple as any other method and can be used in out-patients *There are no unpleasant sequelae*

As there are many disappointments in the treatment of tuberculous abscesses an extended trial of this oxygen method is worth pursuing

MacLeod and Gordon have shown that some organisms do produce inhibitory substances in the presence of excess of oxygen May it not be possible that the tubercle bacillus, whether in an abscess or in the lung, can produce under the same conditions an inhibitory substance? This leads one further to ask the question Is it herein that lies the efficacy of sanatorium treatment of tuberculosis?

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TREATMENT OF BILHARZIASIS BY ANTIMONY TARTRATE

BY

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In the JOURNAL of February 26th 1921 we gave notes on 1,000 cases of bilharziasis treated by antimony tartrate in the C M S Hospital, Old Cairo, which was the first report in the medical press of this mode of treatment on a large scale By the end of 1923, 4 600 individuals had been thus treated and with this amount of material on which to base our conclusions we feel that a few additional notes may be of value to those interested in this subject

Patients suffering from bilharzial disease have been attending the Old Cairo Hospital since its earliest days and various methods of treatment, mostly palliative, were used till June 1919 when the injection of antimony tartrate was first started Since that time we have been treating over 1,000 cases a year the numbers being as follows

1919 (June to December)	370
1920	1,143
1921	1 037
1922	1 151
1923	1 004

The year 1920 was the first settled year after the war and local riot and general conditions were good and cotton at a high price The slight decrease in numbers in subsequent years is due to the fact that the Government has been doing a considerable amount of work in the treatment of bilharzia is In reality the fact that the record of bilharzia admissions has kept almost constant shows the favour with which the treatment is received for during these years our other departments particularly that of ankylost miasis show a much bigger proportional drop in numbers

Sodium antimony tartrate is now used for injection as it is thought to be less toxic than the potassium salt For adult males 1 grain is the initial dose increased by 1 2 grain each injection up to 2½ grains which is the maximum d The injections are given daily for six days and then on alternate days Weak patients and women and children take proportionately smaller doses The regular number of injections is twelve which at full doses makes a total of 27 grains but this depends on the results of microscopical examinations Unless there is some contraindication we continue the course until only "dead" eggs are reported

Statistics

Cases dealt with at Old Cairo in which the urinary tract is infected with bilharziasis have always greatly

preponderated, but we find that the proportion of rectal cases is increasing

	Urinary Cases.	Rectal Cases
1920	81%	19%
1921	79%	21%
1922	74%	26%
1923	73%	27%

A certain number have the double infection, the disease being present both in the urinary tract and in the rectum Moreover, in quite a number of cases both types of eggs—terminal spined and lateral spined—are found in the urine, and again both types in the rectum

In our first 1,000 cases we found that a large proportion of the patients would not persist in the treatment, and we estimated that 20 per cent of those who commenced gave up the course before they had received six injections Fortunately this proportion has been steadily reduced as follows

In the first 1,000 cases 20% took less than 6 injections
During 1920, 7 9% took less than 6 injections
" 1921, 7 1% " " " "
" 1922, 5 7% " " " "
" 1923, 4 9% " " " "

So that now the proportion of patients who give up before they have really made adequate trial of the treatment is less than one in twenty, among them are a certain number we are obliged to recommend to discontinue the course on account of contraindications It is, however, still difficult to induce some of the patients to continue treatment to the stage when they can be pronounced cured In urinary cases the term "cured" signifies that only dead eggs have been seen in several examinations on consecutive days In rectal cases patients are pronounced cured when they have finished the prescribed course—that is, twelve injections, totalling 27 grams, for strong adults, and a proportionately smaller amount for others

We find that approximately 60 per cent of our patients persist to the end of the treatment, both in rectal and urinary cases Undoubtedly quite a large number of those who are not passed out as cured are really so in point of fact, but they do not wait to give us the chance of proving the fact conclusively by microscopic examination Many of these latter take all but the last dose, or may even have taken a sufficient amount of the drug, but will not wait for the final examination The chief reason for this is that, feeling so much relief, they consider themselves cured, and will not always listen to advice Two factors that help considerably in preventing the majority of our patients from abandoning the course of treatment are first, that nearly all these cases are treated as resident in-patients, some of them taking beds, but most of them lying on mats in our large open-air pavilion wards, specially kept for these and for ankylostomiasis cases, and, secondly, that most of them pay a fixed fee, which includes the cost of accommodation and food for the full time, and thus many prefer to remain in order to get their money's worth Certainly the work can be carried on much more satisfactorily in every way with in-patients than with out-patients

We have not changed our opinion as to the amount of the drug required to effect a cure in an average case, which is found to be between 20 and 30 grains, generally nearer 20 than 30 grains Our experience is that a failure only occurs when some condition, such as weakness, loss of appetite, persistent cough, contraindicates continuance of the course, this is not a failure of the drug No cases have been recorded at Old Cairo where the patient continued taking the full course and yet failed to be pronounced "cured" according to the above standard There are, however, a certain number of cases which must be pronounced failures in another sense, in that though the drug apparently kills all the eggs and worms, yet the patient may not get relief from his symptoms Particularly does this obtain in some late cases of the disease with great thickening of the bladder easily palpable above the pubes

Mortality

As previously reported, out of the first 370 cases in 1919, 6 died while taking the course (16 per 1,000), and there were altogether 10 deaths out of the first 1 000 cases In 1921 there were 7 deaths (6 4 per 1,000), and in 1922 the same number (6 6 per 1,000), in 1923 only 5 patients died (4 9 per 1,000) These numbers include all deaths that could in any way be attributed to the antimony, though it is by no means certain that all were caused by it, for we have had more than one case of sudden death in a bilharzia patient who had not yet started the course nor taken any antimony injection The deaths nearly all occurred suddenly as in the first series, none immediately after an injection The great majority of them were young adults or boys Exactly half of those who died were rectal cases The amount of antimony taken was quite small, the average being 11 6 grains

Method

Few changes have been made in the technique fully described in our previous article We have now trained two senior orderlies, young Egyptians, to give the injections This they do quite safely at the rate of 60 to 80 an hour A bad arm through missing the vein is almost unknown

Complications

The large majority of the patients are also suffering from ankylostomiasis, which disease is treated concurrently with bilharziasis Complications due to the disease itself, chiefly vesical calculus and perineal and rectal growths, are very frequent More than ever do we see the benefit of combining the medical and surgical treatment of these complaints We now make a rule that no case of perineal urinary fistula or rectal papillomata due to bilharziasis shall be operated upon until the patient has had a certain number of injections, usually about six As a result the surgical conditions improve far more rapidly after operation than was formerly the case

CONCLUSIONS

1 The considerable numbers continuing to apply for treatment prove its popularity and efficacy

2 There is a notable increase in the number of rectal cases applying for treatment, these amounting to more than one in four of the total number

3 The patients are more willing than formerly to take a full course of injections, and only one in twenty gives up before he has received six injections, instead of one in five as formerly

4 Treatment among in-patients is far more satisfactory than among out-patients, and charging a moderate fee is an incentive to complete the course

5 The mortality among patients taking the course has been reduced by half, and is now only 4 9 per 1,000

6 Insistence on a course of injections for those undergoing surgical treatment for bilharzial conditions enormously enhances its success

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

RHEUMATISM AND ERYTHEMA NODOSUM

IN further support of the view that there is a relation between rheumatism and erythema nodosum, the last three cases I have met with may be of interest, I examined each case thoroughly for hereditary predisposition or signs of tuberculosis, which disease, some say, is associated with erythema nodosum In none of these cases was there any suspicion or sign of tuberculosis, although this disease is very prevalent here

CASE I

A young woman, aged 21 had an erythematous eruption on the front of both legs, consisting of bright red oval patches tender to the touch The temperature was 100° F On the following day both knees and one ankle became swollen and the throat was inflamed and painful the temperature was 101° F During the succeeding fortnight the pains kept "flitting" from joint to joint, whilst the eruption on the legs gradually darkened in colour, became less tender, and disappeared within a week She gave a history of periodic attacks of rheumatism and sore throat, but never of a similar eruption

CASE II

A girl aged 15 when seen was confined to bed with pains in knees and shoulders The temperature was normal The front of both legs was covered with scarlet red elongated tender patches

The rash disappeared within ten days although the pains in the joints persisted for another week *There was a history of growing* pains periodically but never of any rash

CASE III

A woman aged 25 when examined the knees and elbows were swollen and extremely painful Temperature 100° F no rash Two days later the joints became less painful and the temperature 99° F but a purplish red erythematous rash appeared on the front *of both legs* The rash disappeared in a week She gave a history of several attacks of rheumatic fever in childhood and frequent attacks of rheumatism but could not remember having had a similar rash on the legs

It is interesting to note that these cases all occurred in adolescent females Although Cases I and III have had attacks of rheumatism since the attack described, yet the erythema nodosum has not recurred In each case the rash was symmetrical and confined to the legs

All these patients were treated by absolute rest in bed until all pains had disappeared, and intensive doses of salicylates until the temperature was normal and pains had subsided, then smaller doses were administered for a few weeks longer

Wrexham. M NEWMAN, M B , M R C S

COMPLICATIONS OF ACUTE MASTOIDITIS

THE two following cases are reported because it is believed that the complications observed are uncommon

CASE I —*Secondary Haemorrhage*

A boy aged 3½ on the third day of an attack of influenza developed acute left-sided mastoiditis On the fourth day I opened the mastoid antrum and cells, the walls of which were soft and necrotic the sigmoid sinus was exposed over a small area at the operation but it was not opened

On the fourth day after the operation the patient was much better—his temperature had become normal and remained so he was now under the care of his own doctor who attended to the dressings *The doctor informed me that on the eighth day* following the operation he was entering the patient's home to dress the wound and on hearing him enter the child suddenly sat up in bed this action was followed by profuse haemorrhage into the dressings As quickly as possible the wound was plugged but not before a considerable quantity of blood was lost Two days later the wound was again dressed and again there was some haemorrhage and during the night a fatal haemorrhage occurred *before the doctor could reach the patient's home*

As in Mr L D Mercer's case reported in the JOURNAL of April 19th (p 711) this unusual complication took place during the child's first attack of middle-ear disease *Post mortem* a perforation was found in the *lateral sinus*

CASE II —*Paralysis of the Sixth and Seventh Cranial Nerves*

An infant aged 6 months on the third day of an attack of influenza developed acute mastoiditis on the right side the drum had perforated and muco-pus was discharging freely On the same day the right eye turned inwards and remained fixed in that position this was followed by facial paralysis on the same side the child then became unconscious I opened the antrum which discharged pus under tension Next day the patient recovered consciousness the sixth nerve soon recovered its function and this was followed by a slower recovery of the seventh nerve

Interference with the function of the sixth cranial nerve is, I believe a very rare complication of mastoiditis

E DRYBROUGH SMITH, M D F R C S Ed.

St Leonards-on Sea.

FIBROMA OF PREGNANT UTERUS CAESAREAN SECTION HYSTERECTOMY RECOVERY

THE following is an account of a labour where a living child was born after meconium had been passing from the uterus for six hours

The mother aged 29 had had one previous pregnancy two years ago The child was stillborn owing to prolapse of the cord During this pregnancy she continued her housework up to the time labour commenced except for two days in bed at the eighth month with abdominal pains

I was called in about noon on April 4th and found what appeared to be a twin pregnancy with the os about one inch in diameter no part of the foetus presenting the uterus strongly contracting and loss of meconium The patient stated that the membrane had ruptured five days previously and that she had been losing water on and off since I left her for an hour and then examined again The position was unchanged but her pulse was rising and so I asked Dr Purslow to see her He examined her at 3.30 p m under an anaesthetic and found a fibroid the size of a foetal head low down in the uterus both the fibroid and the head of the child which was presenting were above the pelvic brim and could not be reached by the examining finger without an anaesthetic The uterus was in a state of tonic contraction Her pulse was then 100 and she was removed to St Chad's nursing home for Caesarean section At 5 15 p.m. a living female child 6 lb in weight was removed Afterwards hysterectomy was performed

The patient who had bronchitis on admission, developed bronchopneumonia on the sixth day after operation but recovered The child was suckled and has done well.

I report this case as I understand that it is unusual for a living child to be born after passing meconium for so long a time Dr Purslow notes 'The fibroid was too low down in the uterus to permit of myomectomy After rapid removal of the foetus I closed the uterine incision and removed the uterus with the placenta *in situ* to minimize the risk of infection"

Smethwick CLYDE MCKENZIE, M B , M R C S

Reports of Societies.

DEGENERATIVE CONDITIONS IN THE AORTA

AT a meeting of the Aberdeen Medico-Chirurgical Society on May 1st, the President, Dr G M DUNCAN, in the chair Dr J B DUGUID read a paper on degenerative conditions found in the aorta He had chosen the subject on account of the prevalent impression that atheroma was a condition found almost universally in the necropsies of those over 30 years of age He had accordingly investigated the records of 100 consecutive necropsy examinations and noted the changes found in the aorta under the three headings of atheroma, syphilitic aortitis and superficial fatty change In 48 of these cases there was no evidence of aortic degeneration, 27 showed definite nodular atheroma in varying degrees of severity 11 showed definite syphilitic aortitis, 4 showed a state difficult to classify with certainty but suggestive of syphilitic disease, and 10 showed superficial fatty change Of the total 7 showed multiple changes Dr Duguid pointed out that the first group was not a collection of unusually young subjects only 25 being under 40 years, and it was surprising to find so high a percentage of healthy aortas. In the 27 cases of definite atheroma the ages were between 55 and 74 and only one case of over 60 years showed no atheroma from which one might conclude that atheroma was the disease of old age occurring in the aorta After briefly describing the changes found in atheroma Dr Duguid indicated that it mostly affected the descending aorta Syphilitic aortitis was then described and emphasis laid on the constancy of its involvement of the first part of the aorta with a more diffuse and more irregular destructiveness and on the age incidence which was much lower than that of atheroma From this Dr Duguid deduced that the lesion giving the so-called murmur of old age was unlikely to be a lesion of the first part of the aorta as had been suggested because the first part of the aorta was not the part commonly affected in the disease of old age ' In this deduction the state of the aortic valves was not considered as the aortic orifice was regarded as a component structure of the heart The 10 cases of superficial fatty change occurred in bodies aged from 38 to 73 but this condition was found even in infants especially in cases of death from burning All except two of these cases had died from acute suppurative conditions and the condition of the aorta could be regarded as an acute toxic state The histology of the condition was described and Dr Duguid pointed out that like the other definitely toxic condition syphilis the first part of the aorta was often involved From the infrequency of the incidence in necropsies the lecturer believed that this was a condition not specially related to atheroma or to syphilitic aortitis, and further that it was a disease in which complete healing might occur

Professor MARNOCH Professor SHENNAN Mr A MITCHELL, and Dr RICHARDS exhibited specimens illustrating surgical pathology Dr J CRICKSHANK photographs and specimens of tumours in fish Dr DUNCAN micro-scopic slides of pathological states of the appendix Dr H H SMITH specimens of tumours of the eyeball and Dr A LOW, stereoscopic photographs of developmental anomalies in man and the lower animals

DIAGNOSIS AND TREATMENT OF INTRATHORACIC SUPPURATION

A CONJOINT meeting of the Sections of Medicine and Surgery of the Royal Academy of Medicine in Ireland was held on May 9th, with the President of the Medical Section, DR T GILLMAN MOORHEAD, in the chair

DR MOORHEAD referred to the difficulty in diagnosing post-pneumonic empyema, in which the physical signs so often differed from those usually accepted as indicating fluid in the chest Loud tubular breathing, and even crepitations, could often be heard over encysted collections of pus He thought, therefore, that in every case of doubt exploratory puncture should be performed, which procedure he regarded as free from risk, in spite of the alarming reports of sudden collapse, due to pleural shock, sometimes recorded Anaesthesia was very seldom required, except in dealing with young children, and he had never experienced the least distress or harm to the patient as a result He thought that surgical treatment was always essential, except in very small empyemata In the past he had often tried to cure patients by repeated aspiration, coupled with vaccine therapy, but never with good results, and so he disbelieved in this line of treatment In acute cases following pneumonia, aspiration might be required to tide over the acute period, but an opening operation should be performed as soon as possible He then referred to the rupture of small pleural abscesses into the general pleural cavity—a familiar condition during the influenza epidemic, which had often proved to be the cause of sudden death In conclusion he dealt with the diagnosis and treatment of pulmonary abscess

SIR WILLIAM WHEELER (President of the Surgical Section) said he would not touch on the etiology or the bacteriology, although surgical treatment depended largely on the particular organism found in empyema He attached importance to the maintenance of a negative pressure and air-tight drainage In young children he employed the method recommended by Poynton and Reynolds with his own modification of the trocar and cannula The trocar and cannula entered the chest between two ribs, and a rubber tube of larger diameter than the cannula, with a lateral eye, but tied at the end, was stretched on a ramrod and introduced through the cannula into the chest The cannula was fixed to the chest by means of a flange tied with tapes round the chest and the tube was connected with a two-bottle drip pump, producing a negative pressure of about 8 mm of mercury There was no change of dressing until the cannula was finally removed in about a week, In cases where rib resection was necessary air-tight suction drainage could also be obtained by passing a rubber tube through a finger-stall with large rubber flange from which the top had been cut off, mastisol being used to attach it Chronic cases could be treated by (1) Carrel-Dakin method, (2) decortication of the lung, (3) Estlander's operation In conclusion he discussed the treatment of pulmonary abscess

SIR JOHN MOORE agreed with regard to the frequency of empyema in cases of diplococcic pneumonia infections, especially in children, and believed that these cases, if taken in time, generally did extremely well In the year 1906 there had been a discussion on this subject, and he had read a paper entitled "Empyema or hypophrenic abscess" He had always found great difficulty in differentiating between empyema and hypophrenic abscess

MR R A STONEY had become especially interested in the subject of empyema during the war, as he was stationed near a depot for African soldiers, among whom there was a serious epidemic of pneumonia A great number of the cases had ended fatally, and most of the survivors developed empyema He then saw the condition described by old writers as the 'empyema of necessity," in which the empyema had been present for so long that it burst spontaneously through the chest wall He realized the value of hypochlorite solutions in these cases, which at that time had only just become known He also found that empyema could be cured without obliterating the pleural cavity When treating these patients he washed them out daily and the discharge diminished rapidly, but in one case the tube came out during dressing and could not be replaced in this case the patient's temperature did not rise and there was no discharge of pus from the cavity He therefore came to the conclusion that the cavity had become sufficiently sterile to enable the curative power of the pleura and its secretions to destroy any infection left behind He agreed that vigorous and early operation should be undertaken in these cases He, personally, removed a piece of rib in every case, whether child or adult, and made the opening in the position he thought best, which was in the back generally he then removed a piece of the eighth or ninth rib He always washed out the pleural cavity thoroughly, and removed all membranes present, since, if any were left behind, they were likely to block the tube later on A double tube was always inserted and the wound closed tightly round the tube The patients started respiratory exercises as soon as possible If treated properly every case of empyema should recover without the formation of a chronic cavity or sinus

SIR WILLIAM TAYLOR had also found diagnosis difficult in cases of empyema, and free needling of the chest was certainly a help in this respect He had only once experienced any ill effect after needling, and that was in a case when almost immediately after the needle had been put in the patient expectorated blood and was nearly suffocated Morphine was given and the patient recovered He never hesitated to needle a case several times, and he put in the needle several inches deep The bacteriological condition was very important in connexion with the surgical treatment of empyema If the case was tuberculous it was best left alone, but if the infection was pneumococcal he believed in opening the chest widely and freely, removing every particle of fibrin, sponging out with disinfectant, and then sewing up He usually aspirated within twenty-four hours, and again within forty-eight hours if necessary, he then allowed the patient up within five days

DR V M SYNGE thought that in cases of small localized empyema a sign of some importance was the presence of oegophony In cases of encysted empyemata x rays were very helpful in localizing the pus and enabling a needle to be inserted accurately Sometimes no pus was found, and when the needle was taken out it was found blocked by a piece of skin it was therefore advisable to have 1/2 or 1 c.cm of sterilized water in the syringe before inserting the needle to clear the lumen Empyemata in children were very often primary, the condition being found with no history of pneumonia He thought that streptococcal empyemata were no more serious than pneumococcal empyemata, but there was a great difference between cases of gangrene and cases of abscess of the lung He had seen a few cases of gangrene of the lung at necropsies when only necrosis of the lung tissue was manifest, a very different condition from that in abscess cases

MR W PEARSON held that there was not much to choose between the scapular and axillary lines for drainage, but the latter caused less discomfort to the patient It was necessary to make a good opening and to have free drainage open drainage without suction was not very desirable If the drainage was really free the patient's temperature soon reached normal Breathing exercises should then be started He never tried to close the sinus until the cavity was completely obliterated, and he thought that necrosis at the surface of the cut rib delayed progress He agreed with Sir William Wheeler that in children some form of closed drainage was desirable, but he thought that in adults it did not matter whether suction drainage or open drainage was employed When chronic discharging sinuses occurred this was due to incorrect treatment in the early stages

MR HENRY STOKES said he found it very hard to diagnose empyemata, and he sometimes missed finding pus, although he used needles pretty freely In some cases empyemata increased in a few hours to even three times their original size He had not found x rays helpful in diagnosing these cases, and he did not think it was necessary to resect ribs

DR T G HARDMAN thought that the x-ray examination was one of the most important methods of diagnosis At private houses photographs only could be taken since it was not possible to screen a chest there it was necessary to screen the chest if diagnostic help was to be gained

DRS C J MURPHY, D KENNEDY, L ABRAHAMSON, and H T BEWLEY also took part in the discussion

Reviews.

THE CHEMICAL BASIS OF GROWTH

THE latest volume in the interesting series of Monographs on Experimental Biology comes from Professor BRAILSFORD ROBERTSON. It is entitled *The Chemical Basis of Growth and Senescence*,[1] and it provides an interesting example of a rather naive application of simple chemical formulae and of statistical reasoning to biological data. The author first examines the time relations of growth in the higher animals and reminds us that, whereas no simple curve will express these relations, they readily submit themselves to expression by a succession of three similar curves—the so-called "cycles of growth." Each cycle consists of an initial period of slow growth constantly accelerating to a maximum and then waning until the decline is arrested by the intervention of the beginning of the second cycle, which pursues a similar but more protracted course. A third cycle succeeds the second and brings the animal finally to the dimensions characteristic of the adult of its species.

The form and symmetry of the individual sections of the growth curve have suggested to Professor Robertson that the time relations of growth which they represent closely simulate those of an autocatalysed reversible monomolecular reaction. But how can we persuade ourselves that a process so complicated as that of protoplasmic synthesis can follow such a simple chemical rule as that indicated? The answer is facile. The whole process is governed and controlled by the slowest of the reactions concerned. There is a "master reaction" of a simple order upon which waits "the whole great complexity of events" which conspire to the building of protoplasm. It becomes a reasonable deduction that the process more immediately concerned is that of nuclear synthesis. In the progress of this the concentration of catalyst within the nucleus will continuously increase up to the moment of nuclear division, when this substance will become distributed between the nucleus and the pericellular fluid in a ratio characteristic of the cell. The concentration of catalyst remaining within the nucleus at the moment of formation of the nuclear membrane will therefore be characteristic of the cell but will be modified by the amount of its accumulation in the medium without, at the time of the previous division. The next period of growth will thus be conditioned by the equilibrium attained as an outcome of the previous one. When the reader is reminded that the hypothetical reaction is one which is readily reversible and that the catalyst is equally potent in accelerating the reverse reaction—in other words of retarding growth—he will realize how pretty a theory awaits an adventurous imagination.

The hypothesis is developed from and applied to a large amount of data on the growth of man of animals of plants and fruits and of an infusorian—Enchelys. In so far as the statistical argument is justified by the experimental technique of these observations the author's deductions are persuasive. The experiments of Professor Robertson himself on Enchelys, being an actual study of the rate of cell division, are a particularly important contribution to the argument but suffer by the fact that independent workers have been unable to confirm his results in the case of another unicellular organism.

The remainder of the book—a larger half—is built up on pure hypothesis. A lively imagination, a naive ability for generalization, a temperament which never looks back and seldom deflects its eyes to the right hand or to the left—these lead the somewhat bewildered reader through the problems of nutrition and growth senescence, the vitamins, hormones, and other specific growth agencies differentiation, and evolution. The theory of cell differentiation and hyperdifferentiation—which, being interpreted means cancer—is particularly ingenious and will attract whilst it may fail to persuade, many biologists. A bibliography of some five hundred papers and an appendix comprising complete tables for the computation of autocatalytic curves complete an imaginative contribution to biology.

[1] *The Chemical Basis of Growth and Senescence.* By T. Brailsford Robertson, Ph.D., D.Sc. Monographs on Experimental Biology. London and Philadelphia: J. B. Lippincott Co. 1923. (Post 8vo, pp. viii + 333, 45 figures. 12s. 6d. net.)

ENDOCRINE DISEASE

BOOKS on the endocrine glands, their functions, and the therapeutic uses to which extracts of or from them may be put are multiplying rapidly. A couple of months ago we had the opportunity of reviewing the first part of the new edition of Sir Edward Sharpey Schafer's authoritative work. At the end of last year we published an account of a laborious compilation by Professor Zondek of Berlin. Now we have two new books on the subject—the one a volume on the pathology of endocrine glands and disorders of development, forming a part of the large new treatise on medicine which is appearing in Paris, under the editorship of Professors G. H. ROGER, F. WIDAL, and P. J. TEISSIER, and the other a translation into English of a book by Dr. Wilhelm Falta, professor of metabolism and dietetics in the University of Vienna.

The French volume[2] is written by ten different contributors and deals with the pathology of the pituitary, the pineal, the thyroid, the parathyroids, the thymus, the suprarenals, and the gonads. Chapters are devoted also to pluriglandular disorders and to general disorders of development. All the well recognized disorders of the glands enumerated are clearly described, and the reader is greatly helped by the abundance of illustrations. Diseases of the pancreas are not, however, dealt with in this volume, and hence nothing is said about diabetes mellitus. As the title indicates, the book deals chiefly with the pathology of endocrine disturbances, but some account is given also of the physiological evidence for the functions of the glands, and endocrine therapy is discussed also. In the case of the thyroid, for example, Dr. E. Apert describes the general pathology of the gland and the special conditions of goitre, cancer, tuberculosis, and syphilis of the thyroid gland. Drs. A. Souques and Ch. Foix deal with myxoedema, and the former contributes another chapter on exophthalmic goitre.

In considering a standard textbook such as this it is particularly interesting to note the points on which French opinion differs from English, but in this instance it may on the whole be said that there is remarkably little divergence, and that in particular the authors take a very conservative and restrained view of the results produced by endocrine therapy. The account given by Drs. O. Josue and H. Godlewski of the pathology of the suprarenal glands is, however, noteworthy as it departs in several instances from the views usually accepted in this country. In particular a "syndrome surreno-vasculaire" is described. It is said to be characterized by arteriosclerosis and cardiac hypertrophy, and to be associated with hypertrophy of the suprarenals. The authors attribute the condition to hyperadrenalinaemia, but admit that this explanation has not been generally accepted by physiologists. A considerable variety of conditions other than Addison's disease are attributed to adrenal insufficiency, and in particular intractable vomiting of pregnancy is traced to insufficiency of the suprarenal cortex. The whole question of suprarenal function is, of course, a matter of acute controversy, but English writers would hesitate to admit that the suprarenals had actions in producing disorders as extensive as those attributed to them here. The chapter by Dr. E. Apert on the disorders of the gonads deserves special mention as he gives a very full and interesting account of such conditions as hermaphroditism, eunuchism, and precocious sexuality.

In conclusion we may say that this French volume gives a clear and well illustrated account of the pathology of all the more important disorders of the endocrine glands, and we may remark that the price, 40 francs, is very reasonable for so large and well illustrated a book.

[2] *Nouveau Traité de Médecine.* Fascicule VIII. *Pathologie des Glandes Endocrines. Troubles de Développement.* Edited by Professors G. H. Roger, F. Widal, and P. J. Teissier. Written by several contributors. Paris: Masson et Cie. 1923. (Roy. 8vo, pp. 456, 177 illustrations, 1 plate in colours. Fr. 40.)

The third edition of Dr FALTA's book on the *Endocrine Diseases*[1] (previously entitled "The Ductless Glandular Diseases") has been translated and edited by Dr MILTON MEYERS of Philadelphia, who has carefully sifted the extensive literature on this subject so that only what is likely to be of permanent value shall find its way into the text and addenda Care has been taken in adding new matter not to confuse the clear-cut scheme of Falta, who separated the various groups of ductless glandular diseases by well defined lines Sir ARCHIBALD GARROD says in his foreword

"This book will be welcomed by members of the medical profession in all lands, for in it will be found accurate and detailed descriptions of the symptom groups which have their origin in lesions of the glands of internal secretion, and also of some diseases for which such an origin has been suggested It is all the more valuable because it is the work of a physician who combines bedside observation with experimental research in the laboratory Professor Falta's important contributions to our knowledge of pathological chemistry are well known, and he has been led on to the study of the regulators of metabolism by his interest in the chemical processes which it is their function to control"

The book is concerned chiefly with the clinical aspects of the diseases of the ductless glands, and only so much experimental pathology is included as is necessary for the explanation of the clinical manifestations The fourteen chapters cover the whole field of clinical endocrinology The first relates to the historical development, and includes observations on the embryology of the ductless glands The diseases of the thyroid gland are considered next in two sections—one on hyperthyrosis and the other on hypothyrosis The third chapter is on "the cretinic degeneration," and the fourth on diseases of the parathyroid gland, which are divided into those due to hypoparathyrosis and hyperfunction of the parathyroid gland Diseases of the thymus, the hypophysis, the epiphysis, and suprarenal apparatus are the themes of the next four chapters Status lymphaticus and status hypoplasticus are dealt with in the ninth chapter, and diseases of the sexual glands, including malformations, hypogenitalism, hypergenitalism, and chlorosis, in the tenth Pluriglandular diseases such as gigantism are reviewed next, and under the head of vegetative disturbances that do not depend directly on diseases of the ductless glands are considered infantilism, true dwarfism, the rachitic dwarf, chondrodystrophy, and mongolism The experimental and clinical aspects of the diseases of the insular apparatus and their relation to diabetes mellitus are considered in the thirteenth chapter, and the last deals with the different forms of obesity and adipositas dolorosa At the end of the book is a bibliography

This volume is likely to take its place as a standard reference book on endocrine diseases It is generously illustrated with 104 pictures, including many microscope drawings and *x*-ray photographs

A FRENCH TEXTBOOK OF HAEMATOLOGY

THE large book on haematology, *Traité Technique d'Hematologie*,[2] by Dr JOLLY of Paris, possesses all the qualities which go to make a standard textbook The author has worked long, and is an acknowledged authority, on his subject, he embodies in the book the results of his own wide experience, the references to the writings of others are of a remarkable fullness, the illustrations, most of them original, are clear and instructive, and there is an excellent index We can endorse the remark of the publishers that "the cryptic and sibylline language of certain works on haematology has here been rigorously avoided and the style from beginning to end is moderate in tone lucid and free from useless and cumbersome newfangled terms" In his preface the author explains the one-sided nature of the work, in which no consideration is given to the sero[illegible] blood, these being nowadays separate sciences with special methods of their own

The book begins with a description of the methods most suitable to the examination of the blood, and there follow chapters on the red and the white cells, with an account of their physiology, variations, and appearances in other animals, on haemoglobin and the pigments which take origin from blood, on blood platelets, and on the factors concerned in coagulation In the second volume particular attention is paid to the origins of the blood cells, and to the organs which produce blood and lymph There are two long chapters of special interest, perhaps, to the physician, on the anaemias, haemolytic conditions, and leukaemias Although the book is not written primarily as a guide to pathological states, its consultation on several points connected with diseases of the blood gave the information which was wanted The paper and printing are good, and no more serious error was noticed than an occasional misprint of a proper name We do not know of any book in English which covers the same ground as the subject of this review

CANCER OF THE RECTUM

AMONG the volumes published under the general title "Bibliotheque du Cancer" and edited by Professors Hartmann and Bérard has appeared a new monograph, *Cancer du Rectum*,[3] by Professor ANDRÉ CHALIER of Lyons and Professor HENRI MONDOR of Paris The illustrations, of which there are 105, are all pen-and-ink sketches The authors have dealt with the subject in two sections The longer is concerned with cancer of the rectum, and the other with sarcoma, which is classified under the headings of melanotic and non-melanotic tumours Cancer of the rectum is discussed broadly from four points of view—namely, its etiology, its pathological anatomy, its clinical study, and its treatment The bibliography quoted is very extensive and probably includes most of the French authors who have written on this subject, but in addition the work of British, American, and other Continental surgeons is frequently alluded to No new evidence is brought forward with regard to etiology Heredity, it is shown, plays a very variable part, but among other predisposing causes the importance of haemorrhoids is emphasized The statistics on the subject agree mainly with the experience of others In the authors' series carcinoma of the rectum formed 5 per cent of all cancers, the proportion in males to females was 1·7 to 1, the youngest case was 22 and the oldest 79

Several important points are well brought out in the chapter on pathological anatomy As to situation, rectal cancers are divided into three classes—ano-rectal, ampullary, and recto-sigmoidal The first is most commonly due to a tumour, the second to an ulcer, and the third to an annular constriction The ampullary type is by far the most frequently met with, and in all forms there seems a special predilection for the anterior rectal wall Special stress is also laid on the fact that the glands situated at the bifurcation of the superior haemorrhoidal artery are most constantly involved

French writers have a happy knack of putting the clinical details in a picturesque way, and the writers of this book very rightly dwell on symptoms which are of importance in the early stages before the disease has gone far When discussing the conditions which govern operation the authors are bold enough to maintain that there are only two absolute contraindications—general dissemination and gross involvement of the bladder and ureters No tumour, they say, can be deemed inoperable until there have been repeated examinations or until laparotomy has been performed through the left flank, when, if necessary, a colostomy can be established All the various forms of operation are described The operation of choice is given as the abdomino-perineal On fat and cachectic patients perineal excision is recommended, provided that it removes with the tumour the glands situated at the bifurcation of the superior haemorrhoidal artery So long as this qualification is fulfilled the authors consider that the best operation is that *with which each individual surgeon is most familiar*

[1] *Endocrine Diseases and their Diagnosis and Treatment* By [illegible] edited by Milton K Meyers M D With [illegible] Falta Translated and [illegible] obl[illegible]rrod K C M G M D F R S London a foreword by Sir Archibald E Garrod K C M G M D F R S London J and A Churchill 1923 8vo pp xxi + 669 104 figures 26s net)

[2] *Traité Technique d'Hematologie* Par [illegible] Jolly Paris A Maloine et [illegible] 1923 (Imp 8vo vol I pp x + 560 263 figures vol II, pp 569 to 1171 figure 1 plate Fr 70 the two volumes)

[3] *Cancer du Rectum* Par André Chalier et Henri Mondor Bibliotheque du Cancer Paris G Doin 1924 (Roy 8vo pp 601 105 figures Fr 40)

DYSENTERY IN THE MALAY STATES

THE work on *Dysentery in the Federated Malay States*[1] by Dr WILLIAM FLETCHER and Miss MARGARET W JEFFS forms the nineteenth monograph issued by the Institute for Medical Research of Kuala Lumpur, and like its predecessors is an excellent example of the value of correlating laboratory work and clinical observation in the study of disease In their discussion of the etiology the writers state that in contrast with the disease among debilitated coolies dysentery as it affects Europeans and well nourished Asiatics is a trivial complaint During the last three years only two deaths have occurred among Europeans in the Malay States, whereas the mortality among indigent Asiatics treated in the District Hospital at Kuala Lumpur during the period 1908-21, when nearly 5 000 cases were treated was over 36 per cent The principal cause of the high mortality from dysentery among the coolies was poverty for which to a large extent malaria was responsible as it had thrown men out of employment Flexner's bacillus was found in 55 per cent of 983 patients, Shiga's bacillus was found in only 3 per cent and pathogenic amoebae were present in 20 per cent Double infections with amoebae and dysentery bacilli were found in 27 out of a series of 128 amoebic patients In 19 cases the diagnosis was made on cytological grounds alone as the causative organisms could not be found Serum therapy, even at an early stage of the disease and with adequate dose combined with the administration of the usual eliminative salts by the mouth had no effect in relieving symptoms or lowering the mortality which was approximately the same among those who did and those who did not receive serum Vaccine treatment in the form of sensitized vaccines and autogenous vaccines also proved unsatisfactory The authors are sceptical as to the value of rectal injections or of appendicostomy and flushing the intestine through a catheter passed into the appendix, as no amount of lavage is likely to dislodge the pus and mucus in the intestinal crypts of a chronic carrier They believe that efforts directed towards the improvement of the social condition of the patients and to the prevention and treatment of malaria will lower the incidence and mortality of dysentery more effectively than any other method

The work contains some striking photographs of patients reduced by poverty and dysentery to the condition of living skeletons as well as numerous figures illustrating the lesions of bacillary and amoebic dysentery and intestinal tuberculosis

FRENCH PEDIATRICS

IN the series composing the treatise of medical pathology and applied therapeutics which is appearing under the editorship of Drs E SERGENT L RIBADEAU-DUMAS and I BABONNEIX two volumes are to be devoted to pediatrics The first of these (XXIV)[2] is now before us it contains over eleven hundred closely printed pages and deals at great length with the physiology of infancy and childhood, with the feeding of infants and older children and relative matters of hygiene and education with the disorders of the digestive system, and finally with diseases of the respiratory tract

The book opens with a general survey of the period of childhood by Professor Marfan who draws the main outlines with a firm hand and indicates the special conditions and the special reactions to disease that exist at this period of life In the succeeding chapter on physiology Dr Apert adds much particular detail to this general view Next comes an instructive section on hygiene which deals with the environment of infancy and childhood in the broadest sense covering the circumstances of the infant and growing child, the hygiene of the body clothing the nursery exercise, games and the training of mind and body at school In this section an account is given of the special hospitals the day nurseries the milk dispensaries the consultation centres, in the creation of which France has led the way and developed an unusually complete organization for child welfare

The chapters on feeding on the disorders of digestion and on respiratory disease follow the usual plan the special attention devoted to diet after infancy is worth noting not only are the general calorie requirements of this age of steady growth indicated but detailed guidance in the form of diet schedules and menus is given

The volume is written in a practical way scientific data that have little bearing on practical medicine are excluded and the reader is therefore spared that mass of chemical minutiae which makes the reading of some German textbooks on infant feeding a grievous burden There is perhaps too little said of pathology and there is certainly a lack of pathological and clinical illustration But much care is devoted to an orderly and clear presentation of symptoms and to the practical details of treatment Moreover the emphasis of the book is on physiology rather than on pathology on prevention rather than on treatment and in this its many collaborators no doubt express the sound instinct that the national danger of a diminishing population will be best met by a study of the hygiene of infancy and childhood, and by the widest diffusion of that knowledge among doctors and through them among the parent of the children

CONSCIOUS CONTROL

IN a volume entitled *Constructive Conscious Control of the Individual*[3] Mr F MATTHIAS ALEXANDER develops the thesis that man as a psycho-physical organization is showing an increasing inability to make an efficient adjustment to the complex and changing conditions of civilization His contention that the civilized human being does not enjoy the same standard of effective direction and control as the savage and wild animal is no doubt true It is, indeed painful to reflect upon the imperfect manner in which we tend to pursue our tasks in life our efforts being constantly interrupted by irrelevant vexation and unproductive activities—*fears indecision mind-wandering* restless and aimless movements—which we seem powerless to control The author believes that a stage has now been reached in the evolution of mankind where the individual can no longer remain dependent upon subconscious or instinctive guidance and control of his activities he brings forward evidence that an increasing tendency to physical deterioration is becoming manifest owing to an inadequate appreciation of the means whereby the psycho-physical organization can be used to the best advantage He holds moreover that an incorrect and unthinking way of using the human machine '—as for instance in learning to write—not only leads to unnatural postures and tensions but also tends to produce a perverted attitude to life as a whole—a view which reminds us of the behaviourist dictum that " we think with our muscles

The second part of the volume is devoted to the description of a system of education and re-education which Mr Alexander has elaborated to prevent the development of imperfections and defects and to eradicate those which have already arisen It is naturally difficult to estimate the value and importance of the author method without personal experience of its mode of application and its results in particular cases The general thesis that the human being needs to acquire conscious awareness of the right way to use his psycho-physical mechanism is one which seems to merit consideration The baneful results of delusive and imperfect kinaesthetic appreciation are well illustrated in the process of learning golf for when the pupil is told to keep the head down not only has he insufficient sensory discrimination to maintain his head in the desired posture but he actually believes himself to be doing so (kinaesthetic delusion) when in reality he is lifting it up To what extent it is true as Mr Alexander believes that the lack of real happiness manifested by the majority of adults of to-day is due to the fact that they are experiencing not an improving but a continually deteriorating

[1] *Dysentery in the Federated Malay States* By William Fletcher M D Camb and Margaret W Jeffs London John Bale Sons and Danielsson Ltd. 1924 (Cr 4to pp viii + 82 44 figures. 10s. 6d. net.)

[2] *Traité de Path ologie Medicale et de Thérapeutique* Appliquée Publiée sous la direction de Emile Sergent L Ribadeau Dumas L Babonneix. XXIV Pédiatrie Tome I Paris J. B. Maloine et Fils. 1923. (Demy 8vo, pp viii + 1175 84 figures. Fr 50.)

[3] *Constructive Conscious Control of the Individual* By F Matthias Alexander Introduction by Professor John Dewey London Methuen and Co Ltd. 1923. (Cr 8vo pp xxxiii + 317 9s. 6d. net.)

use of their psycho-physical selves," and to what extent a general application of his educational system would aid in the alleviation of our present discontents it is difficult to determine It is evident, however, that the author's views have not been hastily formulated, and that they are the product of much thought and practical investigation He would certainly appear to have something of value to communicate to the medical profession, educationists, and the community as a whole It may be recalled that Dr Peter Macdonald spoke very favourably of the views outlined in this volume at the Annual Meeting of the British Medical Association last year (BRITISH MEDICAL JOURNAL, November 24th, 1923, p 971) In an introduction to this volume, also, Professor JOHN DEWEY, the well known American psychologist, writes appreciatively of the author's theories and their practical applications

NOTES ON BOOKS

ORTHOPAEDIC surgeons will find many valuable practical hints in a little book, *Chirurgie du Membre Inférieur*,[9] by GEORGES LABEY and JACQUES LEVEUF The work is inspired by Professor P Berger and is the outcome of the operative methods pursued in his clinic in Paris The aim of the book is to give a detailed description fully illustrated of each step in the operative technique For each operation only that procedure is related which most commends itself to the staff The result is that in many of the operations the actual description may be a combination of the technique used by several different surgeons It is impersonal and there is no bibliography Care has been taken to give a short, concise, and detailed account of each operation and of the after treatment Indications for operation, signs, symptoms, and pathology are not discussed The text is arranged under three heads The first, dealing with bone, contains a detailed description of the various methods of performing osteotomies on different bones and the means of securing traction It also deals with the operative treatment of fractures, including general principles, methods of fixing the fragments, the treatment of particular fractures, and the treatment of pseudarthroses Joints are considered in the second part Each joint is taken in turn, the methods of access are described, and the technique of performing arthrotomy, excision, and arthroplasty fully detailed Tarsectomies and arthrodeses of the ankle joints are likewise dealt with The third part deals with tendons, veins, and nerves Tenotomy and lengthening of the tendo Achillis, tenodesis, venous anastomosis, and the exposure and suture of the various nerves are described The book deserves much praise It is concise, it describes numerous technical novelties, and is well illustrated by many pen and ink sketches

The work on physical disorders in mental disease by Dr OTTO WUTH,[10] privatdozent in the University of Munich, forms one of the series of monographs on neurological and psychiatric subjects edited by O Foerster of Breslau and K Wilmanns of Heidelberg The author's investigations, which were mainly carried out in the Munich psychiatric clinic on cases of manic depressive psychosis, dementia praecox, epilepsy, and general paralysis, consisted of determination of the albumin content of the blood serum, the relation of albumin to globulin in the serum, the coagulation time of the blood, the sedimentation rate of the blood corpuscles, the morphology of the blood, and the estimation of the sugar, residual nitrogen, creatinin, and uric acid in the serum A bibliography of almost exclusively German literature is appended

Professor MAX BÜRGER of the Kiel University Medical Clinic has written an introduction to pathological physiology,[11] in which he discusses in turn the pathology of respiration, circulation, and heat regulation, the disturbances of gastro intestinal function, the pathology of metabolism and nutrition, functional disorders of the liver and spleen, the pathological physiology of the blood, infection and immunity, and the disturbances of the endocrine glands, nervous system, kidneys, and skin The work, which is intended for senior students and practitioners, will prove useful to those interested in the relations between physiology and medicine

The system of teaching by question and answer is suggestive of cramming methods, but an exception is to be found in *Essentials of Pharmacy*,[12] by CLYDE M SNOW The student must possess the desire for instruction, if he has it, the instrument he uses may properly be of the kind he can most easily wield, and it appears that the principles of pharmacy are quite adaptable to this method of presentation There remain the important questions—whether the instruction is adequate and whether it is correct, and in the case of this volume both may be answered in the affirmative The plan, moreover, affords an opportunity of giving point to matters which might escape the student's observation in reading the text of an ordinary handbook, and also permits of questions being framed which shall stimulate further thought The book is written for American pharmacists, and refers especially to preparations which obtain recognition in America The principles of pharmacy are, however, universal, since they depend on the physical and chemical properties of the same materia medica The manual will therefore be of value to British pharmacists In the subject of pharmacy proper the instructions given are sound and the information for dispensers very useful The matter which relates to the purification of compounds of bismuth from arsenic does not appear convincing from a chemical point of view, but there are few instances in which fault of this kind is found It must be admitted that the monotonous effect of the text affords a good explanation of the rarity with which the style is followed, but in this case it is not intolerable and has been used with educational effect

The first edition of *The Form and Functions of the Central Nervous System*, by Professor TILNEY and Dr RILEY of New York, was reviewed at some length in our columns in 1922 (vol i, p 566) The demand has been so considerable that a second edition[13] has been produced, it is rather a reprint than a new edition, for the authors state that it differs from the first only in that certain typographical and other errors have been corrected and certain suggestions incorporated. No radical change has been made in the text or illustrations

Dr JOSEPH MCFARLAND, in *Fighting Foes too Small to See*,[14] deals in a simple and interesting manner with the nature and forms of bacterial and protozoal disease In addition to giving useful information about such subjects as the history of the microscope and the work of Jenner, Pasteur, and Lister, he goes into some detail with regard to the different forms of organisms responsible for disease throughout the world The book is well illustrated and clearly printed, and should be of value in giving a non technical account of infective processes which will help the public to co-operate with the medical profession in the prevention of epidemic disease

MAXIM GORKI is an artist, and *Fragments from my Diary*[15] is not only intrinsically a work of art but possesses the extrinsic merit of showing how he works It is ill named, and the author confesses that he wanted to call it "The Book of Russians as They Have Been", it consists, in fact, of a series of pictures from nature—some mere rough sketches, some highly finished miniatures One of the best is called "Peculiar Tramps"—men who are bored by civilization, but like to live on its fringe, it is in this that he shows his way of working by breaking off to lament that the Petrograd police lost his book of newspaper cuttings about peculiar tramps Gorki is, in fact, a portraitist with a preference for ugly or pathological sitters The translation is excellent

Professor CHARLES RICHET'S little book on the work of Pasteur[16] consists of a series of lectures delivered before the Paris faculty of medicine In addition to biographical details an account is given of Pasteur's epoch making work on crystallography, fermentation, spontaneous generation, silk worm disease, anthrax, and rabies Special chapters are devoted to the influence of Pasteur's doctrines on surgery and obstetrics

[9] *Chirurgie du Membre Inférieur* Par G Labey et J Leveuf Cinquième edition entièrement refondue Paris Masson et Cie 1923 (Cr 8vo pp viii + 248 280 figures Broché fr 10 cartonné fr 12)

[10] *Untersuchungen über die körperlichen Störungen bei Geisteskranken* By Dr Otto Wuth Berlin Julius Springer 1922 (Sup roy 8vo pp 113 63 figures)

[11] *Pathologisch physiologische Propädeutik* Eine Einführung in die pathologische Physiologie für Studierende und Aerzte By Max Bürger Berlin Julius Springer 1923 (Sup roy 8vo pp viii + 342 27 figures Paper 2.50 dols, bound 3 10 dols.)

[12] *Essentials of Pharmacy with Questions and Answers* By Clyde M Snow Ph G A.M. Second, revised edition London H. Kimpton 1923. (Med. 8vo pp. 752. 22s. net.)

[13] *The Form and Functions of the Central Nervous System.* An Introduction to the Study of Nervous Diseases By Frederick Tilney M D, Ph.D and Henry Alsop Riley A.M M D Foreword by George F Huntington Sc.D M D Professor of Anatomy Columbia University Second edition. London H K. Lewis and Co Ltd 1923. (Roy 8vo pp xxvi + 1020 591 figures, containing 763 illustrations of which 56 are coloured £2 12s 6d net)

[14] *Fighting Foes too Small to See.* By Joseph McFarland M D Sc D Philadelphia F A Davis Company 1924 (Demy 8vo pp. 309 62 figures 2.50 dols net)

[15] *Fragments from my Diary* By M Gorki. London P Allan and Co. 1924 (Demy 8vo pp 3 0 10s 6d net.)

[16] *L Œuvre de Pasteur* By Charles Richet. Paris F Alcan 1923. (4½ × 7½ pp 119 Fr 6.)

HOSPITAL DEVELOPMENTS AT BATH

TWO ROYAL OPENING CEREMONIES

THAT the famous old city of Bath is not living on its history but is very much alive to modern developments in the care of the sick as in other matters was proved once again on May 16th, when a series of ceremonies inaugurated two new hospitals, both of them interesting departures and one of them—a hospital built solely for the accommodation of patients of moderate means—quite novel at least so far as the West of England is concerned. On a brilliant day which showed the grey terraces of Bath and its green rim of hills to the best advantage, H.R.H. the Duke of Connaught opened these hospitals, which adjoin in Combe Park on the outskirts of the city. Both of them are outgrowths from the Royal United Hospital, which has served Bath and its neighbourhood for a hundred years on a site in Beau Street which now does not admit of extension.

The Royal United Private Hospital

Four years ago Mr. Forbes Fraser, who is senior surgeon to the Royal United Hospital, in view of the long waiting list at that hospital, formulated a scheme, in association with some of his colleagues, for an extension of the hospital on a new site outside the town where advantage could be taken of new ideas in hospital construction and management. His plan was to set up in the new locality paying wards for persons of moderate means and incidentally as economy of space was not a dominant consideration to have a building of the one-storey bungalow type with ample corridors and verandas.

The scheme was adopted by the managing board of the old hospital, and endorsed at a public meeting held in Bath Guildhall. In Combe Park a site was available close to the Ministry of Pensions Hospital, formerly the Bath War Hospital. Here there has been built what is to be known as the Royal United Private Hospital. Eventually it is hoped that the entire hospital now situated in the city may be transferred into these more open and healthy surroundings, but the scheme would cost £150,000, and is postponed for the present. The private hospital which has been put up in the meantime contains in each of its two wings twelve private rooms and two wards of twelve beds each, making a total of seventy-two beds. In front of the private rooms and at the end of the wards there are covered verandas on to which the patients' beds or chairs can be wheeled. Between the two wings is an administrative block, with the medical officers' and matron's quarters and two operating theatres. Patients from the area covered by the Royal United Hospital are to have the preference for admission, and the patients can be followed into the hospital by their own medical men, the treatment can be given by other doctors than those on the hospital staff. The total cost of this hospital—£43,000—has been subscribed locally, except for a grant from the war funds of the Red Cross and Order of St. John.

The Orthopaedic Hospital

The second hospital which has been built simultaneously on adjoining ground, is an orthopaedic hospital for the treatment of surgical tuberculosis in children. This is another section of the main scheme and, like the private hospital, it has its own committee, although both sections are under the control of the board of management of the Royal United Hospital. The institution of this orthopaedic hospital is also mainly due to Mr. Forbes Fraser, who on the same occasion on which he advocated the establishment of a private hospital touched briefly upon orthopaedics as a rapidly developing branch of surgery. Later on Sir Robert Jones came by invitation to Bath to address a few of those interested in the Combe Park project. A number of Bath citizens interested themselves in the matter, visits were paid to other orthopaedic centres in the country, notably the one in Shropshire, and the necessary money for the building and equipment was pledged with a guarantee for the first year's maintenance. The hospital consists of one large ward with accommodation for thirty-seven child patients. The ward is open completely to the south, and there is a veranda in front of it on which patients take the sun cure during the day, sleeping at night in the open bungalow. A more vitalizing situation—unless it were by the sea—could hardly be imagined, with the lawns and gardens immediately in front and in the background the Cotswolds and the Mendip. The surgical staff consists of members of the staff of the Royal United Hospital, and there is a specially trained nursing staff and a fully qualified schoolmistress. The hospital which has received the sanction of the Ministry of Health and the Board of Education is intended to be the central unit of an organization covering the area served by the Royal United Hospital—that is to say parts of the counties of Somerset, Gloucester, and Wiltshire—and local clinics are to be established at suitable places in this area where out-patient treatment may be afforded and periodical examinations of old and new cases take place. Arrangements have been made for an orthopaedic after-care sister to visit these different patients regularly. The local clinics are to be under the control of local committees in co-operation with the medical men practising in the neighbourhood.

The Opening Ceremonies

The Duke of Connaught was received by Lieut.-Colonel E. Lewis (deputy chairman of the Royal United Hospital) in the absence through illness of Sir Percy Stothert (the chairman) and by Mr. W. E. Mallett, chairman of the committee of the orthopaedic hospital. Colonel Lewis gave the history of the scheme which we have indicated above, adding that he believed this to be the first hospital in the country built solely for the accommodation of patients of moderate means. He also stated that the fees fixed for patients were five guineas a week for private rooms and three guineas for a bed in the wards.

Mr. MALLETT then gave an account of the orthopaedic hospital which he said owed everything to Mr. Forbes Fraser and his friend Mr. Cedric Chivers, who had been initiated into some of the wonderful things done for crippled children by Sir Robert Jones and would not be satisfied until a subscription was raised for a distinctly orthopaedic hospital for Bath.

The DUKE OF CONNAUGHT in a brief speech referred with regret to the absence of Mr. Forbes Fraser and expressed the hope that the very serious operation which he had lately undergone would fully restore him to health. His Royal Highness went on to speak of his own lifelong acquaintance with hospital work. It had interested him to learn that the need for a hospital for the reception of patients who could not afford to pay the full fees of the private nursing home and at the same time were not eligible for the benefits of a charitable institution had been felt in this part of the West of England. He thought it a very wise condition that the beds of such an institution should be available to all local doctors and that the treatment should not be confined to the staff of the hospital. He hoped that at some future date—though in present circumstances he could hardly expect that it would be an early one—the Royal United Hospital in its entirety might move out to Combe Park. He commented upon the wide verandas surrounding the new hospital and its use as the latest improvements in hospital design. With regard to the orthopaedic section he regarded the modern hospitals of this kind as representing one of the greatest advancements in hospital work. He mentioned that here was such a hospital close to where he lived in Surrey and he believed the proportion of recoveries was 99 per cent.

The Duke then made an extended tour of both the hospitals and in the orthopaedic hospital which already contained child patients in their beds on the verandas—much improving in the generous sunshine—he paid to each part of every little cot. The members of the committee and of the medical staff were presented.

Afterwards His Royal Highness visited the Private Hospital—the former War Hospital—where he was received by Colonel Bray the commandant. In order to visit that institution reserved for the worst cases, the Duke, accompanied only by the Marquess of Bath, made an extended visit, all officials, guests, and journalists being denied admission, and there he said a few words to each

of the sixty sufferers from war disability The principal medical officers and the heads of the nursing staff were then presented, and on the lawn the Duke reviewed 250 other patients, who were drawn up in ranks, most of them in the familiar hospital blue Later in the afternoon the Duke visited the Royal School for Daughters of Officers of the Army, and unveiled a stone of remembrance of those fallen in war The Duke, who is an old friend of Bath, delighted everyone by the interest he showed in her good causes, as well as by his own tireless energy at the age of 74

THE LISTER INSTITUTE

THE annual report of the Lister Institute of Preventive Medicine is always an interesting document, because it gives a general view of the work done or in progress in the several departments, and affords an idea of its amount and variety, and sometimes by placing different inquiries in juxtaposition brings out relations between them which are not so readily perceived when the individual papers appear separately in current scientific periodicals From it, too, may be obtained a good bird's-eye view of the border territories with the exploration of which experimental medicine is now more particularly concerned

The Bacteriophage

Thus during 1923 some light has been thrown on the obscure subject of the bacteriophage Dr Arkwright, a senior member of the staff of the Department of Bacteriology, from an investigation of the behaviour of certain cultures of Shiga's dysentery bacillus, has been brought to the opinion that during the growth of an organism elements are evolved which exhibit at some critical point in their life-history a tendency to self-destruction (lethal elements), the stimulus to which may come either from some superadded agent (bacteriophage) or from the metabolic products of the organism itself The research links up bacteriophage action more closely than ever with the sphere of bacterial variation Dr E H Lepper, continuing a research previously conducted as a Beit Fellow in the same department, has found that when *B coli* is grown in conjunction with its appropriate bacteriophage in a synthetic medium containing glucose as its only organic constituent, the lytic principle can be recovered from the resultant growth, and can then be transmitted in series It appears, however, to be less active than the original "phage" from which it was derived, and, for some reason not yet elucidated, its activity cannot be restored by later incubation in peptone cultures of the test organism Some undefined accessory substance in the medium may be necessary for reproduction of bacteriophage in full activity

Vitamins

As in the previous year, accessory food factors have been the subject of a considerable proportion of the work done in the Department of Biochemistry Professor Harden, the head of the department, undertook the revision of the report issued by the Accessory Food Factors Committee The new edition was published early this year and was noted at length in our columns on February 23rd last (p 331) Professor Harden and Dr Zilva completed their work on the antineuritic and the antiscorbutic factors in barley and malt They found that though the wort usually contains the antineuritic vitamin it is absent from the finished beer The results are now being prepared for publication

The Process of Ossification

Dr Robison has continued his study of the chemical processes involved in ossification and of the part played therein by hexose-phosphoric esters and by the enzyme he discovered in ossifying bone and cartilage The enzyme hydrolyses such esters with liberation of inorganic phosphate, working with Miss K M Soames, he has demonstrated the actual deposition of calcium phosphate by the enzyme in bones taken from rachitic rats and immersed in a solution of calcium hexose-monophosphate or calcium glycerophosphate The action of the bone enzyme on the "acid soluble" phosphorus compounds of blood has also been examined in collaboration with Mr H D Kay (Beit Fellow)

The Diet of the Milch Cow

In the Department of Experimental Pathology, which is in the personal charge of Professor C J Martin, the Director of the Institute, an investigation of the influence of the diet and mode of life of the cow on growth promoting and antirachitic principles in the milk yielded has been continued Dr Ethel Luce (Beit Fellow) is drawing near the end of her two years' observations on a particular cow kept under controlled conditions at the serum farm at Elstree A gradual diminution was observed in the amount of both vitamins in the milk, as the conditions of the animal were changed from pasture to winter fodder consisting of roots, grains, and straw, and a reciprocal increase as the diet was changed back to green food, culminating in a maximum on turning out the animal again to pasture in the summer These observations showed that the ration of milk from a cow fed on pasture occasioned a maximal retention of calcium and phosphorus, but that the same quantity of milk was far from adequate when the cow was shut up in a stall and fed upon roots, grains, and straw In the latter case the amount of calcium laid down in the skeleton was only two-thirds of that of the control animals and of those which received pasteurized milk

Industrial Hygiene

Dr Martin, who in the middle of the year went to Sydney to attend the Pan-Pacific Congress, gave an account, in his address to the Section of Hygiene, of his experiments to determine the limiting conditions as regards temperature, moisture, and air movement for a man to work at the rate of 1/10 h p, which is the performance of a good miner or navvy Incidentally he has also studied the influence of humidity and air movement upon the rate of heat loss of man at high temperatures On the way out, when the tropics and the Red Sea, at its hottest period, were traversed, he took advantage of facilities provided by Sir Kenneth Anderson of the Orient Line to investigate whether any physiological adaptation occurred by varying the minimal resting heat production when adequate heat loss becomes difficult Ship life with its unvarying routine and the simplicity with which diet, exercise, and other conditions can be maintained constant from day to day offered ideal conditions for such an inquiry Until the Red Sea was reached no significant change occurred in the resting metabolism, but when the hot weather was encountered the basal metabolism fell by 13 per cent and rose again fifteen days later to the original level when the cool south-east trade winds were encountered The rise and fall did not occur abruptly, but took, in each case, three to four days to reach the final level

Antitoxic Serums

The practical difficulties encountered in the preparation of good diphtheria toxin of constant potency have again occupied much of the time of the Department for the Preparation and Study of Antitoxic Serums The occurrence of discrepancies in the potency of the toxin produced under uniform external conditions suggests that the explanation is to be looked for in the variability inherent in the inoculum Benhardt, in 1915, reported observations in favour of this view, and Dr MacConkey has observed at the Elstree serum farm different types of colony, on one occasion one type (thick) yielded a toxin varying from 100 to 400 M L D, whereas another (thin) produced a toxin containing only 10 M L D per cubic centimetre Dr Petrie, a member of the staff of the department, working with Dr M M Barratt, has studied the relation between the toxin production and the virulence of diphtheria bacilli In view of the opinion that the carrier of avirulent diphtheria bacilli is not a menace to the public health and may be disregarded, it is of interest to mention that, of eight avirulent strains isolated from the nose or throat of carriers, five were found to produce toxins to some extent, when cultivated under appropriate conditions One

of these strains produced a toxin of which the minimal lethal dose was as small as 1/50 c cm

Search is also being made for a more satisfactory method of standardizing antidysentery serum, and also as to the therapeutic value of antimeningococcus serum In this inquiry the department has been assisted by the receipt from Sir Spencer Lister of sixty seven cultures of strains of meningococcus isolated in South Africa, fifty seven of which reached the Institute alive The value of antimeningococcus serum would appear to depend not only on type but also largely on the strains used for immunization of the horses and it has been found advisable to use as many unrelated strains as possible for the production of therapeutic serum

Antivariolous Vaccine

The Department for the Preparation and Study of Antivariolous Vaccine and the investigations of problems relating thereto has been removed to a new laboratory at Acton, Marazion, Cornwall, and most of the available time of Dr Green, the bacteriologist in charge, has been occupied in the organization of the new laboratory

Type Cultures

The department charged with maintaining the National Collection of Type Cultures resumed its full normal activity early in the year with the restoration to health of the assistant curator, after a tedious convalescence from tularaemia Over 3,000 cultures were distributed in 1923 A fresh edition of the catalogue will shortly be required owing to the great accession of new material

Finance

The total income for the year 1923 was in round figures, £45,000, of this £31 000 was earned—£3 926 by fees for investigation, diagnosis, and analysis, and £27,179 by sales of serums, vaccines, etc (including stock at the end of the year) The chief items of expenditure were the cost of supplying and maintaining the laboratories and salaries and wages

OPEN-AIR TREATMENT OF DEBILITATED CHILDREN

THE HOWARD MARSH HUT

ON May 3rd the 'Howard Marsh Hut at St Andrew's Home School for Crippled Children, South Havling Island was formally dedicated to the memory of Professor Howard Marsh, M Ch, F R C S, by the Dean of St Paul's and declared open by Sir Henry Gauvain The hut has been presented by Mrs Howard Marsh to Brompton Chest Hospital to enable it to enlarge the scope of its preventive work amongst children—work which was particularly dear to her husband and therefore peculiarly suited to be carried out to his memory [1]

The chair was taken by Sir FREDERICK MAURICE who described Professor Marsh as an outstanding example of sincerity simplicity and strength possessing the widest sympathy with all humanity, but most especially with children

In declaring the hut open Sir HENRY GAUVAIN said it was impossible to do justice with his tongue to the beloved professor who had been a great influence in his own life Howard Marsh commenced his life work at a period of transition in surgery Recent advances in bacteriology and the establishment of antiseptic principles in surgery together with the employment of anaesthetics combined to make possible those great advances in operative surgery which distinguished the period of his professional career It was a period when circumstances combined to make the surgeon eager to undertake extensive operations in patients suffering from surgical tuberculosis The immediate and indirect mortality was appalling and those who survived were often left horribly mutilated and crippled Howard Marsh never succumbed to the temptation to engage in these alluring but unnecessary and undesirable surgical adventures. He was one of the pioneers of the school of conservative surgery in surgical tuberculosis so solidly established to-day Early impressed with Hilton's work he was a warm advocate of rest in active tuberculous disease He realized the danger of unchecked muscular spasm, and developed on scientific lines the principle of extension in the treatment of tuberculous disease of the hip-joint. There was nothing dramatic about his methods but the principles he laid down were the result of shrewd observation and sound common sense For that reason they had withstood the test of time and remained firmly established and generally accepted. And the greater one's acquaintance with those diseases which Howard Marsh especially studied the greater one's admiration and respect for the methods he developed and employed. In tuberculous disease of the hip-joint he was especially interested and no better results were obtainable to-day than could be obtained by the methods he so clearly expounded He was one of the founders of Queen Alexandra's Hospital for Hip Diseases No better place than Hayling Island could be selected for a memorial to him and the happiness of the little patients at St Andrew's was a visible testimony to the wisdom of Mrs Marsh's choice of the institution.

Miss MABEY (lady almoner of Brompton Hospital) explained how the relationship between the hospital and St Andrew's Home had come into being She particularly regretted Dr W J Fenton's enforced absence as this bit of work which was being started owed its inception to him. In his double capacity of physician to Brompton Chest Hospital and tuberculosis officer for Chelsea he was struck by the amount of disease resulting more or less directly from a poor and debilitated general condition and which especially in children might be avoided at least in its more serious forms, by early preventive treatment.

Dr A. J MAY (medical superintendent at St Andrew's Home) explained how at Dr Fenton's request the separate branch for Brompton Hospital had been started at the home differing in the fact that while previously they had dealt with surgical cases and definite disease the new cases were those in which the treatment was primarily to raise the children's power of resistance. He explained that the treatment consisted of running wild with discipline and being in the open air, even at meal times in all weathers. The success had been so great that he wished they could deal with hundreds instead of the comparatively small number that passed through their hands.

Mrs HOWARD MARSH thanked the speakers and especially Sir Henry Gauvain for their kind and appreciative references to her husband. She felt that his real memorial was the succession of happy healthy children returned by Miss Twining to their homes to be the joy and pride of their thankful parents.

The keynote of the afternoon's proceedings was happiness, one of the greatest of health givers and everyone left fully imbued with the wish to extend the scope of the work For this more funds are needed, and before it is possible to contemplate another hut £40 a year has to be raised to provide the necessary clothes for the twenty children Donations towards the clothing and extension funds may be sent to Mrs Howard Marsh, 17, Irvine Road Colchester

[1] BRITISH MEDICAL JOURNAL, April 26th 1924 p 760.

THE STRUCTURE AND FUNCTIONS OF A CHILDREN'S HOSPITAL.

WE have received from Dr E M PAYNE a copy of some suggestions for the form of a children's hospital addressed by him to his fellow members of the Blackburn Board of Guardians on February 16th 1924 The occasion arose out of the discussion of a scheme for building a children's hospital on a site chosen by the General Purposes Committee

Dr Payne began by pointing out that in the course of the last half-century or longer the ideas of what a hospital should be like or where it should be placed had completely changed Most of our celebrated old hospitals were built in the form of mansions or palaces and placed in the middle of large cities and towns and more attention was often given to the magnificence of the external architecture than to the lighting and ventilation of the interior upon which so much the cure of the patient depended

All these ideas had now been revolutionized The old barrack town hospitals were being condemned and demolished and new hospitals built in country places or in the most salubrious suburbs of cities and towns. In designing them the aim should

be not so much symmetry or beauty of the buildings, or even the convenience of the central administration, as the supplying of each patient with the greatest possible amount of pure fresh air and sunlight This object was best attained by arranging the wards (which should be of convenient size, and relatively long and narrow) in rows, end to end, with an air space between the ends, and a wide space between each row of wards

The first thing to consider was the site or sites at disposal If only one site was available then the building must be made to suit the site If, however, there was a choice of sites they should first decide the most suitable form of building for the purpose in hand, and then choose the most suitable site for it Dr Payne continued

"If then we are going to build a general children's hospital of 150 beds we should first consider what form it should take Are we going to build a compact two- or three story building like the Burnley Barracks, or shall we build a garden hospital where the wards consist of a number of bungalows in a garden connected in series, with windows on one side only with a south or slightly south west aspect, so that as much sunlight and mild fresh air as possible is admitted into the ward, which is at the same time protected from the cold north and east winds by the back and sides of the building?

"Now the Blackburn Royal Infirmary has a capacity of 152 beds and it stands in its own grounds of about 8 acres, but the field on which it is proposed to build our children's hospital has only an area of about 5 acres It may be said that a children's hospital need not be so large as a hospital for adults and children On the contrary, I maintain that it will have to be larger We shall keep our patients longer than they do at the Royal Infirmary They dismiss them from that institution as soon as they are fit to be nursed at home We shall have to keep ours until they are cured

Again, the surface of the proposed site is very unsuitable for the erection of a large building, as it is crossed by an 'edge' almost a precipice the front part of it being 50 feet or more above the back I do not therefore think there is sufficient room on it to build our children's hospital especially when it is considered that we ought to provide not only wards, operation rooms *x* ray and electrical treatment rooms and the like, in easy communication with each other, but also recreation rooms, gymnasiums, and playgrounds

"Another objection to the site proposed is that it adjoins the sanatorium for tuberculous patients, and this has even been proposed as a reason for the choice of the site so that all the children can be all together But tuberculosis is in a sense an infectious disease It is therefore of the greatest importance that children, especially sick children should be kept as far from persons suffering from tuberculous disease as possible'

After discussing other objections Dr Payne proceeded

'Now if the site proposed by the General Purposes Committee for the new hospital is not large enough for what I have called a block hospital it is needless to say it is not large enough for what I have called a garden hospital

The wards of this hospital in my opinion should consist of long, one storied buildings having their windows on the sunny side only The beds should be placed so that the patients face the windows and as the sunny side is the south, the wards are protected from the cold north and east winds, and consequently the windows can be left open during the greater part of the year

The wards should be placed end to end in rows at intervals of several feet and down the side of each row of wards in front of the windows should be a broad asphalt gangway which might be covered if desired, but should be opened at the sides If the gangway is covered its roof should slope in the opposite sense to that of the roof of the ward so that the sections of the roof of the gangway and the ward should form a letter V In this way the roof of the gangway need not obstruct the rays of the sun from reaching the windows The doors of the wards would, of course, open on to the gangway

The number of wards in a row and the number of rows of wards would of course depend on the number of beds in the hospital but in any case the rows of wards should be placed widely apart and the intervening spaces should be laid out as gardens and playgrounds

The lateral gangways should terminate in transverse gangways The transverse gangways at the end of the system which we will call the front of the hospital would run along the back of a suitable substantially built administrative block At one end of this block—the surgical side of the hospital—should be built the operation room and the necessary apartments appertaining to it At the other side—the medical side—can be built the *x* ray room, and rooms for the electrical treatment of patients

The middle part of the administration block should be appropriated to apartments for the medical officer the matron and their staffs and a reception hall for patients and visitors The ends of the gangways opposite to those which run up to the administration block run into another transverse gangway or courtyard which should communicate with a block devoted to kitchens stores, etc Nobody who has worked in any capacity in a hospital can doubt the advantages of having everything on the ground floor"

Dr Payne concluded his address by arguing that since the guardians could not logically decide on a site until the form and purpose of the hospital had been determined, that part of the Infirmary Committee's report which related to a site should be referred back for further consideration

HEALTH OF THE ROYAL AIR FORCE

THE third Report on the Health of the Royal Air Force,[1] that for the year 1922, just "issued for the information and guidance of all concerned," gives a refreshing impression of the enthusiasm and keenness of a youthful service for new knowledge, and Air Commodore D Munro, Director of Medical Services, has every reason to be pleased with the results of the research and other activities so quietly and efficiently undertaken by his department This concise report is on the same well planned lines and of almost exactly the same length as the two previous reports, which were fully noticed in our columns of December 31st, 1921 (p 1122), and April 7th, 1923 (p 607)

Rates of Invaliding and Sickness

Whereas the rate per 1,000 of strength of men invalided out of the Service has fallen from 34 3 in 1921 to 15 1 in 1922, the rates per 1,000 of strength of fresh cases of sickness, both including and excluding forty eight hour cases, show an increase in 1922 as compared with 1921, but this increase is almost entirely due to the rise in the case incidence of sandfly fever during the year in Iraq, where the severity varies much from year to year, as mentioned in the previous report, in which, in recording a fall for its incidence in 1921, it was cautiously pointed out that this factor made it impossible to say how far prophylactic measures were to be credited with this satisfactory result During 1922, in spite of these measures, sandfly fever accounted for more than a quarter of the total cases of sickness lasting more than forty eight hours reported from abroad

Investigation of Sandfly Fever

In the spring of 1921 the Director of Medical Services appointed a Commission to investigate the causation, prevention, and treatment of sandfly fever, and Malta was chosen as the most suitable locality for this investigation on account of its isolation, freedom from malaria and other tropical fevers, as compared with Iraq Wing Commander H E Whittingham has given an account of these observations to the War Section of the Royal Society of Medicine Reference was made to some of the results in the last Report on the Health of the Royal Air Force, especially to the isolation from the blood of a small percentage of cases of sandfly fever of a leptospira, morphologically indistinguishable from *Leptospira icterohaemorrhagiae*, but further investigations have not definitely established that this is the virus responsible for sandfly fever In the special chapter on phlebotomus, or sandfly fever, in the present report it is suggested that the cases of the disease showing leptospira were not simple but mixed infections, for they were accompanied by a relatively severe type of fever, and some even developed jaundice The life history of the phlebotomus has now been worked out, and was recorded by Whittingham in our issue of December 15th, 1923 (p 1144) It has been shown that the duration of life from the ovum to the egg laying stage of the imago is about nine weeks, that females only suck blood, that phlebotomi which had fed on patients with the disease could infect man as early as twenty four hours later, thus controverting Doerr and Birt's opinion that an interval of six to seven days was necessary, and that phlebotomi either inherit the virus or else become infected in the larval stage by feeding on the dead remains or faeces of their parents The results of prophylactic experiments in Malta are summarized, and deal with the abolition of breeding grounds, destruction of the adult flies by 'swatting' and spraying 1 per cent solution of cresol, electric fans, and methods of preventing biting, including repellants, such as paraffin and camphor The recommendations for a campaign against the phlebotomus insist that it is even more arduous than that against mosquitos, as the breeding places are as numerous and more difficult to treat, while the smaller size of the insects increases the difficulty

Neosalvarsan in Malaria

An investigation into the value of "914" (neosalvarsan), combined with quinine, in the treatment of chronic and relapsing malaria showed that relapses were much less frequent, that cases with anaemia and splenomegaly were markedly improved, that a general tonic effect was exerted, and that in some cases in which "914" induced a relapse a few hours after injection rapid recovery followed

Dysentery

At the R.A F Central Laboratory a research into the pathogenicity and treatment of flagellate dysentery led to

[1] Report on the Health of the Royal Air Force for the year 1922. Air Publication 981 April 1924 Published by H.M Stationery Office, (1p iv + 79, 8 charts, 36 tables Price 3s)

the conclusions that it is a pathogenic condition which if allowed to persist will eventually cause ill health and neurasthenia, that carriers are a great source of danger and that contrary to the usual statement it can be cured in at least half the cases, stress being laid on combined treatment by purgation thymol, emetin bismuthous iodide, and colonic lavage.

Physical Examination.

The Central Medical Board has carried out research work in connexion with abnormalities of the circulatory system especially in regard to fainting, nausea, and vomiting in the air together with control experiments on successful pilots who have never experienced these disabilities.

The annual medical examination into the physical efficiency of officers, of whom the strength on December 31st 1922, was 2 980, has been carried on, and the records of 2 654 such examinations show that 78 per cent were fit for full flying duties The total number of fresh cases of functional nervous disorders among officers was 58 as compared with 59 in 1921 With regard to venereal disease, the prophylactic measures described in detail in the last report were continued during 1922, and apparently with success for the case incidence per 1 000 of strength of the total force for all types of the disease was 27 2, as compared with 36.1 in 1921, and a table giving the effects of prophylactic disinfection on the contraction of venereal disease shows that a greater number of cases occurred among those reported to have used the propylactic measures improperly or to have failed to employ them at all. *There was a fall in the case incidence of scabies, from* 14 3 in 1921 to 8.4 though the duration of each case was about one day longer the case incidence of impetigo also fell But there was a rise in the incidence of influenza from 26 4 in 1921 to 50 9 in 1922 the disease being mild and without any deaths. It is not therefore surprising that the incidence of cases grouped under the heading of the upper air passage has risen from 64 in 1921 to 73 9 in 1922. That there were four teen more deaths from flying accidents in 1922 than in 1921 is largely due to eight deaths as the result of three collisions in the air a cause which in the previous year was responsible for one death only With the adoption of the revised nomenclature with regard to heatstroke, sunstroke and heat exhaustion it is shown that there were 11 cases of heatstroke with 10 fatalities and 175 cases of heat exhaustion abroad with a case ratio of 22.3 per 1 000, without any deaths

Medical Officers School

It may be noted that during the year under review fifty three medical officers passed through the Medical Officers School of Instruction at Hampstead where lectures and practical demonstrations are given by the specialist members of the Central Medical Board, and that lectures on the medical aspects of flying were given at most of the R A F stations during the year by the Director of Medical Research. Further, the hygiene of the cadets has been looked after by a course of lectures at Cranwell, and the examination papers submitted twice a year have shown that the candidates have a satisfactory knowledge of the subject matter

BEER AND MALT WINES

A PAPER on "The Composition of Beef and Malt Wine," by Mr G D Elsdon, B Sc , F I C read at a meeting of the Society of Public Analysts on March 5th is published in the May number of the *Analyst* Mr Elsdon's attention seems to have been drawn to the matter by an analysis he was called upon to make of a beef and malt wine which he concluded contained neither beef nor malt but an undue proportion of salicylic acid He found in Hutchison's *Food and the Principles of Dietetics* a statement that 'A beef and malt wine may usually be regarded as containing about 1½ ounces of extract of meat and 2 ounces of malt extract in a pint of detannated' port or sherry" He also found that pharmaceutical formulæ published at the office of the *Chemist and Druggist* suggested that beef and malt wine should contain 4 ounces of extract of beef and 8 ounces of extract of malt per gallon of wine—equivalent to 2 5 per cent and 5 per cent respectively He was informed by two manufacturers of beef and malt wine that they added 2 5 per cent of extract of beef and from 2 5 to 5 per cent of extract of malt This proportion was considerably lower than that mentioned by Hutchison and Mr Elsdon assumed for the purpose of his further inquiry that a beef and malt wine should be prepared by the addition of at least 2.5 per cent. of beef extract and 2 5 per cent of malt extract The e, he points out are the quantities added but a considerable proportion of both extracts is insoluble in water or is precipitated by the alcohol of the wine, so that the amount of nitrogen and phosphorus contained in the wine as finally delivered to the consumer will be substantially less than the amounts calculated from the proportions of material added

In the first place Mr Elsdon examined a number of malt extracts and found that the percentage of phosphorus (P_2O_5) in the ash varied from 0 3 to 0 70 and that of nitrogen from 0 73 to 1.46 A number of analyses of meat extracts were collected from various authorities and Mr Elsdon made an independent analysis of a sample he chose as typical His maximum results were 5·50 per cent phosphoric acid and 3·85 per cent nitrogen

The wine used as a basis in the preparation of beef and malt wine is usually, he states a cheap Spanish or Portuguese wine of a port character A number of wines of the type generally used by manufacturers—some of them in fact were wines actually taken from stock kept for the purpose—were examined, the percentage of alcohol by volume was found to vary from 9 2 to 17 5 but of the eight samples examined all but two contained over 13 per cent As the various analyses quoted gave an average figure of about 9 per cent for the total nitrogen in a mea extract Mr Elsdon took 8 7 Similarly, an analysis of malt extract showed about 1.3 per cent of total nitrogen so that a mixture of equal parts of meat and malt extracts would contain about 5 per cent of total nitrogen and this was the standard adopted Assuming the minimum quantity of 5 per cent of this mixture to be added to the wine, and assuming also all the nitrogen to be retained by the wine it follows that the prepared beef and malt wine will contain at least 0 25 per cent. of nitrogen, without taking into account the amount (some 0 03 per cent.) natural to the original wine Mr Elsdon found that about 70 per cent of the nitrogen added as a mixture of beef and malt extracts remained in solution it follows therefore that a wine sold as a beef and malt wine should contain at least 0 18 per cent of nitrogen and 0 12 per cent of phosphorus pentoxide

In order to discover how far various commercial samples could be properly described as 'meat and malt wine' a number were examined, and the results are given in the following table which also includes the results of an examination of various proprietary wines supposed to be of a beef and malt wine character

No	Alcohol by volume per cent.	Total Solids per cent.	P_2O_5 in Ash per cent.	Total Nitrogen per cent.	Description
1	13.0	1.1	0.060	0.042	Liebig's beef and malt wine
2	19.2	10.7	0.130	0....	Do.
3	15.1	7.4	0.090	0.1..	Do.
4	15.3	15.4	0.091	0.023	Do.
5	20.4	15.6	0.043	0.052	Do.
6	13..	9.6	0.100	0....	Do.
7	..3	9.7	0.0..	0....	Tonic wine
8	17..	10.2	0....	0....	—— " ——
9	17.1	10.5	0 0.3	0....	—— wine
10	17.4	11.3	0 0.3	..3	" ——
11	15.0	8.7	0....	0....	" —— "
12	12.6	15.2	0 .3	.31	—— " —— "

It should be noted that Liebig appears to be used by manufacturers as a generic term it bears no relation to the Liebig's Extract of Meat Company but merely gives an extract of meat made or alleged to be made by the process suggested by Liebig

Mr Elsdon says that comment on this table is hardly necessary, but we may remind the reader of his statement that a meat and malt wine should contain at least 0 18 per cent of total nitrogen and at least 0.12 per cent. of phosphorus pentoxide

British Medical Journal.

SATURDAY, MAY 24TH, 1924

LUNACY LAW AND ADMINISTRATION MEDICAL RESPONSIBILITY

THE result of the appeal of Dr Adam and Dr Hubert Bond, against the verdict given against them in the Court of King's Bench and the damages arising under it, not only vindicates their own professional reputation, which in the eyes of the medical profession is hardly necessary, but in its widest aspect confirms the correctness of the understanding the medical profession has had of the method of procedure under the lunacy law as it exists to day The judgement of the Court of Appeal is satisfactory to the profession in its effect, and doubly satisfactory because the three judges were unanimous It is well to recall that the Lunacy Acts of 1890 and 1891 were promoted by the legal profession, and that the procedure to be followed in the case of a patient allowed out of an institution on probation was settled by the law officers of the Crown in 1899 The appeal of Dr Adam was allowed, the judgement against him in the lower court being set aside and entered for him with the costs of the action and of the appeal In the case of Dr Bond the verdict and judgement were set aside, and a new trial was ordered, but the damages to be awarded must be confined to the period of detention up to, but not beyond, the time when Dr Adam had the opportunity, and exercised it, of forming an independent judgement of the plaintiff's mental condition and whether it was necessary to continue to detain him under the reception order

The way in which the Court of Appeal arrived at these decisions is very clearly set out in the main judgement delivered by the presiding judge, Lord Justice Bankes, and reported at length this week at page 939 Lord Justice Bankes recalled that the late Lord Lindley spoke of the Lunacy Asylums Act, 1853, as one which had given justices of the peace and the medical profession large powers, and said that the statute was based upon the theory that they could be trusted That statement, the Lord Justice said, was equally true of the Lunacy Acts of 1890 and 1891 The objects of all lunacy legislation were defined a good many years ago by Lord Denman, and afterwards by Lord Moulton, as the protection of the individual against loss of liberty by improper confinement, and of the public against the dangers to which it would be exposed if lunatics were allowed to move about freely and unrestrained

The aspect of the Harnett case—as heard in the Court of King's Bench—which was most disturbing to the medical profession was the doctrine of continuing responsibility imported into the case by Mr Justice Lush We can only describe as amazing the dictum of Mr Justice Lush that once a man is certified insane and so detained as a direct consequence of this certification, the acts of subsequent medical men in recertifying or of visitors appointed under the Acts in reporting adversely as to his sanity, were mere acts of omission, the medical man who originally certified him continuing to be directly responsible for the detention —that the subsequent certifications and reports were mere formalities, or 'machinery,' mere omissions to discover that the patient had recovered, and not each constituting a *novus actus interveniens* breaking the chain of causation The validity of this opinion was very explicitly denied in the Court of Appeal Lord Justice Bankes said emphatically that the Act of 1890 cast upon every medical man in whose care a patient is placed under the Lunacy Acts a daily and hourly duty of being satisfied, and of taking the necessary steps to satisfy himself, that the patient's condition is such as not only to justify but to require confinement "I look," he said, "on every decision deliberately come to in the exercise of that duty, whether by a medical man, by a commissioner, by a visitor, or by a member of a visiting committee, as of itself amounting to a *novus actus interveniens*" The plaintiff has, we presume, the right of appeal to the House of Lords, but while these words of Lord Justice Bankes stand—and we may again observe that the decision of the Court of Appeal was unanimous—the medical profession is relieved of the main anxiety caused by the result of the proceedings in the Court of King's Bench The judicial direction to the jury at the trial was responsible for its assessing damages to the extent of £25,000 against the defendants, Dr Adam and Dr Bond jointly, for the whole period of Mr Harnett's detention in institutions for mental patients from December 14th, 1912, to October, 1921, when he escaped The Court of Appeal was careful to avoid any expression of opinion as to the condition of mind of Mr Harnett during this interval, and pointed out that in the particular circumstances of the action in the court below this question did not arise

Lord Justice Bankes referred to the great length of the proceedings in the King's Bench, and observed that the trial ultimately partook more of the nature of an inquiry into the administration of the lunacy law as applied to the plaintiff's case than of a trial of the issues in the action Lord Justice Scrutton also referred to this aspect of the matter, observing that the inquiry in the King's Bench was not into the whole working of the lunacy laws with regard to the plaintiff, with a power to the tribunal to award him compensation for any damages he had suffered through the operation of these laws It was not a Royal Commission to consider in what respects the lunacy laws should be amended to avoid the recurrence of any errors which had been made in Mr Harnett's case He, however, considered that there was a question which required much thought—namely, whether the existing system of visiting and reports afforded sufficient safeguards against undue prolongation of detention He added that when such questions were considered it might be difficult to provide any more practical safeguards than were at present provided, and that they most certainly should be approached from the point of view of protection of the community as well as of the liberty of the individual

All three Lord Justices were unanimous in their restatement of the effect of the lunacy law as the medical profession has always understood it—that a probation order may be revoked at any time during its continuance, that the manager issuing the order may take the patient back by force if necessary, that the words "if his mental condition requires it" contained in the order (the terms of which were settled by the law officers of the Crown in 1899) constitute a matter of opinion to be formed by the manager of the institution that acts in pursuance of the lunacy law are protected by the terms of the section under which they are carried out, and also by the terms of Section

330 In fact, Lord Justice Warrington was inclined to the opinion—without however, deciding the point—that the onus of proving want of reasonable care and lack of good faith lay upon the plaintiff so bringing subsection 1 into line with subsection 2 of Section 330 Finally, the Lord Justices agreed that acts of recertification were not mere machinery of omission but were new intervening acts breaking the chain of causation between the act of Dr Bond and the subsequent detention for eight and a half years As to those of the jury's answers which seemed to affect Dr Adam and Dr Bond in their personal capacity Lord Justice Bankes said In the particular circumstances of this case I cannot see any evidence of want of care on Dr Adam's part', whilst Lord Justice Warrington said - There was no evidence that Dr Bond acted otherwise than in what he honestly believed to be the best interests of the plaintiff himself

We concur with Lord Justice Scrutton's criticism of Mr Justice Lush's 'unfortunate direction to the jury 'Which do you believe? for, as Lord Justice Scrutton rightly observed, in these mental cases you may believe *both* and we suggest that a doctor's evidence as to the opinion he formed at a particular date of a patient's mental condition *should be given* greater weight than the evidence of persons who saw the patient at a subsequent date The case in so far as it relates to Dr Bond's act of detaining Mr Harnett has been referred back for a new trial It has been admitted all along that Dr Bond had no right *qua* commissioner to detain anyone, and, therefore it appears *that the only question remaining is*, at the most, one of assessing damages for a few hours detention

A BALANCED DIET

A PERFECT diet must not only contain sufficient of all the food essentials it must also offer these in appropriate relative proportions Formerly physiologists were chiefly concerned with the correct proportions of proteins fats and carbohydrates and hoped by mixing measured quantities of these to provide a complete and balanced diet *The discovery of vitamins enlarged* the conception of a well balanced diet and showed that these accessory food factors must be represented in the mass of proteins fats and carbohydrates Even so the elusive well balanced diet was not achieved We learn of substances antagonistic to vitamins, of salts essential to their action of the necessary co operation of physical influences Even a liberal supply of vitamins added to a diet sufficient in organic and inorganic constituents will not promise a faultless diet if antagonistic or auxiliary influences be neglected

Vitamins cannot be weighed like grains or measured like inches we can judge of them only by the effects they produce These effects cannot be estimated with such precision as that with which a chemist neutralizes acid with alkali they cannot be expressed in terms of material standards It is as foolish to dictate exactly how much vitamin the body needs as to attempt to state how much a garden plot should be watered in the season Plants need water but the amount which must be given them depends on the type of plant the character of the soil the drying effect of the sun the relative humidity of the atmosphere and so on Similarly the fat soluble vitamin A is essential to human life but in the other elements of the diet it may meet with substances, such as cereals antagonistic to its action, or may be handicapped by scarcity of calcium salts or may be made more active by physical agencies such as sunlight

To the ill effects of *an improperly balanced diet* Professor Mellanby has drawn attention again in the lecture we publish this week (p 895) His pioneer work on rickets gave support to the opinion that this disease springs from a faulty diet, a diet deficient in an antirachitic factor related in distribution with the growth-promoting factor discovered by McCollum and Davis Although *some guesses had been previously made*, Professor Mellanby's observations were the first to afford an experimental basis for placing rickets in the category of deficiency diseases More recent researches on the part played by the amount of calcium and phosphorus and their relative proportions in the diet, and on the wonderful effect of ultra violet light have amplified his discoveries and have emphasized the importance of the antirachitic factor The work of Mrs Mellanby has pointed to the importance of a well balanced diet in the proper formation of teeth Experiments on puppies showed that substances such as milk egg yolk cod liver oil suet, and green vegetables, all rich in the fat soluble vitamin favour the *production of perfect teeth, while cereals* especially oatmeal, tend to the production of badly formed teeth —a conclusion which has caused some surprise north of the Tweed, and is not wholly accepted there Again it appears that deficiency of the same vitamin leads to general flabbiness and lack of tone of the muscles. 'A diet deficient in fat-soluble vitamin and containing *excess of cereal is capable of producing muscles* which are extraordinarily defective in structure and have the appearance of pseudo-hypertrophic muscular dystrophy'

The opinions to which these researches lead must be tested by clinical observation and this is now being done The notable success which has attended dietetic *treatment of deficiency diseases whether well or ill* defined has not been attained by adherence to rigid prescriptions dictating so many teaspoonfuls of this and so many ounces of that it has been won by the thoughtful application of established principles In the cases of defects due to lack of fat soluble A these principles are that the diet must contain plenty of this particular vitamin sufficient calcium salts and not too much cereals The stimulating effect of sunlight or ultra violet radiation seems also to be needed to ensure the efficient assimilation of a well balanced diet A glance through the specimen diets Professor Mellanby suggests shows how he guarantees the vitamin and calcium salts with cod liver oil and calcium carbonate respectively These are principles for guidance details must be arranged to suit the needs of each individual patient It is well to note that butter though rich in the fat soluble vitamin is not a wholly satisfactory source milk provides both the vitamin and calcium salts but in the process of removing milk fat for butter making the calcium salts are left behind so that butter is poor in antirachitic properties

In rickets these modern views have been tried with success and the supply of cod liver oil orange juice and calcium carbonate are the stock in trade of infant welfare centres In two other directions a promising field is opening up for similar dietetic therapy The diet of a nursing mother would appear to have a pronounced effect on the quality of her milk if lactating rats receive an excess of protein their offspring are likely to suffer from convulsions, and the *milk of cows* pasture fed and exposed to sunlight is believed to be richer in fat soluble A than that of a cow kept in a

dark stall We may therefore hope to improve the quality of nursing mothers' milk, and to enrich it with accessory food factors by skilful dieting, and so provide the marasmic infant with more health giving food These principles may find also a useful application in the treatment of malnutrition in older children, more particularly for the toning up of general flabbiness and the proper calcification of teeth

The interesting observations on combined dietetic and light treatment in fractures and bone diseases are still in the experimental stage, but promise an even wider extension of these dietetic principles

The arrangements for the delivery of his lecture had been completed before the award of the Stewart Prize of the British Medical Association to Professor Mellanby for his discoveries on the relation between rickets and dietetic deficiency had been made, but the story told in it will make plain to members the reason of his selection The bearing his work has had on practical medicine was recognized also by the Sheffield insurance practitioners, who, in 1922, out of a surplus in hand from a voluntary levy, presented £1,000 to the University of Sheffield for the completion of the equipment of its Field Laboratories

CRIMINAL RESPONSIBILITY OF THE INSANE

LORD DARLING'S Criminal Responsibility (Trials) Bill, which was published with comments in our issue of April 26th, was considered and rejected by the House of Lords on May 15th. Six eminent jurists took part in the debate The proceedings, which are reported at page 931, were of considerable medico legal interest and importance, and merit the careful attention of the medical profession Though Lord Darling, who failed to find any support for his bill, stated that the Lord Chancellor had suggested the possibility of this question being authoritatively considered by the judges in the same way as a similar matter was considered in the M'Naghten case, the present bill is, of course, dead, but the discussion in the Lords has at least made it possible for psychiatrists to examine the grounds upon which certain high legal authorities base their objections to an extension of the M'Naghten rules

The debate centred round the proposal to introduce into the law the proposition that, if a person suffers from mental disease which gives rise to an uncontrollable impulse, under which impulse he acts, then, notwithstanding that he knows what he is doing, and notwithstanding that he knows the moral quality of his act, he is to be absolved. Lord Sumner, who moved the rejection of the bill, frankly stated that he did not understand what is the supposed frame of mind, from disease, in which a person does know the physical nature and quality of his act, and does know that the act done is wrong, and, notwithstanding, is suffering from such a state of mental disease that he is wholly incapable of resisting the impulse We could fully sympathize with Lord Sumner's inability to understand this intricate piece of psychology, were it not for the fact that it is sometimes possible for the psychiatrist to observe the tortures of a patient under the influence of such an impulse without the opportunity of giving it gratification The most dramatic example of such a morbid impulse is probably to be found in the (fortunately) rare condition dipsomania In this disease, under conditions which compel deprivation of alcohol, the stages in the development of the craving may be observed up to its culmination when the patient is the victim of indescribable suffering Sometimes, curiously enough, the terrible craving, the agony of which will cause the patient to sweat from every pore, will vanish in a moment, and his suffering be over for the time Such a difficult medico legal case is deliberately cited (with an actual instance in mind), first, to show that the condition "irresistible impulse" does actually occur in pure form, and secondly, because in the event of a delinquency occurring during intoxication it is most doubtful whether the plea of irresponsibility would, in the majority of cases, be allowed Yet there can be no doubt that such a patient is the victim of a very real disease, which afflicts him periodically with epileptic intensity In the case referred to, the patient actually had committed an offence, and the reaction of shame and distress was so extreme that he was sent to a military hospital for observation, where the nature of his condition was recognized

Though he did not profess to understand cases included under the term "irresistible impulse," Lord Sumner admitted their existence in view of the opinion reached by Lord Justice Atkin's committee He, however, made the point that such cases are rare, and expressed a doubt whether any serious attempt had been made to show that any actual injustice has occurred—that there has ever been a case that could be quoted of plain injustice under the existing law Referring to the cases of mothers seized with the impulse to destroy their children, he said that these cases have been satisfactorily dealt with under the existing law, and considered that legislation ought not to be made for exceptional cases It seemed to have been the general opinion of those who took part in the debate that the existing rules are sufficiently elastic to be extended in their application in suitable cases Lord Haldane stated that he had never heard of these rules embarrassing any judge who really had a case before him in which justice required an acquittal, and asserted that there need be no fear that anybody who had acted under an impulse he could not resist when he committed the crime was likely to be hanged This is no doubt true, but there are surely objections to a procedure by which prisoners are sometimes sentenced to death, when, as Lord Sumner observed, the exercise of the prerogative of mercy is as certain as that the sun will rise the next day

Besides expressing the view that the present mechanism is adequate to deal with insane persons accused of crime, those who opposed the bill were unanimous in arguing that if passed, it would open the door to subterfuge and impede the proper carrying out of the criminal law Briefly, it was considered that the defence of irresistible impulse would be liable to abuse, and that it would enable many criminals to escape who to day meet with punishment Perhaps the most important point raised in the debate was that concerning the effect of punishment in the prevention of crime It was suggested that if the bill were passed the protection against crime which has often turned the scale in many cases, and enabled a man to resist the impulse to crime, would be removed—that its removal would make irresistible an impulse which is now resistible and resisted because of the penal law Lord Sumner anticipated especially that the bill would result in an increase in crimes of violence against women and children, he believed that certain criminals were deterred both by the certainty of punishment and the fact that it is speedy, and that it would be a great mistake to remove from irresponsible beings that outside pressure which is exerted at present by the knowledge that if they fail to control

what they ought to control they may find themselves punished by the law

Such then, briefly, are the grounds upon which the bill was rejected How far, if it had been passed into the law of the land, it would have been responsible for an increase of crime as its opponents feared, it is impossible to say That outside pressure constitutes a valuable additional protection to the weak and imbecile against their own impulses is no doubt true and it would of course, be a dangerous procedure to lessen the external inhibitions which prevent unstable individuals from drifting into crime It is perhaps rather unfortunate that the disputed proposition in the bill should have been so closely associated with the misleading term irresistible impulse This is a term which is seldom used in psychiatry it is only a symptom, and the patient who manifests abnormal tendencies of the impulsive type almost invariably exhibits defects of the personality as a whole The fact is that, apart from manifest psychotics, there exists a large group of persons with abnormal personalities who often exhibit serious antisocial tendencies. Amongst the various types of psychopathic personalities may be mentioned the incipient psychotics hysterical delinquents querulants pathological liars and swindlers, cyclothymics and high-grade aments It is in such types as these that the so-called irresistible impulse is liable to manifest itself It is obvious that no defence would hold water from the standpoint of irresponsibility unless it could be convincingly shown by the psychiatrist from the previous history and present reaction that the accused had displayed signs of general psychic abnormality which constituted the soil out of which the delinquency developed This is presumably what is meant by the state of mental disease which is mentioned in the bill as rendering its subject incapable of resisting the antisocial impulse with which he is charged

There appears to be a general impression that the irresistible impulse is somehow associated with the doctrine of determinism or the sinister mysteries of the unconscious mind Actually it has nothing to do with theories of any kind all that is included under the somewhat anomalous term irresistible impulse is gained from the facts of daily observation and experience in the psychiatric clinic However the types of case mentioned above may be dealt with by society when they become delinquent there can be no doubt at all that they are abnormal persons and the victims of their own temperaments—and usually those of their ancestry Clinical experience shows them to be stubborn impenetrable difficult and almost incapable of being influenced they constitute a very serious and difficult problem for the psychiatrist just as they are only too apt to become a difficulty for society as a whole We fully recognize the legal difficulties involved in dealing with psychopathic personalities who are not insane in the ordinary sense of the word but we feel that there is some justification for an extension of the M'Naghten rules to include some of the cases coming under this category

INDIVIDUAL MEDICAL DEFENCE

"THE first step after qualification should be to become an active member of the British Medical Association and to join one of the professional defence societies" We venture to quote this piece of advice from our article on the profession of medicine in the Educational Number of the BRITISH MEDICAL JOURNAL as showing the importance we attach to the individual protection of medical practitioners in the performance of their duties. A recent action in the law courts—upon which the judgement of the Court of Appeal, pronounced last week is reported at page 979—has been a practical reminder of the need for this advice The moral has been pointed in a timely circular issued jointly by the Medical Defence Union Ltd and the London and Counties Medical Protection Society Ltd, reminding medical men and women of the advantages attaching to membership of one or other of these two bodies As a result of the case Harnett v Bond and Adam (in which the latter society undertook Dr Adam's defence) and the anxiety the decision in the lower court has aroused in the minds of the profession, the councils of the Medical Defence Union and the London and Counties Medical Protection Society, acting on the advice of a standing joint committee, have decided to afford their members unlimited indemnity against damages and costs of the other side on the same conditions as at present prevail" What this new provision means is made clear by the following statement published by the Medical Defence Union in our advertisement pages this week In addition to the ordinary benefits of membership each member is now provided with unlimited indemnity against damages and costs awarded against him in any case which is undertaken by the Union on his behalf So that by a single payment of £1 per annum each member of the Union obtains complete security" It should never be forgotten that however skilful and careful a medical practitioner may be there is always the risk that his treatment and general conduct of a case may be challenged (often long after the event) by the patient or by someone acting on the patient's behalf In view of this ever-present danger, and of the extremely moderate subscription payable for membership of the societies undertaking individual medical defence, it is most disquieting to learn on the authority of Dr Fegen Chairman of Council of the London and Counties Medical Protection Society that much less than half of the practitioners of this country belong to a defence society The childlike optimism with which some 25 000 members of our profession refrain from protecting themselves at a trifling cost against incalculable risk passes our comprehension

THE JUBILEE OF THE LONDON SCHOOL OF MEDICINE FOR WOMEN

NEXT October marks the jubilee of the opening of the London School of Medicine for Women The event naturally very important in the minds of all educated women is to be celebrated by a thanksgiving service in St Paul's Cathedral on Saturday afternoon October 25th It is expected that representatives of all the professions and occupations in which women now work will attend to pay their tribute to an institution which has done so much for the higher education and intellectual emancipation of their sex A banquet will be held at the Guildhall on October 24th and in the evening of October 25th there will be a reunion of all old students at the school in Hunter Street. When we recall that at the time of Queen Victoria's accession there was no systematic education for Englishwomen and that the prevailing opinion even of those who were not actively hostile to the movement was that the woman the cat and the cow would never leave the house [illegible] the difficulties encountered a few years later by those who made efforts to enter the medical profession, we realize that the foundation of the London School of Medicine for Women Dr Elizabeth Blackwell was the first woman who name appeared on the *Medical Register* of the United Kingdom This was in 1859 the year of the passing of the first Medical Act Twelve years earlier after being refused admission to numerous American medical schools, she was entered as a student at the Geneva Medical

College, New York, where she in due course obtained the doctorate of medicine In 1860 Dr Elizabeth Garrett Anderson—then Miss Garrett—endeavoured to obtain an entry to one of the English medical schools, but only succeeded in getting irregular instruction at the Middlesex Hospital and private tuition in anatomy at the London Hospital She was refused permission to sit for a qualifying diploma by both the Royal College of Physicians and the London University, but eventually, in 1865, the Apothecaries' Society of London granted her its licence to practise Miss Sophia Jex-Blake was the first woman to try to gain entrance to the Scottish schools of medicine, and encountered similar difficulties These three pioneers founded the School of Medicine for Women in 1874 It was the first school in the British Empire to offer women an organized channel of entry into the profession, and it still remains the only centre of medical training maintained exclusively for women The complete training was only made possible by the generosity of the Royal Free Hospital, which welcomed the students of the school from the first All women who have graduated from the school owe a debt of gratitude to the hospital, and no doubt the jubilee year will show tangible evidence of their appreciation Over 1,000 women have passed into the profession from the school since it first opened As a permanent memorial of the great work that has been accomplished, it is hoped that fifty representative women will give or collect £1,000 each to endow three chairs in anatomy, physiology, and pathology, to be named after the three founders of the school Dr Mary Scharlieb, one of the earliest students, and the first woman to obtain a medical degree from the University of London, is making a personal appeal to women to make such a lasting tribute Help from men also will be gladly welcomed In fact, the organizers believe they can count on such support, for medicine was the first profession to admit women to equal training and equal emoluments with men

BACTERIOLOGY OF SCARLET FEVER

Our readers have recently had the opportunity of following the reports issued by G F Dick and Gladys H Dick with reference to the diagnostic use of a toxic filtrate prepared from cultures of haemolytic streptococci recovered from the throats of patients suffering from scarlet fever Previous references to their work appeared in our columns of March 1st (p 389), March 15th (p 482), and March 22nd (p 538) These investigators now report in the issue of the *Journal of the American Medical Association* of April 19th (p 1246) that they have obtained a scarlet fever antitoxin by immunizing a horse with this toxic filtrate They find that the antitoxin can be concentrated by the usual methods, its therapeutic value remains, however, undetermined, and, to ascertain this, a large series of carefully controlled experiments will be necessary In the same issue of our contemporary C F Branch and F G Edwards report experiments made with the Dick toxin, confirming the definite value of the intradermal injection of this toxin as an indicator of the presence of scarlet fever In their experiments 148 patients were examined, and in each case a control experiment was made, using the Dick streptococcal filtrate heated to 90° C for one hour All these control cases gave negative results, as did 65 patients convalescent from scarlet fever In three cases of acute scarlet fever slightly positive reactions were obtained which, in the convalescent period two weeks later, give place to negative reactions Of the remaining 80 patients—children between the ages of 3 months and 11 years—40 per cent were positive, as compared with the corresponding Dick result of 41·6 per cent The two authors claim, therefore, that their experiments are in striking support of the suggestion of the Dicks that this toxic filtrate has a very practical value in diagnosis Furthermore, Zingher, in the *Proceedings* of the Society for Experimental Biology and Medicine of March (p 293), reports that he has been using the Dick test, and finds it very valuable in diagnosis, since a reaction which is positive during the first day or two of a suspicious rash and remains positive up to two weeks or more after the fading of the rash shows that the patient was not suffering from scarlet fever An editorial in the same issue of the *Journal of the American Medical Association* suggests that the Dick test will soon be capable of practical application in a similar way to the Schick test, thus enabling susceptible individuals to be detected and treatment applied either by passive immunization with antitoxin serum or by active immunization with increasing doses of toxin

MAMMARY CANCER

THE Ministry of Health has already published two reports drawn up by the Departmental Committee on Cancer The reports are issued to local authorities in England and Wales, and are intended for the information of the public The first memorandum, which was noticed in our columns of September 8th, 1923 (p 421), contained a general summary of the present knowledge regarding the etiology and incidence of cancer, and offered suggestions to local authorities in their efforts to inform public opinion The second report, published last month, was by Professor Lazarus-Barlow, and dealt with the effects of radium and x rays upon normal and cancerous tissues, it was discussed at some length on April 12th, 1924 (p 676) A third report[1] has now appeared, it is on cancer of the breast, and is particularly concerned with the results of treatment by operation In its preparation the Committee has had the advantage of the advice of Sir H Gilbert Barling, Bt, F R C S, and Dr T Watts Eden In any attempt to estimate the value of operation it is necessary to form some opinion of the natural duration of cancer of the breast, but this is difficult to do with precision, because frequently the onset cannot be fixed with any degree of accuracy, because the age of the patient appears to exert an influence upon the natural course of the disease, and because amongst cases of cancer, even in women of the same age and of the same habit of body, some are acute and others chronic The opinion is very emphatically expressed that early surgical operation affords the one chance for patients suffering from cancer of the breast, though radium and x rays can be employed with advantage as aids to surgery, or in cases in which operation is impossible It is pointed out that the prospects of a patient after operation have been greatly improved by the modern complete method, which includes removal of possibly infected lymphatics No precise statement can be made as to the duration of life after a complete operation, for the best of reasons—namely, that under favourable conditions a large number of patients live for many years, and it is impossible for the surgeon to keep in touch with all of them, perhaps for ten, fifteen, or more years When the aggregate results, based on the experience of many surgeons in different countries, are assembled, the following statement is found to be justified "When the old and now generally superseded incomplete operation was performed, about 25 per cent of the patients were known to be alive at the end of three years after operation When the more complete operation of modern times was performed, twice as many, some 50 per cent, survived three years, and 33 per cent survived five years after operation These statistics, however, relate to patients who at the time of operation were in various stages of the disease, some in a condition such that, although the surgeon could be reasonably sure that operation would afford relief, and

[1] Circular 496 To be purchased directly from H.M. Stationery Office, or through any bookseller Price 1d net.

might eradicate the disease altogether, he could have little confidence that the disease would not recur On the other hand, statistics exist of the results when the disease at the time the patient came to the surgeon appeared to be in an early stage and limited to the breast only In this early condition it is certain that 60 per cent, and highly probable that 75 per cent, of the patients were alive and well three years after operation Indeed, some experienced surgeons, such as the late Professor Halsted, have thought that the percentage of cured patients might, in these circumstances, be stated to reach 75 per cent" The conclusion, therefore, is that operation at the most favourable —that is, the earliest—moment after recognition of a lump in the breast, leads to an average prolongation of life amounting to many years, and that in fact cure has frequently been effected, the patient dying ultimately of some other disease Even under the unsatisfactory conditions imposed by the late stage at which many cases come under surgical operation, the mean duration of life is prolonged for several years Dr Janet Lane-Claypon is engaged on an analysis of the records of 20,000 cases, and though her report has not yet been completed, some of the results already obtained have been used in the preparation of this memorandum The teaching of surgical statistics, it is said is clear, it is 'that the results of early and complete operation justify not a certain, but a highly favourable prognosis"

FOOT AND MOUTH DISEASE.

THE net expenditure in this country from the middle of August last year until the beginning of this month in attempting to control the outbreak of foot-and mouth disease is given by the Ministry of Agriculture as £3,188,250 Nearly 200,000 animals have been slaughtered, representing 1 4 per cent of the total cattle 1 7 per cent of the total pigs, and 0 2 per cent of the total sheep in Britain When it is remembered that outbreaks occurred only in certain areas, the local losses in some must have been enormous, and the extra cost of redistribution of meat and milk very considerable The disease has now broken out in California where very drastic measures appear to have been enforced Tourists have been prohibited from entering certain towns by road from infected areas—the first indication of a policy to restrict the carriage of the disease by man and vehicles We were able to give last week some preliminary details of the organism described by Dahmen and Frosch At a veterinary congress held on April 27th in Berlin they gave a further demonstration of their cultures and methods, and although they have still left much to be explained we are able to supplement our previous description Over a year ago Frosch, who is professor of bacteriology in the Royal Veterinary College, Berlin, published some observations on the morphology of the organism of bovine pleuropneumonia This organism is just on the limit of visibility, and can be seen in suitable circumstances as a tiny refractile granule By the use of a projection apparatus using ultra-visible rays, he was able to photograph and more fully describe it[1] He concluded that it was a fungus (*Micromyces peripneumoniae contagiosae*) The apparatus he used was constructed by Kohler of Jena and with it he has now been able to photograph the organism of foot-and-mouth disease It is a very minute bacillus—the length of the smaller forms is only 0 1 μ—ovoid in outline and usually diploid He was able to demonstrate it in cultures as well as in the vesicular fluid He proposes to call it *Loeffleria nevermanni*, and places it in the *Corynebacterium* group—the group containing the diphtheria and Preisz-Nocard bacilli Cultures were prepared by Dahmen (before the bacillus had been photographed) from foot-and-mouth disease lymph received from the Insel Riems and from a guinea-pig supplied by the Robert Koch Institute The lymph was inoculated into the foot of a guinea-pig, and cultures made from the resulting vesicles It was found that the fluid from the bullae was not only unsuitable as a culture medium, but that, being apparently the result of a reaction by the body against the organism, it quickly killed it By a process not yet described he was able to filter the virus from this fluid Liquid media—serum, plasma, blood, and sugars—were also found to be unsuitable, the cloudiness previously observed in such cultures being merely precipitations He then used certain solid media, the composition of which is also kept secret they appear, however, to have had the conventional agar or gelatin bases, and are stated to be relatively simple The cultures (plate and stab) were incubated at 30° to 37° C, and on the seventh day small elevated spots, about the size of a red blood corpuscle were seen At this stage the bacillus was subcultured After eight to ten days' incubation the medium was covered by a fine dull layer of closely applied dots These cultures have been maintained for over ten months (some twenty five generations), and the organism it is stated, still retained its virulence to some extent Transmission experiments were then performed on guinea-pigs using cultures of the fifth thirteenth, and twenty third generations After inoculation slight redness was observed at the site of injection only and the disease remained localized After two or three passages however slight blistering occurred The media could be reinfected from these cases The animals when tested later by the application of virulent vesicular fluid were found to be immune As stated last week, cattle also are being experimented on, but the results are not yet available Eight days after inoculation with culture material of the sixth generation a rise in temperature accompanied by salivation, was observed in one animal a second infected from the first developed what are described as typical symptoms of foot-and-mouth disease In both series of experiments, therefore the virulence of the bacillus was attenuated by culture and increased by passage At the demonstration on April 7th Frosch and Dahmen stated that the German Department of Health and the Robert Koch Institute were conducting confirmatory tests and at the meeting on April 27th they reported that their results had been confirmed by these institutions They expressed regret that the German Ministry of Agriculture had not yet given them permission to publish details The German statements will no doubt be considered and as far as possible, tested at an early date by the committee appointed recently by the Minister of Agriculture Sir Charles Sherrington has found it impossible to spare time to act as chairman of the committee and has been succeeded by Sir William Leishman, F R S D G A M S

[1] *Arch. f. Thier.*, v 49 (1923) p. 35, 273.

HEALTH COMMITTEE OF THE LEAGUE OF NATIONS

AT the second session of the Health Committee of the League of Nations held in Paris from May 7th to 10th a definite plan for dealing with the problem of malaria in Europe was adopted Experts appointed by the health administrations of countries where malaria occur will submit reports on the progress being made and a special subcommittee will visit Jugoslavia Rumania the Ukraine Russia and Italy and will embody in a report the results of its investigations Dr Haigh, a former member of the League of Nations Epidemic Commission who recently investigated the incidence of malaria in Albania has been commissioned, at the request of the Albanian Government, to complete the malarial survey and to present a report to serve as a basis for a plan of campaign The Health Committee has recommended Singapore as the best site for

[2] *Deut. tierar. Woch.*, May 2nd, 1924.

the Far Eastern Epidemiological Intelligence Bureau that is to be established The maximum amount of opium required for medical and scientific purposes in countries with well developed health services has been stated to be 450 milligrams (6 93 grains) a head a year, further inquiries are to be made from hospitals and insurance companies, and the cocaine figure is also to be determined A report is being drawn up on the advisability of continuing the use of heroin for medical and scientific purposes Sir George Buchanan, the British representative and vice-president of the Health Committee, was nominated to be a member of the governing board of the London School of Hygiene and Tropical Medicine A subcommittee is preparing a report on the progress of instruction in public health and social questions in Europe, America, and Japan Hitherto the funds for the visits of medical officers of health to different countries have been mainly derived from the Rockefeller Foundation, but it is now proposed that there should be an increased allocation in the budget of the League for 1925, *in order to prepare for the time* when the League will be required to take over the full expense of these interchanges Dr Madsen presented a report on the work accomplished by the subcommittee for the standardization of biological products, and on the present position with regard to the standardization of serums and serological tests

TABARDILLO AND TYPHUS FEVER

THE second International Congress on tabardillo, or Mexican typhus fever, was held at Mexico City in December, 1921 The proceedings (*Memorias y Actas* del 2º Congreso Nacional del Tabardillo), which have just reached us, show that a number of interesting papers were read Opinions are still divided as to the etiological importance of the louse While Dr Jose Terres, president of the central commission for the study of tabardillo, is of opinion that the louse-borne theory of the disease is not proved, other speakers expressed their conviction that the louse is the only known agent in its transmission To explain the difference in symptoms in epidemics occurring in various countries, it was suggested that there are several strains of the virus of typhus According to this view it would be possible to distinguish in the American continent a New York strain (Brill's disease), a Mexican strain (tabardillo), and a Chili-Argentine strain (chabalongo), and in Europe distinct Franco-Irish, Hispano-Portuguese, Greco-Turkish, and Russo-Polish strains The Weil-Felix reaction, it was said, might be absent in tabardillo

AN EARLY MEDICAL JOURNALIST

WE gave some time ago (October 28th, 1922, p 808) an account of Theophrastus Renaudot, who may, with a good deal of justice, be considered the founder of the newspaper press Although before his time there were many newsletters which were circulated as matter accumulated, the claim made for Renaudot rests on the fact that he published regularly once a week two journals, having different titles but very similar scope He also published a register of addresses in Paris, and was one of the first to establish a society which met weekly for the discussion of scientific subjects Dr Cabanes[1] has recently given an entertaining description of Nicolas de Blegny, who followed rather closely in Renaudot's footsteps, but confined himself to medical journalism He was born about the middle of the seventeenth century at Blegny, a small village in the Haute-Marne, and at an early age went to Paris to seek his fortune After eking out a precarious livelihood by selling matches, which Dr Cabanes reminds us were invented in the fourteenth century, and a special water for destroying bugs, he was received as an apothecary in 1674, and in the same year was appointed physician to the queen, Maria Theresa, thanks to the protection of the Abbé Bourdelot, who was one of the king's physicians and the private medical attendant of the great Conde Four years later he was made one of the four court surgeons, and the *special surgeon of* Monsieur, the only brother of Louis XIV In 1679 de Blegny brought out the first medical journal under the title of *Les Nouvelles Découvertes sur toutes les parties de la Medecine*, par N D B, Chirurgien du Roy According to the introduction to the first number the editor's purpose was "to collect all the discoveries, experiments, and observations concerning medicine, which he shall find to be curious, useful, or new" A general invitation was issued to "physicians, surgeons, and apothecaries, Galenists or chemists," at home and abroad, to supply him with an exact account of new discoveries in medicine The journal was published towards the end of each month in two parts, each consisting of twelve sheets in the form of a duodecimo volume The first number contained the description of an English doctor's febrifuge, the basis of which was quinine, and also gave an account of Rabel's elixir, with which the inventor claimed to cure all kinds of wounds, though in Blegny's opinion this claim was not justified The following year the title of the journal was changed to *Le Temple d'Esculape*, and Blegny's name appeared on it in full The first issue of the new venture contained a series of aphorisms for the use of young practitioners, followed by a formula for a remedy against intermittent fevers Each number also contained items of medical news, of which the most interesting was the account of the last illness and death of Rochefoucauld, of the aphorisms, whose death appears to have been due to pleuropneumonia complicating gout In the last number for 1680 de Blegny announced that the journal would henceforth be known by the title of *Nouveautés journalières concernant la science et les arts, qui font partie de la médecine*, which was to appear as a weekly publication This plan, however, was not realized, for by a decree of the king's privy council the permission to publish the journal was withdrawn, and de Blegny left France for Amsterdam, where in 1684 he founded a new monthly journal under the name of the *Mercure savant*, which came to an untimely end after the appearance of two numbers The remainder of de Blegny's career appears to have been a series of misfortunes His early success had probably created many enemies, and he had brought upon himself the hostility of the orthodox Church by protecting renegade ecclesiastics For various offences he was fined and imprisoned, and he died in a state of destitution at Avignon at the age of 80, De Blegny also founded a nursing home—the first institution, it is said, of the kind He wrote about hernia, and was the inventor of several forms of trusses He also, following in the footsteps of Renaudot, founded a medical society and edited a Paris directory

[1] *Gazette des Hopitaux* 1921 xciv 1415.

EARLY TREATMENT OF MENTAL DISORDER

ABOUT a year ago we described in these columns the institution of wards at the Middlesex Hospital for border line mental cases, and it was pointed out that this marked an important departure in the treatment of patients with early symptoms of mental disorder Interesting work along much the same lines is being undertaken in France by the Ligue d'Hygiène Mentale A special dispensary has been established under Dr Toulouse, a well known French psychiatrist, in connexion with the St Anne Asylum, where patients suffering from mental depression, obsessions, phobias, and psychoneuroses in general may come for advice and treatment without any formality, and attend just as out-patients attend any general hospital Although the dispensary is situated in the grounds of the asylum (which Dr Toulouse claims has its advantages as

well as its disadvantages) it has a separate entrance from the street There is no charge for consultation, and the only restriction imposed is that obviously violent and maniacal cases shall not be introduced In addition to the out patient department there are wards for cases which require 'hospitalization without detention" These wards are of two kinds There are "free" wards where patients are allowed complete freedom, and in connexion with which are dining and sitting rooms for men and for women There are also certain "closed" wards where patients are detained on the understanding that their relatives are free to remove them, and they themselves can demand liberty at any time If they become frankly certifiable they are then transferred with the necessary formalities, to the asylum proper These 'closed" wards are particularly useful for the treatment of such cases as puerperal insanity, where a transient period of restraint is so often necessary The out-patient department, the wards the dining and sitting rooms, are decorated simply in cheerful bright colours, and the patients, coming as they mostly do from working-class houses, find themselves at once in a happy and reassuring environment Attached to the clinic are laboratories and special departments where all patients receive a complete physical as well as a psychological examination Although this 'mental prophylaxis clinic" was first established three years ago it is still in the experimental stage, and new activities are contemplated A follow-up service and a scheme for home treatment are being developed, and some method of dealing with children who are growing up in a contaminating mental environment is under consideration

PUBLIC HEALTH AND THE OYSTER

IN a lecture given before the Society of Medical Officers of Health on May 16th Professor J W H Eyre discussed the oyster in its relation to public health The food of this mollusc, he said, consists of microscopic plants and animals, and debris present in the sea or carried down by the rivers, as well as the free-swimming larvae of other bivalves, organic detritus and other substances of organic origin Feeding during the summer months is almost continuous, the oyster remaining open, either feeding or breeding for nineteen hours out of the twenty-four He urged the importance of ensuring that oyster farms were free from contamination by materials dangerous either to the oyster or to the eventual consumer The farms should be situated within easy reach of the shore, a large volume of sea water should be available, and a sufficient admixture of river water to ensure the required density There should also be a clean sea bottom, subject to the action of the tides and a constant supply of fresh food There must be freedom from adjacent sources of pollution, human or mammalian, a point which could only be determined by a topographical survey of the surrounding country The greater number of the oyster beds in England are found in the estuaries of rivers, and there are few rivers, speaking generally which do not carry down to the sea a considerable amount of sewage organic material received in this form no doubt provides a good deal of the total sustenance taken in by the oyster Professor Eyre said that the bacterial content of the matter which reaches the rivers and is ultimately discharged into the sea remains sufficiently virulent to form a potential source of infection to any oyster beds, and expressed the opinion that, for practical purposes, it is this sewage in which the bacteria remain virulent that constitutes the real danger Even though the sewage may have been diluted in its passage, the oyster itself reverses this process and concentrates the organisms within its own body If, however, after pollution with any of the specific bacteria, an oyster is transferred to a bed supplied with water which is not under suspicion from a bacterial point of view, this water, continually entering and leaving the open shell and passing through the gills of the oyster, will wash away a large number of these micro-organisms, and at the end of seven or eight days the objectionable bacteria are completely removed In examining oysters for sewage pollution, Professor Eyre continued the analysis is directed primarily to the demonstration of *B coli* which if planted in unpolluted sea water, tends to die out in about eight or nine days *B coli* is therefore the best index to sewage contamination, and he indicated a test which would advise the public health authorities and the oyster farmer of the presence of this organism Professor Eyre explained the difficulty that confronts medical officers of health in connexion with oyster pollution because of the smallness of the help afforded by the Public Health Act of 1875 It is only within comparatively recent years that the connexion between typhoid or other endemic diseases and shell fish has been realized In London the total number of typhoid cases remained stationary at about 4,000 a year up to 1900 from 1900 to 1914 there was a sharp fall and since 1914 the number has remained at about 500 The fall coincided with the era of strict supervision of the shell fish industry by the Fishmongers' Company

MEDICAL SUPERVISION OF THE BRITISH EMPIRE EXHIBITION

MEDICAL work connected with the British Empire Exhibition is under the supervision of Major General S Guise Moores C B, C M G Director of the Medical Services assisted by Colonel Lawson and Dr C E Goddard, medical officer of health of the Harrow and Wembley Council Dr Goddard recently gave an account of the work to the Wembley Council, and his report was published in the *Wembley News* Sanitary officers make daily inspections of the grounds, palaces, all interiors, the sanitary conveniences, and the native quarters, reports being forwarded at frequent intervals to the exhibition authorities with suggested remedies for the almost inevitable nuisances associated with the advent of many thousand workers of various classes With the advice of the Colonial Commissioners or their representatives the native accommodation with its sanitary arrangements and water supply, has been so devised as to prevent all objectionable accumulations or surface fouling which would have encouraged the breeding of flies and rats, with the assistance of the exhibition authorities this vigilance has so far been entirely successful, and daily inspections of the native quarters of Malaya Sierra Leone Gold Coast, Nigeria Burma Hong-Kong and Palestine have shown that each unit was well up to the required standard Nearly all the premises in the exhibition come within the scope of the Factories Act, and are inspected according to the regulations The medical work of the exhibition is centred in a main ambulance station with fourteen beds two fully equipped smaller stations ten first-aid cabinets of about the size of telephone boxes and subsidiary equipments in all the palaces and buildings This has been organized by a Medical Advisory Committee under the chairmanship of Major-General W W Beveridge including representatives of the Order of St John and the British Red Cross Society both of which organizations in common with the exhibition authorities have expended large sums of money in providing equipment The Order and Society have also provided gratuitously three motor ambulances, and are severally responsible for all first-aid duty during alternate months The Willesden General Hospital is reserving thirty beds for use if required, and supplies the matron and sisters at the main ambulance station for the treatment of casualties Cases of illness among the natives are dealt with by the Seamen's Hospitals at Endsleigh Gardens and Greenwich The Wembley Council is itself responsible for the removal and care of any patients suffering from infectious disease at the exhibition.

BUXTON SPA

OPENING OF NEW MINERAL BATHS

ON Saturday, May 17th, a considerable number of medical men from London and other centres visited Buxton in order to attend the formal opening of the new natural baths by Sir Humphry Rolleston, K C B , M D , President of the Royal College of Physicians of London, and to study the advantages of the English mountain spa The weather was beautifully fine, and the ceremony, held in the open air, was watched by a large part of the population of Buxton, gathered together on the rising ground opposite the Crescent

The Opening Ceremony

The Mayor of Buxton (Alderman G SMITHURST), who attended in state, made a speech of welcome to Sir Humphry Rolleston, and introduced to him Alderman T H Cooper (Chairman of the Baths and Wells Committee), who in turn presented Mr F Langley (the architect) and Mr J Ridyard (contractor) SIR HUMPHRY ROLLESTON was presented with a gold key and then opened the doors of the new buildings, declaring them open in a brief address He praised the corporation for its wisdom in initiating and carrying through the reconstruction of these baths under the guidance of the medical profession Though with great natural advantages in its healthy and beautiful surroundings, Buxton (he said) had done right in making every endeavour to utilize the outstanding properties of its waters by the most complete installation of balneological appliances Further, the corporation was to be congratulated on realizing the importance of continually breaking fresh ground, of making new knowledge, and of putting this into practice by subsidizing the research laboratories at the Devonshire Hospital From a medical point of view this was of paramount importance, for much remained to be learnt both about the diseases which patients came to Buxton to have cured and about the method of action of the waters on these diseases The new mineral baths, therefore, started on their career with the best auguries—namely, a scientific in place of the old empirical basis of treatment The DUKE OF DEVONSHIRE, who was accompanied by his son, the Marquess of Hartington, M P , then proposed a vote of thanks to Sir Humphry Rolleston, and this was seconded by Dr J F HARBURN, who expressed the great satisfaction felt by all the practitioners of Buxton at the presence among them on that occasion of the head of the English medical profession

The ceremony was followed by inspection of the two bathing establishments and the drinking of Buxton water in the Pump Room over St Ann's Well The beautiful grounds of Buxton Gardens were then visited, and after tea in the pavilion the visitors walked to the Devonshire Hospital There they inspected the research laboratory and the wards, and saw the patients lined up on chairs or couches, or playing games, in the vast space beneath the central dome—said to be larger than the dome of St Peter's, Rome

In the evening a banquet was given by the Mayor and Corporation at the Palace Hotel The medical guests included Sir John W Moore and Sir W J Thompson from Dublin, Dr R A Fleming, from Edinburgh, Sir James Barr, from Liverpool, Drs S Reynolds and J S Bury, from Manchester, Dr A J Hall, from Sheffield, Mr R G Hogarth and Mr A M Webber, from Nottingham, Dr W Edgecombe, from Harrogate, Dr A G Gibson, from Oxford, Dr R Wallace Henry (Chairman of the Representative Body of the British Medical Association) and Dr Astley Clarke, from Leicester, Dr W J Tyson from Folkestone, and Dr Claude Wilson from Tunbridge Wells Among the many visitors from London were Dr G Newton Pitt Sir W H Willcox, Drs Herbert Spencer F J Poynton W Langdon Brown, J P Poulton L M Callender, R Fortescue Fox, and E Graham Little

Sir Humphry Rolleston's Speech

In responding to the toast of his health, proposed with great cordiality by Alderman COOPER, SIR HUMPHRY ROLLESTON drew a distinction between health resorts benefiting visitors in a general manner on account of the climatic conditions, pure air and water, altitude, atmospheric temperature and composition, winds, sun, and other factors, and spas which in addition exerted a specific action through the effects of the external and internal use of waters and the utilization of active principles contained in the water Buxton, while far from relying on them alone, had great natural advantages from its altitude (1,000 ft) and beautiful surroundings, it had much historical interest, too, sharing with Bath the imprimatur of Roman patronage These were most important accessories, for it would be a grave mistake to neglect the psychological factor when in search of health and relief from pain Cheerful and attractive surroundings and pleasing distractions had their proper place in a cure, and it must be admitted that, in the past at least, British health resorts lagged behind many on the Continent, but this handicap was rapidly being eliminated The second category of health resorts was that of the spas with their medicinal waters and careful medical supervision—two factors inseparable for success

"Spas, such as Buxton, Bath, and Harrogate (Sir Humphry Rolleston continued) are, as Dr Fortescue Fox, our leader in hydrology, has insisted, a national asset But their value must depend on skilled control of the patients, and circumstances are not always and everywhere favourable to the fulfilment of this necessary condition Directions as to diet and treatment may be given but not faithfully followed, and it is not surprising that such a 'cure' brings disappointment An obvious remedy against dietetic lapses is to remove temptation so that patients undergoing a cure should find it impossible at their hotels to go outside their prescribed dietary both as regards quality and perhaps even the more difficult question of quantity The British spas have their special characters, and the tonic ones, such as Buxton, need fear no rivals in their natural advantages, but to render these fully available an up to date and complete installation, such as is being opened here to day, is necessary In addition to the baths and other appliances for hydrological treatment, and to all that is included under physiotherapy, such as massage, exercises, and electricity, an important department is that for the diagnosis and controlled treatment of disease The poor and those of limited means can be cared for in the mineral water hospitals such as the Devonshire Hospital here, with its three hundred beds and clinical laboratories, but for the well to do, as is perhaps in keeping with our characteristics of national individualism and freedom, there are only hotels, pensions, and lodgings, with practically complete liberty of action and varying degrees of luxury Should not these have equal advantages with the poorer sufferers and have the opportunity of going into hostels or nursing homes, with all the advantages of an up to date clinic' '

In conclusion, Sir Humphry spoke of the importance of research work at spas, insisting that clinical and biochemical laboratories, such as those attached to the Devonshire Hospital, were essential not only for the accurate diagnosis of the diseases of individual patients, but for the maintenance and advance of the science of hydrology and physiotherapy A good deal of investigation had been started under the stimulus of the war, but the science of hydrology was still in an early stage of development Of the physiological effects of water internally and externally an enormous amount remained to be learnt, and the profession naturally looked to its members with the opportunities at their hand to take a leading share in the advance of hydrology This had been fully recognized by British leaders in that work, and their exertions were shown in the young and energetic *Archives of Medical Hydrology* The future of scientific medical hydrology, and so the lasting and genuine success of spas, depended on research, and the only real advertisement of a spa was the publication of good research work into the properties—chemical, biological, and therapeutical—of the waters, and into the diseases beneficially treated thereby

The toast of "Prosperity to Buxton" was proposed by the DUKE OF DEVONSHIRE, who dwelt on the long and intimate connexion between his family and that beautiful inland health resort in whose curative waters he had the

greatest faith The MAYOR replied on behalf of the corporation The health of the guests was proposed by Alderman C W BUCKLEY, M D, and the reply was entrusted to Sir WILLIAM WILLCOX and Dr R A FLEMING The toast of "The Press" was proposed in an excellent speech by Lord HARTINGTON Lastly, 'Success to Other Municipalities" (many of which were represented at the dinner by their mayors) was submitted by Alderman MILL and replied to by the LORD MAYOR OF SHEFFIELD

The Baths of Buxton

On the following morning the medical visitors, under the guidance of Dr Buckley, were able to examine the methods of treatment carried out in the bathing establishments, and many of them enjoyed a bathe in the blue water of the large swimming pool Their examination was aided by a booklet on the mineral springs of Buxton giving a brief account of the action and uses of the thermal and chalybeate waters, written by a committee of the Research Society of the Devonshire Hospital *

The baths are in two buildings, occupying sites at the west and east ends of the Crescent The former—those opened publicly on the afternoon of May 17th—are the 'natural baths", they possess a very complete modern equipment, installed at a cost of £20 000 Most of the principal springs rise in this building, and the water flows continuously through the baths so that the patient is immersed in a stream of running water effervescent with nitrogen The combined output of the wells is about half a million gallons a day The water rises at a uniform temperature of 82° F which is very pleasant for swimming Under medical direction the tonic effect of the cool bath is re-enforced or prepared for by hot-water douching, friction, massage, and exercise, as occasion requires

The handbook indicates the composition of the two Buxton waters the principal methods of external application including the local douche massage, and the diseases suitable for treatment at this spa

ANALYTIC PSYCHOLOGY

LECTURES BY DR C G JUNG OF ZÜRICH

(*From a Correspondent*)

[Concluded from p 879]

II

IN the second of his lectures, given in London (on May 13th), Dr C G Jung of Zürich said that, through the analysis and interpretation of dreams, an attempt was made to understand the tendencies of the unconscious To say tendencies of the unconscious" sounded almost like a personification of the unconscious and as though the unconscious were an autonomous factor centred in itself But from a scientific point of view the unconscious was simply a quality of various scientific phenomena It was not possible even to say what these phenomena were, or whether they were usually unconscious or not for anything might and could become unconscious Anything forgotten anything from which attention was diverted might become unconscious Anything in general that lost a certain energic intensity became subliminal When the many subliminal sense perceptions were added to lost memories the many subliminal and half subliminal thoughts and feelings then some idea could be obtained of the upper layers of the unconscious This was the material dealt with in practical analysis Some of the unconscious contents had been actively repressed by the conscious Through a more or less wilful act of diversion of attention, and through an active resistance to them they had been expelled from consciousness This was a regular occurrence in hysteria It was the beginning of that dissociation of the personality which was a conspicuous feature of a serious case of hysteria Although repressions occurred in a more or less normal mentality, the absolute loss of repressed memories was pathological even in a normal mind Repression, or rather suppression, was in itself a normal process used every day If man were unable to repress the contents of consciousness he would not be able to divert his attention or change the subject But if they could not be recalled it might be a case of repression If so there must be some conscious interest that made forgetting desirable But there was such a thing as simple forgetting, as happened when the conscious contents were loosely connected Repression was an artificial loss of memory—an auto-hypnotic amnesia

It was not justifiable to assume that the unconscious consisted only or chiefly of repressed materials If that were so it would only be necessary to remove certain conscious resistances to make the lost memories conscious, and some had suggested that the unconscious would then be completely deflated and heard of no more

The same thing that had happened to the sex theory had happened to the theory of repression it had been exaggerated out of all proportion Freud had never taken into account the fact that important contents could disappear from consciousness without repression They sometimes vanished automatically, much to the individual's distress Any conscious content related to the underlying unconscious content might disappear suddenly not by repression from above, but by attraction from below If the unconscious consisted only of repressions, creative activity in the unconscious could not be conceived It was through such a view that the absurd theory had been put forward that religion and art were nothing but substitutes for infantile sexuality In such a view Westminster Abbey was nothing but a repressed infantile longing for a bush shelter!

Experience showed every day that the unconscious was a living and therefore creative process, and needed no pathological repression in order to release its creative function Neuroses and morbidity were proportionate to the degree of genuine repression, and if all the beauty and grandeur of the works of man were only poor substitute for what was infantile and primitive, the Freudian creed itself might be regarded in the same way A neurotic was a sick man and disease never promoted creative work

It was not known how consciousness arose from unconsciousness But there were two ways in which it could be seen to come about—in moments of high emotional tension, and in a contemplative condition where representations moved like dream images A concentration of energy arising from an external or internal stimulus brought about consciousness and such moments were a kind of revelation Early infantile memories contained the traces of such sudden flares into consciousness

He divided the unconscious into two parts The personal unconscious contained everything subliminal that had been acquired by the individual consciously or unconsciously These contents had an unmistakably personal stamp But other contents were to be found which were often enormously strange to the individual Such materials were frequently discovered in insanity but they also occurred occasionally in the dreams of normal people The unconscious material furnished by the analysis of a neurotic person or a patient suffering from dementia praecox varied enormously With the neurotic all was personal In amity the personal memories disappeared behind powerful collective representations The mad man heard the voice of God speaking to him His vision showed him cosmic revelation it was as though a veil had been drawn away from a world of hitherto concealed ideas and emotions He began to talk of ghosts and demons witchcraft and secret magical persecutions things belonging to the world of the primitive mind which was deeply unconscious in normal cultured modern persons but which rose to the surface when something fatal happened to the conscious This was the collective unconscious—collective because it was not an individual acquisition but was the functioning of the inherited brain structure, which in general is the same in all human beings and in certain respects the same in all mammals The inherited brain was the result of the ancestral psychic life It consisted of the structural deposits of the psyche

* *The Natural Thermal and Chalybeate Waters of Buxton.* Buxton Derbyshire Printing Co Ltd. 1924. 1s

activities repeated innumerable times in the lives of our ancestors

The individual unconscious was a superstructure upon the collective unconscious, and usually the influence of the latter was subtle and almost imperceptible Only at times did it appear in dreams, and whenever it did it produced strange and marvellous dreams remarkable for their beauty or for their demoniacal horror, or for their enigmatic *wisdom* People often hid such dreams as precious secrets, they were right in doing so, for they had an enormous importance for the individual psychic balance Even though they were beyond the individual's mental range, and might never be altogether understood, they stood out for him as spiritual landmarks It was hopeless to interpret such dreams reductively, as their real value and meaning lay in themselves They were spiritual experiences that defied any attempt at rationalization Such dreams arose from a deeper level than the ordinary every-night dream In the Freudian doctrine, until very recently the collective unconscious had had no place But in treating the problems of the individual mind the fact that it consisted largely of inherited elements must not be ignored It was only heredity that could explain the astonishing analogies between mythology on the one hand and dreams and delusions on the other It was true that the collective unconscious became apparent only when some unusual condition released its independent activity To sane people these veiled intimations of eternal things were in almost grotesque contrast to the personal dreams of those who were frittering their lives away in the arid futilities of routine work or amusement When the way of life forked before us, and we were confronted with the irrevocable choice of our way, and also in moments of great danger, these superpersonal figures of our own fate came to tap us gently on the shoulder Such a dream from the collective unconscious was a *memento mori*

The problem of children was adaptation to a very personal reality Above all else they added consciousness The persistence of their connexion with primordial unconsciousness would be a formidable obstacle to the evolution of consciousness Beyond middle life the significance of the collective unconscious was a very different matter Our psychology varied with our age A child must not be treated as an adult The attention of children should not be called to the unconscious, for it was easy to rouse an unwholesome curiosity or create an abnormal precocity When difficult children had to be treated analytic psychology should be kept in abeyance, for simplicity and common sense were what the child needed Analytic knowledge ought to serve the teacher's attitude, because children were very sensitive to their teacher's shortcomings They knew intuitively the false from the true Therefore the teacher should watch his own psychic condition, so that he could be sure of the source of the trouble when things went wrong with the child in his care He himself might be the unconscious cause of evil There were people—analysts as well as teachers and parents—who thought they had the right to behave as they liked, and that the child must adapt to them much as he must adapt to the life of the world Such people were convinced at heart (not openly) that the only thing that mattered was material success, and that the only convincing moral limitations were those of the penal code It would be vain to expect such persons to exercise psychological introspection as a moral obligation But the teacher should know what his convictions were, and stand for them Upon a man's own philosophy, conscious or unconscious, depended his ultimate interpretation of facts It was wise to be as clear as possible about subjective principles Psychology had a broader application, educationally, to children than this but he had only been able to touch on a few points Those were most fitted to lead the child's mind and spirit to more consciousness and responsibility who had themselves attained the full stature of intellectual and moral manhood or womanhood—who in the correct sense of the word had passed the stage of driven instinctive mechanisms and had become individuals That (said Dr Jung in conclusion) was a study and a labour which no one need imagine would easily be brought to an end

Ireland.

DEMOBILIZATION OF MEDICAL OFFICERS IN THE IRISH FREE STATE

THE following correspondence has taken place between the Ministry of Defence and the Irish Medical Secretary with regard to the demobilization grant, paid to officers in the Irish Free State, from which medical officers alone were excluded The reply from the Ministry of Defence will be much appreciated by the medical officers affected

"I wish to bring to your notice the unfair treatment accorded to medical officers of the National Army who have been demobilized as per S D m. No 13 All such officers, with a few exceptions, have been informed that they are not eligible to receive the demobilization grant as specified in Defence Order No 28 This document specifies that in view of the proposed reorganization of the Army certain officers were to be demobilized, and that these officers would then be eligible for grants which amounted to three months' full pay *plus* £5 towards the purchase of civilian clothing There was no mention in the order of any particular group of officers or of any special service being excluded from these benefits and every medical officer reading the document was under the distinct impression that medical officers were just as eligible to share in the grants as any others. According to a statement of the Chief Pay and Accounts Officer, dated February 7th 1924, only those officers with twelve months service prior to September 15th, 1923, were eligible for the three months' salary grant and *not* eligible for the civilian clothing grant I was informed that this letter, though dated February 7th, 1924, was not communicated to medical officers until this present month Mention has been made of the fact that medical officers had signed a contract terminating on March 31st, whereas line officers had not, but the contract only gave the medical officers the doubtful satisfaction that they could not be held for service after the specified date though reserving to the Army authorities the right to dispense with their services at any time they thought fit

'At any rate the general body of medical officers were under the impression that they were included in the terms of these grants and there was neither a Defence nor General Routine Order specifying that such was not the case, and the recent action of the Finance Authorities in excluding medical officers does not appear to have the official sanction of either the Minister of Defence or the Adjutant General under whose control the medical services are Irishmen who joined the commissioned ranks of the R A M C during the great war signed a twelve months contract and received a gratuity on its termination if they wished to leave In addition, they received a higher rate of pay for their services

"At the present time civil employment in the medical profession is by no means easy to obtain, which makes the action of the Army authorities—in throwing so many medical men into civil life without the smallest compensation—a very great hardship Most of the demobilized medical officers joined the Free State Army Medical Service immediately after being qualified, and were thus debarred from doing the usual post-graduate work to fit them for general practice Moreover, the practice a doctor meets with in the army is very limited in scope In the circumstances a gratuity for demobilized medical officers would be of very great help to them in order that they might be in a position to acquire a more general and practical knowledge of their profession—thus placing them in a position to compete with their better equipped colleagues, especially in times when there is a great scarcity of medical employment

(Sgd) T HENNESSY,
Irish Medical Secretary"

To this letter the Ministry of Defence has replied

"With reference to your letter of the 15th ultimo, I am directed by the Minister of Defence to inform you that arrangements are being made for the issue of demobilization pay to medical officers who were on a daily rate of pay and whose services in the Army terminated prior to March 31st last"

MOTOR TAXES IN THE FREE STATE

The Irish Medical Secretary has recently written to the University members of An Dail asking that they should make representations to the Minister of Finance with regard to the remission, reduction, or modification of the motor car tax as it affects medical practitioners generally, but especially those engaged in the Poor Law medical services The following were some of the reasons put forward why dispensary doctors are entitled to special consideration

1 The salaries paid Poor Law or dispensary medical officers are generally less than the travelling expenses which they receive for their public duties

2 If a dispensary doctor used horse power for his work he would earn the same salary and be exempt from motor tax

3 A doctor uses a motor car almost entirely for the reasons (*a*) That it brings medical assistance more promptly to his patients in urgent cases (*b*) When illness is epidemic or prevalent the

use of a motor car makes it possible for a doctor to attend all his calls within ten or twelve hours whereas if he were to use horse power in these conditions he would be compelled to put off his attendance on many of his patients until the following day

4 A doctor in country districts keeps occasionally two motor cars to ensure that one is always in travelling order The second car is generally an old cast off and only used whilst the better car is being repaired or for use in some almost impassable boreens Nevertheless the medical owner has to pay *taxes on two motor cars* This in the circumstances is a great injustice

5 Doctors when purchasing their motor cars have to pay a very large import tax

Professor J McNeill (Minister of Education) Mr J McGilligan (Minister of Labour) Mr M Hayes (Speaker) Sir James Craig, M D , and Professor W Magennis have already replied stating that the representations made to them would have their support

MENTAL HOSPITALS IN NORTHERN IRELAND

The first report of the Inspectors of Lunatics (Northern Ireland) covers the period from December 1st 1921 to the end of 1922 and contains several statistical appendices No marked change in the total number of patients under treatment occurred during the last three years the totals being 4 260 on December 31st 1920 4 247 in 1921 and 4,277 in 1922 The first district asylum for the treatment of the insane poor was opened in Ireland at Armagh in 1825, in accordance with the provisions of the Lunacy (Ireland) Act, 1821 It became the model on which most of the other district asylums were subsequently planned For many years there were only three in Northern Ireland—namely at Armagh Belfast and Londonderry the two latter having been erected in 1829 The original buildings are still standing, though extensive additions and alterations have been made to them In the case of Belfast the old building in the city has now been abandoned and a new village colony asylum built a few miles outside the city A branch asylum for Londonderry has been established similarly The remaining three asylums at Omagh Downpatrick, and Antrim were opened respectively in 1853, 1869, and 1899 In 1843 the only private licensed asylum in the six counties was the Retreat at Armagh which is still the only institution of the kind in Northern Ireland, although during the eighty years that have since elapsed several others have been established and subsequently closed

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Criminal Responsibility (Trials) Bill.

IN the House of Lords, on May 15th Lord Darling moved the second reading of a bill to alter the law regarding trials where the person accused is alleged to be insane. He explained that he brought up the matter because of the report made some months ago by a committee appointed by the ex Lord Chancellor He recalled that until 1883 the law was that if the jury found the accused was insane the verdict was "Not guilty" and he was ordered to be detained during His Majesty's pleasure Then the law was altered so that if a person was proved to be insane the verdict was to be Guilty of doing the act charged but insane at the time. That alteration appeared to him illogical and indefensible To be guilty involved crime to commit a crime involved having what the law called *mens rea* but an insane person had no knowledge of right or wrong One proposal in the bill was to bring back the law to what it was before that statute was passed There had he said long been a contest between the medical and legal specialists. The former contended that directly they said a person was insane in their sense he should be absolutely unpunishable. Some held that human beings were merely automatic creatures who acted without control over their motives or actions The law of England never recognized that and he hoped never would But it had recognized that a person might be insane in a legal sense and so entitled to a verdict of Not guilty where the act done if done by a sane person would involve a verdict of Guilty and punishment The law had stood so long in that position that doubtless there must be some modification on account of *modern research* and recent knowledge Since 1843 the administration of the law had been governed by the rules in the M'Naghten case Mr Drummond secretary to Sir Robert Peel was murdered by a man named M'Naghten in Whitehall the murderer mistaking Mr Drummond for Sir Robert Peel M'Naghten was a man suffering from delusions He was acquitted on the ground of insanity Thereupon the judges of the High Courts were summoned to give their opinion and thirteen attended They laid down two rules Henceforth the jury were to be told to inquire whether when an accused person did the act which resulted in the death of a man he knew the nature and the quality of the act he was doing and whether he knew that the doing of the act was wrong If so he was Guilty, and if he did not know this he was Not guilty because insane Doctors of all descriptions had said that these rules took no notice of a further possibility and with that view, while recognizing the M'Naghten rule he desired to add to them that the accused person was entitled to a verdict of Not guilty on the ground of insanity—

> if at the time the act was done or omission made which caused the death he was suffering from such a state of mental disease as therefrom to be wholly incapable of resisting the impulse to do the act or to make the omission

That introduced what was known as the doctrine of irresistible impulse To prove that this was not a new idea Lord Darling quoted remarks by Mr (after Lord Chief Justice) Cockburn, who defended M'Naghten

> Modern science has incontrovertibly established that any one of the *intellectual and moral functions of the mind* may be subject to separate disease and thereby the man may be rendered the slave of uncontrollable impulses impelling or rather compelling him to the commission of acts such as that which has given rise to the case now under your consideration

Mr Justice Stephen later laid it down that this rule was already part of the law of England Lord Darling proceeded to refer to declarations by Lord Denman Lord Alverstone (Chief Justices) and in 1915 by Mr Justice Bray in the Court of Criminal Appeal as supporting this view and brought his claim of judicial support down to the summing up by Mr Justice McCardie in the Ronald True case. The committee appointed by Lord Birkenhead comprised Lord Justice Atkin Sir Ernest Pollock (now Master of the Rolls) Sir Thomas Inskip, Sir E. Marshall Hall, Sir Herbert Stephen Sir Richard Muir, Sir Archibald Bodkin Sir Edward Troup and Sir Ernley Blackwell He enumerated their particular qualifications to serve on the committee, and said that it was their recommendation he had put into his bill. This rule which he wished to add was already the law in Germany, Italy, South Africa and Queensland.

Lord Sumner moved the rejection of the bill holding that the acceptance of the principle would be of the greatest gravity Were juries asked the question named they would be dismayed at having to answer it and he did not think it would be right to add to the puzzles they had to solve by needlessly complicating the questions put before them in that way Seeing that the committee presided over by Lord Justice Atkin adopted the view of a number of medical men who came before it and said that such cases as they defined existed he would accept their opinion Then came the point Why should such a person be condemned? He did not see that any serious attempt had been made in the report to show that actual injustice had ever occurred He had never known difficulty to arise in regard to these cases. Judge and jury did their best to put such cases in their proper light and the verdict was that the act was done in a state of temporary insanity Lord Sumner referred to the inquiries held by the Home Secretary practically covering the difficulties. The committee had before it doctors only The opinion and experience of judges would also be valuable.

Lord Hewart (Lord Chief Justice) said he had consulted twelve of the fifteen judges of the King's Bench Division who were moreover judges of the Court of Criminal Appeal. Ten like himself were emphatically opposed to the measure one was emphatically in favour of it and one was doubtful Lord Darling had quoted the Committee as saying

> It was established to our satisfaction that there are cases of mental disorder where the impulse to do a criminal act grows with increasing force until it is in fact uncontrollable

But the report went on to say

> In practice in such case the accused is found to be guilty but insane

That meant that no unjust result followed but precisely that result followed which this bill would make it result correct. That was the proposal of the Committee

> We think that it would be right that such cases should be brought expressly within the law by declaration of statute

He suggested that if this new limb were added to the rules in the M'Naghten case it would in practice be impossible to distinguish between the impulse of the person said to be suffering from mental disease and the impulse of the ordinary offender moved to commit a crime by the desire for gain or revenge In cases in which there was evidence of real mental disease antecedent to the commission of the alleged crime and there was no evidence of a motive which might influence a sane person, juries had no difficulty in finding that the accused

did not appreciate the nature of the act or that he did not know that it was wrong But in cases where there was no such evidence of antecedent mental disease, mental experts might be found to say that the alleged crime itself afforded evidence of irresistible impulse, and justified an inference of mental disease The result might be to transfer to the medical profession the responsibility of the law in regard to a great number of ordinary crimes

The Lord Chancellor (Viscount Haldane) asked all to dismiss from their minds the fear that anybody who had acted under an uncontrollable impulse was likely to be hanged In such a case the extreme penalty would never be inflicted He wished not to be taken as saying a word against medical science, which had advanced so notably, or against bringing psychology to bear where useful Scientists were excellent servants but not always reliable masters, and therefore he thought the proposal dangerous—especially on account of the position in which such evidence would place an unfortunate jury The M'Naghten rules were not hard and fast rules which could not be extended in application He had never heard that they embarrassed judges when justice required an acquittal

Lord Dunedin, speaking as ex law officer of the Crown and former Lord Justice General, opposed the bill as likely to give rise to subterfuges

Lord Cave held that if the bill were passed into law many crimes which now met with punishment would escape it

In view of the adverse expressions of opinion, and a remark by the Lord Chancellor that possibly the whole matter might be considered by the judges, Lord Darling asked leave to withdraw his motion, which was formally negatived without division

Vivisection (Prevention of Public Expenditure) Bill

Commander Kenworthy, on May 14th, moved for leave to bring in a bill to prevent the payment out of public funds of moneys for experiments on living animals His object, he said, was to stop the spending of public money on the subsidizing of vivisection experiments In no way did the bill interfere with experiments being carried on by private experimenters under licence, as at present, but now a large sum of money was being spent by the Ministry of Health in subsidizing these experiments Last year the Treasury provided, so far as he could gather, £130,000, which he thought was much too large a sum and objectionable for many reasons He took it that the allowance this year would be the same, and he suggested that the sum might be better spent in other directions, as the utility of these experiments was doubtful It might be said against the bill that vivisection experiments have been a great cause of medical discoveries, and that he himself had recently benefited from such discoveries That was not so Recently he underwent a very severe operation and was attended by a highly skilful surgeon, who got his ability by experiments on human beings, and not from practising on living animals Commander Kenworthy went on to say that he did not propose to interfere with bacteriological experiments or with ordinary medical research experiments He wished only to prevent money being spent on this particular type of experiment He introduced a similar bill on May 10th, 1922, and it was supported by members drawn from all parties Of members of the Labour party now in the House and in it at that time practically the whole strength went to the bill, including the Secretary for Scotland, Lord Privy Seal, the Home Secretary, the Minister of Labour, the Secretary of State for the Colonies, the Chancellor of the Duchy of Lancaster, the Secretary for the Department of Overseas Trade, and the Under Secretary for Education The bill was very simple, consisting of only four clauses The first said that public money should not be used or applied for the purposes of vivisection experiments, and the other clauses were the ordinary formal clauses

Dr Spero suggested that if Commander Kenworthy could have substantiated any of his claims by reasons or facts he would not have had to rely solely upon eloquence in introducing the bill He was reminded of the words of Goethe that nothing was so terrible as active ignorance Laboratories were open to Government inspectors, and it was in this connexion that part of the money was spent They were also open to any antivivisectionists who might care to see how experiments were conducted In his own view more money rather than less should be spent on this work He sketched the position in regard to diabetes and insulin All makes of insulin must be tested on rabbits before they could be given to human beings Without experiments, therefore, on animals a number of diabetic patients would not have been alive to day Adrenaline which was used for haemorrhage pituitary extract, and a number of other preparations were all of animal extraction There were some drugs which must be standardized before they were safe for human use and standardization could only first be carried out on animals The best known drug in this category was salvarsan for syphilis If standardization were denied doctors would be unable to treat that disease adequately In the course of keeping the national milk supply free from tubercle bacilli, guinea pigs were inoculated with the suspected milk Was the Government to be prevented from carrying out these measures designed to give to the people tubercle free milk? Miners representatives in the House knew how useful canaries and white mice were to safeguard the lives of miners These had to be used unless a safety valve were withdrawn Humanity demanded experiments to find a cure for cancer, they were made on rats. He asked the House to realize the great and self sacrificing work done by research men. If they were denied the right to experiment on the lower animals in order to benefit mankind, they would be forced, from the highest of motives, to experiment on themselves They had done so in the past—the number of martyrs to science was large—and they would do it again in the future, but to compel them to do it again was not exactly the spirit in which an enlightened House should acknowledge their great and noble and self sacrificing work The bill was read a first time.

Industrial Diseases and Accidents.—Mr Godfrey Locker Lampson, speaking upon the Home Office Vote on May 15th expressed the hope that the Home Secretary would do what he could to extend the welfare provisions now in force in some industries Inspectors of factories already had power to deal with dangers from dust, but often it was very difficult to prove the actual harm done, though obviously a dusty atmosphere was injurious to health He urged also that the building trade should be brought to some agreement with the factory law Mr Tinker referred to the appointment of certifying surgeons, and said that he had many times found that certifying surgeons who dealt with industrial diseases were drawn from those who held a position under the employers He asked that the appointments should be made as far as possible from among doctors holding independent positions, and also that when a decision was given in favour of a workman the charge of 3s 6d for a certificate should be paid by the master and not by the man He further appealed to the Home Secretary to fill as quickly as possible vacancies in the number of medical referees Lord Henry Cavendish Bentinck drew attention to the increase in the manufacture of electrical accumulators and to the danger to workmen from the issue of strong fumes, he asked that more attention should be paid to the risk involved in the breaking up of ships by oxy acetylene apparatus and inquired also whether anthrax could not be brought within the schedule Mr Spencer suggested legislation providing that lamps of 2½ candle power should be provided for miners so as to prevent the recurrence of nystagmus Mr Henderson, in his reply, said that one of the difficulties of the Research Committee in coming to conclusions as to nystagmus was to get evidence He wished, however, to delay speaking on this and matters of factory regulation until he could introduce a bill, the draft of which was in the Home Office When he became Minister he had proposed some additions to it

Asylum Workers.—Mr Greenwood stated, on May 13th, in answer to Major Hore Belisha, that it was not proposed to ask the Royal Commission to inquire into the hours and conditions of work of asylum workers The Departmental Committee on the nursing service in mental hospitals now sitting would report on the question of hours for nurses

Pensioners.—Mr Baker asked, on May 15th, whether the Minister of Pensions was aware that instructions were issued that no treatment was to be given for men suffering from neurasthenia if their assessment was 20 per cent only or less Mr Roberts replied that no instructions of the kind suggested had been issued The instructions regarding the treatment of aggravated disabilities of less than 20 per cent, issued last August, had since been modified so as to admit to treatment any case of this kind in which it was justified Men suffering from neurasthenia due to service whatever their assessment, continued to receive the treatment which in the judgement of the Ministry's medical advisers the circumstances of the case required In reply to another question, he said that patients suffering from neurasthenia had for some time past been admitted to the Grantham Pensions Hospital It was proposed when accommodation was no longer required there for medical and surgical cases to use the institution solely for neurological cases The question of training and treatment for those ex soldiers who applied too late to be brought within the last scheme or who otherwise now needed such training and treatment had been considered by the Minister of Pensions, and he hoped shortly to make a statement regarding it In about 250 000 cases of ex soldiers final awards of life pensions had already been granted

National Insurance (Cost of Medical Benefit) Bill.—This measure was taken in Committee in the House of Lords on May 15th and all the clauses agreed to The measure was reported without amendment

Answers in Brief

The Home Secretary is advised that codeine is not generally regarded by medical opinion as a dangerous drug of addiction It was not included in the list prepared by the International Opium Convention

The Minister of Health has received from the King Edward Hospital Fund for London the report of its Special Committee, of which Sir William Collins was chairman, on street accidents in London and the mode of dealing with them The action that could usefully be taken was under consideration

Correspondence.

ANGINAL PAIN

SIR,—It need hardly be said that the perennial question of the mechanism of the pain of angina pectoris is one that makes appeal both to the clinician and to the physiologist The complexity and difficulties of the problem are emphasized by the notable conflict of opinion that marks the undecided state of the question to-day In view of the long list of eminent clinicians who have dealt with the subject—from the great names of a century or more ago down to the times of Osler, Allbutt, Mackenzie, and many others It may, indeed, be reasonably affirmed that no explanation of the anginal mechanism exists that is *wholly* satisfactory—that is not open to serious criticism in one respect or another The subject has again been brought into the foreground by Professor Wenckebach's recent lecture (BRITISH MEDICAL JOURNAL, May 10th, 1924, p 809) traversing a wide field of controversial matters The present communication naturally refers to only a few of the many interesting issues

Referring to sudden coronary obstruction, with which he states that the terrible pain of angina is invariably associated (while Sir Clifford Allbutt regards this as inconstant) Professor Wenckebach, sometimes unable to find any lesion of the aortic wall ascribes the origin of the pain to the coronary artery itself, put under abnormal stress by the sudden occlusion not to the ischaemic effects produced beyond the seat of occlusion in the cardiac muscle etc Regarding the coronary arteries as a direct extension of the suprasigmoid part of the aorta, he takes it that the central nervous localization of these vessels in the spinal cord should be the same as that of the aorta itself

It is to be remarked that such a hypothesis of pain production in the artery above or at the occluded spot is subject to difficulties, occlusion (by compression) of other arterial trunks—for example, brachial, femoral etc—is not painful though the vessels are exposed to abnormal physical stress in these cases also, with increase of lateral tension, etc Though pain has been recorded in embolism of a limb artery it is difficult to correlate this with the precise time of occurrence of the plugging, and to exclude other modes of pain excitation in these instances—for example muscular contraction etc Sir Clifford Allbutt says What we know about thrombosis or embolism of the cardiac arteries, whether experimental or pathological is not consistent with the sum of our experience of the conditions of angina"

As bearing on another hypothesis that of coronary spasm the defect of vaso-constrictor innervation of the coronary vessels (generally but not universally accepted) is no sufficient warrant for concluding that under pathological conditions strong arterial contraction cannot occur except through vasomotor stimulation Such an observer as Osler regarded spasm in cerebral arteries as a cause of transient paralytic phenomena—notwithstanding the defective vaso-constrictor supply to these vessels

In connexion with the well known fact that obvious coronary sclerosis and angina are often dissociated it is to be borne in mind that coronary *blood flow* is the essential consideration and that this is liable to influence by numerous factors apart from recognizable sclerotic changes involving more or less narrowing of the larger vessels—for example, the state of the capillary field the aortic pressure from which the coronaries are fed the influence of the rate and amplitude of the ventricular beats with their compressive and propulsive effects on the coronary system the intraventricular pressure, ventricular tonus etc All of these together with variation in the demands made on the heart by exertion, have to be taken into account in considering the question of a *relative* ischaemia—that is a blood supply that is defective in relation to the needs of the working muscle at the time The essential condition in the muscle is not simply ascertainable by the occurrence or absence of obvious narrowing of the coronary arteries—in presence, it may be, of conditions that have compensatory effects so far as the vital consideration of the actual blood flow through the coronary capillaries is concerned

Referring to observations on pain production in the working muscles of experimental ischaemic limbs by the present writer and Captain T J Webster, I M S, Professor Wenckebach mentions that there is a wide difference between the sensory nerve supply to voluntary muscle and to the heart But one may ask what actual knowledge exists as to the precise mechanism of pain production in either Apparently none that can be effectively applied in the present case to exclude the application of results from skeletal muscle to heart Professor Wenckebach states that in voluntary muscle the pain is localized in the muscle and is never irradiating while in heart muscle it is the opposite" It must be said that this statement does not bear the test of experiment on voluntary muscles working with defect of blood supply The observations of the present writer with Captain Webster have been amplified and confirmed by Dr Charles Reid in this laboratory by very numerous experiments, and the facts are sufficiently clear The pain is by no means confined to the limited number of flexor muscle fibres working the single finger used in ergograph experiments, though most acute over the middle it spreads over the whole of the flexor aspect of the forearm in abductor indicis experiments in the ischaemic hand the pain spreads over the dorsum And it must be pointed out that there are two entirely distinct and very different processes to be considered—(1) the genesis of afferent (pain-exciting) impulses in the muscle whether skeletal or cardiac, and (2) the behaviour of these impulses after entering the nervous system as regards irradiation, etc, the latter obviously depending on conditions within the central nervous system it is of course, much more extensive and complex with visceral than with somatic impulses, though illustrated in the latter by the spreading of the pain excited in a bad tooth

In view of the physiological behaviour of muscle in general, it is difficult to believe that ischaemia of hard-working cardiac muscle as in sudden coronary occlusion, should not be causative of severe pain

In the problem of differentiating between the segmental localization of heart pain and anginal pain we are confronted with a conflict of opinion as to what is to be taken as pain originating in the heart itself and in the aorta respectively

Professor Wenckebach favours the view that pain associated with local stoppage of the circulation may be due to distension of the vessels after the blood is readmitted This view is controverted by the experimental fact that after complete ischaemia (by Esmarch bandage etc) lasting for considerable periods (twenty five minutes etc) readmission of the blood, while marked by intense hyperaemia and vascular distension causes no pain whatever but on the contrary is attended by prompt abolition of the severe pain resulting from working a muscle in the ischaemic state Argument from a frozen bloodless limb is not valid other factors than ischaemia and hyperaemia being obviously involved

The curious fact that favourable results as regards relief of anginal pain have been reported by various observers (Jonnesco Eppinger and Hofer Brown and Coffey Bruning Tschermak Danielopolu and others) following very different surgical procedures—sympathectomy section of depressor nerve etc—makes one chary of drawing confident conclusions Professor Wenckebach cites cases of relief from pain after section of the left depressor nerve as definite proof that this nerve was the sole pathway for the impulses that gave rise to anginal pain and all its sequelae Is a similar conclusion postulated as applying to quite different nerves when either has followed—for example after sympathectomy? Is it certain that the results are solely due to a simple exclusion of certain afferent fibres which were the sole pathway of pain-exciting impulses in each case —I am, etc,

J A MACWILLIAM

Physiological Laboratory
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May 17th

ANGINA PECTORIS.

SIR,—Through the courtesy of Professor Wenckebach I had the privilege of hearing his lecture on angina pectoris and the possibilities of its surgical relief, on May 5th, and my interest was at once caught by an opening paragraph in which he said that "angina pectoris is always and only characterized by pain—pain of a definite kind and with a typical localization" (BRITISH MEDICAL JOURNAL, May 10th, p 809)

There are two points in regard to this, which I wish briefly to discuss First, at what place can the path which conveys painful stimuli from the aorta be interrupted with maximal effect? Secondly, what is the safest and simplest way of interrupting it?

Professor Wenckebach dwelt particularly on the relief of anginal pain which follows section of the depressor branch of the vagus, but in spite of the excellent results which had been obtained in certain cases he expressed a doubt as to whether section of the depressor nerve would become the operation of choice in view of the difficulty, or even the impossibility, of finding it

First, then, anginal pain involves, as a rule, a stimulation of the upper dorsal and the lower cervical segments of the spinal cord The cervico-dorsal or stellate ganglion appears to be the chief link between these segments of the cord and the sympathetic fibres which carry painful stimuli from the heart and aorta Anginal pain has been relieved surgically by operations on quite different parts of the sympathetic system Thus Bacon has described relief after resection of the left superior cervical ganglion Jonnesco advocates complete removal of the cervical sympathetic, together—and especially—with the stellate ganglion (Three of his five cases are reported well, seven, two and a half, and one and a half years after operation Two cases with grave cardiac lesions recovered from the operation, but died soon after of heart disease) Coffey and Brown find amelioration after a mere *division* of the cervical chain, with resection of its superior cardiac branch, while Duffier has had complete success with resection only of the left stellate ganglion

Painful stimuli may, of course, arise in different parts of the cardio-aortic region, and may thus be conveyed by different paths, passing, for example, by way of the superior or the middle cervical ganglion, in such a case the painful stimulus might be interrupted by a simple section of the chain cranial to the stellate ganglion But the prudent strategist who wants to control an entire railway system will seize its main junction, and an attack upon the stellate ganglion—which appears from the results of operation to be a kind of main junction for these stimuli—will be the more rational as well as the more radical procedure

Secondly, with regard to the method of operating removal of the stellate ganglion by the antero-lateral route, except to a specialist in sympathectomy, like Jonnesco, is a difficult procedure The ganglion lies at the back of the thoracic inlet in the little space between the anterior scalene and the longus colli muscles Into this space are crowded the common carotid, subclavian, vertebral, and inferior thyroid arteries, and the thoracic duct, together with the vertebral and deep cervical veins These structures lie in planes anterior to the ganglion

In 1922, before the Royal Academy of Medicine in Ireland, I described a method of avoiding these difficulties in regard to the left ganglion, by approaching it from behind, after costo-transversectomy at the level of the second rib I have worked out the technique of the procedure on the cadaver and I find that removal of the ganglion is greatly simplified by a posterior approach

In conclusion, so that it may be possible to assess a method which has not yet been employed upon the living, I may briefly compare it with the well known operation on the Gasserian ganglion In Gasserian ganglionectomy the approach to the skull is through the temporal muscle in resection of the stellate ganglion the second rib is found deep to the vertebro-scapular group The brain, clothed by its meninges is retracted upwards the lung, ensheathed by pleura, is retracted down The middle meningeal and superior thoracic arteries respectively are dealt with But while the surgeon in the cerebral operation must find his way by deep and often difficult dissection to a ganglion hidden in Meckel's cave, the stellate ganglion lies naked within easy reach of the finger, and the vertebral artery beyond is less dangerously placed than the cavernous sinus.

I think that this comparison shows a balance of simplicity in favour of stellate ganglionectomy by the posterior route, and if it should be demonstrated, as seems likely, that in certain cases upper dorsal ganglia require removal, this route gives easy access to the second, third, and fourth

Lastly, the analogy I have drawn suggests that alcohol injections of sympathetic ganglia might be practised where resection was contraindicated—I am, etc,

Dublin, May 10th ARNOLD K HENRY

ANGINA PECTORIS AND OPERATION

SIR,—I was much interested in Dr K F Wenckebach's lecture on angina pectoris and the possibilities of its surgical relief, delivered before the Royal College of Physicians of London on May 5th What he insisted on most of all was the necessity for the reduction of the painful attacks, and that, if this end could be achieved by operative measures, well and good Now, in your issue of December 25th, 1920, you were good enough to publish a short article by me showing that these painful attacks could always be relieved by certain mechanical movements, and that permanently, the patient in the majority of instances being able to follow his ordinary occupation and become even active again A number of cases (200) were quoted in corroboration of this, and it was shown that the pain and the dangerous conditions were caused by intrathoracic pressure due to a dilated and, generally, a fatty heart, pressing against the upper ribs, which had in a great measure lost their mobility

The late Sir Lauder Brunton in a Harveian Oration suggested that the pain in angina pectoris was largely due to the heart being over-distended with blood. This is borne out by the fact that the nitrites, being vaso-dilators, relieve the condition Sir Clifford Allbutt, in his comments on Dr Wenckebach's remarks, states: "As my explanation of the agony of coronary embolism is not known to Professor Wenckebach I may state that I attribute the pain in these cases to the stretching of the pericardium by that swelling which is consequent upon an embolism" Professor Leonard Hill, in the *Journal of Physiology*, showed that the healthy pericardium was practically unstretchable, but that if it had been subjected to toxic influences it became readily stretchable In my work *Asthma*, published some years ago, I showed that prolonged mental or physical strain, or both, would have the same effect. Subsequently I had twelve hares killed Six of them had been shot in cover without knowing that death was approaching, and the remainder had been coursed to death by greyhounds. The pericardia of the six shot hares were unstretchable, whereas those of the six coursed ones were readily stretchable Professor Leonard Hill regards the pericardium as a restraining influence on the heart, but that under certain conditions the membrane relaxes and allows of the engorged heart pressing on its surroundings The agony of angina pectoris is partly due to the engorged heart pressing against the ribs and the sternum The pain down the arms, especially the left one, and the alteration of the radial pulses may be due to the elevation of the first rib against the clavicles, thus constricting the brachial plexus and vessels These patients suffer from a degree of fixed upper chest which involves a diminution of the normal negative thoracic pressure and allows of positive pressure in the chest. A case was quoted of aortic complications where, nevertheless, the result was favourable These favourable results were brought about by eliminating the intrathoracic pressure (1) by reducing the size of the engorged heart and blood vessels by means of "resisted exercises" Nothnagel in his *Encyclopædia of Practical Medicine*, published in 1908, states that he witnessed the transverse diameter of a dilated heart reduced by 9·5 cm and the longitudinal by 3 cm by the exhibition of resistance exercises in half an hour, and (2) by re-establishing the negative pressure in the chest and restoring the free

movements of the upper chest by means of special breathing exercises demonstrated by me to the Medical Society of London on November 8th 1920 Having such ready means to our hands of relieving the grave conditions of angina pectoris they should obviously be tried before proceeding to operative measures

In the light of past experience you may promise the patient that the painful attacks shall cease, as they will when the pressure is reduced but the patient will not be out of danger until the cardiac musculature has been fully restored

The matter is fully set forth in my work *Movement in Organic Disease*, published at the end of last year The special breathing exercises are fully described and a standard of normal respiratory movements suggested I had a unique opportunity of doing this, as I wrote the bulk of the volume whilst on a tour round the world and was able to take the respiratory measurements of several aboriginal races The Nauheim resistance exercises are not described as I presume the profession as a whole to be familiar with them The chapters on fatty heart and angina pectoris should prove helpful —I am, etc

London W May 12th. ERNEST KINGSCOTE.

DUODENAL ULCER AMONG MEDICAL MEN

SIR,—I am grateful to Mr Seymour Barling for his criticisms of my paper I hold no brief for either of the two recognized lines of treatment and in summarizing the records of the Medical Sickness Society I am *concerned only* to bring to the test of actual experience a conflict of opinion which is widespread The very fact that the society's experience so little accords with much that has been written on the subject seems to me a strong reason for giving it publicity, the more so because no other comparative results are, so far as I know, available True, the figures are small —this was acknowledged in my paper—but if they have opened new ground they gain correspondingly in value

I do not feel that it is enough to point to the results obtained by one or two surgeons of outstanding skill What we want to know is the results at the hands of surgeons and physicians of ordinary competency after all it is to them that the majority of patients must look Equally unconvincing is the objection that the conclusions in my paper would be invalidated if further clinical details were available How can Mr Barling know this? In point of fact the society calls periodically for special medical reports on the condition and progress of sick members and most of these are detailed enough to leave no doubt as to the clinical aspect of the case

Mr Barling cites the large series of 1,684 cases investigated by the Actuarial Society of America as showing a brighter surgical picture It is difficult to see on what ground the comparison is made The investigation referred to was restricted to one point only—namely the life expectancy of survivors of the operation, and the report covers only the number of persons alive at the time of the inquiry It says nothing about relapses, and makes no comparison between operative and non-operative results—indeed it expressly and regretfully states that statistics of the latter do *not* exist But on the one point of mortality the results of the Mayo Clinic are substantially better (2 per cent as against 9 per cent) At the same time neither of the cases in the present series that died soon after operation was complicated by perforation or haemorrhage In each the operation had been arranged several days ahead after consultation with physician and surgeon death in the one case occurring three days and in the other five days after operation

Mr Barling has nothing to say on the main thesis of my paper—the comparative results of surgical and medical treatment—and his only criticism of the non-operation group is that the clinical diagnosis in these cases must often have been erroneous But if accuracy of diagnosis is possible *prior to operation*—Sherren says[1] that in 75 per cent of cases it is 'certain'—why are we to hold it suspect prior to medical treatment? I find from the society's records that in the 33 cases in which the clinical diagnosis was tested by operation, its accuracy was established in 31 cases in the remaining two an earlier attack had been diagnosed—in the one case merely as 'abdominal pain,' and in the other as 'intestinal catarrh.'' There is no support here for the suggestion that non-operation cases if successful, are probably errors of diagnosis

Nor, unfortunately, does there appear to be any better foundation for attributing the unfavourable surgical results to the more intractable nature of the cases which came to operation Again consulting the society's records I find that of the 33 operation cases—

1 was operated on after	5 attacks
3	3
6	2
23	1 attack

Further, of the foregoing 23 cases operated on after a first attack,

14 remain cured to date	
3 have since suffered	1 relapse
4	2 relapses
1	3
1	7

That is 39 per cent of these early cases have relapsed

It would seem that the closer we are called on to examine the surgical picture the darker it appears But it is still no blacker than the medical picture set beside it in my paper —I am, etc,

London W 1 May 18th. DAVID FORSYTH

BRAIN AND MIND

SIR —Like Dr Williams (May 17th p 886), I have been deeply interested by the lucid contribution of Professor Berry which states in a short scientific, and logical manner the materialistic view Dr Williams seems to consider that the materialism may be modified by introducing the analogy of crowd psychology, but the question immediately arises whether the analogy is in accordance with such physiological data as we possess If it be not in such accordance it cannot be employed as an argument

Those whose mental bent leads them towards the identification of mind with brain and to the conclusion that mind is merely the result of neuron activity cannot take anything for granted They must depend entirely upon physiological facts and legitimate deductions from these facts to support their position In the present state of our knowledge that position seems to be extremely strong but we must not forget that there are certain phenomena which we cannot yet explain by physiology, although in the future they will probably be so explained Thus we may construct fairly good working hypotheses as to such obscure matter as the so-called subconscious mind post-hypnotic suggestion and some forms of memory but it is *difficult* to evolve a theory as to recalling that a thing has happened before without postulating something (mneme or retentum) in the cells which is beyond anything shown us by physiology

Again we know that we conduct thought in images and that therefore without imagery there would be no thought Further there can so far as we can judge be no images without special senses and sense organs It would unduly extend this letter to carry this line of thought further

The scientific antimaterialistic attitude is well illustrated by McDougall In *An Outline of Psychology* (pp 53 59) he writes

> Now though we have refused to regard the nervous system as identical with the mind and though we maintain that the mind has a nature a structure and function which cannot be adequately described or presented or explained in terms of nervous structure and function we have recognized that the nervous system is at least the intimate instrument and servant of the mind

This seems to suggest that no scientific explanation is possible on lines other than the materialistic and I should encourage rather than discourage workers along these lines —I am etc

Harley Street May 19th P McBRIDE.

THE LEFT HANDED CHILD

SIR —Dr H A Cloves's letter (April 19th p 729) caused me much interest as I have been observing a girl with a similar double-handed trait for the last twelve years and as there have been no replies I suppose it must be rarer than I thought, though from Coulman's I have learnt

[1] Cheyne's *System of Surgery* vol ii p 378

that many left-handed children have a slight tendency in that direction In my case the teacher told the mother to consult her doctor about the child as "she had difficulty and it caused her pain and sickness when she made her write with her right hand, but with her left she wrote easily, though it was backwards" On getting her to write her name with her left hand I found that she was writing looking-glass writing which was very clear when read through a looking-glass, but she wrote very imperfectly and with difficulty with her right hand I advised that she should be made to write with her right hand at school but allowed to use her left hand otherwise She is now a very sharp and healthy child, and when she writes to her school friends they have to use a looking-glass to read it, but she uses her right hand when she must, and has passed her examinations with good results, including bookkeeping, since leaving school She has never suffered with her nerves or otherwise She can now write with both hands simultaneously—by the left looking-glass writing, by the right ordinary I enclose a copy of both writings, from which you will see that the right hand is hesitating and jerky, the left free-running and steady There is also a tendency to miss letters with the right hand, and the left hand works twice as quickly as the right She will be 18 years of age next October Her five brothers and sisters do not show the same tendency, though one is left-handed —I am, etc,

Northwich, May 18th HENRY H HAWARD, M B, B Ch

THE CAUSATION OF CANCER

SIR,—The ingenuity and imagination of man appear to be equal to the supply of innumerable suggested causes of this disease, and the opinions as to its nature are nearly as numerous and varied

In your issue of April 26th we have two fresh theories promulgated, one suggesting that the rays of the sun are a causative factor in the production of cancer This does not appear to be an attractive or convincing proposition on account of the very severe strain which it imposes on one's ability to trace the connexion between cancer of the rectum, or uterus, or any internal organ such as the stomach, and the rays of the sun Again, it has been repeatedly alleged that cancer does not occur among aboriginal peoples (though this allegation is not true as regards Basutoland at least), so that, if the rays of the sun have a causative action in producing cancer, they must be a signal failure in the tropics, where they would be expected to have very free scope for the exhibition of their malign influence The other theory is that cancer has a pigmentary origin But how does this apply in the case of cells which contain no pigment?

Is there any need for the never-ending procession of theories as to the etiology of cancer? The causal agent has not indeed been discovered (although Mr J Jackson Clarke of London and Dr Young of Edinburgh believe otherwise), but our knowledge of the disease itself is about as great as that of any other specific disease Its nature and course have remained unchanged from the days of Hippocrates, and doubtless since its first appearance Its nature is evident It is a typical specific auto-infective disease, and its course tends inevitably to a fatal termination It develops exactly as other specific diseases do—for example, tuberculosis, leprosy, syphilis, etc—beginning imperceptibly at one definite point and spreading by dissemination throughout the body With regard to the exciting cause it is, clearly, widely disseminated, since cancer occurs everywhere on land and even beneath the waves It must, of necessity, be universally applicable, since the course and behaviour of the disease are exactly the same in every case

As cancer is, indisputably, a specific disease it must be obvious that the exciting cause must be also a specific one It is as impossible for cancer to have more than one cause as it is for tuberculosis leprosy, or pneumonia, etc, to have other causes than the specific one responsible for each It follows as a logical *sequitur*, that all alleged causes, such as irritation caused by soot, tar, arsenic, x rays radium etc constipation from a sagging colon, etc are quite incapable of producing a specific disease, for they are not universally applicable Their role is simply, though no doubt strongly, predisposing, contributing to the establishment of the condition precedent, that of vulnerability to the specific causative agent

Now, since all specific diseases are due to the action of toxins generated by their several specific causative agents, it is only fair to assume that cancer, a typically specific disease, is also caused by the toxin generated by a specific extrinsic agent No such agent has yet been discovered (Mr Jackson Clarke and Dr Young to the contrary), and, in consequence, its existence is strenuously denied by many Non-discovery and non-existence are, however, not synonymous, and mere denial is illogical Although it is known that these specific toxins do cause certain specific diseases it is totally unknown how they act, but they produce in these diseases as extraordinary a train of effects as occur in cancer

The discovery of an extrinsic specific agent causative of cancer would be a scientific triumph, but it does not follow that a cure of the disease would result The specific cause of tuberculosis was discovered in 1882, but no cure has resulted That of syphilis was discovered in 1905, but the treatment which was efficient before its discovery has not been influenced, except that the ban of empiricism has been removed —I am, etc,

Driffield, April 28th A. T. BRAND, M D, C M, V D

MILLSTONE FLOUR AND NATIONAL NUTRITION

SIR,—The interest in the consideration of this useful subject draws one to the comparison of the relative effects of stone milling and roller milling Under the roller milling process no part of the grain of the wheat need be eliminated, as after reduction it can be replaced and is so replaced in some of the fine wholemeal flours on the market As for stone milling of English wheat, there is no longer the requisite capacity of mills or wheat available for the population

A perusal of Dr Robert Hutchison's *Food and the Principles of Dietetics* points to the conclusion that some of the germ breads, "of which Hovis is the best known example," will furnish what is requisite I have seen the milling of this flour, and the flour is in no way bleached by chlorine or hydrogen peroxide in accordance with the artifically fostered fashion —I am, etc,

Hampstead, May 13th L GRANT, M D

SIR,—Having realized, thanks to Dr Shelly's graphic reminder, the unchecked prevalence of the evil in our day and the prospect of its progressively aggravated results in successive generations, might it not be better if, instead of appealing to the Government for suitable legislation which might not materialize for a long while, if at all, we were ourselves to take direct action in the matter?

A ubiquitous individual propaganda, such as our profession is alone capable of undertaking, would quickly enable us to instruct the public on the three points which are essential—namely, (1) the nature and the gravity of the damage with which they are threatened, (2) the duty of parents to train their children to prefer the wholesome grey bread to the white, and (3) the value for all, but pre-eminently for children and adolescents, of a daily ration of oatmeal

Few can have any doubt that our northern fellow subjects largely owe to the energizing diet they have adhered to for centuries their racial characteristics of energy, endurance, hard work, and success in every sphere of enterprise It would be an added national boon if their allegiance to porridge, which (if I am not misinformed) has for some time past shown signs of weakening under the stress of modernism —with ominous dental consequences—could thereby be confirmed —I am, etc,

London, W 2 May 16th. WILLIAM EWART

LUNACY CERTIFICATION

SIR,—As usual in many disputes, Miss White, either intentionally or otherwise, misunderstands my use of the term "monstrous," which I employed, not in regard to any provision the law may deem necessary, but in regard to the delay and possible injury to the patient in getting the treatment that his disease requires The sentence that

follows 'monstrous" makes this meaning quite clear, so that it ought not to have been misunderstood In the example given of an acute puerperal case I think that the delay entailed in summoning a legal representative and going through all the forms of a judicial inquiry in hearing both sides," would be monstrous, and I believe most persons would agree with me

My contention is that the judicial procedure, whatever it is should not injure the patient or hinder the adoption of necessary treatment To introduce further legal procedures would almost certainly increase these evils

The *Times* of May 19th writes of certifying medical men that the personal liberty of every citizen is practically at their discretion" However erroneous this statement may be I trust that the medical profession has sufficient *amour propre* to use all its influence to obtain relief from the signing of certificates and leave it to the Legislature to appoint officials whose authority should lead to a more speedy method of placing these patients under the treatment they need —I am, etc,

London W.3, May 19th. H RAYNER

Obituary

WALTER THOMPSON F R C S,

Surgeon Leeds General Infirmary

WE regret to announce the death of Mr Walter Thompson, which took place at his residence in Headingley on May 12th, at the age of 58 Mr Thompson was trained at the Leeds Medical School and in Berlin He received the diplomas of L R C P Lond and M R C S Eng in 1887, and became F R C S in 1891 Commencing to practise in Leeds he devoted himself to surgery, and became one of the most distinguished operating surgeons in Yorkshire His appointments included honorary surgeon to the Leeds General Infirmary and the Public Dispensary honorary consulting surgeon to the Beckett Street Poor Law Institution and the Malton Cottage Hospital and honorary surgeon to the Hospital for Women and Children He was for some time a lecturer in practical surgery at the University of Leeds, and was a medical referee under the Workmen's Compensation Act During the war he served for about a year in Salonica, and then returning as lieutenant-colonel R A M C (T), he took charge of the Beckett Street Military Hospital until the end of the war His chief recreations were lawn tennis, golf, and shooting He leaves a widow and a small family

Sir Berkeley Moynihan has contributed an appreciation to the *Yorkshire Post*, from which we quote the following passages

The death of Mr Walter Thompson will be felt as a deep personal loss by all his friends of whom there are many for he had a genius for friendship His unfaltering integrity his tender consideration for the attitude and opinions of others his sanity of outlook his grave deliberation of utterance made all men feel the most complete trust in his judgement and a warm affection for his character I met him for the first time on the day I joined the Leeds School of Medicine Our whole curriculum was passed together and our final qualifying examinations were happily surmounted in the same week we were residents together in the Leeds Infirmary for several years and we lived in the same lodgings as students in Berlin I had every opportunity of gauging his talents as a surgeon and of appraising his character I never knew an honester man I never heard an uncharitable word or unfair comment upon the work or character of anyone in our profession or outside it Opinions often slowly and—as it seemed to me—almost painfully formed he held with stubbornness and with a certain grim and unwavering tenacity but of malice in the formation or expression of those opinions there was never a trace He was a man to trust without reserve and to admire without restraint As a surgeon he was a fine example of the Leeds school He was quite undemonstrative cautious exact and safe There was no display in anything he did Every movement fulfilled its exact purpose He showed the competence and the invaluable precision of the man who sure of himself is a master in the medium in which he works I never saw him hasty or negligent or bewildered by any event however unforeseen, in any operation, however difficult.

Dr C M SMEETON (Malton) writes

There is one side of Walter Thompson's life on which I would add a word, as one adds a flower to the wreaths heaped on a grave It has fallen to my lot to practise in a widely scattered country district and from my first coming it was my good fortune to be able to call him to my help, and to share close friendship with him for forty years No hospital was near, and he did many abdominal sections in cottages in farm and country houses His simple manners, his kindly ways, and his power of inspiring confidence brought help and courage to many a one who was approaching an operation with the dread that lingers yet in the country He became widely known and an operation would be faced cheerfully if it was known that Walter Thompson would operate As years went on he became much loved and in many lonely cottages or isolated farmhouses his loss is mourned to-day, the passing of a friend who never failed the country folk Of the loss to his own friends who have known him for many years it is less easy to speak nor can they replace him From the first he loved chivalry, truth and justice, freedom, and courtesy" He had too that gift of quick sympathy which makes a friend's troubles his own They will not forget the kindly smile, the great inspiriting laugh, the ready word of counsel and advice He has left behind an example which we who for a while remain must follow as best we may

ARTHUR JOHN NYULASY, M R C S Eng,

Gynaecologist Perth Hospital Western Australia.

WE regret to record the death, on February 28th while staying in Melbourne, of Dr Arthur John Nyulasy, who for over thirteen years had been senior gynaecological surgeon to the Perth Hospital His mechanical turn of mind, which in later years showed itself in the planning and carrying out of operative procedures, led him at first to enter the engineering school of the University of Melbourne Medicine then claimed him and he studied for four years in the Melbourne Medical School Thereafter he pursued his medical studies in Edinburgh, London Paris, and Berlin In 1890 he obtained the licences of the Edinburgh Royal Colleges and in 1891 the diplomas of M R C S Eng and L R C P Lond He then returned to Australia and assisted his brother Dr Frank Nyulasy for a short time at Toorak, Victoria before setting up in practice at Perth Western Australia where his abilities soon became recognized During an epidemic of typhoid fever in 1898 he applied himself to discovering the source of the outbreak and traced the infection to a contaminated water catchment area around which he found two hundred saw-mill workers living under most insanitary condition

During the South African war, 1899-1902 Dr Arthur Nyulasy served as medical officer with the Western Australian contingent On his return from active service he was appointed to the surgical staff of the Perth Hospital and was subsequently elected gynaecological surgeon In this work his originality and enterprise found full scope His constant endeavour was to keep himself abreast of every advance in gynaecological technique and to rationalize surgical procedures by accurate knowledge of anatomy This appeal to anatomical principle was a feature of his practice and teaching

The outcome of his studies on the support of the uterus are to be found in a series of papers beginning with a communication to the Australasian Medical Congress in 1908 Six years later he developed his theme at the congress in Auckland and his paper describing an operation devised by him for uterine prolapse appeared in the *Annals of Surgery* under the title Looping the Cardinal Ligament The two main arguments he put forward were that the primary supports of the uterus are its ligaments and that the secondary support is the pelvic diaphragm which tends to prevent stretching of the ligaments under the influence of undue abdominal strain" He returned to the subject once more in 1920 when vice-president of the Section of Gynaecology and Obstetrics in the congress at Brisbane, and his paper was printed subsequently with illustration in *Surgery Gynecology and Obstetrics* At the close of 1922 he contributed to our columns an account

of his operation for restoration of the round ligament These extended researches into the supports of the uterus revealed his originality of mind and his habit of applying anatomy to everyday professional work Other papers on gynaecological and obstetrical subjects, and on general surgery, were published in the BRITISH MEDICAL JOURNAL, in the *British Journal of Surgery*, and elsewhere His active mind was often in advance of current practice, thus, in 1912, in the course of a short surgical paper, he foreshadowed the general adoption of conservative methods in dealing with diseased Fallopian tubes—methods which in later years he himself applied with success

DR JOHN BRUCE of Grimsby, who died on April 23rd from pneumonia, aged 58, was born at Kelso, and was educated at the University of Edinburgh, where he graduated M B, C M in 1890 After serving as junior medical officer at the Crichton Royal Asylum he went to Grimsby, where he founded a large general practice During the war he commanded the 2/1st East Lancashire Field Ambulance, and saw service both in France and Belgium His early studies in mental disease proved of great assistance to him in the treatment of cases of shell shock He was twice mentioned in dispatches, and was promoted to the rank of lieutenant-colonel and awarded the O B E During the war he suffered from a severe attack of trench fever, which undermined his constitution He was demobilized in 1919, when he returned to his practice Though in somewhat enfeebled health he continued to attend patients until four days before his death Dr Bruce was honorary physician to the Grimsby and District Hospital, medical officer in charge of the Psychotherapeutic Clinic of the Ministry of Pensions, a member of the North Lincoln Division of the British Medical Association, and had been president of the East York and North Lincoln Branch of the Association He was appointed a justice of the peace for Grimsby in 1920

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE

AT a congregation held on May 17th the following medical degrees were conferred

M D—C M Billington A S Burgess D V Pickering B E Jerwood
B Ch—W H Craib J C Ainsworth Davis

UNIVERSITY OF LONDON

DEGREE CEREMONY

OVER 2 500 degrees and diplomas were presented on May 14th, when the annual degree ceremony of the University of London was held in the Albert Hall

Principal's Report

This figure gives some idea of the magnitude of the work done by the University, but some additional statistics were given by the Principal Officer, Sir Cooper Perry in his annual report The total admissions by all channels amounted he said, to 7,731 as compared with 3 852 in the last year before the war, and 7,700 in 1922 Of these, 5 972 came in through the ordinary matriculation examination 300 as graduates of other universities, 817 as holders of the Oxford or the Cambridge senior local certificate, 397 as holders of other approved certificates and 245 after examination under Statute 116, which authorizes the admission of a student after a special test

The total number of candidates for all examinations was 31,723, as against 11 920 in 1913 and 30,839 last year The total number of successful candidates at all examinations was 12 926, and of those who obtained degrees and diplomas 2 598 as compared respectively with 6 343 and 1 301 ten years ago, and 13 209 and 2,422 last year The roll of internal students comprised 8 865 names as compared with 4 888 on the corresponding date in 1914 and 8,881 in 1923

During the year the approval of H M in Council had been given to the recognition by the Senate of the Maudsley Hospital as an institution at which internal and external students might take the course in insanity prescribed in the curriculum in medicine preparatory to the M B B S degrees and of the Welsh National School of Medicine as a school from which the University could receive certificates for the complete course of medical education, including clinical medicine and surgery, preparatory to the M B, B S degrees for external students Further, the Elizabeth Garrett Anderson Hospital had been recognized as an institution from which the University received certificates in respect of the three months' experience as clinical clerk in the gynaecological wards and out patient department in preparation for the M B B S examination

The negotiations between the Treasury the University, and the Council of King's College with regard to the Bloomsbury site had been continued and much good and patient labour had been accomplished in the working out of multifarious details The situation with regard to the University headquarters at the Imperial Institute remained unchanged The needs in respect of accommodation were represented to the Colonial Office Committee on that building and, subsequently, to the Treasury As an interim measure the congestion in the various offices had been relieved by the utilization of the space formerly occupied by the physiological laboratory This was not an effective cure The library of the physiological laboratory will be kept together as part of the University library and be developed in connexion therewith as a memorial to the late Dr A D Waller A special endeavour, by means of posters circulated to the colleges and schools and to the students' unions, had been made to draw the attention of students to the wide facilities provided by the University library, and it was largely due to this effort that in 1923 the increase in the number of readers and in book issues had been notable

Speaking of the financial position of the University, the Principal stated that the triennial grant of the London County Council amounted to nearly £52,000 a year the Council had also made grants of £1 000 in respect of libraries, of £500 for Scandinavian studies at University College, and of £5,000 for the completion and equipment of engineering laboratories at the same college The county councils of Middlesex, Kent, Surrey and Essex had made contributions, and the county boroughs of West Ham, East Ham, Croydon and Southend had also made grants There had been a conspicuous addition to the list of private benefactors through the gift by Mr Geoffrey E Duveen of £10,000 for the establishment of a university lectureship in otology, to which Mr Richard Lake had been appointed The Carnegie Trustees had promised to make a final grant for five years of £3,000 (in all) to the School of Librarianship, the Senate undertaking to provide in addition a total contribution of £4,500

In conclusion, the Principal referred to the 800th anniversary of the Foundation of St Bartholomew's Hospital, when an address was presented by the Vice Chancellor, in the course of which full expression was given to the value to the University of its association with the hospital which for so many centuries had rendered munificent services to humanity at large, and especially to the sick poor of London

Vice Chancellor's Charge

In the actual presentation ceremony the Vice Chancellor, Mr H J Waring was assisted by four of his colleagues on the Council The Vice Chancellor then delivered a short charge to the new graduates, dwelling on the value and worth to the community of university ideals and university trained men and women He invited the new graduates to become members of Convocation, and in this and other ways to help the University in its work

Service at Westminster Abbey

After the ceremony in the Albert Hall a number of members of the University attended a special service in Westminster Abbey The sermon was preached by the Bishop of Manchester, who said that as long as men set their hearts on material things competition led to conflict, division, envy, contempt suspicion, strife, and war, but in spiritual things, among which he included learning, the more one had the more others had The store of knowledge was not exhausted by those who made it their own on the contrary, merely because they possessed it others entered into a larger share through intercourse with them

Graduation Dinner

In the evening a graduation dinner was held in the hall of the Fishmongers' Company, the Vice-Chancellor was in the chair, and Sir Hugh Bell proposed the toast of the University and the new graduates In reply Mr Waring said that it was worth while to inquire why the University in spite of the magnitude of its work had failed to impress itself upon the great city in which it was situated He believed that until the University obtained a building in a central situation distinctively associated with its work, which should be the outward and visible sign of its existence, it could hardly hope to make any proper impression upon the life of London In the great School of Hygiene, the establishment of which had been made possible by the generosity of the Rockefeller Trustees, London would possess an institution unequalled in the world for furthering the study of preventive medicine He expressed regret that it had not been possible so far to provide a post graduate school in medicine, the need for which was urgently felt A Government Committee had reported in its favour and the University had welcomed the suggestion, which afforded an opportunity to any inspired millionaire who wished to render to his fellow citizens and the world a service which it would be impossible to overvalue Dr H L Eason, one of the representatives of the Faculty of Medicine on the Senate of the University in proposing the toast of The Guests, said that he did not accept the assertion that London did not realize the importance of the University He went on to express the hope that by co-ordination between the Inns of Court, the Law Society, and the University, there would be established in London a great school of law comparable with those existing in America The toast was acknowledged by the Solicitor General

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

AT a meeting of the College held on May 16th, Sir Harold Stiles, President, in the chair, the nineteen successful candidates out of thirty six entered who passed the requisite examinations between January 14th and 18th, 1924, were admitted Fellows

J S Bow W G H Cascadon T Gardner A J C Hamilton D Huey S R Jogiekar Captain R N Kapadia L M S H T Lippiatt, M R MacCharles J S. McLaren Otto W Niemeier Major J S O Neill I M S M M Ostrowick Captain R R Maitland Porter I M S K M Purves D H. Saunders F N Spitto H W Whytock, G A W Wickramasuriya.

The Bathgate Memorial Prize, consisting of bronze medal and set of books was, after a competitive examination in Materia Medica awarded to Mr C A S Hamilton

Medico-Legal

LUNACY LAW AND ADMINISTRATION

HARNETT v BOND AND ADAM APPEAL COURT'S JUDGEMENT

Lord Justices Bankes, Warrington, and Scrutton delivered considered judgements in the Harnett lunacy case in the Court of Appeal on May 16th. The hearing of the appeal is reported at some length in the issues of the BRITISH MEDICAL JOURNAL for April 12th (p 692), April 19th (p 731), and April 26th (p 767)

The appeal of Dr Adam was allowed, judgement being entered for him together with the costs of the action and of the appeal

A new trial was ordered in the case of Dr Bond who was allowed the costs of the appeal, but the costs of the action were to abide the result of the new trial The damages on the new trial were to be confined to damages for an imprisonment up to, but not beyond, the time when Dr Adam had the opportunity and exercised it of forming an independent judgement on the plaintiff's mental condition and whether it was necessary to continue to detain him under the reception order

Lord Justice Bankes

Bankes, L.J., delivering judgement said

The verdict and judgement in this case have given rise to a widespread feeling of anxiety and apprehension A jury by their verdict have found that a sane man has been detained in asylums and institutions for the insane for over eight years in spite of all his endeavours to obtain his release A learned judge by his judgement has decided that it is possible for a person who in the opinion of a jury acted without sufficient care in taking action which resulted in some other person's being detained under the lunacy laws as a person of unsound mind to be held responsible in damages because the person whose duty it was to secure the patient's discharge, if he was in fact sane failed to realize that he was sane and continued to detain him and this even though the person held to be responsible acted in good faith and in the honest discharge of what he conceived to be his duty Against this verdict and judgement both defendants appeal Their grounds of appeal include contentions that the verdict was against the weight of the evidence that the damages were excessive and that there had been misdirection by the learned judge both on the fact and on the law

For the purposes of this appeal, the material facts can be shortly stated. In October 1912 the plaintiff was seriously ill suffering from delirium produced as he believed by the injection of excessive quantities of some substance possibly tuberculin by an unqualified person. According to his evidence at the trial though he was still weak as the result of his illness he was perfectly sane by October 31st This view was not shared by his relatives and after examination by two medical men on November 10th 1912 an order was made by a justice appointed under the Lunacy Act, 1890 for the reception of the plaintiff as a person of unsound mind in the licensed house kept by the defendant Dr Adam at Malling known as Malling Place Attached to the certificate of one of the medical men was a copy of a letter sent by the plaintiff on November 8th to the post office officials at the local post office It was in these terms

Dear Post Official—Jesus has touched my eyes If I have done wrong I am willing to make things right I love you If you love Jesus and love me you will come and see me and make me happy—Yours sincerely W. S. Harnett. A sinful man.

The plaintiff explained that he wrote the letter because he regretted having made complaint about some non delivery of letters He also said that the copy was inaccurate as the original was addressed to the officials in the plural Attached as it was to one of the certificates this copy letter was presumably included among the documents forming the file relating to the plaintiff's case and was therefore no doubt constantly referred to whenever any question was raised about the plaintiff's condition of mind Whatever anyone else may have thought of the letter the plaintiff himself did not regard it as any indication that the writer was not in his right mind when he wrote it He was asked at the trial what he thought the recipients of the letter would think on that point and his answer was

They seemed very pleased with it when I saw them on Sunday They shook hands with me They are deeply religious people. They were such deeply religious people that I did not mind writing like that the father the mother and the daughter were religious people, they were the principal people there. When I went to see them the old man said "Lord bless you and keep you to the end They were very pleased with the letter It was written on November 8th.

There is and can be no complaint against the defendant Dr Adam of having received the plaintiff into his house under the reception order After he had been there about a month his condition had in Dr Adam's opinion so improved that on December 12th a leave of absence order for twenty-eight days was sanctioned by the proper authority on Dr Adam's advice The order was in the following form

We the undersigned being two of the Visiting Justices of Private Asylums for Kent hereby sanction Leave of absence from Malling Place of [then the plaintiff's name was inserted] on probation for the period of [then twenty-eight days was inserted] but this sanction is revocable by us at any time during that period provided that the Medical Officer shall at any time before the expiration of the said period have power to take back the said patient into the licensed house if his mental condition requires it. Dated this [a blank for the date to be filled in]

This was signed by two of the Visiting Justices for Kent

Unfortunately some misunderstanding appears to have occurred and the plaintiff was under the impression that he was being placed under his brother's care He strongly objected to this and as a result he wrote two letters on December 11th to which I must refer The first was written to Dr Adam about 11 a.m. It was in these terms

Dear Dr Adam—When I am set free I demand to be handed over to the police. I am prepared to give guarantees if required.

The other was written about 6.30 p.m to the Commissioners in Lunacy It was in these terms

Gentlemen—I am still under control. Dr Adam informs me that my younger brother is coming to-morrow afternoon and that I am to go home under his care. He, I believe petitioned to have me put here I suppose he must come here to-morrow I object to being sent home under his care. I have demanded to be handed over to the care of the police when I am set free. I can give guarantees if required. If my demand is a legal one will you kindly wire or telephone to Dr Adam instructing him to accede to my wishes

I merely read these letters as leading up to and explaining the plaintiff's visit to the offices of the Lunacy Commissioners on the day but one after he left Malling Place The plaintiff's explanation why he went there was that he wished to ask the Commissioners to send a man home to live with him in his house for the twenty-eight days during which according to the plaintiff's statement his brother had told him that he was to be under his care in order that the man might see that he had fair play and was not as he expressed it thrown away a second time when he was sane

The account of Dr Bond one of the Commissioners in Lunacy and of the Secretary of the Commission both of whom interviewed the plaintiff on his calling was that he was in such a condition as to be manifestly unfit to take care of himself or to be allowed out any longer on probation and that they accordingly communicated with Dr Adam by telephone informing him of that fact Dr Adam thereupon sent a motor with two attendants to fetch the plaintiff who was given to understand that he must remain at the office until a motor car arrived He did so remain for some hours On the arrival of the motor car the plaintiff was taken back to Malling Place where he remained until February 22nd 1913 It was this detention at the Commissioners' office and the subsequent confinement at Malling Place which constituted the plaintiff's cause of action. His contention was that both defendants were responsible either jointly or severally and that their action was an imprisonment and was entirely unauthorized and illegal For the purpose of establishing his cause of action the question whether the plaintiff was or was not of unsound mind was wholly immaterial except as to damages because his contention was that even if he was of unsound mind neither defendant had the right to do what he did.

It is necessary at this point to refer to the course of the proceedings at the trial as otherwise it is difficult to realize how fifteen days were occupied before the evidence was completed The plaintiff's counsel was naturally anxious to excite as much sympathy with his client as possible and he was desirous therefore of going into the whole story of the plaintiff's detention and into his state of mind from the date of the reception order in November 1912, down to October 1921. He claimed the right to give evidence of the state of the plaintiff's mind over the whole period on the ground that the evidence had some bearing on the state of his mind on December 14th, 1912. The Attorney General who appeared for Dr Bond did not contest the admissibility of the evidence on this point but he protested against the evidence being used on any question of damages for any detention after that date

At a later stage the Attorney-General intimated that although it was no part of the defendant's case to contend that the plaintiff was still of unsound mind after he left Malling Place if the plaintiff's counsel desired it to secure a fair trial for his client he would call witnesses from the asylum and in institutions in which the plaintiff had been detained while still maintaining his contention in reference to any claim for damage in respect of this period The plaintiff's counsel not unnaturally welcomed this opportunity and took full advantage of it and the trial ultimately partook more of the nature of an inquiry into the administration of the lunacy law as applied to the plaintiff's case than of a trial of the issues in the action The prolonging of inquiry the long-drawn-out story of the plaintiff's captivity the skilful use by the plaintiff's counsel of the opportunity given to him of appealing to the sympathies of the jury all combined to produce an atmosphere in which the suffering of the plaintiff monopolized attention

The view of the jury was ascertained by a series of questions On the question whether the plaintiff was of sound mind on December 14th 1912 and was fit to be at large and not dangerous to himself the jury found in the plaintiff's favour It is a curious fact that the jury were not asked on [illegible] the plaintiff mental condition at any date after December 14th and it is a little hard to see how the damages awarded could possibly be justified in the absence of a finding in the plaintiff's favour covering the whole period from December 14th to October 1921 I assume but without coming to any decision on the point that the jury must have considered that the plaintiff was not of unsound mind at any time during that period

Both defendants in their notice of appeal asked to have findings of the jury as to plaintiff's mental condition set aside on the ground that the verdict was against the weight of the evidence No argument was addressed to us on this point and I therefore [illegible] be decided on the footing that the [illegible] question were justified by the evidence On the assumption both defendants were entitled to [illegible] the plaintiff at the Lunacy Commissioners' office on March 11th and for his subsequent removal to and detention at Mal-

Place the jury awarded the plaintiff £25,000 damages A question which affects both defendants is whether that verdict can possibly stand The sum must have been arrived at on the assumption that the detention of the plaintiff from December 14th, 1912, down to his escape in October 1921, was a direct consequence of the defendants' wrongful acts committed on December 14th On this part of the case the defendants complain of misdirection by the learned judge both on the facts and on the law I will take the learned judge's view as expressed in his own words in his direction to the jury, and in his subsequent judgement on the application to enter judgement In his direction to the jury on the question of damages the learned judge said this

Members of the jury now it remains for me to ask you what damages you ought to award the plaintiff I am going to ask you to deal with both the defendants and to treat it as a joint claim against them both so that whatever verdict you give will be a verdict against them both jointly Do you follow what I mean? The question has been raised by the Attorney General and a very serious question it is—namely whether in law it is possible for you in awarding damages to compensate the plaintiff for his detention during the whole of the eight and a half years The Attorney-General contends that I ought to direct you that in law you are not able to take the whole period into your consideration He contends that I ought to direct you that you can only give to Mr Harnett damages based upon the footing that he was imprisoned unlawfully but that you ought to shut out of your mind the fact in considering the amount of damages you give him that he did suffer this wrong detention I do not agree with the view of the Attorney-General In my opinion it is within your province, if you think fit not otherwise—I do not tell you that you must—and within your power to compensate Mr Harnett upon the footing that the direct consequence of what the defendants did was that he should be detained during the whole period until he escaped from the home at Aylsham The Attorney General has said you know that there has been what is called a break in the continuity of the chain He says if that is so, you cannot treat the whole period of his detention as following from or flowing from the wrongful acts of the defendants I have said that I do not agree with him, and I will tell why and I will explain to you why

The learned judge then called the attention of the jury to the facts in the case of Isitt *v.* The Railway Passengers' Assurance Company (22 Q B D 504) He then said

If you think that the detention for these nine years was the direct consequence of his illegal imprisonment that there was no intervention of third persons at all but that it follows straight away from the first wrongful act you can take the whole of that nine years into your consideration You can take all of it into your consideration It is so obvious you know if Dr Bond as you have said he did caused this man to be detained in an asylum, Dr Bond would know as anybody else would know that he might in the ordinary course have gone on being visited by one visitor and one commissioner after another and he might never get out It was not that anybody intervened and did an act like knocking him down It was unfortunate that they had omitted to discover that he was of sound mind. That is what happened That is quite a different thing from doing something to him and causing a fresh injury Therefore I tell you that you may take if you think it is right to do it the whole period into your consideration

As the jury were on the point of retiring the foreman asked the learned judge this question 'There is just the question of the period of time Is it exactly eight and a half years that we have to take into account? Mr Justice Lush 'He was sent back on December 14th, 1912, and he escaped from Aylsham on October 15th 1921'

After the jury had given their verdict and the learned judge had heard arguments how judgement should be entered he dealt with the question of remoteness of damage I must read some of the material parts of the judgement He says

One of the obvious risks that a person is exposed to if he is a patient in a lunatic asylum is that he may still be thought insane when in fact he is sane That risk the risk of such a consequence following is directly caused by his being placed in an asylum and the peril was especially great in the plaintiff's case for the reasons that I have mentioned Each fresh medical superintendent when he received the plaintiff into his home would know the reports by the doctors at the previous places at which he had been detained and would know their views and observations with regard to him and would necessarily take into account in considering his mental condition what his previous history had been I cannot regard the decisions arrived at by the different doctors commissioners and visitors at the various homes and the decisions arrived at by the medical superintendent in the same home from time to time as a fresh intervention which would break the chain of causation. It was nothing of the kind

Moreover what each doctor did was not some act which would injure the plaintiff but was to omit to discover that he had recovered It was the failure to do something not the doing of some independent act that caused the plaintiff's further detention Each doctor each commissioner, each visitor was not an actor at all for the purpose under discussion. This case differs entirely from cases where there is a *novus actus interveniens* If the plaintiff had been injured, for example when being taken out for exercise by an attendant by the wrongful act of some independent person the chain of causation would be broken and the original wrongdoer could not be made responsible for the consequences of that injury But that kind of case bears no resemblance to such a case as this I think that the true view to take of the matter here is that the detention during the whole nine years was the direct consequence following in an unbroken chain of the wrongful sending of the plaintiff back by Dr Bond and the wrongful assistance given by Dr Adam in accomplishing that purpose and that there was no intervention of an independent person which would break the chain of cause and effect It was wholly immaterial that no doctor or other official discovered as he should have done that the plaintiff was not insane I ought I think specially to refer to the certification on November 10th 1913 In my view this does not constitute an intervention What is done is mere machinery for the purpose of avoiding the necessity of having a new reception order drawn up The report of the medical superintendent is in no way different from his ordinary reports except that it brings about this consequence

Whether the learned judge's direction to the jury and whether his view of the law as applied to the facts of this case are correct is a vital point With all respect to the learned judge I am unable to take the same view as he did either on the facts or on the law I cannot draw the distinction which the learned judge draws between acts of commission and acts of omission I cannot look on the serious act of certification as mere machinery I find the chain of causation broken at innumerable points, and I cannot hold that it was permissible for the jury to take the whole period of the plaintiff's captivity into their consideration in assessing damages If this view is right it follows that the verdict and judgement against the defendants as joint tort feasors must be set aside.

It is not material in my view of the case to discuss at any length the attempts which were made to assess the appropriate amount of damages assuming that the defendants are liable only for part of the period of the plaintiff's detention, or for separate torts instead of a joint tort, because all the attempts were based on a process of splitting up or cutting down a figure which had been arrived at on what I consider to be an entirely inadmissible estimate of the defendants' responsibility In order to explain why I differ from the learned judge on the question of remoteness of damage it is necessary to refer to the Lunacy Acts of 1890 and 1891, and to the scheme of the legislation contained in those statutes. In dealing with the Lunatic Asylums Act, 1853, that wise and learned judge the late Lord Lindley, in *Regina v.* Whitfield (15 Q.B.D., 122, at p. 150), speaks of that statute as one which had given justices of the peace and medical men large powers, and said that the statute was based upon the theory that they could be trusted that statement is, in my opinion, equally true of the Lunacy Acts of 1890 and 1891.

In an examination of the provisions of those statutes, as applicable to the present case, one can start with the reception order dated November 10th 1912. That order authorised Dr Adam to receive and detain the plaintiff in his registered house at Malling The order does not in terms refer to any detention but the whole scheme of the statute and in particular the provisions of Section 35 indicate that a reception order if it satisfies the requirements of the statute, is of itself a sufficient justification for the detention of the person named in it and if the person escapes he may under Section 85 of the Act of 1890, without any fresh order and certificate or certificates, be retaken at any time within fourteen days after his escape by the manager of the institution for lunatics in which he was detained or by anyone authorized in writing by the manager By Section 7 of the Act of 1891, a reception order remains in force in the first instance for a year, and thereafter for two years, and thereafter for three years and after that for five years provided that not more than one month nor less than seven days, before the expiration of the period at the end of which the order would expire a special report of the medical officer of the institution as to the mental and bodily condition of the patient with a certificate under his hand certifying that the patient is still of unsound mind and a proper person to be detained under care and treatment, is sent to the Commissioners

In framing any provisions for dealing with persons of unsound mind, or with persons alleged to be of unsound mind, the Legislature is faced with a difficult and a delicate task. To borrow Lord Denman's language in the case of *In re* Shuttleworth (9 Q B 657, at p 658) the double protection has to be afforded against improper confinement on the one hand, and against danger from a lunatic's being unrestrained on the other

Some of the safeguards provided by the present legislation consist of the provisions contained in Parts VI and VII of the Act of 1890 for periodical visits by specially appointed persons, whether commissioners visitors, or members of visiting committees and in the powers given to such persons under Sections 75 77, and 78 of the statute to make orders for the discharge of patients and in the provisions contained in Section 83, for the steps which the manager of a hospital or licensed house has to take for the release of a patient who has recovered, these and many other provisions could be referred to as indications of the truth of Lord Lindley's statement that the whole scheme of the Legislature is based upon the trust which it has placed in the medical men and in the specially appointed officials whose duty it is to carry out the provisions of the law

I approach the consideration of the Lunacy Acts from an entirely different point of view from that taken by the learned judge He considers that deliberate decision by a responsible person directly affecting the liberty of the subject may for the purpose of considering whether it constitutes a *novus actus interveniens* be treated as mere machinery which can be ignored I cannot so regard any certificate given under Section 38 of the Act of 1890 I go further as I consider that the Act casts upon every medical man in whose care a patient is placed under the Lunacy Acts a daily and hourly duty of being satisfied, and of taking the necessary steps to satisfy himself that the patient's condition is such as not only to justify but to require confinement I look on every decision deliberately come to in the exercise of that duty, whether by a medical man by a commissioner by a visitor or by a member of a visiting committee as of itself amounting to a *novus actus interveniens*. In the present case it is not suggested that the persons whose duty it was to form opinions on the plaintiff's mental condition did not form them Such of the case books produced contain numbers of decisions deliberately formed and duly recorded The complaint is not that they did not form the opinions but that the opinions were wrong, for the present purpose this is not a material consideration I am unable also to accept the view of the learned judge that because the persons whose duty it was to come to decisions on the plaintiff's mental condition omitted to diagnose his case correctly their actions can be treated as acts of omission and therefore ignored Here, again so much depends on the point of view from which you regard the Act. A medical man who diagnoses a case of measles as a case of scarlet fever may be said to have omitted to make a correct diagnosis he may equally well be said to have made an incorrect diagnosis.

In my opinion the decisions come to over this long period of years by all the persons whose duty it was to come to a decision on the plaintiff's mental condition, even assuming they were in correct and in one sense omissions are yet quite clearly also acts of commission each of which operates as a *novus actus interveniens* breaking the chain of causation between the acts of the defendants which are complained of and the subsequent detention of the plaintiff I need not refer in detail to the occasions on which the chain must in my opinion have been broken They must have been of almost daily occurrence I may perhaps note some of the more important There were three occasions when certificates were given under Section 38 there were special visits of Sir James Crichton Browne on more than one occasion, visits were paid by a commissioner or a Lord Chancellor's visitor in June and July 1913 August 1916 May August and October 1917, February and April 1918 March April and October 1920 and February and June 1921 there may have been others which I have not noticed

It is not necessary to go further back than the recent case of Weld Blundell v Stephens (1920 A C 956) and to the speeches of Lords Dunedin and Sumner in that case for an authoritative statement of the law applicable to this part of this case To adopt Lord Dunedin's language the question for decision is whether the damage complained of by the plaintiff was the natural consequence of the alleged wrongful acts of the defendants, or whether it was the result of some *novus actus interveniens* Lord Sumner prefers the description direct to natural as applied to consequence Both learned Lords apply a test whether the damage complained of in that case was either natural or direct which test, though differing in form is the same in substance Lord Dunedin says

> It was the repetition of the words by Hurst to Lowe and Comins which was the voluntary act of a free agent, over whom the defendant had no control and for whose acts he is not answerable that was the immediate cause of the plaintiff's damage.

Lord Sumner says

> In general (apart from special contracts and relations and the maxim *respondeat superior*) even though A is in fault he is not responsible for injury to C which B a stranger to him deliberately chooses to do. Though A may have given the occasion for B's mischievous activity B then becomes a new and independent cause.

Applying these tests to the present case my opinion is that directly the plaintiff passed out of the care of Dr Adam into the care of others whose statutory duty it was to form and who did form independent opinions as to the plaintiff's state of mind, then, if the plaintiff continued to be detained as a result of those opinions, the defendant cannot be held responsible for such detention That the continued detention of the plaintiff was the result of those opinions cannot I think be disputed. Whatever the view of the Court may be upon the other points in the appeal the view which I have just expressed would render a new trial in the case of both defendants necessary

The case of Dr Adam, however demands separate inquiry the question in his case is whether he has been guilty of any actionable wrong, and that question depends on a consideration of the plaintiff's position under the Lunacy Acts while he was on leave of absence and on Dr Adam's rights arising out of the reception order of compelling the plaintiff to return and on the question whether Dr Adam is entitled to the protection of Section 330 of the Act of 1890 The two questions are quite distinct, and must be dealt with separately The argument for the plaintiff seems to treat the leave of absence order as a grant of complete liberty for the full period of twenty-eight days In my opinion it is nothing of the kind it is nothing more than an intimation by the medical officer to the patient sanctioned by two of the visitors, and consented to by the person on whose petition the reception order was made that he the medical officer will not during the period named in the order put in force the powers conferred upon him by the reception order unless in the exercise of his discretion he considers it necessary to do so

What are those powers? They include the power of physical restraint so long as the patient is in a place where he can be controlled by the medical officer or by those whom he appoints to represent him If the patient is absent on leave of absence and is required by the medical officer to return and he refuses, he becomes in my opinion an escaped person and liable to be retaken under Section 85 of the Act just as much as if he had run away from an attendant while out on a walk with him

The case of the patient who outstays his leave of absence and does not send a medical certificate is specially dealt with in subsection 8 of Section 55 He can be retaken as an escaped person even though he had not been ordered or requested to return If therefore Dr Adam had telephoned to the plaintiff instead of to Dr Bond, and had ordered him to return and the plaintiff had refused to do so Dr Adam would have been justified in treating the plaintiff as an escaped person and in sending for him as he did provided the attendants were properly authorized in writing It was not however necessary to treat the case as one of an escape The form of the absence order merely suspends the medical officer's power under the reception order until such time as he considers it necessary to take back the patient From this point of view the patient is not an escaped person who requires to be retaken The taking back is merely the putting into operation of the suspended powers under the reception order I cannot accept a construction of the order which substitutes receive back for take back as no authority was needed to receive the patient so long as the reception order was in force nor can I adopt the construction of the statute contended for by the plaintiff's counsel that the proper procedure in the circumstances if Dr Bond considered the plaintiff unfit to be at large was to treat him as a lunatic wandering at large under Section 15 of the Act of 1890. Apart from the fact that this section comes in the part of the Act dealing with cases where there is no reception order in existence and, therefore has no application to this case I should hesitate long before accepting a construction of the statute which required the arrest by a constable as a necessary step to terminate a patient's leave of absence for these reasons I think that Dr Adam was entitled to terminate the plaintiff's leave of absence and to do it in the way in which it was done

The second contention made on Dr Adam's behalf was that in any event he is entitled to the protection of Section 330 on the ground that in what he did he acted in good faith and with reasonable care The jury found in Dr Adam's favour that when he received the telephone message on December 24th and sent the car he honestly believed that the plaintiff was of unsound mind and unfit to be at large and that it was in his interest that he should be taken back to Malling Place, but they found that Dr Adam did not take reasonable care in acting as he did

A considerable amount of argument was directed to the question of the onus of proof and whether it rested upon the defendants to prove that reasonable care was used or on the plaintiff to prove the absence of it. In the present case it does not seem necessary to decide that point because if the onus was on the defendants Dr Adam discharged it if it was on the plaintiff I consider that there was no evidence to support the finding of the jury The only suggestion of want of care is that Dr Adam did not go himself in the motor car instead of sending two attendants If the question had to be looked at from the point of view of the plaintiff's position it seems curious that the suggestion should have been made The plaintiff's case was that he was a sane man and that Dr Adam was a person who was incapable of forming an accurate judgement on his mental condition why then should it be considered necessary that Dr Adam should himself have gone to take back the plaintiff

The question however must be considered from the point of view of Dr Adam's position What was that The plaintiff was no stranger to him the message he received was not one indicating that any doubt existed which needed clearing up the message was received from a source which was certainly authoritative Dr Adam believed it I cannot see that prudence or consideration for the patient required anything except what Dr Adam did—namely taking the necessary steps to secure the plaintiff's return as speedily as possible. A great deal was made of Dr Adam's statement that he could have gone himself but for the fact that it was the day on which his partner would naturally be off duty in the afternoon. The test of what amounts to reasonable care in a particular case is not necessarily what a person would do in ordinary circumstances the circumstances in the present case were exceptional In the particular circumstances of this case I cannot see any evidence of want of care on Dr Adam's part and I think that the importance attached to the fact that he did not go himself to fetch the plaintiff is only one of many instances in which during the trial comparatively unimportant incidents received more consideration than they really deserved

In my opinion judgement should have been entered for Dr Adam and the appeal in his case will therefore be allowed and the judgement for the plaintiff will be set aside and entered for this defendant with the costs of the action and of the appeal

The case of the defendant Dr Bond stands on an entirely different footing The Attorney-General appearing for him, admits that however well intentioned he may have been, he had no legal justification for his action The verdict and judgement entered cannot be allowed to stand as apart from any other considerations the damages awarded have been assessed on a wrong basis as I have already pointed out As a new trial must be had on this ground I say nothing on the other points of which complaint is made. The damages on the new trial must be confined to damages for an imprisonment up to but not beyond the time when Dr Adam had the opportunity and exercised it of forming an independent judgement on the plaintiff's mental condition and whether it was necessary to continue to detain him under the reception order

In the case of Dr Bond the order of the Court is that the verdict and judgement are set aside and a new trial ordered Dr Bond to have the costs of the appeal As the costs of the first trial were greatly increased by the form and extent of the plaintiff's claim against Dr Bond, we think there should be a special order as to the costs of the first trial those costs will abide the result of the new trial, but in the event of the plaintiff succeeding on the new trial the costs of the first trial must be confined to such costs as the Taxing Master considers reasonable had the first trial been confined to an action against Dr Bond alone and to damages in respect of a period which terminated on Dr Adam deciding after the plaintiff's return to Malling Place that he should continue to be detained under the reception order The plaintiff must repay and repay the moneys paid to him under the order of the [illegible] The order for a new trial is conditional on this repayment It [illegible] is not made within one month there will be liberty to apply

Lord Justice Warrington

Warrington L.J. delivered judgement [illegible] in the course of which he made the following observations as to the position of Dr Bond

Having come to the conclusion that there must be a new trial as between the plaintiff and Dr Adam, I think it right to add that perhaps in strictness unnecessary to express my opinion as to the verdict but in fairness to Dr Bond I think right to add that the answers to Questions 7 to 11 The questions and the answers to them were as follows

Q. Did Dr Bond believe that the plaintiff was a person of unsound mind—A. No. Q. Or that he was not fit to be at large—A. No. Q. Or that he was [illegible] mentally incapable—A. No. Q. Did he believe that the plaintiff had escaped from his [illegible] control—A. No

was that his reason for having him sent back?—A Yes Q Did he take reasonable care to ascertain the true facts?—A No

The answers to Questions 7, 8, and 9 if justified, amount to a serious imputation on the character of Dr Bond, and, in my opinion, there was no evidence on which the jury could properly arrive at any such conclusion There was no evidence that Dr Bond acted otherwise than in what he honestly believed to be the best interests of the plaintiff himself But, looking at the summing up (sixteenth day, p 68), there is some ground for the view suggested in argument that the jury were not intending to impute to Dr Bond anything more than that at the time when he sent the telephone message to Malling he had had no opportunity of forming any belief at all as to the plaintiff's mental condition—not having then seen him—but acted solely on the notion that he had escaped from his brother's charge But the telephone message itself as recorded in Dr Adam's case book seems to me inconsistent with any such idea—no reference is made to the "escape" What is said is that the plaintiff does not appear to be fit to be at large At all events, if this was all that the jury intended to find, the verdict in the form in which it was returned was not in accordance with such intention, and on that ground must be set aside The plaintiff may or may not have been detained after he ought to have been discharged, on that question we are not called upon to express any opinion If he was so detained it was the result of action by other people for whom Dr Bond was not responsible If he was not so detained then he has nothing to complain of On the whole, therefore, as against Dr Bond, the verdict and judgement must be set aside and a new trial ordered

Lord Justice Scrutton

Scrutton, L J, also gave an exhaustive judgement to the same effect

He said the case had naturally and deservedly attracted much public attention Indeed, it had attracted so much attention that there was a danger of the real causes in dispute being confused It was not an inquiry into the whole working of the Lunacy Laws with regard to the plaintiff, Mr W S Harnett, with a power to the tribunal to award him compensation for any injuries he had suffered from the operation of those laws It was not a Royal Commission to consider in what respects the Lunacy Laws should be amended to avoid the occurrence in future of any errors which had been made in Mr Harnett's case It was the trial of a complaint that two named persons over eleven years ago—between December 14th, 1912, and February 22nd, 1913—committed, either in combination or independently, specified wrongful acts for the direct consequencees of which, if they were found to have acted wrongfully, those two persons must pay damages If the inquiry were one into the whole working of the lunacy laws as to Mr Harnett there was considerable ground for thinking that he had been detained as a lunatic for much longer than he ought to have been If it were a Royal Commission, this case showed that serious consideration should be given to the question whether the judicial inquiry preceding the making of the reception order should be more precise in its procedure by informing the alleged lunatic of the nature of the charges against him and hearing him in his defence Another question also required much thought, whether the existing system of constant visits and reports afforded sufficient safeguards against undue prolongation of detention When these questions were considered it might be found difficult to provide any more practical safeguards than were at present provided, and they must certainly be approached from the point of view of protection of the community as well as that of liberty of the individual He had already expressed his opinion on these points once in the case of Everitt v Griffiths (1920, 3 K B at pp 197 and 198) and he concurred with Lord Moulton's view in the same case (1921 1 A C, at p 693) In the present case the results were sufficiently startling to call for a careful examination of the legal questions involved Dr Bond was one of a number of members of the Board of Control, and a professional man of standing with large experience of persons of unsound mind He had nothing to do with the original certifying of Mr Harnett as a lunatic, with the asylum in which he was placed, or with his being let out on probation He saw Mr Harnett for the first and last time, until he was free from the asylum, during his detention for parts of three hours on the morning of December 14th, 1912 His lordship did not think Dr Bond had ever heard of Mr Harnett before that day he received afterwards a few letters from him but made no special examination of him Mr Harnett was in the next nine years in five places of detention examined by a number of experienced doctors, all of whom reported him of unsound mind The jury found that Dr Bond when he saw Mr Harnett believed that he had escaped from the care of his brother and that Dr Adam the resident physician of the asylum in which Mr Harnett had been received, had retained a power to take him back and that in consequence Dr Bond sent him back to that asylum to be detained there In spite of the fact that a number of independent doctors and visitors seeing Mr Harnett in other asylums had certified that he was of unsound mind, without whose certificates he would have been a free man Dr Bond for that three hours action had been held liable to pay £25 000 as damages for the whole of the nine years detention by a jury who did not see Mr Harnett at the time Dr Bond did but eleven years afterwards when he was admittedly cured One had to look closely into an eighteen days trial which had produced this remarkable result His lordship then dealt with the questions raised in the case and concluded I think the earnest—almost overwhelming—desire of judge and jury to make proper compensation to the plaintiff for wrongs which they think probably rightly he has suffered has prevented them from giving sufficient consideration to their equally strong obligation to do justice to the particular defendants whom the plaintiff is seeking to make liable and who are not necessarily the persons responsible for every or any, wrong the plaintiff has suffered

The Services.

SIR ARTHUR BANKART

THE appointment of Surgeon Commander Alexander C W Newport, C V O, to the Royal Yacht *Victoria and Albert* is of interest When the Prince of Wales visited Canada in 1919 and Australia in 1920 he was the principal medical officer of the *Renown* In the Prince's Indian tour he was appointed medical officer to the Prince, and additional to the principal medical officer of the ship at that time He succeeds Surgeon Rear Admiral Sir Arthur R Bankart, K C V O, M B, D P H, K H P, who, with the exception of the war period, has been serving continuously in the *Victoria and Albert* since 1901, immediately prior to this he had been the medical officer of the *Osborne*, then the yacht of the Prince of Wales (the late King Edward) He received the M V O in 1898, the C V O in 1911, and the K C V O at the end of the summer cruise of the King last year He was mentioned in dispatches for his services in the battleship *Agincourt* at the battle of Jutland He was promoted surgeon captain in June, 1920, and to his present rank in November last, and has therefore had already six months' service in it The position of junior officers of this rank is at present rather unfortunate, as six is the established number allowed, and the whole of the four billets usually held by these officers—namely, the naval hospitals at Haslar, Plymouth, Chatham, and Malta—received fresh holders last year As the usual length of service in these appointments is three years, it entails at least two years on half pay before re-employment for some of the officers promoted There is one officer junior to Sir Arthur Bankart, Surgeon Rear Admiral Edward Sutton, C M G, who since the war was for over three years the Deputy Medical Director General of the Navy and who was appointed to the Admiralty for special duty in March last, so that it is probable his half pay time will also be shortened

Medical News.

A COMPLIMENTARY dinner was given to Dr J R Whitwell, of St Audry's Hospital, Melton, at the Great White Horse Hotel, Ipswich, on May 14th The chairman was Dr H H Brown, O B E, of Ipswich, and thirty eight medical men were present Dr Whitwell has been twenty seven years in charge of the asylum, and after an active life of work for the Suffolk Branch and the South Suffolk Division of the British Medical Association is now President of the Branch Dr Brown referred in suitable terms to Dr Whitwell's services, to his good judgement, and to his powers of friendship

THE President of the Royal Society (chairman of the General Board of the National Physical Laboratory, Teddington) has issued invitations to visit the institution on the afternoon of June 24th

AN open air lecture arranged by the Chadwick Trustees will be given in the Chelsea Physic Garden on June 4th by Sir David Prain, F R S The gardens will be open to inspection at 4 30 p m and the lecture, the subject of which is the economic and hygienic relationships of cinchona bark and its alkaloids, will be delivered at 5 15

DR ROBERT J SMITH, O B E, barrister at law and lecturer on forensic medicine at the Welsh National School of Medicine, Cardiff, has been appointed City Coroner for Cardiff

THE annual public meeting of the medical missions department of the Society for the Propagation of the Gospel in Foreign Parts was held on May 14th, with Sir Humphry Rolleston in the chair During 1923 the total income of the department was £21,396, and it is estimated that an income of £20,552 will be required during 1924 to provide for the expenses of administration and propaganda and to assist the erection of buildings During the past year new hospitals have been opened at Singapore, Ta Tung Fu, St John's (Kaffraria), and Keiskama Hoek, whilst new buildings were opened in connexion with St Barnabas's Hospital, Ntlaza A three weeks' post graduate course for Chinese doctors was held at the Shantung Christian University, it was attended by sixteen doctors from widely different parts of China

DR ARTHUR T JONES, of Mountain Ash, the secretary of the North Glamorgan and Brecknock Division of the British Medical Association, has been appointed High Constable for Miskin Higher for the coming year

TWO research fellowships, each of the value of £300 per annum, are offered by the Obstetrical and Gynaecological Unit of the London (Royal Free Hospital) School of Medicine for Women Applications must be received by the Warden and Secretary by June 13th Further particulars are given in our advertisement pages

THREE lantern demonstrations on the pathological histology of cancer will be given in the Anatomy Lecture Theatre of the Medical School of the University of Manchester by Dr C Powell White, at 4 30 p m, on Tuesdays, May 27th, June 3rd and 17th Further particulars will be found in our advertisement pages.

THE council of Epsom College will shortly award the following three scholarships The Sir Walter Buchanan entrance scholarship—value about £33 a year—is primarily intended for the sons of deceased or prematurely invalided officers of the Indian Medical Service, or, failing such candidates, for the sons of British medical practitioners in necessitous circumstances who have practised in India for at least five years The Leopold Salomons entrance scholarships—value about £50 a year—are restricted to the sons of medical practitioners whose financial condition renders it impossible or difficult to obtain an education for their sons at Epsom without help The St Anne s Home scholarship—value £48 a year—will be given to a deserving and necessitous orphan daughter of a medical practitioner who had been for not less than five years in independent practice in England or Wales Forms of application for these scholarships can be obtained from the secretary, Mr J Bernard Lamb, 49, Bedford Square, W C 1

MR H. MORRISTON DAVIES F R C S , will give an address illustrated by lantern slides at a meeting of the North Western Tuberculosis Society to be held at the Tuberculosis Offices, Joddrell Street, Manchester, on Thursday next at 3 15 p.m , the meeting is open to medical practitioners

THE biannual dinner of the Aberdeen University Club, London, will be held at Gatti s Restaurant, Strand, W C 2, on Saturday, May 31st Professor John Harrower will take the chair at 7 30 p m The honorary secretary, Dr W A Milligan, 11, Upper Brook Street, W 1, will be pleased to hear from past or present graduates (men or women) wishing to attend the dinner or join the club

AMONG those elected Fellows of the Royal Sanitary Institute this month are Dr E G Annis, M.O H Greenwich, Dr Joseph Beard, M O H Carlisle Dr W W Jameson, M.O H Finchley and Dr J Wheatley, M.O H Shropshire Dr Ludwith Rajchman, Medical Director of the Health Section of the League of Nations, has also been elected a Fellow, as has Lieut Colonel J L Smith, M.R.C V S , of Johannesburg

A CONFERENCE on science and labour organized by the British Science Guild and the National Joint Council of the Trades Union Congress and Labour Party, will be held at the British Empire Exhibition, Wembley, on Friday and Saturday, May 30th and 31st, under the presidency of Lord Askwith The place of meeting is Conference Hall No 2, in the Palace of Industry The subjects to be discussed are the place of science in government, scientific research and industry, science and production, science and the human factor science and educational organization. The secretary is Mr T Ll. Humberstone B Sc , 15 Gower Street, W C 1

A FOUR weeks post-graduate course in gynaecology begins on June 2nd at the Chelsea Hospital for Women A series of eight clinical demonstrations will be given from June 3rd to 27th on the more important diseases of tropical countries by Dr G C Low and Dr Manson Bahr at the London School of Tropical Medicine An intensive course will be given at the Royal Northern Hospital in conjunction with the Royal Chest Hospital from June 16th to 28th From June 16th to July 12th a four weeks course in urology will be held at St Peter s Hospital for Stone A two weeks course on diseases of children will be held at the Children s Clinic (Western General Dispensary) from June 16th to July 4th Further particulars of these courses may be obtained from the Secretary, Fellowship of Medicine, 1, Wimpole Street, London, W 1

ON the occasion of the two hundredth anniversary of Kant's birth, which has recently been celebrated at Königsberg several papers have been published in the German medical press showing the influence of Kant's philosophy on medicine

OWING to the insanitary conditions connected with the earthquake there has been a great increase this year in the number of cases of dysentery and typhoid fever in Tokyo

IN Germany in 1923 550 cases of infantile paralysis occurred as compared with 593 in 1922 The incidence was highest from August to November Prussia had 291 cases, of which 9 occurred in Berlin

THE late Mr H H Wills founded a St Monica Home of Rest at Westbury on Trym Bristol, for the benefit of gentlefolk in poor circumstances suffering from certain chronic or incurable ailments Mental cases, epileptics sufferers from an infectious or contagious complaint or from cancer are not eligible. The Home will not be ready until the end of this year, but its council has power to give financial assistance to a limited number of persons who cannot be accepted as inmates, and is ready now to consider cases Inquiries should be addressed to Mr W W Ward, Merchants Hall, Bristol The benefits are restricted to members of the Church of England.

THE late Sir Malcolm Morris has left estate of the value of £29,461.

DR. W G AITCHISON ROBERTSON, author of a *Manual of Medical Jurisprudence Toxicology and Public Health*, has been called to the bar by Lincoln s Inn

THE International Congress for the Study of the Problems of Industrial Hygiene will be held at Geneva from July 13 to 20th, when the following subjects will be discussed I. Industrial lighting and ocular fatigue (*a*) Technical report by Dr Gaster of London (*b*) General physiopathology, by Oblath of Trieste, (*c*) Lighting of mines and fatigue of the visual apparatus, by Stassen of Liege. II Vitiated air in workshops (*a*) Ventilation by Professor Leonard Hill of London (*b*) Dust and smoke, by M Kohn Abrest of Paris (*c*) Gas, by Professor Lehmann of Würzburg III. Value of fatigue tests (*a*) Chemical methods and general review of tests for fatigue by F Lee of New York (*b*) Mechanical and graphic methods, by Professor M. Patrizi of Bologna, (*c*) Psychological methods, by Wytt of London. Further information can be obtained from Professor Cristiani, Institute of Hygiene, University of Geneva

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager 429 Strand W C.2, on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager 429 Strand London W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor BRITISH MEDICAL JOURNAL, 429 Strand W C.2.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 4630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (*Advertisements etc.*) *Articulate Westrand London.*

MEDICAL SECRETARY *Meducera Westrand London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin) and of the Scottish Office, 6 Rutland Square, Edinburgh (telegrams *Associate Edinburgh* telephone 4361, Central)

QUERIES AND ANSWERS.

PUBLIC ANALYSTS FEES

"T D H." asks What is the usual fee charged by county analysts for estimating the percentage of cream and solids in milk also for informal estimates of cream only?

We understand that fees of varying amount are charged in different circumstances. Some county councils provide for such tests at a charge of 2s. 6d to the applicant. In these cases it is usually done by a salaried officer in his capacity as agricultural analyst and is intended for assistance to the farming industry The agricultural analyst is often the same individual as the public analyst, the latter being an officer appointed under the Food and Drugs Act A county analyst who is not a salaried officer but is left to realize a livelihood out of fees and has to bear the charges of maintenance of his laboratory would generally charge 10s. 6d. for the two estimations and probably 5s. for fat alone He might consent to do an informal estimation of the fat for less if he were satisfied that he would not be challenged to substantiate his certificate afterwards but he can rarely trust to such expectation and must observe the same care as if serious consequences depended on his finding. The Food and Drugs Act provides however that any person may submit an article for analysis to the public analyst of the district in which the article was sold and demand an analysis at a charge of 10s. 6d.

LIFE AND SLEEP

"MORPHEUS" wishes to know whether any estimate has been made of the approximate number of years which the normal person spends in sleep in the course of a life of average length and, if so, what was the result.

INCOME TAX

"F S C," a medical woman, has recently started in practice and has made a loss instead of a profit Her husband is assessed in respect of his earnings and has been refused a set-off of the wife's loss for 1923-24

*** There is no right to a set-off as such, but in substance the same relief can be obtained by a claim to repayment under Sec 34 of the Income Tax Act, 1918, by the husband The claim should be supported by a detailed account showing how the amount of the loss is calculated To the extent to which the loss is so dealt with it must be excluded from the computation of average profits for future years

LETTERS, NOTES, ETC

HERPES ZOSTER AND VARICELLA

WE have received by succeeding posts the following notes on herpes zoster and varicella

DR SPENCER CHURCHILL (Ryde, Isle of Wight) has observed the following case in which herpes zoster and varicella occurred simultaneously A retired lieutenant-colonel, R A M C, told me on May 5th that he had shingles On May 9th he showed me the eruption It was a typical case of three large patches, *situated close to the third lumbar vertebra, on the right iliac* crest and the hypogastrium respectively On May 11th I was asked to see him because "a rash had appeared all over his body" I found a typical eruption of varicella

A note sent by DR W STANSFIELD (Wallasey, Sheffield) is as follows A man of 80 had a severe attack of supraorbital shingles On the fourth day he came out all over with a typical chicken pox rash Dr A R Wilson kindly saw him with me to confirm my diagnosis I think this tends to strengthen the opinion of those who think that shingles and chicken pox are one disease

DR J A MESCALL (Plaistow, Essex) writes that while the average number of cases of herpes he sees is from six to ten a year, he has had eighteen cases since the beginning of this month The parts affected have been generally the face and neck, but also the hip and thigh, no case of intercostal herpes was seen The ages of the patients varied from 5 to 42 years, and nearly all were "run down"

CUPPING

DR. A VALMYRE (Hyères, France) writes I am pleased that the statements in my letter published in the BRITISH MEDICAL JOURNAL (February 23rd) have attracted the courteous attention of Dr A Knyvett Gordon in your issue of March 29th (p 612)

Firstly, as to the depth to which the ecchymosis caused by cupping extends, may I refer to the autopsies made by the late Professor Vergely at St André's Hospital, Bordeaux, he showed in the cadaver that the ecchymosis produced by cupping before death extended through skin and muscles, down even to the lungs themselves, and was quite 4 cm deep

Secondly, as to my statements, I am strongly of opinion that, as the blood falls into decay, the red globules break up, they liberate the antitoxins which impregnate them, and enable our organism to fight the infectious germs This is my opinion There are no initial difficulties for its acceptance, it must stand at that

Thirdly, as to the blood counts I confess that I am too busy a man to spare time before and after cupping to make blood counts, but could I refer Dr Gordon to the work done on this point by Drs F Moutiers and Jean Richet (Société de Biologie, January 13th, 1923), where they show there is more of a leucocytosis than a leucopenia, and at the same time a polynucleosis

Lastly to the objection that cupping has a superficial and transient effect, I would ask him on what class of cases this personal experience is based Can he quote any literature on the point, or is it only his opinion, unsupported by experience or literature? I can assure him that the effects are immediate in the relief of pain or dyspnoea, and cupping can be used every day, or indeed many times a day, to get a good result

NITROGEN, THE BLUE SKY, TWINKLING STARS, AND THE AURORA

THE blueness of the sky, the twinkling of the stars, and the aurora borealis have puzzled physicists Professor L Vegard of Christiania, who for some twelve years or more has been studying the aurora in Norway, where it is much more often seen than in the British Isles, was, by the spectroscopic results, led to the conclusion that the atmosphere at 100 kilometres (62 miles) an altitude from which (and up to 130 kilometres) the greater part of the aurora light comes, must be nitrogen, and not, as had previously been supposed, the lighter gases hydrogen an[illegible] by [illegible]um, or that at least nitrogen was its chief compone[illegible]nd did, bu[illegible]orced next to assume that the nitrogen must [illegible]cured One had[illegible]rged and driven upwards by electric fo[illegible]uch had produced this [illegible]othesis that the nitrogen at a [illegible]dealt with the questions raised[illegible]ensed ' into clusters or small I think the earnest—almost overwhe[illegible] *admits* (*Nature*, *May 17th* [illegible]ry to make proper compensation to th[illegible]ived that possibly the con[illegible]y think probably rightly he has [illegible]roduced by bombarding solid [illegible]om giving sufficient consideration to [illegible]s can be produced in the [illegible]n to do justice to the particular def[illegible] the matter to the test of [illegible]seeking to make liable and who are [illegible]ugh Onnes's laboratory at [illegible]sponsible for every, or any, wrong the Leyden, the result was to confirm the hypothesis the comparison between the two spectra showing that the typical auroral spectrum is emitted from solid nitrogen The observation opens up new lines of research, some of which Professor Vegard indicates It will first be necessary to investigate the behaviour of solid nitrogen under various conditions, and then to go on to hydrogen, oxygen, argon, neon, and other gases and so eventually perhaps to acquire a definite knowledge of the constitution of nebulae

FIRST CAUSES IN RHEUMATIC DISEASE

DR L WHEELER (London) in the course of a letter on this subject, writes It is gratifying to note that Sir George Newman believes that treatment of rheumatic conditions generally is entering upon a more hopeful phase, but it would seem that, apart from improvement in the broad essentials of diet, housing, climate, etc, the main hopes of research into first and proximate causes of rheumatic affections must lie in a better knowledge of sterilization of harmful organisms (or their products) introduced into the blood stream by the lymphatics and lacteals of the gastro-intestinal tract Every medical man knows what he aims at effecting when he gives purges and enemata in diseases of obscure origin, but what he would like to follow these with is a reliable intestinal disinfectant which will not harm his patient The new benzene derivative recently put on the market under the name of dimol goes a long way towards fulfilling this mission of intestinal antisepsis without toxic effects, and in any special hospital observations of cases of rheumatic disease a systematic trial or attempt at arresting toxic absorption from the intestine should be a feature. I submit that experimental research on by products of digestion from various forms of food by the action of bacteria will furnish the quickest and best results towards an improved knowledge of the etiology of diseases of rheumatic type and that parallel with such investigations a genuine effort should be made to sift the wheat from the chaff of the intestinal antiseptics at present at the disposal of the profession

THE TERM "MASSAGE DEPARTMENT"

DR EDGAR F CYRIAX writes Most up to date hospitals nowadays employ the movement cure as part of their therapeutic armamentarium, and the portion of the hospital set aside for it is practically always called the "massage department" I should like, through the medium of your widely read columns, to protest against the word 'massage' in this connexion In the first place, this word has no standard definition Strictly speaking, it should include merely pétrissage and effleurage and their immediate modifications I consider it a mistake to make it include vibrations, and a much greater mistake to make it comprise all those active and resisted exercises which are the fundamental basis for the so-called "re-education" treatment for paralysis, etc Some thirty years or so ago, when the profession began to take up the movement cure, specially the Swedish one, which hitherto had been almost entirely in the hands of lay practitioners, the first portion of such treatment that became officially recognized, as it were, consisted of the pure massage manipulations in the strict sense of the word At this date, therefore, the term 'massage department" would have been quite correct and fully descriptive But nowadays, when it is so fully realized that other manipulations and active exercises are so much more important than massage pure and simple, which in a large number of cases is merely a preliminary to the former, the title 'massage department" is obviously a misnomer We have the terms "physio-therapeutic" and "electro-therapeutic" departments I suggest that it would be in keeping with them to adopt the term "mechano therapeutic" department and relegate the word 'massage" in this respect to the background

*** The term "mechano therapeutic" was, we believe, originally introduced a good many years ago for a department in which various appliances for passive movements were installed It replaced an earlier term, "Zander institute" and was thought better as being more comprehensive Whether it should now again be extended to include active exercises and massage is purely a question of convenience

BELL-BOTTOMED TROUSERS

DR ALBAN EVANS, late surgeon R N (Swansea), writes After seeing the recent review of Dr Dawtrey Drewitt's *Romance of the Apothecaries' Garden* in the BRITISH MEDICAL JOURNAL (May 3rd, p 787) I got the book and read it with profit and great interest There is however, one statement that is hardly correct (p 120) "Yew Its low spreading branches cover the ground round it so that not only is its stem hidden by them but its roots are protected—as sailors' bare feet when decks are being washed, are covered by the expanding bell shaped legs of their trousers" Now the bell bottom shape of a sailor's trousers is to allow of easy turning up The horrid fate of the wight protecting his feet with them when washing down decks passeth the imagination

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant *resident and other appointments at hospitals*, will be found at pages 33 36 37, 38, and 39 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 34, 35, and 36

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *359*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

401 Renal Glycosuria.

F G FINLEY and I. M RABINOWITCH (*Quart Journ Med* April, 1924, p 260) report six cases of renal glycosuria, a condition of undue permeability of the kidneys to sugar, the concentration of the sugar in the blood remaining within normal limits The sugar in the urine is usually small in amount and unaffected, or not much increased, by carbohydrate food. The patients continue in good health for years (twenty nine years in one of the cases recorded), and symptoms of diabetes mellitus do not develop Amongst 275 cases of glycosuria only 5 or 2 per cent were cases of renal glycosuria A family history of the disease is sometimes obtained Defective renal function and albuminuria have been recorded, but form no essential part of the malady The blood sugar curves in the cases examined by the authors after the administration of glucose were of the normal type The generally accepted blood sugar threshold (0 16 to 0 18 per cent) was never reached and the blood sugar always returned to the original level within two and a half hours The blood sugar estimations made before meals and thirty sixty, and ninety minutes after meals were normal The author quotes the words of Joslin ' It is clinically dangerous to make a diagnosis of renal diabetes until the patient has been under observation for several years. ' The recognition of cases of renal glycosuria is of practical importance Rigid diet in such cases is not necessary As regards life assurance, the authors think that there is no reason why such cases should not be accepted at the ordinary rates

405. Prognosis in Pulmonary Tuberculosis.

F CARDILLO and E TARANTOLA (*Rif Med* , March 3rd 1924, p 197) give their experience of certain tests used in the prognosis of phthisis As regards Weiss s urochromogenic test, they tried it in 260 cases, watched for a period of three to seven months, and came to the conclusion that on the whole it was of value In 93 per cent of the cases the clinical course was such as might have been foretold from the Weiss reaction and in 17 of these the reaction was present before there was anything in the clinical signs to suggest a bad prognosis In some benign cases the reaction was positive for nearly a month and then disappeared The von Pirquet cutl reaction was tried in 112 cases, but in the authors experience was nearly valueless as a guide to prognosis Testing the leucocyte count in 74 cases they found that in favourable cases mononuclear types were conspicuous, whilst in bad cases the polynuclear neutrophiles predominated. In about a quarter of the cases the blood found was normal if eosinophilia was present the tuberculosis was invariably mild Of 187 cases tested as to blood pressure no valuable indications were given bad cases, as might be expected, showed low pressure and the others varied

406. Value of d'Espine s Sign.

KOOPMANN (*Deut med Woch* , January 18th, 1924, p 80) has investigated d Espine s sign in a tuberculosis dispensary and girls school, checking with the *x* rays those cases in which this sign was positive He regarded it as positive when bronchophony was demonstrable from the fourth thoracic vertebra downwards, the bronchophony being sometimes also demonstrable on one or both sides of the spine The sign was much more often demonstrable in children than in adults Among 69 children with a positive d'Espine sign there were as many as 65 showing *x* ray hilum changes. In all the 7 adults showing d Espine s sign the *x* ray evidence was confirmatory A comparison of d Espine s sign with other signs such as impaired resonance on percussion of the vertebrae, spinal pain and dilated veins of the chest was much in favour of the former and in the 3 cases in which d Espine s sign was positive and a *post-mortem* examination was made, large retrotracheal packets of glands were found The author noticed that d Espine s sign might sometimes be positive and sometimes negative in the same person, owing to differences in the patient s posture during an examination The sign is most likely to be positive when the head is bent forward, the patient bending his back forward a little. The shoulders should be thrown back somewhat and the arms crossed over the chest To recognize the sound in question a beginner should make a patient whisper while the stethoscope is placed over an infiltrated area of lung in which there is no air

407 Intraventricular Injections in Cerebro-spinal Meningitis.

ACHARD (*Bull Soc Méd Hôp de Paris* January 3 s 1 24 p 63) reports the case of a man suffering from cerebro- pinal meningitis treated at first unsuccessfully by spinal injections of antimeningococcal serum. Injections through the frontal region, into the cerebral ventricles were then tried with excellent results Intraspinal injections were started on the fifth day of the disease and repeated at intervals the total amount given being 710 c cm in addition to 510 c cm given hypodermically Considerable relief followed but as the patient did not get quite well and had a recurrence of head symptoms, three injections (10 c cm in each) were given into the cerebral ventricle and at the same time 2 c cm intraspinally After the first intraventricular injection the temperature dropped and the patient became much easier and finally quite well He was admitted into hospital on November 26th and discharged quite well on December 21 st. As the particular variety of meningococcus could not be identified a trivalent serum was used Care was taken to see that there was a free communication between the subarachnoid spaces and the ependymal cavities which is a necessary condition for success in intraventricular injection.

408. Tuberculosis of the Gums.

K A. ROMBACH (*Nederl Tijdschr v Geneesk* January 12 th 1924, p 156 who records a case in a girl aged 8 years in whom the diagnosis was confirmed by De Groot director of the Dental School at Utrecht states that tuberculosis of the gums, though not extraordinarily rare is an unusual occurrence The mucous membrane of the gums is hypertrophied nodular, reddened and a pressure with a glass slide shows tubercles scattered over it As a rule the search for tubercle bacilli is fruitless, but inoculation of a guinea pig produces caseation of the lymph glands showing tubercle bacilli in about six weeks As regards treatment ultra violet rays have no good effect, but the old fashioned treatment with 70 per cent lactic acid painted on the gums produces a rapid cure, as in Rombach s case General treatment with cod liver oil and iodide of iron should not be forgotten.

409. Asthenia following Antityphoid Inoculation.

R BÉNON (*Paris méd* January 26th 1924 p 94) who records an illustrative case in a soldier states that nervous and mental sequelae in antityphoid inoculation are rare the commonest being a general nervous mental and muscular asthenia or depression He had previously related a case in which post vaccinal asthenia was succeeded by mania. In the present case the asthenia following inoculation was complicated by motor symptoms consisting in astasia abasia neuropathic ataxia and hysterical tetany The patient was predisposed to this condition as at the age of 12 he had developed the same symptoms as the result of being separated from his parents Complete recovery took place when the patient was sent to the front, where he gained a decoration a Verdun.

410. Digestive Albuminuria.

A. CADE and P RAVAULT (*Journ. de Méd. de Lyon* January 20th 1924, p 35) draw attention to the important fact that many cases of albuminuria are not of renal origin but are due to lesions of the alimentary canal or to errors in diet—for example an excessive ingestion of eggs may produce a transient albuminuria, apparently due to an excess of egg albumen appearing in the blood plasma The term digestive albuminuria should be reserved strictly to denote functional curable albuminuria definitely related to the state of the digestive organs or of the liver and unaccompanied by casts or by any other sign of renal disease At the same time it is to be remembered that gastro-intestinal or hepatic disease may produce a true secondary nephritis Digestive albuminuria is often though not invariably in evidence when it follows the ingestion of food it may be of the orthostatic type. Very frequently in hepatic disease a globulinuria is present and may be differentiated from other forms of albuminuria by its solubility in dilute acetic acid. Gastric albuminuria, due to functional dyspepsia, gastric dilatation gastroptosis etc. should be distinguished from the rare albuminuria resulting from intestinal disease and also from hepatogenous albuminuria associated with derangement of the functions of the liver The etiology of many of these cases is obscure some are due to the ingestion of heterogenous proteins to gastro-intestinal toxaemia or to functional or organic liver disease. It is therefore very important in all

cases of albuminuria to determine (1) whether the albuminuria is or is not due to some form of nephritis, and (2) in the latter case from what intercurrent condition the albuminuria arises One of the most common and intractable forms of gastro-intestinal toxaemia is that due to chronic *B coli* infection, in many cases this leads eventually to *B coli* cystitis, pyelitis, and chronic nephritis

Surgery.

411 Malignant Tumours of the Thyroid

W P HERBST (*Annals of Surgery*, April, 1924, p 488) states that of 290 patients with malignant tumours of the thyroid seen at the Mayo Clinic in twenty years, there were 19 with sarcoma, 62 with carcinoma, 102 with malignant adenoma and with carcinoma, not operated upon because the condition was found inoperable owing to the growth or metastasis In cases operated upon, by far the best results were obtained in those before the malignancy had infiltrated the capsule, and this group was one in which the clinical diagnosis of malignancy was rarely made The degree of malignancy varied according to the order given above, sarcoma being the most malignant, papilloma the least. All tumours of the thyroid capable of removal, except sarcoma, should be considered operable and a thorough operation performed In cases where the malignancy had been found encapsulated in a single adenoma, the adenoma was enucleated This was as radical as removal of the whole gland He advises that if there are several adenomata present, all of this tissue should be removed, and if the growth is diffuse total extirpation of the glands should be performed Occasionally happy results follow in cases of malignant papilloma found almost inoperable, but in which removal of growth and glands has been practised He thinks that *x* rays and radium have not been used long enough to estimate their true worth Metastasis in bone is rare, the lungs and liver being the most common sites only two cases were found with metastasis in bone, the course in cases considered inoperable was very rapidly fatal The diagnosis of malignancy is made on rapidity of growth, hardness of the adenomas, and signs of extension These factors in patients of the fifth decade suggest malignancy, and operative treatment should be urged

412. Malignant Degeneration in a Gastric Ulcer

V PAUCHET (*Bull et Mem Soc Nat de Chir*, March 1st, 1924, p 246) records an interesting case of a patient treated by Balfour's method for an ulcer of the lesser curvature of the stomach, a gastro enterostomy being done at the same time Three years later there was a recurrence of the symptoms and a partial gastrectomy was performed The ulcer after removal was found to show definite signs of malignant degeneration The report shows that even in a favourable case Balfour s operation, together with a gastro enterostomy, does not cure the ulcer Pauchet has now discarded this line of treatment after trying it on several occasions, the majority of surgeons now prefer excision of the ulcer H Hartmann points out that in this case the development of cancer in an old callous ulcer is proved both anatomically and pathologically beyond question For a period of five years the patient exhibited the typical symptoms of ulcer, with attacks of pain and hyperchlorhydria Later there was marked hypoacidity, and microscopically malignant degeneration was demonstrated, it was confined to the edges of the ulcer, the base not being affected The proportion of cases which become malignant is variously stated by different writers Pauchet considers it to be about 16 per cent, others put it at 5 per cent, or even less

413. Costal Chondritis following Continued Fevers.

A A DERVISSEUR (*Zentralbl f Chir*, March 15th, 1924, No 11A, p 483), of the municipal hospital of Odessa, states that the pandemics of typhoid, typhus, and relapsing fevers in Russia during the last few years have been followed by a large number of cases with affections of the rib cartilages According to Girgolaw's statistics at the All Russian Surgical Congress in 1922, costal chondritis occurred in 0 7 per cent of the typhus cases and 0 3 per cent of the relapsing fever cases Dervisseur s estimate, which is based on 38,5 0 cases of typhus, 20,664 of relapsing fever, and 11,700 of typhoid, shows that diseases of the rib cartilages occur in 0 35 per cent of the relapsing fever cases and in 0 07 per cent of the cases of typhus and typhoid Nationality and constitutional diseases, such as tuberculosis and syphilis, did not apparently play any part in the etiology of Dervisseur s cases A more important factor is the previous health of the patient A good state of nutrition was seen in only 10 per cent of the present series The frequency of the complication was undoubtedly related to the severity of the continued fever In confirmation of this statement is the fact that not a single case of chondritis developed after relapsing fever which had been rendered abortive by salvarsan treatment Affections of the rib cartilages following continued fever may have one or more localizations In one case seven ribs were affected The cartilage of the sixth rib was affected in 52 3 per cent, that of the fifth rib in 32 9 per cent, and that of the seventh rib in 30 per cent The first and eleventh rib cartilages were affected once each, and the twelfth never Simultaneous affection of the sixth, seventh, and eighth rib cartilages was specially frequent, which was probably due to the poor nutrition of these cartilages resulting from their length and their frequent exposure to trauma The right and left sides were affected with equal frequency Unilateral involvement occurred in 78 per cent, and bilateral in 22 per cent Bacteriological examination was carried out in 29 cases Among 9 cases in which the pus was examined before the abscess was opened, cultures were negative in 4, 2 showed *B coli*, 2 showed short rods which were not identified, and 1 paratyphoid bacilli In 20 cases with fistulae bacteriological examination showed rods resembling typhoid bacilli in 1, paratyphoid bacilli and *Staphylococcus aureus* in 5 cases, saprophytes and *Staphylococcus aureus* in 5 cases, and *Staphylococcus aureus* alone in 9 cases The epichondrium was thickened and infiltrated, the vessels dilated and frequently thrombosed The cartilage was dry and brittle, and presented a worm eaten appearance On microscopical examination all the appearances of inflammation and necrosis were found

414 Fractures of the Ankle-Joint.

J H STEVENS (*Surg, Gynecol, and Obstet*, February, 1924, p 234) classifies injuries causing fracture at the ankle joint into two groups (1) compression, the most important feature, and always present, the weight of the man being added to the stress of impact, (2) leverage, because there is a leverage stress in two directions, with compression on one side of the breaking bone and tension upon the other These may be subdivided into eversion and inversion The author thinks that the majority of fractured ankles are not very serious and do not deserve their evil reputation The bad results are due to immobilization and misdirection on the part of the surgeon Movement, both active and passive, from the very beginning is the right treatment, the joint must not be allowed to get stiff This is easy to prevent, but once present takes a long time to overcome A patient with a fractured ankle without complications should be able to return to light employment in from four to seven weeks with a practically normal foot except for some swelling Stevens brings about reduction by direct pressure after flexing the knee, and the leg is put in a Cabot splint, no plaster is used Movement is started on the third or fourth day After three weeks a light moulded leather ankle strap is fitted, the shoe thickened on the inner side, and slight weight bearing begun

415 Why should Acute Empyema become Chronic?

E MURSTAD (*Norsk Mag f Laegevidenskaben*, March, 1924, p 185) has attempted to answer this question by an analysis of 28 cases of chronic empyema treated at two hospitals in Christiania between 1913 and 1922 In as many as 19 cases an explanation could be found for the conversion of an acute into a chronic empyema, and the most common fault was operating on an acute empyema too late This was so in 9 cases Another fault is evacuating an acute empyema through an intercostal space without resecting a rib and thus providing a free outlet for the pus, or the drainage may be mechanically ineffective because the bottom of the abscess cavity is much below the opening in the chest wall In one of the author's cases the pus had been drained close to the sixth rib, although the empyema cavity extended to the ninth rib In 2 cases drainage tubes had slipped into the pleural cavity, and in another case a fragment of rib, presumably chipped off during a rib resection, accounted for the persistence of the empyema Other faults are leaving in a drainage tube too long, or letting it project too much into the pleural cavity, the unnecessarily long sojourn of the tube rendering the tissues about it rigid and incapable of collapse In 4 cases there had been a serous effusion before the empyema developed, and it would seem that when a lung has been much collapsed by an effusion its chances of re expansion are impaired if the fluid turns purulent Yet another factor is the patient's sex, in as many as 24 of the 28 cases the patients were males, whose chest walls are comparatively rigid and incapable of retracting and following the movements of the lungs The author calculates from the statistics of his hospital that about 5 per cent of all cases of acute empyema become chronic and require a thoracoplastic operation for the closure of sinuses

416. Excision of the Transverse Colon.

M OKINCZYC (*Bull et Mém Soc Nat de Chir*, February 16 h 1924, p 173) describes the results following operation in 93 cases of carcinoma of the colon In 25 cases the right colon was excised, with 8 deaths, 15 cases of excision of the transverse resulted in 9 deaths, whilst death followed in 20 cases out of a total of 53 cases of resection of the left colon As regards the transverse colon the results were bad whether associated with a drainage operation or not, and the author considers that the high mortality depends upon the anatomical conditions and in particular the omentum which makes satisfactory suturing difficult or impossible The immediate mortality was about 60 per cent, and the sequel showed that no single case of cancer of the transverse colon could be considered cured even after a long interval In spite of occasional successful results the author considers that colectomy of the transverse colon without drainage is associated with a high mortality Three types of operation are considered First there is the removal of the ascending and transverse colon and the anastomosis of the ileum to the descending colon this can be done in one or two stages Secondly, a caecostomy, and later resection of the affected segment of bowel Thirdly the transverse colon may be brought out on the surface resected and a colostomy established at the same time Later the continuity of the bowel may be restored This last method is both difficult and dangerous Okinczyc considers that when the growth is freely movable and the patient is in good condition the first method should be adopted In other cases the second procedure is the safest and best, the temporary caecostomy acting as a safety valve and allowing the suture line to consolidate

Anaesthetics

417 Blood Pressure in Surgical Operations.

L J MCKESSON (*Brit Journ Anaesth*, April, 1924, p 170) considers the significance and treatment of some conditions of the circulatory system which occur during surgical operations A graphic record of the pulse rate systolic and diastolic blood pressures and respiration should be made by the anaesthetist at frequent intervals during an operation Circulatory depression may be divided into three classes In the first he places cases with an increase in pulse rate no greater than 15 per cent and without increase in blood pressure, or a 10 per cent decrease in blood pressure without increase in pulse rate the second class comprises a 25 per cent increase in pulse rate with a decrease in blood pressure of from 10 to 25 per cent while the third class comprises a pulse rate of 100 progressively increasing with progressively falling blood pressure and a pulse pressure of 20 mm or less This third degree of depression is usually fatal if continued longer than twenty minutes Blood pressure and pulse-rate readings are essential in order to ascertain the circulatory condition and shock is characterized by low pressures and tachycardia Most cases of surgical shock respond to intravenous administration of physiological saline solution in sufficient quantity to restore the systolic pressure to within 10 per cent of its normal with a repetition if shock recurs The saline solution must be isotonic and given sufficiently early and rapidly (100 c.cm a minute) to increase progressively the systolic pressure It is important that a sufficient quantity be given since none short of enough to restore the blood pressure will avail In one case 5 600 c cm in two and a half hours were given without any sign of cardiac dilatation, any excess of fluid is eliminated rapidly

418. Local Anaesthesia in Hernia Operations.

T O BURGER (*Amer Journ Surg Anaesthesia Supplement* April, 1924 p 34) points out the advantages of local anaesthesia for the radical cure of hernia in all except young children and highly nervous adults Attention to details and gaining the patient's confidence are essential for success An hour and a half before operation 1/4 grain morphine alone or with 1/200 grain scopolamine, is administered and 1/8 grain morphine repeated three quarters of an hour later Thorough infiltration beneath the skin through one puncture is made with 0.05 per cent novocain and adrenaline solution, under which perfect dissection can be carried out in no greater time than would be required for the operation under ether The method is advocated for all strangulated hernias as it allows plenty of time to determine the condition of the gut without the fear associated with the prolongation of a general anaesthetic There is no increased risk of infection or of impaired vitality of tissues if a thorough sterilization of instruments and the solution is ensured The confidence of the patient must be secured beforehand with the assurance that the operation will be painless and that he has not to brace himself to endure pain

419. Local Anaesthesia with Potassium Bromide.

J P DMITRIJEW (*Zentralbl f Chir*, February 9th 1924 p 219) of Archangel states that in spite of the large number of drugs used for local anaesthesia a further drug which is cheap and easily obtainable is always welcome, especially in a poverty stricken country such as Russia. After he had observed several cases of intoxication after cocaine, and had been unable to procure novocain or less toxic drugs he made use of subcutaneous injections of potassium bromide in a 1 per cent watery solution, of which he employed 220 c.cm in an operation for goitre The operation, which lasted forty five minutes, was completely painless Considerably smaller doses were subsequently employed in twelve other cases with equally good results the anaesthetic effect being obtained in five to seven minutes after injection. Attempts with sodium bromide were unsuccessful

Obstetrics and Gynaecology.

420 Meningeal Haemorrhages in the Newborn.

A GORDON (*Amer Journ Dis Children* April, 1924 p 303) discusses the causation and sequelae of meningeal haemorrhages in the newborn, including cerebral diplegia hemiplegia double athetosis, and athetoso-choreic movements as extreme types, with many intermediary forms depending upon the area of the brain involved. The condition is mainly due to overstretching and tearing of the membranes with rupture of the blood vessels, and it is the outcome of great cranial stress occurring most frequently in protracted and instrumental delivery, the antero-posterior diameter of the head being most liable to such overstretching and tearing In supratentorial haemorrhages the blood spreads over the cerebral hemispheres and cannot pass beyond the lower surface of the tentorium while in infratentorial haemorrhages it spreads over the cerebellar hemispheres and also into the medulla and may extend into the subarachnoid space and spinal canal. Symptomatically supratentorial haemorrhages cause bulging of the fontanelle with restlessness and convulsions, but without respiratory or other bulbar disturbances, while the in ratentorial type is accompanied by depression somnolence, early cyanosis vasomotor and respiratory manifestations, and neck rigidity Since the blood in supratentorial haemorrhages cannot reach the subarachnoid space lumbar puncture which may be of considerable benefit in infratentorial haemorrhages avails but little and surgical treatment within a few days of birth is indicated There need be no hesitation in operating upon such young infants since cranial operations are better borne by them than any other operation less damage is caused by an operation than from the passage of the head through the pelvic brim during birth In practice lumbar puncture should be performed at once in all cases of increased intracranial pressure at birth before a localizing diagnosis is made since in infratentorial cases its therapeutic value is definite, and in supratentorial cases it aids diagnosis

421 A Case of Pyometra.

L RECASENS (*Arch de med, cir y esp* January 20th 1924 p 207) records this case in a woman aged 52 who had never menstruated and had had no disease of the genital organs The sexual relations had been normal She sought advice for an abdominal tumour and as this had been causing her considerable discomfort laparotomy was performed The cervix was no malformation of the vagina or cervix and there was nothing to suggest haematometra as hysterometry indicated a uterine cavity measuring 4 cm The uterus was large and soft A diagnosis of uterine sarcoma was made and hysterectomy was performed On opening the uterus Recasens found an enormous quantity of pus which proved sterile on examination The pyometra may possibly have been due to gonococcal infection with occlusion of the uterine orifice

422. Urinary Complications of Uterine Myomata.

HARTMANN and BONNET (*Gynecol et Obstet* 1923 iv 2, p 173), who have analysed the clinical history of 1 000 cases of uterine myoma coming to operation find that pollakiuria is a comparatively common subject of complaint This frequency of micturition occurs during the day time only and accompanies the upright posture probably it is due to vascular congestion and cystoscopic examination shows localized hyperaemia in the urethro-ureteral triangle Cystitis is not frequent Haematuria was noted in three cases only in the series—twice as a complication of retention and once in its absence In the last-named case a myoma of the supravaginal cervix had pushed the posterior vesical wall forwards and led to cystoscopic diagnosis of fibroma of the bladder and the performance of suprapubic cystotomy

Retention of urine occurs in about 2 2 per cent of cases of myoma uteri, and is usually found to occur only during the congestive periods accompanying menstruation or metrorrhagia It is frequently stated that retention of urine occurs in cases of myoma of the anterior portion of the cervix, but the authors found that the tumour was twice as often posterior as anterior, and was very commonly associated with retroflexion of the uterus It is probable that posterior myomata lead to retention of urine by inducing an elongation of the urethra, in these cases, as in retroversion of the gravid uterus, the cervix is drawn upwards and forwards above the symphysis pubis

423. Syphilis and Obstetrics.

L URECH (*Schweiz med Woch*, January 24th, 1924, p 105) has examined for syphilis 400 women confined in a maternity hospital in Lausanne and has found the Wassermann reaction positive in 17 cases, or 4 25 per cent This is a much higher figure than that found by Jaeger in the total population of Lausanne (only 0 86 per cent), but the difference may be partly due to the fact that the author's investigations referred only to women between the ages of 18 and 45 His figures give support to the plea, voiced by certain clinicians, that examination by the Wassermann reaction during pregnancy should be as much a routine procedure as the examination for albumin in the urine Of 150 newborn infants, only 2 gave a positive Wassermann reaction, but as many as 6 of the mothers of these infants were definitely syphilitic and gave a positive Wassermann reaction It is inferred from this that a Wassermann test of the blood of the newborn may be misleading, and even if the test is repeated three weeks after birth or after a course of "provocative treatment" unreliable results may be obtained With regard to the influence of syphilis on the size of the placenta, the author confirms the observation of Levy Solal, according to whom long standing syphilis, without signs of activity, is associated with an abnormally heavy placenta This was so in 70 per cent of the author's cases (in 80 out of 115 cases of syphilis in which specific treatment had never been given)

Pathology

424 The Action of Insulin

H STAUB (*Klin Woch*, January 15th, 1924, p 97) gives a careful critical review of the insulin treatment of diabetes mellitus, reaching the following conclusions Clinical observations have so far shown that insulin diminishes not only glycosuria and hyperglycaemia, but more especially ketosis, it increases the carbonic acid in the blood plasma and the carbonic acid tension of the alveolar air It removes acidosis conditions, promoting and increasing the metabolism of carbohydrates in a manner hitherto unknown The assimilation of albumin is improved, so that a positive nitrogen balance results, moreover, the hormone is concerned with fat metabolism The permanent therapeutic effects cannot be stated at present, but the temporary results of treatment are so good that it must be regarded as a valuable addition to therapeutics The patient gains ability to work and to take sufficient nourishment, and freedom from symptoms The dietetic treatment of diabetes has become more complicated and must be carried out more carefully than in cases not treated by insulin Insulin is not a cure for diabetes, but is to be regarded as a means of favourably influencing the prognosis of a case of diabetes as regards duration of life

425. Nitrogen Excretion in a Case of Recurrent Infantilism.

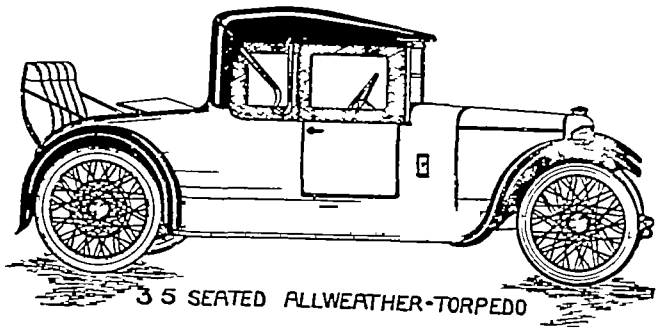
J PITICARIU (*Bull et Mém Soc Méd des Hop de Bucarest*, November, 1923, p 146) refers to a number of cases described by several French authors under the title "recurrent or relapsing infantilism," which comprises a primary thyroid deficiency associated with genital atrophy and disappearance of secondary sexual characteristics Armand Delille and others have described similar cases, but without testicular atrophy Piticariu's patient was a man of 38 who had been quite healthy until the autumn of 1921, when pains in the limbs, malaise, and fever confined him to bed for ten days Since this illness his health had remained poor and he became dull and apathetic, seldom speaking and taking no interest in his surroundings He then developed symptoms of myxoedema, the skin became wrinkled and covered with *silvery or pale yellow scales*, it was dry and inelastic, the beard, axillary and pubic hair almost disappeared, and the external genitals were atrophied The thyroid gland was very small. Administration of thyroid extract, adrenaline, and pilocarpine had no effect, but an injection of 1 mg of atropine produced prolonged and profuse sweating The ingestion of large quantities of various sugars failed to produce glycosuria The thoracic and abdominal organs appeared to be normal The patient received 0 1 gram of thyroid gland daily for over four months, with a mixed diet containing 16 grams nitrogen and yielding 2,465 calories During that period the patient's nitrogenous excretion varied within wide limits, and his weight fell from 10½ to 9 st The nitrogen reserve varied with the variations in body weight

426. Modified Kahn Precipitation Test.

J A ELLIOTT and L C TODD (*Arch of Derm and Syph*, February, 1924, p 208) describe a method of performing the Kahn test microscopically which they claim is of great value in the diagnosis of doubtful penile lesions, and possesses the additional advantage of being available at a stage too early for a positive result to be obtained from the blood either by the ordinary Kahn or the Wassermann test. The method is a precipitation test applied to the fluid obtained by suction from the penile lesion The sore is first cleansed with saline solution, and, after drying, suction is applied by means of an open bored glass syringe of from 2 to 10 c cm capacity according to the size of the lesion Small beads of fluid gradually appear and are taken up into opsonic pipettes until two of the latter have been filled, these are then sealed, centrifuged at high speed, filed, and the clear fluid withdrawn Antigen is prepared according to the most recent method of Kahn, it is diluted one in three with saline, and one part of the diluted mixture is added to six parts of the fluid on a slide The two are then mixed by drawing them up and down in a pipette and a portion eventually deposited on a cover slip, which is at once covered with a deep culture slide ringed with vaseline The whole is next placed in an incubator, and observations made at four, eighteen, and thirty six hour intervals, and so on In positive cases there is a definite macroscopic precipitate in eighteen hours—in some even at four hours, and such cases usually showed a microscopic precipitate in a few hours The authors emphasize the importance of mixing thoroughly and of low power microscopic examination in order to distinguish a possible bacterial deposit from the true lipoid precipitate Raw fluid only must be used for this test, the reacting substance being destroyed by the heat which is necessary to produce inactivation This is noted in contradistinction to the procedure employed if blood serum is being used, specimens of the latter must be inactivated before being employed for the precipitation test The authors claim for their method that it is simple, reliable, and suitable for early diagnosis They do not put it forward as a substitute for the dark field examination for spirochaetes, but regard it as of value where the latter is negative In their hands the test was positive in 21 out of 23 chancrés, positive in 7 mixed cases, negative in 10 chancroids, and positive in 2 out of 4 cases clinically mixed, which eventually proved to be chancroid Negative reactions were obtained in herpes, scabies, balanitis, and traumatic ulcer

427 Pathogenesis of Rheumatic Fever

H F SWIFT (*Journ Exper Med*, April 1st, 1924, p 497) maintains that disseminated focal submiliary nodules with oedema in the contiguous tissues during the acute stages, combined with lesions of blood vessels, form the essential pathology of rheumatic fever, and may be demonstrated in cardiac lesions, subcutaneous fibroid nodules, and joint lesions The evidence points to chorea also being a rheumatic manifestation, though the histological picture is different These submiliary nodules, "Aschoff bodies," are made up of a central area of necrosis surrounded by cells with vesicular nuclei and a cytoplasm stained red by methyl green pyronine, usually many cells with multiple nuclei are present, forming a particular type of giant cell, different from that seen in tuberculosis These cells are probably derived from the endothelium of the perivascular spaces and from the endothelial lining of the blood vessels Lesions of the blood vessels may take the form of constriction or occlusion from compression by Aschoff bodies or oedema, or there may be an endarteritis with swelling and proliferation of the endothelium as well as of the other intimal cells In the heart valves it is a moot point whether the destruction of the endothelium and subsequent formation of granulations is primary or secondary to a lesion of the underlying tissues It is, however, certain that characteristic lesions occur in the mural subendocardial region without primary injury to the endothelium There are two distinct types of body response in rheumatic fever—namely, proliferative and exudative The perivascular proliferative type of lesion, resembling an infectious granuloma, explains the nature of the symptoms in subacute and chronic cases Marked exudation of serum into the periarticular tissues and of serum and cells into the joint cavities are concomitants of the acute arthritis occurring with high fever and general intoxication



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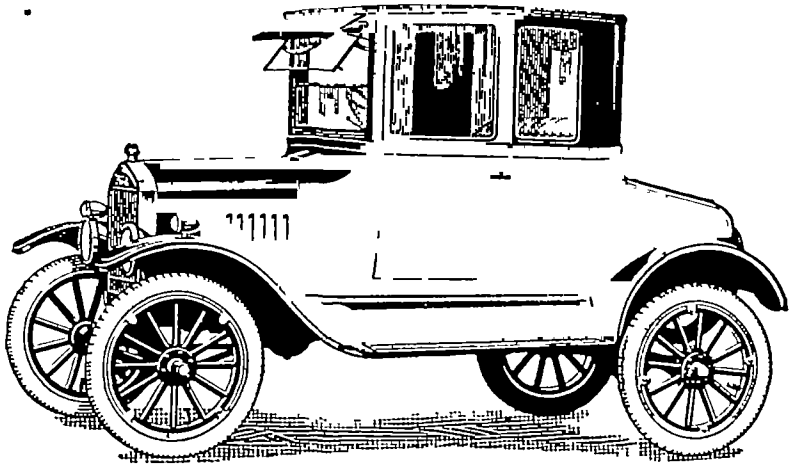
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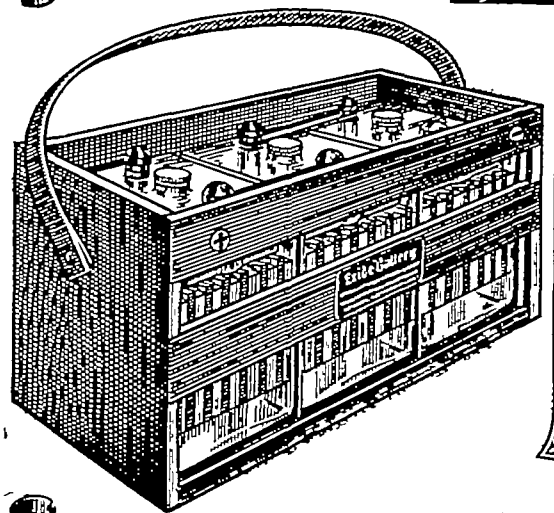
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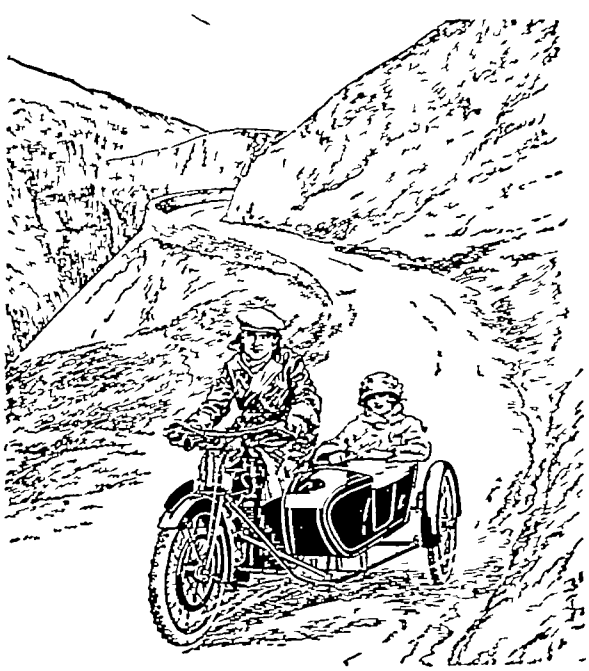
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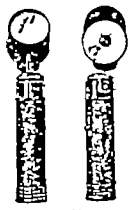
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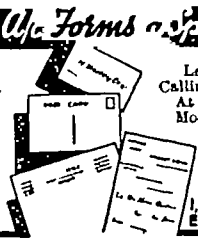
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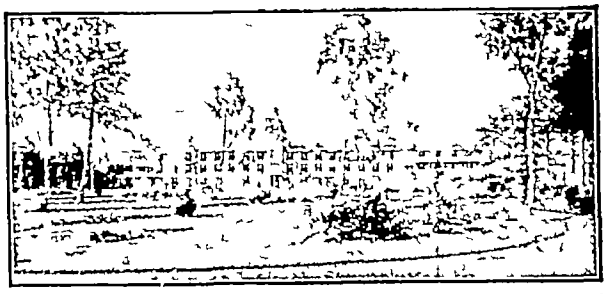
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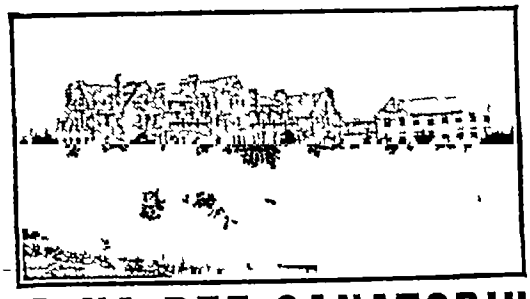
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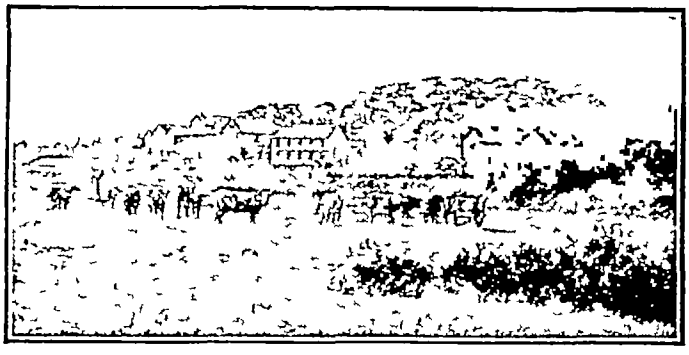
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JUNE 12TH	
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Candidates should forward an application to the Internal Registrar on or before June 20th, stating their qualifications and the proposed subject of research, and giving the names of two persons to whom references may be made.

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The Lecturer will be required to enter on duty on 1st October next.

Particulars of the appointment may be obtained on application to the undersigned.

Applications should be lodged not later than Tuesday 1st July.

WILLIAM WILSON
Secretary to the University.

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The Executive Committee of the Aden Settlement invite applications for the post of EXECUTIVE HEALTH OFFICER. Salary Rs.800 per mensem rising by annual increments of Rs.50 per mensem to Rs.1,000 per mensem, with travelling allowance of Rs.150 per mensem and free unfurnished quarters or a House allowance of Rs.75 in lieu thereof. Agreement for two years in the first instance with extension if satisfactory. Free first class passage to Aden on engagement and back on termination of employment. Three months leave on full pay after two years service. Private medical practice allowed.

Applicants whose age should not exceed 35 years should be qualified medical practitioners, and should hold a Diploma in Public Health. Preference given to holders of Diplomas in Tropical Medicine. Knowledge of Arabic and Public Health experience in Arabic speaking countries an advantage.

Applications in writing only stating age, education, qualifications, with copies of three recent testimonials to be made not later than Tuesday May 27th, 1924 to The Agents of the Executive Committee *Aden Settlement*, 2 Queen Anne's Gate, London, S.W.1.

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OF MEDICINE.

Applications are invited for the post of PROFESSOR OF BIOLOGY at the Egyptian Government School of Medicine, Cairo. Pay from £E.900—1140 whole-time. The instruction to be given either in Arabic or in English. Candidates must present evidence of not less than three years teaching experience in Biology (including Botany) in some recognized University or Institution. Copies of or references to original work should accompany the application which must reach the Ministry of Education, Cairo, not later than June 15th, 1924. Further particulars of the post can be obtained from the Egyptian Educational Offices in London (28 Victoria Street, Westminster S.W.1) Paris (4, Rue de Ecole) and Geneva (6 Rue Candolle).

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The Secretary of State for India announces that Vacancies in the Indian Medical Service continue to be filled by direct appointment.

For EUROPEAN OFFICERS of British Nationality to be appointed in the immediate future, special terms are offered, including gratuities of £1,000 after 5 years service, together with free return passages for those who no longer desire to remain in the service.

Candidates must be under 28 years of age at the time of application, and must possess qualifications registrable in Great Britain and Ireland under the Medical Acts now in force.

Further particulars can be obtained on application to the Secretary, Military Department, India Office, Whitehall, London, S.W.1. Letters should be marked "Recruitment for I.M.S."

Holland County Council,

Lincolnshire.

APPOINTMENT OF ASSISTANT COUNTY MEDICAL OFFICER (WOMAN).

The Holland County Council invite applications from registered medical practitioners for the post of Assistant County Medical Officer of Health.

Applicants must not be over 40 years of age and must possess a Diploma of Public Health or a Degree in State Medicine.

The duties of the post include medical inspection of school children under the Education Acts, work in connection with the Council's Tuberculosis scheme, and such other duties as may from time to time be imposed by the County Council.

The person appointed will be required to devote her whole time to the service of the Council, and the appointment will be subject to three months notice on either side. The Officer will be required to reside in such part of the County as the Council may decide. The salary will be £600 a year and travelling expenses.

Application must be made upon a form which can be obtained from the County Medical Officer, Sessions House, Boston, Lincolnshire, to whom completed forms should be returned not later than 11th June, 1924.

All communications must be endorsed "Assistant County Medical Officer."

Any form of canvassing is strictly forbidden, and will disqualify.

H. C. HARRIS
Clerk of the Holland County Council.
Sessions House, Boston.
17th June, 1924.

Grimsby and District

HOSPITAL.

Applications are invited for the post of JUNIOR HOUSE SURGEON (male). Salary £125 per annum with board residence and laundry. Candidates who must be registered in Medicine and Surgery must hold qualifications in Medicine and Surgery and be registered under the Medical Acts.

Applications stating age, with not more than three testimonials to be sent in envelope endorsed

H. BEN CHAPMAN, Hon. Secretary.

Charing Cross Hospital,

London W.C.2.

ASSISTANT SURGEON required for the Ear Nose and Throat Department.

Applicants must possess the qualification of F.R.C.S. of England. The report of the Surgeon in charge of the department in which a candidate for the post is working must reach the undersigned not later than June 14th, 1924.

PHILIP INMAN, Hon. Secretary.

Wanted immediately, Indoor Male ASSISTANT, able to take sole charge occasionally Single not over 30 years Northern county Panel and private. Little night work. Dispenser and car Usual bond Photo if possible, to be returned —Address applications, with references and other essential particulars to No 2628, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted in S Wales, Glam., preferably subject to B M A. approval long ASSISTANTSHIP with or without view Welsh speaking, conjoint and part. London M B, B S 4 months' exper busy panel and private practice. Ex H S Excellent testimonials. Free end May —Add, No 2620 BRIT MED JOUR. Office 429 Strand W C

Wanted, a qualified outdoor ASSISTANT in a Glamorganshire colliery district Would suit a recently qualified man Usual bond £300 a year with rooms and attendance to begin with —Address, giving age and references, No 2618 BRITISH MEDICAL JOURNAL Office 429, Strand W C.2

Wanted —Assistantship, with view to Partnership or Purchase in Practice confined to Venereal and Urological diseases Civil and army experience. Large centre preferred replies confidential —Address, No 2542, BRITISH MEDICAL JOURNAL Office, 429, Strand W C

Wanted —Assistant (male), single Outdoor Furnished rooms. Collieries and panel State nationality age, fullest references and qualifications. Must be steady If suitable partnership early; where and when interviewed —Add No 2607 B M J 429 Strand W C

Wanted by M B, aged 28, near London or Yorkshire ASSIST, with view to partnership or succession to share or practice receipts £1,500 Three years Hospital and G P Excellent refs Capital Athletic. Replies exchanged in confidence —Add No 2623, B M J 429, Strand

Wanted —Assistant (male), view to Partnership Private and Panel. Cottage Hospital near Liverpool —Address No 2614, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C.2

Wanted, 1st June —Indoor ASSISTANT Salary £200 —Address, No 2627 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2

Wanted by woman graduate, M.B, Ch B (Aberdeen), an ASSISTANTSHIP with general practitioner Good testimonials —Address, No 2601, BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted by woman M B., Ch B (Edinburgh) ASSISTANTSHIP indoor or out Energetic. Good cyclist. Excellent testimonials Free immediately —Address No 2624 BRIT MED JOUR. Office 429 Strand, W C 2

Woman, M B, B S, requires ASSISTANTSHIP or LOCUM. Ex House Physician, Anæsthetist Surgeon Keen on midwifery and children Good references Motor bike Free July 1st —Address No 2541, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Woman Graduate with some experience desires ASSISTANTSHIP in General Practice.—Address No 2547 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship in general Practice with view to Partnership desired by M B ex H S Six months surgical outpatients, and six months Ear, Nose and Throat department with special training then and since in operative procedures Capable operator Good anæsthetist. Motor driver aged 28 —Address No 2536 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship with view to Partnership wanted by M.B B S London D P H at present engaged in the Public Health Service Special experience in Venereal Diseases and Infant Welfare Work Age 32 married —Address No 2532 BRIT MED JOUR. Office 429 Strand W C

Assistantship wanted by Glasgow Graduate aged 25 single abstainer, energetic and healthy At present in West Scottish colliery town Two years exp panel and private Practice. Well received Excellent refs Will interview —Address No. 2539 B.M J Office 429 Strand W C 2

Assistantship or any situation wanted by Indian Medical man in district registered in the General Medical Council ex Captain I M S. keen worker good in Surgery and Bacteriology Excellent testimonials testimonials well received by patients.—No 2544 B M J Strand

Assistantship or Locum TENENS wanted by M B Ch.B (Honours) M A., B Sc; 28 married. Keen worker Splendid references Free June —Address, No 2602, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Assistant, Irish, (Queen's) 1-2 years experience in panel and private Practice also midwifery —Address, No. 2608, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Elderly Doctor wanted for small INEBRIATE HOME West of England for some weeks. Some special knowledge desirable. Highest references essential Very light work Moderate salary —Address particulars, No 2606, BRITISH MEDICAL JOURNAL Office 429 Strand W C.

M B, Ch B Glasgow, married, aged 27 desires outdoor ASSISTANTSHIP or Manage Branch, city or large town. Keen energetic, abstainer well received Over 2 years exp. general practice, private and panel Excellent test. Free in few weeks.—2613 B M J Office 429 Strand

M B, Ch B (woman) desires EVENING and WEEK END in or near London at present doing Casualty work in mornings Small salary —Address No. 2626 BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2

Part-time required by elderly (retired) man. London or district. No night work Abstainer Excellent references. Terms by arrangement.—Address No 2622 BRITISH MED. JOURNAL Office, 429 Strand, W C 2

Physician, Italian subject, 28 years old specialised in Tropical Diseases with knowledge of English, French, and German, DESIRES POSITION with British Colonial Company —Address, Dottor LUIGI CORSINI, via Silvio Pellico 17 Torino Italy

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Lady (25), desires post as DISPENSER BOOK KEEPER or Governess, or would help household duties Indoors or out First Aid Certificate Disengaged June 1st. Excellent references —Address, No 2625 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

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Wanted —M B, B S, reading for Exam. Free at week ends LOCUMS in or near London Can drive Car or Motor cycle 3 years Resident appointments in Teaching hospitals. Also free for Locums mid June to mid July —Add. No 2545 BRIT MED JOUR Office 429 Strand, W C

Wanted —Post as Locum for Summer months by energetic London man who has recently sold his practice. Town or country Usual terms Now free. —Address No 2616, BRITISH MEDICAL JOURNAL Office, 429, Strand W C 2

As Locum — Experienced Doctor not long disposed of his practice desires further Locum Tenencies for June and July Disengaged June 8th Lond pref, not essen Terms 7 gns per week. Well recomd —Add. 'Medicus, c/o Dr FENNELL, 50 Muirkirk Road, Catford, S.E.

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M B, Ch B.(1922) Ex-H S and H P (experience children, Gynæcology Eyes), free to do LOCUM pending hospital appointment Near London preferred — Address, No. 2549, BRITISH MEDICAL JOURNAL Office, 429 Strand W C.2

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Messrs R Sumner & Co, Ltd, Wholesale Druggists Liverpool are expecting a number of enquiries for LOCUM TENENS during the Summer months and will be pleased to hear from gentlemen who are at present or will shortly be disengaged

Woman, M B, B Ch D P H Belfast 25 requires LOCUM or ASSISTANTSHIP Experienced panel and private cyclist good testimonials and references Free 30th inst.—Address No 2604 BRITISH MEDICAL JOURNAL Office, 429 Strand W C —

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Wanted, Locum Tenencies for June by an experienced Doctor who has had own practice. London preferred, but no essential. Terms £8 8s. per week. Well recommended Disengaged now.—Address, No. 2612 BRITISH MEDICAL JOURNAL Office, 429 Strand W C

Wanted, Partner in Country PRACTICE, West Midlands (industrial and agricultural) Scotsman, married preferred ex H.S. One-third Share, about £1,000 at 1½ years purchase. Certain to increase. £1,200 from appts. and panel. House, with modern conveniences on lease, £40 p.a. good garden. Cottage hospital, golf, cricket, tennis.—Add., No. 2619 B M J 429 Strand W C

Wanted—Partner to take fourth share (about £500) or half share (about £1,000) Old-established country Practice. Large panel. Appointments and private. Must be energetic. Price 1½ years purchase: one-quarter share £750 a half share £1,500.—R. B. T 23 Burleigh Road, London N 7

Wanted.—Partnership in good-class general Practice in hospital town preferably non university by honours graduate G.P experience, and 3½ years' hospital in Surgical Midwifery Gynæcology Highest testimonials.—Address, No. 2550 B M.J Office, 429 Strand, W C

Wanted by M B, Ch B, aged 23 PARTNERSHIP or PRACTICE in Midlands or North of England. Free end of May—Apply Dr CRAWSHAW Hazel Grove Cheshire.

Lancashire—Partnership worth £1,100 to £1,200 2 5 panel and 3/5 private, in industrial area with scope. Good house available. Purchaser should have necessary capital Premium 1½ years' purchase.—Address, No. 1617 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C

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Wanted by experienced Practitioner (Edin. Grad.) General PRACTICE or PARTNERSHIP preferably S England about £1,000 up, middle and upper class. Appointments desirable, also house to rent. Must be very sound and well established. Capital available—Address, No 2443, B.M.J 429 Strand W C.2.

Wanted by experienced Practitioner (M D London) Country PRACTICE or PARTNERSHIP in Sussex Surrey or E. Hants. Good house and garden essential.—Address; No. 2540 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C.2.

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Wanted, in or near Bourne- mouth or Torquay general PRACTICE with good house. Advertiser free, with necessary capital.—Address, in strict confidence, No 2538, BRITISH MEDICAL JOURNAL Office, 429, Strand, W C

Wanted—A small Practice in a Country Town.—Address No 2543, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C

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HOSPITAL Brighton.

Notice is hereby given that a Meeting of the Elective Committee of this Hospital will be held in the Board Room on Wednesday the 25th June 1924 at 12 15 p m for the purpose of electing an HONORARY SECOND ELECTRO THERAPEUTIST and such Elective Committee is hereby convened accordingly

The conditions of the appointment may be obtained on application to the Secretary Superintendent and candidates must send their applications accompanied by proofs of their holding the required qualifications addressed to the Secretary Superintendent at the Hospital, before Tuesday, the 3rd June, 1924

By order of the Board of Management
L L W LANCASTER-GAYE
Secretary Superintendent

The Royal Infirmary, Hull

Wanted on 3 st May CASUALTY HOUSE SURGEON (Male) Must be fully qualified willing to hold office for not less than six months and should give and receive one month's notice to terminate engagement.

Salary at the rate of £130 per annum, with board and lodging

Applications with copies of testimonials to be sent in addressed to the undersigned
BEN BROOKS Secretary

London Temperance Hospital,
Hampstead Road N W 1

Application are invited for the following post, which will be vacant on June 10th

RESIDENT MEDICAL OFFICER Honorarium £200 per annum with residence board &c

Applications with testimonials should reach the Secretary on or before June 10th
A. C ADAMS Secretary

Wigan Infirmary

Wanted for six months commencing July 1st, 1924 a THIRD HOUSE SURGEON (Male)

Salary £150 per annum with board apartments and washing Doubly registered Excellent opportunities for surgical work

Applications stating age, nationality and qualifications with copies of three testimonials should reach the undersigned as soon as possible
A STANLEY BRUNT,
20th May 1924 General Supt. & Secretary

Swansea County Borough
APPOINTMENT OF DENTAL SURGEON

The Swansea Borough Council invite applications from registered Dental Surgeons for the about appointment Salary £500 per annum

Applications on special forms to be obtained from the Medical Officer of Health Public Health Offices Swansea to be received not later than 2nd June 1924 endorsed "Dental Surgeon."
H LANG COATH Town Clerk.

Borough of Heywood,
MEDICAL OFFICER OF HEALTH.

The Council invite applications for the appointment of a whole-time Medical Officer of Health to carry out the combined duties of Medical Officer of Health to the Borough School Medical Service, Maternity and Child Welfare Centre and any other duties appertaining to the office of Medical Officer of Health Infectious cases dealt with by neighbouring Authorities by arrangement. Salary £800 per annum

Candidates must be registered medical practitioners, have practical experience of the duties of Medical Officer of Health and possess the D.P.H. qualification and any other qualifications required by Acts of Parliament and the regulations of the Ministry of Health

Applications, accompanied by copies of three recent testimonials, endorsed "Medical Officer of Health," to be sent to the undersigned not later than Wednesday the 4th June next.

Canvassing either directly or indirectly will be deemed a disqualification but 12 copies of applications and testimonials may be forwarded for the use of the Committee

Municipal Buildings, GEO G BOUCHIER,
Heywood Town Clerk.
16th May 1924

County of London

The London County Council has from time to time vacancies for SEVENTH ASSISTANT MEDICAL OFFICERS (men) in the Mental Hospitals under its control Candidates must be not more than 35 years of age and must be registered to practise both in medicine and surgery in England.

Candidates appointed will be pensionable under the Asylums Officers Superannuation Act, 1913. Preference will be given to those who served or offered to serve with H M Forces during the late War

Salary £300 a year rising by annual increments of £25 to £400 a year without emoluments (at present) temporary addition to salary raising the total commencing remuneration to £[illegible] a year Charges made for board [illegible] present £2 9s 0d weekly) to assistant medical resident

Full particulars and conditions of appointment on form of application (on which alone applications can be made) obtainable from the Clerk of the Mental Hospitals Department, County Hall, Westminster Bridge, S E.1 Canvassing disqualifies

JAMES BIRD
Clerk of the London County Council

Queen Charlotte's Maternity
HOSPITAL
(formerly Queen Charlotte's Lying in Hospital)
Marylebone Road N W

There is a vacancy for an OBSTETRIC SURGEON to Out patients

Candidates must be Graduates in Medicine and Universality of the United Kingdom and (a) Fellows or Members of the Royal College of Physicians London or (b) Fellows of the College of Surgeons of England

Applications to be sent to the Secretary at the Hospital not later than 7th June accompanied by certificate of age and six copies of testimonials For further particulars apply to
ARTHUR WATTS
20th May 1924 Secretary

The Middlesex Hospital,
W 1

NOTICE

A vacancy is hereby declared for a PHYSICIAN to the Department for Diseases of the Nervous System

Applications are invited to be sent in to the undersigned on or before noon Tuesday 17th June, accompanied by diplomas and testimonials

Candidates must be Fellows or Members of the Royal College of Physicians of London
WALTER KEWLEY
20th May 1924 Secretary Superintendent

Addenbrooke's Hospital,
Cambridge.

Applications are invited for the post of HOUSE SURGEON (Male) The appointment will be for six months from June 28th 1924. Salary £130 per annum with board residence and laundry

Candidates who must be duly registered are requested to forward their applications, stating age, qualifications etc., together with copies of not more than four recent testimonials to the undersigned on or before Tuesday June 3rd 1924

W H HEAD, Secretary Superintendent.

Lady Chichester Hospital
(For Nervous and Borderland Cases)

Wanted, RESIDENT MEDICAL OFFICER for six months from July 15th. Salary at rate of £100 per annum, with board residence, and laundry
Apply The Secretary 117 North Street, Brighton

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District	Town or District.	Town or District.
CONTRACT PRACTICE.		
ENGLAND	**WALES** *(continued)*	***PUBLIC HEALTH*** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	OAKDALE MON *(Medical Officer for Medical Aid Association.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs.)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*	GELLYGAER URBAN DISTRICT COUNCIL *(Medical Officer of Health)*
WALES	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	LINCOLN CITY AND COUNTY BOROUGH *(Medical Officer of Health)*
ABERTRIDWR GLAMORGAN *Windsor Colliery. (Medical Scheme.)*	**PUBLIC HEALTH**	NORFOLK EDUCATION COMMITTEE *(Assistant School Medical Officer)*
EBBW VALE MON *(Workmen's Medical Society)*	ARGYLLSHIRE EDUCATION AUTHORITY *(Executive School Medical Officer)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme.)*	BARNSLEY: COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer)*	SELKIRKSHIRE *(Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	DUNDEE EDUCATION AUTHORITY *(Six Assistant Medical Officers)*	SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		STOKE ON TRENT EDUCATION COMMITTEE. *(Assistant School Medical Officer)*

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou, St. Vincent and St. Lucia).

(c) Overseas Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr R. H TODD (Hon Sec. New South Wales Branch) B. M. A. Building 30-34, Elizabeth Street, Sydney N.S.W	QUEENSLAND *(Brisbane Associated Friendly Societies' Institutes.)*	Dr R. MARSHALL ALLAN (Hon. Sec., Queensland Branch) Adelaide Street Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr FRANK DAVIES (Hon. Sec., Victorian Branch) Medical Society Hall, E. Melbourne, Victoria.
				WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch No. 4 Bank of New South Wales Chambers, St George's Terrace, Perth.

Address: 429 Strand, W C 2.
May 21st, 1924.

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

Glamorgan County Council

PUBLIC HEALTH (VENEREAL DISEASES) REGULATIONS 1916.

The Council require the services of a MEDICAL OFFICER for a period of two months from July 1st to do duty at the V D Clinics in the County Special experience essential.

Salary at the rate of £10 10s. per week plus necessary first-class return rail fares.

Applications, stating qualifications, and experience in the diagnosis and treatment of Venereal Diseases, should be sent to Dr B. Colston Williams, County Medical Officer County Hall, Cardiff, not later than Saturday May 31st, 1924.

Reeth Union and Reeth

RURAL DISTRICT COUNCIL.

Applications are invited from duly qualified Medical Practitioners for the appointments of MEDICAL OFFICER (Muker District) of the Reeth Union, and MEDICAL OFFICER OF HEALTH for the whole of the Reeth Rural District. Population 2,527 Area 73,000 acres. Salary as Medical Officer £45 per annum and as Medical Officer of Health £155 per annum. Total £200

Applications to be sent to the undersigned by the 30th instant.

Reeth, Yorks. 9th May 1924. E. R. GREATHEAD Clerk to the Council.

Bolton Infirmary and Dispensary

SECRETARY'S OFFICE.

(230 beds, including Auxiliary Hospitals.)

Applications for the appointment of a RESIDENT SURGICAL OFFICER, salary £250 per annum TWO HOUSE SURGEONS salary £150 per annum and an ASSISTANT HOUSE SURGEON salary £100 per annum, with apartments, board, and attendance, are invited from ladies and gentlemen having a registered Medical and Surgical qualification.

Applications, stating age, with copies of testimonials, should be forwarded to the undersigned (from whom further particulars may be obtained) not later than Monday May 26th.

ALBERT B. BRISCOE, Secretary

Cumberland Infirmary, Carlisle.

Applications are invited for the post of third qualified *R.M.O.* as *JUNIOR HOUSE SURGEON* (Male). Six months appointment from 16th June 1924. Salary at the rate of £150 per annum board, residence and laundry provided.

Applications stating age, with copies of not more than four testimonials, must be received by Wednesday May 28th, by the undersigned, who will supply particulars of duties if required.

J G HOWITT Secretary

Royal Free Hospital, Gray's Inn Road, W C

Applications are invited from duly qualified and registered medical men or women for the following resident posts, vacant in July 1924:—

HOUSE PHYSICIAN
HOUSE SURGEON
ASSISTANT CASUALTY OFFICER.
OBSTETRIC HOUSE SURGEON
HOUSE SURGEON (M.M.S £50 per annum)
OBSTETRIC ASSISTANT (£50 per annum)
CASUALTY OFFICER (£100 per annum)

Intending candidates should send in, when stating age, accompanied by copies of three recent testimonials, to the undersigned on or before 31st inst.

REGINALD R. GARRATT Secretary

The Royal Borough of Kensington

TEMPORARY TUBERCULOSIS OFFICER.

Medical Officer with experience of Tuberculosis work, wanted for the KENSINGTON TUBERCULOSIS DISPENSARY 119 Lancaster Grove, N W (as Holiday Locum, for one month from July 6th), to conduct six mornings, four afternoons and one evening per week. Honorarium 35 guineas.

Applications to be addressed to the Medical Officer of Health, Town Hall, Kensington, W 8.

City of Manchester

The Public Health Committee of the Corporation of Manchester require the services of a fully qualified whole-time LADY MEDICAL OFFICER, experienced in Midwifery and Children's Diseases to hold (under the direction of the Medical Officer of Health) Consultations and Infant Clinics at the Maternity and Child Welfare Centres of the Manchester Corporation and (under the like direction) to perform such other duties as appertain to the office

The salary will be £450 per annum, and bonus £182 7s 8d (subject to revision or revocation)

A statement of the duties and conditions of the office may be had on application in writing to the Medical Officer of Health Civic Buildings 1, Mount Street Manchester

Applications stating age and experience and endorsed on the envelope 'Medical Officer Child Welfare,' must be addressed to the Town Clerk *only and not to members of the Committee* or Council not later than Friday May 30th, 1924 and be accompanied by not more than three recent testimonials

The successful candidate will be required to contribute to the Corporation Superannuation Fund and to execute their deed of service

Canvassing in any form oral or written direct or indirect, is prohibited

P M HEATH, Town Clerk.

Town Hall Manchester 13th May 1924

St Bartholomew's Hospital

A DEEP X RAY INVESTIGATION DEPARTMENT is being established at the above Hospital, which will be devoted to treatment of Malignant Disease

Applications are invited for an experienced RADIOLOGIST to carry out research The appointment will be for from two to five years If thought desirable an opportunity will be afforded the successful candidate to study this subject in similar departments at home and abroad

The salary will be based upon the qualification and status of the successful candidate for this special work.

Applications, which must be accompanied by references and full particulars of training and *experience to reach the undersigned not later than* Monday 30th June 1924

THOMAS HAYES

May 1924 Clerk to the Governors

King Edward VII Sanatorium,

Midhurst Sussex

The Council invite applications for the post of MEDICAL SUPERINTENDENT to the Institution. Candidates must be duly qualified and registered and have had experience in Tuberculosis work

Salary £1,000 per annum rising to £1 200 with house Applications (with 12 copies of not more than three recent testimonials) to be sent on or before May 29th to the Secretary 91 Eaton Square London S W 1

National Hospital for the

PARALYSED & EPILEPTIC

Queen Square W C

REGISTRAR

Applications are invited for the post of Registrar The salary is £200 a year Applications with recent testimonials *should* reach the undersigned from whom many further particulars may be obtained, on or before Monday May 26th 1924

GODFREY H HAMILTON Secretary

King Edward VII Hospital,

Windsor

Applications are invited for the post of JUNIOR HOUSE SURGEON for six months from July 1st Candidates should be fully qualified women. Salary £140 Board residence

Applications with copies of testimonials to be made not later than June 3rd to the undersigned at the Hospital

O HAWARD Secretary

King Edward VII Hospital,

Windsor

Applications for the post of SENIOR HOUSE SURGEON (for six months from July 1st) should be sent to the undersigned, with copies of testimonials, before June 3rd Candidates should be fully qualified women Salary £200 board residence.

19th May 1924 O HAWARD Secretary

Clinical Assistant wanted —

The Committee of the ORTHOPÆDIC HOSPITAL invite applications for a vacancy of Clinical Assistant honorarium 100 guineas Appointment for 12 months renewable for a further 12 months on the recommendation of the Medical Board Applications with copies of three recent testimonials, should reach the Secretary Royal National Orthopædic Hospital 234 Gt Portland Street W 1 not later than June 9th Further particulars on application

Royal Infirmary, Preston

Applications are invited from unmarried gentlemen doubly qualified and registered for the posts of RESIDENT SURGICAL OFFICER and HOUSE SURGEON

Both appointments will become vacant on June 8th Salary—R S O £230 and H S £200 with board residence and laundry in each case

For the post of R S O only applicants who have held a previous Hospital Appointment will be considered

Applications stating age qualifications and experience, accompanied by copies of not less than three testimonials should be forwarded to the undersigned on or before the 23th instant

JOHN GIBSON

17th May, 1924 Superintendent & Secretary

St Bartholomew's Hospital,

Rochester (105 Beds)

Rochester, Chatham Gillingham & District.

The House Committee invite applications for the post of HOUSE PHYSICIAN vacant 1st July 1924 There are special facilities for Practical Surgical and Ophthalmic work Candidates must be unmarried, qualified and registered medical men The appointment is for six months. Salary £200 per annum with board residence and laundry

The officer appointed will have charge of the medical beds and be Assistant to the House Surgeon Some knowledge of Ophthalmic work is desirable

Applications, stating age qualifications and experience, accompanied by copies of three recent testimonials to be sent to the Secretary not later than the 2nd June.

North Middlesex Hospital,

Edmonton N 18

Male ASSISTANT MEDICAL OFFICER required

A well qualified gentleman desirous of good hard work is required at this Hospital with over 1 000 sick beds and Out-patient Department. As experience is very extensive, the candidate should have previously held a House appointment.

The appointment is a whole-time one living in Salary £200 per annum, subject to the terms *stated on the application form.* Applications in writing to be made on forms to be obtained from the Medical Superintendent and Surgical Director

Queen's Hospital for

CHILDREN

Hackney Road, Bethnal Green E 2

Telephones: Dalston 305 and 531

DENTAL SURGEON required for L C C Dental Centre. Attendance five half-days a week Open only to Dental Surgeons holding the L.D S England and also a medical qualification

Salary £900 a year

Applications giving full particulars should be sent on or before 14th June to

T GLENTON KERR,

19th May, 1924. Secretary

Guest Hospital, Dudley

General Hospital (115 Beds)

Applications are invited for the post of ASSISTANT HOUSE SURGEON (Male) Duties include Medical Surgical Eye and Venereal Diseases work Salary £150 per annum with furnished apartments board and laundry

Candidates must be fully qualified and registered

Applications stating age qualifications and experience and accompanied by copies of testimonials, to be sent to the Secretary of the Guest Hospital and Eye Infirmary Dudley, not later than June 4th 1924

Bolingbroke Hospital,

INCORPORATED

Wandsworth Common S W 11

The Board of Governors invite applications for the post of HONORARY DENTIST to the Hospital The successful candidate will be required to attend once a week.

Applications stating qualifications and age and enclosing copies of three testimonials, to be forwarded to the undersigned on or before June 7th.

W S RANDOLPH BISS

Secretary Superintendent.

Ancoats Hospital,

Manchester

HOUSE SURGEON (Lady)

Required to commence duty on JULY 1st, next

Applications stating age qualifications previous experience (if any) together with copies of three testimonials, to be forwarded to the undersigned on or before the 31st instant.

The appointment is for 12 months and the salary is at the rate of £100 per annum for the first six months and £150 per annum for the second six months By order of the Board

HERBERT J DAPPHORNE, Secretary

West London Hospital,

Hammersmith Road W 6

Applications are invited for the post of MEDICAL REGISTRAR for a period of one year eligible for re-election annually An honorarium at the rate of £100 per annum is attached to the post. The successful candidate must hold no appointment at a general teaching Hospital during his term of office The duties include the preparation of the Medical Registrar's report for the year and the supervision of the records of cases The candidate appointed must be available as substitute for the Physicians and Assistant Physicians when required and be prepared to undertake such teaching for the Post-graduate College as may be desired

Candidates are required to be registered under the Medical Act, to send applications so as to reach me not later than Tuesday 17th June next, to attend the Medical Council Meeting on Friday 20th June at 4 30 p m and prior to that date to call upon and send copies of application and testimonials to each member thereof to abstain from canvassing but nevertheless to send copies of application and testimonials to each member of the Board of Management, at whose meeting on Tuesday 24th June at 5 p m candidates must be in attendance.

H A MADGE Secretary

West London Hospital,

Hammersmith Road W 6

Required one HOUSE PHYSICIAN, one HOUSE SURGEON, and one AURAL HOUSE SURGEON and RESIDENT CASUALTY OFFICER (males) These three appointments are tenable for six months from 1st July next subject to one month's notice on either side Salary £100 per annum with board lodging and washing allowance.

Candidates are required to be registered under the Medical Act to send four copies of their letters of application and four copies of each testimonial submitted so as to reach me not later than Tuesday 17th June.

Selected candidates will be required to call upon such members of the Medical Staff as directed to be in attendance at a Meeting of the Medical *Council on Friday 27th June at 4 p m and the* House Committee Meeting at 4 45 p.m., the same day when the appointments will be made

H A MADGE Secretary

City and County of Bristol

GUARDIANS OF THE POOR

SECOND ASSISTANT MEDICAL OFFICER

The Guardians invite applications from fully qualified medical men for the appointment of Second Assistant Medical Officer at the Southmead Hospital

Salary £200 per annum, with furnished rooms board washing etc

Applications stating age full particulars of qualifications and previous experience, and accompanied by copies of not more than three recent testimonials to be sent to the undersigned not later than Monday 2nd June 1924

St. Peter's Hospital, Bristol THOS S LAMB Clerk to the Guardians

Royal Waterloo Hospital for

CHILDREN AND WOMEN,

Waterloo Road S E 1

HOUSE PHYSICIAN

There will be a vacancy on the 1st July 1924 for a House Physician (male) at the above Hospital The appointment is in the first instance for a period of six months salary at the rate of £100 per annum with board and residence.

Applications with copies of testimonials should be forwarded not later than Monday 26th May to the Secretary at the above address, from whom further particulars can be obtained

Royal Waterloo Hospital for

CHILDREN AND WOMEN,

Waterloo Road, S.E 1

HOUSE SURGEON

There will be a vacancy on the 15th June, 1924, for a House Surgeon (male) at the above Hospital. *The appointment* is in the first instance for a period of six months salary at the rate of £100 per annum with board and residence.

Applications with copies of testimonials should be forwarded not later than Monday 26th May to the Secretary at the above address, from whom further particulars can be obtained

Cheshire County Council

Required the services of a Medical man with experience in Tuberculosis to undertake LOCUM DUTIES for District Tuberculosis Officers during vacation months at a fee of £10 10s. per week, exclusive of travelling

Applications stating experience to be sent to the County Tuberculosis Officer 13 Foregate Street Chester

Lancashire County Council

APPOINTMENT OF ASSISTANT COUNTY MEDICAL OFFICER

The Lancashire County Council invites applications from registered medical practitioners for the post of Assistant County Medical Officer

Applicants must not be over forty years of age and must possess the Diploma of Public Health

The duties of the post include the Medical Inspection of School Children under the Education Acts work under the Maternity and Child Welfare Acts and such other duties as may from time to time be imposed by the County Council.

The person appointed will be required to devote his or her whole time to the service of the County Council. The salary will be £800 a year rising (subject to satisfactory service) by annual increments of £50 to a maximum of £1,000 a year together with first-class railway fares and other reasonable expenses. The person appointed will be required to subscribe to the Council's Superannuation Scheme which will, probably be operative from 1st October next.

Applications must be made upon a form which can be obtained together with further particulars from the County Medical Officer of Health School Medical and Child Welfare Department, County Offices, Preston, to whom the completed forms should be returned not later than 7th June, 1924.

All communications must be endorsed "Assistant County Medical Officer" Any form of canvassing is strictly forbidden and will disqualify

County Offices G HAMMOND ETHERTON
Preston *Clerk of the County Council.*
14th May 1924

Manchester Royal Infirmary

BARNES CONVALESCENT HOSPITAL, Cheadle. (136 beds.)

RESIDENT MEDICAL OFFICER to commence duty 1st June 1924

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment, which is tenable for twelve months, subject to the provision of the Bye laws as to notice

Remuneration is at the rate of £250 per annum, with board and residence.

Applicants must state age and send twelve copies of their applications and testimonials to the undersigned by Friday 30th May 1924

FRANK G HALL,
15th May 1924 General Superintendent and Secretary

Queen Mary's Hospital for

THE EAST END Stratford, E.15.

Telephone Maryland 616 and 2 17
Beds: 160 Out patient Attendances 129,512

HONORARY ASSISTANT PHYSICIAN

There is a vacancy on the Staff of this Hospital for an Honorary Assistant Physician

The Assistant Physician will have some Beds allocated to him in the Hospital and will be required to see Out patients.

Applications accompanied by copies of testimonials, from candidates, who must be duly registered practitioners either Graduates of a University or Fellows or Members of a Royal College of Physicians, should be lodged with the undersigned not later than the 10th day of June 1924.

RAPHAEL JACKSON Major Secretary

Radcliffe Infirmary & County

HOSPITAL, Oxford.

Applications are invited for the following posts which will become vacant on 1st July 1924.

HOUSE PHYSICIAN
HOUSE SURGEON
CASUALTY HOUSE SURGEON who will also have charge of Accident Ward.
RESIDENT ACCOUCHEUR.

Appointments for six months, with salaries at the rate of £120 per annum with board, etc.

Candidates must be male and qualified.

Applications, with four copies of three testimonials, to be sent to the undersigned on or before 9th June

A G E. SANCTUARY Administrator

Royal Chest Hospital,

City Road, E.C.
(Royal Northern Group of Hospitals.)

A vacancy occurs for a PHYSICIAN with charge of Out patients. Candidates must possess the degree of M D or M B obtained by examination at a British University and be Fellows or Members of the Royal College of Physicians of London.

Applications should be sent by the 14th June to the undersigned from whom full particulars of the office and with regard to the submission of copies of testimonials, etc., may be obtained.

GILBERT G PANTER, Secretary
Royal Northern Hospital, Holloway N 7

The Hospital for Sick

CHILDREN
Great Ormond Street London W C 1

The following appointments will shortly be vacant —

HOUSE SURGEON
HOUSE PHYSICIAN } 1st July 1924

Gentlemen are invited to send in their applications, addressed to the Secretary before 12 o'clock, on Monday 2nd June, 1924 with copies of not more than three testimonials given specially for the purpose and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months. Salary £50 laundry allowance £2 10s., and board and residence in the Hospital.

Candidates must be unmarried, and possess a legal qualification to practice.

All candidates must be in attendance on Wednesday 4th June 1924, at 3 p.m. precisely to appear before the Joint Committee, if required.

Forms of application and copies of the rules may be obtained from the Secretary

By order of the Board of Management,
JAMES M'KAY
May 1924 Secretary

County Mental Hospital,

Whittingham, Preston Lancs.

LOCUM TENENS MEDICAL OFFICER required (Gentleman) Prospect of promotion to permanent Staff £8 8s per week together with board furnished apartments attendance, and laundry One who has held House Physician's or House Surgeon's appointment preferred.

Well equipped and well staffed Laboratory for Research Work Candidates must be unmarried and registered under the Medical Act.

Apply stating age and full particulars to the Medical Superintendent

Devonshire Hospital,

Buxton.

BACTERIOLOGIST required for the routine examination of dejecta blood etc. preparation of autogenous vaccines and the general investigation of the bacteriology of rheumatic disease.

Salary £400 rising by annual increments of £50 to £500 Private Practice in bacteriology radiology and similar special work permitted.

Applications with not less than three copies of recent testimonials, to reach the undersigned not later than June 10th.

By Order
TOM B HARRISON
19th May 1924 General Supt & Secretary

Cornwall County Council

TEMPORARY TUBERCULOSIS OFFICER.

Applications are invited from Tuberculosis Officers for a holiday appointment during the month of August. Salary £50 with necessary travelling expenses in the County For particulars apply to the County Medical Officer County Hall Truro.
19th May 1924

Telephone Langham 2728
Telegrams Assistamo, London.

NURSES

MALE OR FEMALE

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL AND FEVER CASES

Nurses reside on the premises and are available for urgent calls, Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES ASSOCIATION).
29 York Street, Baker Street, London W 1
(Mrs.) MILLICENT HICKS *Superintendent.*
W J HICKS *Secretary*

ST. LUKE'S HOSPITAL.

ESTABLISHED 1751

PRIVATE NURSING STAFF DEPARTMENT

TRAINED NURSES for MENTAL and NERVOUS CASES can be had immediately Apply to LADY SUPERINTENDENT 19 Nottingham Place London, W 1 Telephone Mayfair 0330

NORTHERN BRANCH.—Apply LADY SUPERINTENDENT, 5, Clarendon Rd. Leeds. Phone Leeds 2165.

JOHN BELL and CROYDEN,

Estd 1788. INCORPORATING LTD

ARNOLD & SONS,
Estd 1812.

Telephone
LANGHAM 3090 (10 lines).
Telegrams
"INSTRUMENTS, WESDO LONDON"

50, 52 WIGMORE STREET,
LONDON W 1

LOCUM TENENS provided at short notice.

FOR SALE

EAST COAST.—DEATH VACANCY.—High class, non-panel PRACTICE, situated in busy town. Income over £2,500 p.a. Staff appointments. Fees 7/6 upwards. Nice house excellently situated to let or for sale. Practice only suitable to one with good degrees and professional standing.

SCOTLAND.—ARGYLLSHIRE.—Well-established country PRACTICE. Small panel. Income over £800 p.a. Small house. Premium £550 or offer.

MIDLANDS (North).—Industrial PRACTICE. Panel nearly 1,300. Income over £2,000 p.a. Hospital appointment. Premium one and a half years purchase.

LONDON S.E.—Small cash and panel PRACTICE. Income £500. Scope for increase. Small house, rent £50 p.a. Premium £500 to include lease.

LONDON S.W.—Old-established Cash and Panel (nearly 900). Income £1,000 p.a. Small house at exceptionally low rental, long lease. Premium £1,850 to include lease.

LONDON.—DEATH VACANCY.—Suburban W.1. Old-established, good-class, non-panel [illegible] over £2,000 p.a. Good [illegible] Nice house and garage, rent £130 p.a. Premium £2,000

CHESHIRE.—PARTNERSHIP in old-established Lot G.P. Income nearly £4,000 p.a. Panel 1,000. Fees 5/- to £1 3 6. Mils. £3 3 0 to £10 10 0. Nice house with garden rent £56 p.a. Premium for half share 1½ years purchase £2,000 down. Suit married man about [illegible]

MIDDLESEX.—PARTNER required (under preliminary Assistantship) in very lucrative and lucrative Practice over £4,500 p.a. in industrial district. Panel 4[illegible] small fees (4 being 6d.) Rent £52. Premium each half share, two years purchase

GLAMORGAN.—Well-established G P Income over £1,400 p.a. Panel [illegible] Fees 3/6 to 1 p.m.n. Mileage 2/- to 10/- Nice house [illegible] Practice [illegible] people real [illegible] Premium £2,000

Purchasers retain their [illegible] Present particulars of other [illegible] Partnerships for sale free of charge.

Please address all communications to the Manager Mr W H. GRANT Medical Transfer and Insurance Department.

THE MANCHESTER MEDICAL AND SCHOLASTIC ASSOCIATION, LTD.,

88 KING STREET

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ASSISTANTS & LOCUM TENENS SUPPLIED
PRACTICES [illegible]

LEE & MARTIN, LTD,

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71, TEMPLE ROW, BIRMINGHAM.

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Transfers of Practices and Partnerships arranged

Accounts Audited, and Income-tax Returns prepared

"LOCUMS" AND ASSISTANTS SUPPLIED.

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ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

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NO CHARGE IS MADE TO PRINCIPALS FOR THE INTRODUCTION OF LOCUM TENENS OR ASSISTANTS

Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges.

PRACTICES AND PARTNERSHIPS FOR SALE.

1 GLOUCESTERSHIRE — Very sound Country PRACTICE held by Vendor nearly 20 years. Steady average income of £1,450 including a panel list of 1,177 Practice is situated in extremely beautiful country Good freehold house with garden. Price £1,200, but all the money can remain on mortgage and be paid by instalments. Prem £2 000 £1 000 down and balance as arranged

2. SEASIDE RESORT NORTH WEST COAST —Old-established good-class PRACTICE (held 25 years by present incumbent) averaging £1,310 per annum for the past three years No panel and practically no midwifery or night work Visits 7/6 to £1 1s Car not kept Good house (facing sea) Rent £150 Premium 1½ years purchase Vendor selling on account of ill health

3. CHESHIRE —PARTNERSHIP —Pleasant Residential Town A half share in an old-established Practice producing an average income of about £4,000 Panel 1 300 Fees 2/6 to 5/, visits 2/6 to 1 gn medicine extra. Good house with 6 bedrooms etc. rent £64 Prem £3 000, £2 000 down and balance by arrgmt.

4 YORKSHIRE —HOSPITAL TOWN —Well established PRACTICE within reach of a University Average income of over £2 000 including panel of 1 140 Good scope for surgery Fees 3/6 upwards. Visits from 4 6 Small convenient house available Premium £3 000 partly by instalments

5 WEST CENTRAL.—Sound easily worked PRACTICE of about £770 Very good scope as the Vendor has suffered from ill health since the war Fees mostly 10/6 Very convenient flat Rent £58 Premium £1 100

6. LINCOLNSHIRE —Unopposed Country PRACTICE, very easily worked Average income over £1.100 Fees 2/6 to 10/6 Very little midwifery Good detached house in its own grounds with 7 bedrooms etc Rent £80, on lease Premium £1 600

7 BRISTOL.—Very sound middle and working-class PRACTICE held nearly 25 years by present Incumbent who is relinquishing on account of ill health Average cash receipts over £1 200 a year including several small appointments and a panel of over 1 300 Visits 3/6 to 10/6 Midwifery from 3 guineas about 30 cases. Very good house specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance. 5 bedrooms etc. Garden Premium £1 800

8 LANCASHIRE —SMALL TOWN —PARTNERSHIP —A one half share in a well-established Practice averaging for the last three years about £2,000 including 3 000 panel patients Fees 2/6 to 5/ Good scope for increase. Suitable house available price £950 Premium for share £1 600 cash or £1,800 by instalments

9 DERBYSHIRE —HOSPITAL TOWN -Old-established PRACTICE, held 13 years by present Incumbent who is relinquishing on account of ill health Cash receipts for the past 3 years average £3 372 per annum including about £1 500 from panel. Fees 3/6 to £1 1 0 About 50 cases of midwifery a year at 2 to 5 guineas Centrally situated house (3 reception rooms consulting and waiting rooms 4 bedrooms bathroom etc) on lease at £100 a year Premium £3 000 Good scope for surgery, and Vendor is on the Staff of the Hospital

10 SOUTH WEST OF ENGLAND -COUNTY TOWN -A ONE THIRD SHARE, producing £800 is offered in a good-class non panel and non-dispensing Practice with a considerable amount of surgical work There is a good Hospital in the town and the incoming partner (who must hold the F R C S) will eventually be elected to the Staff Premium £1 600

11 LONDON NORTH —Old-established PRACTICE producing an income of £1 400 a year including appointments worth £320 Panel of 350 but this can be largely increased if desired Visits and medicine 3/6 to 7/6 Midwifery 2 to 5 gns. Practice is very easily worked with no conveyance. Nice house, in good decorative repair with fair garden Price £1 250 a good portion of which could be obtained on mortgage Premium £2,000

12. LANCASHIRE —SMALL TOWN (within easy reach of Manchester) with very pretty country around Average income £1,180 not including appointments of £280 Panel of 800 Very easily and inexpensively worked Fees from 2 6 upwards. Very good house with 6 bedrooms garden tennis lawn, etc Schools within easy reach Premium for house and practice £4 000 a considerable amount of which could be left on mortgage.

13 PARTNERSHIP —LONDON (WEST END) —A share producing nearly £1,200 per annum can be secured by a suitable well qualified man in a high-class old-established general Consulting Practice Held over 20 years Consultation fees 2 guineas upwards, but plenty can be had at 1 guinea. Very nice Consulting Rooms Premium for the share £2 500 Scope

14 PARTNERSHIP —LANCS LARGE TOWN —The third share of an old-established lucrative and money making Practice worth for the last financial year £3 722 can be acquired by a young unmarried man for the exceptionally low premium of £1,325 Panel list over 1 800 and patients operative class Visits 2/ to 5/ Midwifery 2 to 3 guineas. Ingoing partner could reside with Vendor or unfurnished rooms are available Golf to be had

15 LONDON WEST END —PARTNERSHIP —A quarter share (to commence with), and up to one-third in 3 years and one-half in 4 or 5 years with ultimate succession if desired is for disposal in a first class general Practice Income for the immediate past year £3 020 Fees mostly 1 guinea upwards and a few at 10 6 Purchaser should be a Graduate or hold some higher qualification Premium for the quarter share £1 500

16 LONDON EAST —Well-established middle and working-class PRACTICE Income over £1 150 Panel of 1 °00 Surgery fees 5/ midwifery Well situated house £1,750

17 " PARTNERSHIP Introduction will be given to an old established middle-class and panel Practice (1 600 patients on list) worth last year £2 100 Situated in a large town (population nearly 100 000) close to seaside resort Visits 2/ to 5/ Midwifery 2 to 3 guineas about 120 cases yearly Car not required Good house with garage available at end of introduction *Premium 1½ years purchase*

18 NEW ZEALAND (NORTH ISLAND) —Unopposed and increasing PRACTICE in a very beautiful district on main line about 36 miles from a large city, and worth nearly £1 300 a year including easily worked appointment at £100 Visits into Township 10/ mileage 6/ midwifery 5 gns Good and up to-date house (built by Vendor's predecessor) containing surgery 2 reception rooms 3 bedrooms and sleeping porch bathroom etc with an acre of ground tennis court etc. Rent £120 on lease Climate perfect, sport of all kinds, telephone churches, and shops of every description Premium £1,000

19 CANADIAN COAST TOWN —Old-established middle class PRACTICE held by Vendor 30 years Income for the last 12 months £1,650 Average for the last ten years £1 350 No appointments Nearest opposition 10 miles. Fees, consultations 1 dollar medicine 1 dollar extra. Visits 2 to 8 dollars Not much midwifery fees 15 to 35 dollars House is Vendor's own property and contains 2 reception rooms professional rooms 5 bedrooms bathroom etc Central heating Electric light Small garden Trout and salmon fishing Premium for house and practice £3,500 payable £2 000 down

20 SOUTH SEA ISLANDS —In a Capital City a well-established lucrative and increasing PRACTICE, averaging over £1 200 per annum. Good climate malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards. Midwifery from 5 guineas Dispensing optional. Practice can be worked on foot Good bungalow residence in excellent position with ¼ of an acre of garden Electric light, etc Rent £10 a month on lease Premium £800 Income Tax 1/ in the pound over £500

21 NEW SOUTH WALES —Old-established unopposed non-dispensing PRACTICE, situated in a small town (containing Public School, Post Office Stores Shops and Churches of all denominations) in a very pretty district Cash receipts for the past 3 years average £1 200 per annum including small Lodge worth £80 Visits 7/6 to 10/6 (mileage 7/6 to 10/6 per mile) Midwifery 5 guineas Attractive Bungalow Residence, with wide veranda round 3 sides and containing consulting room surgery (separate entrance) laboratory reception room (19 × 20ft) 3 very large bedrooms maids room bathroom etc Garden Acetylene gas plant Rent £104 on lease Premium £1,000 half down and balance in 1 or 2 years

WANTED TO PURCHASE

1 LONDON SUBURB —Prof N or N W Good middle and working class PRACTICE with substantial panel. Income about £1,500 Capital £2 000

2 HOME COUNTIES or outlying London Suburb PRACTICE of £1 000 to £1 200 Small panel Medium sized house Capital £1 500

3. SOUTH OF ENGLAND —Non panel non-dispensing PRACTICE, offering good scope for surgery Sufficient capital available

4 SURREY SUSSEX, HANTS &c —Small country PRACTICE pref. unopposed Good house with large garden essential

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Lancashire —Country Town Old-established PRACTICE. Average receipts £1,300 p.a. Panel 1 000 Appts. about £40 Fees 2 6 to 21/ Midwifery discouraged £2 2s. to £3l. Good house with 3 reception 5 bedrooms bathrooms surgery e.c. Garage and garden. Reasonable rent and premium Easy terms. Apply No 7543

London, W — About £1,250 p.a. largely cash. Panel 1 00 to 1 200 No appointments very little mi lwifery (discouraged) Visiting fees 5/ upward 2 6 up Good house 2 recepts 4 bedrooms surgery an l waiting room with separate entrance Rent £120 on lease. Reasonable premium —Apply No 7542.

Cheshire —Nearly £4,000 a year Old-established Practice. HALF SHARE for Sale at 1½ years purchase Panel about 1 400 Appointments £45 Good fees Good house and garden to rent.—Apply No 7536.

South County —Over £1,000 p.a. Panel 640 other appointments £120 Practically unopposed. Excellent house, electric light etc. Good garden. All sport.—Apply No 7535.

Birmingham Suburb — About £1,100 a year Old established PRACTICE Panel 750 Appointment £40 Very little midwifery Large house and garden. Prem £1,600 including drugs etc.—Apply No. 7534.

London, W — Practice £700 a year increasing Visits 3/6 to 7/6. Small panel. No midwifery cope Good house, part let. Net rent very low Suitable for a lady —Apply No. 7525.

Norfolk Coast —Nucleus for disposal in favourite Seaside Resort. Visiting fees 3/6 to 5/- Good house, 3 reception, 4 bedrooms, consulting room and dispensary lawn etc. On lease, rent £70 Small panel.—Apply No 7524.

Lancashire —£5,000 a year Large Manufacturing Town. Panel 3 000 TWO PARTNERS wanted to buy two-thirds share at 1½ years purchase.—Apply No 7502.

Near Birmingham —£2,400 p.a. Old-established Opposition light. Good fees Panel 1,500 Appointments worth £500 (about) Good family house with garden tennis, etc. For sale with PRACTICE.—Apply No. 7501.

Riverside Suburb —Nucleus about £500 a year Small panel Fees 5/ to 10/ Increasing district. Good house and garden, to rent. Apply No 7474.

Open Air Sanatorium, £6,000 a year Old-established. Splendid premises on lease. Every investigation. Net profits over £1,500 Premium very moderate. Personally known.—Apply No 7426.

Midlands —£800 a year, Industrial Town. Panel 8 0 easily worked no Car House with large garden lawn and orchard Sell or Let. Premium for practice £1,000 —Apply No. 7483.

Lancashire — Old-established PRACTICE. Nearly £1,200 plus £280 appointments Panel over 800 Good detached house with 2 acres ground tennis, etc. Apply No 7449.

Cheshire — £3,500 a year, PARTNER wanted. Good Suburb of large Town with Hospital. Good fees. Panel £1,000 a year Good house available. Half share for sale.—Apply No 7444.

Near Manchester — Nearly £2,000 p.a. Panel worth about £600 p.a. Moderate house with separate surgery to rent Premium 1½ years purchase easy terms. Good schools near —Apply No 7366.

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FOR SALE.

1. NEWFOUNDLAND — Unopposed Town and Country PRACTICE Receipts £1 650 a year could be much more. Good family residence. Practice and house to be sold on easy terms. Vendor in England.
2. MIDLAND TOWN — DEATH VACANCY — General PRACTICE yielding £3,000 a year. Panel 2 400 Good family residence with surgery (separate entrance) and garage
3. NORTH WALES —PARTNER wanted for middle and working-class Practice. Country district. Total receipts £3 300 p.a. mainly from panel and appointments Good house and garden. Rent £40 Opposition slight Premium for a third share £1 700
4. CHESHIRE.—Half share of middle-class and panel PRACTICE. Receipts £4,000 a year Panel 1 400 Good house available. Rent £54. Premium 1½ years purchase
5. SOUTH WALES —Coast town General PRACTICE yielding £1,700 a year Small but convenient house. Rent £50 Premium £1,500
6. SOUTHERN COUNTY —PARTNER wanted for town and country Practice. Receipts about £2,000 p.a. Panel and appointments about £850 House or rooms to be selected. Premium for half or third share 2 years purchase
7. YORKS —Large Town. General PRACTICE yielding £900 a year Non panel. Nine-room house electric light and heating. Will be let or sold. Premium £1,300 payable by arrangement
8. LONDON W —General and Panel PRACTICE long established. Receipts £1,600 a year Panel 1,300. Fees good. Lock up Surgery rent covered by sub-letting Good resident al flat near, available if desired. Prem. £2,300
9. WEST LONDON —General and Panel PRACTICE yielding £1,000 a year Panel 1,000 Plenty of scope. House on lease. Premium £1,800

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1. LONDON —PARTNERSHIP Third or Half Share of panel and cash Practice in S C district Receipts about £1,700 with great scope Expenses light. Suit bachelor No premium. Succession to whole in 3 years
2. PARTNERSHIP in good-class Country Practice within an hour of Town, and return rate £3,000 a year with excellent scope to an active Third Partner Quarter share now a third Short preliminary Assistantship
3. CONFINES OF CITY —General PRACTICE of £1 250 a year including £550 from panel small panel. No midwifery Present convenient residence on long lease at £125. Premium £1,500
4. DEATH VACANCY — Good class Panel PRACTICE of over £2,500 a year Coast Town Staff Appointments Net on lease at moderate rental LET Full details given
5. WOMAN DOCTOR'S PRACTICE (N W) for Sale through failing health Established 3 years. Income already £700 Fees 2 6 and 7/6. Capital scope, moderate rent. Price £800
6. SEAPORT TOWN (N W Coast) Average income £1,500 Panel and appts £600 Good scope for active man Vendor's health very indifferent Well situated residence and garden on lease. Price £2,300

BIRMINGHAM. —General PRACTICE over £800 a year with panel and great scope. Vendor has held it same 40 years and has refused all midwifery and night work. Commodious house and garden on lease at low rental.

8. GOOD CLASS PRACTICE in Hospital Town within 2½ hours West. Receipts over £2,200 a year Visits 5 to 2/- med. extra. Capital family residence and grounds can be leased. —Effective Partnership introd Price £3,000

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Central London —Lock-up SURGERY doing about £600 a year scope and rapid increase Part is let off for much more than the rent

London, S E —Middle and working-class PRACTICE of £1,300 Panel 910 House with business garage and large cash can be bought for £1,200

Surrey —Partnership Third Share of £1,900 in beautiful residential district Half share later

Liverpool.—Practice of £1 400 in residential suburb Appointments £90 Panel 1,110 The Practice is non-dispensing Rent £50

North London.—Middle and working-class PRACTICE of £1 600 Appointments £420 Panel 1 100 Midwifery has been done and there is great scope Rent £65.

Birmingham.— Middle and working-class PRACTICE of £515. Panel over 400 No midwifery Great scope. Double-fronted house with large garden Low rent

North Wales —Practice in beautiful seaside place. Receipts £550 Small panel. Cottage hospital. Good house and garden, rent £50 on long lease. Garage. Premium £650

New Zealand — Unopposed PRACTICE of £1,800 Beautiful district in North Island Convenient House. Good roads Scope for surgery Good hair duction. Premium £1,500

Death Vacancy —Partnership Third share of £4,500 Middle and working class Practice, 10 miles out. Appointments £800 Panel 4,000 Rent £75 including rates and taxes.

West End —Partnership Share worth over £2,000 in first-class Practice Partner should be English and used to good class society Very good fees. Reasonable premium.

East Coast —Practice of £1,150 in favourite seaside place. Panel Appointments £40 Cottage Hospital beds £60 Premium £1,400

South Coast — Practice of £1,300 in favourite resort Small panel Appointment £40 Rent £60 Prem £1,600.

Cheshire —Partnership Half share of £3,900 in retail business Panel 1 4 0 Compact house rent £65. Purchase 1½ years purchase £2,000

Surrey —Rapidly increasing PRACTICE of £540 in residential suburb Practically no panel Rent £60

Near Manchester — Old-established PRACTICE of £1,300 Panel. Excellent house can be had

West London.—Practice of £1,250 including panel Part purchase Half share can be had Rent £80

S W County —Partnership Half share of £2,000 a year Panel and appointments £850 Good House

Within 80 miles — Sale of Panel PRACTICE £1,200 Panel and appts £500 Good house and garage £60 Price £2,000

Home County —Partnership Half share of £2,000 in beautiful country Small panel Appointments Good House and garage

Home County —Practice of £3,500 and about 6 acres of agricultural land Panel and appointments about £1,500 House rent £53.

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WEST MIDLANDS—(1) PARTNERSHIP in old-established Country Town Practice, over £3 600 p a Panel 2 183 Rent £60 Partner should be age l 25 to 40 with some Surgical experience Well equipped Cottage Hospital Premium one-third share two years purchase.

WEST END OF LONDON—(2) PARTNERSHIP in high-class non dispensing Practice Fees chiefly £1 1s. Not much midwifery Premium one-third share (about £2,000 p.a. *net*) £4,000 Ample scope for increase.

MIDLANDS—(3) PARTNERSHIP in very old-established Practice over £4 300 in good Country Town Panel 2 000 House contains 5 bedrooms, &c Price £1,750 Prem one-third share two yrs. purchase

YORKSHIRE (EAST RIDING)—(4) PARTNERSHIP in well established Practice, nearly £2,500 p.a in pleasant Country Town. Panel about 1 000 Good house (5 or 6 bedrooms) in acre of ground. Rent £40 Premium one-half share two years purchase. Partner aged about 40 preferably with experience in Major Surgery Fine Hospital in Town.

KENT—(5) PARTNERSHIP in well-established good better middle-class Practice over £2 000 in delightful Residential District Panel 800 Very good society Golf Premium one-third (or one-half) share two years purchase. Partner must be gentleman, Public School or University man for preference.

NOTTINGHAMSHIRE — (6) PRACTICE averaging £1 200 p a in Residential Town. Panel 700 Corner house (3 bedrooms, &c) Rent £60 Premium one and a half years purchase

KENT—(7) PARTNERSHIP (with succession) in very old established, compact PRACTICE £2,200 in clean Industrial Town. Panel 1 447 Excellent house (3 bedrooms and attic), with half acre garden. Rent £60 Premium two-fifths share one and a half years purchase. Remaining shares by easy instalments

SPECIAL OPHTHALMIC PRACTICE—(8) About £1 400 in high-class inland Health Resort. Operative and acute cases refused of late years Considerable scope for increase Premium £2,000

FAR EAST—(9) Excellent opportunity for well-qualified man to acquire a PRACTICE in one of the principal Cities Varsity man (20-40) accustomed to good-class practice preferred Prem required £800

EAST COAST—(10) Popular Resort Old-established middle and working-class PRACTICE of £1,184 Panel 847 Rent of house (5 bedrooms) £60 Premium £1 400

DEATH VACANCY SOUTH-WEST OF ENGLAND —(11) Lucrative PRACTICE over £3 100 p a. Panel 2 385 No resident opponent. Well situated house (5 bedrooms) with large garden, to be Let. Mild climate Premium £3 000 part by instalments

SOUTH OF ENGLAND—(12) PARTNERSHIP in high-class Practice about £2,500 p a., in beautifully situated Watering Place No panel or midwifery Patients include many County families Share up to one-half at two years' purchase.

SOUTH COAST—(13) PARTNERSHIP (with view to succession) in well established non-dispensing Practice over £3 000 p a. in Health Resort. No panel. Visits mainly 5 for 21/ Not much midwifery One-third share at first at two years purchase.

LONDON, S W—(14) PARTNER required (after short preliminary assistantship) in middle and working class Practice well over £2,000 p.a in well populated Suburb Panel 1 450 Rent of house £50 One third share (about £700) would be sold for £1,400

SOUTH COAST—(15) PARTNERSHIP in Panel and Private Practice over £4 000 p.a. in popular Seaside Resort Panel 1 150 Premium one-third share two years purchase. Partner must be energetic and not over 35

SOUTH-WEST OF ENGLAND—(16) Very old-established middle and better-class PRACTICE over £4,200 in important Seaport Town No Panel or Appointments Commodious house in excellent position. Rent £100 Premium one and a half years purchase

DEATH VACANCY—(17) East Coast Old established PRACTICE about £2,000 in important Seaport Town No panel Comfortable and well situated house

KENT—(18) Old-established unopposed Country PRACTICE over £900 p.a. in beautiful district. Panel under 100 Attractive residence (5 bedrooms) with gardens, orchard &c. to be sold. Considerable scope Premium one and a half years purchase

EASTERN COUNTIES—(19) Old-established PRACTICE £1,855 p.a. in pleasant Market Town Panel 1 100 No midwifery Excellent detached house (7-8 bedrooms) Very good garden Cottage Hospital Premium one and half years purchase.

DEATH VACANCY—(20) South Wales Unopposed PRACTICE about £1,700 in small Seaside Town. Panel 1 430 Good house. Rent £60 on lease.

SOUTH COAST—(21) Good class PRACTICE of £1,350 per annum Excellent house Premium £1 250

SOUTH MIDLANDS—(22) Well-established unopposed PRACTICE averaging £1 181 per annum in good agricultural district. Panel 500 Detached house (5 bedrooms) in grounds of half acre. Rent £65 on lease Premium £1,700

LONDON, S E—(23) PARTNERSHIP in old-established middle and working-class Practice about £3,300 in outlying Suburban Dist Very convenient corner house (3 bdrms.) Prem one third share £1,500

SEASIDE TOWN AND HEALTH RESORT—(24) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old-established practice. Share worth £1,000 p.a., at two years purchase

WEST OF ENGLAND—(25) Well established good class panel and private PRACTICE over £1,080 per annum in favourite Town. Panel 930, rapidly increasing Good house Premium £1 650

INLAND HEALTH RESORT—(26) Well established PRACTICE in first-rate Residential Town Receipts, 1923 £1,818. Panel 2 000 House contains 7 bedrooms, &c. Premium £2,400

YORKSHIRE (W RIDING)—(27) Old-established PRACTICE over £1 700 in clean Manufacturing Town Panel 1 1 5. House contains 3 bed and 2 dressing rooms. Garden half an acre Pretty surrounding country Prem. £2 000 to include book debts tenant's fittings &c.

EAST ANGLIA—(28) Well-established PRACTICE in important Town and Agricultural centre near the Coast. Receipts average £2 675 per annum Panel 2 100 Excellent house (6 bed and 2 dressing rooms) Premium one and a half years purchase

LONDON, W—(29) Within a short distance of the Marble Arch Old established non dispensing PRACTICE of the better middle-class type. Receipts £1,200 to £1,500 p.a. Small select panel 40. Large house to let Premium one and a half years' purchase.

LONDON, N—(30) PARTNERSHIP in Cash and Panel Practice of £1 800 in Residential District. Panel 2 450 House contains 5 bedrooms &c. One-third share at first. Premium £1,200 Incoming Partner must be married

ESSEX.—(31) NUCLEUS of Practice in Industrial Village Panel and Midwifery refused. Detached house (4 bedrooms and 2 attics) with garden. Premium, Practice and House £900 Plenty of scope.

SOUTH OF ENGLAND—(32) Well-established Anæsthetic and General PRACTICE about £1 000 in pleasant Seaside Town. Large detached house (7 bedrooms &c.) with acre garden (or smaller house) to be bought. Purchaser must be experienced anæsthetist. Prem. £1 600

SPECIAL OPHTHALMIC PRACTICE—(33) About £600 in Seaside Town, South of England Would suit elderly practitioner retiring and wanting quiet practice with small expenses in healthy place Premium £700

SOUTH OF ENGLAND—(34) PARTNER required in very sound old-established Practice in Seaport Town Panel under 3,000 Share worth £700 to £800 at two years purchase. Partner must be keen and energetic and not much over 30.

COUNTY DURHAM—(35) Well established unopposed Country PRACTICE near important Town. Receipts, 1923 £1,200 Panel about 700 House to rent. Premium 1 200

MIDDLESEX—(36) PARTNER required in very old-established and lucrative practice over £4,500 per annum in industrial district Panel 4 000 Small house (4 bedrooms) Rent £52. Premium one-third share two years purchase.

SOUTH OF ENGLAND—(37) PARTNERSHIP in an old-established PRACTICE of £2,000 in beautifully situated Country Town. Panel 1 100 Very good educational advantages Cottage Hospital One-third or one-half share at 2 years purchase

MANCHESTER—(38) Old-established and increasing middle-class PRACTICE over £1,400 per annum, in Suburb with Hospital and opportunities for Surgery Small panel Good house (8 bd rooms) in excellent position. Rent £90 Premium one and a half years purchase.

SCOTLAND NORTHERN HIGHLANDS — (39) PRACTICE averaging over £1,600 per annum in a Town. No panel House (5 bedrooms &c.) in best residential part. Ample scope for midwifery and panel Premium £1,200

SHROPSHIRE—(40) PARTNERSHIP in Country Practice, nearly £1 350 per annum. Detached house (6 bedrooms) with nice garden, Rent £65. Cottage Hospital. Premium one half share £900

SOUTH OF ENGLAND—(41) PARTNERSHIP in a good class non panel practice of £2 400 per annum in beautifully situated Country Town near the coast. One-third share for disposal at two years purchase Partner should be Oxford or Cambridge graduate, no over 35 and preferably F R C S England Preliminary Assistantship Salary £300 p a.

EAST COAST—(42) Old-established good class PRACTICE £1 700 per annum in pleasant Seaside Town and favourite resort. No panel Nice modern double fronted house (6 bedrooms) Rent £75 on lease Premium one and a half years purchase

MIDLAND TOWN—(43) Old-established PRACTICE about £1,100 per annum in Residential Suburb Panel 700 Good house and large garden Premium £1 500

NORTH-WEST COAST—(44) Sound middle class PRACTICE about £2 400 Conveniently situated house to rent. Premium £2 900, part by instalments.

NORTH OF ENGLAND—(45) Old-established PRACTICE of £1 460 per annum in Country District. Panel 810 Very good house (5 bedrooms) in charming grounds, two acres Premium practice, house and grounds, £4 000 Mortgage could be had on house.

ASSISTANTS AND LOCUM TENENS SUPPLIED. **RESIDENT PATIENTS INTRODUCED**

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		CARBOHYDRATES	6.59
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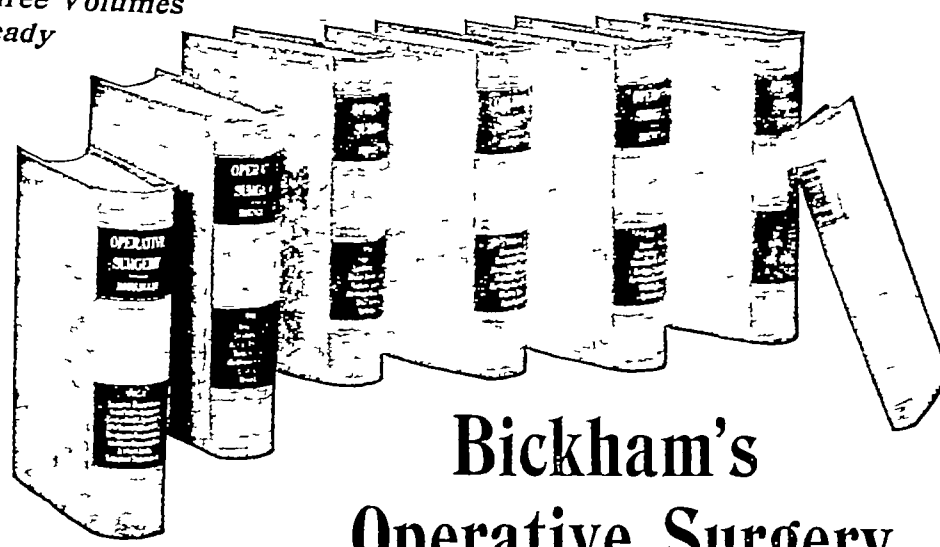
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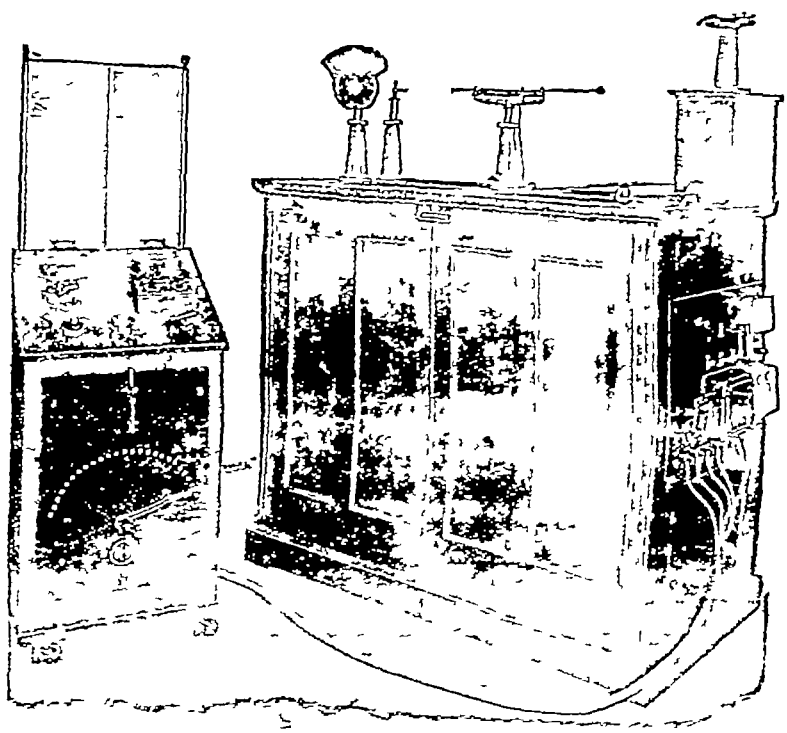
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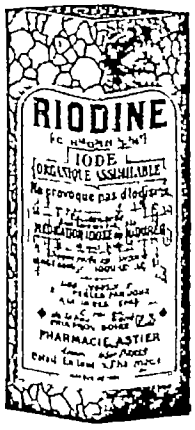
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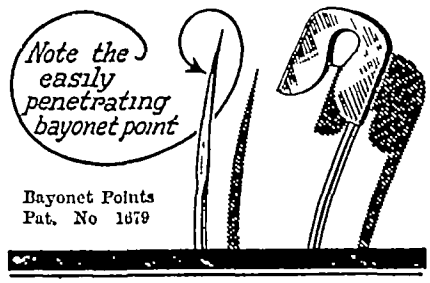
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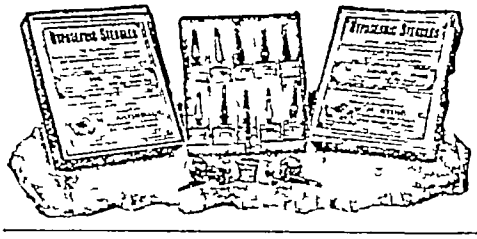
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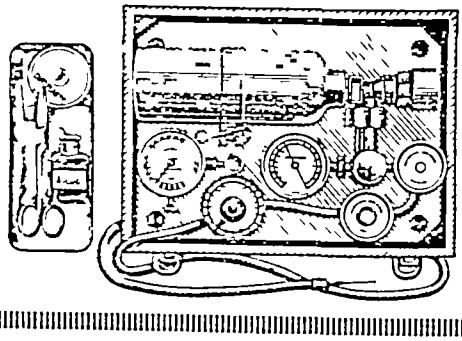
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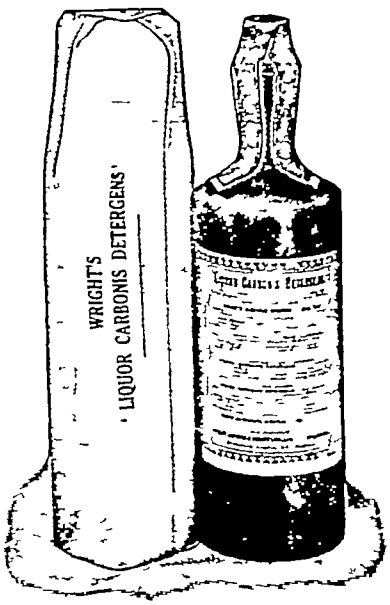
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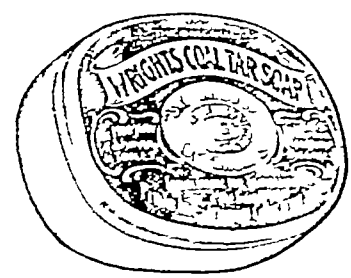
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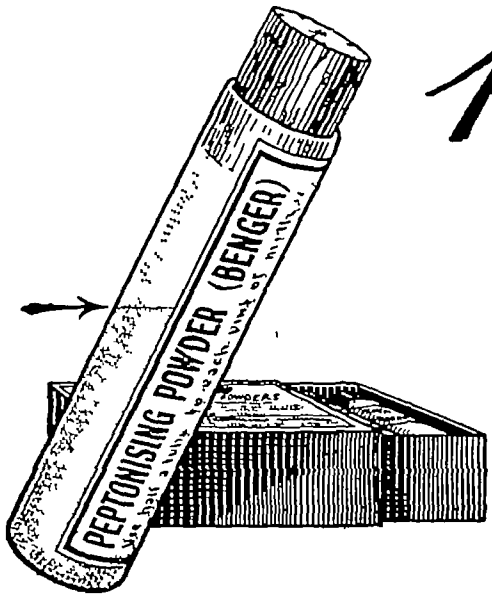
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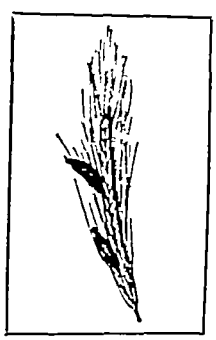
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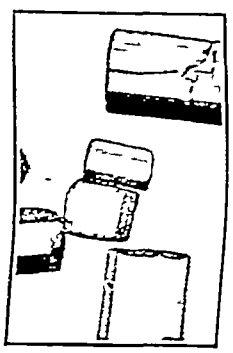
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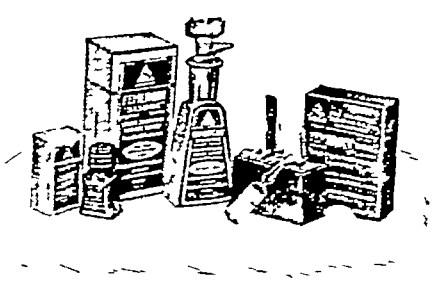
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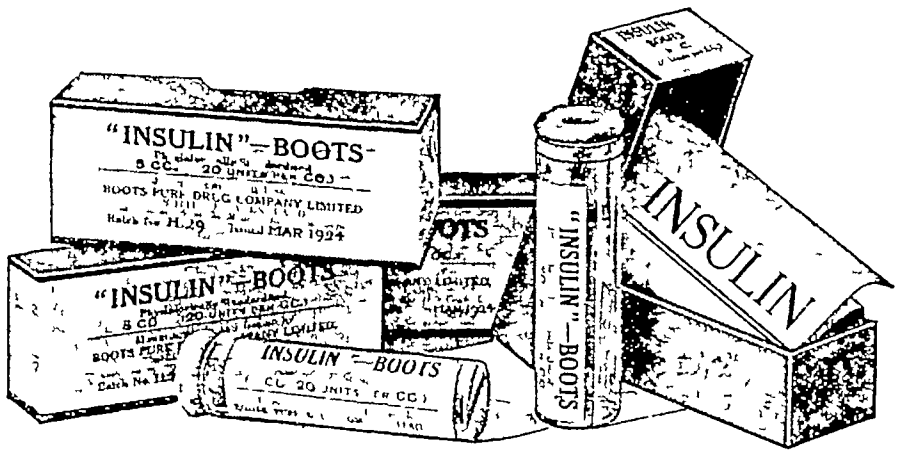
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Many such letters, pointing out the immense value of Dimol in the treatment of putrefactive and all other bacterial invasions of the intestinal tract, have brought the proprietors of Dimol to a realization of their indebtedness to Hospitals for helping as they have done to establish its general use in medical practice

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Observations ON

THE PRACTICAL VALUE OF THE SLIT-LAMP *

BY

T HARRISON BUTLER, M A , M.D Oxon ,

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(With Special Plate)

IN the nineteenth century the discovery by Babbage of the ophthalmoscope ushered in the era of scientific ophthalmology Alvar Gullstrand has performed a similar service for the twentieth century, his slit-lamp has opened, not perhaps an era, but most certainly an epoch in the surgery of the eye

It is probable that with the aid of our present methods alone progress will be increasingly slow, that we have learned almost as much as we can about the fundus and the media with the ophthalmoscope and the simple lens These instruments are now supplemented by the slit-lamp and the eye microscope, which attack problems afresh, not only by furnishing a vastly increased magnification and introducing stereoscopic binocular vision, but by allowing us to illuminate structures from behind, and, above all, by enabling us to see the anterior half of the eye in *optical section*

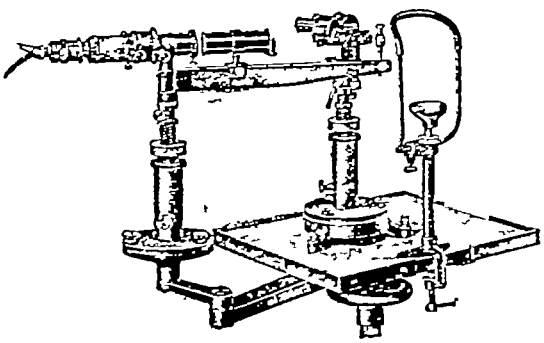


FIG 1.—The corneal microscope and Gullstrand's slit lamp.

The advantages conferred by the slit-lamp are not only those inherent in itself, but also greater efficiency in the use of the older methods This is due to two factors we can to some extent apply slit-lamp technique to the ordinary oblique illumination with simple lens and condensing lens, and secondly, when we have become accustomed to the aspect of the cornea, the anterior chamber, the lens, and the vitreous, under the high magnification of the eye microscope and the focal illumination of the slit-lamp beam, we are better able to interpret the same subject seen with the smaller magnification of the loup which in general magnifies about six times

If, instead of using for oblique illumination the ordinary frosted bulb, we employ a 40-candle-power gas-filled half watt lamp or even a more powerful one at a considerable distance, we can apply the principle of focal illumination We can make a ray of light pass into the eye and note that the cornea is illuminated, the anterior chamber dark and the lens bright, and in the case of lens sclerosis we can even make out that the lens shows dissociation areas—that is is laminated If we make the patient fix his gaze between the light and our lens we can see the lens shagreen and can make out the sutures of the surface of the lens cortex just below the capsule If we move the shaft of light from side to side and note when any given opacity lights up we can locate its position along the shaft of light, and so form a fairly accurate estimation of its exact place in the lens We can direct our pencil of light upon the iris and see the cornea by reflected light by re-illumination, and by throwing the beam into the lens we examine the iris in lens light and make evident atrophic areas in the pigment layer of the iris, especially in the region of the pupil margin, the *collerette* of the French

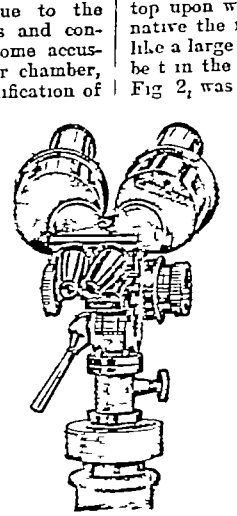


FIG 2.—Microscope head with Dr Ulbrich's graduated drum attached.

In a case of interstitial keratitis I have been able to see that the blood column is segmented in the smaller vessels, and that the position of the segments slowly moves whereas in a larger vein I could perceive the actual blood stream, the contents of the vessel becoming moniliform and streaming along rapidly In fact, the slit-lamp picture is reproduced To see the blood stream with a simple lens it is essential to secure full dark adaptation and so to direct a strong beam that the light is reflected back from the iris and traverses the vessel Finally, using a point of light lamp I have been able to see the actual circulation of the blood in the limbal vessels of a normal eye In this case the beam was accurately focused upon the sclera in such wise that it was reflected back through the conjunctival vessels Under suitable conditions it is not difficult to see the vitreous fibrils with the simple lens

I mention these facts to illustrate my point that familiarity with the slit-lamp increases our efficiency with the older instruments

The slit-lamp and corneal microscope are shown in illustrations 1 and 2 The light source is a nitra-lamp with a thick helical filament The light is projected by a lens system through a slit which is capable of adjustment to furnish a wide or narrow beam of light The image of the filament is projected upon an illuminating lens which moves along a radial arm by means of a rack and pinion motion This allows the beam to be brought to an exact focus The lamp can be raised or lowered by a spring-balanced screw, and the radial arm moves freely from side to side The whole is attached to a table by a double arm designed by Henker The table has a polished glass top upon which the microscope slides freely As an alternative the microscope can be mounted upon a double slide like a large mechanical stage Probably the glass top is the best in the hands of an expert The microscope shown in Fig 2, was invented by Czapski and as now made by Zeiss is an adaptation of their well known pri[illegible] dissecting microscope It is capable of magnifications ranging from 9 to 168 A bite and forehead rest is attached to the table Both table chin rest and microscope have a similar screw adjustment to the slit lamp which allows the patient to be brought comfortably and the surgeon to direct the beam of light to any part of the eye at will I essential to have the correct instrument I fear that some have been persuaded by the makers to buy the combined slit lamp and simplified Gullstrand ophthalmoscope L most combination [illegible] this are [illegible] inferior to the real slit lamp

The illuminating [illegible] ordinary clinical work both small [illegible] focal length of 10 cm T[illegible] lens is no achromat and [illegible] the same degree [illegible] or other structures [illegible] better [illegible]

I find that I practically [illegible] objective 2 and ocular 2 The [illegible] times I do not find the magnification [illegible] and I rarely use the objective 3 which with [illegible] magnifies 35 times With a magnification of 23 [illegible] apparatus costs £65, and this specification is enough to

[2.09]

* A paper read to the Ophthalmological Section of the Royal Society of Medicine January 1924

begin with As the observer becomes more proficient higher powers and adjuncts can be added from time to time The resistance should be adjusted to furnish 8 volts, but the mitra-lamp will stand more for a time, and can be pushed when more light is needed to examine the vitreous

The examination should be made in complete darkness, and the more difficult subjects will be appreciated only when the eye becomes dark-adapted It is not desirable to take the patient to the dark-room, look at his eye with the slit-lamp, and then return to work which demands light adaptation It is better to examine the patients in batches if the best observations are to be made Dark adaptation is especially necessary in the search for cellular elements in the aqueous It is important that the microscope be accurately adjusted for the observer's intrapupillary distance The slightest error here will disturb the stereoscopic effect and produce eyestrain Very often the merest touch will produce the desired effect There is little or no discomfort involved in the examination, the majority of patients will tolerate prolonged sittings even when suffering from inflammatory states, but some have a definite time limit in this respect If we are working with the narrow slit the patient is almost unconscious of the light Quite young children make excellent subjects The pupil does not contract much under the slit-lamp, and I make most of my observations without any mydriatic A complete examination of the lens and vitreous calls for a dilated pupil, but in general we can learn all that we require with a normal pupil

The slit-lamp and eye microscope are not easy to use, in fact, the instrument is as difficult as the opthalmoscope, if not more so We have all of us had careful and methodical instruction in the use of the ophthalmoscope, typical cases have been selected for us, and there are several excellent atlases dealing with the subject It is even more necessary to receive definite instruction in the use of the slit-lamp with demonstration of typical conditions Practice should begin upon pigs' eyes and continue upon the human eye If, however, it is not possible to attend a suitable course, such as Professor Vogt's at Zurich, much may be done by reading up the subject, but unfortunately all the important literature is in German There is a little in French, and a few articles will be found in American journals Localization is ably dealt with by Vogt in a paper translated in the *British Journal of Ophthalmology* for March, 1924 Vogt's *Atlas of Slit-Lamp Microscopy* has been translated into English Koeppe's valuable work on "*The Microscopy of the Living Eye*" has not been translated This is a book which is absolutely necessary if we are interested in the microscopical side of the study, as it deals largely with appearances seen under magnifications of 60 and over Gullstrand and Kleefeld have published an interesting series of articles in the *Annales d'Oculistique* for 1919 and 1920 They are well illustrated, but are somewhat out of date, and as regards the lens wholly so There are many valuable and magnificently illustrated articles by Vogt in the *Archives of Ophthalmology* for the past eight years, but again all in German, and in somewhat involved language

I wish to emphasize the fact that the slit-lamp in no wise supersedes our older technique It supplements and amplifies it When we have done all that we can with ophthalmoscope and simple lens we can carry our investigation much further, with the result that much that was problematical becomes clear we can pass from what was often at best good guessing to certainty I propose now to show that this is in fact the case and to indicate how the slit lamp has helped me in my routine clinical work

When the broad beam of the slit-lamp is focused upon the eye it first illuminates the cornea, producing a prism of light which will be described in detail later in this paper The anterior chamber remains dark under normal conditions The lens becomes illuminated, and behind it the vitreous fibrils can be brought into focus When the slit is narrowed down the prism becomes a mere illuminated slice of the tissue under focus we have in effect an optical section The appearances presented are seen in Figs 3 and 4 The first shows the effect with the broad ribbon of light, the second with a narrow beam It will be noted that in Fig 2 there are two prisms, the corneal and the lental, the lental is not so sharp as the corneal

We can now proceed to examine the structures of the eye in detail

Cornea

When the broad beam is focused upon the cornea we have, as already stated, a belt of illuminated tissue which may be regarded as a curved prism Fig 5 shows this prism magnified 35 times It will be noted that it has two easily visible sides and three edges In the young and normal cornea the fourth edge is difficult to see, but careful focusing will reveal it It is faintly shown in the drawing The light must be imagined to come from the left side The left-hand surface is the direct reflection from the corneal surface, we can call it the epithelial surface If a drop of cocaine be instilled, followed by another of fluorescein, the epithelial surface will be easily differentiated, for the fluid upon it will be stained green The right-hand surface seen in the drawing is the section of the cornea The prism has two more sides—the endothelial, and the lateral section which is not in view It is quite obvious that observation of the section side will enable us to judge with reasonable accuracy the position of an opacity or structure in the cornea We can say that it is on the epithelial surface, within the substance of the cornea, or on the endothelial surface We can move our prism from side to side and trace out the configuration and position of the subject in question The exact method of accurate localization is described by Vogt in the paper already mentioned

If we now narrow down our beam of light we can almost abolish the epithelial and endothelial surfaces and work with a pure section This section gives a clear indication of any irregularity in the corneal surface or marked change in its curvature Fig 6 shows the effect produced by a corneal ulcer, Fig 7 the heaping up of tissue which has followed the healing of an ulcer Fig 8 is the section of a conical cornea, the thinning of the apex is well demonstrated The white lines like threads of cotton crossing the prism in Fig 5 are the corneal nerves These never penetrate into the deeper lamellae

If, when examining a case, we make the patient fix his gaze half-way between the axes of the lamp and microscope, we can examine structures close to the reflected light, in specular or mirror light By this method we are able to see the endothelial cells of the cornea They form a hexagonal mosaic of a yellowish tint They are shown in Fig 9

I have found the slit-lamp of great service in the case of foreign bodies embedded in the cornea It is valuable to know exactly how deep they have penetrated and how they lie With this knowledge we can plan the method of extraction and remove them with the least damage to the cornea When there is a history that an eye has been struck by a flying fragment of metal we can determine whether the cornea has been actually penetrated In one case in which I suspected that a fragment might have been retained in the eye I was able definitely to decide that the wound had reached only to the centre of the corneal stroma and had not passed into the anterior chamber

Many diseases cause profound changes in the appearances of the cornea Figs 10 and 11 are taken from a case of herpes ophthalmica Fig 10 is the view with the simple lens, it shows keratitic precipitates (K P) and a fine striation in the lower segment Fig 11 shows the appearance of these striations in the corneal prism, magnified 35 times It will be noted that the white punctate deposits are quite superficial in the prism Vogt says that this appearance is characteristic of herpes, and it is obvious that in this case the slit-lamp is of immense value in diagnosis Fig 12 shows the slit-lamp view of the surface of the cornea in a very severe example of corneal herpes which has ended with calcification of the cornea An iridectomy had been performed by Mr Maddox

It is in inflammatory states of the eye that the slit-lamp is of special value Slight irritation or rise of intra-ocular tension causes a bedewing of the corneal surface, either the epithelial, the endothelial, or both Under the high magnification employed the appearance suggests that of

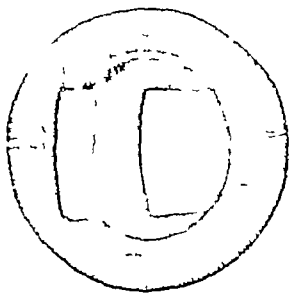


FIG 3.

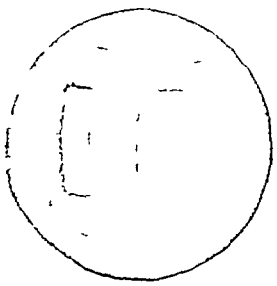


FIG 4

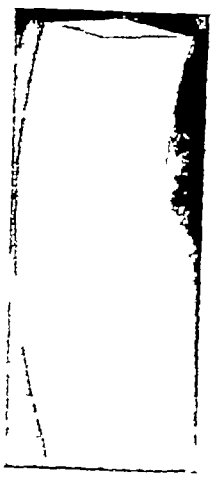




FIG 6



FIG 7



FIG



F

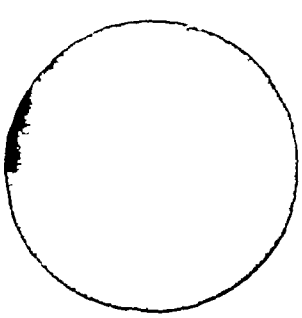


FIG 10

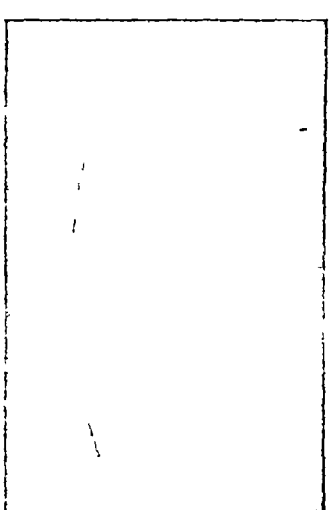


FIG 11



FIG 12A

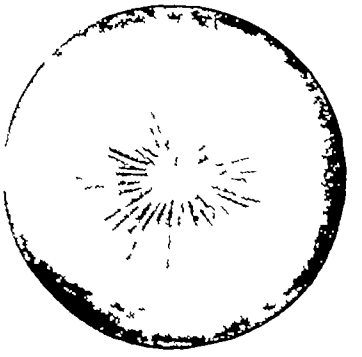


FIG 13

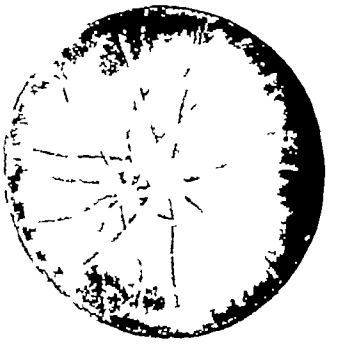


FIG 14

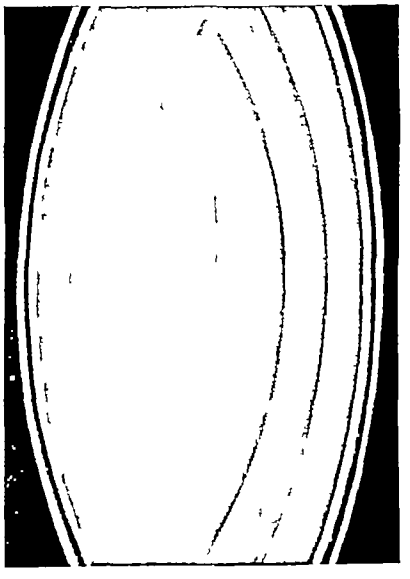


FIG 15

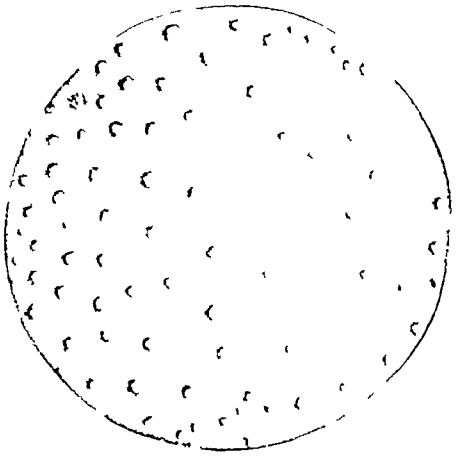


FIG 16

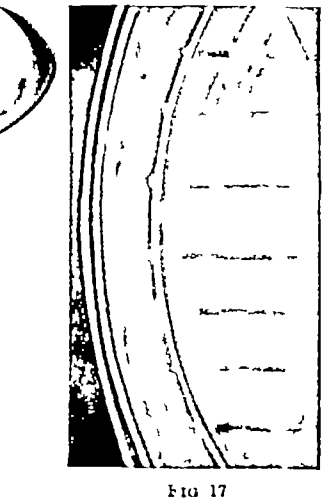


FIG 17

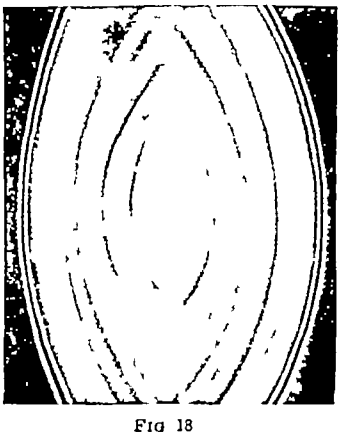


FIG 18



FIG 19

a mirror in a steaming bathroom Vogt calls the condition *'beta rung"* The appearance is normal at the corneal periphery, but in abnormal circumstances it may cover the whole cornea It is practically always found when the anterior chamber contains absorbing lens cortex Vogt believes that the posterior bedewing is due to alterations in the endothelium, but Koeppe considers that it is due to cellular deposits It is difficult to believe that an *appearance which so frequently* accompanies the slightest irritation of the eye can be caused by a deposit of cells When the condition is universal it is almost impossible to decide whether it is epithelial or endothelial, but when it is confined to a definite area it can be localized by the ordinary methods described by Vogt

Deposits on the endothelial surface, the so-called K P," *can be accurately localized* and detected when the particles are too small to be seen with the simple lens (loup) but when they have been seen under the slit lamp they can often be detected with the loup These fine deposits can be seen both by reflected and incident light and can be investigated by an alternation of both methods This fine K P can often be found after operations on the globe which *show no signs of inflammation when examined by the* ordinary methods The black variety is merely iris pigment and has no significance Often (after a cataract extraction) *there is* a deposit which has the appearance of the dangerous 'mutton-fat" K P but the eye microscope shows that it merely consists of flakes of absorbing lens cortex, and this again is harmless Koeppe working with a magnification of 60 and over professes to be able to classify the varieties of keratitic deposit and from his examination to determine the nature of the inflammation

In most deep corneal inflammations Descemet's membrane is thrown into folds and occasionally Bowman's membrane is folded Fig 12A shows folds in Descemet's membrane which were noted after a normal preliminary iridectomy They had entirely disappeared in two days Such folds are almost constant after any operation upon the cornea, but exactly similar ones are seen in keratitis A central keratitis may leave permanent radial folds unaccompanied by any marked deterioration of visual acuity an example is shown in Fig 13 In Fig 14 a central keratitis probably tuberculous in nature has left folds of both Descemet's and Bowman's membranes The *fine star is due* to the folds in Bowman's membrane In this case the slit-lamp cleared up a very doubtful diagnosis

A case of interstitial keratitis cannot be completely interpreted without the corneal microscope and slit lamp The extent and position of the vascularization can be mapped out and by examining them by retro-illumination we can at once decide whether the vessels are *still functioning* or not Many a case appears to be cured, the vessels are regarded as absorbing and functionless, but the slit-lamp shows that they still carry a rapid blood stream Folds of Descemet s membrane are frequent and varied in character

Interior Chamber

Observation of the aqueous is difficult and calls for complete dark adaptation It is best carried out by allowing the beam to pass through a pin-hole We now obtain not a ribbon but a *pencil of light* This pencil illuminates the cornea and the lens, but should be invisible in the anterior chamber If, however the aqueous contains albumin or is turbid the pencil of light is visible If bright particles flash across the beam then the aqueous contains discrete particles cellular or otherwise The movement of the particles is due to the heat eddy in the aqueous The difference in temperature *between the cornea and* the iris causes a constant stream of aqueous in the anterior chamber rising in front of the iris and falling behind the cornea The heat of the slit-lamp beam induces vortex currents and these cause the *particles* to move across the beam of light and become visible The presence of cells in the anterior chamber is often the first sign of a sympathizing ophthalmitis It is a case in which we have reason to anticipate sympathetic ophthalmitis we detect cells in the aqueous we have a timely warning and can act accordingly I have already saved an eye which I should not have dared to keep but for the fact that daily examination with the slit-lamp failed to detect any signs of inflammation in the other eye

Iris

The microscopy of the living iris is straightforward and is in the main merely an enlargement of what we see with the simple lens We have, however the great advantage that we can examine the iris in luminous light, by retro-illumination and detect atrophy and ruptures of the pigment layer of the iris Koeppe thinks that a deposit of fine granules of black pigment in the iris stroma is characteristic of glaucoma It is true that it is very often seen in the glaucomatous eye, but it can sometimes be noted in a normal senile eye

Lens

The slit-lamp is of most value in the examination of the lens and it is in this region that it has won its greatest triumphs The optical section made by the narrow ribbon enables us to see the lens in profile exactly as though the section had been made with a knife It is at once obvious even to the naked eye that it is *not homogeneous* but shows what Vogt calls dissociation areas it can be separated *into definite lamellae* Starting *from before backwards* we can recognize the following regions The capsule lining as a thin bright band behind it separated by a dark area is another line very similar to the cap ule except that it has a stronger curvature and is more opaque and generally slightly yellow in tinge this we can call the reduplication line The next area is the cortex, followed by the well marked surface of the adult nucleus which again has a shorter radius of curvature than that of the reduplication line The next layer is called by Vogt the outer embryonic nucleus, but whereas it is present at birth I propose to call it the infantile nucleus this again has a greater curvature than the adult nucleus. I may remark that in the translation of Vogt s *Atlas* the word *alt rührt* ' has been rendered as *senile* nucleus This gives an entirely wrong impression, for this nucleus appears at about 10 years of age and is in no sense senile *Adult* nucleus is better The centre of the lens is occupied by two plano-convex bodies always separated by a sharply defined broad dark line This is the foetal or embryonic nucleus. The flat sides of *this internal lens system face each other* On the anterior convex surface we find the anterior upright Y the primary foetal suture of the lens and on the posterior *surface there is an inverted Y* /\ In 25 per cent of all cases there is a small opacity on the flat surface of the anterior body This can easily be mistaken for a cataract

nucleus was studded with elevations like a hobnail boot In section it is seen that they stand out into the cortex, and that each throws a dense shadow back into the lens The surface of the nucleus is strongly condensed, giving the appearance of an internal capsule The cortex shows lacunae and opacities which are typical of subcapsular cataract It will also be noted that the nucleus has a stronger curvature than the capsule, and being sclerosed it caused a lental myopia, it was yellow in colour The myopia in this case was 5 dioptries The nipple-like prominences on the adult nuclear surface are illustrated in Vogt's *Atlas* in a series of photographs from plastic models made by Dr Lussi, late chief assistant at the Basel Eye Clinic

Lamellar cataract forms an interesting study and takes many forms Fig 18 shows a fairly typical example It will be noted that there is a condensation within the adult nucleus, and that the infantile nucleus is of different texture from the rest of the lens It shows a scintillating mass of dots and in some lights has a stony appearance It is here that the chief opacity to light is found Instead of passing on, light is reflected from the sparkling particles It is obvious that in this case there have been two periods of modified nutrition of the lens—one at birth and the second during the first ten years of life These changes are comparable to ridges on the nails and teeth after illness In this drawing the central plano-convex embryonic nucleus are very evident At the back of the lens it is sometimes possible to see a ring or concentric rings—the "*boegenlinie*" of Vogt To this is attached the remnant of the hyaloid artery, which the slit-lamp shows to be present in about 25 per cent of all cases The arc-line is probably the spot to which Cloquet's canal was attached These structures are never found exactly at the posterior pole, where they would form an impediment to accurate vision, but on the nasal side An example is shown in Fig 19, this was seen in a child of 10 and was symmetrical in each eye The posterior inverted 'Y" is seen, and radiating from it the lens fibrils Just at the bifurcation of the nasal branch the arc-line is seen, and above it a second curved line From the circle depends the corkscrew-like remnant of the hyaloid artery Behind the lens capsule we see the normal vitreous fibrils

Vitreous

A complete examination of this structure calls for special apparatus It is best to use an arc lamp instead of the nitra-lamp, and Koeppe's silver mirror, but much may be seen with the ordinary apparatus if the axis of the lamp is brought as close as possible to that of the microscope The correct interpretation of what one sees in the vitreous calls for much experience In some cases the vitreous seems to be almost optically homogeneous, in others it is full of floating fibrillæ, of membranes, and particles, and yet is perfectly transparent

Retina

The retina can be examined with the slit-lamp, but it is necessary to place a contact-glass upon the cornea to abolish its curvature, and to use the micro-arc lamp Such investigations have great value from the standpoint of research, but they hardly come within the scope of ordinary clinical work In cases of obscure tumours deep in the eye this technique may render valuable aid in diagnosis, but it is exceedingly difficult and also unpleasant to the patient

It is self-evident that the slit-lamp and corneal microscope have greatly enlarged our powers of diagnosis and research The anatomy of the lens has been elaborated to such an extent that even the most modern textbooks are obsolete in this connexion Our knowledge of the vitreous has greatly advanced, in fact, before the advent of the slit-lamp its minute structure was unknown

The great drawback to the use of the slit-lamp is that it definitely increases the time taken by an examination It is time well spent, for the investigation adds enormously to the interest and value of our work It is lack of time and of an adequate staff in our ophthalmic clinics which makes it so difficult to develop clinical research work comparable in volume to the output of our Continental colleagues

ALCOHOL AND LIFE DURATION.

BY

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THE problem of the effect upon duration of life of the use of ethyl alcohol as a beverage is still open There is abundant evidence that *excessive* use of alcohol shortens life, but, because of the difficulty of getting critically adequate data, it has not been possible up to this time to determine whether the consumption of alcoholic beverages *in moderation* has any effect upon life expectancy, or, if it has, what the nature and sense of that effect is The evidence which has been adduced as bearing on the point, chiefly from the records of insurance companies, can easily be shown, and repeatedly has been shown, to have no probative significance so far as the problem just stated is concerned The case has been well put in the concluding paragraph of Chapter X of the second edition of the report[1] of the Medical Research Council's Alcohol Investigation Committee (p 148), where it is said

> "We repeat that it does not follow from these conclusions that a consistently moderate use of alcoholic beverages shortens life since we cannot sort out from the data brought into comparison those instances in which the habitual abuse of alcohol produces disease or death, or in which accidental abuse has a like consequence, nor can we exclude many other social factors operating for or against longevity What we have not proved, and, from the evidence before us cannot prove, is that the moderate use of alcoholic beverages, employing the word 'moderate' as it is ordinarily used in everyday life, has any effect at all, one way or the other, upon longevity"

In 1922 I prepared a preliminary report[2] upon a collection of data which may fairly be said, I think, to have unique value for the study of this problem In brief this material consists of records of certain pertinent data in the life-histories of many thousands of persons belonging to the working class population of Baltimore These records were collected by trained eugenic field workers who visited the families and by long-continued and patient investigation got the facts with a high degree of accuracy Proceeding in the matter in an entirely objective way and without preconceptions, it was felt to be essential, if any critical results were to be obtained, to get the most elaborate and critically exact records possible about the environmental situation, the habits of life, the health history, the racial stock, anthropological characteristics, exposure to tuberculosis, etc, of all the members of the family group

Every critical safeguard of the accuracy of the ultimate individual records that I have been able to think of was thrown around this work No fact was entered in a history finally until it had been corroborated by the independent testimony of at least two persons acquainted with the individual in question The material was all taken from one socially and economically homogeneous group of the population of the city of Baltimore—namely, what might inclusively be called working men's families By the employment of field workers speaking a variety of foreign languages it was possible to get representation in the histories of the different foreign race stocks in about the proportion that they are represented in the total population of the city of Baltimore, and in this way there has been no racial discrimination in the study The only exception to this is that the negro has not been included, owing to the difficulty—indeed, impossibility—of getting accurate genealogical information about negro families These people do not know accurately about their own ancestors

Special attention in these inquiries was devoted to the habits of each individual, throughout life, in respect of alcohol and tobacco I have given elsewhere (*loc cit*, pp 237-246) a detailed account of the material, its mode of collection, the care taken to ensure its critical accuracy, etc, and these details need not be repeated here It will suffice to state here that for a group of over 6,000 individuals we have accurate information covering the following points

1 *The Alcoholic Habits throughout Life*.—By this is meant that we have that sort of information which one would have if, starting with *n* individuals at birth, the life-history of each one was individually followed, and it was recorded when he (or she) began to drink, and what and how much was consumed on the average, this process continuing till a certain absolute time (or date) at which time some of the individuals would still be alive and of known age, while the remainder would have died at known ages and of known causes

2 *The Race Stock*.—Only white persons are included in the material In the case of both American-born as well as foreign born individuals careful investigation has been made of the race stock or stocks from which they originated

3 *The Social and Economic Status*.—All of the persons included in the material belonged to what may be called fairly the *working class population* Family income is recorded, and has been dealt with in the preliminary report cited above

Classification of Material

The preliminary report on this material has been criticized on two grounds (*a*) that the classification adopted relative to grades of alcohol consumption was a poor one not in accord with common usage and therefore incapable of throwing light on the important question at issue (*b*) that the actuarial methods used were unsound, in that only the dead were considered It is believed that in the report now presented both of these criticisms have been completely met

The material has been reclassified into the eight groups relative to drinking habits which are shown in Table I. In this table is also shown the magnitude of the experience in the several classes in the form of person-years exposed to risk of death in the whole experience

TABLE I.—*Showing the Total Years of Exposure to Risk in the Several Classes of Different Drinking Habits*

Drinking Habits.	Total Years Exposed to Risk.	
	Males.	Females.
Abstainer	20,550.0	41,149.0
Moderate in amount		
Unspecified as to frequency	10,357.0	1,739.0
Occasional	12,210.0	11,283.5
Steady	19,527.0	7,759.0
All moderate	42,094.0	20,782.5
Heavy in amount		
Unspecified as to frequency ...	11,746.0	867.5
Occasional, otherwise abstainer	1,057.0	43.0
Occasional, otherwise moderate ...	3,763.5	196.5
Steady	9,539.0	652.5
All heavy	26,110.5	1,754.5
Total experience	89,154.5	63,650.0

As to the categories the following may be said. An abstainer is a total abstainer who has never used alcohol in any form A moderate drinker is one who uses alcohol in any form (beer wine or spirits) but in small amount at any one time and never enough to become intoxicated. The persons put in the moderate steady category are those whose habits are precisely of the sort described in the British Committee's report (loc. cit. p 141) A daily pint or two of beer or a daily bottle of claret or a few glasses of whisky and soda. The moderate occasional class includes those who drink to this amount but not as frequently or regularly as every day The moderate unspecified class includes those of whom it was definitely known that the amount consumed fell in the moderate category but regarding whom the record was incomplete or indefinite as to frequency The heavy class includes those persons who are positively known to have been in the habit of getting drunk either as an occasional spree with abstinence in the intervening periods (heavy occasional otherwise abstainers) or with moderate drinking as above denned in the intervening periods (heavy occasional, otherwise moderate) or regularly and frequently (heavy steady) or without precise record of the frequency of intoxication (heavy, unspecified)

I believe that this classification meets the criticism of the British report Surely it is in accord with common usage to call a person who gets drunk a heavy drinker All it is common usage to call a person who never gets drunk a moderate drinker Personally I am somewhat of the opinion that the classification of Table I has a less strong purely physiological justification than did the one used in my report But I yield to the views of my critics on this point, perhaps the more gracefully because as I submit my analysis will show, it makes no essential difference in the results which classification is used

Table I shows that the experience is large enough to yield trustworthy results Over 150 000 person years exposure to risk is a respectable total The material is from an actuarial point of view precisely comparable with and essentially the same as the general experience of a life insurance company If such a company is ever justified in calculating a life table from its own experience with its own policy holders living and dead (and I am not aware that anyone has ever denied the validity of such procedure) then it is justifiable to calculate life tables from the experience here under review In one respect the present material is actuarially better than that of any insurance companies because here there is no necessity to correct for lapses of policies (that is withdrawal from the exposed to risk group) He may pass out of the exposed to risk group only because of death

It is impossible here to go into all the details of actuarial procedure followed in calculating the life tables from this material. This will be done in the final complete report on the investigation which will be published in book form The following skeleton outline must suffice here

The central death rates are based on a five year grouping of the raw data the groups being centred at 20 25 etc years to avoid any disturbing influence of the usual tendency to concentrate on multiples of five in the statement of age The years of exposure to risk in each quinquennial period were obtained as follows:—

5 (sum of living and dead of all years after each birthday).
+4.5 (sum of persons living and dying in last year of period).
+3.5 (sum of persons living and dying in fourth year of period).
+2.5 (sum of persons living and dying in third year of period).
+1.5 (sum of persons living and dying in second year of period).
+0.5 (sum of persons living and dying in first year of period).

The total deaths in each period divided by the years of exposure to risk in the same period give m_x the central death rates, from which q_x's were obtained by the usual formula

$$q_x = \frac{2 m_x}{\ldots}$$

the values at five-year points from the complete tables for this purpose Only one function will be here presented—namely, $\overset{\circ}{e}_x$, the complete expectation of life at age x, or, as it may better be put, the mean after-lifetime of persons attaining the age x Even for this simple function only the more important groups can be discussed here

TABLE II — *Mean after lifetime* $\left(\overset{\circ}{e}_x\right)$ *of persons of both sexes attaining the age x and having the specified habits as to the consumption of alcoholic beverages*

Age x	Abstainers		All Moderates		All Heavies		Moderate Steady	
	Male	Female	Male	Female	Male	Female	Male	Female
30	37 11	37 91	37 71	40 93	29 60	23 93	40 00	42 15
35	33.51	34.37	34 21	37 03	26.31	20 09	36.20	38 22
40	29 91	30 75	30 55	33 02	23 67	17 12	32.34	34 23
45	26 29	27 09	26 88	28 92	21 29	14 79	28 48	30 21
50	22 62	23 45	23 29	24 87	18 99	12 93	24 69	26 26
55	18 88	19 95	19 91	21 01	16 69	11.40	21.05	22 48
60	15 05	16 71	16 81	17 44	14 41	10 12	17 60	18 95
65	11 57	13 79	14 02	14 27	12 21	9 02	14 41	15 77
70	8 97	11 22	11 56	11 53	10 13	8 00	11.55	12 94
75	7 08	9 00	9 39	9 19	8.24	6 99	9 06	10 44
80	5 61	7 08	7 43	7 19	6.52	5 80	7 00	8 20
85	4.34	5 40	5 65	5 49	5 00	4 47	5.35	6 22
90	3 30	4 03	4.20	4 08	3 75	3.39	3 93	4.59
95	2.45	2.92	3 03	2 96	2 74	2 51	2 90	3.29
100	1.77	2 05	2 12	2 08	1 95	1.81	2.04	2.27

CONCLUSIONS

From Table II certain points emerge with great clarity These are

1 The material as a whole is normal from an actuarial viewpoint Taking the entire experience together we have

	Years.
Mean after lifetime at age 30, males	35 19
Mean after lifetime at age 30, females	38 53

Remembering that the material is derived exclusively from the white population, we may compare these values with the following from Glover's United States Life Tables [3]

	Years.
Mean after lifetime at age 30 White males Original Registration States, 1910	34 87
Mean after lifetime at age 30 Native white males, Original Registration States, 1910	35 61
Mean after lifetime at age 30 White females Original Registration States, 1910	36 96
Mean after lifetime at age 30 Native white females, Original Registration States, 1910	37 81

It is obvious from these values that the present material, taken as a whole, is in respect of its mortality an extremely good sample of the general population of the United States, as indicated by the Original Registration States in 1910 The results of this study cannot, therefore, be discarded or criticized on any ground of abnormality of the material

2 At every age from 30 to 100 inclusive the persons in the "all moderate" class of drinkers, whether males or females have a somewhat *higher* expectation of life than the persons in the "abstainer" class of the same age The two life curves are not widely different, but what advantage there is lies with the moderate drinkers

3 Male persons in the "all heavy" class have a markedly *lower* expectation of life at all ages from 30 to 100 inclusive than male persons in the "all moderate" class and a markedly *lower* expectation of life than persons in the "abstainer" class up to and including age 60 From age 60 on the expectation of life is somewhat, though not greatly higher in the "all heavy" class than in the "abstainer" class This result may possibly be due to a selective effect of the very high mortality in the heavy drinking group prior to age 60 In the case of the females the expectation of life is markedly *lower* for the persons in the "all heavy" group than for persons in either the "abstainer" or the "all moderate" group, at all ages from 30 to 100 inclusive

4 The "moderate steady" class, which is from certain points of view the most important one, shows consistently the *highest* expectation of life at all ages from 30 to 100 inclusive in the case of the females, and also in the males, except that after 70 the "all moderate" male group has very slightly higher expectations than the "moderate steady" male group

These conclusions are drawn from what is believed to be demonstrably the most critically adequate material, considering both quality and quantity, which has ever been available for the study of the problem of the influence of alcohol upon the duration of human life

(The substance of this paper was presented, under the title "The Influence of Alcohol on Duration of Life," to the National Academy of Sciences, at its annual meeting in Washington, D C, U S A, on April 29th, 1924)

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The Milroy Lectures, 1924,

ON

THE PLAGUE.*

BY

LIEUT.-COLONEL W GLEN LISTON, C I E, M D, D.P.H, I M S

II.—THE ETIOLOGY OF PLAGUE

EARLY in the year 1894 a new chapter in the history of the plague was opened with the development of epidemics in the city of Canton, and in that adjacent great entrepot of international trade, Hong-Kong A number of scientific workers were deputed by various Governments to study the disease in Hong-Kong, and one of the first fruits was the discovery, almost simultaneously in June, 1894, by Kitasato and by Yersin, of the causative agent of the disease

It is stated that as many as 20,000 dead rats were collected in a short time in certain quarters of Hong-Kong, and that 1,500 were obtained from a single street The epidemic exhibited its familiar and well marked seasonal prevalence, increasing steadily to a maximum in a few months, then rapidly declining A respite from the disease lasted for about six months, when it again became epidemic, this second outbreak of 1895 was, however, mild In the spring of 1896 the disease appeared for the third time, and caused a considerable mortality Meanwhile, during the three years that plague had prevailed in Canton and Hong-Kong, infection had been carried into many neighbouring towns and villages, as well as into Formosa But the most important extension was to Bombay The disease seems to have been brought there, in all probability, by a ship, about March, 1896, for at that time an unusual mortality among the rats in the docks was noticed, and the existence, among the inhabitants of this neighbourhood, of a strange disease, associated with high mortality and the development of buboes, was commented upon Its nature was not suspected till Dr Viegas suggested that it was in fact the plague His diagnosis was confirmed bacteriologically by Mr Haffkine in October, 1896 The mortality steadily increased during the remainder of the year, and a panic seized the inhabitants, so that the city was almost deserted The disease was carried into at least nine districts of the Bombay Presidency before the close of the year Infection was disseminated along the main lines of communication by rail and by ship The new centres of infection, in their turn, distributed the disease to other centres, till, at the close of the nineteenth century, almost all the provinces of India reported deaths from plague In the last year of the century alone nearly 150,000 deaths were caused by the disease in India

* This course of Lectures has been slightly abbreviated for publication.

Meanwhile plague appeared in other parts of the world, carried thither chiefly by ships to seaport towns, so that places so far distant from one another as Manila and San Francisco, Sydney and Capetown, Buenos Aires and Oporto, Honolulu and Glasgow, Mauritius and Auckland, became infected. Ships, carrying grain and forage played a very important part and it became evident that rats participated in this diffusion. In the majority of the places the source of infection of the first cases was seldom traced. The plague patients generally lived in the neighbourhood of the docks, some of them were dock labourers and not infrequently an unusual mortality was noticed among the rats in the infected area.

Rats

Roux and Yersin as early as 1897, insisted on the close connexion between rats and plague. They held that the best prophylactic measure against the disease would be the destruction of rats. Simond and Hankin supported this view and the work of Ashburton Thompson in Sydney and of Blackmore in Port Elizabeth greatly strengthened the case against the rat. Thompson pointed out that in Sydney, at least, the disease was not communicated from the sick to the healthy, that infection was attached to localities, and spread to others adjoining and continuous with that in which it was first manifested; that a plague epizoötic among rats preceded the first case which occurred in man, and that the area of the epizootic was practically coextensive with that on which cases of plague were observed. The epidemic was in fact caused by communication of the infection from rats to man. Blackmore showed that in Port Elizabeth plague cases followed in places where infected rats were found and that in places where there were no infected rats only four cases occurred and in these the source of infection could not be traced. In no case was there direct evidence of man to-man infection, and in most the possibility of it was definitely excluded.

The early experience of plague in Glasgow differed remarkably from that recorded above. In August and September, 1900 thirty-six cases of plague were recognized in that city. The origin of the disease could not be discovered, but the first cases occurred in a house occupied by a dock labourer. All the subsequent cases were more or less associated with one another and arose chiefly from three houses in which "wakes" were held over the bodies of individuals who died of plague in the houses. Two of the cases were of special interest for direct contact with infected rats could be definitely excluded in them. One case was that of a ward maid who contracted the disease while following her duties at Belvidere Hospital; the other was the wife of a man employed by the corporation to collect clothes from infected houses for disinfection. Presumably, while escaping himself, he carried home the infection to his wife. Moreover although some 265 rats were caught in the infected area, many of them in and about the infected houses, and were examined bacteriologically, none were found infected. In the following year a group of five cases of plague mainly associated with a rag store situated in the area infected in the previous year came under notice. On this occasion a single plague-infected rat was discovered. However, five weeks after the occurrence of the last case of the five just referred to a new group of five plague cases came to light in quite another part of the city. Here dead rats were found in association with and antecedent to each of the cases, some of these rats were proved bacteriologically to be infected with plague. Further investigations showed that plague infected rats existed in a number of adjoining premises—for example in the basement of certain tea-rooms. A rat warren was also discovered in another situation which gave a bag of 65 rats. 13 of these were dead the remainder were killed and among them no less than 40 were found infected with the plague. The epizootic was thus shown to be fairly widely distributed throughout the city. Plague-infected rats continued to be found in Glasgow during the next two years at irregular intervals though no cases of human plague were observed or notified in connexion with this epizootic.

At this time I was engaged in a study of the habits of wild rats in Bombay and there I found two species living side by side—the one then designated *Mus rattus* but now known as *Rattus rattus*, or more familiarly, as the old English black or house rat, the other *Mus decumanus* now called *Rattus norvegicus*, the brown or sewer rat. I found that the habits of the two species differed in certain important respects. The house rat *Rattus rattus* was a tame confiding creature which lived and bred in the dwelling rooms of the people among the lumber and litter which was accumulated in almost every house. The sewer rat, *Rattus norvegicus*, on the other hand was more shy, it lived in burrows occasionally constructed beneath the floors of the dwelling rooms but more often excavated outside the houses it frequently found shelter and bred in the drains and sewers of the city. The sewer rat thus came in contact with men less than the house rat.

In a paper which I read before the Bombay Natural History Society in 1904 I inferred from this evidence that the remarkable difference in the role of the rat in distributing plague infection among men as illustrated on the one hand in the East, in a city like Bombay and on the other hand, in Europe in such a city as Glasgow might well be explained on the ground of this difference in the habits of the two species rather than in any difference in the susceptibility of the rats to plague. Further I suggested that the disappearance of plague from Europe in the seventeenth and eighteenth centuries coincided in the main, in point of time, with the appearance of the sewer rat and the disappearance of the house rat. I attributed this substitution of the one species by the other to the change noted above, in the habits of men in Europe about the same time. All these changes in the environment led to the exclusion of rats from human dwellings, and ultimately, favoured the substitution of one species of rat for another. This supersession of one species of rat by another as the result of a change in environment is an excellent illustration of a subject which is studied in detail in that modern branch of biological science known as 'oecology.' Here I should like to draw the attention of all interested in this subject to that particularly fascinating book by James Ritchie on *The Influence of Man on Animal Life in Scotland*. This work is replete with examples of the changes which have been brought about by man in the animals which surround him. One is ravens carrion crows and kites sible.' Ritchie says to believe th once so common that its vast numb London excited the wonder of foreign of Henry VIII should have suffer in 1905 the few survivors in the B counted on the fingers of one hand a umes that kite became reduced killing them for be say. The lov for the poultry yard had much to which has all but exterminated it view with regard to the reduction in t crows and of ravens. While I do no tion by man may have ha tened th birds I believe that the most poten the effect of the changes of environme people which among other thing their food supply. Kite carrion cr thrive in part of the world where h not altered for many centuries wh re lived in England in the reign of H r it been with rat. The hou e rat the sewer rat not because the o the other a s held by many but be e has ural to ne a Observation in Bombay h s I mi ion have shown that th s tribu in that city coincide with th rat i now di pla e the h rat Europeanized parts of the city wh remains supreme in the mor ha t many places the two peci s exi rat live in the upper stories of the rat thrives in the compounds drain

The view I enunciated in 1904, that the species of rat affected by the disease has an important bearing on the spread of plague to man, not so much from any inherent difference in the susceptibility of the different species to plague infection, but because of the habits of the species, has been abundantly verified by a study of epidemics in different parts of the world For example, it enabled the authorities in England to regard with comparative equanimity the fairly widespread epizootic of plague which was discovered in 1910 among rats, rabbits, and hares in East Anglia, it was estimated to have existed there for at least two or three years before its discovery, nevertheless, only a few cases of plague were associated with it, for the animals involved did not live in human dwellings

Other Rodents

It is of interest here to refer to the existence of plague among the ground squirrels of California, *Citellus beecheyi*, which has been described by Blue and Wherry, more recently McCoy, in the *Journal of Hygiene* (December, 1910), delineated the extent of the infection among ground squirrels so far as it was then known in certain parts of America, and makes mention of twelve cases of plague among men who derived their infection directly from these animals

An interesting account of certain limited epidemics of plague, often of the pneumonic type, which have occurred in South Africa has been given by Dr Mitchell (*Journal of Hygiene*, December, 1921), who concludes that plague infection has existed among the wild rodents in the north-west part of the Free State since 1916, the gerbelle being probably the main factor in its persistence and spread, the multimammate mouse being in many cases the connecting link by which the disease is conveyed to man

Closely related to the ground squirrels of California are the tarbagans, *Arctomys bobac*, which live in Eastern Siberia and Northern Mongolia There is some evidence that an epizootic of plague among these rodents was the source of that terrible epidemic of pneumonic plague which swept over Manchuria in the winter of 1910-11, "with a death roll of 50,000 persons and a track, including ramifications, of at least 3,000 miles" The epidemiology of pneumonic plague is altogether different from that of bubonic plague, the two forms of the disease have little in common, except that both are caused by the same micro-organism In so far as this form of the plague is spread by direct infection from man to man, and in view of the fact that, aside from its primary origin, rats play no part in its general dissemination, the epidemiology and prevention of pneumonic plague is a simpler problem than that presented by bubonic plague It is important to note, however, that there is abundant evidence that pneumonic epidemics may have their origin from epizootics among domestic rats, or among shyer or wilder species of rodents The Manchurian epidemic, above referred to, had such an origin, the cases of plague which occurred in connexion with the epizootic in East Anglia were of this nature, as were also some of the cases of plague associated with the epizootics among gerbelles and multimammate mice in South Africa

I have attempted to show that bubonic plague is essentially a disease of rodents The disease may assume, though rarely the pneumonic form in men who have been infected previously from rodents, and, in these circumstances, infection can be transferred from man to man in the absence of rodents True bubonic plague, however, is almost always conveyed directly from rodents to men the infection in these circumstances is acquired more or less readily as men are brought more or less in close propinquity to rodents

Fleas

When the plague bacillus was first discovered everybody seems to have been struck by the enormous number of bacilli in the blood and organs of a rat which had died of plague The disease was an obvious septicaemia, and it was inferred that the bacilli would be found in all the excretions of the sick animal Infected rats, therefore, were suspected of sprinkling the floors of human dwellings, and perhaps also contaminating human food, with virulent bacilli Yet very little experimental proof was forthcoming to show that the excretions of rats were infectious A number of experiments of a negative character were recorded by many workers—Simond (1898), Gauthier and Rayband (1903), Liston (1903), and others They showed that healthy animals could live in close contact with the excreta of plague-infected animals without contracting infection

In 1897 Ogata observed a number of fleas on two infected rats which were sent to him for examination when he was investigating an outbreak of the disease in Formosa He proved that fleas captured on infected rats contained virulent plague bacilli in their bodies, and suggested that blood sucking insects, such as fleas and mosquitos, might extract bacilli from an infected animal

Plague bacilli are killed off by saprophytic bacteria and easily lose their vitality when dried, or when exposed to sunlight, but survive for a longer period at low temperatures Plague bacilli discharged from an infected animal would usually be subjected to these natural antagonistic agencies, especially in a dry, warm climate, and would soon be killed during the period of transfer from one animal to another, except when they were preserved from the action of contaminating micro-organisms and from desiccation—as, for example, in the stomach of a blood-sucking insect They might, however, survive for a considerable time if the excretions of an infected animal were discharged into a cold moist atmosphere

Plague bacilli do not exhibit any predilection for growing in, or living upon, any tissue of the body other than the blood, and to gain an entrance to the blood they must penetrate that epithelial barrier, whether it be skin or mucous membrane, which protects the blood from invasion by micro-organisms While certain micro-organisms undoubtedly have the faculty of penetrating this barrier with ease, the plague bacillus is not one of them, for a comparatively large number must be rubbed into the skin, or placed upon a mucous membrane, before the blood is invaded In a paper which was published in 1904 I referred to experiments which I had carried out, which showed that, while susceptible animals could be infected if fed upon large quantities of grossly contaminated food, yet they could without harm eat food which contained relatively small numbers of plague bacilli In common with others I did not succeed in infecting rats and guinea-pigs by feeding them on food soiled by the excreta of plague-infected men and animals Nor did they become infected when kept in contact with linen soiled by plague patients Nevertheless, even a few bacilli (less than ten), when introduced under the skin, proved fatal for guinea-pigs These facts raised the question If only one or two germs are necessary to infect an animal by injection under the skin, while thousands are required by any other channel, which is more likely to be the common method of infection?

In 1898 Simond (*Annales de l'Institut Pasteur*) confirmed Ogata's observation to the effect that fleas taken on plague rats contained plague bacilli, and reported that he had transmitted infection from infected to uninfected animals by means of fleas in two out of four experiments He found also that the fleas he captured on rats fed upon either a man or a dog Progress seemed to me to lie in a fuller knowledge of the life and habits of fleas, and I determined to follow that path when I returned to India in 1902

A technique for capturing and examining fleas had to be devised The animal was placed in a large wide mouthed bottle together with a pledget of cotton on which some chloroform had been dropped, and the stopper was placed in the bottle Fleas, if present, generally crawled on to the surface of the fur and then fell upon the bottom of the vessel anaesthetized When the animal was completely under the chloroform it was removed from the bottle and the fur then carefully examined for more fleas These were easily captured, as they lay motionless, overcome by the anaesthetic In this way they could be handled, examined under the microscope, or transferred to test tubes, where in time they recovered Fleas were readily captured on men by placing a pledget of lint or wool soaked with chloroform on the insect

I observed that certain species of fleas were as a rule confined to particular species of host Rat fleas were generally captured on rats, human fleas on men, and dog and cat fleas

on dogs and cats respectively For example, of 246 fleas caught on men only one was a rat flea These observations seemed to go against the flea theory till, in March, 1903, some guinea-pigs which had died in the Victoria Gardens Bombay, were sent to me, and I found that they had died of plague Many rat fleas were taken on the guinea pigs which remained alive in the gardens, especially on the sick animals—one yielded eighteen rat fleas Examination of the guinea pigs kept in the laboratory failed to reveal any fleas upon them In the gardens apparently, rat fleas had come to feed upon an unusual host Another observation indicated that cat fleas, deprived of their normal host attacked man Other similar opportunities occurred of verifying the fact that fleas which normally feed upon a particular host may attack another host in exceptional circumstances

The most interesting of these was the following On April 6th and 7th 1903 rats began to die in a certain block of tenement houses in Bombay The cause of death was not verified but it was probably plague After a few days no more dead rats were found but by April 11th the people living in the house were troubled by fleas which were so numerous and annoying that the people abandoned their rooms at night and slept on the veranda While thus living on the veranda on April 17th one of the residents was attacked by plague, other cases followed A missionary friend persuaded some of the people in the infected house to collect the fleas which bit them He sent the collection to me for examination on April 20th. There were thirty fleas in all and no less than fourteen of them were rat fleas. Here again, apparently rat fleas deprived of their usual hosts by the death of the rats from plague had attacked men.

In Bombay (1904) I used guinea-pigs as traps for rat fleas in infected houses The method of procedure was the following Having learned that a plague case had occurred in a particular house, I placed a couple or more guinea-pigs in the room which was adjudged to be infected and left them to run about the room until the following morning, when they were examined for fleas This was repeated on ten occasions, and in every instance rat fleas were captured on the guinea-pigs Some of the fleas were dissected and some of them were found to contain plague bacilli in the stomach In a few instances the guinea-pigs which had been used as traps became infected and died of plague

In carrying out experiments in 1903, with the object of transmitting infection, by means of fleas, from sick to healthy rats kept in cages I was struck by the number of failures The cages were fixed on supports over a bath of antiseptic solution so that the infected fleas might not escape I observed that many of the fleas had left the rats and were found drowned in the antiseptic I attributed the failure of these experiment to the circumstances in which they were carried out and if success was to be attained it seemed to me necessary to secure more natural surroundings for the fleas I proposed to the director of the laboratory, Major Bannerman, to erect six little cubicles or godowns, constructed very much after the manner of Indian houses but rat-proof and the sanction of the Government was obtained The roof of these cubicles was so constructed as to secure various degrees of ventilation and light in order to find out the most suitable conditions for fleas I proposed to use them to a certain whether plague could be transmitted from animal to animal in the presence of fleas and whether infection failed to be propagated in their absence These godowns were not completed till I had been invited to join the Plague Research Commission

The Plague Research Commission

As the outcome of proposals made by the Lister Institute in September, 1904 with regard to the desirability of the further investigation of some of the problems concerning plague the Secretary of State for India in 1905 instituted an Advisory Committee appointed jointly by him the Royal Society and the Lister Institute and arranged to make it an annual grant The Committee appointed a working Commission consisting of Major Lamb Drs Petrie Rowland Closter and myself with several assistant Dr C J Martin Director of the Lister Institute one of the members of the Advisory Committee visited India in March 1905 He inaugurated the work and established active co-operation between the Commission and certain public bodies which greatly facilitated the subsequent operations When he left India the direction of the work of the Commission devolved on Major Lamb It was decided to carry on the scheme of work which I had commenced and, in order to secure ample opportunities an elaborate plan of epidemiological inquiry was arranged to be conducted in Bombay city in certain small villages on the out skirts of the city and in two villages in the Punjab

The experiments carried out by myself as detailed above prior to the appointment of the Commission were abundantly verified by the Commission and I therefore need only refer to experiments which were designed to a certain whether plague could be communicated from infected to healthy rats confined in cages They were not successful until satisfactory conditions for maintaining the fleas alive were attained A special type of cage was devised by Rowland which was constructed in the following manner Two small wire compartments of a convenient size to hold a rat were placed side by side in a glass box on the bottom of which a layer of clean washed sand about an inch deep, was spread out The sand absorbed the urine of the rats and enabled the fleas to find shelter and to pass from one compartment to the other although they were still contained within the glass box A plague-infected rat and a number of rat fleas were placed in one of the compartments After the rat had died a fresh healthy rat was placed in the other compartment and the corpse of the infected rat removed Sixty-six experiments were made in this way, with the result that thirty healthy rats contracted plague—that is to say there were 45 per cent successful transmissions

In order to exclude the possibility of aerial infection the experiment was modified to the extent that the fleas from the infected rats were collected and were then placed upon a fresh rat in a clean flea proof cage Thirty-eight experiments of this nature were carried out with twenty-one successful transmissions or 55 per cent Finally infected fleas were collected in a test tube over the mouth of which a piece of fine gauze was tied. The test tube containing the fleas was inverted and placed upon the shaved skin of a guinea-pig or rat, and the fleas were allowed to feed through the gauze A number of transmissions were effected in this way

A number of experiments were carried out with guinea-pigs and rats in godowns Some of the godowns contained but others were free from rat fleas Many experiments were made at all seasons of the year In the godown in which fleas were present infection was carried by them from the inoculated to the uninoculated animals while in those which contained no fleas infection was confined to the inoculated animals alone The following experiment may be given as an example It was carried through at the height of the plague season One godown contained many fleas the other none at all

On January 8th five guinea pigs which had been inoculated with plague were placed in the flea infected godown All the animals were dead by January 11th and had been removed when twenty five healthy guinea pigs were allowed to run free in the godown An epizootic plague [illegible]

Certain other experiments deserve mention, which were carried out in an infected flea-infested godown The animals exposed in this case were divided into three groups four animals were allowed to run about the floor, four, in cages, were suspended two inches above the ground, and four, in cages, were hung two feet above the ground Fleas readily reached the animals of the first two groups, but not those of the third group All the animals in the first two groups died of plague, but none in the third group

On several occasions monkeys were placed in separate cages in an infected godown, two at a time Both animals were protected from soil infection and were equally exposed to aerial infection if this occurred One animal, however, was protected from fleas, either by a broad strip of sticky paper over which fleas could not hop or by a fine metallic gauze curtain which prevented their passage Fleas had ready access to the other animal The animals were left in the godown for forty-eight hours Eleven animals protected from fleas all escaped infection, while six out of thirteen monkeys exposed to the attack of fleas contracted plague

We are justified in assuming that close and continuous contact with plague infected animals, if fleas are excluded, does not give rise to an epizootic among the healthy animals, that when fleas are present an epizootic may develop which varies in severity and rate of progress according to the season of the year and the number of fleas present, that an epizootic may be started without contact with infected animals if infected fleas are available, that, in fact, fleas and fleas alone are the transmitting agents of infection

Mechanism of Transmission of Plague by Fleas

Early in my work on fleas I made serial sections of fleas, and found that some of them, which had fed on a plague-infected rat, showed numerous plague-like bacilli in the oesophagus and in a valvular organ which is sometimes called "the gizzard," situated immediately in front of the stomach I referred to these sections in a paper read before the Bombay Natural History Society in 1903, but the subject was also mentioned by Elkington in a paper on the propagation of plague published in the *Australian Medical Gazette* of August 20th, 1903 Elkington was a co-worker with me in the laboratory at Parel, and he refers to my sections as follows

"These sections were stained and mounted in the usual manner and it was found that the bacilli after a meal of infected blood were for the greater part retained in a curious gizzard like structure between the oesophagus and the stomach the blood corpuscles after being broken up passing on into the latter organ through a valve resembling a fish trap which prevents regurgitation Check specimens fed upon healthy rats show no bacilli in the straining organ,' as it may be called, whereas in fleas fed upon plague stricken rats large numbers of bacilli resembling the plague organism were seen microscopically These bacilli appear to remain in the straining organ after the blood had been digested in the stomach and were found up to eighty four hours after a meal

But it remained for Martin and Bacot to prove the full significance of the appearances noted in these sections They showed that while it was possible to infect animals by smearing the surface of the skin, which had been punctured by fleas with the dejecta of infected fleas, as had been done by the Plague Research Commission, the number of successful transmissions by this method was low By observing infected fleas feeding upon a healthy animal through a magnifying lens they succeeded in showing that infection could be brought about by the bites alone without the deposition of infected material on the punctured surface The proportion of infections by this method was higher than by the former method During the course of these experiments they noted that whereas certain fleas sucked energetically and persistently, yet no blood entered their stomachs but the oesophagus became unusually distinct On dissecting these fleas a curious condition was discovered—their gizzards or proventriculi were blocked with what proved to be a solid culture of plague

They obtained a still higher percentage of successful transmissions by using "blocked" fleas They explain this although with the proventriculus obstructed in this manner blood cannot find its way into the stomach, this does not prevent the insect sucking, but it only succeeds in distending the oesophagus The blood in the distended oesophagus may flow out again on the cessation of the sucking act" They have seen drops of blood escape from the mouth parts of "blocked" fleas when the insect withdrew its proboscis This appears to be the common way in which infection is transmitted by fleas, but the rubbing of infected dejecta on the punctured skin may perhaps also sometimes be a method of infection I wish, however, to emphasize that the anatomical construction of the proventriculus, which allows of the pathological development of the "blocked" condition in plague-infected fleas, distinguishes these insects from other common blood sucking insects such as bugs, lice, or mosquitos, and is one of the reasons why fleas are the instruments by which plague infection is transferred from animal to animal, as opposed to the other blood-sucking insects I have mentioned

Summary

The modern study of bubonic plague, then, has shown that the disease is essentially one of rodents, that men become infected from these animals by living in proximity to them, that the plague bacilli, which are the cause of the disease, are transmitted from rodents to men by the instrumentality of fleas, which, on account of their anatomical structure, are liable to develop a peculiar pathological condition which allows the injection of the bacillus under the skin when certain species of rodent fleas feed upon men in exceptional circumstances

THE SCHICK TEST AND TOXIN-ANTITOXIN INJECTIONS FOR DIPHTHERIA

BY

C LEE PATTISON, M B, B S LOND, M R C S,

MEDICAL SUPERINTENDENT KING EDWARD VII HOSPITAL FOR CRIPPLED CHILDREN, SHEFFIELD

OWING to the difficulty of stamping out an epidemic of diphtheria in the King Edward VII Hospital for Crippled Children, Sheffield, it was thought advisable to determine which of the patients and staff were susceptible to the disease by their reaction to the Schick test An endeavour was then made to immunize those who had been shown to be susceptible by injecting toxin-antitoxin After the third dose of toxin-antitoxin the cutaneous test was again made to ascertain whether the patients had really been rendered immune

The Schick test was carried out by intracutaneous injection into the left arm of 0 2 c cm of diluted diphtheria toxin (representing one-fiftieth of the minimum lethal dose for a guinea-pig) The same amount of diluted toxin, previously heated, was injected into the skin of the right arm as a control Children under 5 years old were not tested, as it was concluded that they would all give positive results (Report of Medical Research Council)

Initial Schick Test

Of 89 children between 6 and 15 years of age 58 gave negative and 31 positive reactions Of 14 members of the nursing staff 13 gave a negative reaction and 1 a positive Of the 71 negative cases, 10 showed the negative and pseudo reactions, only one of these was an adult, of the 32 positive cases, 2 showed the positive and pseudo reactions, one being in an adult In a few cases it was rather difficult to decide between the "negative and pseudo" and the "positive and pseudo" reactions in twenty-four hours, but in forty-eight hours there were hardly any doubtful cases, and these could be definitely settled by observing the subsequent progress of the reaction

Toxin-Antitoxin Injections

Three doses of toxin-antitoxin of 1 c cm each were given at intervals of one week to 28 patients who had given positive reactions to the Schick test, and also to 10 children under 5 years of age who were assumed to be susceptible on account of their age Permission was obtained from the parents before making the injections This was not refused in any instance Three of the 31 patients who had

been proved susceptible but were not injected had to be discharged before it was possible to finish the investigation

After the first dose only 2 patients of the 38 showed any marked reaction, either local or general One was a boy, aged 8, who had an inflamed and painful arm for three days, but showed no general symptoms. This boy had no reaction after the two subsequent injections The second was a girl, aged 7, who also had no general symptoms, but a well marked local reaction, she had both local and general reactions after the second dose

After the second dose 5 patients had severe local reactions The girl just mentioned above was kept awake all night with the pain in her arm, and had a temperature of about 100° it became normal in twelve hours Another girl also cried for some hours during the night with a painful arm, and six hours after the injection fainted in bed, although she had been kept recumbent all the time Her temperature then rose to 100 8° (pulse 130, respirations 34), and ten hours after the injection was 102 2° (pulse 130, respirations 36) After this the temperature, pulse and respirations gradually became normal, and by the next day the child seemed perfectly well Two of the remaining five patients with local reactions had temperatures just under 100° for a few hours, but no other symptoms

After the third dose none of the patients had any local or general reaction worth mentioning

Second Schick Reactions

The 38 patients who had been immunized with toxin-antitoxin were then tried with the Schick test again Two of these still gave a definitely positive result, although the reaction was less marked than previously, 8 gave negative and pseudo reactions 4 of these being in children under 5 years of age The remaining 28 did not react at all, and were therefore presumably immune

Summary

Of 103 persons 32 were apparently susceptible to diphtheria An endeavour was made to immunize 38 patients including 10 patients under 5 years of age 36 of these patients failed to respond to the Schick test, and probably therefore had been rendered immune

ACUTE PUERPERAL COMPLETE INVERSION OF THE UTERUS REPLACEMENT RECOVERY

BY

I S FOX, M B CH B,

CHESTER

ACUTE complete inversion of the uterus is an accident happily seen only rarely in modern obstetrical practice According to Beckmann[1] not a single case occurred in the course of 250 000 labours in the St Petersburg lying in hospital, only one case was reported among 190 833 deliveries in Dublin, while Thorn[2] collected only 641 cases from the literature of the entire world The average incidence however of this condition is no doubt under estimated by a study of the statistics collected from large obstetrical clinics in which all possible precautions are taken and it is probably more common in private practice in patients cared for in their own homes and by accoucheurs less skilled in the practice of obstetrics The following case came under my observation when I was assistant resident medical officer to the Brownlow Hill Infirmary Liverpool

A multipara, aged 30 years was delivered by forceps in her own home at 10 15 a m on March 21st The labour was not remarkable the placenta was presumably expressed by Crede's method The midwife in attendance reported that there had been no excessive haemorrhage although the patient subsequently stated that she had bled profusely and had passed large clots all that afternoon In the evening there was considerable abdominal pain which kept the patient awake all night In her own words there was also a sense of *something slipping down* inside which felt like the head of another baby coming through At about 6 o'clock the following evening the patient suddenly collapsed a doctor was called and ordered her immediate removal to hospital

On admission the patient was in an extremely collapsed condition and obviously suffering from profound shock She was quite unconscious, blanched pulseless at both wrists not restless and her respirations very shallow Completely outside the vulva was a mass about the size of a small coco-nut in appearance exactly like a placenta with its uterine surface presenting The usual means of combating shock were immediately taken the foot of the bed was raised, the lower extremities were bandaged and hot-water bottles utilized In addition strychnine was administered hypodermically followed by ether intramuscularly The pulse then became just palpable and one pint of saline was transfused intravenously through the basilic vein. The pulse gradually improved and consciousness was restored but the patient still looked exsanguinated, in spite of the fact that there was no visible bleeding At 10 p.m more strychnine was administered hypodermically and the uterus was then examined Abdominally the hypogastrium was soft and instead of the protuberance of the usually hard uterus a depression was noted The "placental" mass outside the vulva was found to be distinctly piriform in shape with its broad end outside the vulva and its apex firmly embraced by the cervix whose collar like circumference was easily palpable. The fundus could not be felt either anteriorly or posteriorly and the walls of the vagina were normal Reposition was easily effected manually without an anaesthetic by gently compressing the narrow end and pushing it through the cervical os Digital dilatation of the os was found necessary before the fundus could be replaced The fundus was then palpable by the hand on the abdomen a hot douche was ordered and the vagina packed. At this stage the pulse was 160 temperature 97° and respirations 28 The patient passed a fairly comfortable night and appeared much better in the morning but as the lochia were offensive 30 c.cm of antistreptococcal serum was given The temperature remained 101° 99 6° for two days and on the third day the patient was anaesthetized and a tube was inserted into the uterus by Mr Le-land Robinson Eusol douches were given through this tube night and morning Recovery was now uneventful.

The interesting features of this case are to my mind (1) the extreme gravity of shock (2) the immediate good results of transfusion, (3) the ease with which the uterus could be replaced

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

PERINEAL PROSTATECTOMY

A METHOD I have used for some time now in removing a prostate by the perineal route and which I have found very satisfactory is the following

wool and an oiled silk dressing Thereafter a full sized rubber or gum elastic catheter is passed daily per urethram until the urine comes freely and naturally

For the smaller and firmer prostates, and not only for the small hard fibrous prostate of textbook fame, I have found this a very satisfactory method I have never seen a case of severe haemorrhage such as sometimes so alarmingly occurs in the suprapubic operation Drainage is excellent and convalescence rapid To those familiar with perineal anatomy and surgery this method is easy and swift, and can be conveniently done under spinal anaesthesia

There are two contraindications to the use of this method—namely, one where the gland is very large and its several portions cannot be conveniently removed through the opening in the sheath without at the same time causing injury to the membranous urethra and its compressor muscle, the other when it is necessary to drain the bladder prior to removal of the gland, as, although the drainage is ideal in itself, the length of time during which this is necessary makes it very uncomfortable for the patient, and what is more important is the fact that it is very difficult to re expose the parts satisfactorily after they have been interfered with, although I have done this on several occasions

This method differs in two essentials from Young's accepted operation

1 Instead of splitting the whole of the fascial sheath on the posterior surface of the prostate only a comparatively small portion is opened, and so leaves the prostatic bed more or less intact—a feature of suprapubic prostatectomy

2 No retractor for pulling down the prostate, such as Young's instrument, is necessary This instrument is inserted into the bladder through the membranous urethra, and in this way and its manipulation thereafter causes unnecessary *damage to the compressor muscle, the avoidance* of which injury and the preservation of the function of *this muscle being one of the principal objects in perineal* prostatectomy

Inverness DONALD MACLEOD, F R C S

UNILATERAL OPTIC NEURITIS ASSOCIATED WITH FOLLICULAR TONSILLITIS AND ARTICULAR RHEUMATISM

THE diagnosis in the following case was arrived at with difficulty, but seems to be confirmed by the result of treatment

A schoolmistress, aged 21 first came to me on February 6th, 1924, complaining of having "gone blind in her left eye" The history she gave was that on the night of February 2nd she developed a worrying headache over the whole of the left side of the head the pain being worst in the orbital region, and as she said felt to be behind the eye Vision with Snellen's test type was left eye 6/60, right eye 6/6 The tension in both eyes was normal

I instilled homatropine with cocaine and when the pupil was fully dilated examined her in the dark room I found very definite optic neuritis in the left eye The inner half of the disc was congested and blurred There was no retinitis and no exudation and the vessels appeared *healthy I could discover no* cause for this condition I prescribed potassium iodide gr v t d s and advised her to wear smoked glasses She saw me frequently and each time stated she saw no better but that the pain grew worse she obtained temporary relief, however, from aspirin gr v, taken when required Since the condition remained much the same, on March 4th following my advice she saw Mr A L Whitehead of Leeds who confirmed the diagnosis but was uncertain as to the cause He found no alteration in reflexes or sensation, no nystagmus, no ataxia and no sign of any cerebral cause The accessory sinuses were found to be healthy Treatment with potassium iodide was continued until March 16th when she complained of pain on movement of the left eyeball I now thought there was some rheumatism in this clinical picture and forthwith prescribed sodium salicylate Two days later I received a message to visit her and found her in bed feeling very ill, with well developed follicular tonsillitis I treated her for this condition according to my usual custom which is to give white mixture and a gargle containing glycerin and carbolic acid I stopped *the salicylate* The throat condition quickly responded *and in a week she had* completely recovered from the tonsillitis In a few days, however *she complained of pain and stiffness in the left ankle joint, but there* was no swelling or redness I again prescribed sodium salicylate and in a short time the pain in the ankle joint had disappeared as also had the pain in the head and eye The vision too had improved The patient continued to make rapid progress and *on* April 20th I again examined the *left fundus and found the disc* had a perfectly normal appearance The edges were cleanly cut and well defined Her vision was now 6/6 in both eyes

I venture to give the following as an opinion of the probable cause of the condition that there was a septic focus concealed *in one of* the tonsillar crypts, that possibly exposure to cold, followed by a chill, lit up this focus in the tonsil which had hitherto remained quiescent and produced acute follicular tonsillitis, and that in the process of repair the above-mentioned focus had disappeared and so the tonsil had passed into a healthy state

Barnoldswick, Lancs. LIONEL W BRADSHAW, L R C S, L R C P

POST-MORTEM CRYING

I HAVE been unable to find any previously recorded case of *post-mortem* crying, *so the following notes* may be of interest

On March 3rd, 1923, I was called to a confinement I had not had an opportunity of examining the mother before labour set in, but learnt subsequently that she had had one previous labour—a difficult instrumental delivery, the child being stillborn I found a face presentation with the chin rotated into the sacral hollow The *patient was in a very exhausted condition* so I obtained the necessary assistance, perforated and crushed the head, and delivered with the cranioclast

Whilst delivering the placenta the dead and decerebrate foetus was left on the end of the bed, and suddenly it took two or three *deep gasping breaths and began to cry loudly* The *crying* lasted about two minutes

The explanation is, I *suppose, obvious, still this* seems to me interesting from the medico-legal aspect Had one *performed a post-mortem* examination *on the body of the* child one would have found the lungs very fully expanded, and the inference would have been that it had been born alive and then killed by savage violence to its head

St. Neots. H C CRIVEN VEITCH, M R C S, L R C P

AN EXOSTOSIS OF THE SACRUM PREVENTING DELIVERY

IN the following case the cause of the difficulty in delivery is probably unusual, but its main interest seems to me to lie in the prognosis for the infant

I was called recently to a woman in hospital who had been in labour about fourteen hours, the membranes had ruptured ten hours before The head was high up in the pelvis, the child lying in the left occipito-posterior position, with uterus tightly *contracted* An exostosis of the sacrum, about the size of a walnut, was pressing on the left frontal region of the foetus Under deep anaesthesia I was able to push the head back, there was a very audible click as the exostosis disengaged from the depression on *the skull, then, having rotated the head,* I was able with an effort to deliver with forceps The child was born alive, but it had a large depression, about 3 inches in circumference and 1½ inches deep, on the skull

Chester A MCMURRAY, F R C S Edin

Reports of Societies.

ELUCIDATION OF CANCER

A MEETING of the Section of Epidemiology and State Medicine of the Royal Society of Medicine was held on May 23rd, with Dr MAJOR GREENWOOD, senior honorary secretary, in the chair

The CHAIRMAN read part of a letter from the President-elect, Dr John C McVail, regretting his inability to be present owing to a long-standing engagement in Scotland, which prevented him from joining the Section "in recording the sense of the great loss which the science of epidemiology and all connected with it have sustained, and the admiration and affection which we all had for our president and friend," Dr Richard J Reece A resolution was carried unanimously expressing the profound grief of the Section occasioned by the tragic death of its president, and its deep sympathy with Dr Reece's family and colleagues

Dr LOUIS W SAMBON read a paper entitled "The elucidation of cancer" The lecturer first gave an interesting account, illustrated by numerous lantern slides of classical sculptures, of the knowledge possessed by the ancient civilized races of malignant disease, he then indicated the analogies between cancer and certain diseases—such as elephantiasis—of parasitic origin, and described the field investigations he had recently carried out in part

of the province of Romagna (corresponding roughly with the eastern part of the department of Emilia and Tuscany, in the neighbourhood of Forli and Fiesole) which led him to conclude that cancer was a parasitic disease, possibly caused by a nematode of which the cockroach was an intermediate host or carrier Dr Sambon dwelt on the importance of Fibiger's researches on the gastric carcinoma of rats caused by eating infected cockroaches, and entered a strong plea for the extension of field investigations such as that he had just completed In his opinion it was by such field work rather than by the comparison of statistics that the etiology of cancer would be elucidated

The CHAIRMAN said that although members might not be in a position to discuss at such short notice a paper covering a very wide field, they would certainly join in thanking Dr Sambon for his suggestive communication The very remarkable differences in rate of mortality from certain forms of cancer which distinguished England and Wales, Italy, and Holland, were at present the object of an international inquiry, and the national representatives would certainly take note of Dr Sambon s results

Dr DUDFIELD agreed that the paper was extremely interesting and suggestive Dr Sambon had given reasons for a reconsideration of the question of "cancer houses," and he (Dr Dudfield) intended to pay special attention to this point

A vote of thanks to Dr Sambon for his address was carried unanimously, and Dr SAMBON replied

POSTURE IN TREATMENT

AT a meeting of the Section for the Study of Disease in Children, of the Royal Society of Medicine, on May 23rd Mr R H ANGLIN WHITELOCKE gave his presidential address on "posture" in relation to therapeutics and prophylaxis generally He cited instances of postures due to occupations of various kinds, those necessitated by certain diseases of the pulmonary and cardiac systems, and by disorders of the abdominal viscera, and referred to the three postures so much used in medicine and surgery—namely, the Trendelenburg, Sims, and Fowler positions All these positions had proved valuable in treatment but Mr Whitelocke had found that patients, especially children suffered no harm if allowed to lie in the position most comfortable to them, and made a more rapid and easy recovery Nurses should be instructed to allow patients to assume the posture of greatest ease He knew of at least three cases in adults in which death had immediately supervened upon the patient being raised up into the Fowler position from which he had slipped It was well recognized how almost impossible it was to maintain this position with children The fact that drainage of the abdominal cavity did not seem to depend upon gravity but upon intra abdominal pressure and vital processes had interested Mr Whitelocke and from his personal observations he had been led to the conclusion that a forced posture was unnecessary and frequently harmful

EDINBURGH MEDICO CHIRURGICAL SOCIETY

A CLINICAL meeting of the Medico-Chirurgical Society of Edinburgh was held on May 21st, Sir D WALLACE, President, being in the chair

Dr R A FLEMING showed (1) A patient aged 12 suffering from what appeared to be a congenital heart lesion suggesting a mitral and pulmonary stenosis A presystolic thrill and a systolic thrill were easily palpable in the mitral and tricuspid areas respectively The case was shown as a diagnostic puzzle The child had no cyanosis no great dyspnoea and the electrocardiograph was normal. It had been suggested that the condition might be one of foetal rheumatism or a septal defect. (2) A patient, aged 15, with rheumatic fever in whom very definite Babinski signs were elicited. Marked extension of both great toes was demonstrated. There was no other evidence of a pyramidal tract lesion There was abnormal passive extensibility of both fingers and toes.

Mr HENRY WADE showed two cases of operative treatment for cranial defects Part of the outer table of the skull had been grafted into the defective areas, and the patients illustrated how well and quickly the grafts had taken. These patients were two of a group of fourteen, who had suffered from dizziness, headaches occasional fits and apoplexies due to cranial defects Operative treatment had relieved these symptoms in at least 50 per cent of the cases, and in all the general health had been much improved.

Mr SCOTT SKIRVING showed (1) A boy of 15 who had received a depressed fracture of the right occipital bone followed by the appearance of a fluctuating swelling in the affected area. No serious symptoms either focal or general, developed, but the swelling enlarged. Aspiration was carried out twice, followed by the immediate application of a firm pad. In the first instance a tumblerful of clear and colourless cerebro-spinal fluid was withdrawn, and a smaller quantity on the second occasion. The swelling persisted and the question was the advisability of operation. (2) A woman aged 41, with indefinite gastric symptoms and a large hard swelling in the epigastric and right hypochondriac regions Exploration revealed a gall bladder three times its normal size firmly adherent at its fundus to the stomach near the pylorus. A gall stone was impacted in the cystic duct and the gall bladder was full of gastric contents, there being a fistula between the stomach and the gall bladder due probably to a gastric ulcer Cholecystectomy and partial gastrectomy with end-to-end anastomosis of the stomach and duodenum, was carried out recovery was uneventful.

Mr GEORGE CHIENE showed (1) A man aged 34 who had previously suffered from very severe attacks of intestinal colic Old adhesions of the intestine from the upper end of the jejunum to the ileo-caecal valve were unravelled and glycerine introduced into the peritoneal cavity He had probably had an attack of appendicitis when 7 years old as there was a history of inflammation of the bowels about that time He had had no symptoms since the operation (2) A man aged 27 after operation for traumatic aneurysm of the posterior tibial artery with unusual symptoms He was wounded in the leg in March 1918 in France he returned to France in October 1918 and remained on active duty for ten months Six years after being wounded he noticed a swelling of the calf of his leg and a week before his admission to the Royal Infirmary there had been a sudden increase in the swelling of his leg due to a spicule of bone rupturing the sac of the aneurysm. X ray photographs demonstrated the hollowing out of the fibula. The spicule of bone and the aneurysmal sac were also shown

associated toxic factor of intestinal origin—(1) primary anaemia, (2) exophthalmic goitre, (3) bilious attacks The patients were all treated with marked benefit by injections of vaccines from the intestinal flora In the primary anaemia case there had been slight pyrexia, which had quickly disappeared after the exhibition of the vaccines

Dr LAMBIE showed (1) A male patient suffering from chronic parenchymatous nephritis, after double kidney decortication the patient had become worse Some improvement was obtained by large doses of urea (2) A case of chronic parenchymatous nephritis and diabetes mellitus treated with large doses of insulin

Mr PIRIE WATSON showed three cases after operation for obstruction (1) A woman, aged 64, admitted with obstruction high up in the intestine, a large gall stone was found to be impacted midway down the small intestine, but no stones were found in the gall bladder Enterotomy was performed and the gall stone removed (2) A man, aged 65, with symptoms of acute obstruction, suggesting stricture of the pelvic colon The first operation consisted in caecostomy, and no attempt was made to locate the stricture The second operation included resection of the annular stricture of the pelvic colon and an immediate end to end anastomosis Some faeces were passed by the anus on the fourth day, although the caecal opening was still acting The third operation, eighteen days later, consisted in closure of the opening Rapid convalescence followed He gained 2 st in four months (3) A case of large strangulated inguinal hernia which was reduced without resection of gut

Mr STRUTHERS showed a case illustrating all the clinical features of duodenal ulcer At the operation a small thick white swelling was found near the pylorus on the greater curvature of the stomach This swelling was removed and found to be an accessory pancreas, non malignant No duodenal ulcer was found

HEART-BLOCK

AT a meeting of the Cardiff Medical Society held on May 13th, with the President, Mr WILLIAM MARTIN, in the chair, a paper on heart-block was read by Dr HERBERT EVANS Beginning with a definition which included all the varieties of intracardiac type, Dr Evans described the anatomical points involved, and mentioned experiments carried out on the hearts of the frog and the tortoise, whereby several kinds of heart-block had been produced He next gave a classification into types according to the anatomical lesion or into grades from the clinical standpoint This was illustrated by a series of lantern slides and electro-cardiograms and the usefulness of the latter in giving the exact location of any interference in the conduction system was demonstrated In discussing the etiology a large number of cases were referred to, and the predominance of males over females was noted The majority of cases occurred in men over 45 years Of the causative conditions chronic myocarditis was the commonest, then came chronic valvular lesions (mitral stenosis), chiefly rheumatic, arterio-sclerosis, syphilis acute infections and over-administration of digitalis Stress was laid on the fact that heart-block was but rarely a separate entity and should be regarded as a part of other cardiac involvement There were very few symptoms associated with block and they only occurred in the high grades and were due to the slow ventricular rate, which when below twenty beats a minute, caused cerebral anaemia a suspension of the mental functions, and a possibility of fits This constituted the Stokes-Adams syndrome which however was not synonymous with heart-block as the majority of cases never had fits In addition the general nutrition suffered and the mental aspect became affected The symptoms usually met with were those of the associated cardiac lesion which should be sought for in all cases Dr Evans said that the diagnosis of complete block was generally straightforward That of the other types was best arrived at by means of special instrumental methods although there were often suggestive signs—for example a pulse rate below 50, dropped beats, which had to be distinguished from premature contractions A sudden drop in pulse rate during the course of, or during convalescence from acute infections was always suggestive In auricular flutter a condition in which block frequently existed the pulse rate was often rapid From the prognostic point of view heart-block *per se* did not kill The general condition of the cardiac muscle had to be taken into account It was only a sign that the conducting system had become involved High grade block with serious cardiac lesions rendered the prognosis grave Danger was likely to arise during the change from a partial block to complete block, also during the state of "status epilepticus," or when arising during convalescence from an exhausting illness Cases of block were known to live for many years The greater number of cases died from general cardiac failure, with its accompanying signs Treatment was for the most part singularly ineffective Cases in which syphilis was the possible cause were likely to receive great benefit from proper treatment During attacks of block bed was essential Chronic cases were often able to carry on, but usually their power was limited In the mild grades digitalis could be given with safety, although the degree of block was increased No treatment for the fits had yet been found, though atropine had been suggested Patients should be warned of the possible dangers that might arise from these fits

Reviews.

THE MECHANISM OF LIFE

UNDER the comprehensive title of *Life*[1] Sir ARTHUR SHIPLEY has written a little book designed to make students of elementary biology think The object is almost as ambitious as the subject capacious, and to what extent, it will be asked, is such a motive likely to succeed? The author is uncertain He does not say what type of thought he wishes to inspire If wonder at the infinite diversity of nature, if admiration of the efficiency of vital mechanisms, if dismay at unfathomable riddles, if meditation on the motives of existence, if to infuse into the mind such thoughts as these were the author's purpose, then without a doubt he will succeed with all but the most dull and impenetrable intelligences Many readers are likely to be moved to a less exalted reflection "Why," they may ask, "should not other biology books be written in this lively, entertaining vein?" Perhaps we may be allowed to suggest an answer to this question Doubtless there exist other eminent biologists who can claim a profound knowledge of the science, and who even possess the faculty of presenting their opinions with a similar masterly precision, but, alas! there are few if any so deeply versed in general literature who can call from the storehouse of memory the apposite quotations and happy incidents with which Sir Arthur Shipley prefaces his chapters and punctuates his paragraphs He appears equally at home with Omar Khayyam, *Alice in Wonderland*, Dickens, and Cowley—to mention but a few of the sources from which he quotes

Those who look for some compact collection of biological information to prime them for a near examination must be warned at once that this book was not written to facilitate that task It was dedicated to the much larger section of the populace whose studies fortunately are not dictated by the tyranny of an academic curriculum

The themes of the thirteen chapters of this little book are successively protoplasm and cells, cells and their parts, feeding, chlorophyll, the nitrogen cycle, the soil and the sap, food, digestion, respiration, movement, rhythm, and reproduction Each is a little essay bountifully supplied with illustrations gathered from unexpected quarters The chapter on food, for instance (after some introductory remarks from Mr Chadband), gives a simple account of the chemistry of food (on which one of Moliere's characters has a word to say), and then proceeds to discuss the variety of foodstuffs and feeding habits of different creatures we learn of the food of marine worms, earthworms, leeches (with a quotation from Wordsworth on the scarcity of leeches), crayfish, centipedes, wasps, ants, bugs are mentioned spiders, lizards, reptiles, rodents, and birds all come in for a description As an example of the author's breezy style the following quotation is typical

"Another voracious insect is the female mosquito which will so gorge itself of blood that it cannot retain it Whilst it is pumping in blood at one end blood is streaming out at the other end As Dr Johnson said of the school where discipline was maintained without recourse to corporal punishment But sure! sir, what they gain at one end they lose at the other"

[1] *Life* By Sir Arthur E. Shipley C.B.E. F.R.S. Cambridge The University Press 1923 (Cr. 8vo, pp. xvi + 264 70 figures 6 net.)

Another quotation will illustrate the directness with which Sir Arthur Shipley drives home his facts Speaking of the nutrition of plants he says

> The fact that a plant is bathed in its food as a baby would be if it were immersed in a bath of milk or beef tea renders it important that it should expose as much of its surface as possible to the circumambient nutriment Hence leaves are numerous and flattened It is not easy to find data as to the leaves on a plant but many years ago there stood in Garden Street, near the Common at Cambridge Massachusetts a great tree known as the Washington elm for it was under this tree that Washington in 1775 took command of the American Army The ravages of time and the leopard moth have reduced this tree to a stump but at its prime it was calculated to bear some 7 000 000 leaves whose surfaces added together amounted to about five acres In sunlight this vast area was building up foodstuffs out of carbon dioxide and water

It would be pleasant to quote many more of such vivid paragraphs, but these are sufficient to call attention to the merits of the book The statement has been made that scientists are the only people who have anything worth saying to-day, and they have no idea of the way of saying it, Sir Arthur Shipley will help us to remove this reproach

AN ATLAS OF OTOLOGY

THE work of DR ALBERT GRAY on the anatomy of the temporal bone, both macroscopic and microscopic, is well known to all interested in otology and comparative anatomy, and by the publication of a magnificent *Atlas of Otology* he has put every aural surgeon and student still more deeply in his debt It consists of ninety-two photographs mounted on cardboard, and it is interleaved with pages containing descriptive and clinical notes The majority of the illustrations are stereoscopic, and it may be emphasized that all are actual photographs, not plates or reproductions

Section I, comprising forty-three figures, illustrates normal anatomy, and Section II, containing the remainder, is devoted to pathological anatomy The author says in a short preface "There is no region in the human body so difficult to grasp from the point of view of macroscopic anatomy as the temporal bone" His splendid gift to otology will go far to lighten the burden which rests upon the student and the young surgeon The work deals with a region in which, perhaps more than any other, anatomical knowledge is priceless in giving confidence to the surgeon, and it should be especially valuable to all concerned in teaching students

To appreciate the beauty of the preparations the atlas must be examined carefully and at leisure, and it is wise not to study it for too long at one time, owing to the strain on the eyes A stereoscope is provided in the cover To quote once more from the author's preface "Should the present venture prove a success a suplementary volume may be published at a later date" The expense of such a production must necessarily be great and it is very earnestly to be hoped that the author will meet with such a measure of support as will justify the fulfilment of this conditional promise of more to come

RESPIRATORY SYNDROMES

THE first instalment of a Bibliothèque des grands syndromes edited by Professor H ROGER Dean of the Medical Faculty of the University of Paris, is the first part of an elaborate essay on respiratory syndromes[2] by Professor ÉMILE SERGENT of the Charité Hospital Paris It deals with the examination of the rhino-pharynx and the part it plays in respiration, with the syndromes of respiratory insufficiency with asthma descending rhino-bronchitis chronic bronchitis and emphysema and closes with an account of dilatation of the bronchial tubes The second part dealing with the syndromes of the mediastinum the pleurae and the lungs is to be published in the course of the next twelve months The whole is founded on the regular course of clinical lectures at the Charité For the proper understanding of the subject a knowledge of the diseases of the nose and throat is essential, for as Lermoyez and Longuet say bronchitis which does not start from the nose is rare or of simple origin" the first thing to do in descending rhino-bronchitis is to treat the naso-pharynx "The syndrome of respiratory insufficiency" is rather a novelty in ordinary clinical medicine in his account of it Professor Sergent states that in general the cause of syndromes of this order including partial insufficiency of the apices of the lungs is a want of tone of the respiratory muscle including the diaphragm Two main forms of respiratory insufficiency are described in the primary form there is no morbid change in the lungs, in the other there are slight lesions such as bronchitis due to past tuberculous or pleuritic adhesions Each of these forms may be general as is more often seen in infancy and early life or partial observed mainly in adult life, and consisting in deficient expansion of both apices This bilateral condition contrasts with the unilateral want of expansion more commonly present in organic disease Nasal obstruction during the period of growth and a vicious habit of breathing which leads to imperfect movement of the diaphragm are the chief causes responsible for insufficient expansion of the apices of the lungs Although it might be assumed that imperfect apical expansion would favour pulmonary tuberculosis this is stated not to be the case

More than a third of the volume is devoted to a consideration of asthma in all the aspects of this complicated disorder It is regarded as a disturbance of the respiratory centre in the medulla due to various factors Asthma is said to be allied to epilepsy the vertiginous state, and paroxysmal tachycardia as a manifestation of a humoral change, the premonitory symptoms of asthma such as digestive disturbance nervousness and somnolence are compared with the epileptic aura Four main clinical types are described typical asthma, atypical asthma of which several sorts are recognized, associated or complicated asthma, and the infantile form Trousseau's classical hypothesis that asthma is a bronchial urticaria has been confirmed by the bronchoscopic appearances The section on treatment is full and many interesting points are brought out large doses, 20 drops of 1 in 1 000 solution of adrenaline chloride repeated in three doses at half hourly intervals, are stated to be effective when given by the mouth of benzyl benzoate it is said that it has not fulfilled its promise and its vogue has passed

Professor Sergent epigrammatically remarks that all chronic bronchitics are not emphysematous but almost all emphysematous patients are chronic bronchitics The clinical aspect of dilatation of the bronchi is considered as it occurs in children and in adults respectively The latter section contains a diagram of the dilated bronchi shown up by the intratracheal injection of lipiodol The plan and well written monograph certainly contains a thoroughly up-to-date account of the subject

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[2] *Atlas of Otology illustrating the Normal and Pathological Anatomy of the Temporal Bone* By Albert A Gray MD FRFPS(G) Glasg Maclehose Jackson and Co 1924 (Roy 4to pp viii—93 92 figures 15 6s net)

[3] *Les syndromes respiratoires* Fascicule I Par Professeur Émile Sergent Médecin de la Charité Bibliothèque des grands syndromes Directeur Professeur H Roger Paris Gaston Doin 1924 (Demy 8vo pp 11—501 11 figures Fr 20)

The book is divided into eighteen sections, the first is introductory and includes a zoological classification and a condensed list of the animals subjected to autopsy The next four sections treat of the circulatory and haemopoietic systems, and these are followed by others on the respiratory, alimentary, and genito-urinary systems, and so on In each the account of the diseases is preceded by brief remarks on the anatomy in the various animal groups Pancreatic affections form an interesting chapter, showing the relation between the anatomical disposition of the ducts and the frequency of pancreatitis The section on the ductless glands is unequal, that part which refers to the thyroid is good, particularly in pointing out the different symptoms of affection of this gland in animals and in man

A special section by Dr Corson-White on the relation of diet to disease treats first of the relation of food to the character of the alimentary canal, next, of the irregularities of metabolism, and of vitamin deficiencies and the effects of these on disease, especially of the osseous system In the section on communicable diseases tuberculosis naturally claims priority It is a very instructive section and contains an interesting table showing the incidence on each order, the probable origin of infection, the pathological type of the disease, and the visceral distribution of the morbid process A final section, contributed by Dr Weidman, on animal parasites is good but very compressed He points out the modes in which parasites may be both direct and predisposing agents of infection

The illustrations consist of photographs excellently reproduced, and there are several tables giving concise statistical records illustrative of statements in the text The facts are clearly stated and well arranged, but by no means the least of the advantages of the book is that it opens up an extensive vista of unexplored country and will stimulate others to deeper research This should be the effect of every pioneer work The loss, not merely to animal pathology but to human also, where such vast opportunities of research are allowed to slip, will be in future a standing reproach to all zoological gardens which do not attempt to emulate the Philadelphia workers London with its abundant material should be able to produce quite as good a record of useful work We will mention only a few of the avenues of research which reading of this book has brought to mind The adaptation of tropical animals to temperate climates may help to solve the corollary of the adaptation of the European to the tropics, the effects of captivity on the mental state of animals and their lowered resistance to disease finds a parallel in the account by Dr Rivers of the natives of Melanesia and their deterioration, mentally and physically, from deprivation of hunting and predatory expeditions, the part played by parasitic infestation in causing death, either directly or, more often, indirectly, the extent to which anatomical peculiarities affect pathological pictures, the varied normal differential leucocyte counts and resistance to disease, and the part taken by the spleen in defence against infection noting the greater variety of spleen lesions seen in birds for example, than in mammals The study of apparently idiopathic lymphatic hyperplasia may help to solve the problem of lymphadenoma in man There is again the question why lesions, comparable to human arterio-capillary fibrosis, which are found in parrots often in early life, do not lead to organic disease as in man Such are a few of the problems, there are many others

Where there is so much to praise it is in no carping spirit that we point out a few defects Misprints are remarkably scarce considering the size of the book, but there are one or two errors which cannot be attributed to the printers Thus table 16 (p 326) is not accurate, on page 360 'contrasts osseo' is not strictly classical, the conjugation of prepositions sounds peculiar to the English reader as in the following sentence that a certain monkey died on August 20th and 'was immediately posted' (why not 'dissected' or 'examined'?) on page 489 it is stated that an animal showing tuberculous lesions "had sufficient pathology to kill, aside from tuberculous changes" Lastly, there is a tendency to evaluate proportions and percentages from small numbers, thus, if a condition is found in one of two animals examined, it is hardly fair to call this an incidence of 50 per cent, even if italicized These, however, are but minor blemishes in a work which is interesting, instructive, and, above all, stimulating

NOTES ON BOOKS

Pharmaceutical and Food Analysis,[5] by Mr A THURSTON, is a handbook of laboratory methods dealing with selected portions of the matter comprehended in the title The essential oils are included, as are also the more inert raw materials used in the preparation of pharmaceutical products such as fixed oils, fats, and waxes, but the more potent drugs are omitted The food section covers dairy products, eggs, oysters, and some meat preparations, but does not deal with bread and the like Another volume, however, is promised, in which information as to other foodstuffs, and as to tea, coffee, and vinegar, will no doubt be given Space is not, as sometimes happens, given to unusual processes, but the important features of the particular methods chosen are related in sufficient detail While it is satisfactory to have a description of a plan of examination preferred by one who has put more than one kind to the proof, the policy will disappoint those who are seeking alternative methods of procedure Such alternatives are not infrequently imposed on the analyst, as, for example, when he has to examine a sample of milk which has undergone decomposition through keeping It is a blemish that, in a somewhat lengthy discussion of analytical methods relating to milk, no mention is made of the effects of fermentation or the means by which the original composition of a fermented sample may be determined The book contains much useful information acquired from the author's personal observations, this is some atonement for the matters omitted Although the book is good, it needs further work of the same quality to give it the value to be expected from its title

The fifth edition of Professor ANTHONY BASSLER'S textbook on *Diseases of the Stomach*[6] has been considerably enlarged by the addition of much new matter such as recent work on the secretion of gastric juice, gastric motility and sensation, the fractional test meal of gastric analysis, x ray examination, and duodenal and rectal feeding Special attention has been paid to physical methods of treatment, including massage, electric therapy, mechanical support to the abdomen, active exercises, lavage, and balneotherapy The work is copiously illustrated by photographs and skiagrams and provided with a full index

We have received the second edition of a book on hydrotherapy by BRIEGER and KREBS[7] It is founded on a course of lectures delivered at the Institute of Hydrotherapy of Berlin University It is divided into three parts In the first the writers discuss the action of water on the temperature, metabolism, blood, secretions and excretions, muscles, nervous system, respiration, and circulation, the second part deals with the technique of hydrotherapy, including baths, douches, and packs, in the third part the application of hydrotherapy to various diseases is considered.

Dr L E DAVIS, assistant professor of surgery in the North Western University Medical School, Chicago, believing that the anatomical and pathological facts of neurology are at present being taught in too isolated a fashion, has written a small book, *Neurologic Diagnosis*,[8] in which an attempt is made to present the subject "from the viewpoint of correlating symptoms with known anatomic and physiologic facts" After an anatomical and physiological introduction occupying forty six pages, the remainder of the book is filled by illustrative cases, in which the reader is led from the less to the more complicated It may prove quite a useful book to a certain type of student

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[5] *Pharmaceutical and Food Analysis* By Azor Thurston London Chapman and Hall Ltd 1923. (Med. 8vo pp xiii+416 18 figures 21s. net.)

[6] *Diseases of the Stomach and Upper Alimentary Tract* By Anthony Bassler M D F A C P Fifth edition revised and enlarged Philadelphia F A Davis Company 1922. (Med 8vo pp xx + 977 151 figures 21 plates 8 dollars)

[7] Brieger Krebs *Grundriss der Hydrotherapie* Zweite auflage bearbeitet von Dr Walter Kreb Bonn A Marcus and Weber 1923. (Med 8vo pp viii+149 10 figures Bound 3.20 sh paper 2.40 sh)

[8] *Neurologic Diagnosis* By Loyal Edward Davis M S M D Ph D in Surgery Philadelphia and London W B Saunders Company 1923. (Post 8vo pp 171 49 figures 10s net.)

PUERPERAL MORBIDITY AND MORTALITY

SCOTLAND

THE report of the Departmental Committee on Puerperal Morbidity and Mortality appointed by the Scottish Board of Health has been issued The Committee consisted of Lord Salvesen (Chairman), Mrs Mary Barbour, R C Buist, M A , M D M R C P Edin , Miss M E Cairns, T F Dewar, C B , M D , D Sc , Miss A M Fraser, Matthew Hay, M D , LL D , and Professor B P Watson M D , F R C S Edin It held twelve meetings and examined forty witnesses The reference was "to inquire into the incidence of puerperal morbidity and mortality in Scotland, with special reference to the causes contributing thereto, and to suggest any remedial measures"

PART I—INCIDENCE

The report is divided into two parts the first of which deals with the incidence of puerperal morbidity and mortality In the endeavour to find out how many women actually die during pregnancy or soon after its termination, the information the Registrar-General was able to supply was found incomplete, in that the death certificates on which it is based do not always show the death as that of a puerperal woman A further difficulty was found in that registrars, in tabulating the certificates do not adopt the same system Thus while a case of notifiable fever in association with pregnancy would by all be tabulated as a death from infectious disease, the death of a puerperal woman with influenza would be classed as puerperal in Scotland but not in England Taking this into account, the differences which have been supposed to exist between the death rates of puerperal women in England and Scotland were found to be negligible

Notification Nomenclature

Under this heading the Committee recommends (1) that when death occurs during pregnancy or within twenty-eight days of its termination the fact of pregnancy should be communicated to the registrar along with the fact of death (2) that representation be made to the international committee concerned with the classification of causes of death with a view to securing uniformity of method as well as of nomenclature in compiling official statistics of puerperal deaths

Classification of Maternal Deaths

The second fundamental figure desired—the actual number of women concerned in puerperal processes—was also found to be unattainable the nearest approach being the total number of births, and on this the rates considered by the Committee were based In Scotland in 1922 the mortality of all women in the age group 15 to 44 was 494 per 100 000 and the puerperal mortality recorded was 6 6 per 1,000 births The mean rate for the years 1915-22 was 6 2, which is higher than that of any of the six preceding decennia Though this may be in part due to more exact certification, it does not indicate any material decrease in maternal mortality

Causes of Puerperal Deaths

(numbering 8 460 for the eleven years 1911 22)

	Per cent
Sepsis	47.29
Albuminuria convulsions	16 50
Haemorrhage	13 46
Abortion	7.29
Phlebitis embolism	5 63
Uncontrollable vomiting	2.38
Ectopic gestation	1.57
Other diseases etc of—	
Pregnancy	3 10
Childbirth	10 14
Puerperium	12-43
Diseases of breast	0 15
	100 00

This classification has been followed since 1233 and since that time the groups have not varied greatly in their relative proportions except the group "Albuminuria etc," which has increased almost steadily from 6 per cent to 16 5 per cent This seems to indicate a really greater frequency "Other diseases and accidents" amount to 25 67 per cent

A regrouping of the causes of puerperal death suggested, with the five classes (1) intercurrent disease (2) toxaemia (3) haemorrhage (4) trauma (laceration, hock, etc , from difficult labour), (5) sepsis Though more than one factor may be present in a case one will usually be dominant for classification This grouping makes apparent the points at which preventive management is possible, and the witnesses were unanimous on the point that the present mortality rate is reducible

Incidence of Morbidity

With regard to the incidence of morbidity other than sepsis, evidence is scanty The frequency of sepsis was found to have a distinct relation to delay and difficulty in labour It was greater in first labours, in labours where laceration had occurred and in labours which had been terminated by instrumental or manual delivery There was no significant difference in the frequency of sepsis in cases attended by midwives and those attended by doctors An analysis of 1,253 cases occurring in Glasgow in the five years 1918-22 showed that 217 were associated with abortion and 208 with other forms of haemorrhage 402 were first pregnancies In 78 of 292 forceps deliveries delivery had been effected in less than twelve hours from the beginning of the labour, in 15 of them in less than four hours

The notification of puerperal fever is becoming more fully practised, and this is accompanied by diminution in the apparent case mortality The importance of early notification is considered to be increasing as it is the first step to hospital treatment Consideration of suggestions for further improvement in notification led the Committee to favour conference between medical officers of health and practitioners

Morbidity in Pregnancy

Inquiry into the present state of bacteriological knowledge with regard to the causation and treatment of puerperal fever showed that on none of the essential problems has science reached such finality as would justify the formulation of routine rules for guidance in practice

On the question of morbidity in pregnancy the inquiry what scanty evidence available from antenatal clinics showed that 23 per cent of the cases had needed treatment for intercurrent diseases 9 per cent for toxaemia 5 per cent for haemorrhage while operative delivery had been indicated in 3 per cent for narrow pelvis 2 per cent for malpresentation and 3 per cent for heart disease Ill health during pregnancy was found to have a high relation to puerperal mortality

An analysis of 10,000 gynaecological cases had revealed relation to preceding puerperal processes in 28 per cent of them 9 per cent had had 5 per cent showed lacerations and 14 per cent prolapses or other displacements

Puerperal Sepsis in Relation to Environment

Inquiry was made as to the relation of the environmental and personal factors to the incidence of puerperal sepsis but the results were not thought to be significant as the Registrar General for Scotland stated that the puerperal mortality rates for all the areas of Scotland were with one exception within the limits of expectation The Committee concluded that the factors of puerperal mortality in Scotland are common to the whole country

PART II

In the second part of the report the needs of the puerperal woman and the conditions of her attendance are discussed constructively The conclusion is that the principle of prevention for the woman extends through the whole of pregnancy but is intensified in the period of childbirth through which it continues into the post-partum

stages The various agencies intervening in the care of the woman are considered and the conditions for their development and co-ordination are described The personal agencies concerned are those of the doctor and the midwife, which, it is insisted, are not alternative but complementary The work of the midwife is described as attendance on the woman who is normal and the observance of the indications of passage to abnormality

Ante-natal Care

Ante-natal care is not within the competence of the midwife alone and needs special knowledge and training on the part of the medical practitioner, and since this training is not at present an organized part of the student's course the Committee recommends (*a*) that ante-natal clinics should be established wherever there is a sufficient concentration of population, (*b*) that ante-natal departments at the maternity hospitals should be fully organized and provided with sufficient accommodation for observation, treatment, and teaching, and such teaching made an essential part of the practical work of both medical student and pupil midwife

With regard to the difficulty in securing the willing co-operation of the women themselves, the influence of sickness benefit is pointed out, and it is suggested that on account of its wider range maternity benefit might be made conditional on evidence of not only delivery but ante-natal care The probable saving in sickness benefit by the less amount of late puerperal morbidity makes this an economical measure for approved societies

The medical officers of ante-natal clinics, it is stated, need extensive knowledge of clinical medicine, and not only in obstetrics but in general medicine, the understanding of the conditions of domestic midwifery and economics such as can be acquired in general practice is invaluable, and, it is said, is of more importance than administrative training The ante-natal clinic should be considered as a link in the obstetric care of the community The equipment of clinics is considered and the co-ordination of their work with that of the domestic attendants on the one hand and the hospitals on the other It is suggested that it might assist midwives when necessary in the examination of urine

The Midwifery Service

The work of the midwife as domestic attendant and the economics of her position are discussed The difficulty of securing fair return for outlay without exceeding the volume of work compatible with efficiency is noted, and subvention is recommended in the forms of guarantee of minimum income, transfer fee for cases taken over by the public services, and a lien on the maternity benefit The possibilities of unqualified practice are considered and the need of amendment of the Midwives Act is suggested

The Doctor in Obstetric Practice

In considering the functions of the doctor in domestic practice the Committee points out that he must leave the work of watching the early stages of delivery and the routine of cleanliness to someone who performs the work of a midwife The question as to whether doctors apply forceps too early or too often is discussed in some detail, with special reference to the difficulty of determining a normal frequency for forceps and to the Glasgow evidence as to the sepsis cases in which instrumental delivery had been effected within four hours from the beginning of labour and the cases of "ruled forceps" The general incompatibility of the first stage of labour and delivery by forceps is emphasized, as well as the advantage of transferring the prospective "high forceps" case to hospital It is pointed out that the difficulty of harmonizing midwifery cases with the other demands of practice may be lessened by ante-natal examination and the removal to hospital of cases which do not offer a reasonable prospect of safe delivery at home Evidence is quoted to illustrate the effect on the forceps rate of pituitary extract and methods for the relief of pain in labour

The Committee points out the difference which the presence or absence of an anæsthetist makes in the maintenance of asepsis and also the difficulties experienced in the domestic treatment of cases of ante-partum hæmorrhage, and suggests that the obstetric ambulance should be provided with the means of transporting the patient in the pelvis high position

With reference to the difficulty of securing sterile dressing in some domestic conditions, it is recommended that the local authority should be empowered to issue on loan sterilized outfits, and it is suggested that it might also sterilize the midwife's gowns The methods of cleansing the patient in domestic practice and the need of sterile armamentaria are commented on, and it is recommended that midwives should be required to summon medical aid for all cases of perineal tear

The need of post-natal examination is not discussed in detail

Co-operation of Doctor and Midwife

An example of the systematic co-operation of the doctor and midwife is given from an industrial area where the doctor sees the women before labour and when required renders assistance in labour, while the midwife is left in charge of all the ordinary labours

Training

The training of midwife and of medical student is discussed, the need of some guarantee for the primary educational fitness of the midwife pupil is pointed out, and the need for more practical work in both cases is emphasized Ante-natal examination is impossible without skill in abdominal palpation, and this is only attainable by the student in the ante-natal department On it the capacity to recognize and to correct malpositions depends The Committee points out the gain from a period of intensive clinical work with a limited range and insists on the need of more systematic supervision, and it suggests the advantages of a formal and continuous record It recommends that the attendance of the student on ante-natal cases should be organized and made compulsory

Hospital Accommodation

The report goes on to consider the institutional care of the puerperal woman, but, except in the case of the illegitimate mother, does not find in the evidence submitted ground for urging the provision of hospital accommodation for normal cases, though it is held to be clear that the present maternity hospital accommodation is generally inadequate The consideration of the conditions under which any spare accommodation in Poor Law institutions could be made use of is recommended

In reference to the establishment of local maternity hospitals the Committee points out that availability is determined by ambulance range, and deprecates the setting up of numerous small hospitals, since they are neither economical to run nor easy to supply with an efficient medical staff By proper ante-natal supervision and timely transference to hospital of cases prospectively difficult even distant and sparsely populated areas can be served by a limited number of central hospitals Where for social reasons a country patient needs removal from home a cottage hospital is usually available

The Committee recommends that all "maternity homes" should be registered

The Committee urges the advantage of conference of the medical officers of health and of maternity centres with practitioners, and recommends inquiries into all cases of maternal death, such as have by local initiative been set up in Aberdeen and elsewhere

Conclusion

The unsettled condition of the problems relating to sepsis and our ignorance with regard to the apparently increasing toxæmias are made the text of a paragraph in which the need of further research with the collaboration of the laboratory worker and the clinician is emphasized The report concludes by pointing out that all the remedial measures considered have centred round the individual woman, and that their greatest efficiency is manifested during the ante-natal period, when they can be applied to prevent impending evil

AN EXAMINATION
OF THE
DOCTRINES AND METHODS
OF
OSTEOPATHY AND CHIROPRACTIC

THE medical cults known as osteopathy and chiropractic had their origin in the efforts of an American citizen, Dr A T Still, to promote the physical and moral "uplift" of mankind His good intentions have, however, resulted in the development of a colossal system of pseudo-medical practice and in much trouble to the medical profession and legislatures on the American continent Although this country had until recently been free from the incursions of his adherents, there are indications that this immunity is now coming to an end. A brief account of these systems will therefore not be without interest For a good deal of the information that follows we are indebted to the *Journal of the American Medical Association*

OSTEOPATHY

Dr Still had represented Douglas County Kansas, in the Legislature during the anti slavery movement in that State in 1857 and it was at the close of that period that the germ of the new medical doctrine began to shape itself To quote his own words

> After I had helped Abe Lincoln free the slaves I knelt down and said O Lord I'm glad that job's done It was a tough fight but I'm glad you helped us to win Lord Amen But St Peter spoke up and said Hold on there Still you've got a worse job than that on hand. You got *millions of white slaves to free now* from prejudice and habit and liquor and drugs

This bald prejudice against the use of drugs, however, does not appear to have satisfied Dr Still, and he sought for some logical basis for their rejection which he found in the true conception of disease or what he held to be such To every pious mind, so Dr Still would have argued, it must be obvious that the Creator, in designing our bodies made provision that, so long as the parts retained their normal anatomical relations, the various organic functions would proceed unhindered and the tissues be endowed with adequate defensive properties to protect them from injurious external influences On this theory disease could only arise as the result of some derangement of the normal anatomical relations of body structures, such as bones muscles and ligaments, and the sole function of therapeutics would be to adjust any accidental displacement of parts or if this could not be done, to employ such hygienic and similar measures as would lessen the injurious influence of external conditions in the face of the *lowered resistance* which such displacement produced The sole and sufficient curative measure was, *therefore held to be* adjustment, and this in fact constitutes the essential characteristic of osteopathy

Such was the original conception In its practical application it was conceived that displacements would act by exerting pressure on vessels and nerves and thus alter the functions of organs or modify tissue growth so as to produce tumours, inflammatory deposits and other anatomical lesions The extensive relations however existing between the spine and the nerves issuing from the intervertebral foramina soon suggested that displacements of the vertebrae must play a predominant part in disease and the term 'osteopathy" seems ultimately to have become almost synonymous with "the science of vertebral subluxations As to the existence of spinal and other deformities the evidence is sufficiently obvious in such cases a kyphosis and lateral curvature, but the minor subluxations that figure so largely in osteopathic pathology appear to be evident to osteopaths alone They speak of point of tenderness malalignment of spinous processes increased mobility and radiographic evidence but it may fairly be suggested that had such subluxations existed anywhere but in their imaginations they would long ago have demonstrated them in the *post mortem* room

The measures adopted to reduce spinal subluxations naturally varied with the position of the dislocation and the nature of the case For instance in a case of obstinate headache, the patient was placed on the back the head held firmly, and the neck drawn out as far as possible then a sudden downward slant was given, producing a certain amount of pain, but, it was alleged giving immediate relief In the lower parts of the spine the mode of procedure in the reduction of dislocations would naturally be different and, as will be explained subsequently, the chiropractors have schematized their technique into a well defined routine the chiropractic thrust" In simple cases such as that above mentioned a single operation might prove sufficient, but on the average twenty sittings are required and in obstinate cases such as chronic gastric ulcer, the spinal adjustment may have to be repeated scores or more times before a complete or stable reduction of the displacement is effected The original theory has been somewhat extended by the assumption that the organs could be favourably influenced through the spinal centres by manipulation over the spinal column, consisting of rubbing or massage

A personal colouring may be given to the above description by citing one or two instances, the first being one of Dr Still's own cases

> My sister when visiting Kirksville was introduced to the Old Doctor The first remark of the old gentleman was to the effect that it was a pity that a pretty girl should be disfigured by a goiter There on the lawn near the school building Dr Still treated her Some days later he reported the treatment The growth disappeared and has never returned

The following is from a communication submitted to the Missouri State Convention by C J Carrico D O [Doctor of Osteopathy] on the subject of "over-eating"

> I recall the case of a child about eleven years old, who had eaten freely all Christmas morning of candy and nuts At noon he sat down to a large plate of turkey with all the trimmings and then finished off with plum pudding and hard sauce We can see a picture of acute indigestion. The child had been constipated before this time unknown to the parents It was made to vomit by simply tickling the soft palate and uvula, and then after a short time a glass of warm water was given and the vomiting was repeated. A high enema was also given with good results On osteopathic examination showed a lesion of the sixth and seventh thoracic vertebrae *which had undoubtedly predisposed to the* constipation and had affected the *general condition* of the stomach and intestinal tract Treatment was given over the dorsal and sacral area with the idea of stimulating the vasomotor nerves *distributed to the descending colon* and rectum I was greatly surprised at the rapid recovery and outcome of this case which clearly demonstrated the possibility of pure osteopathy in this type of case

apparently, been proceeding for many years, for we find it reported by Justice Hodgins of the Supreme Court of Ontario, who was appointed in 1915 to investigate medical cults

That osteopathy in the United States is rapidly changing so that it may eventually conform to the educational qualifications required of physicians That osteopaths generally are no longer adhering to the narrow limitations fixed by the tenets of osteopathy, but are anxious for classification on practically the same standard as that of regular physicians "

Thus, also, we learn that in the large American School of Osteopathy at Kirksville ordinary surgery is now combined with "adjustment," and departments have been established for conducting chemical and microscopical diagnosis, blood tests, and bacteriological work, and some practitioners take the ordinary medical degree in addition to that in osteopathy Again, at a recent meeting in the osteopathic hospital in Denver, a resolution was passed affirming "that there is no known substitute for vaccination to-day which is as effective in the prevention of small-pox" This must not be taken to imply that "adjustment" is not effective, but merely that it is less so than vaccination Yet, notwithstanding this apparently close approximation to regular medicine, the belief in the original doctrine of *osteopathy* seems to be as firm as ever, and it is impossible to avoid the conclusion that those patients who consult osteopaths for other than trivial complaints do so at some risk Whether there are osteopaths who have entirely discarded the doctrine and retain the name merely for the purposes of advertisement need not be considered here

The number of osteopaths at present practising in this country is a matter of dispute, some say there are but few, others that we are inundated with them Recently a "Spinal Curvature Week" has been instituted, to be held annually, during which it is proposed, by spoken and written word, to do everything possible to eradicate *spinal* curvature, and it is intended to include this country within the scope of the mission According to Dr Millard, the president of the league by which this announcement is made, the campaign will afford "a golden opportunity to establish a number of new clinics, a golden opportunity for any amount of publicity" We must therefore anticipate a considerable influx in the near future, and it is apparently a pioneer body connected with this movement that has taken up its quarters at an address in Wigmore Street, London, and is described as being under the direction of the "League for the Prevention of Spinal Curvature, Limited"

CHIROPRACTIC

Chiropractic is an offshoot of osteopathy, it seems to be osteopathy under another name, and was founded by a pupil of Dr Still—Mr B J Palmer It will therefore only be necessary to describe those features which distinguish it from latter-day osteopathy

Its two main characteristics are first, the retention of the original dogma in its crudest form, with little or no approximation to ordinary medical teaching, and, secondly, its commercial character The name, the dogma, and ignorance constitute its stock-in-trade

With regard to the dogma, the evidence given by Mr Palmer himself while under cross examination in a court of law will illustrate the attitude adopted and the degree of knowledge possessed by that leading authority

> The Chiropractic Philosophy constantly imbues the same fundamental thought that all external or internal germs or other scavengers are scavengers strictly in the sense that they live upon body waste and dead matter the purpose of the chiropractic adjustment being to make normal tissue so that there would be no waste matter upon which any kind of scavenger could live either inside or outside the body
>
> Counsel And what particular vertebra did you teach them to adjust for lice in the head or any? Palmer The adjustment for any scavenger would depend entirely upon where the scavenger was
>
> Counsel Well take a scavenger such as lice in the head what vertebra would you adjust for those? Palmer In the cervical region
>
> Counsel And supposing you had bed lice in the groin what vertebra would you adjust for those? Palmer In the lumbar region
>
> Counsel Any particular vertebra? Palmer It would depend entirely upon the particular one subluxated It might fluctuate in different individuals
>
> Counsel What deductions would there be there? Palmer Irrespective to the fifth inclusive it could be any one

Mr Palmer has also stated that he regards bacteriology as "the greatest of all gigantic farces ever invented for ignorance and incompetence" In referring to this subject, Justice Hodgins, before mentioned, expresses the opinion that then (the chiropractors') repudiation of all modern scientific knowledge and methods is such that it would be impossible to recommend any way in which they should be allowed to practise and by which the public could be safeguarded "Those who appeared before me saw no necessity for preparatory qualifications, ridiculed and repudiated diagnosis, bacteriology, and chemistry, and admitted that a chiropractor acts in all cases on his cardinal principle without examination"

The commercial success of the chiropractic schools appears to have depended on the application of the principle of charging maximum fees for a minimum of information, a principle which could only be applied successfully to persons of considerable ignorance The following references will illustrate these points With regard to the type of information afforded, the description by Dr George Dock of a visit to the Palmer School of Chiropractic, Davenport, Iowa, is instructive This school is regarded as the fountain-head of chiropractic, and was founded by Palmer's father as a "School of Magnetic Healing," evolving later into the Palmer School of Chiropractic Dr Dock was fortunate in being present at a clinical lecture given by the head himself, before an audience of over six hundred students

> "A patient would be brought on to the front of the stage and the history read This gave about as much as is included in the primary complaint in an ordinary history, *e.g.*, 'sour stomach, deafness, insomnia' The diagnosis was announced without any further examination, sometimes by a member of the audience, and consisted in a rapid fire statement of a given vertebral dislocation
>
> Another interesting exercise was a treatment clinic The patient lying down, a rapid palpation is sometimes made, very often none at all, as the site to be treated is already known Then the left hand is arranged for the 'thrust,' the other hand fastened around the wrist, and a rapid push downwards is made the whole thing taking much less time than it takes to describe"

Dr Dock proceeds

> "Those who imagine that the treatment is used only for local diseases should hear the recommendation of the effects in general malaise, as from being up too late at night the value of the treatment for workmen, and its use in blindness, deafness, cancer of the stomach and liver, small pox, measles influenza etc One must question whether, as stated in a Court decision chiropractic is an innocent business No one can object if a theatre-star wishes to be adjusted but the case is different in a child with diphtheria When we think of this it seems important that up to last winter chiropractors claimed that fifteen States and one territory have chiropractic boards, not insisting on medical training that eight States give legal recognition, and that twelve Supreme Courts hold that 'drugless healers' are not practitioners of medicine"

Further evidence of the economy displayed in imparting knowledge to the students may be gathered from a report issued in 1915, showing that the three large colleges in Iowa—Davenport, Universal, and Palmer—deemed it unnecessary to include in their curriculums such subjects as medicine, surgery, pharmacology, bacteriology, anæsthetics, and gynæcology (some information of a chiropractic nature was given in this last subject in the Palmer School)

As commercial undertakings, many of these schools must be able to show considerable annual profits Thus Dr Pinkham, Secretary to the Board of Medical Examiners, State of California, in discussing what in America is referred to as "the chiropractic problem," states

> 'Chiropractic Schools of mushroom growth have sprung up all over the country, privately owned and supported by fees accrued from students' enrollment Pause to estimate the income of the Palmer School, with an enrollment of more than 2,000 at a minimum of $300 per capita, practically an annual income of $600,000 from student fees alone The majority of chiropractic schools augment that income from fees by collecting in advance a monthly fee of $5 for treatment in the clinic of the school

The low grade of education exhibited by the students was recognized by Dr Dock during his visit to the Palmer School The farm, the barber-shop, and the hotel dining-room or kitchen would seem to be the more natural workplaces for a great many" Moreover, the chiropractors themselves appear to make no secret of their ignorance A proposal was recently made to introduce a bill requiring chiropractors to give proof of a preliminary education equal to that of a high school The editor of an Indiana journal

in opposing such a suggestion remarks "How many chiropractors in Indiana to-day could qualify under that rule? I believe that the total number able to comply with that ruling would be less than 2 per cent of all the chiropractors in the State" The following correspondence, however, between a prospective student and the representative of the "Carver Chiropractic College," Oklahoma City, affords, perhaps, a more striking illustration of the type of student that these colleges are willing to admit within their walls

Sirs Mister Kirpatic School I want to rite letter an see if i can be Kirpatic dr if you can make a kirpatic dr for how much money i got about 2 thousand dolers that my husband got wen he died from the insurance company My husband die with apenaitis in his side an drs. say it to late after they operate an lots of pus an Kirpatic dr say he could cure him if i had called him.

Dear Madam. Your most interesting letter stating that you were very much interested in the study of the subject of chiropractic and reciting the incidence leading to the death of your husband and the information that you had received from some of your Chiropractic Doctor friends that his death was all unnecessary had a Chiropractic Doctor waited on him instead of an M.D While your education may be limited you have intelligence and the determination and sufficient education to understand the English language you would have no difficulty in getting a knowledge of this subject so that you could go out and practice and be efficient

This student, after eighteen months' "study," would be entitled to the degree of D C (Doctor of Chiropractic), or, after an additional six months, to that of Ph C (Philosopher of Chiropractic), and would then be let loose on society

It is difficult to believe that if the public were made acquainted with the facts above related, these cults would succeed in making much headway in this country The causes of their phenomenal success on the continent of America would form an interesting subject for study, but that does not come within the scope of this article

MIDDLESEX HOSPITAL MEDICAL SOCIETY

150TH ANNIVERSARY

AN illuminating entry in the minutes of the quarterly court of Middlesex Hospital for 1774 states that the students having formed themselves into a medical society the court unanimously agreed to let them have the use of the physicians' room for two nights a week 'provided the Society would be at the expense of their own candles" The 150th anniversary of the same Society was held on May 22nd, 1924 when something brighter than candlelight shone upon a distinguished company gathered in the two theatres, where, thanks to telephonic transmission the meeting was held simultaneously while the senior common room, the dean's room the research institute, and the museum were given up to exhibitions and in the students common room dancing went on until midnight

The 150th annual meeting was held with every formality as to minutes and so forth under the presidency of Dr G E BEAUMONT, and a reminiscent address was delivered by Sir JAMES KINGSTON FOWLER, who was President of the Society nearly forty years ago

He claimed that the Society was the oldest hospital medical society in London Notwithstanding its great age it had retained the vigour of youth for it had realized that youth could only be preserved by work and during its long life it had been a working society of the students of the hospital He went on to speak of some of the old worthies the first of whom one of the founders of the Society was James Moneff Arnott in every sense of the word a truly great man while another was Sir Thomas Watson physician to the hospital from 1827 to 1843 who became afterwards President of the Royal College of Physicians. From Sir Thomas Watson it was an easy transition to Dr (afterwards Sir) George Johnson his own first master in medicine who assisted in the preparation of the last edition of *Watson's Lectures* Johnson was a master of the stethoscope and the speaker considered that his clinical teaching with regard to the function of the arteriole remained as sound to day as it was fifty years ago

Sir James Fowler went on to recall a gallery of names of men who had served the Society Among others he mentioned Andrew Clark president at the date of the centenary Alexander Patrick Stewart the first to differentiate typhoid from typhus fever William Carley, upon whose table in the chapel was the simple words the beloved physician John Whitaker Hulke and George Lawson, both of whom served in the Crimea George Critchett renowned in ophthalmology Thomas Henry Kellock, of whom the records state that he died in the service of the hospital John James Pringle remembered as a teacher of his chosen subject and ever the friend and counsel of the students Robert Wishart Lyell and Charles Leonard Hudson whose services were recalled in the prayers which bear their names and Alfred Pearce Gould has often recalled his colleague for more than thirty years. Turning to the progress of the last fifty years the lecturer enumerated some of the changes which had taken place in medicine and the allied departments of science Of changes which had come about in the method of clinical observation the first was the recall of Addison the introduction of salicylic acid and the salicylates for the treatment of acute rheumatism To William Carlos Williams may be regarded as the greatest physician with whom he had the privilege of association there followed the introduction into this country of the cold bath treatment of typhoid fever which entirely transformed the clinical aspect of the disease and led him (the speaker) to evolve the dictum that the world would be in the state into which no typhoid patient should ever be allowed to get He also touched on the brilliant and fascinating chapter in the history of medicine which had to do with diseases of the thyroid gland. Among the many changes in medical practice which had occurred since 1874 few had been more marked than in the use of alcohol in disease At King's College Hospital fifty years ago every patient with pneumonia was on admission and as a matter of course ordered 8 oz. of brandy in the twenty four hours and this must be increased to 10 oz. or 14 oz. and sometimes champagne was ordered in addition. But if one would recall the great triumphs of medical science since the Society celebrated its centenary it would be research and here Bland Sutton In true of Paul [illegible] work and ideals of the Bland Sutton Institute of Pathology

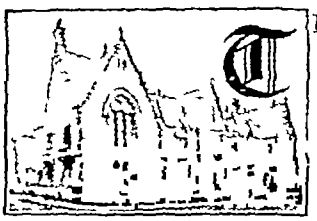
He concluded his address with the remark that it was possible that one of those to whom he was now speaking might when the Society celebrated the completion of its two hundred years of honoured life stand in his place and recall the great deeds of science which had marked the fifty years which he had had come to an end and he did not doubt that such a one would be able to point to far greater triumphs than had been recalled to their minds that evening But it must never be forgotten that the art and practice of medicine always had had to do with human nature which changed but little and would never rise above the need for sympathy and kindness in

NINETY-SECOND ANNUAL MEETING

of the

British Medical Association,

BRADFORD, 1924



Royal Eye and Ear Hospital.

THE ninety-second Annual Meeting of the British Medical Association will be held this summer in Bradford. On the evening of Tuesday, July 22nd, Mr J. Basil Hall, M.Ch.Cantab., consulting surgeon to the Bradford Royal Infirmary, will be inducted President in succession to Mr C. P. Childs, F.R.C.S. Mr Basil Hall will deliver his Presidential Address on the evening of the same day. The sectional meetings will begin on the next morning and will be continued on the two following days. The provisional programmes for the work of the twelve scientific Sections, together with the names of the sectional officers, are printed, with other announcements, in the SUPPLEMENT to this issue. The Annual Representative Meeting for the transaction of medico-political business will begin on Friday, July 18th, after formal preliminaries it will deal first with the Annual Report of Council, which relates the work done by the Council and Committees of the Association during the past year. Up to and including the last day of the meeting, Saturday, July 26th, there will be about twenty excursions to places of interest in the neighbourhood. We publish below the third of a series of descriptive and historical articles on Bradford, its institutions and surroundings.

BRADFORD MEDICAL INSTITUTIONS.*

BY

J. HAMBLEY ROWE, M.B., C.M.,

PRESIDENT, BRADFORD MEDICO-CHIRURGICAL SOCIETY; FELLOW SOCIETY OF ANTIQUARIES; FELLOW SOCIETY OF GENEALOGISTS

PERHAPS in this the third article dealing with Bradford a brief account of the medical institutions and some of the social activities of the city may be given.

THE ROYAL INFIRMARY

The institutional treatment of disease in Bradford began just about a hundred years ago, when an old house situated near the parish church was utilized as an infirmary. After several changes of location the present infirmary site was acquired and built on in 1844 at a cost of £9,500. Twenty years later a third story was added, and the building then acquired its very presentable aspect viewed as a piece of architecture. Other additions were made in 1874 and 1885, and nurses' quarters were added early in this century.

Internally the Royal Infirmary has long been out of date, and efforts have been and are being made to erect a new and up-to-date voluntary hospital on a site acquired as long ago as April, 1910. Medical and surgical work has been carried on under difficulties of restricted room and appliances, lack of lifts, and general unsuitableness. One of the retarding influences on the erection of the new hospital has been the huge debt which up to lately cramped the work of the Hospital Committee.

Last year, however, thanks to the untiring energy of the then Lord Mayor, Alderman Thomas Sowden, over £60,000 was raised, and this sum handed by the Lord Mayor to H.R.H. the Prince of Wales on the occasion of his visit in May, 1923, was devoted to wiping out the millstone of debt.

A fresh effort is being made to raise the sum necessary for the erection of the new huge voluntary hospital, and with greater prospects of success, and negotiations are being resumed with the corporation for the sale to them of the very valuable site of the present infirmary. It is hoped that the City Fathers will not take a narrow and parsimonious view of the price to be paid per rood, pole, or perch of ground, but will view the expenditure on this site in the light of a unique investment in civic welfare. Whatever is paid by the corporation will be returned a hundredfold to the citizens in their due hour of surgical and medical need.

Plans for the new building are ready, and it is noteworthy that the leading spirit in this campaign for the provision of improved and more efficient treatment of the sick in Bradford is the President-Elect of the British Medical Association, Mr J. Basil Hall.

ROYAL EYE AND EAR HOSPITAL

This institution began in a small way in a private house, 25, Brunswick Place, as long ago as 1857. Largely through the exertions of its founder, Dr Edward Bronner, a new building was erected in 1865, at a cost of £5,500, in Hallfield Road. Extensions were made in 1878, 1884, and 1898, so that the hospital now has accommodation for seventy-two in-patients.

The institution serves a very large portion of the West Riding, patients coming from towns and villages seventy miles away. In 1857, 357 persons were treated for diseases of the eye and 153 for diseases of the ear. In 1906 the respective figures were 5,903 and 1,367. In 1923, 6,602 new eye cases and 2,646 new ear cases were seen, and the total number of out-patient attendances was 28,874.

A memorable action on the part of the staff and committee of this hospital occurred in 1887, when 10,000 cards containing instruction regarding the very dangerous character of ophthalmia neonatorum were given to all the local registrars of birth, to be handed to all persons who registered births. The chairman of the committee, Sir Jacob Behrens, wrote to the Registrar-General and the President of the Local Government Board, suggesting that similar cards should be given to the registrars throughout the kingdom. In their replies these officials regretted that it was not in their power to carry out that suggestion.

About a quarter of a century elapsed before our legislators took adequate measures to deal with this most frequent cause of blindness—a disease which may be considered responsible for at least a seventh of the 36,518 blind people of England and

* In an article in the recent issue giving an historical sketch of the city of Bradford in the BRITISH MEDICAL JOURNAL of December 8th, 1923 (p. 1111), entitled "Bradford Yesterday and To-day," the date of the Royal Infirmary was given (p. 541).

Wales Twenty years ago this hospital dealt with twenty cases of infantile blindness per annum. To-day the average is one case yearly as far as the city is concerned.

OTHER VOLUNTARY HOSPITALS

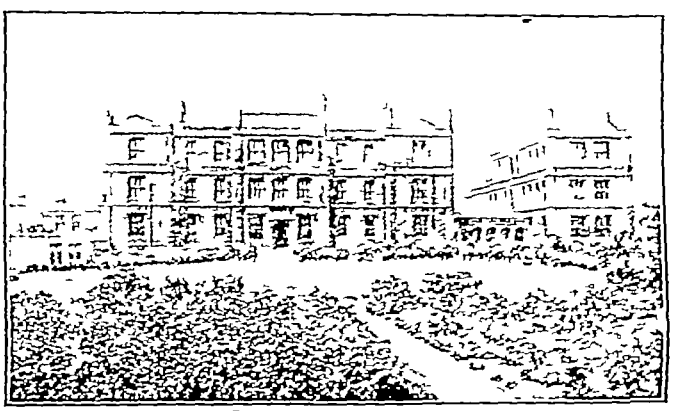
The Children's Hospital was founded as the result of the work of the All Saints Sisterhood (London) in the parish of St Jude's. The present buildings were completed in 1889, and since then many additions have been made To-day it is a well built and well fitted hospital, with 84 beds, usually quite full of patients. It is limited to girls up to the age of 14 and boys to the age of 12. There is a large out patient department at which last year 16,266 attendances were recorded. In patient operations numbered 460 and out patient operations over 600

St Catherine's Home for Incurables, largely the result of Mrs. Babaghaii's untiring efforts was formally opened in 1893 in a private house in Drewton Street by Mrs. Boyd Carpenter, the wife of the Bishop of Ripon. In 1898 Lady Frederick Cavendish opened the present Home a fine block of buildings erected as a result of the munificence of the late Mr and Mrs. Joseph Cawthra. Its 30 beds are always fully occupied by sufferers from cancer and other incurable diseases.

The Samaritan Hospital for Women, founded by Sir Joshua Waddilove in 1910 is situated in Queen's Road and is primarily for those who cannot afford a surgeon's fee but who are able and willing to pay for their upkeep during their illness There are 16 beds in the institution and it owes its origin and success to the energy foresight, and business ability of one of the leading general practitioners of the town

ST LUKE'S HOSPITAL.

Bradford was the first city to provide general hospital treatment from public funds without the stigma of the Poor Law There was much controversy when the suggestion was first put forward and probably the voluntaryists would have won the day but that a fairly suitable building put up by the Board of Guardians was available It was well known too that there had been for some years a long waiting list at the Royal Infirmary owing to an insufficient number of beds there for a city of nearly 300 000 inhabitants On March 31st 1920 the Ministry of Health approved the transfer of St Luke's to the corporation. Since then patients have been admitted on the recommendation of a medical practitioner and a charge is made based on a scale of income coming into the home of the patient The receipts from this source may be said to amount to 25 per cent of the cost of working the hospital a cost which in net figures may be placed between fifty and sixty thousand pounds annually There are 850 beds in use, and provision can comfortably be made for another 100 The daily average of beds occupied during 1923 was 656 the highest point reached was 750, and the admissions numbered 5 603 1 799 major operations were performed last year In regard to the average cost per patient per week the very latest figure—that for the year ending March 31st 1924—is £2 7s 8½d £5 200 per annum in rates is charged by the Finance Committee of the corporation which works out at over 3s per patient per week a sum which is included in the £2 7s 8½d



ROYAL INFIRMARY BRADFORD.

OTHER MUNICIPAL UNDERTAKINGS

The Corporation possesses and has possessed in its Health Committees men who take their duties very earnestly and led by energetic chairmen have adopted and carried out in recent years at the earliest opportunity every Act of Parliament designed to better the health of the community In many matters of this kind Bradford has been the pioneer corporation and various municipalities have sent deputations to investigate the working of these Acts and have as a result profited by the experience Bradford has amassed. By a series of provisions the individual Bradfordian is under the watchful care of the City Fathers from foetal days to the grave

The year ending December 31st 1922 saw 9 220 children born in Bradford representing a birth rate of 17 92 per 1 000 At the four ante natal clinics in the city during that year 2,113 expectant mothers were visited by municipal midwives or health visitors. From these clinics expectant and nursing mothers can obtain milk and food for themselves during the last three months of pregnancy, as well as for the nine months of nursing and milk for the child is provided free or cheap or at a small charge graduated according to the circumstances of the family Investigation showed that 31.2 per cent of the children of 1922 were brought into the world by private medical practitioners the 47 midwives practising in the year accounted for 66 8 per cent. About a dozen midwives are employed by the municipality, who work in the poorer districts of the town

A municipal maternity hospital was set up for the use of those who could pay 15s for the confinement and 5s a day after Here 333 children were born in 1921. Its 15 beds were often taken up by people who could well afford to pay the ordinary fees and much dissatisfaction arose in the matter This department has now been taken into St. Luke's Municipal Hospital where there are 75 beds available for maternity cases

All births are notified to the medical officer of health and when the home circumstances are known to be poor a health visitor calls within three days of the birth. In 1921 4 233 births were visited, and only in 419 cases was a second visit considered unnecessary If a case is notified by a doctor the health visitor does not call before the end of a fortnight Previous to 1912 Babies Welcome centres had been instituted worked by a committee of ladies of the city In that year the Health Committee took over these centres which was quite a new departure in municipal enterprise A central infant clinic is open daily for consultation and treatment with ten subsidiary clinics A stock of suitable clothing is kept made according to an approved pattern and sold at cost price During 1922 the total attendances were 25 863

The total cost of these provisions for the year ending March 31st, 1922 was £13,500 (Later figures show a material decrease of £12 000 to £13,500) The net cost to the city was £17,200 thanks to a Government grant of £17,210 and £4 170 recovered in fees of various kinds To-day the net cost totals about £11 000 Nursery schools provided by the Education Act of 1918 have been set up to deal with children between the age of 2 and 5 whose attendance at such schools is necessary or desirable for their physical and mental development

Many other provisions of a preventive and curative nature are carried out by the Education Authority playcentres swimming baths open air mental and physical defect schools have been set up on the outskirts of the city to which children are taken and brought back by motor Since 1909 the Education Authority has provided free dinners and in cases free breakfasts for children whose parents can by inadequate means. In the year ending March 31 1921 3 [illegible] 04 dinners and 53 691 breakfasts were provided at a total cost of £11 609

of a high degree of myopia There is, too, a School for the Deaf, where the pupils are mostly congenital deaf mutes Lip reading is taught here with infinite patience It is estimated by the teachers that as a rule a deaf child of 10 reaches the educational level of a normal child of 6

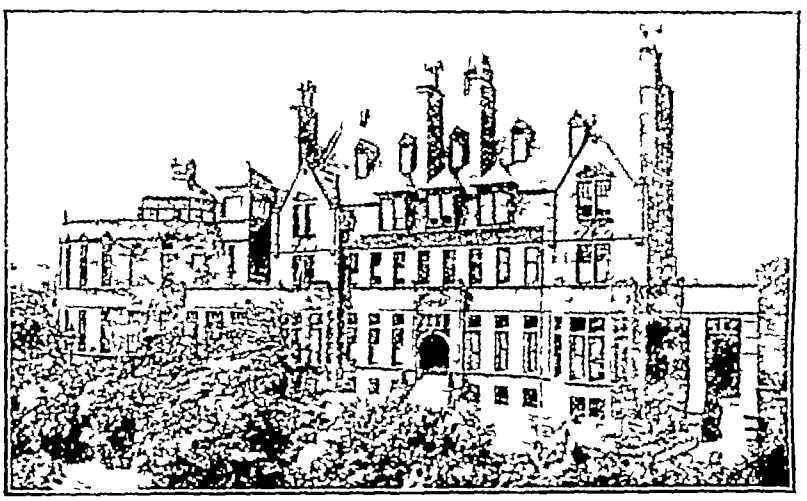
Stammerers classes were started in 1917 where ordinary school subjects are taught, with special attention to speech and articulation The treatment proper consists of breathing and tongue exercises, the production of vowel sounds, and voice modulation Cures are often effected in three months In one case a 6 year old girl was found incapable of articulate speech She had some vowel sounds, but only one consonant—the letter K After nine months' treatment and tuition the child spoke intelligibly and has suffered no relapse

The cost of the school medical service in the year ending 1921 was £15,609, equivalent to a rate of 1¾d in the pound

The Board of Guardians do not herd their destitute children in one barrack like structure They are placed in cottage homes under the care of a trusty foster mother, who looks after eight of them These waifs attend the nearest school and enjoy all the freedom possessed by the ordinary child and grow up without the stigma of the workhouse attached to them

Sanatorium Treatment

Two sanatoriums for consumptives are financed by the corporation One, for women and girls, is at Bierley Hall, within three miles of the centre of the town Bierley Hall was the residence of Dr Richard Richardson, the eminent botanist and horticulturist, of whom mention was made in a previous article It was built in the middle decades of the eighteenth century Situated in beautiful grounds, with a southern aspect and much woodland about, it is graced with sufficient of the amenities of country life to make residence there well worth while to the stricken Grassington Sanatorium lies on the banks of the Wharfe, and is used for early and curable cases On the limestone hills of Langstrothdale the patients breathe the pure air of the Yorkshire dales to their great advantage



BRADFORD CHILDREN'S HOSPITAL

A PROGRESSIVE CITY

All this and much more is done by the City Fathers for the children of their town For him who would care to know more of this large hearted work that is carried on day by day in this busy industrial town, I would recommend the careful perusal of *The Texture of Social Welfare*, published for the Bradford Council of Social Service by P and S King 4 Great Smith Street, Westminster From this most interesting book the chief details given above of these invaluable services to the municipality are culled

To the ever increasing numbers of medical men and women whose duties are more particularly connected with public health, Bradford offers very many points of interest indeed and the Section of the British Medical Association which deals with public medicine and industrial diseases may confidently look forward to a session of the greatest practical importance

The industrial welfare movement is gaining many converts among the large employers of labour in the town One reason but not the only one is that the more far sighted among them are recognizing the business disadvantages of sickness among their workpeople Rooms are set apart for employees who, living at too great a distance, had formerly only time to rush home gulp a dinner down and rush back for the afternoon's work In these rooms meals are taken at ease and papers and games are provided A welfare matron looks after all cases of sudden illness or accident and at least one manufacturer provides initial dental treatment for his workpeople

SOCIETIES AND CLUBS

The *Bradford Medico Chirurgical Society* was founded in May 1893 and since that date has winter after winter pursued a successful career Its first president was Dr R H Meade F R C S who was not only an able practitioner but a distinguished entomologist His son Mr Harry Meade one of the first members, is still on the roll a continuity of name which is equalled by that of Burnie and Goyder The late Dr David Goyder, for twenty eight years a secretary, is represented by a son, who for sixteen years has also acted as secretary Many men of more than local eminence have filled the chair and taken part in the discussions, and the society has played an exceedingly valuable part in the history of medicine in Bradford

Scientific, historical, and technical societies exist in the town, and are doing good work, chiefly in local problems The Historical and Antiquarian Society, founded in 1878, puts forth the *Bradford Antiquary*, edited by a medical man The Bradford Scientific Association, which promotes a full winter course of lectures on scientific subjects, is to celebrate its jubilee next year It formerly published a journal, to which several local medical men contributed, notably Dr George Henry Oliver, whose recent much regretted death has deprived the Ophthalmological Section of one of its vice presidents His article on the "Fabrication of the egg cocoon by a spider of the genus *Lycosa*" is a model description of a patient and accurate bit of research

A kindred society to the last, and one which is also celebrating its jubilee is the Bradford Natural History and Microscopical Society (the "Nats" and "Mics") It comprises members profoundly versed in all the nature lore of the district between Bradford and Sedbergh, and all their knowledge is at the service of any member of the British Medical Association

The Bradford Athenaeum Club is a literary association which numbers several medical men amongst its leaders The Brontë Society, with a world wide membership, is centred at Bradford and flourishes apace, unlike the Shakespeare, the Browning, and the Shelley societies, which lasted but a comparatively short time The Yorkshire Dialect Society was started in Bradford, and since its origin as a helping factor to Dr Joseph Wright in his compilation of the *English Dialect Dictionary* has steadily pursued its aims, investigating the linguistic phenomena of Yorkshire and encouraging the production of homely dialect literature Of musical societies there are the Old Choral, the Festival Choral, the Musical Union, and numberless glee societies

Besides the two chief political clubs there are two non political—the Bradford and the Union Club All these are opening their doors to members of the British Medical Association with a hearty welcome

Sport

Lovers of sport, as is to be expected in the county of broad acres, are well catered for in the town Two association football clubs are run, which for the present are not over successful One of them—Bradford City—captured the Association Cup on April 26th, 1911 The amateur Rugby game, which once furnished many international players from Bradford, has in recent years been resuscitated, and at least one of the local players—Eddie Myers—has obtained the coveted international cap on thirteen occasions

Golf has in the last twenty years made great progress, and secured many devotees Practically every business man in the town is a golfer, and one of them—E A Lassen—won the amateur championship in 1908 There are nine links within easy reach of the town, so that golfers are well provided for

There is good fishing in the upper reaches of the Aire and Wharfe in the Leeds and Liverpool Canal, and in the many large reservoirs and tarns on the moors Trout, rainbow trout, grayling perch, chub, roach, and dace all frequent the waters above the larger towns

Cricket has a great hold on the affections of the people, and a great number of clubs are in practical evidence every Saturday in almost all the suitable fields of this hilly country An untoward element of professionalism is noticeable among the bigger clubs, which has tempted such men as Barnes of Lancashire to give up county work and play for the local club at Saltaire Dolphin the Yorkshire wicket keeper, hails from a neighbouring village and other well known names in county cricket represent the district

British Medical Journal.

SATURDAY, MAY 31ST, 1924

MORTALITY AND MORBIDITY IN CHILD-BEARING

Two reports on maternal morbidity and mortality in childbirth have just been issued—one from the Ministry of Health, which was noticed in our issue of April 12th (p. 682), and the other by the Departmental Committee appointed by the Scottish Board of Health an analysis of which is printed elsewhere in this issue. In both recommendations are made which if carried out will materially alter the practice of midwifery as hitherto conducted in this country. It may therefore be well to draw attention to those suggestions more particularly affecting the general practitioner.

Both reports lay stress on the necessity for closer co-operation in the maternity service so as to link up public and voluntary agencies with independent practice by medical practitioners, midwives, and maternity nurses, were this done the staff work would fall on the local health authorities. The relative spheres of doctor and midwife are described as complementary, the work of the former being particularly that of the supervision of pregnancy and complicated and delayed labour, and of the latter attendance on normal labour and the observance of the change to abnormality.

Great emphasis is laid on ante-natal care. The Scottish Committee suggests that difficulty in securing the co-operation of the patient might be overcome by maternity benefit being made conditional on certification of supervision during pregnancy as well as of delivery, and the Ministry of Health report by an extension or modification of sickness benefit during pregnancy. The co-ordination of the maternity service would aim at securing the ante-natal care of every pregnant woman through maternity centres which would be linked up with the hospitals and specialized services on the one hand and with the domestic attendant on the other.

The provision of maternity beds for complicated cases and for women whose home conditions are unsuitable is urged in both reports, but the Scottish Committee advises against the policy that has been followed in England of the establishment of numerous small hospitals; in this it is in agreement with the opinion expressed by the Obstetric Section of the Royal Society of Medicine. The increased range of ambulances now renders possible the concentration of several smaller into one larger hospital situated at a suitable traffic centre so as to serve a wide area and thus to combine the advantages of greater resources and more expert medical services with more economical administration.

The evidence in these reports proves that the mortality and morbidity associated with childbirth is excessive, particularly in the textile and mining districts and sparsely populated rural areas, and that much of it is avoidable. The mortality rate is lowest in London and the large provincial towns with their more efficient hospitals and better co-ordinated health services, thus showing the need for extension of the facilities of the large centres to the smaller and more scattered populations. Both reports agree that housing and insanitary surroundings play an insignificant part in the causation of sepsis, and that there is no appreciable difference in its frequency in cases attended by doctors and midwives. The Scottish report states that a distinct relation was found between sepsis and difficulty and delay in labour, and that its frequency is greater in first labours, in labours where labour had occurred, and in labours which had been terminated by manual or instrumental delivery.

It would appear that the first line of attack is notification and investigation by the local health authorities of puerperal deaths and infections in order to obtain a knowledge of their underlying causes and thereby attain the ultimate objective of their prevention or earlier diagnosis and better management. The recommendation that will probably rouse most discussion is the one in the English report that there should be investigation by the *medical officers of health* of all maternal deaths due to childbirth and of all cases of puerperal infection whether fatal or not. The corresponding Scottish recommendation is that all deaths during pregnancy or within twenty-eight days of its termination should be communicated to the registrar with certificates of death, and that measures be taken to improve the notification of puerperal sepsis and facilitate conference between medical officers of health and practitioners.

The *difficulty in enforcing notification* is, however, the almost insuperable one of accurately defining the conditions to be notified. The Ministry of Health's report questions the value of the notification of puerperal fever as such, and favours its replacement by the obligation to report certain morbid conditions arising from childbirth. It considers that it would not be possible to enforce any hard and fast rule, such as the British Medical Association morbidity standard or the Central Midwives Board standard under which midwives must summon medical assistance, and the suggestion made is that a definite group of early febrile symptoms should be agreed upon as notifiable. It considers also that unless some distinct advantage to their patients is obtained doctors will be tempted not to be strict in notifying. If on the other hand notification brings hospital accommodation, a consultation, the services of a nurse, laboratory investigation, or other tangible advantages, they may come to look on the public health department as a friend to them selves and their patients, and not merely as the originator of vexatious inquiries. Manchester is quoted as a case in point where the provision of trained nurses and hospital beds led to a great increase in notification.

numbers of different health authorities of varying degrees of efficiency will add much to our knowledge, and more is to be expected from cases scientifically investigated in hospitals Though it might be true that a system whereby all deaths in childbed were reported would be more likely to afford evidence of the avoidable accidents and of methods of prevention, both these measures are subsidiary to a thorough co-ordination of, and friendly collaboration among all workers in, the maternity service Official inquiries might easily arouse the antagonism of practitioners, and might tend to become formal and useless, they might, indeed, easily be made to do more harm than good, for if resentment is once aroused the team work essential to the lowering of the risks of child bearing will become impossible Improvement can only come by whole-hearted co operation of all concerned, and the more this can be done by mutual understanding the better will be the results

It may strike many who already find the burden of a big midwifery practice too heavy to bear that the result of such proposals would be to dispose them to cast it aside altogether, but before adopting such an attitude the change in the part cast for the medical practitioner in an improved maternity service should be considered If the view of the Scottish Committee, that the services of the trained midwife and the doctor are complementary, is accepted, it will be clear that the charge of normal labour will in future be more and more transferred to the midwife, the duties of the medical practitioner being rather those of ante natal examination, passing the patients as normal, and exercising a general supervision The lengthening of the period of training, now under consideration by the Central Midwives Board, will enable the midwife to take an increasing share in the maternity service The practitioner may thus be relieved of as much of the most trying part of his work and the greatest tax on his time as the demands of his patients—who pay the piper and call the tune—will allow These proposals, then, must be judged, not in the light of midwifery practice as it has been, but in view of the changes that are coming about in it The first point to be settled is how far co operation between the medical officers of health and private practitioners can be brought about with the best results to the maternity service and the minimum of friction Possibly valuable lessons may be learnt from what has been done by local initiative at Aberdeen and elsewhere, as mentioned in the Scottish report

THE PASSING OF THE I M S

THE report of the Royal Commission on the Superior Civil Services in India, of which we give an account elsewhere (p 978), would seem to mark the end of a very fine service—the Indian Medical Service—which during its career has reflected honour both on this country and on our profession The fate of the service rather reminds us of the lady who went for a ride on a tiger The Verney Lovett Committee in 1919 recommended that there should be an Indian Medical Corps which would provide for the medical needs of the British army in India, and of the Indian army, and for those of the all India Civil Medical Service The new Royal Commission recommends the converse of this—that is to say, it advises that the medical needs of both the British and Indian armies in India should be provided for in future by the Royal Army Medical Corps (India), which should absorb the I M S the R A M C (India) would, we gather, be a name for those officers of that corps who happened to be employed in India, to be filled as to one half by candidates successful at a competitive examination to be held both in England and India, and as to the other half by British officers to be seconded from the R A M C (India) at any particular time But, as will be seen, it may possibly, if not probably, come to mean something more, for the next recommendations advise the creation of Civil Medical Services for each province While, therefore, the analogy of the lady and the tiger remains, the situation recalls the attitude of those detractors of the Bard of Avon who believe that Shakespeare's plays were written by another person of the same name The rights of existing officers I M S are to be saved, but the recommendations, if adopted by the Government of India and approved by the Secretary of State for India, will be tantamount to the abolition of the Indian Medical Service as an all-India service

It would appear that the recommendations have been governed by two main principles first, the demand of members of the other European services in India that facilities for medical attendance by medical officers of their own race should continue to be available for them and for their families, and secondly, the need for having a war reserve of medical officers for the armies in India We have no confidence—neither, apparently, had the Royal Commission—that European medical officers will be obtained in sufficient numbers for the provincial Civil Medical Services, on this account, no doubt, the further recommendation is made that should it not be found possible to obtain the quota of European medical officers for the provincial Civil Medical Services by competitive examination, additional officers should be seconded for civil employment from the R A M C (India), it appears to be recognized that this may make it necessary to institute a system of special additional recruitment to the R A M C for civil service in India, subject to the condition that these officers will be available as a reserve in a military emergency The recommendations, indeed, to some extent involve a reversion to the system which, as is shown below, existed before 1897

The history of the Indian Medical Service has been told from time to time in our columns, and very fully and systematically in the *History of the Indian Medical Service* written by Lieut.-Colonel D G Crawford, I M S , and published in 1914 The story dates back in a general way to the first fleet sent out by the East India Company in December, 1600 Each of the three vessels of which the fleet consisted had its surgeon—Ralph Salter of the *Red Dragon*, James Lovering of the *Hector*, and Christopher Newchurch of the *Ascension* Many surgeons succeeded them in other fleets, and not a few remained to be medical officers of the Company's factories It was not, however, until 1763 that a formal beginning was made by the foundation of the Bengal Medical Service, the order for its establishment was made at "a consultation," when Henry Vansittart, the Governor of Bengal, was in the chair, and Warren Hastings was present From the beginning the service was partly military, and has so continued, promotion being in the old days quite frankly from the army to civil employment, where the emoluments were higher, the four head surgeons having the "Privilege of Company's Servants"—that is to say, the right to engage in private trade At first appointments to the service were made by nomination but the India Act of 1853 provided that all future admissions to the East India Company's service should be by competitive examination, the first appears to have been held in January,

1855 In the early years there was little competition, and admission to the service was closed from 1860 to 1865, but thereafter competition became brisk and probationers who passed the entrance examination were required to attend a special course at Netley The prizes of the service were always the civil appointments in large stations where opportunities for hospital and private practice were large The Crown had succeeded the Company in 1858 and in 1865 three establishments—Bengal Madras and Bombay—were instituted This stage lasted for thirty one years being replaced at the beginning of 1897 by the new combined or general Indian Medical Service which has continued to the present day

The I M S had a fine record during the great war its officers serving with the Indian contingent in France as well as in Mesopotamia, Egypt and West Africa The war may, with some justice, be said to have been its undoing for the circumstances which then arose accelerated the movement for the Indianization of the administration of the Peninsula, which has involved the transfer of medical matters to the provincial Governments This seems to be bringing about its logical result in the recommendation of the Royal Commission for the practical abandonment of an all India medical service A Royal Commission however, is not an executive body, and before accepting its plans as final the decision of the Government of India and of the Secretary of State must be awaited

THE BRITISH MEDICAL ASSOCIATION

THE British Medical Association, 'in a general honest thought and common good to all, concerns itself with every side of medical work—science clinical medicine public health and the material interests of professional life This catholic outlook has been maintained throughout the ninety two years that have passed since a group of fifty practitioners met together in the board room of the Worcester Infirmary and founded the great organization which now numbers 26 800 members practising in every part of the British Empire While general practitioners naturally form the great bulk of its members yet the principle has always been maintained that representing the profession as a whole the Association should take an active part in the advance of medicine The three chief objects for which it was established were to promote the medical and allied sciences to uphold the honour and interests of the profession and to foster comradeship among its members In pursuit of the first of these aims it publishes the BRITISH MEDICAL JOURNAL it maintains a library and provides scholarships and grants for the encouragement of research Another way in which the Association contributes to the advance of medicine is by holding periodical meetings of its members for clinical and scientific discussions This object is fulfilled locally through the meetings of Branches and Divisions and on a large scale through the Annual Meetings which (save for the interruption due to the great war) have been held regularly since 1832 in various large medical centres

The Annual Meeting this year is to be held in Bradford under the presidency of Mr Basil Hall M Ch consulting surgeon to the Bradford Royal Infirmary who will deliver his Address to the Association on the evening of Tuesday July 22nd The Sections numbering twelve will meet on the three following days and the subjects chosen for discussion cover a wide range of clinical and scientific inquiry Thus the morning sessions of the Section of Medicine are to be devoted to set discussions on cardiac irregularities on jaundice and on the diagnosis of [illegible] The Sections of Surgery and of Obstetrics and Gynaecology will each hold two main debates the one taking up acute osteomyelitis and pulmonary embolism the other ante natal clinic methods in private practice and dysmenorrhoea in young women In the Section of Pathology and Bacteriology the topics for special consideration are tissue culture and immunity in the Section of Neurology and Psychological Medicine epilepsy and compression paraplegia The general practitioner's part in preventive medicine diet and the public health and industrial welfare will be discussed in the Section of Public Health In the Section of Ophthalmology has chosen cataract extraction by the intracapsular method and the microscopy of the living eye (a subject introduced to our readers by Dr Harrison Butler this week) In the Section of Dermatology two matters of immediate interest have been put down for review—cancerous and precancerous conditions of the skin and radiotherapeutics in skin affections The Section of Diseases of Children has chosen the prevention of mental deficiency and pulmonary tuberculosis in infancy and childhood as its main subjects the Section of Laryngology and Otology chronic tonsillitis and the Section of Orthopaedics the treatment of hallux valgus and rigidus Lastly the Section of Medical Sociology has arranged a wide general discussion of the question Has the National Insurance Act justified its existence? If for no other reason the Bradford meeting should be noteworthy for the number and variety and practical interest of the set discussions

Medical policy past present and to come is the special province of the Representative Body of the Association The Annual Representative Meeting which will open at Bradford on Friday July 18th has a full programme of work before it largely based on the Annual Report of Council and the motions and amendments arising therefrom That document published in the SUPPLEMENT of May 8th gives a concise record of the year's activities in every department of professional life The Council is the executive of the Association with the aid of the officers standing committees and officials it carries on the daily work of the Association in accordance with the policy laid down by the Representative Body and prepares future policy for consideration by the Representatives The central work of the Association thus comes under review at each Annual Representative Meeting and the medico-political programme for the coming year is drawn up

The administrative year now drawing to a close has been eventful in several respects It has [illegible] merely a continuance but a very significant [illegible] of the rate of increase in membership so that the total is now considerably [illegible] previous highest figure reached in the year 1912 during the Insurance Act crisis [illegible] currently with this growth in membership the Association [illegible] and after meeting heavy expenditure on [illegible] activities in many directions there [illegible] expenditure by nearly £10 000 [illegible] panel practitioners [illegible] outstanding feature of the year [illegible] the Insurance Acts Committee [illegible] resignations from 95 per cent of insurance practitioners the extraction of the offer of an increase Court of Inquiry from a reluctant Ministry [illegible] ance of this offer the adoption of Dr Price Brown and finally the Court's award have been accepted by

the medical profession—and, we may add, by the public—as a triumph of leadership and organization Without the confidence of the profession at large this signal victory could not have been won

Signs of progress in many other fields will be found in the Annual Report of Council For example, the British Medical Association and the Society of Medical Officers of Health, after long negotiation, have entered into a scheme of working alliance which has already begun to bear fruit in a better understanding between the profession generally and those of its members engaged in public health work The Association, through its Naval and Military Committee, has kept in touch with members serving in the forces, and has taken steps not merely to further the interests of individuals, but to secure improvements in the services to which they belong, to this end conferences have been held with the Admiralty and the War Office Contact between the Association and its Overseas Branches has been maintained at headquarters by the Dominions Committee, and has been strengthened by the late Sir William Macewen's visit to Australia and Sir John Lynn Thomas's visit to New Zealand, good results are hoped for also from the visit of Sir Jenner Verrall and the Medical Secretary to Canada Both at home and abroad new ground has been broken Taking one instance only, and to cut a long story short, we may mention the institution of an annual prize for the purpose of stimulating systematic observation, research, and record in general practice, this prize is to be named after the founder of the Association

MEMORIAL TO SIR WILLIAM MACEWEN

A LARGELY attended and representative meeting was held on May 22nd in the Hall of the Royal Faculty of Physicians and Surgeons, Glasgow, at which it was resolved to take steps to provide a suitable memorial to the life and work of the late Sir William Macewen Dr Freeland Fergus, who was called to the chair, made a preliminary statement referring to the movement, initiated shortly before Sir William's death, to obtain a portrait of the great surgeon It was formally resolved to promote the collection of a fund to perpetuate his memory in a fitting manner, and a general discussion ensued with regard to the possible form that a suitable memorial should take A number of proposals were made, including the erection of a bust, relief, or mural medallion, the publication of a memorial volume, including particularly Sir William's earlier scientific papers, and the establishment of a Macewen lectureship or oration Eventually it was remitted to an executive committee to consider these and other proposals with a view to bringing forward a completed scheme at a later meeting The following were elected members of this executive committee *Chairman* Dr A Freeland Fergus, *Vice-Chairmen* Professor T K Monro, Sir Hector C Cameron, C B E , Sir John Reid, Mr J H Pringle, *Treasurer* James MacFarlane, LL D , *Members* Colonel J A Roxburgh, Dr George A Allan, Sir Archibald Craig, K B E , Professor Graham Kerr Professor W K Hunter, Dr J N Marshall, Mr William Gray, Dr J G McCutcheon, *Secretary* Mr Archibald Young At the conclusion of the meeting a number of subscriptions were intimated to the treasurer, Mr James MacFarlane, LL D , Wesley an Street, Glasgow, who will be glad to receive and acknowledge further contributions

ENZOÖTIC ENCEPHALITIS IN THE HORSE

Enzootic encephalitis has been known in the horse under various names and in various countries for over a century Mousu and Marchand have just published[1] the results of an extensive study of the disease from all points of view—clinical, pathological, experimental, bacteriological—and in its bearing upon human epidemic encephalitis Clinically, they recognize three forms An encephalitic form characterized by symptoms of depression, stupidity, and somnolence, with occasionally periods of excitement The temperature is irregular and generally slightly raised, although there is no paralysis, tonic muscular contractions are frequently noticed The breathing, normal in the earlier stages, shows later a prolonged inspiration period with expiration of the Cheyne Stokes type Death occurs within forty-eight hours Secondly, there is a myelitic form associated with locomotor and urinary derangements It is the least common type, and the only case studied by the authors recovered The commonest form, however, is mixed, it presents symptoms referable to the brain and spinal cord, such as alternating periods of excitement and depression, irregularities of movement, and various urinary troubles The temperature is about normal, but the animal becomes extremely emaciated Relapses are common—due, not to fresh infections, but to the original virus *Post mortem* examination shows the lesions of a typical septic anæmia, and the carcass decomposes with extreme rapidity Macroscopic lesions in the central nervous system are only slightly evident—a meningo-encephalitic congestion with occasional petechiæ Microscopically, however, changes are found mainly in the nerve cells and the capillaries The meninges are almost normal The deep layer cells in the cortex are surrounded by embryonic cells, and show the lesions associated generally with toxic infections—reduction of chromophil granules at the periphery and eccentricity of the nucleus The venules are surrounded by small suffusions of blood (miliary haemorrhages) in all the regions of the brain The cerebellar lesions are slighter than the cerebral The mortality is about 90 per cent if untreated Hexamine given twice daily subcutaneously (150 c cm of a 10 per cent solution in tepid saline) reduced the mortality to 18 per cent The use of the same drug in doses of 10 grams for one or two days has proved valuable as a preventive Experimental studies with the virus showed that it was transmissible to rabbits, in which it could be "fixed" so as to kill the animal in four to seven days Passage through these animals exalted the activity of the virus The incubation period was three and a half to six and a half days In all the experimental work inoculation was made into the anterior chamber of the eye in order to avoid the danger of admitting to the brain other organisms which might produce septic encephalitis In rabbits which died rapidly after inoculation the lesions were those of acute meningo-encephalitis with the main alterations in the pia mater The meninges were infiltrated by embryonic cells, a large number of which were filled with eosinophil granules The same kind of cells were found surrounding the intracerebral vessels The choroid plexus, the ventricular epithelium, and the pyramidal cells were also altered Similar lesions occurred in the cerebellum The longer the duration of the disease the less intense were the lesions Inoculation of the horse with fixed rabbit virus produced typical fatal encephalitis in three days The virus passes a Berkefeld filter It is destroyed in one hour at 60° to 70° C , but retains its virulence in pure glycerin for at least eighteen days The virus is not excreted in the milk and does not cause the disease on ingestion or on subcutaneous injection The method by which the horse naturally acquires the disease is not yet known Equine enzootic encephalitis presents many points of resemblance to lethargic encephalitis in man, although there is no doubt that they have not the same causal organism The viruses are, however, closely related—both are filtrable, neurotrophic, and exist in the nervous tissue Both inoculated into the rabbit produce acute meningo-encephalitis with

[1] Ann de l'Inst Past vol c 1 23 (p 1 44 65-80) figures 1 13

predominating mononucleosis, and after several passages become 'fixed.' Clinically, somnolence, crisis of agitation, certain ocular troubles, motor inco-ordination, muscular hypertonia, alterations in respiration and temperature, and albuminuria are symptoms common to both diseases. Pathologically similar alterations occur in the cerebral cortex and, while the capillary lesions are identical, the pericellular embryonic infiltration is always more discrete in man than in the horse. In both the haemorrhagic process is intense. The most striking difference between the two diseases would appear to be the very high mortality in the horse.

ATMOSPHERIC POLLUTION

At a conference on smoke abatement promoted in 1912 by the Coal Smoke Abatement Society, an advisory committee was appointed to make a scientific inquiry into the nature and measurement of atmospheric pollution. An account of the work of the committee is contained in a report on observations in the year ending March 31st, 1923. Three different methods of investigation were instituted, the instruments used were the standard gauge, the automatic filter, and the jet dust-counter. With the standard gauge the amount of impurity which falls upon a measured area in the course of a month is measured and analysed into insoluble and soluble impurity, tar and other carbonaceous matter, and ordinary wind-borne inorganic dust. The automatic filter, by isolating near the edge of a circular disc of filter-paper a succession of samples of the impurity extracted from the air, two to four every hour, provides the means of examining the changes in the condition of the atmosphere as regards pollution from hour to hour throughout the year. The latest instrument in use is the jet dust-counter or dust-sampler. This ingenious apparatus is the invention of Dr. J. S. Owens, the honorary secretary of the advisory committee, and by its means as small a quantity of dust as that contained in 50 c.cm. of air can be thrown upon a microscope cover-glass as a very narrow streak of dirt and examined microscopically. The committee had eight standard gauges in operation in London, nine in Glasgow, and eighteen in various English provincial towns. A distinct improvement in the purity of the air, as compared with the average of preceding years, was noted. The highest total deposit was in Rochdale and the lowest at the Rothamsted Agricultural Experimental Station, Harpenden; the greatest amount of tar was deposited in Newcastle-upon-Tyne. The automatic filter was in operation at Kew and three other London stations, at Rochdale, and at five stations in Glasgow. As in former years, it was found that in London the air was comparatively pure between midnight and 6 a.m., and that there was a rapid rise of impurity to a maximum in the forenoon, with a less rapid fall in the afternoon. During the summer months there was a great reduction in the amount of suspended matter in the air, mainly due no doubt to the reduction in the number of domestic fires. The effect of atmospheric pollution upon visibility has from the first engaged the attention of the advisory committee, and the investigations so far made are encouraging. The attempt made a few years ago by the committee to correlate the amount of suspended impurity in the air with the number of deaths occurring in London was found not to yield satisfactory results, and has not been continued. The advisory committee has carried out the duties allotted to it in a complete and exhaustive manner, and has laid the foundation of investigations which must be continued over many years. The Air Ministry, to which the Meteorological Office is now attached, appears to consider that the work of the committee should form part of the routine duties of the Meteorological Office. It is to be feared that if this course is adopted the estimate of the importance of the subject may be restricted. It should be considered from the point of view not only of clarity of the atmosphere and what is spoken of as "visibility," but also from that of the health of the community, the effect upon vegetation, and upon the structure of buildings. It would appear desirable therefore that in some form or other the experience of the advisory committee should be made available in any reorganization of the investigation.

THE NATURE OF DISSEMINATED SCLEROSIS

The unsolved problems of disseminated sclerosis have lately been attracting the attention of neurologists and research workers all over the world, and we lately took occasion to review this subject in our columns.[1] More recently an interesting case has been recorded by Symonds in the current number of *Brain*.[2] He gives a careful clinical account of the case from which his material was derived, and very rightly points out that certain of the observations on the pathology of the disease have been vitiated by a lack of sufficient clinical detail. Indeed, it is doubtful whether all the cases which have been included in some of the work on the subject have really been examples of disseminated sclerosis at all. The principal value of Symonds's communication on the pathological side is that it goes far to harmonize two discordant views which have been upheld by different observers. Thus while Dawson concluded that the earliest stage in the disease consisted of a subacute degeneration of the myelin sheath of the nerve fibres, Siemerling and Raecke thought it was to be found in changes in and round the smaller blood vessels, capillary haemorrhages and perivascular infiltration with lymphocytes and plasma cells being the principal features. Upon these two different views has depended very largely the decision whether the disease is to be regarded as a true infective process or not. No question can exist as to the correctness of the diagnosis in the case reported by Symonds and the value of the detailed pathological changes found in the nervous system is increased proportionately. Definite perivascular infiltration of two kinds was found—(1) of globular cells filled with fat and (2) of lymphocytes and occasional plasma cells. This form of cellular reaction is known to occur in all diseases proved to be due to the action of micro-organisms, and it is therefore concluded that disseminated sclerosis is probably of the same nature. It is further to be noted that a search for the presence of spirochaetes was quite negative.

group there was some delay in development of the higher mental functions associated with self-control, which was remediable by appropriate treatment In the third group came the cases of definite mental defect, sometimes only recognizable by a mental expert In the fourth group the misconduct was due to brain injury or disease, thus, for example, encephalitis lethargica had been shown to have this effect in many cases Dr Tredgold advocated, therefore, that medical experts should be attached to every children's court, the magistrates being instructed to avail themselves of their services, and that there should be some provision of appropriate and adequate accommodation for dealing with cases of mental deficiency The establishment of children's courts, though a step in the right direction, did not go far enough Dr Hamilton-Pearson discussed the value of assessing cases of delinquency according to the children's "mental age" He had found three fairly well defined groups The smallest was that of normal children, the largest was composed of children with a degree of mental retardation equivalent to 1 to 3 years of life, and the third or intermediate group comprised those whose intelligence was a year or two in advance of their age In a large number of these children there had been some definite maladjustment in their home life, such as trouble with a step-parent Treatment of the causes of mental delinquency, especially those relating to environment, had been very successful, and ought to be more extensively used Dr R G Rows laid stress on the existence of emotional causes of delinquency due to some tragedy in the child's life, which could not be removed but would probably be intensified by punishment Dr W A Potts drew attention to the report of the Prison Commissioners, which stated that 31 per cent of women sent to prison had as many as twenty previous convictions registered against them The report also brought out the fact that the regular criminal always began his career at a very early age, from which Dr Potts concluded that the most important person who came into the court was the "first offender," who had been going wrong for several years before appearing in the dock, this was not the first but the last opportunity of giving him effective help Remembering the cost of habitual criminals to the community, a thorough inquiry into juvenile cases would be a valuable form of economy The Home Secretary, in a cautious reply, quoted from a letter recently sent by him to the London County Council pressing for the provision of new places of detention for delinquents, and for more complete and scientific investigation of the mental condition of these children This indicated that there was no difference of opinion between his department and the deputation in one respect He agreed also that something more remained to be done in the matter of educating magistrates and public authorities to conform more closely with the ideals of this policy The Home Office was endeavouring to apply the principle of reformation and education, both in the work for which they were directly responsible and in the prisons The views of the deputation would therefore, be carefully considered in order that this policy might be carried still further

THE TEMPORAL ARTERY IN ART

DR HENRY MEIGE the well known Parisian neurologist, who like his great predecessor Charcot, has frequently illustrated the relations between art and medicine in his writings has recently contributed an interesting article[1] on the attention which the superficial *temporal artery, and in* particular its frontal branch, received in the paintings of artists of the fifteenth and sixteenth centuries especially in portraits of old and emaciated persons Three typical pictures of this kind are reproduced from the galleries of Florence, the Hague, and Munich respectively, the best known, perhaps, being the portrait of the tax collector in the Pinakothek at Munich, showing the sclerosed and tortuous vessels on the shrivelled skin of the forehead, and the other two portraits of Francesco Giamberti by Piero di Cosimo in the Hague gallery, and of the Carthusian door keeper in the Uffizi gallery at Florence, which has been variously attributed to Masaccio, Botticelli, and Filippo or Filippino Lippi Many other instances are probably known to some of our readers Dr Meige attributes the care shown by the artists of that time in the delineation of the temporal artery to two principal causes. In the first place, the accurate representation of the artery was only one example of the fidelity shown by these artists in reproducing the minutest physical details in their models Probably, however, a more effective cause was the fact that the temporal artery was well known to contemporary artists as it was often used for bleeding During the *fifteenth and sixteenth centuries bleeding was practised* freely on any part of the body, and not only, as in the eighteenth century and subsequently, from the arm veins Ambroise Paré, whose portrait, taken at the age of 72, shows an unusually prominent and tortuous temporal artery, recommended incision of this vessel for the relief of migraine, and attributed his escape from that distressing complaint to this procedure Cauteries were also applied to the temporal region as a cure for headache, and it is possible, as Dr Meige suggests, that the dark pigmentation of the skin shown in the portrait of Francesco Giamberti was due to this cause

[1] *La Presse Médicale*, April 26th, 1924, Supplement p 163

THE AMERICAN MEDICAL ASSOCIATION

THE seventy-fifth annual session of the American Medical Association will open in Chicago on June 9th, when the House of Delegates will meet at 10 a m The scientific assembly will hold a general meeting on the evening of June 10th, when Dr William Allen Pusey of Chicago will be installed as president and will deliver an address The sections, of which there are sixteen, will meet on the three following days, some sections in the mornings and others in the afternoons The sections follow the usual classification, but in addition to the Section of General and Abdominal Surgery there are sections of Gastro enterology and Proctology and of Orthopaedic Surgery The sixteenth, a miscellaneous section, consists of two subsections—anaesthesia and radiology A series of clinics will be held on June 9th and 10th, and a committee has arranged for the daily demonstration of fresh pathological material, both human and animal, and also for a special demonstration of modern methods of studying the heart, the New York Association for the Prevention and Relief of Heart Disease is arranging an exhibition illustrative of its work Various other associations will take the opportunity of showing their methods of work, among them are included the League of Nations, the American Association of Hospital Social Workers, the American Social Hygiene Association, and the Medical Women's National Association The United States Department of Agriculture has arranged a special Pasteur exhibit illustrating his work on chicken-cholera, anthrax, and rabies Various departments of the American Medical Association will have exhibits, including the Council on Pharmacy and Chemistry, the Propaganda Department of the *Journal of the American Medical Association*, the Council on Medical Education and Hospitals, and the Bureau of Health and Public Instruction All the meetings and demonstrations will take place in the buildings on the Municipal Pier, where there is a motion picture theatre, which will be used to show a number of scientific films In addition a large number of pathological specimens will be shown by various individuals and institutions, the latter including the Mayo

Clinic, the Department of Pathology of the Rush Medical College, Chicago, and the medical schools of the University of Illinois (Chicago) and Kansas It would seem that a special feature will be a collection of various models and appliances for the teaching of pathology and clinical medicine and surgery The commercial exhibition will be on a large scale, and among the objects shown will be books, foods and beverages for adults and infants, instruments and apparatus, pharmaceutical preparations, and apparatus for treatment by x rays and electricity

THE VIRUS OF FOOT AND MOUTH DISEASE

LAST week we were able to give some account of the results of the investigations of Professors Frosch and Dahmen into the causal organism of foot-and-mouth disease Their paper, read to the Berlin Microbiological Society on April 7th, was discussed on May 19th, when Dahmen gave some further particulars of the method used[1] The starting point was d'Herelle's theory of the bacteriophagic lysin The lysin was most active at body temperature, only slightly so at lower temperatures This behaviour of cultures treated with the lysin had a certain resemblance to the behaviour of the aphthous fluid at various temperatures but Dahmen does not now think that the destructive agent in the vesicles is a lysin in d'Herelle's sense Nevertheless the assumption served as an excellent working hypothesis Attempts to cultivate the organism directly on liquid media failed, but if first cultivated on solid media it is easily subcultured in liquid Thus on February 2nd he transferred a culture, grown since January 19th on his solid medium, to a liquid After twenty-six days he returned it to the solid medium, and on March 17th found it to be infective On the supposition that the aphthous fluid was inimical to the organism he carried out many experiments to try to separate them—using animal charcoal, starch, red blood corpuscles, and so on—and came to the conclusion that the virus was a corpuscular element Finally aphthous fluid, diluted with saline, was filtered through a Berkefeld filter and centrifuged (at 3,000 revolutions) for from half an hour to two hours He thus obtained a slight precipitate, which after repeated washings, was smeared on to solid "slants." The culture media consisted of Martin bouillon mixed with 3 per cent agar, to which was added (when it had cooled to 50° to 55° C.) an equal quantity of horse or other serum. The alkalinity of the media was *p*H 7 8

[1] *Berliner klin. Woch.* May 22nd 1924.

EPIDEMIC ENCEPHALITIS

THE Ministry of Health states that the number of cases of encephalitis lethargica notified in England and Wales during the week ending May 24th was 258 as compared with 286, 291, and 262 for the weeks ending May 17th 10th, and 3rd respectively Since the beginning of the year the number of notified cases has been 2 733 (as compared with an annual average of 839 in the previous four years) Of the 2,475 cases notified up to and including May 17th 23[1] have occurred in London, the chief centres affected elsewhere being Manchester Sheffield Birmingham, and Bristol In general, however, the cases have been widely scattered throughout different parts of the country On the deaths so far reported the mortality has varied in different cities from 12 to 21 per cent of the notified cases The present epidemic prevalence is similar to though more extensive than, that of the corresponding period in 1921, when a total of 1,155 cases was reported Speaking generally there are signs of decline in the districts mainly affected, but the spread of infection to new districts results in the maintenance of the total prevalence The existence of the disease in this country and its chief characteristics were established and described fully in reports and memoranda issued by the Local Government Board in 1918 and by the Ministry of Health in 1922 A further memorandum about to be issued will embody the result of the extensive inquiries now being made by the medical staff of the Ministry in different centres during the present period of prevalence As in previous years, there is little evidence that the definitely recognized cases of the disease are responsible for spreading infection the epidemic being presumably kept up by slight and unrecognized cases or by healthy carriers of the virus of the malady Researches on the nature of the virus and other problems arising in connexion with encephalitis are being pursued under the direction of the Medical Research Council, and in numerous laboratories at home and abroad

ART EXHIBITION BY MEDICAL MEN

THOSE readers who take an interest in pictorial art or in the artistic efforts of their colleagues, should make a point of visiting the exhibition of drawings paintings, and sculpture by Fellows and Members of the Royal Society of Medicine, now on view in the Marcus Beck Library at 1 Wimpole Street The exhibitors number 60 and the exhibits somewhere about 250 in all In the nature of things water-colours predominate, and landscape sketches greatly outnumber all the other exhibits, both in water-colours and in oils Oil is a more difficult medium for amateurs than water-colour, and it is not surprising that few of the 30 or 40 oil-paintings are of particular merit While the pencil and pen and ink drawings are rather disappointing, several of the etchings reach an unexpectedly high standard. The water-colours, which, as we have said form the bulk of the collection, vary much in style and workmanship They range from the painstaking mid-Victorian landscape, through every kind of careful or careless impressionism, to moderately daring performances in the post-war manner Among much that is commonplace (not to say feeble), a rapid first tour of the gallery discovered a considerable number of really interesting and agreeable sketches, and a few which would put to shame the productions of many professional water-colourists Some of the photographs are highly artistic Medicine has always boasted many patrons and students of art but some visitors to this exhibition will be surprised at the number of working practitioners who are capable performers in one medium or another It is, we believe an open secret that the bringing together of this entertaining collection is mainly due to Dr Cuthbert Lockyer, himself one of the principal contributors

A SPECIAL social evening to welcome the medical men from overseas now in London will be held by the Royal Society of Medicine at its house (1 Wimpole Street W 1) on Tuesday June 24th The guests will be received by the President and Lady Hale-White at 9 o'clock The library will be open and various objects of interest will be shown During the evening there will be music and dancing and smoking At 9 45 the President (Sir William Hale-White) will give a short address in the Physic Theatre on The Story of Saint Luke's Hospital

MOTOR NOTES FOR MEDICAL MEN

BY H MASSAC BUIST

SOME CONSEQUENCES OF WITHDRAWING THE McKENNA DUTIES

THE average medical man will regard the Chancellor of the Exchequer's policy concerning the withdrawal of the McKenna duties, not from the point of view of politics, which is the Government's, but from that of a man who has to purchase his first car for undertaking professional duties, or who recognizes with regret that the best of cars wears out in time Therefore he wishes to know what will be the effect of the Government's policy on the cost of motor cars in the future, and whether, if his circumstances dictate that he should buy a car within the next few months, he were best advised to wait or to complete the transaction now

Taking first the case of the doctor who must in any event acquire a car within the next six months, we find that the motor traders of the country have been exercising their minds on the same problem and have already made plans to meet him To take an example from France, Citroen has arranged that, in the event of there being any reduction in the cost of cars between now and September consequent on the removal of the duties, anybody who buys a car at prices obtaining to-day will be refunded any sum which represents cost greater than the list price of the vehicle at the later date English manufacturers are also announcing much the same terms, while yet others are doing a more remarkable thing still, particularly in face of the increasing costs of labour and materials in this country Thus in the middle size class of cars we find that the Wolseley Company—which, it was noted when reviewing the Olympia Motor Show in these columns last autumn, has greatly improved its 15-h p 4-cylinder overhead model that has now four speeds forward, entirely different axle scheme, and so forth—has nevertheless just reduced the cost of that type, alone among its series, both for open and for closed bodies, the reduction is considerable, for the touring type has been brought down from £745 to £575, and the four-seat coupe from £975 to £800 From America certain manufacturers are announcing that any differences in price between now and the time of the removal of the McKenna duties will be refunded

ALL THE WAYS OF IT

In connexion with some of these announcements, however, it is advisable to look very closely into the details On analysis some—not those indicated above—are not what a first impression from reading them would convey For instance, some would suggest that on the withdrawal of the McKenna duties the purchaser will receive back one-third of the current cost of the given car Of course, this is bound to be impracticable for one thing, the authorized dealer has a commission on the sale of the vehicle, which lawful profit is not subject to calculation in arriving at the sum payable for import duty, nor is the cost, by no means negligible, of shipping a car to this country Therefore a very different sum from one-third of the total retail list price to-day would be represented in the way of future reduction in the case of a vehicle imported from a foreign country An American firm announces reductions forthwith, and that no further reductions will be made, which may mean that new models will be introduced after August Some importers of foreign cars are not carrying stocks of vehicles One American importer writes me "Frankly we are looking forward to rather interesting developments after August 1st" As soon as the Chancellor's proposals were made known the greatest Italian concessionnaires cabled immediately to Turin stopping all consignments of cars to this country Against this certain dealers in cars brought in from the United States speculated on the anticipation that the Chancellor's proposals would result in the McKenna duties coming off this month Consequently they intended to flood the country immediately by having machines in mid ocean at Budget time But the moment they discovered their mistake they made plans for getting back the duties This can be achieved if the given car is sent out of the country within three months This loophole means that, for a charge of about 30s a car, a newly imported vehicle can be sent on a short voyage from the British shores to Ireland, or any convenient port on the Continent, the duty paid reclaimed, and the car brought back here immediately on the lapsing of the duties These are merely instances to illustrate the various effects of any Government measure on trading enterprise of various sorts, also of the ceaseless activities of individual speculators to take advantage of any Government move

"HANG ON—BUT DO NOT PASS IT ON"

Between now and the lapsing of the McKenna duties we may be quite prepared to see a series of announcements concerning reductions in costs of cars for quite other reasons than those that have enabled the Wolseley Company to bring down its charges in respect of a particular model as a result of the entire reorganization of its management of production For one thing, the first effect of uncertainty concerning the McKenna duties was to make trade exceedingly bad, and, taking makes on the average as distinct from individual examples which embrace certain exceptions, of course, it has been by no means too good during this year in imported American cars How many people in this country are aware of the fact that, of the more expensive types of American cars, the export managers are selling more in Berlin alone to-day than they are in London? Germany is actually buying more French, Italian, and American cars of the more expensive sorts than this country Yet she has a big motor manufacturing industry of her own Unquestionably, the prospect of the McKenna duties coming off is upsetting to motor trading in this country, one result is that those who can "hang on to their cars" for a few more months are deciding to do so until the situation shall become defined more clearly All this makes the weak firms weaker Certainly, as far as medical men are concerned, that seems the best policy—but trading should not be embarrassed by passing this on—provided the vehicle at present in service is mechanically sound The reason is that the withdrawal of a degree of protection from the motor industry of this country has to be considered in conjunction with certain other points, not the least of which is the increasing cost of wages in the engineering trade, a difficulty which is continually recurring and is likely to assume a very ominous aspect indeed during the next few months

THE DEAREST INDIFFERENT, THE CHEAPEST EMBARRASSED

One of the results is that, as regards all save those cars which are built and sold irrespective of cost, manufacturers are having to reduce their outputs That qualification is necessary even at this time when individuals, as well as nations, are hard up, for it is a fact that the most expensive cars built in this country are about the only ones which will be immune from the ill effects of the inevitable complications we have to fear no less than the actual loss of that limited degree of protection the McKenna duties afford It is the cheapest car market that will experience the worst time in consequence of their lapsing The explanation is simple, though easily overlooked That limited public which can afford the best and has sufficient discrimination to recognize it is not deterred because a car costs £1,000 more In New York, for instance, the rich men's wives like to leave their neighbours' wives guessing to within £1,000 what they paid for what is called an imported car, one of the troubles of the American-built luxury car trade being that as each such carriage passes down the street anybody can tell to within a dollar what the owner paid for it, that does not suit the typical post-war wealthy American

NATIONAL, FINANCIAL, AND PRACTICAL ASPECTS

By contrast, however, nine cars out of ten sold in the world are bought primarily because their cost is within the purse range of the public desiring the particular combination of qualities possessed by the given vehicle by comparison with its rivals Every country where cars are built except this has a tariff to protect the industry because each foreign country believes that its motor industry must be dependent primarily on what is called the home-built

bread and-butter car The largest section of the industry in any country attempts to provide precisely that class of car, therefore in the country of origin that form of enterprise is protected against foreign competition That is the way American, French, German, and Italian industries, among others, have been built up In no country in the world is a higher percentage of wages paid per car built than here Consequently the bread and butter car in this country will present a very thorny problem to the public in the coming season, which, owing to the advanced date of the Motor Show, will begin as soon as possible after the August holiday season, and, in consequence, after the lapse of the McKenna duties Motor manufacturing is primarily a matter of finance No matter who figures as a car builder, the controlling spirit is the banker The bankers have been in awkward places once or twice in regard to their commitments on behalf of the motor industry as well since the war as in the period of the first memorable slump of 1907 They are going to make no blind plunges in the way of financing in the dark Consequently, instead of the expanding programmes, such as Mr Morris's which would result in producing more than 1 000 cars a week, we are much more likely to see them reduced 40 per cent or even more The overhead—or, as they are styled, dead—charges for producing any make of car are a fixed quantity representing a cost divisible over the actual number of machines built Obviously, the cost of those dead charges per car is increased in proportion to reduction in output That is one factor which will send up prices Another is cost in the ancillary industries Few realize that more men and more money are engaged in the industries that supply the motor car builder than are engaged in motor car building factories The less the demand made by those factories on the ancillary industries the greater the cost of producing raw materials or components for the motor car builder therefore the higher cost of those details Hence it is to be anticipated that the British built bread and butter car will be forced up in price as a result of the McKenna duties lapsing, for fewer cars will be produced

FACTORS FOR AND AGAINST LOWER PRICES

It would be optimistic to imagine that there will be a slump in the cost of imported motor cars to the consumer in this country solely on account of the abandonment of the McKenna duties So far as vehicles for which there is a demand are concerned, nobody importing them to this country is going to sell them at a lower price than he need, on the contrary, he is going to put as much profit into his pocket, and his agents' pockets, as he can So much for the effect of the withdrawal of the McKenna duties as a beneficial act to the motor car buyer The Chancellor of the Exchequer having announced that he does not think it is the purpose of any Government of his cast of politics to protect or encourage, any particular industry many manufacturers who have not attempted to sell cars in this country—the lesser ones, who are not doing well in their own country, where motor trade has been none too encouraging this year so that there is something in the nature of local over-production—will probably attempt to enter the British market Well established foreign firms may be expected to flood our markets with those of their models for which there is least demand at home and to put on these any price convenient to them In some cases—but these will be relatively few—the trans-Atlantic or Continental builder will reduce his price but in the majority of cases he will be selling at a good profit to himself albeit the price will be so low with 33⅓ per cent duty off that it will appear a slump figure to buyers in this country But in the case of the American cars for which there is most demand in any given price class, we are not to expect anything in the nature of 33⅓ per cent reduction on present list prices We may however, see anything up to 20 per cent reduction this autumn, particularly as America's motor manufacturing programme for 1924-25 which commences with the issue of new models at the end of August will itself result in her home costs of cars being reduced appreciably Of course, this is a factor quite extraneous to the McKenna duties Meantime the plain fact is that most importers of cars into this country are even more upset by this measure in its effect on trading this summer than are the British builders of cars themselves

PORTENTS OF COMING CHANGES

Our home builders will have time to consider their programmes and commitments for 1924-25, but, unfortunately, they are caught by these Government proposals in the mid-season of production and commitments in respect of given types Therefore we may witness an over production of certain 1923-24 British types leading to trading trouble which will have to be dealt with during next selling year In certain cases that may delay indefinitely the introduction of 1924-25 car types Certainly the biggest scale manufacturers will reduce their commitments greatly, with the result that their prices will tend to rise, especially in face of the present labour situation This will give the manufacturers of small cars on the Continent a good opportunity Further there is work afoot in the American industry which will result in a year or two in that industry embarking on the small car In one or his speeches in the House of Commons the Chancellor of the Exchequer suggested that America had done so already and had withdrawn from our market defeated by British small car enterprise This is a pure figment of the imagination inasmuch as America has never entered into the small car industry for the sufficient reason there must be good roads for a small car market and the United States is only now beginning to build roads on the scale with which we are familiar Further it is only now that General Motors, the biggest corporation of its kind in the world, is beginning to get results from its experimental enterprise We are going to have much higher compression engines from America, as may be judged from the General Motors Research Corporation's chemical work, which has resulted in six of the large petrol vending companies of the States, including the Rockefeller group supplying under licence, anywhere from the Rockies eastward to New York, tetra-ethyl petrol mixture at an extra cost of 2 cents a gallon The characteristics are that without injury of any sort to the engine the compression can be put up to that employed on our Grand Prix racing car engines or on our aircraft engines, without the power plant "pinking" Although no American manufacturer has yet made such a car yet these big petrol distributors in that country have actually standardized such a fuel which can be got on demand by drawing up at any wayside supply station it follows that there can be no doubt as to the direction which American car building enterprise is going to take not necessarily next year but in any case in the not distant future We are going to have much higher compression engines from United States factories therefore power plant which will come out far more favourably under British taxation horse-power rating It will also be of better quality therefore the competition as well with the Continental as with the home industry will be of unprecedented keenness But while nothing would be easier as far as me to indulge at great length in a variety of speculations as to what will be the motor car manufacturing and selling situation in 1924-25 the fact is the governing factors are bound to vary every moment and new factors are being introduced every month many of them arising out of circumstances quite extraneous to the motor industry The reason on the present occasion I do not propose to take up more space in dealing with the future having in mind that the main factor already to be reckoned with

THE PROBLEM OF COUNTRY OF ORIGIN

In the meantime it is well to observe that [illegible] the American smaller car (which may [illegible] 1925 season) will not be built primarily [illegible] British roads but for such roads as are available in the U.S.A. There is soon become available in the home maker [illegible] will have the advantage will remain that the home maker [illegible] tage over the Continental and the trans-Atlantic car maker in building British cars pre-eminently suitable for the roads of this country, and the user will continue to have the choosing, the advantages, by no means negligible, of having a

car built in this country by the firm whose name it bears That qualified phrase is used advisedly because, as the law of motor trading has stood, it is a fact that a car, a negligible percentage of which is built in this country, is allowed to figure as a British-built machine In fact, the question arises whether we shall not have to obtain a more precise definition of what constitutes a British-built car in face of the ample use the American industry has made of its Canadian factories for escaping one-third of the McKenna duties when importing to this country, thereby establishing a very large business here in selling cars which are built overseas and do not provide work in this country Of course, the better way would be for the manufacturers in this country to advertise their cars by the name of the city in which their factories are established There is, however, a technical trading difficulty in adopting that apparently simple course If you announce the Smith car as having been built in Coventry, and the Jones car as having been built in Birmingham, and those machines achieve a vogue, the manufacturers would have no protection should an unscrupulous speculator start advertising the Jones car of London, or the Smith car of London, which the majority of buyers would imagine to be a branch of the same enterprise though the spurious vehicle might be built almost entirely of imported parts This question of where a car is built will become of increasing importance to the user after the McKenna duties have lapsed For one thing, since many of our manufacturers do not intend to go out of business, and as it will be impossible to produce at the necessary low cost in this country, not a few of them may have some of the most important parts, and some of them nearly all the parts, of their cars made abroad The parts will come chiefly from the continent of Europe, not many from America Of course, it was quite an ordinary thing before the war for the valves and crankshafts of British cars to be built in France or in Belgium, some also in Germany But very few of our leading manufacturers failed to make all their parts before the war broke out, and most of the parts of British cars have been made in this country since the war Nevertheless, as time goes on the medical man who desires to have a car of any given country of origin will require to investigate the matter more closely than has been necessary hitherto to make sure, if he wants a British car, that it is wholly built in this country

In the meantime the situation amounts to this there can be little question that the lapse of the McKenna duties will put out of business a large proportion of British motor manufacturers, and will result in the surplus production of these cars being put on the market at any price which will result in them being bought In turn that will be a cause of embarrassment to the manufacturers of cars for which there is a demand, the cost of production will be rising in any case owing to the labour situation here, and it will be necessary to produce on smaller scales to operate on soundly cautious financial lines

For the rest, the British industry continues to show fresh enterprise An instance is afforded by the introduction to-day of a £9 tax car with overhead valve, water-cooled four-cylinder, nominal 9 h.p., actual 20 h.p., engined 11 cwt three-speed Rover car with two or four seats It is marketed complete with all-weather equipment and all manner of accessories for £180 only This model is supplementary to the well known 8-h.p. air-cooled two-cylinder type which will continue to be built

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At the headmasters' conference last December it was decided to draw up a syllabus of instruction in hygiene, with a view to the introduction into schools of teaching about health This syllabus has now been published under the title of *The Practice of Health* It provides simple and useful information about the romance of public health and the main features of the organization of the public health service, the principles concerned in the maintenance of healthy surroundings, and the application of biological and physiological considerations to personal health With its aid personal and communal hygiene can be introduced to the boy and girl as a quest which will excite interest and stimulate the formation of good habits A list of recommended books is appended, so that more detailed information can be obtained when required The syllabus may be obtained from Messrs Warren and Son, Ltd., Winchester, for 1*d.*, post free.

THE INDIAN MEDICAL SERVICE

PROPOSED ABOLITION

THE report of the Royal Commission on the Superior Civil Services in India was published on May 27th The Commission consisted of the Rt Hon Viscount Lee of Fareham (chairman), Sir Reginald Craddock, G.C.I.E., K.C.S.I., Sir Cyril Jackson, K.B.E., Khan Bahadur Sir Muhammad Habibullah, C.I.E., Rai Bahadur Hari Kishan Kaul, C.S.I., C.I.E., Mr D Petrie, C.I.E., C.V.O., C.B.E., I.P.S., Mr Bhupendranath Basu, Professor R Coupland, and Mr N M Samarth (in place of Sir Chimmlal Setalvad, who resigned before the Commission met)

The Commission was instructed to inquire into—

The organization and general conditions of service, financial and otherwise, of those Services,

The possibility of transferring immediately or gradually any of their present duties and functions to services constituted on a provincial basis,

The recruitment of Europeans and Indians respectively for which provision should be made under the Constitution established by the said Act, and the best methods of ensuring and maintaining such recruitment

The Commission recommends what practically amounts to the abolition of the Indian Medical Service If we understand its recommendations correctly, it would be absorbed into the Royal Army Medical Corps (India), and a new Civil Medical Service would be constituted in each province, partly on the basis of a competitive examination, both in England and India, and partly by seconding from the R.A.M.C. (India), to which all officers and other ranks R.A.M.C. while serving in India would be attached

The Commission met in Delhi on November 4th, 1923, and issued a series of questions, to which 1,300 replies were received from individuals and associations in India In addition about 100 replies were received from Great Britain to a provisional set of questions issued by the Chairman in England The Commission visited Allahabad, Bombay, Madras, Calcutta, Patna, and Lahore, and examined 411 selected witnesses, official and non-official On its return to Delhi it heard the evidence of a number of officials and heads of departments in the Central Services, including the Director-General of the Indian Medical Service

Broadly, the Commission recommends that the all-India Services employed in reserved fields of administration should continue to be appointed and controlled by the Secretary of State for India in Council

Medical Attendance

The Commission considers that the almost universally expressed anxiety of British members of the Services in India to have access to British medical advice for themselves and their families is intelligible, and that its provision is vital to contentment Owing to the geographical conditions of India and in view of the increasing Indianization of the Services, including the medical, the adequate provision of British medical qualified attendants for the British members of the Services presents peculiar difficulties, the Commission recommends as follows

"(*a*) The districts of a province should be grouped, and a British medical officer (civil or military) should always be posted to one station in each group This station should be within easy reach of each district in the group The details of this grouping should be arranged by the *Local Governments concerned*, in consultation with the Government of India, and should be subject to the approval of the Secretary of State

"(*b*) In stations where there is no British medical officer, travelling allowances for the officer or his family should be granted to and from the nearest station where there is such medical officer Payment should be made on a certificate by the medical officer, countersigned if desirable by the head of the medical service in the province Alternatively, if more convenient or if the patient is not fit to travel the expenses of the medical officer's visit (exclusive of his normal fee for attendance) should be defrayed by Government

(*c*) In the event of a case being of such a serious or special nature that the doctor first consulted does not feel able or willing to treat it he may give a certificate authorizing the patient to travel to the nearest station where adequate treatment can be given This certificate should qualify the patient for the grant of travelling allowance as in (*b*) above

(*d*) In stations where only military medical officers are available their services should be at the disposal of civil officers and their families upon payment of normal fees

(*e*) Officers should be entitled to free medical attendance as at present If treated in hospital they should not be liable for payment of medical surgical and nursing charges but charges for board or special accommodation should be defrayed by the officers

themselves Normal fees should be chargeable for their wives and families

The Commission does not accept the suggestions made to it that officers of the Services should have free medical attendance for their families

Indian Medical Service

Chapter III deals with the Indian Medical Service and opens with an historical account in the following terms

Established in the first instance as a military service for duty with the Indian Army the Indian Medical Service has played a notable part in the civil life of India It has not only devoted itself to the medical care of the civil population of both races it has also been the chief agent in spreading throughout India, by means of collegiate and hospital teaching and by personal example Western ideas of medicine surgery and sanitation, while amongst those who have devoted themselves to original research are some whose names are held in honour throughout the world It has been increasingly evident however, for some years past that some readjustment was desirable in the constitution of the medical service in India A new position has been created by the fact that, under the reforms system the medical needs of the civil population are now the care of a Minister in charge of a transferred department In the second place, it has been argued that it is cumbrous and uneconomical that two separate Services the Indian Medical Service and the Royal Army Medical Corps should be maintained, side by side for attendance on the troops stationed in India

The Commission recalls that these matters were the subject of consideration by the Verney-Lovett Committee in 1919, which advised that there should be one Indian Medical Corps responsible for the whole of the medical administration in India, both civil and military, which would take over the work of the R A M C The Commission does not accept this recommendation, being of opinion that steps must now be taken to settle the future status of the Medical Services in India, as well as to secure choice of treatment by men of their own race for British and Indians alike The Commission observes that there has been difficulty of late years in securing British recruits for the I M S , and continues

There seems however no doubt that the Indian Medical Service as at present constituted, is less attractive than in the past At the present time there is a shortage on the civil side of no less than 57 officers in the authorized cadre of 420

The Commission has adopted a scheme proposed by Lieut General Sir Charles Burtchaell the late Director-General of the Army Medical Services in India, and makes the following recommendations

1 That while all concessions granted to other all India Services should be extended to the existing members of the Indian Medical Service in civil employ no attempt should be made to perpetuate that Service as at present constituted

2 That contrary to the recommendation of the Verney Lovett Committee that the Indian Medical Service should be developed into a new Indian Medical Corps which should absorb the Royal Army Medical Corps in India the medical needs of both the British and Indian armies in India should be provided for in future by the Royal Army Medical Corps (India) which should absorb the Indian Medical Service

3 A Civil Medical Service should be constituted in each province and recruited for the Local Government by the Public Service Commission on the basis of a competitive examination both in England and India The standards for this examination should be fixed by the Public Service Commission in consultation with the Local Governments the Director-General Indian Medical Service (or the corresponding officer with the Government of India) and the medical adviser to the Secretary of State in England The rates of pay and other conditions of service should be fixed by the Local Government in consultation with the Public Service Commission It should be part of the terms of contract that every officer of the Civil Medical Service should be liable for service with the Royal Army Medical Corps (India) in the event of a war involving a general mobilization

4 The minimum number of British officers to be maintained in the Civil Medical Service should be determined by the Secretary of State, in consultation with the Government of India and the Local Governments concerned, on the basis of paragraph [medical attendance paragraph (a) above] This number should not be varied except by order of the Secretary of State and the responsibility for its maintenance should in the last resort rest upon him

5 'Of this prescribed British element in the Civil Medical Service, one-half (or a number not less than that of British medical officers from civil employ needed for the Regular Military Reserve * whichever is the larger) should be reserved for British officers to be seconded from the Royal Army Medical Corps (India) the remainder being obtained through the competitive examination referred to in (3) above

6 If the quota of British officers required to complete the authorized establishment referred to in (4) above cannot be obtained by the Local Government under the system prescribed in (3) the deficiency should be made up so far as practicable by increased seconding of officers from the Royal Army Medical Corps (India) Failing the requisite number from this source which in our view is an unlikely contingency it is for consideration whether the deficiency could be made up by special additional recruitment by the Royal Army Medical Corps (India) of officers who could be detailed temporarily for service in the civil department and be available as an addition to the Regular Military Reserve

7 With regard to the professorial appointments in Government colleges and hospitals we draw attention to the specific recommendation made by the Islington Commission in paragraph (xxx) at page 268 of their report A distinction is there drawn between the clinical chairs which should be reserved for so long as a fit person is available for officers of the Civil Medical Services however recruited and the scientific chairs which should be thrown open to all candidates We are disposed to agree with these recommendations subject to the substitution of the Public Service Commission for the Recruiting Committee referred to at page 268 [in paragraph (xxxiv)] of the Islington Commission's report

Pay

The Commission makes certain recommendations with regard to overseas pay applicable to all services In the Indian Medical Service the effect would be that captains with more than three years' service who now get 200 rupees would be entitled to 250 rupees while majors with not less than eleven years and lieutenant-colonels would get 300 rupees instead of 250 rupees It is recommended that in all services from the fifth year of service onwards every officer of non Asiatic domicile should be permitted to remit his overseas pay through the High Commissioner at a rate of 2s to the rupee or to draw it in London in sterling at that rate Indian members of the service already entitled to overseas pay should draw the increase but should only be entitled, to the remittance privilege if they can satisfy the High Commissioner that they have wives or children in Europe Officers promoted to the selection grade in the Indian Medical Service, among other services should draw the maximum overseas pay and also receive the remittance privilege described above The English members recommend that officers in administrative posts above the time scale whose salaries do not exceed 4 000 rupees a month should be given an increase by means of permission to remit 400 rupees a month of their pay at a rate of 2s The Indian members consider this unnecessary The Commission recommends that in the case of all future British recruits to the all-India services the rule should be made that if and when, the field of service for which they have been recruited has been transferred it shall be open to them to retain their all India service or to enter into new contracts with the Local Government or to retire on proportionate pension The Commission recommends that the existing rule should be maintained under which officers of the I M S with less than seventeen years' service are eligible to retire on proportionate pension until the military authorities are unable or unwilling to absorb them in military employment

* On this point the Commission has proceeded upon the assumption that the quota of military medical officers from civil employ required for the Reserve will not exceed the total (122) specified in the D.M.S.'s memorandum of July 2nd 1922.

in the modern voluntary hospital to meet the new conditions there must be no difference in the standard of treatment afforded to the various classes of patients Differences in accommodation and in certain refinements of maintenance and attendance there might be, but the standard of treatment must be the same for all. Accommodation which was provided for the necessitous poor must not be taken for paying patients, who should be accommodated in a separate building, preferably adjacent to the parent hospital He made a great point of the need for thoroughness in hospital construction, and deprecated the ill advised plans for adapting buildings erected for other than hospital purposes He referred to one nursing home in the West of London, which had been a private house, and in which the bathroom had been adapted, none too skilfully, to serve the purpose of the operating theatre Lord Dawson of Penn, who was in the chair, said that during the next few years, owing to financial stringency, no great amount of State or municipal help would be available for ambitious schemes, but this was not altogether to be deplored because it furnished an opportunity for what he described as "laboratory experiments" as a result of which mistakes were likely to be avoided when building on a large scale could begin He favoured the provision of hospitals on the outskirts of towns, where the situation would admit of space and air, and yet would not be too remote If paying wards were built next to hospitals in crowded cities, the effect might be to immobilize progress for a generation He made an exception, however, in the case of teaching hospitals, which should be regarded as a separate category altogether He also held it to be most important that in suitable cases general practitioners should be able to follow their patients into the private hospital, otherwise the position would work out to the detriment of the general practitioner The portals of the hospital must not necessarily signify a change in medical personnel, although in some cases they would be bound to do so At a subsequent session a paper was read by Mr C A Mason, secretary of the Midland Eye Hospital, on the changing character of the voluntary system He considered that the position laid down by the British Medical Association with respect to payments from public authorities might affect hospitals more in the future than it had done up to now, but it seemed to him that although it might not always be possible to maintain the hospitals by voluntary contributions there was no reason why the best traditions of the voluntary institutions should not be maintained pure and unsullied Viscount Burnham, who was in the chair, spoke of the claim which, he held, the hospitals had upon the National Health Insurance Fund, even though such claim might not have been recognized in the original constitution of that fund The work of the hospitals had been enormously increased, said his lordship, in consequence of the national health insurance system People now commonly came to hospitals whose cases would never have been discovered before the Insurance Act came into operation They were sent there by their insurance doctor, or they came because they had realized for the first time, as a result of their contact with the insurance service, the necessities of their condition It was the greatest claim of the insurance system to national gratitude that it had diminished the amount of sickness and distress which before its advent lay hidden and festering in the slums of our cities But the drain upon hospital resources was considerable in consequence and the hospitals deserved a fair requital for this extension of the work they had been doing If hospitals were helped from the National Insurance Fund it could not be regarded as involving State control, in view of the minor character of the State contribution He understood that some approved societies took objection on the ground that any surplus should be available for additional benefits Such an attitude represented a sorry return for all that the hospitals had done to enable the insurance system to be carried out Dr Lason, the President of the Association, strongly deprecated State grants to hospitals, but because he considered that these would destroy the spirit of voluntary institutions, though he would accept payments made in return for services actually rendered to State patients

MEDICAL EXAMINATION OF YOUNG FACTORY WORKERS

The report of the departmental committee on medical examination of young persons for factory employment, which has just been issued, contains several recommendations for changes in the existing system Conflicting evidence was received in regard to the working of the system of medical examination for certificates of fitness prescribed by the Factory Act The committee decided that the weight of evidence was against the present practice, finding it defective in the following respects

The form of certificate is negative, requiring the certifying surgeon to certify no more than the fact that the young employee is not incapacitated by disease or bodily infirmity, whereas something more than the cursory examination thus indicated is desirable.

The fee for medical examination is inadequate, there is no system of re-examination, and the scope of the certificates is limited The certifying surgeon has therefore no opportunity of determining the effect produced by industrial conditions, and his work is thus rendered largely futile as well as devoid of interest

The weight of evidence was strongly in favour of periodical examination of young employees in conditions unfavourable to health, or who were found to be in unsound health at the first examination

Another defect brought forward was the separation of the work of the certifying surgeon from the public health services of the country, especially from the school medical service Attempts have been made in some areas to bridge the gap through local juvenile employment committees, but examples of effective co-operation of this kind are reported to be few

Suitable accommodation in the factory for the medical examination is often absent and its provision is not compulsory

The recommendations for the future include the following

The raising of the age for examination from 16 to 18, such examination to be compulsory in all factories and workshops, except those exempted by special order of the Home Office

The certificate should be framed positively to the effect that the young employee is physically fit to work in the factory, the surgeon being entitled to grant a qualified certificate including conditions respecting the work of the employee Suitable accommodation at the factory for these examinations should be provided, failing which examination should be sanctioned at some other place —for example, the doctor's surgery

The inadequacy of the fees should be remedied, and the title "examining factory surgeon" be substituted for 'certifying factory surgeon" to mark the change effected in duties and responsibilities by the foregoing amendments

The committee therefore recommends that local authorities be invited to submit schemes for taking over such examination and certification of young employees, and that, if the voluntary trial made by these authorities prove to be successful, a transfer of the whole of this work to the local authorities should ultimately be effected by order of the departments concerned

Scotland.

UNIVERSITY GRANTS COMMITTEE

THE University Grants Committee has been visiting the universities in England and Scotland which receive grants-in-aid from the Treasury This year the Committee has indicated to the courts of the various universities its desire to confer with delegates from the non-professorial teaching staffs On May 24th and 26th the Committee visited the Universities of St Andrews and Aberdeen At Aberdeen the Committee was informed that the most pressing needs were additions to laboratories in Marischal College and a new union for the men students The Committee spent May 27th and 28th in Edinburgh, where, in addition to the meeting with the university court and senatus, the Committee received a delegation from the lecturers Considerable feeling has been aroused among the junior lecturers of the university by the proposal of the court to reduce the scale of salaries applicable to them, while the salaries and duties of the professorial staff remain unaffected

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION

As in former years, provision has been made under the auspices of this association for post-graduate teaching during the months from June to October Teaching facilities are offered in three forms (*a*) a general medical and surgical course, (*b*) special clinical courses on varied subjects, (*c*) clinical assistantships The general course has been specially arranged to meet the needs of practitioners

who may wish to devote a fortnight or a month to clinical work, and enrolment may be made for either of these periods This course will be held during the second half of August and the first half of September, and for it an inclusive fee will be charged General medicine and surgical diagnosis and minor surgery will fully occupy the forenoons, during the first half in the Western Infirmary and during the second in the Royal Infirmary Special subjects will be dealt with in the afternoons in some of the special hospitals or in the special departments of the general hospitals, demonstrations in two subjects being given each afternoon On the four Saturday forenoons demonstrations on infectious fevers and tuberculosis have been arranged at Ruchill Fever Hospital For those whose available time is more limited certain special courses on varied subjects are offered Clinical assistantships, either whole or part time can be arranged for in limited number in summer as at other periods throughout the year These are for a period of not less than three months and afford exceptional opportunities for those who may desire to devote their time to one special subject Further information may be obtained from the Secretary of the Glasgow Post-Graduate Medical Association, the University, Glasgow

Visit of His Majesty's Representative to Edinburgh Hospitals

The social functions discharged by the Lord High Commissioner, Mr James Brown M P representing the King at the General Assembly of the Church of Scotland, included a series of visits to the hospitals and other medical institutions of Edinburgh Chief among these was the visit to the Church of Scotland Deaconess Hospital In commenting upon the fact that no debt rested upon this hospital the High Commissioner paid a warm tribute to the voluntary system in hospitals Before leaving he presented the prizes to nurses who had been successful in the examinations A visit was also paid to the Royal Infirmary, where two wards were visited and prizes presented to nurses The Scottish Branch of Queen Victoria's Jubilee Institute for Nurses was inspected by Mrs Brown, wife of the Lord High Commissioner, and both of them, accompanied by the Moderator of the General Assembly visited the Royal Hospital for Sick Children and distributed toys to the patients A visit was also paid to the Royal Maternity and Simpson Memorial Hospital where reference was made to the urgent necessity for the building and equipment of a new maternity hospital for Edinburgh On Saturday afternoon last the usual May pageant in aid of the funds of the Royal Infirmary started from Holyrood and traversed the principal streets it was witnessed at Holyrood by the Lord High Commissioner accompanied by the Right Hon William Adamson M P, Secretary for Scotland, and Lord Provost Sleigh

Ireland.

Professor Meakins in Belfast

A special meeting of the Ulster Medical Society was held in the Medical Institute, Belfast on May 22nd Mr Mitchell at first occupied the chair and subsequently the president, Professor Symmers Professor Jonathan C Meakins (Christison Professor of Therapeutics in the University of Edinburgh) gave an address on The present situation of the thyroid question ' He emphasized the necessity of estimating the basal metabolism in cases of thyroid affections and of consulting it as the temperature chart is consulted in cases of fever He referred to the quantitative nature of myxoedemas and to the great prevalence of adolescent goitres, in some of the schools of the United States the administration of iodine had been carried out nearly wholesale, with satisfactory results Excess of iodine induced signs of hyperthyroidism which was cured by stopping the iodine Many of the children wore a little bag containing crystals of iodine around their necks He discussed McCarrison's view that endemic goitre was the result of intestinal infection and referred to the difference between the cystic type and the genuine exophthalmic type, which differed in its natural history from the cystic type, and was more of a dys-thyroidism than a hyper thyroid. The treatment of the former consisted in the removal the cysts of the latter in the removal of the whole gland This latter procedure did not bring about myxoedema if it did it was only temporary after it had been treated for a time with thyroid extract, a normal state of affairs came about by the compensatory enlargement of the supernumerary thyroid bodies Professor Symmers proposed and Dr Calwell seconded a hearty vote of thanks to Professor Meakins, which was carried by acclamation Professors Fullerton, Milroy, and MacIlwaine, Dr Pasmin, and Mr Mitchell also spoke

On the morning of Friday, May 23rd Professor Meakins delivered an address to the students in the King Edward Memorial Hall of the Royal Victoria Hospital on The place of the laboratory in clinical medicine He traced the evolution of instruments of precision as aids in clinical work just as percussion, the watch and the thermometer were ridiculed in early days so the electro-cardiograph renal functional tests and blood sugar estimation were apt to be ridiculed now His advice was to cultivate the habit of employing all methods and means in making an exact and discriminating examination of one's patient A hearty vote of thanks was proposed by Dr McKisack seconded by Professor Fullerton and conveyed by the chairman of the medical staff (Mr Mitchell) to Professor Meakins Much gratitude is felt to Professor MacIlwaine by the profession in Northern Ireland for his arranging this visit

Cancer Block for the Poor Law Infirmary Belfast

The foundation stone of a new cancer block to be erected by the Belfast Board of Guardians was laid by the Duchess of Abercorn a year ago, unfortunately, she was prevented from declaring the institution open this week by indisposition, but sent a message of good wishes and her place was happily taken by Lady Craig wife of the Prime Minister of Northern Ireland The block forms a wing to the main infirmary, and is built and equipped in accordance with the most modern ideas The building is of fireproof construction and has a flat roof which can be used by patients On the ground floor there are four wards providing accommodation for thirty two patients with annexes and arrangements for isolation and segregation on the first floor there is accommodation for the same number The Chairman of the Board said that this block was but one of a number of improvements and advances in contemplation in addition to two new operating theatres schemes were in hand for an x-ray department and for a bacteriological laboratory The sanction of the Ministry for Home Affairs had been obtained for a plan for improving the condition and providing for the segregation of insane epileptics

"As approved societies are aware, Form M C /X is proper for use only in cases where societies desire certificates in respect of members suffering from certain kinds of prolonged illness and where *specific requests* for such certificates are made to certifiers by societies on Form M C /10 Societies are also aware that payment for a certificate properly given on Form M C /X is to be made at double the rate for a certificate issued on Form M C /1 or Form M C /1A

In Circular M C /25 the Commission, with a view to the making of any requisite adjustments in respect of payments for any certificates improperly issued on Form M C /X, requested societies to furnish to this Department, within a week after the close of each quarter particulars of the serial number of any certificate received by them in the quarter on that form, for which a request had *not* been made to the certifier who issued the certificate Only a small number of the societies complied with the request, although it is clear that certain societies who did not comply in fact received certificates on the form in question for the issue of which no request was made

The Commission have suitably dealt with any case which came under notice where a certifier irregularly issued a certificate on Form M C /X, but, nevertheless, such irregularities have not yet ceased With a view, therefore, of enabling a better and more effective examination to be made in this Department of the counterfoils of the M C /X certificates received quarterly from medical officers, the Commission have had Form M C /10 printed in duplicate, the right-hand section of the form to be sent to the certifier from whom a certificate on Form M C /X is required, and the left-hand section to be forwarded to the Commission A supply of the new forms is herewith, and it is requested that they be brought into use as soon as may be necessary after their receipt by the society and that the use of the old form may then be discontinued Further supplies of the new forms may be had on application to this Department

'Societies are reminded that a certificate on Form M C /X should only be applied for in respect of the particular type of case described in paragraphs 9 and 10 of Circular M C /23, and that ordinarily such a certificate should not be required in any case at more frequent intervals than three months"

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Therapeutic Substances Bill

In the House of Lords the Therapeutic Substances Bill was taken in Committee on May 22nd The first, second, and third clauses were passed without any alteration, as printed in our issue of April 12th, p 677 An amendment by the Government to add to the Advisory Committee another member appointed by the Institute of Chemistry of Great Britain and Ireland was carried To the fifth clause, defining power to make regulations, a new paragraph was added to exclude from the operation of the bill any therapeutic substance intended for use solely for veterinary purposes A new subsection was also inserted that all regulations made under the section should be laid before both Houses of Parliament as soon as could be after they were made The object of this change was to meet a request from one of the large manufacturing firms that due notice should be given of the intention of the department to add any substance to the schedule Various drafting amendments were also agreed to and the schedule was approved The bill attained the Report stage on May 27th

Lunacy Laws Commission

Mr Costello inquired, on May 21st, whether the attention of the Minister of Health had been called to the remark of Lord Justice Scrutton in giving judgement in the case of Hunter v Bond in the Court of Appeal, and whether he was now able to give the names of the proposed Royal Commission and to say when it would begin its sittings Mr Wheatley, in reply, said he had seen the report. He was not yet able to give the names but hoped that the Commission would be appointed within the next few weeks

Encephalitis Lethargica—Sir George Berry asked, on May 22nd, if in view of the fact that the disease known as encephalitis lethargica had recently become prevalent, and having regard to the nature of the disease, the Minister of Health was prepared to have a special investigation as to its cause Mr Greenwood replied that the Minister was not clear as to the nature of the special investigation Sir George had in mind Investigations both as to the nature and the cause of the disease had been undertaken by officers of the Department and of the Medical Research Council for some time past, and they were being energetically pursued at the present time Constant touch was also maintained with research workers abroad who were engaged in special investigation into the disease

Health Consultative Councils—Mr Robert Richardson asked on May 21st whether the consultative councils authorised by the Minister of Health had been set up Mr Wheatley replied that they had four such councils were established for England and Wales under Orders in Council made in 1919 The meetings had been as follows In England, the Council on the Medical and Allied Services had held 31 meetings (last meeting, July 1st, 1921), the Council on National Health Insurance (Approved Societies' Work) had held 34 meetings (last meeting March 14th, 1924) the Council on Local Health Administration had held 12 meetings (last meeting, July 7th, 1921), the Council on General Health Questions had held 24 meetings (last meeting, December 7th, 1921) In Wales, the Welsh Consultative Council had held 15 meetings (last meeting, March 18th, 1924) Dr F E Fremantle inquired whether the advisory body which brought out the extremely useful interim report on the hospital scheme two or three years ago was continuing its labours Mr Wheatley asked for notice of the question

Incipient Mental Disorder—Mr Costello asked the Minister of Health, on May 21st, whether, in view of the fact that borough councils were empowered by the Public Health Act, 1875, to establish and maintain hospitals for any class of illness he would consider the advisability of allocating to the Health Committees of local authorities grants sufficient for the provision, where desired, of hospitals for uncertifiable cases of nervous breakdown, to promote their restoration to self supporting life while avoiding the stigma associated with institutions controlled by lunacy authorities. Mr Wheatley said that the terms of reference to the Royal Commission would include the question of the best method of providing for the treatment of mental disorder in the incipient stage, pending the recommendations of the Commission, he was not prepared to introduce legislation on the subject

Animal Diseases Research—Mr Adamson stated, on May 22nd, that the estimated cost of land and field laboratories, including apparatus, for the Animals Diseases Research Association, which was being transferred from the Glasgow College to Edinburgh, was £17,550 A central laboratory accommodation would be provided in the Royal Dick Veterinary College, Edinburgh, the cost of adapting premises within the College was estimated at £1,650

Voluntary Hospitals Government Assistance—Mr Potts, on May 26th, asked whether the Chancellor of the Exchequer from his budget surplus could make an additional grant to the hospitals of the country, having special regard to industrial centres where hospitals were in serious financial difficulties Mr Graham said that the demands already made on the surplus left the Chancellor little scope for accepting fresh liabilities of this kind

Blind Persons Act (1920) Amendment Bill—This measure, which was introduced by Mr Thomas Henderson as a private member's bill, was read a second time on May 23rd The first section provides that blind persons who, under the existing law, would be entitled to receive pensions at the age of 50, shall be so entitled at 30 The second section gives local authorities power to set up and maintain workshops, hostels, homes, and other places for the reception of the blind, and requires them, within twelve months after the passing of the Act, to submit to the Minister of Health a scheme for the exercise of such powers It was stated that the number of blind persons between the ages of 30 and 50, in England and Wales, is 8,059 Mr Henderson claimed that the increased charges would not be very heavy, because the bill provided for greater facilities for payment, and for better physical conditions of the blind, and in those circumstances a large number of sufferers would not desire to have the pension The number of children born blind, or who go blind up to the age of one year is 5,979 The hope is, that thanks to the active assistance of local health departments, and by medical authorities' attention, this total will be largely reduced in the future In the course of the discussion Dr Haden Guest expressed the earnest hope that the Government would find it possible to give facilities for the passage of the measure Mr Greenwood, for the Government, was very sympathetic, but said that the question of facilities must depend upon the leader of the House

Ex Service Mental Cases—Replying to Mr Costello, on May 22nd Mr Roberts said that when the Ministry of Pensions had classified a man as a service patient the responsible relative had the power to insist on the removal of the latter even against the considered advice of the medical superintendent It was the practice in these cases to inform the relative that should application be made for readmission of the patient to the asylum (which experience showed frequently happened) the question of reissuing family treatment allowances must be considered afresh This procedure was exercised with the greatest discretion solely in the interests of the patient's treatment and prospects of recovery

War Pensions—Mr Roberts in reply to a question on May 22nd said that no instruction had been issued by the Ministry of Pensions to medical officers for lowering allowances where possible In more than 25 per cent of all the cases examined during the past four months the assessments of pensions had been increased Replying to another question, Mr Roberts said that the scheme for the constitution and procedure of the new advisory councils was in draft, it was the subject of discussion at the series of conferences being held in certain important centres with representatives of war pensions committees The intention was that the new councils should include one representative appointed on the nomination of each war pensions committee in the area covered by the council, together with direct representatives of disabled ex service men, widows, and dependants

Service Patients in Asylums—Mr Wheatley stated on May 21st, in answer to Mr Costello that the total number of service patients in county and borough mental hospitals in England and Wales on January 1st, 1924 was 4,623 Newspapers, books games, etc, were provided, and such patients as were fit for it were given employment out of doors on the farm and gardens and indoors in the wards and workshops. It was the practice in most mental hospitals to reward patients so employed He was not aware that the Brabazon scheme operated in any county and

borough mental hospital The number of service patients discharged from county and borough mental hospitals in England and Wales during 1923 was 217

Trams and Hospitals—In the House of Lords on May 20th upon the second reading of a London County Council bill Lord Denman moved to strike out a clause under which powers were to be obtained to run a strip of tramway past Waterloo Road Hospital Lord Monkbretton thought that opposition at this stage was unreasonable as the bill had been passed through the Commons After some debate the instruction was however carried by 57 votes to 35

Notes in Brief

In reply to Sir Kingsley Wood on May 26th Mr Greenwood said that the Minister of Health was not yet in a position to say anything further as to the appointment of the Royal Commission on National Insurance

In reply to a question as to why there was a decrease in this year's estimate on the grants for maternity and child welfare of £70 000 in the case of England and of £2,000 in the case of Wales as compared with last year's estimate the Minister of Health said that the actual expenditure last year of local authorities and voluntary agencies proved to be considerably below the provision made in the estimate The provision made for grants in the estimate for this year was substantially in excess of the actual amount of grants paid last year and included the necessary provision for developments of this service which it was the intention of the Ministry to encourage

In reply to Dr Spero on May 14th the Minister of Health said that he was advised that the practice of wrapping up food stuffs in *old newspapers was not a factor of importance in the* spread of disease he therefore did not feel justified in taking any steps in regard to it

Correspondence.

INDIVIDUAL MEDICAL DEFENCE

SIR,—The recent case of Harnett *v* Bond and Adam has excited a considerable amount of interest in the minds of the general public and has focused the attention of the members of the medical profession on some of the many problems that may arise in the course of their daily work, and more especially on the litigation in which any member of the profession may become involved as a result of the performance of his duties to his patients and to the general community at large It has also exposed to the lay mind a possibility of securing large damages for some alleged infraction of professional treatment or procedure The anxieties of professional life are sufficient in themselves without the addition of those inseparable from litigious proceedings

Dr Adam was a member of the London and Counties Medical Protection Society, and the responsibility of defending him was undertaken by the society after careful investigation of the case by the council of the society, and he was thus relieved of the pecuniary incubus In view of the risks run by medical practitioners in their endeavour to discharge their duties as such it is very remarkable that all members of the medical profession do not avail themselves of the services of one or other of the two societies that are responsible for the defence and protection of their interests It is probable that less than one-half of the medical practitioners in the United Kingdom are included in the membership of the two societies at the present time and it would seem to us that it is highly desirable that all practitioners should without delay join one or other of the two societies —We are, etc,

JOHN ROSE BRADFORD
C M FEGEN

London and Counties Medical Protection Society May 27th.

*** We referred to this matter last week (p 923) after recording the action taken jointly by the Medical Defence Union and the London and Counties Medical Protection Society in arranging to afford their members unlimited indemnity against damages and costs of the other side on the same conditions as at present prevail We would invite readers who have not yet done so to peruse that paragraph The address of the London and Counties Medical Protection Society is Victory House Leicester Square W C 2 and that of the Medical Defence Union is 49, Bedford Square, W C 1

INSULIN IN CONTRACT PRACTICE

SIR,—So far as we have observed there has been no reference in the JOURNAL to the administration of insulin to contract patients or to the peculiar difficulties that presents Such patients are being discharged from hospitals after recovery from the graver manifestations of diabetes, and though they may have proved sufficiently intelligent to be trained in self administration of insulin and in qualitative examination of the urine for sugar and to be trusted to observe the dietetic rules prescribed for them yet careful supervision is essential for many reasons The question whether it would be possible, and helpful, to devise some special arrangement such as a central clinic, for the provision of this superintendence was recently raised at meetings of the Leicester Panel Committee and the Committee of the Leicester Public Medical Service As a preliminary, it was decided to try to discover the extent of the problem, and a letter was addressed to each of the panel practitioners and medical officers, inquiring whether they would kindly help by stating the number of contract patients known to them to be suffering from glycosuria Forty-eight of these gentlemen replied, representing 69,343 insured (National Health Insurance) persons and 27,568 uninsured (Public Medical Service)—in all 96,911 persons The total number of patients reported as being known to have glycosuria was 55

National Health Insurance (69 345)		
Above the age of 60	...	16 cases
Below the age of 60	...	19
Public Medical Service (27 568)		
Above the age of 60	...	13 cases
Below the age of 60	...	7

Of this total of 55, it was definitely stated that 30 were believed to be certainly diabetic

These figures are sent by authority of our committee and we are considerably indebted to Dr Slight of Leicester for collecting and working out the statistics —We are, etc,

E LEWIS LILLEY,
Honorary Secretary Leicester Panel Committee.

CUTHBERT C BINNS
Honorary Secretary Leicester Public Medical Service.

inflammation we seek the causes of inflammations, the popular clamour (*ardor civium prava jubentium*) is for the discovery of the cause of cancer we are searching for, and probably finding, the causes of cancers—I am, etc,

London, S W 3, May 24th. ARCHIBALD LEITCH

BRAIN AND MIND

SIR,—I read with great interest Professor Berry's article and the remarks of your correspondents on the above, personally I should welcome similar contributions

I do not see how, logically, we can separate brain and mind One is never found without the other, the brain contains centres where impressions are synthesized and co-ordinated, but it is the mind which binds into a unity all these various centres This idea of the unity of mind is no new one, certainly it is as old as Plato, but it has received extraordinary confirmation by recent work in psychology Such terms as dissociation of personality, obsession, fixed idea, become clearer if we regard them as indicating a lessening of the unity of the mind A man who has lost the use of one of his special senses still has a mind and a personality, though it is by so much the poorer —I am, etc,

J J BROWN, M B, M S Durh, F R C S Edin

SODIUM NUCLEINATE IN PNEUMONIA

SIR,—I was much interested to read in the BRITISH MEDICAL JOURNAL of April 26th (p 748) an account of a paper on crisis precipitation in the treatment of pneumonia by injection of sodium nucleinate, by Dr Gardner-Medwin I would like to congratulate Dr Gardner-Medwin on the brilliant results of his treatment and to ask him for particulars of the strength and quantity of solution that he uses The quantities sometimes employed, 40 to 150 c cm of a 2 per cent solution, are very large for intramuscular injection I should also like to ask whether the injection produces shock or pain—I am, etc,

Cheltenham, May 21st J ALLMAN POWELL

Medico-Legal.

SEQUEL TO AN INSURANCE INQUIRY

THE order of the Minister of Health, to the effect that Dr Gilbert Bailey and Dr James Leach, of Tottington, Lancashire, who had been found by an official inquiry ordered by the Ministry (reported in the SUPPLEMENT of December 22nd, 1923, p 277) to have taken remuneration over and above what was due to them from panel patients, should have £1,000 deducted from the remuneration due to them, was held to be *intra vires* the Minister, in the King's Bench Division, on May 21st, 1924

The two medical men had obtained a rule *nisi* for *certiorari* to quash the order and the Attorney General (Sir Patrick Hastings, K C) appearing to show cause against the rule, said the matter related to the treatment of insured persons by panel practitioners It was a fundamental principle of the scheme that doctors should be paid by capitation fees and that in no circumstances whatever should a doctor take any additional remuneration except in accordance with regulations He did not consider it a case in which the court would desire even if it had the power, to review the discretion of the Minister or to inquire into the severity of the penalty which he had imposed The two doctors were partners practising in Lancashire and were found by inquiries held under the Act to have taken remuneration over and above that which was permissible and an order was made that £1,000 should be deducted from the remuneration due to them That was the order which was questioned One point was whether the inquiries required had been duly held There was one form of inquiry provided for under Part V of the Regulations—a private inquiry at which the accused person had no right to be represented by counsel or solicitor and there was a more serious and formal inquiry under Part VI, with a legal chairman after notice to the accused of the charges made It was suggested here that it was necessary before the order could be made that two inquiries into the case of each doctor should be held—a preliminary inquiry under Part V and a subsequent full inquiry under Part VI It was said here that after the preliminary inquiry in which complaint were made against Dr Bailey only a full inquiry presided over by Mr F H Pindal Atkinson K C was held into the conduct not only of Dr Bailey but also of Dr Leach and that it was on the report of that inquiry to the Minister of Health that the order was made

Sir William Finlay K C in support of the rule said that unfortunately there could be no question raised as to the amount of the penalty He was sorry as he would have liked to say a great deal about it His case was that the representation made under a particular regulation could only be made against the doctor into whose conduct the inquiry under Part V was made Dr Leach had no list of panel patients of his own but merely attended patients on Dr Bailey's list as Dr Bailey's agent

The Lord Chief Justice If the Minister is entitled without any representation to direct an inquiry under Part VI against one practitioner and receives representations asking him to hold an inquiry into the conduct of another, what is there in the regulations to prevent him from directing that both inquiries should be held together?

Sir William Finlay That is not the course which he took—of course, the matter is highly technical

The Lord Chief Justice That is another way of saying that you know you have no merits

Sir William Finlay All the merits are on my side, but I am not entitled to argue them

The Lord Chief Justice, delivering judgement, in which Roche and Branson, J J, concurred, said that under the National Insurance Act, 1911, Section 15, regulations were to be made by the Insurance Commissioners to provide for certain matters, and they were duly made At all material times Dr Bailey and Dr Leach were partners and were insurance practitioners and were both on the panel A list of patients was assigned to Dr Bailey, and the patients were attended, as the rules permitted, sometimes by Dr Bailey and sometimes by Dr Leach Presently, questions arose as to the crucial and fundamental matter of acceptance of fees from these panel patients The Medical Service Subcommittee for the county investigated the matter in the somewhat rough and ready way provided for by Part V of the Regulations There did not follow the action by the Lancashire Insurance Committee which was contemplated under Part V but when it appeared from the report that there were grounds for complaint against both, the Insurance Committee received a letter suggesting that representations should be made against "these practitioners" in the plural under Part VI The Committee, having considered that letter, made representations accordingly, and an inquiry was held under Part VI The jurisdiction to hold that inquiry depended on the construction of the regulations It was not now said that in every case an inquiry under Part VI must be preceded by an inquiry under Part V Such a contention would be manifestly contrary to many of the regulations But it was contended that where a recommendation was made by the Insurance Committee it could only be made under 30 (2) (*f*) of Part V, they were only given a discretion so to make representations The powers of Regulations 41 and 42, however Representations might be made by the the Medical Service Subcommittee, or the [illegible] Panel Committee, where it existed, was left free to make representations on any ground that it thought fit In the case of the Medical Subcommittee the complaint must be by a practitioner, but when it was made the Committee might make a representation to the Minister That being so, it was suggested that the power of the county Insurance Committee was confined to the case provided for as an optional recommendation under 30 (2) (*f*), and the general words of Regulations 41 and 42 must be limited accordingly He did not think there was any such fetter What happened here was that after the report of the Medical Subcommittee on Dr Bailey's conduct, the Minister recommended that the Insurance Committee should proceed under Part VI, Regulations 41 and 42 That course was followed and there came in the end the decision to deduct £1,000 by instalments In his lordship's view there was nothing that could be said to be *ultra vires* the Minister, and the rule must therefore be discharged

Messrs Le Brasseur and Oakley, on behalf of the London and Counties Medical Protection Society, Ltd, were solicitors for Drs. Bailey and Leach

A CHARGE OF NEGLIGENCE

AN unusual action at Wandsworth County Court in which a father succeeded in recovering from a medical man the sum of £11 10s, the amount of the funeral expenses incurred in burying his 8 year old son, who, it was alleged, died as the result of professional negligence, carelessness, and unskilled treatment, is of interest to the medical profession

The facts—we quote the *Wandsworth Borough News* of May 16th, 1924—may be briefly stated The boy was discharged from Grove Hospital, Tooting, on September 7th, 1923, as cured of scarlet fever, but on September 8th he complained of a sore throat and a discharge from the nose On September 10th the defendant, Dr Savory, who was acting as locumtenent to Dr James of Larkhall Lane, Clapham, was called to the boy's home in Clapham In his evidence, Dr Savory could not swear that he took the boy's temperature, although he thought he must have done so, because it was the routine practice He admitted not having taken a swab of the boy's throat, but owing to the inflammatory condition of the throat and glands there was an inability to open the mouth without pain He endeavoured to get the boy's mouth open and an electric torch was brought, but it was impossible for him to see the back of the throat He therefore concluded the boy was suffering from septic pharyngitis On September 12th he wrote to the house surgeon of Grove Hospital asking that the boy should be admitted, but he denied the plaintiff's statement that he had said in the letter, "This is not an infectious case"

Dr J H Whitaker medical superintendent of Grove Hospital, who examined the boy on his admission on September 12th, said there was not the slightest doubt that he was suffering from a severe attack of diphtheria and was in a critical condition The boy died at 5 o clock on the following morning He had no difficulty in opening the boy's mouth or in diagnosing diphtheria. In cross examination, Dr Whitaker agreed that the symptoms were rather misleading

Counsel I might put it that the symptoms were not the ordinary symptoms of diphtheria?—I think you might

His Honour Is it difficult to diagnose diphtheria?—At times it is.

Dr Savory cross-examined was asked at what stage he first knew the boy had got diphtheria.—I did not know he had got it.

Counsel This boy was dying in front of your eyes from diphtheria and yet you were not able to diagnose it?—I am prepared to admit that I was mistaken.

His Honour Can you explain how Dr Whitaker was able to diagnose diphtheria when you were not able to do so?—Yes. In a hospital you have plenty of light and appliances as many nurses as you like and every facility for making whatever examination you wish to make.

His Honour, giving judgement for the plaintiff, said that, without casting any slur on Dr Savory's capacity and abilities as a doctor, he thought in that case the doctor did unfortunately fail to exercise that skill which was incumbent upon him. The defendant had said that it had never entered his head to take a swab of the boy's throat. Therefore, the defendant had made up his mind that this boy was not suffering from diphtheria, and consequently, thought it was unnecessary to take those precautions which he ought to have taken. The defendant also ought to have taken the boy's temperature.

The rule of law laid down by the Court of Appeal in Clark *v* London General Omnibus Company Ltd. (1906), 2 K.B., *b* 48 is

That a father cannot recover either at common law or under the Fatal Accidents Act 1846 (Lord Campbell's Act) the funeral expenses to which he has been put in burying an unmarried infant daughter whose death was caused by reason of the defendant's negligence and who was residing with her father at the time of her death.

The Court of Appeal, in that case approved the majority decision in Osborn *v* Gillett (1873) L.R. 8 Ex 88—interesting because it contains a dissenting judgement by Bramwell B who cited R *v* Vann (21 L.J M.C., 39) in which a board of guardians recovered funeral expenses incurred in burying a child where the father had means It is true that R *v* Vann was followed in Bedwell *v* Golding (1902) 12 T.L.R where a father was held entitled to recover the funeral expenses of his daughter on the ground that he was bound to bury her, but in Clark's case Alverstone C J said

I differ from Phillimore J in Bedwell *v* Golding —so that that case may be regarded definitely as over ruled

Again and again it has been laid down that in a civil court the death of a human being cannot be complained of as an injury, and when Alverstone C J, in Clark's case, said

The course of authority is far too strong to justify us in saying that an action to recover funeral expenses will lie under that Act —the Fatal Accidents Act—he might have added at common law also for Kennedy L J in that remarkable case Jackson *v* Watson and Sons (1909) 2 K B 193 (where a husband recovered damages for breach of warranty under the Sale of Goods Act the death of his wife being allowed to form only an element in ascertaining the damages arising therefrom), said at page 200

The case of Clark *v* London General Omnibus Company binds us to hold that where a person's death has been caused by the actionable conduct of another although in the deceased person had been injured only and not killed he would have been entitled to sue the wrongdoer for the damage occasioned to himself by the wrongful act no one whatever his connexion with the deceased may be can maintain an action or tort for damage resulting to himself from the death in regard either to the payment of funeral expenses or to loss of service except in regard to loss of service in circumstances to which the provisions of the Fatal Accidents Act 1846 in favour of a wife husband parent or child are applicable The loss recoverable as damages from the wrongdoer under that Act must be one arising out of a relationship and merely from the determination of a contract it may be sufficiently evidenced by a reasonable expectation of pecuniary benefit but expenses of burial and mourning are not allowed to be included in the compensation

In Jackson *v* Watson and Son however the rule established in Clark's case was limited to actions for wrongs and to actions brought under the Fatal Accident Act and the plaintiff was allowed damages for breach of a contract that certain tinned salmon was fit for human consumption the damages including funeral expenses, medical expenses and compensation for the loss of his wife, as the plaintiff had to hire a housekeeper to look after his seven children.

Alverstone C J had said in Clark's case The defendant owed no breach of duty towards the father and no pecuniary loss to the father has been injured and the Court in Jackson's case held that here there had been a breach of warranty towards the husband as purchaser of the tinned salmon and true the property of the husband in the wife had been injured—but the husband had lost the services of his wife and the expenses of death and the funeral expenses consequent thereon were elements to be included in assessing the damages.

From the report of the case under review it does not appear clear whether the action was brought for a wrong—be it in tort—or in contract In tort funeral expenses are clearly irrecoverable, but Jackson's case is authority for the statement that once a contractual duty is found to be arising from the defendant to the plaintiff (the husband) then in an action for its breach funeral expenses and compensation for loss of his wife's services are recoverable.

Whether a doctor owes a contractual duty to a patient for the breach of which funeral expenses resulting therefrom are recoverable has not yet been decided in the High Court No legal argument as to the difference between an action of negligence and an action for breach of contract was addressed to the judge by either side in the Wandsworth County Court no cases were cited and the case therefore appears to be one in which appeal might lie to the High Court since the law as it now stands in such cases in its relation to the medical profession is undefined. Farwell L.J in Jackson's case said

I see no reason why a man who has an estate *pur autre vie* should not contract with say a doctor to maintain and attend and do his best to keep alive the cestui telling him of the value and importance thereof to him nor why he should not recover damages founded on his actual loss if the cestui died through the doctor's negligence This is the only safeguard we have found to the possible position of a medical man in judgements in the Court of Appeal

Universities and Colleges

UNIVERSITY OF OXFORD

AT the Encaenia to be held on June 25th the honorary degree of Doctor of Science will be conferred upon Sir Humphry Rolleston K.C.B M D Cantab President of the Royal College of Physicians of London

UNIVERSITY OF LONDON

AT the meeting of the Senate on May 21st Dr R A Young was appointed to represent the University at the tenth annual conference of the National Association for the Prevention of Tuberculosis to be held in London in June next

The Graham Legacy Committee reported that Mr Norman D Ball (Hospital for Consumption Brompton had been appointed to the Graham scholarship value £100 tenable for two years from April 29th 1924 in succession to Dr W J Tabb who had resigned the scholarship to enable him to devote himself for two years from April 1st 1923 to research work in the Professor of Pathology in the Grant Medical College Bombay

UNIVERSITY OF BIRMINGHAM

THE Council of the university has decided on the recommendation of the Senate to confer the honorary degree of LL.D on Sir Charles Sherrington G B E M D Fellow of the Royal Society Sir John Bland-Sutton LL.D Fellow of the Royal College of Surgeons of England Sir Arthur Keith M.D Fellow Hunterian Professor at the Royal College of Surgeons and Dr F Gowland Hopkins F.R.S Sir William D Professor of Biochemistry in the University of Cambridge will be conferred at a special congregation

Obituary

THE LATE PROFESSOR SHATTOCK

DR G A BUCKMASTER, Professor of Physiology in the University of Bristol, writes

The tribute to the memory of Professor Shattock by Sir Charles Ballance, together with the concluding portions of the obituary notice in the BRITISH MEDICAL JOURNAL of May 17th, have indeed faithfully pictured him as he was to those who had the good fortune to possess his friendship For myself this extended over more than thirty years Shattock was endowed by Nature with a kind of continuous placid industry and a devotion to work for the work's sake, which during a long life stood out in sharp contrast to the impetuous, I might almost say fevered, output in science which is a feature of the present time Quite clearly he recognized that there can be no such thing as a speeding up of research Of his critical faculty I can recall many instances, and among these, his views on the remarkable tumour formation which may occur when the surface of the ovary is scraped in rabbits

Though Shattock's name is unknown in connexion with what is called a great scientific discovery, all his work was pursued with a singleness of purpose and unsparing industry He was a lover of scientific truth One easily calls to memory some words with which Renan greeted Pasteur in 1882 on his reception into the French Academy These may be fairly applied to others, indeed to anyone who possesses that uncompromising love of truth and honesty of purpose which was an outstanding feature of Shattock's mind Reflecting on the industry of those who follow science as others follow art or literature, Renan said 'Truth, like a woman, is a great coquette She will not be sought with too much passion, but often is most amenable to indifference, she escapes when apparently caught but gives herself up, if patiently waited for, revealing herself after farewells have been said"

To speak of Shattock as a surgical pathologist or as a microscopist, whatever these terms may mean, indicates a complete inability to understand his mind Cohnheim is among the greatest of experimental pathologists, possibly the chief exponent of the *application* of physiological methods to the elucidation of pathological problems It is his work and that of Virchow which profoundly affected Shattock's mode of thought He was distinctively a pathologist who was wedded to experimental methods Constantly devising experiments to clear up any problem on which he was engaged, he recognized with the clearest vision that physiology and pathology are so intimately related that they require identical methods of investigation

It has been remarked that in many respects he resembled John Hunter, and the face in Reynolds's picture well shows the interesting thoughtful expression into which Shattock not infrequently lapsed after a long talk Faraday's greatness of achievement grows with time, and few can hope to approach this but the perfectness of his scientific life has been equally displayed by others, and among these, though it is but a personal view, Shattock may be ranked Devoid of scientific envy, of scientific jealousy or hate either in speech or thought and giving freely of his time and knowledge to others I still venture to think he was, though appreciated by many understood by few Incapable of the methods known to and practised by those who hunger for recognition it may be questioned whether he really gained that position among his contemporaries to which he was entitled But that he possessed the affection of his friends is incontestible

However the words of a man may disguise him, his features seldom do so Portraits in libraries or laboratories keep our memories awake The record of a long life, devoted to work at the College of Surgeons and St Thomas's Hospital Medical School, would be well perpetuated by a painting of Shattock as he was known in his later years

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PROFESSOR CHARLES JACOBS founder of the Belgian Society of Gynaecology and Obstetrics and director of the Belgian Hospital in London during the war, has recently died

The Services

DEATHS IN THE SERVICES

Colonel Charles Colhoun Little, Madras Medical Service (retired), died in a nursing home at Hove on April 21st He was born at Raphoe, Letterkenny, on December 8th 1848, the second son of the late Dr Robert Little of Lifford and after taking the L R C S I in 1870, and the M D and M Ch of the Queen's University Ireland, in 1871, entered the I M S as assistant surgeon in 1872 He attained the rank of colonel on February 12th, 1900, and retired on February 12th, 1905 Almost his whole service was spent in administrative work He took civil employment in 1877, and in July 1881, he was appointed Inspector General of Dispensaries, Superintendent of Vaccination, and Sanitary Commissioner of the Haidarabad Assigned Districts, otherwise known as the Berars, a very small province, which has since been absorbed into the Central Provinces The duties were the same as those of an Inspector General of Hospitals in one of the larger provinces but the post carried no special rank In June, 1897, he reverted to military duty as Principal Medical Officer of the Haidarabad Contingent in October, 1899, he was appointed Inspector General of Jails in Burma, and on promotion to administrative rank in the following year became Inspector General of Civil Hospitals in that province His son, the late Major G C C Little entered the I M S in 1908, but was invalided for ill health on February 5th, 1920, and died at Midgham, Berks, on May 30th, 1921

Lieut Colonel Richard Dawson Bennett, R A M C (ret) died at Paignton on March 8th, aged 79 He was educated in Dublin, and, after taking the L R C S I and the L A H in 1868, entered the army as assistant surgeon in October, 1868 He attained the rank of lieutenant-colonel after twenty years' service, and retired in May, 1899 He served in the Ashanti war of 1873-74, was present at the actions at Dunquah and Abrakrampa, and received the medal

Medical News.

THE Friday evening discourse at the Royal Institution on May 23rd was given by Dr Andrew Balfour, director of the London School of Hygiene and Tropical Medicine, who by the courtesy of Colonel F E Russell, director of the International Health Board, showed a very remarkable kinematograph film compounded of one prepared by the Rockefeller Foundation and of another prepared in California The film showed the life history of the mosquito and the parasite, and brought home to the audience the antimalarial work undertaken in the United States and the brilliant results which have attended it Dr Balfour paid a compliment to the Americans as a people who united to their practical mind a certain idealism which often alone made success possible In sketching the great ravages of malaria in the past he began with ancient Assyria, and suggested that an epidemic of this disease was responsible for the sudden destruction of Sennacherib's army It had been suggested also that malaria was the secret of Greek decadence, and that the decline of Rome was due to the same cause In the Middle Ages malaria was responsible for the extermination in the Roman Campagna of the finest army ever commanded by Barbarossa The epidemic in the middle of the sixteenth century in England, and, in modern times, the failure of the French attempt to cut the Panama Canal were also described

THE following courses have been arranged under the auspices of the Fellowship of Medicine and Post-Graduate Medical Association (1, Wimpole Street, W 1) A four weeks' course in gynaecology at the Chelsea Hospital for Women from June 2nd to 28th From June 3rd to 27th eight clinical demonstrations on tropical diseases at the London School of Tropical Medicine A course in urology from June 16th to July 12th at St Peter's Hospital for Stone At the Children's Clinic (Western General Dispensary) a course in children's diseases from June 16th to July 4th A course in medicine and surgery from June 16th to 28th at the Royal Northern Hospital in conjunction with the Royal Chest Hospital In July there will be special hospital courses in cardiology at the National Hospital for Diseases of the Heart, in ophthalmology at the Royal Eye Hospital, and a general course at the North East London Post-Graduate College, Tottenham, in August a special course in diseases of the chest at the Brompton Hospital, and in neurology at the West End Hospital for Nervous Diseases

THE mineral waters of St Vincent, in the valley of Aosta, Italy, contain sodium sulphate, magnesium and sodium bicarbonate, and a considerable charge of carbon dioxide The water therefore bears a great resemblance to the springs at Karlsbad Dr T G Garry has been appointed British physician to the springs at St Vincent for the summer months

THE house and library of the Royal Society of Medicine will be closed from Saturday, June 7th, to Monday, June 9th, both days inclusive

THE Right Hon Sir Auckland C Geddes G C M G, K C B, M D, has accepted the presidency of the Society for the Prevention of Venereal Disease, in succession to the late Lord Willoughby de Broke

THE annual report of the Queen's Hospital for Children, Bethnal Green, appears this year unabridged and contains a complete list of contributions received The deficit of over £4,000 brought forward from 1922 has been increased during the past year, and a special appeal is being made for increased support The average weekly cost of in patients has been reduced from £3 12s 11d in 1922 to £3 9s 10d in 1923 During the past year the out patients numbered 129,649, and 1,786 patients were admitted into the hospital

THE National Baby Week Council announces that a series of awards will be offered by the *Daily News* to places which show the greatest reduction in the death rate of children between the ages of 1 and 5 during 1924, as compared with the average in the same places in the previous three years Two awards of £25 and £10 respectively are open in each case to large towns of 50 000 population and upwards, districts between 20 000 and 50 000, and smaller districts between 5 000 and 20,000 The adjudication will be under taken by the National Baby Week Council, and the awards made upon the corrected figures furnished by the local medical officer of health

As briefly recorded last week, a medical missions meeting was held during the S P G anniversary week in the Church House on May 14th The chair was taken by Sir Humphry Rolleston, K C B, President of the Royal College of Physicians, who said that the care of the soul and the care of physical ills had been closely allied since the time of Hippocrates With the advent of true religion and the development of medicine they became separated, but in medical missions they were com bined and worked together to their mutual advantage He wished whole heartedly to express admiration for the noble members of our pro ession devoting themselves soul and body to medical missions Banished from those they loved, without the comforts and material advantages of their home, they followed the example of the Beloved Physician, St Luke, scorning ambition and all selfish aims Miss Dora Tickell, a member of the delegation sent to India by the society, spoke of the present-day changing conditions in that country Mission hospitals had gained the confidence of the people to an extraordinary extent Further they had a great work to do in the training of Indian nurses and women doctors She suggested that in every mission area there should be a number of small dispensaries with Indian men and women doctors in charge linked up with a hospital under the care of a highly qualified doctor, European or Indian Such a policy would demand large reinforcements of personnel and money Miss Grace Crosby paid a tribute to the medical missionaries and to the Chinese doctors and nurses whom they are training and sending out to help their own countrypeople Dr H H Weir pointed out that even if all the existing posts were filled at once that would hardly touch the fringe of the need for more doctors.

THE annual general meeting of the Lebanon Mental Hospital Beyrout, Syria, will be held at Caxton Hall, Westminster, on Tuesday, June 3rd, at 5 p m, with Dr E W G Masterman in the chair

A MEETING of the Scottish Western Association of the Medical Women's Federation will be held in Queen Margaret College, Glasgow on Tuesday June 3rd when Drs Madeline Archibald and Chapman will open a discussion on the notification of venereal disease All medical women in the Glasgow area, whether members of the Federation or not, are cordially invited to attend

A NEW Italian university has recently been established at Milan The first rector is Professor Luigi Mangiagalli, a well known gynaecologist

THE Nordhoff Jung prize for the best work on cancer published during the last few years has been awarded to Professor Fibiger of Copenhagen for his experimental reproduction of cancer by *Spiroptera*

THE fourth congress of the International Union against Tuberculosis will be held at Lausanne from August 5th to 7th, and will be followed by an eight days excursion to the principal antituberculosis stations in Switzerland including Leysin, Montana Berne, Zürich Davos and Arosa The principal questions to be discussed are as follows (1) Do there exist in nature or is it possible to create saprophytic forms of the tubercle bacillus which are capable of being transformed into virulent bacilli? introduced by Professor Calmette of Paris (2) Relations between pregnancy and tuberculosis introduced by Professor Forssner of Stockholm (3) Effect of antituberculosis organizations in various countries on the mortality from tuberculosis introduced by Sir Robert Philip of Edinburgh (4) Prophylaxis of tuber culosis in the child introduced by Professor Leon Bernard of Paris Further information can be obtained from the secretary, Via Toscana 12 Rome

THE Rockefeller Foundation is supplying Germany with six copies each of four hundred British and American medical periodicals Two copies will be kept in the libraries of Berlin and Munich while the other four will be circulated throughout the various German universities which will be divided for this purpose into four groups

MESSRS JOHN BALE SONS, AND DANIELSSON will shortly publish the first number of the *Franco-British Medical Review* which has been planned to encourage and advance the medical *entente cordiale* between the two nations It will contain an equal number of English and French articles the latter being translated into English while the English articles will afterwards be translated into French and be published in French journals

THE second Congress of Polish Pediatrists will be held at Poznàn from June 23rd to 25th when the subjects to be discussed are the treatment of congenital syphilis introduced by Dr Groer of Lwow recent discoveries relating to immunity in children introduced by Dr Brohman of Warsaw and the scientific bases of social hygiene in child hood, introduced by Dr Szenajch of Warsaw

THE number of deaths from plague in Java was 942 in November 1 054 in December and 907 in January

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday, or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—no necessarily for publication.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager 429 Strand W C 2 on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager 429 Strand London W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor BRITISH MEDICAL JOURNAL 429 Strand W C 2.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand London*

MEDICAL SECRETARY *Medicoera Westrand London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin) and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone 4361 Central)

INCOME TAX

Demand for Certified Account

"C O" has claimed an allowance for the cost of replacing his car but the inspector of taxes states that he is unable to make any allowance in the absence of certified accounts

*** The cost of car replacement is, of course, only one of several kinds of expense deductible from a practitioner's gross receipts It is therefore not possible to pursue successfully a claim to deduct that particular expense from an estimate of net profits Where the assessment is excessive, or where it is sought to substantiate a declaration for assessment at a particular sum, it is necessary to show what are the gross receipts and what are the various deductible expenses for each of the three years entering into the average If the inspector is asking for such a statement "C O" would probably be well advised to meet the request, but if the inspector is requiring accounts certified *by an accountant* as a condition to entertaining a claim to deduct, *inter alia*, the expense of car replacement, we do not consider such a request justified In that case we suggest that "C O" should prepare a statement for each of the three years, certify it himself as carefully compiled and correct to the best of his knowledge and belief, and forward it to the inspector claiming that the assessment be made or revised accordingly

Return by a New Firm

"PERPLEXED G P" explains that a new firm has taken over a practice as from July, and wishes to make a return on the average of three years The accounts of the firm are made up to December 31st so that the gross receipts for the year when the change took place include moneys earned by and paid over to the outgoing partner Can these properly be omitted from the firm's accounts for income tax purposes?

*** No, a successor—that is, the new firm—is liable to assessment on the basis of the three years' average profits *of the practice* If book debts from previous years recently paid up were omitted, then the cash basis would have to be discarded altogether and credit brought into the accounts for work done by the new firm and not charged for, whether this would work out advantageously or not in this particular case we, of course, do not know, but the disadvantage to be faced of having to continue the returns on that basis for some years would undoubtedly prove serious

LETTERS NOTES, ETC

MOTOR TAXATION

NEARLY a hundred Members of Parliament who are also members of the Automobile Association dined at the House of Commons on May 20th, with Lieut Colonel C K Howard Bury, D S O, M P in the chair A discussion took place on the question of motor taxation The general trend of the speeches was that the basis of taxation should be altered from the present lump sum on the vehicle to a duty on motor spirit, which would more properly graduate the individual tax in proportion to the extent of road usage At the same time, in view of the fact that the Departmental Committee (Ministry of Transport) charged with the investigation of this matter has yet to report, it was recognized that any radical change in method must be postponed at any rate for a little while It was, however, the view of nearly all the speakers that light pneumatic tyred vehicles were at present greatly overtaxed and that they were justified in asking for the inclusion in the Finance Bill of a reduction of 25 per cent of the existing tax, such reduction to become operative on January 1st next It is the intention of the Automobile Association to fight for this 25 per cent reduction when the Finance Bill is again before Parliament

TABARDILLO TYPHUS YELLOW FEVER

"PYREXIA" asks in regard to the subject of a paragraph which appeared in the JOURNAL of May 24th whether it is now settled that the Spanish word in question means "typhus," and not "yellow fever" He continues Many of your readers must remember that in 1915 Dr Charles Singer brought out a facsimile of G W 's (George Whetstone s?) *Cures of the Diseased in remoat he pons preventing Mortalitie incident in Torraine Attempts of the English Nation* 1593, the facsimile was published at the Oxford University Press According to "G W," the Tabardilla [*sic*] first assaults the Pacient very vehemently with pain in the head and backe and the bodie seeming yellow in some signe thereof' Hence a general idea that the tabardillo is yellow fever has *prevailed among English readers But* "G W" was not a doctor, and icterus may develop in the course of other fevers

DINNERS AND DINERS

AMATEURS in gastronomy must sometimes have been puzzled to know how the *enormous meals our ancestors* produced on special occasions were disposed of At the Field of the Cloth of Gold there were sometimes as many as three removes each consisting of what we should now consider a very ample dinner Possibly however these were three separate dinners for three sets of guests though it is difficult to make contemporary statements fit in with this assumption However this may be the theory certainly does apply to certain repasts described by the Rev James Woodforde, a Norfolk parson whose diary from 1753 to 1781 has recently been published From a notice of this book in the *Times Literary Supplement* we take the following record of a "very elegant dinner" for ten given in Christ Church, Oxford, by the senior proctor in 1774

> The first Course was part of a large Cod, a Chine of Mutton roast Soup a Chicken Pye Puddings and Roots &c Second Course Pidgeons and Asparagus a Fillet of Veal with Mushrooms and high Sauce with it rosted Sweetbreads hot Lobster Apricot Tart and in the middle a Pyramid of Syllabubs and Jellies We had a Desert of Fruit after Dinner and Madeira white Port and red to drink as Wine

Apparently in this case the guest was expected to eat his way through both courses and also to do justice to the dessert and wine Mr Woodforde gives the following particulars of a christening feast for six persons given by a Norfolk squire

> A Calf's Head boiled Fowl and Tongue a Saddle of Mutton rosted on the Side Table and a fine Swan rosted with Currant Jelly Sauce for the first Course The second Course a couple of Wild Fowl called Dun Fowls Larks Blumange Tarts &c &c and a Desert of Fruit after amongst which was a Damson Cheese

Probably all the dishes of each course were put on the table at one time and the guest was expected to make his choice, but even so these meals must have been a severe test to the digestion —as severe as the mixture of wines must have been to the head The practice of handing round dishes instead of lading the table with them all is comparatively modern A generation ago it used to be distinguished as a *dîner à la Russe*, the practice having *first been introduced at the Court of the Czar*

X RAY TREATMENT OF RINGWORM

DR. CHARLES M ROBERTS (Woking) sends the following information in reply to the inquiry by "South Wales" in the JOURNAL of May 10th (p 845) The *Sabouraud pastille tints* are calibrated on the assumption that the pastille is at exactly *half* the skin distance from the anticathode It is not unusual to find that the tube stand maker has made an error in his distances having arranged the pastille holder along a plane which is at *half* the *skin distance, but the diagonal line, pastille to anticathode, is of* course greater The result is that if a full pastille dose is given the skin gets more than an epilation dose The nearer the skin distance the greater is the error in this diagonal It is really quite immaterial, in using a pastille for measurement what the skin distance is, provided that the pastille is at half that distance, but the further off the longer is the time required for exposure A child cannot be expected to keep still indefinitely, therefore, within limits, with a gas tube and small currents the skin distance is small The calculation is quite simple the dosage being inversely proportional to the square of the distance In the example given the pastille distance is 3 5 inches, the skin distance 6 inches If he leaves his pastille where it is and gives a full B tint he must increase his skin distance to 7 inches, this is quite easily done by putting in longer wooden pegs Conversely, if he continues to work at 6 inches skin distance all his pastille readings will be 3 5 squared divided by 3 squared—namely, 1 28 greater than standard An epilation dose will, under these conditions, be produced by 1 divided by 1 28 of a B tint, approximately 4/5 B His conception of his pastille values is therefore correct In regard to question (5) the stability in running of the Coolidge tube makes it far more convenient for such treatments than the gas tube A bigger current can be used with reduction of exposure time I use a Coolidge at 12 inches skin distance, equivalent spark gap 10½ inches, and such a milliampérage as will give me an epilation dose in 2½ minutes The whole head is done in 11½ minutes, plus the time taken in arranging the fields Ten years ago the whole performance used to take up the greater part of an hour The saving of time and relief to the child in not having to keep still so long is very great When dosage times are reduced the most scrupulous care is required in timing, as the margin of safety is a matter of seconds instead of minutes

ANAPHYLAXIS TO ANTIVENOM SERUM

REFERRING to a memorandum on this subject which appeared in our columns of April 5th (p 626), Dr Banarsi Das (Lucknow) writes to mention a similar case of which he contributed an account to the *Indian Journal of Medicine*, December, 1921 A young man of 25 was treated with antivenomine for snake bite and within five minutes of the injection a profuse urticarial rash appeared, followed by asphyxia and death Dr Das points out the difficulty of deciding whether the snake poison, the serum, or both, were responsible for death

ALLEGED FRAUDS ON DOCTORS

WE are informed by the Chief Constable of Peterborough that a man has been committed for trial at the assizes in that city on July 3rd on a charge of obtaining money from doctors by falsely pretending that he was a physical training instructor in a boys' club The police account is to the effect that the man says he has been travelling from town to town since the beginning of the year calling upon doctors, dentists, and clergymen and soliciting money on similar pretexts The Chief Constable requests other doctors who have been defrauded to communicate with their local police, their attendance as witnesses would not be required

VACANCIES

NOTIFICATIONS of offices vacant in universities medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 46 47, 50, 51, and 52 of our advertisement columns and *advertisements* as to partnerships, assistantships, and locumtenencies at pages 48 49, and 50

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at *page 263*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine

423. Gastric Juice Acidity in Childhood

A BRINCHMANN (*Tidsskrift for Den Norske Lægeforening* April 1st, 1924 p 341) has investigated the acidity of the gastric juice in 100 children all of whom showed signs of disease of the gastro-intestinal tract His object was to ascertain (1) the proportion of cases in which gastro-intestinal symptoms were associated with normal acidity of the gastric juice and (2) the connexion if any between the composition of the gastric juice and certain gastro-intestinal symptoms The tests were carried out in the morning a modified Ewald test meal being given and withdrawn three quarters of an hour later by aspiration The ages of the children were from 1 year upwards, 20 being above the age of 9 years Normal acidity was found in 56 achylia in 11 hypochylia in 21 and hyperchylia in 12. Among the children with normal acidity there were 8 suffering from chronic diarrhoea 10 from periodically relapsing diarrhoea and 19 from dyspepsia among the children with achylia there were 5 suffering from chronic diarrhoea, 2 from acute diarrhoea and 4 from dyspepsia, among the children with hypochylia there were 7 suffering from chronic diarrhoea and among the children with hyperchylia there were 5 suffering from chronic or recurrent diarrhoea, and 7 from dyspepsia. It would thus seem that no definite conclusion could be drawn from the clinical picture as to the state of acidity of the gastric juice There was, however, a very common relationship between hyperacidity and various neuropathies almost all the children with hyperchylia being neuropaths The author found that giving hydrochloric acid to the subjects of achylia and hypochylia was of doubtful value whereas alkalis produced improvement in children whose gastric juice showed a high degree of acidity The effects of such treatment might wane after a time, but the immediate results were excellent

429. Insulin by the Mouth

E SALEN (*Acta Med Scand* January 24th, 1924 p 74) has been unable to confirm in human beings the observations made on dogs by L B Winter who found that when insulin was given by the mouth in an alcoholic solution appreciable quantities were absorbed in a potent state Disappointing results were also obtained when as a preliminary to the administration of an alcoholic solution of insulin by the mouth atropine was given Much more encouraging results were obtained when olive oil instead of alcohol was used as a vehicle It was anticipated that olive oil would be particularly suitable for this purpose because it does not greatly excite gastric secretion, and because it remains a comparatively long time in the stomach The insulin was first intimately mixed with a small quantity of olive oil then more olive oil was added and a total of 25 to 30 c cm was given by the mouth after the sugar content of the blood had been determined Three cases of diabetes were thus treated the first two patients being young (9 and 21 years respectively) In the first case it was found that after four Toronto units of insulin had been given by the mouth in this manner the blood sugar which had been 0 132 a. 8 45 p m before the administration of the insulin fell to 0 080 at 10 45 a.m and to 0 074 at midday These and similar tests pointed to the absorption in a potent state of considerable quantities of insulin. The results were less satisfactory in the third case

430. Bronchial Spirochaetosis

R. MAGLIONE and R. PALAZZO (*Rev Sud Amer de endocrinol immunol y quimioterapia* January 1924 p 1), who record a case observed in the Italian Hospital at Buenos Aires state that since 1920 numerous cases of bronchial spirochaetosis have been reported in the Argentine The disease is usually chronic though occasionally acute forms constituting a spirochaetal pneumonia or bronchopneumonia occur The patients complain of a cough which begins like that of an ordinary cold but is sometimes spasmodic and paroxysmal and is accompanied by vomiting of food The sputum varies in character according to the stage of the disease At first it is sero-mucous and tinged with bright red blood but later it becomes muco-purulent The amount varies in quantity and there is no fetor The most characteristic feature of the disease is the tendency to exacerbations which last from four to ten days during which the cough and blood stained expectoration increase and the sputum assumes a typical gooseberry jelly appearance X-ray examination is of no help in diagnosis Generally speaking patients with bronchial spirochaetosis are at first supposed to be suffering from pulmonary tuberculosis but the absence of tubercle bacilli in the sputum and the characteristic gooseberry jelly appearance of the latter suggest the true diagnosis which is confirmed by the presence of the spirochaete. The best treatment consists in injection of small and repeated doses of novarsenobenzol as in the case reported by the authors in which the first injections were followed by diminution of the cough and dyspnoea and disappearance of the spirochaetes from the sputum Injection of the sputum into the cellular tissue of guinea pigs gave rise to a localized abscess and diffuse peritonitis, with death on the fourth day Typical spirochaetes were found in the pus of the abscess and the peritoneal fluid in greater quantity than in the sputum which had been injected.

431 The Passing of Chlorosis

ROCH and BICKEL (*Bull Soc Méd de Paris* January 31st 1924 p 76) show by a graphic chart how marked has been the fall in the number of cases of chlorosis in Geneva during the last ten years Their figures go from 1898 to 1923 and show an average of nine cases per annum for the first six years and in the last six years only one case every two years All the cases were women and were verified by blood tests (at any rate in the later years) A like diminution has been observed in England the United States, and Austria (BRITISH MEDICAL JOURNAL September 8th 1923 p 427) Possible explanations of this disappearance are the earlier use of iron preparations the better food and general hygiene, female sports with more outdoor life the use of electric light and the abandonment of the old rigid corset Each or any of these might be a cause—the authors favour the last named.

432. Vaccine Treatment of Typhoid Fever

P CLAISSE and LOUET (*Bull et Mem Soc Méd des Hop de Paris* February 7th 1924 p 116) remark that though the vaccine treatment of typhoid fever has been the object of numerous investigations the method has not yet become popular possibly owing to apprehension of the violent reaction which may follow its use. They report four cases of relapse in typhoid fever to show that in spite of the long illness this method does not give rise to any alarming or even disagreeable results When the relapse was definitely diagnosed a dose of 1 2 c.cm of polyvalent T A B vaccine was given and subsequently doses of 3 4 c cm and 1 c.m Each injection was followed by a slight rise of temperature and then by a fall of about half a degree the next day On the third or fourth day a fresh injection was given followed by a similar result and the temperature gradually fell to normal Commenting on this paper H MÉRY and L GIRARD (Ibid p 98) state that while they are agreed as to the efficacy of vaccine treatment in typhoid fever they do not regard it as so entirely harmless as Claisse and Louet suppose it to be and maintain that it should be employed with the greatest precaution especially in children In 13 cases which they treated by vaccine they noticed a few hours after injection a slight shock, which was manifested by cyanosis dyspnoea rapid pulse fall of blood pressure and increase of leucopenia in spite of the fact that only small doses (1 to 1 2 c cm.) T A B vaccine had been used containing 180 million bacilli per cubic centimetre heated and diluted in normal saline The patients were given 1 2 to 1 mg of adrenaline subcutaneously before the injection of vaccine but even this precaution did not prevent death in three cases On the other hand no severe reaction was observed when the vaccine instead of being given intravenously or subcutaneously was administered by the mouth either in the form of emulsion or tablets but the oral administration of the vaccine was almost immediately followed by improvement of the general condition and a progressive fall of temperature To obtain results with the minimum of risk it is essential that the treatment should be carried out within the first ten or twelve days After that time vaccines have no good effect on the course of the disease and sometimes even appear to precipitate a fatal issue Mery and Girard record ten cases of severe typhoid fever six of which occurred in children and four in adults in which subcutaneous or oral administration of T A B vaccine within the first ten or twelve days had a favourable effect and another six cases four of which were in adults and two in children, in which late administration of the vaccine had no effect

(See A

Surgery.

433. Drainage in Acute Appendicitis.

R ST L BROCKMAN (*British Journ of Surgery*, April, 1924, p 690), discussing the advantages and disadvantages of drainage in acute appendicitis, points out that in many cases success or failure depends upon the general resistance of the patient and not upon drainage The advantages of dispensing with the drainage tube are the less frequent occurrence of faecal fistulae with delayed convalescence Secondary haemorrhage, he says, is rarely encountered and no residual abscess developed in his undrained cases Intestinal obstruction occurred six times in his series, all following drainage Convalescence is both shorter and more pleasant when drainage has been avoided The problem of drainage depends largely on the state of the peritoneum, if there is to be closure without drainage it is necessary to leave behind an intact peritoneum The chief indication for drainage is the age of the patient children of 12 years and under, with a gangrenous appendix and purulent fluid in the pelvis, will not stand closure so well as adults with similar conditions The degree of toxaemia is a valuable piece of evidence and can be estimated from the general appearance of the patient, cyanosis is a bad sign and often foretells a fatal ending Where drainage is necessary three methods are available local drainage when invagination of the appendix stump is insecure, pelvic drainage with the use of the Fowler position, and safety valve drainage when a potential abscess is present and a tube passes to the parietal peritoneum as an outlet for pus Though the peritoneum may be closed in many cases, the abdominal wall often requires drainage, each layer of the incision should be drained by a series of rubber tubes It is found in actual practice that the peritoneal cavity can be closed in most adults without drainage, but in children it should be drained by the safety valve tube

434 Bone Atrophy and Sympathectomy

C H HEYMAN (*Journ Amer. Med Assoc*, April 26th, 1924, p 1333) suggests that in any neurological or inflammatory conditions in which bone atrophy develops there is a disturbance of circulation, manifested by either trophic or inflammatory changes and that in cases where this atrophy occurs—such as fractures and conditions for which plaster immobilization is employed—the cause of it is the less active blood supply in the bones and soft parts due to the discontinuance of active movements He reports in detail the case of a man who had an accident to his left foot, which resulted in a lacerated wound without fracture, but with much swelling and pain Five months later he was still unable to bear any weight on the foot owing to the extreme pain thus caused, the pain was present at all times and was particularly severe during the night The arterial pulses in the foot were scarcely perceptible and there was marked general tenderness X ray examination showed considerable atrophy of the bone Sympathectomy of the femoral artery was performed, and within three minutes there was a good pulse in the foot, the pain ceased almost immediately, and a week later the patient could bear considerable weight on the foot Two months after operation he was able to return to full work Heyman suggests that, although the condition of the bone could not have been relieved in so short a time as this, yet trophic disturbances may play an important part in this condition and be responsible for many of the symptoms

435. Pulmonary Tuberculosis after Thoracic Injury

C LIAN and A LAMBLING (*Bull et Mem Soc Méd des Hop de Paris*, February 21st, 1924, p 174) state that from the examination of many cases of thoracic injury collected during the late war it appears that such injury plays a very minor part in the production of pulmonary tuberculosis They report the following case, however, as the connexion appears to be quite clear A man of 56 was sent to a sanatorium in January, 1924 with 'open pulmonary tuberculosis" Nine months earlier his health appeared to be perfect He had had a right pleuritic effusion more than twenty years before, which was apparently due to injury, after aspiration he made a good recovery, and had performed heavy manual work for many years In May, 1923, he was thrown from a carriage and fell heavily on a metal bar, severely bruising his chest but without fracturing it For eight days he was in much pain but continued to work. Two months later he had an attack of hæmoptysis lasting two days his temperature was 102 F Three weeks later a dry cough started, and muco-purulent sputum soon appeared. He became emaciated and weak, but continued his work until December On examination extensive bilateral tuberculosis was found, more advanced in the right lung, the sputum contained numerous tubercle bacilli The authors consider that the right lung had been damaged by the old traumatic pleurisy and that the contusion brought into activity a latent focus The patient was unmarried, and there was no history of exposure to infection They conclude that this case confirms Sergent's observation that thoracic contusions are a much more common cause of pulmonary tuberculosis than are deep chest wounds

433. Idiopathic Cysts of the Common Bile Duct.

H ZIMMER (*Zentralbl f Chir*, March 15th, 1924, p 424) describes the fiftieth case to be recorded and the seventh in which recovery took place of idiopathic cyst of the common bile duct The patient was a married woman, aged 22, who was in good health until three weeks before confinement, when she began to suffer from abdominal pain in the region of the liver radiating to the right shoulder The symptoms were attributed to displacement of the organs by the gravid uterus After delivery the abdomen remained much distended, jaundice gradually set in, and was followed by continuous pain in the right hypochondrium and loss of flesh On laparotomy a cystic tumour the size of a man's head was found and was taken to be a pancreatic cyst, no calculi were present The contents were evacuated, but owing to the condition of the patient a radical operation was not performed until a fortnight later, the cyst being allowed to drain in the meantime At the second operation the cyst was found to be connected with the common bile duct, and was anastomosed to the duodenum Complete recovery took place Zimmer attributes the formation of the cyst to foetal malformation of the common bile duct aggravated by changes in pressure due to pregnancy

437 Intestinal Obstruction and Perforation due to Ascarides

J AMBERGER (*Deut Zeit f Chir*, January, 1924, p 424) alludes to a case, recently reported by Jaroschka, of intestinal obstruction and perforation of the small intestine caused by ascarides at the site of a suture and records the following case A youth, aged 17, who had frequently suffered from attacks of pain in the right iliac region, was admitted to hospital with symptoms of acute appendicitis On laparotomy the last coil of the small intestine for a length of 20 to 25 cm was found to be completely filled by round worms, 129 of which were evacuated through a small incision made in the intestinal wall The wound was closed in three layers, and the appendix, which had undergone chronic inflammatory changes, was removed During the following days the patient passed a large number of round worms with and without administration of santonin The temperature kept high and an abscess formed at the site of the wound Twenty six days after the operation faeces and round worms escaped from the wound, showing that perforation of the intestine had taken place On examination two perforations were found—one in the caecum and the other through the suture Resection of the affected part of the small intestine was performed, but a fresh perforation occurred and several round worms were found in the peritoneal cavity Death took place two days later from inanition There was no necropsy The case is of special interest as showing that round worms are able to perforate an intact intestinal wall.

Ophthalmology.

438. Chronic Tuberculous Choroiditis.

J D CUMMINS (*British Journ Ophthalmol*, March, 1924, p 112) describes three cases of tuberculous affection of the uvea (cornea, iris, ciliary body, and choroid) in which at one time or another it appeared that the optic nerve was affected In one case a definite optic neuritis in one eye was seen, and in the other two cases secondary atrophy was found The suggestion put forward is that the optic neuritis was due to a localized tuberculous meningitis of the sheaths of the optic nerves, and that the infection of the nerve might be derived from a focus in the choroid by way of the perichoroidal space outward along the vessels He suggests, therefore, that some of the cases of unilateral optic neuritis may be dependent upon an unrecognized or hidden tuberculous focus in the choroid

439 Etiology of Glaucoma.

B MALLING (*Acta Ophthalmologica*, vol 1, Fasc. 2 1923, p 97) insists that the greater the skill and care taken in the examination of cases of glaucoma the fewer will be the cases labelled as "primary" glaucoma At his hospital in Tromsö in the north of Norway he observed 184 cases of iridocyclitis with normal or reduced intraocular pressure 90 cases of iridocyclitis with increased pressure, and 86 cases of "primary" glaucoma. At first he examined his cases only

ith focal illumination and Hartnack's lens later he used he corneal microscope and better illumination In the first eried the relation of 'primary' to secondary glaucoma as as 77 to 23, whereas in the second period it was as 9 to 2 In other words with improved technique he found -condary glaucoma to be nineteen times more frequent than primary glaucoma as compared with his earlier findings he fact that iridocyclitis and glaucoma were appreciably ore common in men than in women could be correlated ith the greater exposure of the men to the arctic climate he maximum age incidence was the same for glaucoma nd for iridocyclitis with increased pressure being between 0 and 80, whereas the maximum age incidence for iridocyclitis ith a normal or decreased pressure was between 20 and 50 hese age differences according as the iridocyclitis was ssociated with a high or a low pressure might be inter reted as evidence of the existence of two distinct diseases ut the author is more inclined to believe that age affects ne reaction of the intraocular pressure to one and the same isease

440. Xerophthalmia, Keratomalacia, and Xerosis Conjunctivae.

BLEGVAD (*Amer Journ Ophthalmol* February 1924 p 89) n this article exhaustively reviews the whole subject erophthalmia and keratomalacia are degenerative con itions affecting the conjunctiva and cornea respectively and ave been definitely proved to be deficiency diseases due to n absence or deficiency of the fat soluble A vitamin in the let the primary sources of which are the green leaves of lants Animals cannot themselves form this vitamin they erive it from the food, and the animal organism normally ontains a reserve supply The diseases are mostly seen n ill nourished infants of the poorer classes The chief ource of this vitamin for the infant is from the maternal ilk and from cow's milk Disorders of the intestinal tract ay prevent a proper absorption of the vitamin from a letary which contains sufficient of this substance When ows are stall fed in the winter their milk will not be so well harged with the vitamin as when they are out on grass in he summer months and xerophthalmia occurs most often n the early spring months Blegvad noted that there was gradual increase in the number of cases of keratomalacia n Denmark during the years 1911 to 1917 a sudden fall uring the years 1918 and 1919 and then an increase in 1920 He attributes this to the increasing use of margarine in place f butter to the substitution of vegetable margarine for nimal margarine in the later stages of the war, and to the ct that in 1917 food control was established thereby llowing a more equitable distribution of butter The years 918 and 1919 were, moreover, years of prosperity and good ages in Denmark. With regard to treatment of the con ition locally there is not much to be done beyond keeping he eyes clean and, when the cornea is affected instilling tropine The importance of general dietetic treatment is tressed good milk and cod liver oil being substances of the reatest importance in this respect

441 Parenchymatous Keratitis.

KLEEFELD (*Le Scalpel* January 26th, 1924 p 93) describes he syphilitic lesions found in the choroid and prefers the erm "parenchymatous keratitis' in describing syphilitic hanges of the cornea reserving the term interstitial for he type of keratitis which follows tuberculous disease of the clerotic or iris, or which occurs in the course of very chronic yclitis He describes the process of vascularization of the ornea and the development of the typical salmon coloured atches by three stages—(1) infiltration (2) vascularization 3) absorption It is admitted that parenchymatous keratitis nay undergo complete absorption the corneal transparency being fully restored, though sometimes visual acuity is not restored on account of choroidal lesions in the fundus He has seen old cases of parenchymatous keratitis in which visual acuity was quite normal, but he has never seen one without some trace of opacities and vascular areas the newly formed vessels never disappear entirely A true parenchymatous keratitis fully developed may undergo regression but cannot be cured cure can only be hoped for when the disease is in the oedematous (infiltration) stage—that is, prior to vascularization The results of treatment with mercury potassium iodide and arsenic compounds have been equally disappointing in some cases sulpharsenobenzol has not prevented an attack of keratitis first in one eye and later in the other eye In one case Kleefeld had remarkable success with a bismuth quinine iodide preparation The keratitis was in the first stage (oedema) fingers could be counted only at 10 cm The disease had already lasted three weeks but in eight days there was a great improvement During treatment a few small vascular loops penetrated the cornea, but their advance was arrested and the oedema disappeared entirely Three months after wards the cornea had cleared completely even under the lens it was absolutely transparent The treatment consisted of fourteen injections of the preparation Kleefeld however utters a warning against undue optimism and states that (1) if the cornea becomes quite clear the fundus may show changes due to peripheral choroiditis indicating danger of relapse (2) it cannot be said that keratitis is cured though bismuth may limit inflammation during the stage of oedema and may restore the cornea to normal transparency He insists upon the importance of general antisyphilitic treatment in addition to local applications he has not observed any improvement following the local application of arsenobenzol The author describes two other cases in which bismuth treatment was equally successful In one pre monitory symptoms of glaucoma disappeared entirely

Obstetrics and Gynaecology

442. Puerperal Sepsis treated by Novarsenobenzol.

FROM January 1922 onwards G BOUFFE DE SAINT BLAISE and J JOANNY (*La Gynéco ogie*, February 1924, p 65) have treated by intravenous injections of novarsenobenzol 263 cases of puerperal pyrexia in which there was no evidence of localized sepsis such as adnexal inflammation or peritonitis A considerable reduction of mortality has followed the institution of this treatment—namely from 0 45 to 0 27 per cent (1922) and 0 04 per cent (1924) of labours and from 5 7 to 2.8 per cent (1923) and 0 5 per cent (1924) of infected cases The beneficial effect of the treatment was first noted when treating a series of streptococcal cases of puerperal infection which were erroneously thought to be associated with congenital or acquired syphilis At present the authors are inclined to ascribe their results to an action of the arsenical derivative on the micro organism causing the puerperal infection rather than on the maternal tissues. The arsenobenzol treatment is instituted as a rule at the third to fifth day post partum, but earlier in the cases in which there is evidence of infection at or shortly after labour Contraindications consist in evidence of impaired hepatic and renal function such as eclampsia uraemia or icterus The usual dose given was small—1½ grains every two days while fever persisted Of the 263 cases of infection 55 are classified as slight, 17 as grave and prolonged and 158 as of moderate intensity, in 32 infection was evident at the end of labour

443. Pregnancy following Epidemic Encephalitis.

R BOMPIANI (*Rivista d Ostetricia e Ginecologia Pratica* March 1924 p 104) has endeavoured to trace the after effects of epidemic encephalitis, so far as obstetrics are concerned, by following up the female patients who survived the 1919–20 epidemic in Rome Cases of pregnancy after epidemic encephalitis are rare partly because the disease is often followed by diminished activity of the sexual organs with amenorrhoea and sterility and partly because the physical disabilities left behind tend to withdraw the patients from social activities and possibilities of marriage and maternity In four out of the six cases which the author reports the onset or progress of pregnancy was associated with distinctly harmful effects so far as the encephalitis was concerned In latent or asymptomatic cases a recrudescence of acute sensory and motor symptoms during the last months of gestation was followed by the establishment of a Parkinsonian syndrome during the puerperium. Patients showing such a syndrome before pregnancy became considerably worse as regards their general condition and showed acute recrudescences of the paralytic symptoms.

444 Malignant Disease due to Lithopaedion.

AUVRAY (*Gynécol et Obstét* 1924 ix, 4 p 346) remarks that in cases of ectopic pregnancy surviving to term operation should not long be deferred after the fatal e labour A lithopaedion is not always well tolerated such complications as infection and abscess formation lead to communication with the intestinal tract or peritoneal cavity or adhesions causing intestinal obstruction may lead to acute symptoms many years after the remnants of the gestation have become encysted An additional reason for comparatively early operation is the occasional occurrence of malignant disease about a lithopaedion As an example a case is cited in which a lithopaedion had existed for thirty years without causing morbid symptoms at the age of 65 the patient began to suffer from crises of abdominal pain with progressive loss of flesh and some pyrexia The tumour was very tender on palpation but ascites was absent. At the operation it was found to be irremovable on account of adhesions and peritoneal metastatic vegetations its microscopical characters resembled those of a mixed celled sarcoma

445 Operation in Ectopic Gestation

T S WELTON (*Amer Journ Gynecol and Obstet*, February, 1924, p 158) states that the amount of blood lost in ruptured ectopics is not proportional to the degree of shock exhibited, which is thus due to other factors as well The systolic blood pressure is usually between 80 and 95 mm , but under treatment it rises to 105-115 mm He recommends that in cases which have a moderate degree of shock, but which are not moribund, operation should be delayed till the pressure rises to 105-115 mm , but no higher, as clots are apt to be dislodged by a higher pressure, giving rise to renewed haemorrhage and shock, which is indicated by a rapid fall of blood pressure If, however, the pressure continues to fall despite anti shock treatment, then immediate operation is indicated, as it is also when the pressure remains stationary for two hours If the pressure rises and then begins to fall, either rapidly or gradually, immediate operation is again indicated, as a further rupture or removal of a clot is probable, giving rise either to marked bleeding or slight leakage The author thinks that many lives will be saved by this treatment, although his cases have been too few as yet to allow him to be dogmatic

446 Prophylaxis of Congenital Syphilis

J ALMKVIST (*Hygiea*, March 15th, 1924, p 145) has investigated 67 cases in which the mother or her newborn infant, or both, showed signs of syphilis The cases were classified in four groups, according as (1) the mothers had not been given any specific treatment, (2) had been given such treatment, but only before they became pregnant, (3) had been given specific treatment only during pregnancy, and (4) had been thus treated both before and during pregnancy In 27 out of the 28 cases in the first class the infants showed signs of syphilis within eight months and fifteen days of birth But only in 4 of the 39 cases in the last three classes did the infants show definite signs of syphilis. The author insists that these findings clearly stress the value of vigorous specific treatment kept up throughout pregnancy, and the system of treatment he most favours is an uninterrupted succession of courses of salvarsan and mercurial treatment throughout pregnancy The infant who is born to a syphilitic mother, whether she has been given specific treatment or not, should not be given specific treatment before signs of congenital syphilis have appeared, for the infant may have escaped infection, even though the disease has been active in the mother during pregnancy On the other hand, every woman who has once had syphilis should be given specific treatment during pregnancy whether she shows signs of syphilis or not The author refuses to accept as proven that the mother who gives birth to a syphilitic infant must herself be syphilitic In as many as 5 of his cases the mothers of syphilitic infants showed no signs of syphilis themselves, the negative evidence being serological as well as clinical In one of these cases the mother was examined on seventeen different occasions during fifteen months without reliable evidence of syphilis being found

Pathology.

447 Micro-organisms in Measles.

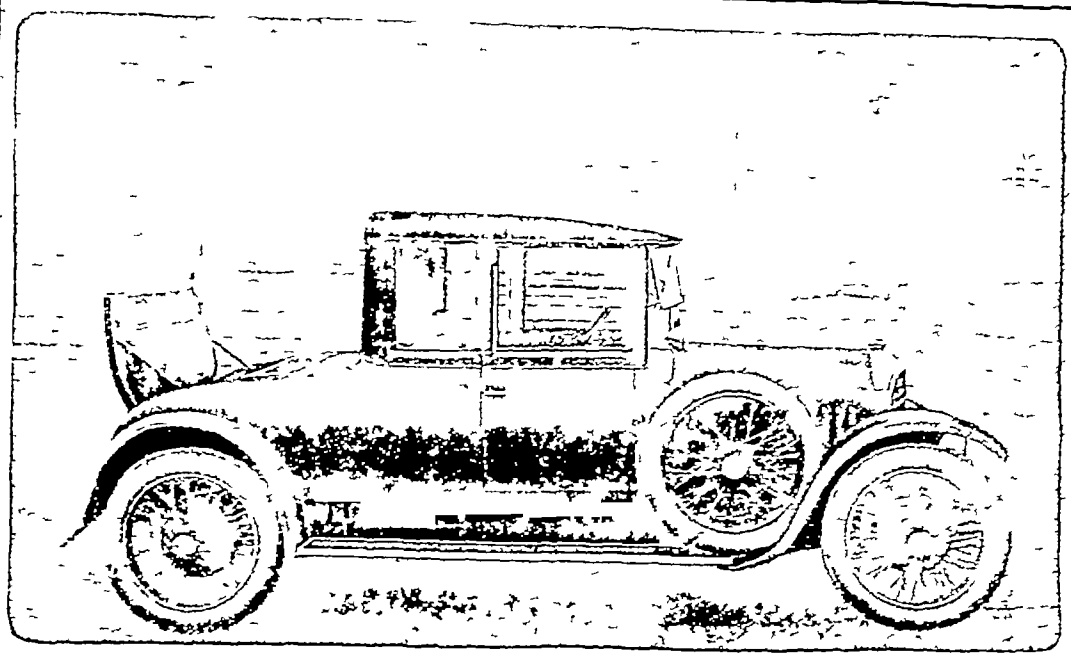
AFTER recapitulating Caronia's work on the micro-organism of measles, RITOSSA (*La Pediatria*, March 15th, 1924, p 346) records the results of investigations on 12 cases of measles—7 in the acute stage, 3 in the desquamating stage, and 2 in advanced convalescence—together with 5 controls He found constantly present in the centrifugalized urine, minute paired bodies, morphologically identical with those described by Caronia These bodies were scanty in the fresh deposit, but if the sediment were suspended in physiological solution and incubated at 37° C for twelve to fourteen hours their numbers markedly increased These organisms were present in the urine throughout the disease and at the beginning of convalescence (most abundant during the acute stage, scarce in later stages) and absent in the recovered patient and in the controls. The filtrate from urine passed through Berkefeld and Chamberland filters was inoculated into test tubes containing Di Cristina s and Tarozzi Noguchi's media, and incubated anaerobically at 37° C In the case of urine collected during the exanthematous stage a turbidity appeared at the bottom of the tube in two to three days and had permeated the whole column of fluid by seven to eight days, a fine granular precipitate being deposited on the sides of the tube In the urine taken during the desquamating stage the appearance of the turbidity was delayed five to eight days, after recovery and in the controls none was produced The turbidity was found to be due to Caronia s coccus. Agglutination and deviation of complement tests were performed on the same three stages of cases, using frequent subcultures against the serums of convalescent patients and of strongly immunized animals These were all positive In investigating the scales in the desquamating period, Ritossa immersed in physiological solution scales removed with forceps, preferably from the chin or forehead, and incubated them for twelve to fourteen hours In films from this stained with Leishman or an ordinary aniline stain, he found the Caronia organisms present throughout the desquamation, and therefore capable of transmitting the disease He also obtained the organism in a similar manner from the rash papules by scarifying the skin He obtained cultures of the organism by filtering an emulsion of scales and inoculating the filtrate in the same way as the urine, obtaining an identical growth Fixation of complement and agglutination tests were again positive

448 Microsporidial Nature of Rabies

C LEVADITI, S NICOLAU, and R SCHOEN (*C R Soc de Biologie*, February 22nd, 1924, p 398) have formulated a new hypothesis concerning the nature of the virus of rabies. Working on the analogy between this virus and the *Encephalitozoon cuniculi*, the cause of epizoötic encephalitis in rabbits, they suggest that the rabic virus belongs to the Microsporidia parasites which attack the nervous system of certain vertebrates, and which are responsible for the well known disease of silkworms called pébrine Numerous experiments on different animals showed that the "fixed virus" failed to give rise to Negri bodies, whereas the "street virus" was—at any rate in the case of monkeys—able to do so Examination was made of the nervous system of a monkey which had died subsequently to infection with this "street virus," and by comparing the sections with those of a rabbit dead of epizoötic encephalitis it was found that there was a striking resemblance between the two A Negri body consists of a capsule, generally fairly thick, homogeneous and folded, with a marked affinity for eosin, iron haematoxylin, and safranin This capsule is partly soluble in acids, after treatment with which it becomes more permeable to basic stains By this means the interior of the capsule is rendered visible and is seen to consist of areas of chromatin of variable size and shape, staining dark blue with Giemsa's stain Since the Negri bodies are found only in cells of the brain which have retained their normal structure, it would appear that the integrity of these cells is essential for Negri body formation The authors' hypothesis is that the filtrable and invisible virus penetrates the nerve cells, and there undergoes a developmental cycle terminating in the production of pansporoblasts and cysts—represented by the Negri corpuscles In the case of the "street virus," of a low order of virulence, these cysts have time to develop, but in the case of the "fixed virus" the evolution of the disease is so rapid that the nerve cells are destroyed before the cysts have time to develop If this hypothesis turns out to be correct they propose to designate the virus by the name of *Glugea lyssae*

449 The Value of Autogenous Vaccines

L TIETZ (*Deut med Woch*, April 4th, 1924, p 432) tabulates the results he has obtained in 70 cases with autogenous vaccines in a variety of diseases The germs were killed at a temperature of 57° C , and the vaccines were given as a rule by intracutaneous or subcutaneous injection, chronic gonorrhoea alone being treated by intravenous injection The dosage at the first injection was 200 million staphylococci, 20 million coliform bacilli, and 5 million streptococci respectively The dosage was doubled in each case at the second injection, which was given from two to four days later, the further dosage and spacing being determined by the reactions and needs of the individual case Of the 8 patients with superficial staphylococcal acne 7 were cured and 1 was improved, of the 14 patients with staphylococcal furunculosis 13 were cured, but the 5 patients with deep seated staphylococcal suppuration did not benefit much from the vaccine treatment In 1 of the 5 cases of bronchial asthma recovery followed treatment with a mixed vaccine made from organisms recovered from the patient's sputum Freedom from relapse lasted during an observation period of more than seven months In the remaining 4 cases the improvement effected was not permanent Similar improvement occurred in 2 cases of pulmonary gangrene and in 1 case of Pott s disease complicated by a secondary streptococcal infection. In 9 cases of pyelitis associated with coliform bacilli there was no improvement, and the results were also entirely negative in 6 cases of streptococcal infection of various structures, such as the throat, lungs, and heart The author concludes that treatment with autogenous vaccines seems to be uniformly reliable only in superficial staphylococcal infections.



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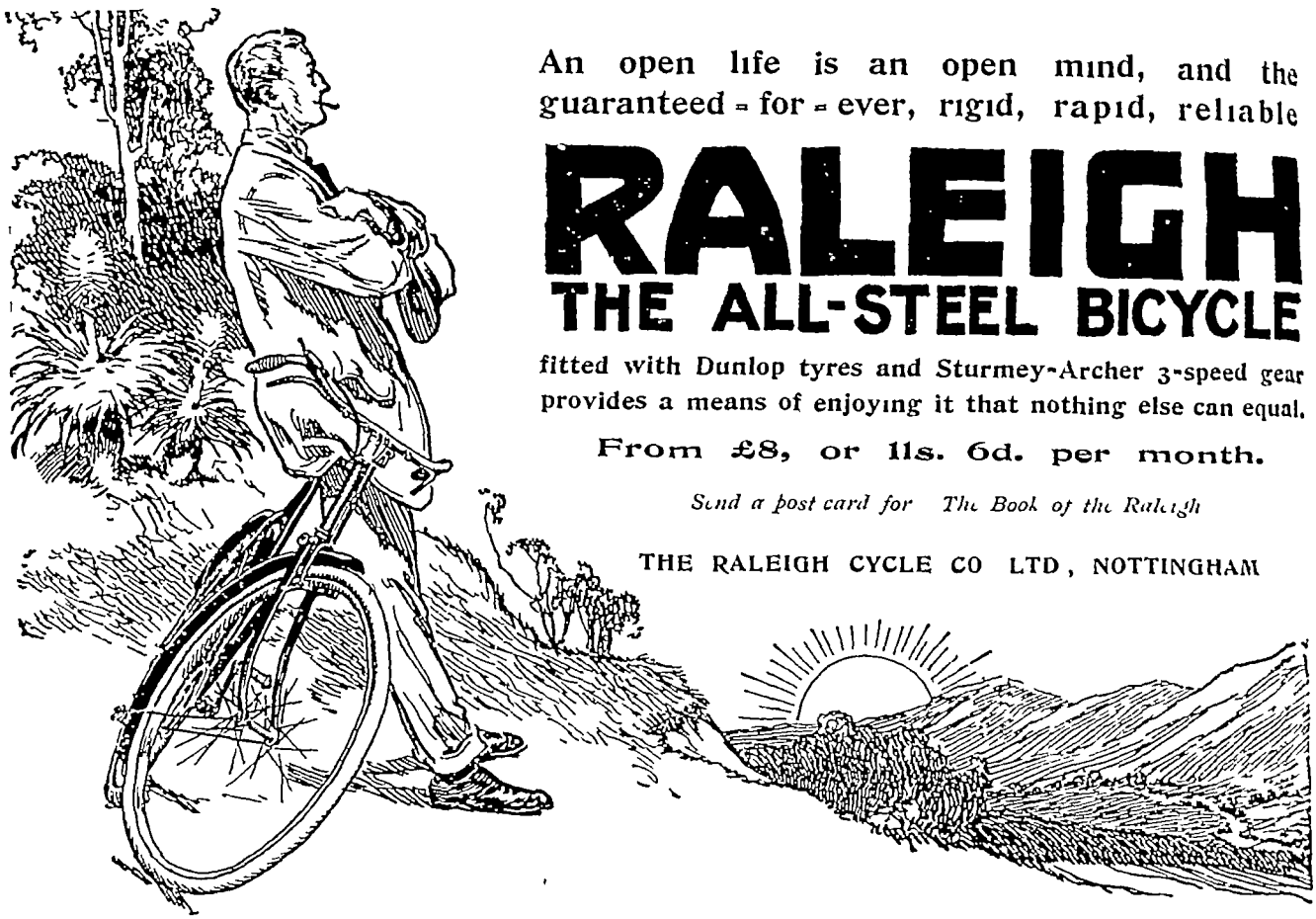
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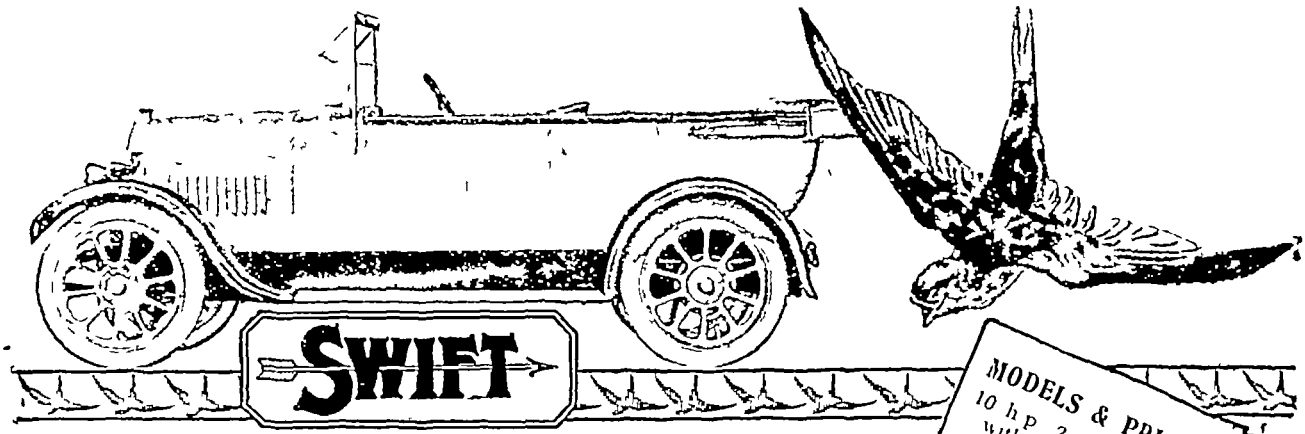
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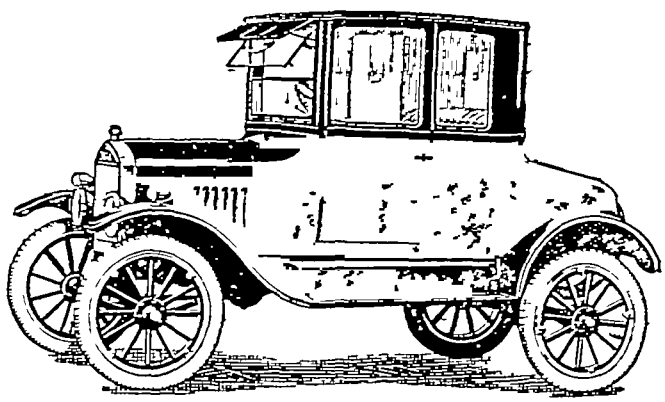
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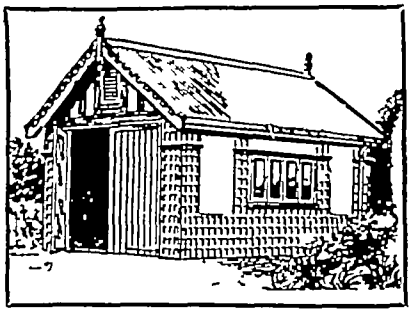
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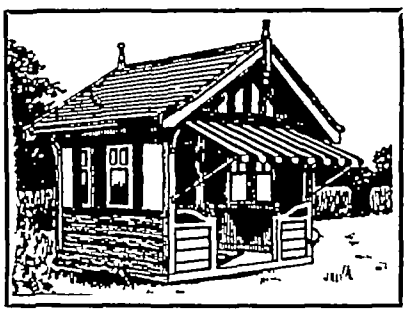
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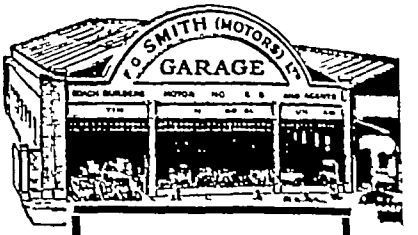
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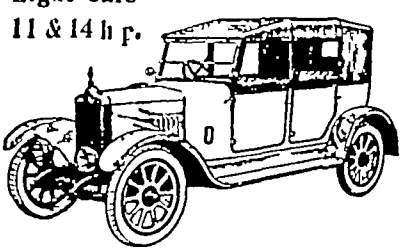
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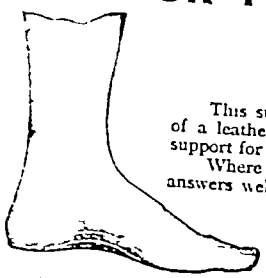
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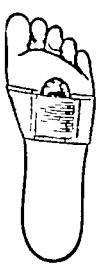
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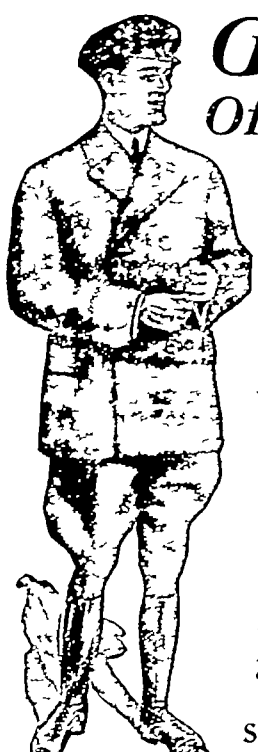
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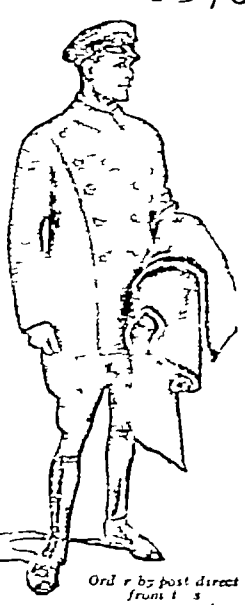
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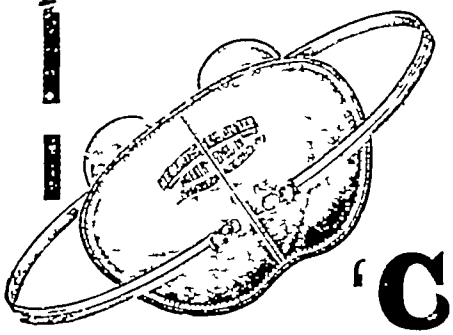
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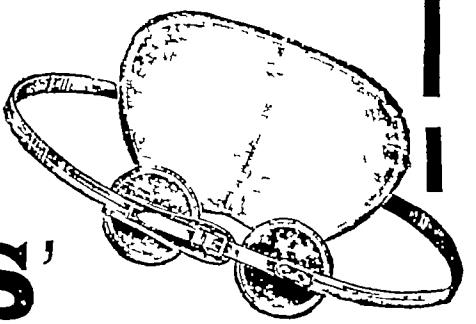
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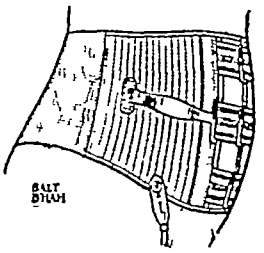
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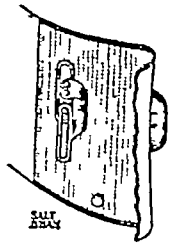
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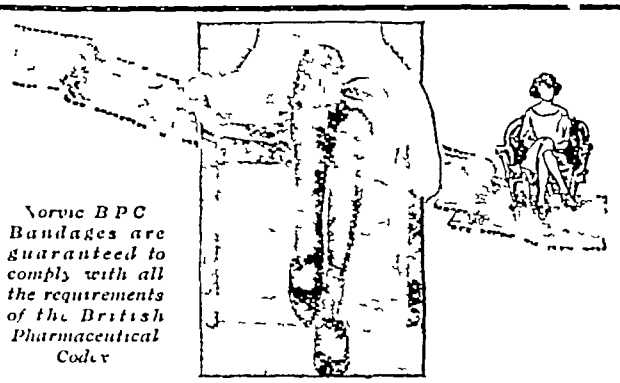
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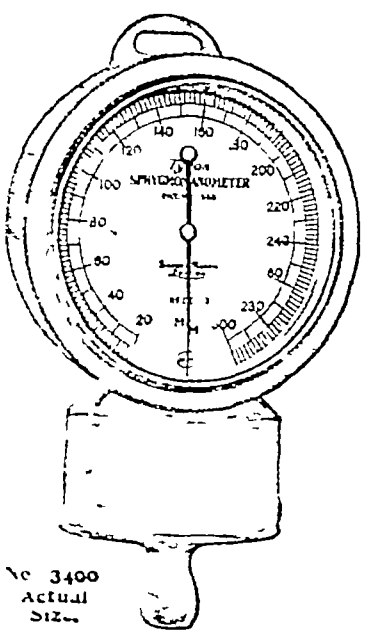
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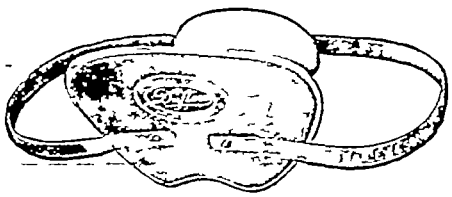
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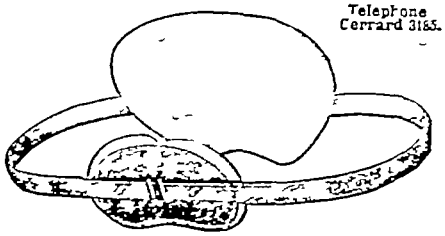
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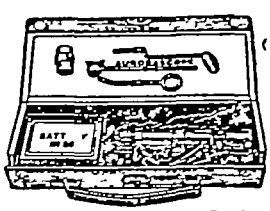
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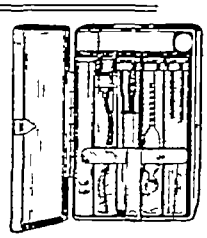
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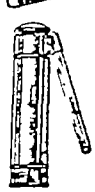
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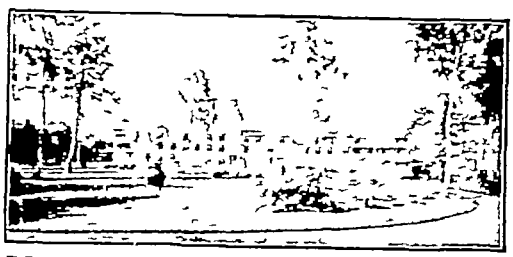
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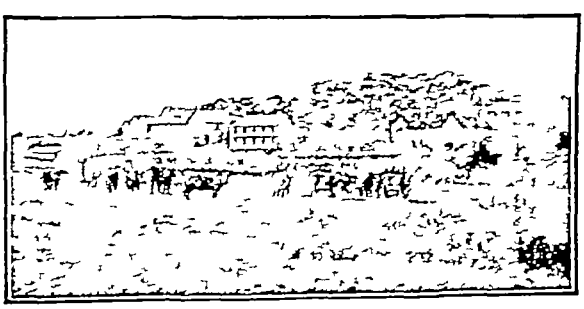
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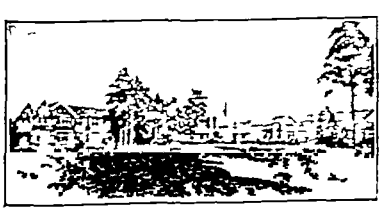
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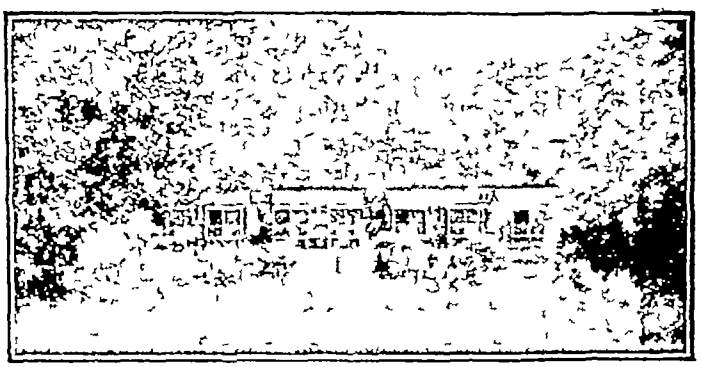
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The organization of these Hospitals to form one teaching Institution provides the Medical Student and Medical Practitioner with a field for clinical education and study which is unrivalled in extent in the United Kingdom.

Infectious Diseases are studied in the City Hospitals, and Mental Diseases at the County Mental Hospital, Rainhill.

For information on all matters concerning the curriculum application should be made to the Dean of the Faculty of Medicine, the University, Liverpool.

W. J. DILLING *Dean*

DIPLOMA IN PUBLIC HEALTH.

NEW REGULATIONS

UNIVERSITY OF MANCHESTER.

Department of Bacteriology and Preventive Medicine.

BACTERIOLOGY AND IMMUNITY
Professor of Bacteriology W. W. C. TOPLEY M.A., M.D., M.Sc., F.R.C.P.
Lecturer G. S. WILSON M.D., M.R.C.P., D.P.H.
Demonstrators F. R. FERGUSON M.B., Ch.B., MURIEL M. NUTT M.A.

COMPARATIVE PATHOLOGY
Lecturer A. SELLERS M.D., D.P.H.

CHEMISTRY
Lecturer H. HEAP M.Sc.

MEDICAL ZOOLOGY
Lecturer R. A. WARDLE, M.Sc.

PUBLIC HEALTH ADMINISTRATION
Lecturers A. E. BRINDLEY M.D., B.Sc., D.P.H., J. J. BUTTERWORTH, M.D., D.P.H.

EPIDEMIOLOGY
Lecturer Prof. W. W. C. TOPLEY

FACTORY HYGIENE.
Lecturer T. M. LEGGE M.A., M.D., D.P.H.

SCHOOL HYGIENE.
Lecturer MEREDITH YOUNG M.D., D.P.H.

SANITARY ENGINEERING
G. S. COLEMAN, D.Sc.

The curriculum has been re-arranged to meet the requirements of candidates under the new regulations. Alternative courses are available so that candidates may complete the curriculum in one or two years according to the number of hours of attendance per week. The first course under the new regulations will commence in October 1924.

For further particulars apply to THE DIRECTOR, PUBLIC HEALTH LABORATORY, York Place, Manchester.

UNIVERSITY OF BRISTOL.

FACULTY OF MEDICINE

The AUTUMN SESSION commences on October 1st, 1924

The University grants the degrees of Bachelor of Medicine and Surgery (M.B., Ch.B.), Master of Surgery (Ch.M.), Doctor of Medicine (M.D.), Bachelor of Dental Surgery (B.D.S.) and Master of Dental Surgery (M.D.S.), as well as diplomas in Public Health (D.P.H.) and Dental Surgery (L.D.S.)

The lectures and laboratory courses which are given in the University, although primarily designed for the degrees and diplomas of the University are equally adapted to those of other Universities and Examining Boards, and students preparing for such external degrees and diplomas have equal attention paid to them

Hospital Practice and Clinical Instruction are provided in the Hospitals and Asylum of the City associated with the University for this purpose and students have exceptional opportunities of studying the practice of Medicine from a large variety of cases.

Women are admitted to all classes, lectures and laboratory practice and attend them with men. The Halls of Residence for Men and for Women Students are situated in Clifton near the University

INCLUSIVE FEES—

For the M.B., Ch.B. curriculum, paid in Annual Instalments)	£[illegible]
For the B.D.S. curriculum, including Mechanical Laboratory	21 "
Do. excluding Mechanical Laboratory	15 "
For the L.D.S. curriculum, including Mechanical Laboratory	200 "
Do. excluding Mechanical Laboratory	140 "
For Mechanical Laboratory alone	60 "

For additional particulars apply to Professor EDWARD FAWCETT, M.D., F.R.S., Dean

EPSOM COLLEGE.

(Established in 1855 as a Public School with a Royal Medical Foundation.)

Notice is hereby given that the ANNUAL GENERAL MEETING of Governors will be held at the Office 49 Bedford Square W C on Friday 27th June at 4 o'clock, when the result of the voting for Pensioners' Annuitants and Foundation Scholars will be announced

In accordance with the Parliament ten Members at this meeting It will be proposed that Mr be re-elected for a further period of three years:— Mr John Adams, Dr Charles Buttar Sir William S Church Bart Dr Raymond Crawfurd, Dr F de Havilland Hall, Mr Raymond Johnson Sir Henry Dixon Kimber Bart. Mr A. Arthur Napper and Dr Septimus Sunderland and that Sir Squire Sprigge M D be elected to fill a vacancy It will also be proposed (*a*) that Mr Herbert S Pendlebury be appointed Treasurer of Epsom College in the place of Sir Henry Morris Bart who will resign that office and (*b*) that Colonel Norman C King Mr P D Leake and Mr J S Millin be re-elected Auditors for the ensuing year

All voting papers must be returned to the office by the night of Saturday June 21st at latest, or the votes will be lost

By order of the Council
J BERNARD LAMB Secretary
49 Bedford Square W C 1 26th May, 1924

DIPLOMA IN PUBLIC HEALTH.

THE ROYAL INSTITUTE of PUBLIC HEALTH

Patron
HIS MAJESTY KING GEORGE V

Principal and Director of the Laboratories: Colonel, Sir WILLIAM SMITH, M.D., D Sc., LL.D., F R S Ed Barrister-at-Law

Assistant Director of Bacteriological Laboratories: L GOODWIN RAWLINSON M.D., D P H Oxon

Assistant Director of Chemical Laboratories: ALAN WEST STEWART D Sc A I C Public Analyst for Windsor Boston, &c

Lecturer on Bacteriology: ARTHUR COMPTON M B, D Sc late of the Institut Pasteur, Paris

Lecturers on Public Health &c: ALBERT E THOMAS M A M D Oxon D P H Oxon Barrister-at-Law Medical Officer of Health for the Borough of Finsbury GEOFFREY E OATES M D Lond D P H Camb. M R C P Barrister-at-Law Medical Officer of Health for the Borough of Bethnal Green

The Course of Instruction can be commenced at any time

The Principal will be pleased to interview intending candidates for the purpose of advice

Further particulars can be obtained from the Secretary 37 Russell Square W C 1
Telephone MUSEUM 766.

The University of Liverpool

A Course of Instruction for the DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY, will commence in October, next The Course extends over two terms

Full information as to Classes can be obtained from Mr THURSTAN HOLLAND 43, Rodney Street Liverpool Lecturer in Radiology or the Dean of the Faculty of Medicine, the University of Liverpool.

EDWARD CAREY Registrar

The University of Liverpool.

DEGREE OF MASTER OF ORTHOPÆDIC SURGERY (M Ch Orth)

The next Course of Study will commence in October 1924 For particulars apply to the Director (Sir ROBERT JONES) or to the Dean of the Faculty of Medicine the University of Liverpool
EDWARD CAREY Registrar

Shropshire Orthopædic HOSPITAL Gobowen near Oswestry

COUNTRY OPEN AIR WARDS 200 BEDS

GIRL STUDENTS WANTED to learn Orthopædic Work and prepare for the Conjoint Examination of the C S M M G Three years training Salary first year £16 second year £20 all found, uniform.—Apply Miss HUNT R.R.C

Preparatory School on South

Coast in residence School House will have ROOM for a DOZEN more BOYS To those who start next term Inclusive fees 72 to 78 guineas according to age Ref No 2418 British Medical Journal Office 429 Strand W C 2

London (Royal Free Hospital) SCHOOL OF MEDICINE FOR WOMEN (University of London.)

POST GRADUATE COURSE IN TREATMENT OF VENEREAL DISEASES

A Course open to Medical Women only will begin on Monday June 16th and continue for two weeks The practical work will be carried out at the London Lock Royal Free and the Elizabeth Garrett Anderson Hospitals Fee £5 5s

Number of graduates to be admitted to the Course will be limited to twelve.

Programme and all particulars to be obtained from L M BROOKS, Warden and Secretary, 8 Hunter Street, W C 1

London (Royal Free Hospital) SCHOOL OF MEDICINE FOR WOMEN (University of London) Hunter Street, Brunswick Square, W C 1

TWO RESEARCH FELLOWSHIPS (open to qualified men and women) are offered in the Obstetrical and Gynæcological Unit of the London (Royal Free Hospital) School of Medicine for Women for investigations into (a) heart conditions in pregnancy (an electrocardiograph is provided (b) ante-natal and neo-natal deaths

The Research will be carried out at the Royal Free Hospital The value of each Fellowship is £300 per annum

Further particulars can be obtained from the undersigned, to whom applications should be sent not later than June 13th

L. M BROOKS, Warden and Secretary

The Welsh National School OF MEDICINE

APPOINTMENT OF LECTURER IN SPECIAL SENSE PHYSIOLOGY

The Board of Medicine invites applications for this post the salary of which will not exceed £750 per annum

Candidates are requested to state their age and qualifications and furnish proof of a training in Physics and of ability to prosecute original research and to submit the names of three gentlemen of recognized authority who would be willing to act as referees. Testimonials are not desired.

The new Lecturer will be expected to take up his duties in October 1924, and, as a member of the staff will be required to join the Federated Superannuation Scheme for Universities

Further particulars may be obtained from the undersigned to whom candidates should send on or before June 21st 1924 fifty copies of their applications.

University College D J A BROWN
Cardiff May 21st 1924 Secretary

London Hospital Medical COLLEGE.

Applications are invited for the post of JUNIOR DEMONSTRATOR OF PHYSIOLOGY Particulars of the appointment can be obtained from the Dean, to whom applications accompanied by not more than three testimonials, should be sent on or before Friday June 20th

WILLIAM WRIGHT, M B, D Sc, F R C S
Mile End E 1 Dean

University of Bristol

Applications, which must be received by June 11th are invited for the post of PROFESSOR IN MEDICINE which includes the Directorship of Clinical Medicine

For conditions apply to the Registrar, the University Bristol

Victoria Hospital, Accrington (50 Surgical Beds.)

HOUSE SURGEON

There will be a vacancy at the above Hospital on the 1st July next for a fully House Surgeon Salary at the rate of £150 per annum with board laundry and residence

Applications with testimonials should be forwarded not later than 11th June to the undersigned from whom further particulars can be obtained

A H AITKEN Hon Secretary

Small Private Residential SCHOOL

Established 21 yrs for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS Special Department Pupils over school age. Under Medical supervision — Prospectus Mrs MERIEDEW Principal St Paul's House Upper Maze Hill St Leonards-on-Sea.

The Barbados General HOSPITAL

Wanted a duly qualified Medical Practitioner (Male) as RESIDENT SURGEON of the Barbados General Hospital A man who has had experience in administering anæsthetics preferred

Salary £300 per annum with unfurnished quarters and there is also at present a temporary war bonus of 10% in addition to the salary The appointment will be for three years, and first-class passage (direct) will be paid by the Hospital for the full term of service

Applications, accompanied by professional and other testimonials stating age and date of graduation will be received by the Steward and Secretary of the General Hospital up to 12 o'clock noon on Wednesday, August 13th, 1924

Canadian Graduates must be registered in a Province, registration in which will entitle them to be registered in the United Kingdom

Candidates holding a United States Diploma must be registered in the State of New York.

By order of the Court of Trustees and Directors
J WARD Steward & Secretary
General Hospital, Jemmott's Lane, Bridgetown Barbados B W I
May 8th 1924

Egyptian Government School OF MEDICINE.

Applications are invited for the post of PROFESSOR OF BIOLOGY at the Egyptian Government School of Medicine, Cairo Pay from £E 900–1140 whole-time The Instruction to be given either in Arabic or in English Candidates must present evidence of not less than three years teaching experience in Biology (including Botany) in some recognized University or Institution. Copies of, or references to original work should accompany the application which must reach the Ministry of Education Cairo not later than June 15th 1924 Further particulars of the post can be obtained from the Egyptian Educational Offices in London (28 Victoria Street, Westminster S W 1) Paris (24 Rue de Ecoles), and Geneva (30 Rue Candolle)

Qualified Medical Women

required for Two WOMEN'S MISSION HOSPITALS in INDIA. Good and attractive sphere offering wide experience Passage paid both ways for four years appointment. Applicants must be in full sympathy with Missionary work and aims Missionary's salary outfit and other allowances. Well known and old established Interdenominational Missionary Society Applications, stating *age qualifications and experience with copies of* testimonials should be sent to' Medical Missionary Secretary, c/o F ALDRIDGE 30 Paternoster Row E C 4.

The London Lock Hospital, 91, Dean Street W 1

Applications are invited for the following paid CLINICAL ASSISTANTSHIPS in the Out-patients Department for the period 1st July to 1st December, 1924. Two vacancies at each Evening Clinic, and one vacancy at each Mid-day Clinic.

The Clinics are held as follows:—Mondays at 1 o'clock mid-day and 6 p m (Men) under Mr CHARLES GIBBS, F R C S. Tuesdays at 1 o'clock mid-day (Men) under Mr J E R McDONAGH, F R C S, and 6 p m., (Men) under Mr J JOHNSTON ABRAHAM, F R C S Wednesdays at 6 p.m. (Men) under Mr J E R. McDONAGH F R C S Thursdays at 1 o'clock mid-day (Men) under Mr J ERNEST LANE, F R C S Thursdays at 5 p.m (Women and Children) under Mr A LAWRENCE ABEL, F R C S Fridays at 5 p.m. (Men) under Mr J JOHNSTON ABRAHAM F R C S Saturdays at 1 o'clock mid-day, (Men) under Mr A. LAWRENCE ABEL, F R C S

All applications must be made on the official form, which can be obtained from the Secretary and should be filled in and returned to the undersigned, on or before 10 a m. Monday, 9th June 1924

By order of the Board
19th May 1924. H J EASON, Secretary

Stonthes Hall Asylum, Kirkburton, near Huddersfield

ASSISTANT MEDICAL OFFICER wanted Must be fully qualified and registered. Previous asylum experience desirable but not essential Salary £100 per annum rising £25 annually to £500 with board apartments and laundry

Appointments are made subject to the provisions of the Asylums Officers' Superannuation Act 1909

Apply with usual particulars as to age, qualifications etc to the Medical Superintendent.

Hon. Radiologist, War MEMORIAL HOSPITAL Enfield Middlesex (3 beds)

Applications are invited from qualified medical men for above post — Address Hon Sec as above

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand London, W C 2.

CONTRACT PRACTICE.

Town or District	Town or District.	Town or District.
ENGLAND	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	OAKDALE MON *(Medical Officer for Medical Aid Association.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer)*
SOUTH BANK & ESTON *(Medical Aid Associations or Workmen's Clubs)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*	GELLYGAER URBAN DISTRICT COUNCIL *(Medical Officer of Health.)*
WALES	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	HUNTINGDON ADMINISTRATIVE COUNTY *(Assistant County Medical Officer and Assistant School Medical Officer)*
ABERTRIDWR GLAMORGAN *Windsor Colliery (Medical Scheme.)*	**PUBLIC HEALTH.**	LINCOLN CITY AND COUNTY BOROUGH. *(Medical Officer of Health.)*
EBBW VALE MON *(Workmen's Medical Society)*	ARGYLLSHIRE EDUCATION AUTHORITY *(Executive School Medical Officer)*	NORFOLK EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	BARNSLEY COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	DUNDEE EDUCATION AUTHORITY *(Senior Assistant Medical Officer)*	SOUTHWARK METROPOLITAN BOROUGH *(Tuberculosis Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		STOKE ON TRENT EDUCATION COMMITTEE. *(Assistant School Medical Officer)*

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou, St. Vincent and St. Lucia)

(c) Overseas Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429 Strand, London, W C 2.

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch
NEW SOUTH WALES. *(All Friendly Societies Appointments.)*	Dr R H TODD (Hon Sec., New South Wales Branch) B M A Building 30-34 Elizabeth Street, Sydney N.S.W	QUEENSLAND *(Brisbane Associated Friendly Societies Institute.)*	Dr R MARSHALL ALLAN (Hon Sec Queensland Branch) Adelaide Street Brisbane	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon. Sec., Victorian Branch, Medical Society Hall, E. Melbourne, Victoria
				WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon Sec., Western Australian Branch No. 4, Bank of New South Wales Chambers, St Georges Terrace, Perth.

Address 429 Strand, W C 2.
May 28th, 1924.

By order of the Council of the British Medical Association.
ALFRED COX, Medical Secretary

Devonshire Hospital, Buxton.

BACTERIOLOGIST required for the routine examination of dejecta blood etc. preparation of autogenous vaccines, and the general investigation of the bacteriology of rheumatic diseases.

Salary £400 rising by annual increments of £50 to £500 Private Practice in bacteriology radiology and similar special work permitted.

Applications, with not less than three copies of recent testimonials, to reach the undersigned not later than June 10th

By Order
TOM B HARRISON
19th May 1924 General Supt & Secretary

Queen's Hospital for CHILDREN

Hackney Road Bethnal Green E.2.
Telephones Dalston 305 and 534.

DENTAL SURGEON required for L.C.C. Dental Centre. Attendance five half-days a week. Open only to Dental Surgeons holding the L.D.S. England and also a medical qualification

Salary £300 a year

Applications, giving full particulars should be sent on or before 14th June to

T GLENTON KERR
19th May 1924. Secretary

Queen Charlotte's Maternity HOSPITAL

(formerly Queen Charlotte's Lying-in Hospital)
Marylebone Road, N W

There is a vacancy for an OBSTETRIC SURGEON to Out-patients

Candidates must be Graduates in Medicine of a University of the United Kingdom and (a) Fellows or Members of the Royal College of Physicians of London; or (b) Fellows of the College of Surgeons of England

Applications to be sent to the Secretary at the Hospital not later than 7th June, accompanied by a certificate of age and six copies of testimonials. For further particulars apply to

ARTHUR WATTS
20th May 1924. Secretary

Swansea County Borough

APPOINTMENT OF DENTAL SURGEON

The Swansea Borough Council invite applications from registered Dental Surgeons for the above appointment Salary £500 per annum.

Applications on special forms to be obtained from the Medical Officer of Health Public Health Offices, Swansea, to be received not later than 2nd June 1924, endorsed Dental surgeon."

H LANG-COATH Town Clerk.

St Bartholomew's Hospital

A DEEP X RAY INVESTIGATION DEPARTMENT is being established at the above Hospital which will be devoted to treatment of Malignant Disease

Applications are invited for an experienced RADIOLOGIST to carry on research. The appointment will be for from two to five years. It thought desirable an opportunity will be given of the successful candidate to study this subject in similar departments at home and abroad.

The salary will be fixed upon the qualifications and status of the successful candidate for this special work.

Applications, which must be accompanied by three references and full particulars of training and experience to reach the undersigned not later than Monday 9th June, 1924

THOMAS HAYE.
May 14th. Clerk to the Governors.

Stirling District Mental HOSPITAL, Larbert.

THIRD ASSISTANT MEDICAL OFFICER required. Woman graduate. Salary £200 per annum with board, lodging, and laundry. Appointment subject to provisions of Asylums Officers Superannuation Act. Apply stating age with testimonials to the Medical Superintendent

Wanted—Energetic ASSISTANT in an industrial (panel and private) Practice in North Midlands. Salary £350 p.a. indoor comfortable home. Preference given to a man willing to stay for twelve months. Although not at present essential Principal would be prepared to deal with one or two men desiring to take up an eventual partnership with a view to his retiring (income £3 000 own hours).—Address No 2734 BRIT MED JOUR Office 429 Strand W C

Wanted, about end of June Male ASSISTANT indoor single, for good-class Practice in pleasant part of Midland town. Must be well up in medical diagnosis and treatment and experienced in Midwifery. Ex H S or H P, preferred. Motor cyclist. Salary 6 gns. per week, all found and part midwifery fees. Dispenser kept. Usual bond.—Address stating full particulars, to No 2727 BRIT MED JOURN Office 429 Strand W C 2

Wanted, August Capable ASSISTANT for responsible post, married. Large Practice. Previous experience and unexceptional references essential. Good house and salary to suitable man.—Address, No 2703 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted immediately, out-door ASSISTANT, view third Partner shortly. Young, keen on country life and motoring. Good prospects. Northern country town beautiful moorland district. Hunting country. Unopposed.—Address No 2726, B M J Office 429 Strand W C

Wanted—Indoor Assistant, for General Practice private and panel, in a University Town. Duties light, time for attending classes for higher degrees.—Address, stating essential particulars and any previous experience, to No 2711, BRIT MED JOUR. 429 Strand W C

Wanted—Assistantship, with view by M.B. M R C S., single. Late ex H S. H P. R M O. General Hospitals in London. At present studying for higher surgical degrees. Excellent references London or South preferred.—Add. No 2751 B M J Office 429 Strand W C 2.

Wanted—Assistant (male), Irish (Queen's). Experience panel and private Practice.—Address applications, with particulars, to No 2736 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted—Well-qualified Gentleman to help in excellent Practice and investigate independent opening; should be experienced at anæsthetics, eye and electro medical work. Prospects excellent.—Address No 2720, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted — Gentleman as Indoor ASSISTANT. Lancs. Town. Panel and private. Abstainer preferred. Usual bond. Dispenser kept. State experience and other essential particulars and references to No 2740 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted, a reliable Medical Man for position worth between £1 000 and £1 100 per annum.—Apply with testimonials and references to Secretary, 10 The Circle, Tredegar, Mon., not later than June 7th 1924

Wanted—Part time Work in general practice Manchester area, by M B Ch B (woman, or would give anæsthetics for general practitioners). Experienced anæsthetist and dispenser. Good references.—Address No. 2723 BRIT MED JOUR. Office, 429 Strand W C 2

Woman Graduate with some experience desires ASSISTANTSHIP in General Practice.—Address No 2547 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Appeal—Will any kindly doctor ASSIST NEWLY QUALIFIED MAN without capital to get into practice or offer assistantship with view to partnership? Good Varsity record. Wounded ex Service.—Address No 2722 BRIT MED JOUR Office 429 Strand W C 2

Assistant wanted — London General Practice. House attendance. £250 increasing and with view. Gentleman with some experience but not imperative and desirous of permanency preferred.—Address No 2716 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Assistantship or Partnership wanted by M B D P H aged 31, married. Abstainer. Good London experience special T B appointment. Excellent testimonials as man and healthy; well received by patients. Irish.—Address No. 2709 B M J 429 Strand

Gentleman required as ASSISTANT for panel and private practice just outside East London. Please state age, references and other essential particulars, indoors if single, outdoors if married, and photo if possible.—Address No 2728 B M J Office, 429 Strand, W C

Large Panel Practices — Elderly man, cyclist, desires ASSISTANTCY to Partners. Would do the locum work in the summer months, and other work as arranged. Stop-gap if panels get too large. Highest refs. Bond.—MEDICUS 8 Market Square, Leighton Buzzard

M B, B S, M R C P (Edin.), married, desires ASSISTANTSHIP with view to Partnership, in non-dispensing Practice. At present holding Anæsthetic and Medical appointments. Large experience of hospital and general practice. Highest references.—Address No 2713 BRIT MED JOUR Office 429 Strand, W C 2

Trained Nurse (young) capable, and well-educated, desires post as RECEPTIONIST to Doctor or Surgeon, in or near London. Accustomed to interviewing and accounts. Personal interview desirable.—Address No 2715 BRITISH MEDICAL JOURNAL Office 429 Strand, W C

SCALE OF CHARGES FOR ADVERTISEMENTS

SIX LINES AND UNDER.	9/-
EACH ADDITIONAL LINE	1/6

An average line contains six words.

All remittances by Post Office Orders must be made payable at the General Post Office London. No responsibility will be accepted for any such remittance not being so safeguarded.

Advertisements should be delivered, addressed to the Manager 429 Strand, London, W C 2, not later than first post on Tuesday preceding publication.

Note.—It is against the Rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Dispenser —Lady, young, Hall qualification seeks post with Doctor or would take Locum. Free June 10th. Liverpool or Holyhead line preferred, but not essential. Experienced in large private and panel practice. Highest references.—Address No. 2732 B M J, 429 Strand

Dispenser —Male, seeks post, Doctor Institute. Would keep books.—DISSENT 15, Greyhound Road Mansions, W 6

Lady Dispenser, Hall qualifi-cations, requires POST. Can also drive Car. Excellent references. Hospital or Doctor.—Address No 2731 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Qualified Lady Dispenser, experienced bookkeeper C M B desires post with Doctor or in Institution. Free mid-ile of July.—Address No 2738, BRITISH MED JOURNAL Office, 429 Strand W C 2

The Commandant, Army Vocational Training Centre, Hounslow, wishes to recommend two Staff Sergeants of the R A M C. as CHAUFFEUR DISPENSERS. Both are pensioners of exemplary character.—Apply as above.

FOR LOCUM TENENS APPLY TO Mr PERCIVAL TURNER.
The Oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals.
4, ADAM STREET, STRAND, LONDON, W.C 2
Teleg.: 'Epsomian London' Phone: Gerrard 399
After 5 p.m.—Phone: Epsom 335

As Locum. — Experienced Doctor not long disposed of his practice desires further Locum Tenencies for June and July. Disengaged June 9th. Lond. pref., not essen. Terms 7 gns. per week. Well recomd.—Add. Medicu c/o Dr FENNELL, 30 Muirkirk Road, Catford, S E

A young practitioner, experienced in industrial practice, 32 years old, English is at liberty for LOCUM WORK. Good anæsthetist. Recent references.—Address No. 2735 BRITISH MEDICAL JOURNAL Office 429 Strand, W C

LOCUM TENENS
PROVIDED
Without fee to Principals
Apply to
Mr. W. S. ATKINS
(Late of ARNOLD & SONS, London)
43, BEDFORD STREET, STRAND, W.C.2.
Telegraphic Address:
'Positions, Westrand, London.'
Telephone Regent 229

Wanted at once, Locum, ASSISTANTSHIP, or any work, by qualified man. British ex Service keen, healthy. Aged 30. 8 months G P. Excellent testimonials.—Address No 2725 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2

A Welsh-speaking Practi tioner open to take LOCUM in North Wales, from June 7th P M. to 21st P M.—Address, No. 2706 BRITISH MEDICAL JOURNAL Office 429, Strand, W C 2

Hospitality, London —Locum required for August, 3 or 4 weeks. Excellent house, good locality, facing park, large garden, ample accom. Ten minutes West End, 5 minutes Wembley. Suit doctor and family visiting London for Exhibition.—Add., No 2708, B. M. J., 429, Strand

Locums in London wanted from July 30th by gentleman with own Practice. Would drive own car. Aged 42. Very well received. Abstainer.—Address No 2115 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2.

Locum Tenens required for month of July (Lady). Small private Sanatorium work light. For particulars etc. apply enclosing copies of three recent testimonials to Medical Superintendent.—Address No 2730 BRITISH MEDICAL JOURNAL Office 429, Strand W C

Locum Tenencies desired by M R C S. L R C P. Lond. from May 27th to July 6th and after Sept. 20th. Experienced general practice, panel accoucheur, anæsthetics. Ex H S. Abstainer. Country pref. £6/6 0 p.w. fares from Bristol.—LOCUM c/o 38 Old St. Clevedon, Somerset

Practitioner, experienced and well received, who is nursing a Practice in London has much spare time and will be glad to act as LOCUM during the summer months June and onwards or to take part time work in North London. Own car.—Address No 2537 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

LOCUMS
If you want a good Locum for your Holidays book now

LEE & MARTIN LTD,
71, Temple Row, Birmingham
Telegrams Locum Birmingham

Wanted, Partner in Country PRACTICE. West Midlands (industrial and agricultural). Scotsman married, preferred. Ex H S. One third Share about £1 000 at 1½ years purchase. C[illegible] panel [illegible] £40 p.a. [illegible] tennis.—Add. No 2619 B M J., 429 Strand, W C

Wanted —Partnership, after preliminary Assistantship in general Practice in or within easy reach of London by Scots graduate at 27 single. Five years hospital, and G P. experience. Free end of June.—Address, 2712 BRIT MED JOURN Office 429, Strand W C 2.

Wanted —Partnership in good-class general Practice in hospital town, preferably non university by honours graduate G P. experience and 3½ years' hospital in Surgical, Midwifery, Gynæcology. Highest testimonials.—Address No 2550, B M J Office 429 Strand W C.

Wanted by M B, Ch B, aged 33 PARTNERSHIP or PRACTICE in Midlands or North of England. Free end of May.—Apply Dr CRAWSHAW, Hazel Grove, Cheshire.

Partnership —Hants Coast Town Partner leaving Young ex H S required Nice residential growing district £2.000 p.a. Appointments, panel 1 000 One third share or more About year purchase state experience etc.—Add No 2534, B M J Office 429 Strand, W C

Partnership wanted (after preliminary Assistantship) In middle and working-class Practice by ex H S. H P Two years general practice experience Aged 20— Address No. 2701 BRITISH MEDICAL JOURNAL Office 429 Strand W C.2

Required at once, Third PARTNER, Peak District. Share for disposal £1,250 at 2 years purchase Cottage Hospital House available at rental.—Address No 2710 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted by graduate, aged 30 PRACTICE or PARTNERSHIP with succession in country country town, suburb, or coast town Income £1 000—£1,500 Good house and garden essential. No agents. Strictly confidential.—Address No 2721, B.M.J Office, 429 Strand

Wanted —Good General PRACTICE, in or near London or large Provincial Town Receipts over £1,000 a year Necessary capital available —Apply PEACOCK & HADLEY 19 Craven Street Strand W C.— (No charge unless sale effected.)

Wanted by M.B, aged 37, a middle aged working-class PRACTICE of £1,500 or more with good panel in London or the South or Midlands. Now free and can pay cash — Apply BLUNDELL & Co 2, Craven Street, Strand W C

Wanted —General Practice, London, Birmingham or Home Counties. Income, £1,000 to £2 000 per annum, with panel. Medium sized house and garden, to rent —Apply Mr W H GRANT 50, Wigmore Street, W 1 (No charge unless sale effected)

Wanted a Practice of £1,600 or over in a place with good Boys and Girls Schools. House with at least five bedrooms necessary South of England.—Address No 2737 BRITISH MED JOURNAL Office 429 Strand W C

Wanted —Provincial Town, a GENERAL PRACTICE with scope for Surgery and honorary hospital appointment Income required £1 000 up House to rent —Apply Mr W H GRANT 50 Wigmore Street, W 1 (No charge unless sale effected)

Wanted, in Channel Islands, PRACTICE about £600 or over by semi retired practitioner aged 53 years Medium sized house with garden —Address, giving particulars No 2739 BRITISH MEDICAL JOURNAL Office 429 Strand W C.2.

Wanted —Practice, PARTNERSHIP or opening by M B 32 years old married Capital Healthy district London or South preferred House essential. No midwifery Used to good society but any type considered —Add. No 2714, B M J 429 Strand W C

Wanted —Country Practice in Devonshire or Cornwall for beginning of October Receipts worth about £1,000 per annum, and good sized house with garden to rent.—Address No. 2707 BRITISH MEDICAL JOURNAL Office 429 Strand, W C.2.

Wanted —A Practice earning £1,500 Country or Country Town in S E County House must have 6 7 bedrooms. Educational facilities.—Address, No 2704, BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Wanted –North-West Coast (Liverpool to Blackpool) good General PRACTICE, £1,200 to £2,000 per annum Good house essential —Address full particulars in confidence to No 2702 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C.2.

Wanted to purchase —Self- contained panel and private PRACTICE in London producing £1 000 to £1,200 Ample cash available. Utmost secrecy No agents — Address, No 2805, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2

Wanted, a Nucleus or small PRACTICE, in a large village, or country town near sea preferred. Small detached house and garden essential.—Address particulars to No 2729, BRITISH MEDICAL JOURNAL Office, 429 Strand W C.—

Cardiff Area —Lucrative, all cash and transferable PRACTICE for Sale. All English. Fee basis opposition Thriving centre Many houses now building Terms part cash then instalments Applicants should send fullest particulars —Address No. 2603, B.M.J 429 Strand W C

Cheshire —Urgent Sale Verge of beautiful country Nice old house separate. Garden out buildings and garage Non-disp. panel (500) growing rapidly Private work lately declined owing to ill health, but unlimited scope for this. No introd. necessary Private house practice, fixtures etc £1,500 —Address 2719 BRITISH MEDICAL JOURNAL Office, 429 Strand W C

Death Vacancy —Midland Town General PRACTICE yielding £3 000 a year including £1,400 from panel and appointments. Good family residence. Premium £4,500 payable on easy terms.—Apply PEACOCK & HADLEY 19 Craven Street Strand W C.2.

For Disposal, Practices and PARTNERSHIPS.—Mr W S ATKINS (late of Arnold and Sons London) has been instructed to privately dispose of several Practices and Partnerships. — Send full details of requirements to ATKINS' Medical Agency (Transfer Dept.) 43, Bedford Street Strand W C.2.

For Disposal —A good Prac- TICE is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him with out being advertised —Full information free on application to 4 Adam St., W C.2

F PRINCE, 32, Charing Cross, London S.W negotiates the Purchase and Sale of approved Medical PRACTICES and PARTNERSHIPS Purchasers waiting Long Tenens Accountancy a speciality Moderate fees Lists and terms on application Established 1875

F R C S E, experienced in all- round surgery wants PRACTICE or PARTNERSHIP in nice town of about 10 000 population or over with prospective chance of junior surgical appointment to good hospital Scotch preferred Small, necessary capital available.—No. 2621, B.M.J., 429 Strand.

North-West Coast —A General PRACTICE situated at a favourite seaside resort. Average receipts £2,000 Fees 5 6 upwards Ample scope Double-fronted house containing 8 bedrooms &c. Rent £75 per annum Premium £3 000 —Folio 639 ATKINS Medical Agency 43, Bedford Street Strand, W C.2

Derbyshire —A General PRACTICE situated in an industrial district. Receipts about £800 Panel 500 Good fees Nice house containing 8 bedrooms &c at rental. Premium £1,000 —Folio 653. ATKINS' Medical Agency

Glam —General Practice in thickly populated district on Coast. Receipts £1 700 Fees 3, upwards Panel Considerable scope House, containing 4 bedrooms etc rent £50 p.a. Premium £1 500. Folio 887 ATKINS Medical Agency

Midlands —General Practice situated in small Country Town Receipts £1,200 Panel 500 Fees 3 6 upwards. Excellent house containing 6 bedrooms, &c. Premium 1½ years purchase.—Folio 617 ATKINS' Medical Agency

Partnership in West Country Practice — Receipts £3,600 Good fees. House available at rental. Premium two years purchase for one-third share.—Folio 888, ATKINS' Medical Agency

Yorks —A General Practice situated in an industrial district with pretty country around. Receipts over £2,000. Panel 1 100 Fees 3 upwards. Nice house containing 4 bedrooms, etc. Rent £80 p.a. Premium 1½ years purchase. Payable half down and balance by arrangement.—ATKINS Medical Agency

Staffs —Partner required for a General PRACTICE. Receipts £2,500 Panel 1,3 0. Fees 3 6 upwards. Ample scope House available at rental. Premium for one third share to be 1½ years purchase — Folio 889 ATKINS Medical Agency 43, Bedford Street, Strand W C.2.

S.W. Coast —Good middle class PRACTICE for Sale in an important town. Average receipts over £1 500 Premium 1½ years purchase can be paid by arrangement House available Panel 1 100 Three months introduction if necessary Excellent opportunity with ample scope.—Further details, write to Box 13 "c/o R. A. KNIGHT & Co Ltd., 1 Gresham Buildings, E.C

Lancashire —Large City Old-established private and panel PRACTICE Receipts over £2,100 Panel over 1 000 Expenses small Price old house excellent position Premium payable part down and remainder by instalments —LEE & MARTIN Ltd

Liverpool –Partnership worth £500 per annum, preliminary Assistantship Old-established good middle class Practice. Large panel Single young Englishman or Scot must be certificated.—LEE & MARTIN Ltd. 71 Temple Row Birmingham

North-of-England —Old- established Country Town PRACTICE. Average receipts £1,460 Good panel Expenses small. Good house garden, tennis lawn and orchard Large mortgage arranged.—LEE & MARTIN Ltd.

Staffordshire —Old-estab Town and Country PRACTICE.—Receipts £1,190 Panel over 500. Appointments. Scope. Freehold house on lease ample accommodation good garden.—LEE & MARTIN Ltd. 71 Temple Row Birmingham

London, busy thoroughfare — Old established Panel and Cash PRACTICE for Sale 3 years average £728 visiting fees up to 7 6. No midwifery Great scope for increase by energetic man Premium 1 year purchase including lease.—Address, No 2718, B M J 429 Strand W C

London, W —General and Panel PRACTICE Receipts £1 600 a year Panel 1,500 Separate surgery Rent covered by sub-letting Good residential flat near available if desired Premium £2,300 —Apply PEACOCK & HADLEY 19 Craven Street, Strand W C.2.

Monmouthshire (country) — Private and panel (450) £1 000 p.a. Capable of large increase by energetic man. Good house (freehold) with own electric light plant and water supply Standing in eight acres of beautiful grounds (part valuable building land) with three gate cottages. House & Practice £5 000 —GRIFFITHS Medical Agents Queens Square Newport Mon

Monmouthshire (town) — Chiefly private (good class) small panel About £1 200 p.a. Capable increase Good modern house (freehold) with surgery and large garden No conveyance required. House and Practice £3,500 —GRIFFITHS Medical Agents Queens Square Newport Mon.

Newfoundland — Unopposed Town and Country PRACTICE Receipts £1,650 a year could be much more. Good family residence Price fee to be settled on easy terms House to be let rent free.—Apply PEACOCK & HADLEY 19 Craven Street Strand, W C

Nucleus medical woman's practice (London £350 with furniture drugs and instruments Part may stop. £50 a year may be had with practice —Address St Leatham Hill, S W 2.

Nursing Home for disposal — South Devon, seaside town Accommodation for 4 patients and staff. Good ground Fees 3 guineas including good will, £6,000 Furniture and fittings at Valuation.—For particulars apply HAROLD MICHELMORE & Co., Solicitors Newton Abbot.

Practices for Sale (1) Favour- able Spa, £1,500 p.a. house 3 beds £3,100. (2) Country £1,000 p.a. Rent £30 £1,000 (3) Country (small House, and partnership (£1,500). (4) Nucleus seaport Rent 25 Guineas.— WESTERN TRIPLE AGENCY Woodfield Rd Torquay

Required in London or suburbs General PRACTICE with Panel producing over £1,000 p.a. Some qualification confidence to Mr W S ATKINS late Agency 43, Bedford Street Strand W C

To Purchasers —Do not Buy without expert advice Fifty years experience Mr PERCIVAL TURNER can in most cases Terms free on loan Offices 4 Adam Street Strand W C.2 Telephone Gerrard 1 Telegram "Broadcast London"

West Coast –Old establish-ed PRACTICE in seaside resort Large detached house garage, rent £75. Receipts £2,500 Panel £2,0 with much room for addition Or nucleus Price £3 000 cash or instalments —MANCHESTER Medical & Scholastic ASSOCIATES 8 King Street.

Yorkshire —Recently established rapidly increasing non panel PRACTICE with a join University city and particularly well situated house for sale. Fees moderate good opening for panel Purchaser must have capital —Address No 2548 B M J Office 429 Strand W C

Yorks, E R —For immediate disposal Country PRACTICE, unopposed Returns over £1,400 Good house, 13 years purchase —Apply E R, c/o W A Wharram, Ltd, 61 Lady Lane Leeds

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Surveyors, Auctioneers, and Estate Agents,

10, WIGMORE STREET, CAVENDISH SQUARE, W 1.

SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS IN HARLEY STREET AND LEADING MEDICAL POSITION

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A medium-size Willett-built STONE-FRONTED RESIDENCE occupying a unique position suitable for members of the medical profession.

The accommodation comprises:—
Central Hall
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Artistically appointed and decorated throughout. Electric Passenger Lift Central Heating, Independent Hot Water System, Service Lift, Electric Light and Power

Two rooms with the use of Waiting Room have been sub-let as Consulting Rooms on tenancies expiring September 1924 at total yearly rentals of £450 inclusive plus £35 per annum extra for lighting and telephone.

Held on lease having approximately 80 years unexpired, at a Ground Rent of £60 per annum.

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£250 per year, or near offer

Apply Owner c/o Mr Ernest Barker 133 Salisbury Square, Fleet Street London E C 4

Bournemouth —In local Harley Street —CONSULTING ROOM and use of Waiting Room to Let Dark room available Suitable for Radiologist or other Specialist —Address No 2137 British Medical Journal Office 429 Strand W C 2

Cardiff —A ten-roomed corner House to Let Decorative condition good. Well adapted for occupation of a medical man Splendid opening to establish a lucrative middle and working class practice Room for garage.—Apply Vennings 9 Macklintosh Place Cardiff

Cavendish Square —To Let, four large ROOMS Ground Floor —Write Mr W H Smith and Son Bakerloo Bookstall Oxford Circus London W 1

Doctor, with nice house, South London containing 4 sitting, 4 bedrooms every most convenience good garden tennis etc garage (if necessary) WOULD LET to Doctor and family for Xmas in exchange for hours work (if any) Strand —Address No 2721 B M J

Doctor's or Dentist's large CONSULTING ROOMS Corner position main arterial thoroughfare thickly populated neighbourhood Electric light modern conveniences Wanted Address No 2717 British Medical Journal Office 429 Strand W C

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SOLID WORSTED TROUSERS, £2 2s

SUITS in great variety fr **£6 6s. OVERCOATS** fr **£5 5s. MOORLAND JACKET** and **PLUS FOURS** from **£5 5s. DRESS SUITS** fr **£8 8s. LADIES COSTUMES** fr **£6 6s.**

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HARDY & HARDY, Taxation Consultants, 282, High Holborn, London, W C 1 Holborn 0859

Wanted for Cash —Second-hand MULTOSTAT PANTOSTAT, or PLUROSTAT in good condition Price and particulars of voltage on which apparatus is intended to work to Box 87 c/o F Aldridge, Advt Agent, 36, Paternoster Row E C 4

Electro-Medical Apparatus for Sale from Orthopædic Clinic. Wholesale only to be sold —Address Nuttall, "Wenderholme" Victoria Road, Bolton.

For Sale —Set Optical Trial GLASSES (F Davidson & Co) comprising 20 pairs each concave and convex spherical glasses 10 pairs ditto cylindrical glasses, 2 diaphragm discs 2 prisms and graduated spectacle frame in mahogany case —A. S Downton 11, Weston Park Crouch End N 8

Govt. Surp —Major Operg Outfits £5 to £10 Sterilizers 10" £1 10d Catgut 6 tubes 1/6 Sterile silk or Catgut 12 tubes 1/- Wool 2 oz. comp pkts 1/4 lb Plaster 1 spools 10d, Spencer Wells Forceps 2/6 pr Hypo Syringes etc —A. Autt 6, King's Road Willesden N W 10

Microscopes —Great Clearance Sale of all makes at Real Money saving Prices Send for free Catalogue of hundreds of Bargains post free on application Enormous price reductions now in force to effect immediate clearance of our big and varied stock Cash easy payment terms approval willingly Your own apparatus accepted in exchange as part or whole payment —The City Sale & Exchange, Ltd, 81 Aldersgate Street London E C 1

Devonshire Place —One of these much sought after RESIDENCES for Sale £7 250 only 999 years lease Ground rent £65 p a. Comprising 6 reception rooms good bedroom accommodation 2 bathrooms and offices —Sole agents: Bedford & Co 10 Wigmore St. W 1

Nursing Home —Leases of 2 commodious and adjoining houses close to Harley Street for disposal Over 20 years at extremely moderate rentals. Price £2 400 Possession Michaelmas.—Apply Leslie Raymond F S I F A I The Estate Offices Golders Green (facing Tube Station) N W 11 and at Hampstead Telephones Speedwell 1601 and 1602

Park Crescent, Portland Place facing Ornamental Gardens Spacious HOUSE to be Let on Lease for approved professional residence or for conversion into good maisonettes —Apply to John Murray, F S I. 11 Suffolk Street, Pall Mall S W 1

Unique Opportunity —South Coast Old established and very successful MEDICAL AND SURGICAL NURSING HOME 21 years in one ownership for Sale It contains 21 rooms including newly appointed operating theatre faces south and overlooking sea Lease over 11 years unexpired at the moderate rent of £127 p.a. Price for lease goodwill furniture etc. £1,200 —Bedford & Co, 10 Wigmore Street W 1

For Sale —Daimler, 1912 15 9 h p LIMOUSINE Perfect condition Used as Winter Car by Doctor and driven always by the same Chauffeur Perfect Town Car £25 Cheap in view of condition —Address No. 2705, British Medical Journal Office 429 Strand W C

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South London Hospital for WOMEN

South Side Clapham Common S W 4

APPOINTMENT OF ASSISTANT PHYSICIAN

The Board of Management invite applications from fully qualified Medical Women for the appointment of Assistant Physician Full particulars may be obtained from the Secretary Canvassing Members of the Board is not allowed

Applications with copies of testimonials to reach the Secretary at the Hospital not later than the first post of Friday 13th June

North Lonsdale Hospital, Barrow in Furness.

Applications for a HOUSE SURGEON are invited from fully qualified male practitioners experienced in the administration of Anæsthetics. Salary £225 per annum with board residence and laundry

Applications stating age qualifications and experience and accompanied by copies of three recent testimonials to be sent to the Secretary so as to reach him not later than the 9th June

Royal Northern Hospital, Holloway N 7

An ANÆSTHETIST wanted must be a registered medical practitioner residing in the neighbourhood of the hospital The appointment is for twelve months with eligibility for re-election and is open to qualified medical women

Honorarium £10 10/0 per annum

Applications with copies of three testimonials should be sent by the 16th June to the undersigned from whom particulars of the appointment may be obtained

GILBERT G PANTER
Secretary

Graylingwell Mental HOSPITAL Chichester,

Required SECOND and THIRD ASSISTANT MEDICAL OFFICERS Commencing salary £350 and £300 respectively, and full emoluments valued at £150 per annum

Applications stating age and experience to the Medical Superintendent.

Lancashire County Mental HOSPITAL Winwick, Warrington

LOCUM TENENS MEDICAL OFFICER wanted for several months Salary £8 8 0 per week together with board furnished apartments attendance and washing Candidates must be unmarried and registered under the Medical Act.

Applications, stating age and copies of recent testimonials to be forwarded to the Medical Superintendent

Royal Aberdeen Hospital for SICK CHILDREN

Applications are invited for the post of HONORARY SENIOR PHYSICIAN to commence duties on 1st July 1924 These along with twenty five copies of testimonials must be lodged with the Hon Secretary Mr D M M Milligan 12 Dee Street Aberdeen on or before Friday 20th June 1924 from whom further particulars may be obtained

Aberdeen, 20th May, 1924.

The Hospital for Sick CHILDREN

Great Ormond Street London W C 1.

The following appointments will shortly be vacant:—

HOUSE SURGEON } 1st July 1924.
HOUSE PHYSICIAN }

Gentlemen are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday 2nd June 1924 with copies of not more than three testimonials given specially for the purpose and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months. Salary £50 laundry allowance £2 10s. and board and residence in the Hospital.

Candidates must be unmarried, and possess a legal qualification to practise.

All candidates must be in attendance on Wednesday 4th June 1924 at 5 p.m. precisely to appear before the Joint Committee, if required.

Forms of application and copies of the rules may be obtained from the Secretary.

By order of the Board of Management,
JAMES McKAY
May 1924. Secretary

The Princess Mary Maternity HOSPITAL,

Jubilee Road City Road, Newcastle-upon-Tyne
(70 Beds.)

Wanted ASSISTANT MEDICAL RESIDENT OFFICER to take up duties at the above Hospital on 1st July 1924 who must be a fully qualified registered medical practitioner. The appointment is for three months, at the end of which he shall with the approval of the Committee of Management, take up the Senior appointment for a further term of three months. Salary at the rate of: Assistant Resident Medical Officer £40 per annum Senior Resident Medical Officer £80 per annum together with board and laundry.

Applications stating age and qualifications, with copies of three recent testimonials, to be sent to the Secretary Mr. NEIL BRODIE, 18, City Road Newcastle, on or before 14th June 1924.

Queen Mary's Hospital for THE EAST END Stratford, E.15.

Telephone: Maryland 2816 and 2117
Beds: 100. Out patient Attendances: 129 542.

HONORARY ASSISTANT PHYSICIAN

There is a vacancy on the Staff of this Hospital for an Honorary Assistant Physician.

The Assistant Physician will have some Beds allocated to him in the Hospital and will be required to see Out-patients.

Applications, accompanied by copies of testimonials, from candidates, who must be duly registered practitioners, either Graduates of a University or Fellows or Members of a Royal College of Physicians, should be lodged with the undersigned not later than the 10th day of June 1924.

RAPHAEL JACKSON Major Secretary

Salford Royal Hospital,

(760 Beds.)

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER (Male) which will become vacant on the 30th June, next.

Salary at the rate of £175 per annum with board, and residence. The appointment will be for a period of at least six months. Candidates must be registered under the Medical Acts.

Applications, stating age and qualifications, together with copies of testimonials, and certificate of registration, to be addressed to the undersigned without delay.

By order of the Board
GEORGE RUDDLE
Salford Royal Hospital, Gen. Supt. & Secretary
Manchester 26th May 1924.

London Hospital, E 1

Applications are invited for the post of FIRST ASSISTANT to each of the four Medical Firms.

The salary will be £400 per annum which will be paid by the Hospital and the Medical College jointly.

Applications will be received up to the first post on Monday June 16th.

Particulars of the appointment may be obtained from the House Governor London Hospital E.1.

London Temperance Hospital,

Hampstead Road N W 1.

Application are invited for the following post which will be vacant on June 9th

RESIDENT MEDICAL OFFICER Honorarium £200 per annum with residence, board, &c.

Applications with testimonials, should reach the Secretary on or before June 10th

A. C. ADAMS Secretary

County of London

The London County Council has from time to time vacancies for SEVENTH ASSISTANT MEDICAL OFFICERS (men) in the Mental Hospitals under its control. Candidates must be not more than 35 years of age and must be registered to practise both in medicine and surgery in England.

Candidates appointed will be pensionable under the Asylums Officers Superannuation Act, 1909. Preference will be given to those who served or offered to serve with H.M. Forces during the late war.

Salary £300 a year rising by annual increments of £25 to £400 a year without emoluments, also (at present) temporary addition to salary making the total commencing remuneration about £440 a year. Charges made for board lodging etc. (at present £2 9s. 0d. weekly) to such officers as are resident.

Full particulars, and conditions of appointment on form of application (on which alone application can be made) obtainable from the Chief Officer Mental Hospitals Department County Hall, Westminster Bridge S.E.1. Canvassing disqualifies.

JAMES BIRD
Clerk of the London County Council.

Hampstead General and NORTH WEST LONDON HOSPITAL,

Haverstock Hill N W.3.

Appointments of CASUALTY MEDICAL OFFICER and CASUALTY SURGICAL OFFICER.

Applications are invited from registered medical practitioners for the positions of Casualty Medical Officer and Casualty Surgical Officer at the out patient department of the hospital Bayham Street Camden Town, which will become vacant on July 1st next. The salary for each appointment will be at the rate of £100 per annum together with board residence, etc. and the period will be for six months.

Applications stating age, qualifications, experience, together with copies of not more than three testimonials should reach the Secretary not later than noon on June 14th next.

Hampstead General and NORTH WEST LONDON HOSPITAL,

Haverstock Hill, N W.3

Appointments of HOUSE PHYSICIAN and HOUSE SURGEON.

Applications are invited from registered medical practitioners for the positions of House Physician and House Surgeon, which will become vacant on July 1st, next. The salary for each appointment will be at the rate of £100 per annum, together with board, residence etc., and the period will be for six months.

Applications, stating age qualifications, and experience together with copies of not more than three testimonials, should reach the Secretary not later than noon on June 14th, next.

Oldham Royal Infirmary

Applications are invited for the following posts —

1. HOUSE SURGEON to Casualty Out-patient, and Special Departments.
2. HOUSE SURGEON to Women's and Children's Wards.
3. HOUSE SURGEON to Men's Wards.

Salary £200 per annum, with board residence and laundry.

Applications stating age and experience with copies of three recent testimonials, to be submitted to the undersigned forthwith.

CHARLES D. DRAKE
General Superintendent.

Royal Chest Hospital,

City Road E.C.
(Royal Northern Group of Hospitals.)

A vacancy occurs for a PHYSICIAN with charge of Out-patients. Candidates must possess the degree of M.D. or M.B. obtained by examination at a British University and be Fellows or Members of the Royal College of Physicians of London.

Applications should be sent by the 14th June to the undersigned from whom full particulars of the office and with regard to the submission of copies of testimonials etc. may be obtained.

GILBERT G. PANTER, Secretary
Royal Northern Hospital, Holloway N 7

The Middlesex Hospital,

W 1.

NOTICE.

A vacancy is hereby declared for a PHYSICIAN to the Department for Diseases of the Nervous System.

Applications are invited to be sent in to the undersigned on or before noon, Tuesday 17th June, accompanied by diplomas and testimonials.

Candidates must be Fellows or Members of the Royal College of Physicians of London.

WALTER KEWLEY
20th May 1924. Secretary-Superintendent.

The Royal Infirmary,

Sheffield (623 Beds.)

The Weekly Board of Management invite application for the following posts of

HOUSE SURGEON
ASSISTANT CASUALTY OFFICER.
EAR, NOSE, AND THROAT HOUSE SURGEON

The salary attached to each appointment is £60 per annum with board and residence.

Applications, with copies of testimonials to be addressed to the undersigned.

JNO. W. BARNES Secretary
Board Room. May 26th, 1924.

The Royal Infirmary,

Sheffield. (623 Beds.)

The Weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON. The salary attached to the appointment is £60 per annum with board and residence.

There are 52 Ophthalmic Beds, and the post offers exceptional opportunities of gaining experience in Ophthalmology.

Applications with copies of testimonials to be addressed to the undersigned

JNO. W. BARNES Secretary
Board Room. May 26th, 1924.

Bristol Royal Infirmary

Applications are invited for the post of HONORARY PHYSICIAN. Candidates, who must be Doctors of Medicine of one of the Universities of Great Britain and Ireland or Fellows or Members of the Royal College of Physicians of London Edinburgh, or Ireland, to send in their application stating age, together with copies of testimonials, to the undersigned on or before Monday June 16th 1924.

ELLIS C. SMITH, F.C.I.S
May 24th 1924. Secretary & House Governor

Bristol Royal Infirmary

Applications are invited for the post of HONORARY ASSISTANT PHYSICIAN. Candidates, who must be Doctors of Medicine of one of the Universities of Great Britain and Ireland, or Fellows or Members of the Royal College of Physicians of London, Edinburgh, or Ireland, to send in their applications stating age, together with copies of testimonials, to the undersigned, on or before Monday June 16th, 1924.

ELLIS C. SMITH F.C.I.S
May 27th, 1924. Secretary & House Governor

General Hospital,

Nottingham.

Wanted, a HOUSE PHYSICIAN Appointment for six months, commencing July 1st. Salary at the rate of £150 a year with board, residence, and laundry. Applications stating age, qualifications and experience, with copies of testimonials to be delivered to me not later than Monday June 16th.

P. M. MACCOLL,
House Governor & Secretary

General Hospital,

Nottingham.

Wanted a HOUSE SURGEON. Appointment for six months, commencing July 1st. Salary at the rate of £150 a year with board, residence, and laundry. Applications, stating age, qualifications and experience with copies of testimonials, to be delivered to me not later than Monday June 16th.

P. M. MACCOLL,
House Governor & Secretary

General Hospital,

Nottingham.

A HOUSE SURGEON is required for the Ear Nose and Throat Department, which is under the joint charge of two Honorary Assistant Surgeons. Appointment for six months commencing on or about July 1st. Salary at the rate of £150 a year with board, residence and laundry.

Applications stating age qualifications, and experience, with copies of testimonials to be delivered to me not later than Monday June 16th.

P. M. MACCOLL,
House Governor & Secretary

Guy's Hospital, S E 1

Applications are invited for the post of DIRECTOR of the Department for VENEREAL DISEASES. Part time Honorarium £500 per annum. Duties to commence on or about July 1st.

Further particulars may be obtained from the Superintendent. Candidates should send their applications together with copies of not more than four recent testimonials, to the Treasurer Guy's Hospital, on or before Saturday June 14th.

May 20th, 1924.

Holland County Council,
Lincolnshire

APPOINTMENT OF ASSISTANT COUNTY MEDICAL OFFICER (WOMAN)

The Holland County Council invite applications from registered medical practitioners for the post of Assistant County Medical Officer of Health.

Applicants must not be over 40 years of age and must possess a Diploma of Public Health or a Degree in State Medicine

The duties of the post include medical inspection of school children under the Education Acts work in connection with the Council's Tuberculosis scheme and such other duties as may from time to time be imposed by the County Council.

The person appointed will be required to devote her whole time to the service of the Council and the appointment will be subject to three months notice on either side The Officer will be required to reside in such part of the County as the Council may decide The salary will be £600 a year and travelling expenses.

Application must be made upon a form which can be obtained from the County Medical Officer, Sessions House Boston, Lincolnshire, to whom completed forms should be returned not later than 11th June 1924

All communications must be endorsed "Assistant County Medical Officer"

Any form of canvassing is strictly forbidden, and will disqualify

H O MARRIS,
Clerk of the Holland County Council.
Sessions House Boston
17th May, 1924

West London Hospital,
Hammersmith Road W 6

Applications are invited for the post of MEDICAL REGISTRAR for a period of one year eligible for re-election annually An honorarium at the rate of £100 per annum is attached to the post The successful candidate must hold no appointment at a general teaching Hospital during his term of office The duties include the preparation of the Medical Registrar's report for the year, and the supervision of the records of cases The candidate appointed must be available as substitute for the Physicians and Assistant Physicians when required, and be prepared to undertake such teaching for the Post graduate College as may be desired

Candidates are required to be registered under the Medical Act to send applications so as to reach me not later than Tuesday, 17th June next, to attend the Medical Council Meeting on Friday 20th June at 4 30 p m and prior to that date to call upon and send copies of application and testimonials to each member thereof; to abstain from canvassing but nevertheless to send copies of application and testimonials to each member of the Board of Management, at whose meeting on Tuesday 24th June at 5 p m, candidates must be in attendance

H A. MADGE Secretary

West London Hospital,
Hammersmith Road, W 6

Required one HOUSE PHYSICIAN, one HOUSE SURGEON and one AURAL HOUSE SURGEON and RESIDENT CASUALTY OFFICER (males) The three appointments are tenable for six months from 1st July next subject to one month's notice on either side Salary £100 per annum with board lodgings and washing allowance

Candidates are required to be registered under the Medical Act to send four copies of their letter of application, and four copies of each testimonial submitted so as to reach me not later than Tuesday 17th June.

Selected candidates will be required to call upon such members of the Medical Staff as directed; to be in attendance at a Meeting of the Medical Council on Friday 27th June at 4 p m and the House Committee Meeting at 4 45 p.m, the same day when the appointments will be made

H A MADGE Secretary

The Victoria Hospital for CHILDREN
Tite Street Chelsea, S W 3 (130 Beds.)

The Committee invite applications for the post of SENIOR RESIDENT MEDICAL OFFICER vacant July 1st The appointment is for one year Salary £250 per annum with board and lodging and washing Candidates must have previously held a Hospital appointment Applications with three recent testimonials should be sent to the Secretary not later than the first post Monday June 9th 1924.

By Order
DOST JOHN BAMFORD Secretary

There is a vacancy on the Staff of MATERNITY HOSPITAL, Brunswick Square Bristol for a WOMAN VISITING PHYSICIAN and Two ASSISTANT PHYSICIANS (women) Candidates who must hold registered medical qualification may send not more than four testimonials Duties of the appointments may be obtained. Application to Honorary Secretary

West Bromwich and District HOSPITAL
(General Hospital 105 Beds)

Wanted a RESIDENT HOUSE SURGEON, Male. He must be doubly qualified and unmarried. Salary £220 per annum with board residence, and laundry

In the event of the Assistant House Surgeon, who is an applicant for the position being elected candidates are asked to state whether they are prepared to accept the post of Assistant House Surgeon Salary £180

Applications stating age and if possessing a knowledge of Ophthalmic Surgery and accompanied by copies of recent testimonials, should be sent to me on or before June 10th

By Order
FRANK I HANCOCK,
Secretary & Superintendent

The Western Dispensary,
38, Rochester Row Westminster, S W 1

Applications are invited to fill a vacancy on the ATTENDING MEDICAL STAFF of the above Institution

Applications with testimonials must be sent to the Secretary not later than Wednesday, the 4th June

Applicants to be registered general practitioners, resident in Westminster or Pimlico and in medical practice.

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PRACTICES for sale Particulars on application.

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W J HICKS, *Secretary*

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MEDICAL PRACTITIONERS UNION AGENCY
LIMITED
14, Gray's Inn Square London, W C 1.

TRANSFER DEPARTMENT
Telegraphic Address
"UFFABRINI, HOLB, LONDON
Telephone
CHANCERY 7762

PRACTICES AND PARTNERSHIPS FOR DISPOSAL

ASSISTANTS AND LOCUM TENENS SUPPLIED

LONDON S E — Old established panel and private PRACTICE for sale Number on panel 2 Fees 1/6 up working-class patients small Rent £64 per annum Premium £2,500.

LONDON N — Panel and private PRACTICE for sale Income £1 100 Fees 1/6 up Number on panel 1 125 House containing eight rooms surgery, waiting room Rent £78. Premium £1,700

LONDON, S E — PARTNERSHIP in old established middle and working-class Practice for sale Income £3 300 Nice corner house three bedrooms waiting room and surgery garage and small garden Number on panel 900 Premium for one third share £1,500.

LONDON W — Panel and private PRACTICE for sale 1 300 on panel Cash receipts for 1923 £852 £985 Good class patients. Fees 5/ up. Compact eight roomed house and basement (no garden) Rent £110 Vendor going abroad Premium for house and Practice £1 800

LONDON S W — Old-established PRACTICE for sale Worked by Vendor 30 years Average income £1 500 Number on panel 200 Good detached house in own grounds. Rent £130 per annum. Fees 5/ up Premium two years purchase.

NOTTS — PARTNERSHIP in large panel and private Practice Average income about £1 533 Could be greatly increased Premium for one-third share £1 000

PARTNER required in large private and panel Practice near London. Good industrial district capable of increase Age 25—30 years Must have had some experience in general practice and hold hospital appointment. Third share offered. Preliminary assistantship necessary

LANCASHIRE — Old established PRACTICE worked by Vendor 46 years. Average income £1,180 Transferable appointments £280 Compact Practice expenses small Land 2½ Nice house to be sold Good garden orchard tennis lawn, etc. Good schools near Premium for Practice, house, and grounds. £4 000

GLAMORGANSHIRE — Old established PRACTICE Income £1,385 Panel 800 Surgeon to several collieries all transferable Ralluit Practice one mile Two central, good cottages adjoining Rent £50 Premium one and a half years purchase

PARTNERSHIP in large panel and private Practice in Lancashire Number on panel 3 0 0 average income £1 000 Could be increased Nice house which would have to be bought Premium £1 000 Assistantship with view to partnership would be considered

PARTNERSHIP — MONMOUTHSHIRE Income £1,020 Number on panel 2 000 Fees 2/ up Medical attendants to eight collieries Nice house, seven rooms and surgery, waiting room consulting room dispensary No garden Rent £40 Premium for one-third share £1,250

LANCASHIRE — Town PRACTICE Number on panel 1 000 Average income £1 093. Fees 3/6 up. Easily worked Nice house Rent £34. Vendor going abroad Premium £1 500

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An Accountant's certified report is required in respect of every practice or partnership the disposal of which is undertaken by the Agency

The commission chargeable in respect of any practice in Great Britain placed exclusively in the hands of the Agency for transfer has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being £50 In the case of Foreign and Colonial practices similarly placed the maximum is £75

NO CHARGE IS MADE TO PRINCIPALS FOR THE INTRODUCTION OF LOCUM TENENS OR ASSISTANTS.

Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges.

PRACTICES AND PARTNERSHIPS FOR SALE.

1. PARTNERSHIP EAST COAST.—In a thriving Seaport Town (pop. over 100 000) the fifth share (to commence with) in a leading and old-established non panel Practice, averaging for the last three years £5,158 per annum, last year £5,316, is for disposal owing to the retirement of the junior partner Visit 5/- upwards. Midwifery from 2 guineas 150 cases yearly Excellent house available, in good position, with 3 reception rooms 5 bedrooms bathroom, etc, and garden. Rent £60 a year on lease Premium 1 years purchase. Remaining partner is on the Hospital Staff Incoming partner should be married, about 30 years of age and have held a Hospital appointment.
2. DEATH VACANCY.—MIDLAND TOWN within 0 miles of London Mixed general Practice, held by the late Incumbent over 30 years. Income last year £3,080 including over £1,000 from panel and £440 from appointments Fees from 2/6 upwards. Good house with bedrooms, good professional rooms etc Garden. Freehold, price £2,200 £2,000 of which can be left on mortgage. Assistant is acting as Locum, and would remain on if desired. Premium for practice £3,500
3. PARTNERSHIP.—SURREY Residential Town (population over 25 000) in a beautiful district, a two-fifths share, producing nearly £850 a year in an old-established practically non-dispensing Practice held by Vendor 30 years is for disposal. Receipts average £2,110 per annum, including appointments £93, and panel of 850 Visits 4/- to 10/6. Midwifery 3 guineas upwards 30 cases yearly Premium 2 years purchase Ingoing partner should be well qualified under 35 years of age, and, if possible, a Gynæcologist Good society golf tennis, etc
4. GLOUCESTERSHIRE.—Very sound Country PRACTICE held by Vendor nearly 20 years. Steady average income of £1,450 including a panel list of 1,1 7 Practice is situated in extremely beautiful country Good freehold house with garden Price £1,200 but all the money can remain on mortgage, and be paid by instalments. Prem. £2,000 £1,000 down and balance as arranged
5. BRISTOL.—Very sound middle and working-class PRACTICE, held nearly 25 years by present Incumbent, who is relinquishing on account of ill health Average cash receipts over £1,200 a year including several small appointments and a panel of over 1, 00 Visits 3/6 to 10/6. Midwifery from 3 guineas, about 30 cases. Very good house, specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance, 5 bedrooms etc. Garden. Premium £1,800
6. SEASIDE RESORT NORTH WEST COAST.—Old-established good-class PRACTICE (held 25 years by present Incumbent) averaging £1,310 per annum for the past three years. No panel, and practically no midwifery or night work. Visits 7/6 to £1 1s. Car not kept. Good house (facing sea) Rent £150 Premium 1½ years purchase. Vendor selling on account of ill health.
7. DERBYSHIRE.—HOSPITAL TOWN.—Old-established PRACTICE held 13 years by present Incumbent, who is relinquishing on account of ill health. Cash receipts for the past 3 years average £3 372 per annum including about £1,500 from panel Fees 3/6 to £1 1/0 About 30 cases of midwifery a year at 2 to 5 guineas. Centrally situated house (2 reception rooms, consulting and waiting rooms, 4 bedrooms, bathroom etc) on lease at £100 a year Premium £5,000 Good scope for surgery and Vendor is on the Staff of the Hospital
8. SOUTH WEST OF ENGLAND.—COUNTY TOWN.—A ONE THIRD SHARE, producing £830 is offered in a good-class, non-panel and non-dispensing Practice, with a considerable amount of surgical work. There is a great Hospital in the town and the incoming partner (who must hold the F R C S) will eventually be elected to the Staff Premium £1,600.
9. WEST CENTRAL.—Sound, easily worked PRACTICE of about £770 Very good scope as the Vendor has suffered from ill health since the war Fees mostly 10/6 Very convenient flat. Rent £58. Premium £1,100
10. LONDON EAST.—Well-established middle and working-class PRACTICE. Income over £1,150 Panel of 1,0 0 Surgery fees 2/6, visits 3/6 upwards. No midwifery Well situated house will be sold or let Premium £1,750
11. PARTNERSHIP.—LONDON (WEST END).—A share producing nearly £1,200 per annum can be secured by a suitable well qualified man in a high-class old-established general Consulting Practice. Held over 20 years. Consultation fees 2 guineas upwards, but plenty can be had at 1 guinea. Very nice Consulting Rooms. Premium for the share £2,500 Scope
12. PARTNERSHIP LANCS LARGE TOWN The third share of an old-established lucrative, and money-making Practice worth for the last financial year £3,722, can be acquired by a young unmarried man Panel list of over 1,8 0 and patients operative class. Visits 2 to 5. Midwifery 2 to 3 guineas Ingoing partner could reside with Vendor or unfurnished rooms are available. Golf to be had. Premium 1½ years purchase
13. CHESHIRE.—PARTNERSHIP.—Pleasant Residential Town. A half share in an old-established Practice producing an average income of about £4,000. Panel 1,2 0 Fees 2/6 to 5 visits 2/6 to 1 gn., motor cycle extra. Good house with 6 bedrooms, etc. rent £64. Prem. £3,000 £2,000 down and balance by arrangt
14. CHESHIRE.—Twelve months' PARTNERSHIP introduction will be given to an old established middle-class and panel Practice (1 600 patients on list) worth last year £2,100 Situated in a large town (population nearly 100 000) close to seaside resort Visits 2 to 5/- Midwifery 2 to 3 guineas, about 120 cases yearly Car not required. Good house with garage, available at end of introduction Premium 1½ years purchase.
15. LINCOLNSHIRE.—Unopposed Country PRACTICE very easily worked. Average income over £1,100 Fees 2/6 to 10/6. Very little midwifery Good detached house, in its own grounds with 7 bedrooms, etc. Rent £80 on lease Premium £1,600
16. LONDON WEST END.—PARTNERSHIP.—A quarter-share (to commence with) and up to one-third in 2 years, and one-half in 4 or 5 years, with ultimate succession if desired, is for disposal in a first-class general Practice. Income for the immediate past year £3,020 Fees mostly 1 guinea upwards, and a few at 10/6. Purchaser should be a Graduate, or hold some higher qualification Premium for the quarter share £1,500
17. NEW ZEALAND (NORTH ISLAND).—Unopposed and increasing PRACTICE, in a very beautiful district on main line, about 3 miles from a large city and worth nearly £1,300 a year including easily worked appointment at £100 Visits into Township 10/- mileage 6/ midwifery 5 gns. Good and up-to-date house (built by Vendor's predecessor) containing surgery 2 reception rooms, 3 bedrooms and sleeping porch bathroom, etc., with an acre of ground, tennis court, etc Rent £120 on lease. Climate perfect, sport of all kinds, telephone, churches, and shops of every description. Premium £1,000.
18. CANADIAN COAST TOWN.—Old-established middle class PRACTICE, held by Vendor 30 years. Income for the last 12 months £1,650 Average for the last ten years £1,350 No appointments Nearest opposition 10 miles Fees, consultation 1 dollar mileage 1 dollar extra. Visits 2 to 8 dollars. Not much midwifery fees 15 to 35 dollars House is Vendor's own property and contains 2 reception rooms, professional rooms, 5 bedrooms, bathroom etc Central heating Electric light. Small garden. Trout and salmon fishing Prem. for house and practice £3,500 payable £2,000 now
19. SOUTH SEA ISLANDS.—In a Capital City a well-established, lucrative and increasing PRACTICE, averaging over £1,200 per annum Good climate malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards. Midwifery from 5 guineas. Dispensing optional Practice can be worked on foot. Good bungalow residence in excellent position, with ¼ of an acre of garden Electric light, etc Rent £10 a month, on lease. Premium £800 Income Tax 1d in the pound over £500
20. NEW SOUTH WALES.—Old-established unopposed non-dispensing PRACTICE, situated in a small town containing Public School Post Office stores Shops, and Churches of all denominations) in a very pretty district Cash receipts for the past years average £1,200 per annum including motor mileage Visits 7/6 to 10/6 per mile Midwifery 5 guineas. Attractive Bungalow Residence with about 5 acres of ground, sides, and containing consulting room (with separate entrance) laboratory reception room 19 x 20ft 3 very large bedrooms maid's room bathroom, etc Garden Motor garage plant Rent £104 on lease Premium £1,600 half down, balance in 1 or 2 years
21. FAR EAST.—MEDICAL OFFICER required for Railway Service about £600 a year increasing annually Three years engagement First-class passage out and home Age 25 to 30 preferred. Personal application, if possible, to Bovril Medical Agency
22. FAR EAST APPOINTMENT.—ASSISTANTSHIP with view to Partnership, and ultimate succession in two years to a very large Practice salary £800—£1,000, with furnished quarters Passage paid. Knowledge of tropical medicine essential. Age 25 to 30 Sport, etc Personal application if possible to Bovril Medical Agency

Profits accruing to Bovril, Limited, from the Agency will be allocated amongst recognized Medical Charities

Full Schedule of Terms and Conditions will be forwarded on application.

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London, W —About £2,000 a year Established 11 years Non panel non dispensing Fees from £1 1s Od upwards. General PRACTICE Electrical Treatment Vaccine work etc Good house in excellent position Low premium for quick sale —Apply No 7546

London Suburb —About £750 p a. Old-established non panel non-dispensing PRACTICE Vendor retiring Fees 3 6 to 21/ Detached house Rent £55.—Apply No 7545

Lancashire —County Town Old-established PRACTICE Average rece'pts £1 300 p a. Panel 1 000 Appts. about £40 Fees 2/6 to 21/ Midwifery discouraged £2 2s to £21 Good house with 3 reception 6 bedrooms, bathrooms surgery etc Garage and garden Reasonable rent and premium Easy terms Apply No 7543

London, W — About £1,250 p a largely cash Panel 1 200 to 1 300 No appointments Very little midwifery (discouraged) Visiting fees 5/ upwards 2/6 up Good house 2 reception 4 bedrooms surgery and waiting room with separate entrance Rent £120 on lease. Reasonable premium —Apply No 7542

Cheshire —Nearly £4,000 a year Old established Practice. HALF SHARE for Sale at 1½ years purchase Panel about 1 400 Appointments £45 Good fees Good house and garden to rent.—Apply, No 7536

South County —Over £1,000 p a Panel 610 other appointments £120 Practically unopposed Excellent house elec. light, etc. Good garden All sport —Apply No 7535

Midland Town — About £1,100 a year Old established PRACTICE Panel 650 Appointment £40 Very little midwifery Large house and garden Prem £1 000 including drugs etc —Apply No 7534

Norfolk Coast —Nucleus for disposal In favourite Seaside Resort Visiting fees 3 6 to 5/ Good house 3 reception 4 bed rooms consulting room and dispensary lawn etc On lease rent £70 Small panel —Apply No 7524

London Suburb —About £700 a year Panel 750 to 800 Good fees Old fashioned house with good garden to rent No midwifery Easily worked Scope for increase Vendor stands 35 years.—Apply No 7516.

Lancashire —£5,000 a year Large Manufacturing Town Panel 3 000 TWO PARTNERS wanted to buy two thirds share at 11 years purchase —Apply No 7502.

Near Birmingham —£2,400 p a. Old established Opposition light. Good fees Panel 1 800 Appointments worth £500 (about) Good family house with garden tennis etc For sale with PRACTICE —Apply No 7501.

Open Air Sanatorium, £6,000 a year Old established Splendid premises on lease Very investigation Net profits over £1 500 Premium very moderate Personally known —Apply No 7126.

Midlands —£800 a year, Industrial Town Panel 8 0 easily worked no Car House with large garden lawn and orchard cellar Let Premium for practice £1 000 —Apply No 7483.

Lancashire —Old established PRACTICE Nearly £1 200 plus £280 appointments Panel over 50 Good detached house with garage and tennis etc Apply No 7449

Cheshire — £3,500 a year, PARTNER wanted Good Suburb of large Town with Hospital Golf Fees Panel £1 000 a year Consulting available Half share for sale —Apply No 7111

New Manchester area Nearly £2 000 Panel worth at least £600 p a Practice in large nursing home to rent Premises in perfect order Terms moderate —Apply No 7360.

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LONDON W — Old-established G P Income £3 500 Panel 2 300 3 Appointments transferable Large house 6 bedrooms 3 reception rooms Garden and garage To rent £175 p a Premium £4 500 £3 000 down

LONDON W C — Established G P non panel (scope) Income over £600 (scope) Good fees. Upper part sub let at profit rental of £80 p a. Premium £1 100 to include lease, furniture fittings

EAST COAST —DEATH VACANCY —High class non panel PRACTICE situated in busy town Income over £2 500 p a. Staff appointment Fees 7/6 upwards Nice house excellently situated to let or for sale Practice only suitable to one with good degrees and professional standing

SCOTLAND —ARGYLLSHIRE - Well established country PRACTICE Small panel Income over £800 p a Small house Premium £550 or offer

MIDLANDS (North) — Industrial PRACTICE Panel nearly 1 200 Income over £2,000 p a Hospital appointment Premium one and a half years purchase

LONDON S E —Small cash and panel PRACTICE Income £500 Scope for increase Small house rent £50 p a Premium £500 to include lease.

LONDON S W —Old established Cash and Panel (nearly 900) Income £1 000 p a Small house at exceptionally low rental long lease Premium £1 850 to include lease

CHESHIRE —PARTNERSHIP In old established G P Income nearly £4,000 p a Panel 1 500 Fees 5/ to £1/3/6 Mids £3/3/0 to £10/10/0 Nice house with garden rent £50 p a Premium for half share 1½ years purchase £2 000 down Suit married man about 30

GLAMORGAN —Well established G P Income over £1 400 p a. Panel 2 appointments Fees 3/6 to 1 guinea. Midwifery 2½ to 10 guineas Nice house 4 bedrooms 3 reception rooms Practice consists mostly of Cardiff business people resident in district Premium £2 000

Purchasers stating their requirements will be sent particulars of other suitable Practices and Partnerships for sale free of charge

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LOCUMS SUPPLIED

South Coast —Partnership Half share of £2 300 in pleasant town. Fees 1 000 Appointments £500 Good house large garden, Rent £90 Premium £2

Within 25 miles —Middle and working class PRACTICE of £1,700. Panel 1 100 Vendor retiring Opposition. Rent £42

X-Rays Practice of £1,550, increasing Vendor is on the hospital staff Large town in S of England

Central London —Lock up SURGERY doing about £600 with great scope and room to live at the place. The upper part is let off for much more than the rent.

London, S E — Middle and working-class PRACTICE of £1 300 Panel 910 House with nice garden and garage cost bought for £1 200

Liverpool —Practice of £1,400 in residential suburb Appointments £90. Panel 1 100. The Practice is non-dispensing. Rent £50

North London —Middle and working-class PRACTICE of £1,000. Appointments £420 Panel 1 100 No midwifery has been done and there is great scope Rent £65

Birmingham — Middle and working class PRACTICE of £815 Panel over 700 No midwifery Great scope Double-fronted house with large garden Low rent

North Wales —Practice in beautiful seaside place Receipts £550 Small panel Cottage hospital Good house and garden rent £50 on long lease Garage Premium £650

New Zealand — Unopposed PRACTICE of £1 800 Beautiful district in North Island Convenient House. Good roads Scope for surgery Good introduction. Premium £1,500

Death Vacancy —Partnership Third share of £4 500 Middle and working class Practice 10 miles out Appointments £800 Panel 4 000 Rent £75 including rates and taxes

West End —Partnership Share worth over £2 000 in first class Practice Partner should be English and used to good class society Very good fees Reasonable premium.

East Coast —Practice of £1 150 in favourite seaside place Panel 850 Appointment £40 Cottage hospital Rent £60 Premium £1,400

South Coast — Practice of £1 300 in favour to resort Small panel and appointment £40 Rent £60 Prem £1 800

Cheshire —Partnership Half share of £3 000 in residential place Panel 1 100 Compact house rent £55 Prem 1½ years purchase £2 000 down

Surrey —Rapidly increasing PRACTICE of £540 in residential suburb Practically no panel Rent £60

West London —Practice of £1 250 including 1 2 0 panel and fine position for working up a large income House on long lease at reasonable rent

S W County —Partnership Half share of £2,000 in country town with a cottage hospital Appointments and panel £850 Good schools House can be obtained.

Within 80 miles —Safe unopposed PRACTICE of £1 500 Panel and appoints £800 Good house with large garden Rent £50 From 3 years purchase

Home County —Partnership Half share of £2 000 in beautiful country town Small panel Appointments £200. House available

Purchasers stating their requirements can have Particulars of other Practices not advertised

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WEST END OF LONDON.—(7) PARTNERSHIP in high class non-dispensing Practice. Fee chiefly £1 1s. Not much midwifery. Premium one-third share (about £2,000 p.a. *net*) £4,000. Ample scope for increase.

MIDLANDS.—(8) *PARTNERSHIP in very old established* Practice over £4,300 in good Country Town. Panel 2,000. House contains 5 bedrooms, &c. Price £1,750. Prem. one-third share two yrs. purchase.

YORKSHIRE (EAST RIDING).—(9) PARTNERSHIP in well established Practice near York £2,500 p.a. in pleasant Country Town. Panel about 1,600. Good house (5 or 6 bedrooms) in acre of ground. Rent £40. Premium one-half share two years purchase. Partner aged about 30 preferably with experience in Major Surgery. Fine Hospital in Town.

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SOUTH COAST.—(20) PARTNERSHIP in Panel and Private Practice over £4,000 p.a. in popular Seaside Resort. Panel 1,150. Premium one-third share two years purchase. Partner must be energetic and not over 35.

SOUTH-WEST OF ENGLAND.—(21) Very old-established middle and better-class PRACTICE over £4,200 in important Seaport Town. No Panel or Appointments. Commodious house in excellent position. Rent £100. Premium one and a half years purchase.

DEATH VACANCY.—(22) East Coast. Old established PRACTICE about £2,000 in important Seaport Town. No panel. Comfortable and well situated house.

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DEATH VACANCY.—(24) South Wales. Unopposed PRACTICE about £1,700 in small Seaside Town. Panel 1,430. Good house. Rent £60 on lease.

SOUTH COAST.—(25) Good class PRACTICE of £1,350 per annum. Excellent house. *Premium £1,250.*

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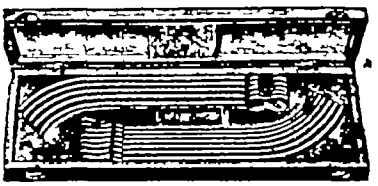
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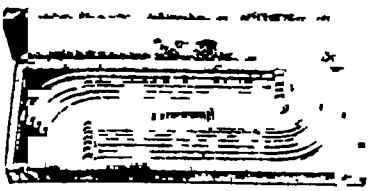
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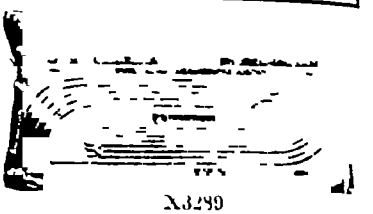
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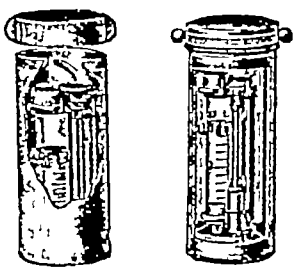
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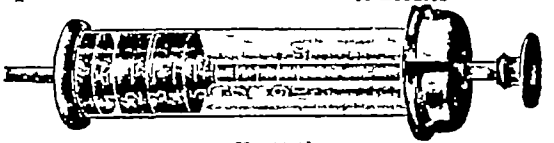
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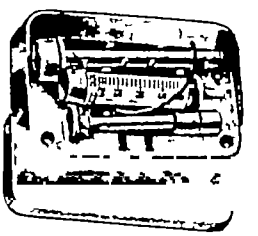
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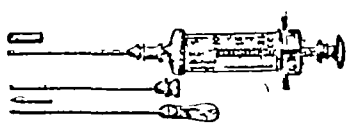


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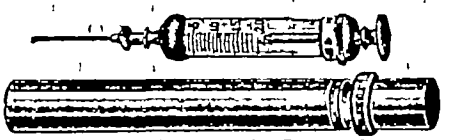
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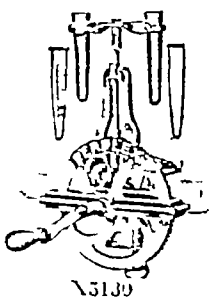


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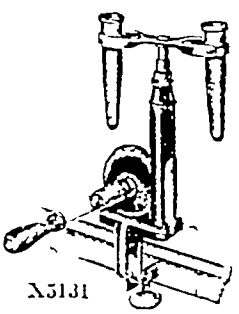


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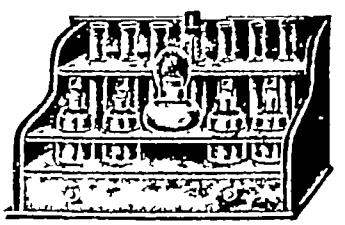
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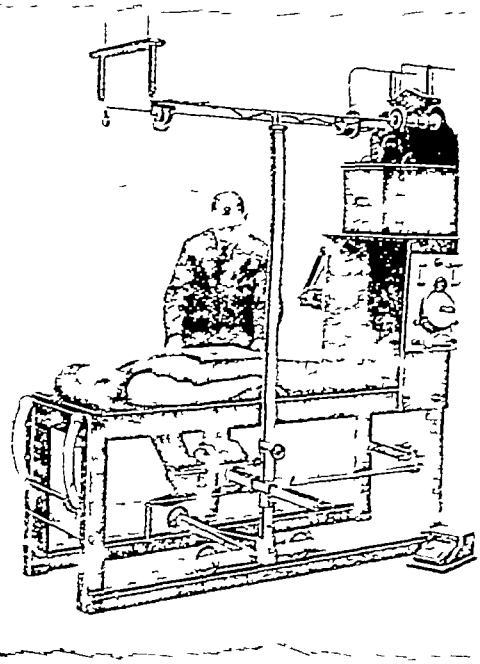
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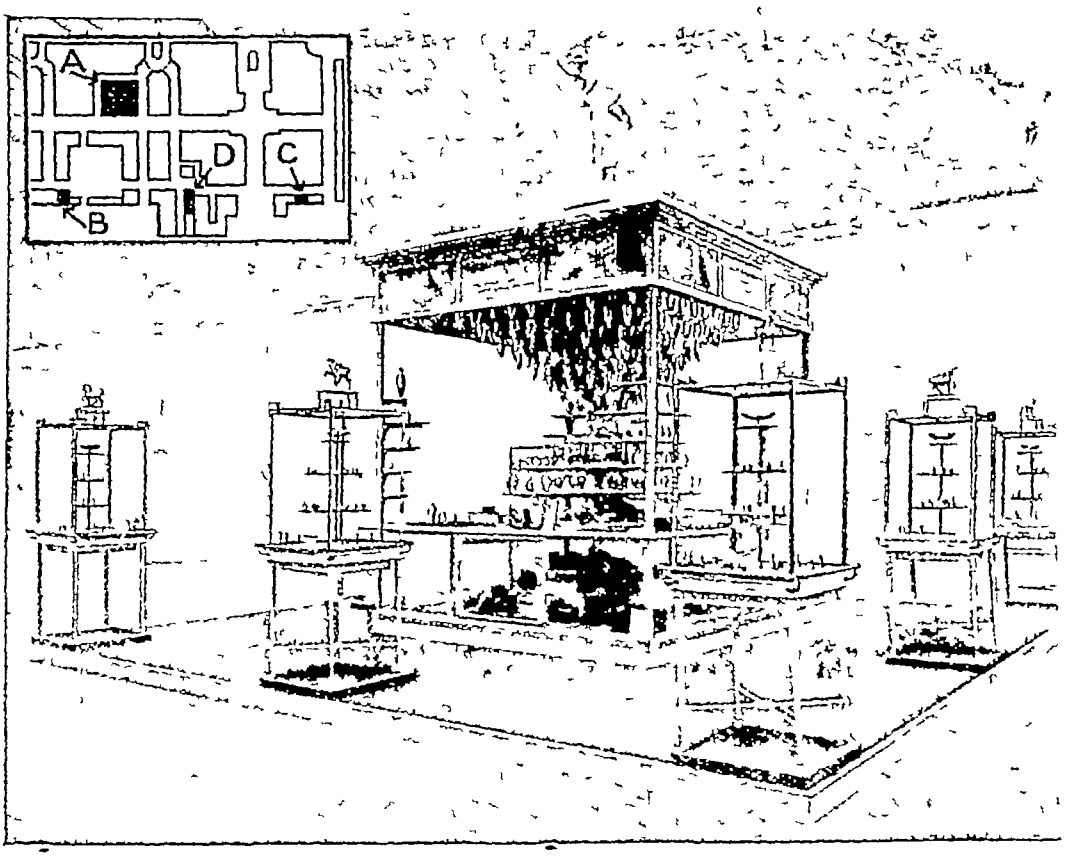
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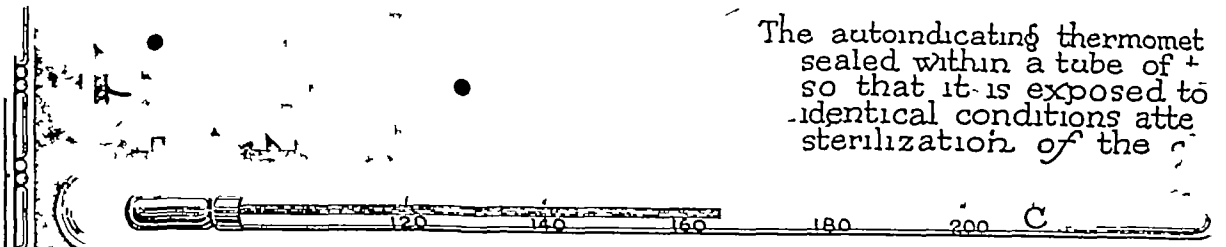
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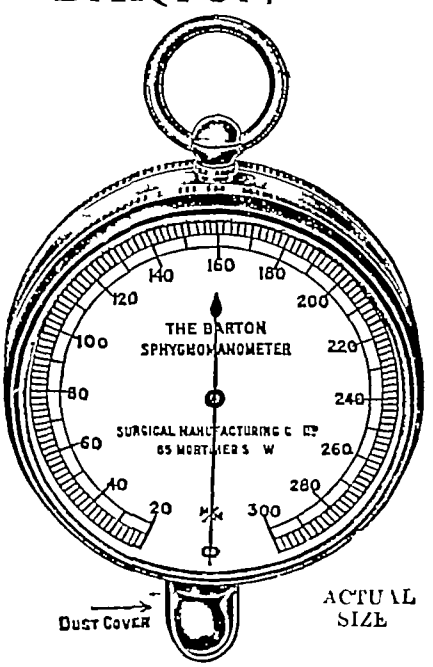
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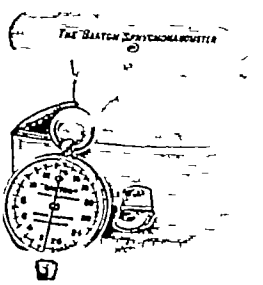


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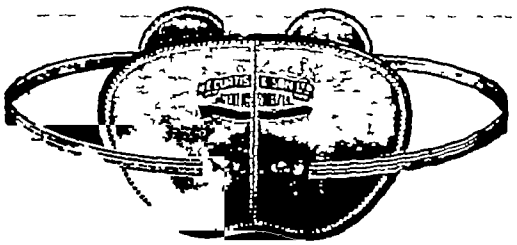
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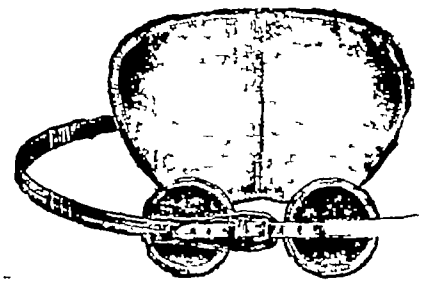
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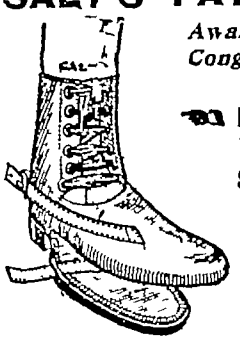
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SALT'S PATENT TALIPES VARUS BOOT

Awarded Gold Medal, International Congress of Medicine, London, 1913



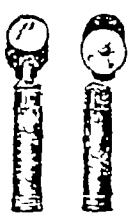
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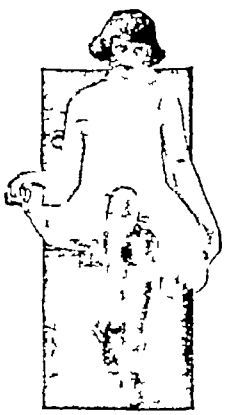
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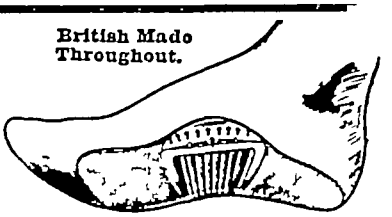
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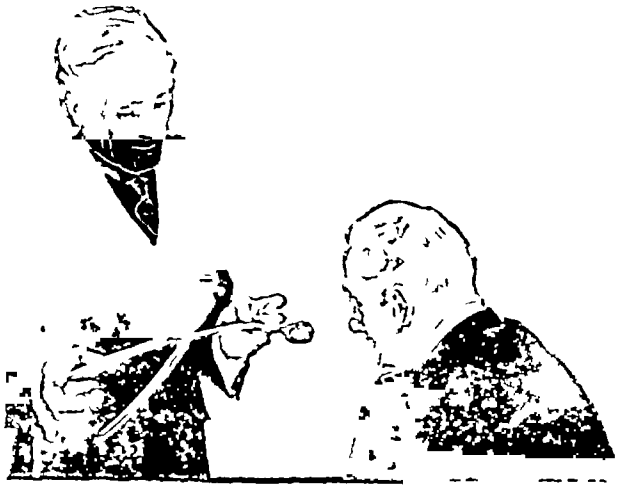
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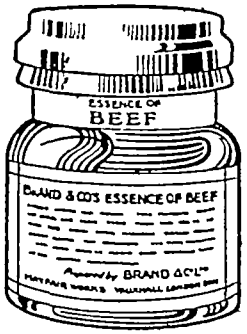
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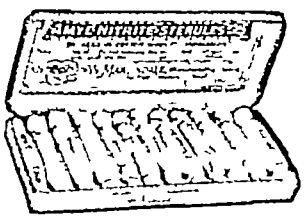
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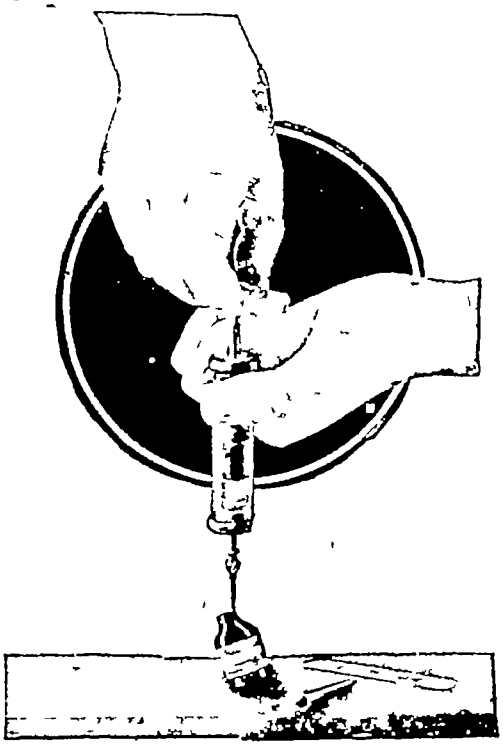
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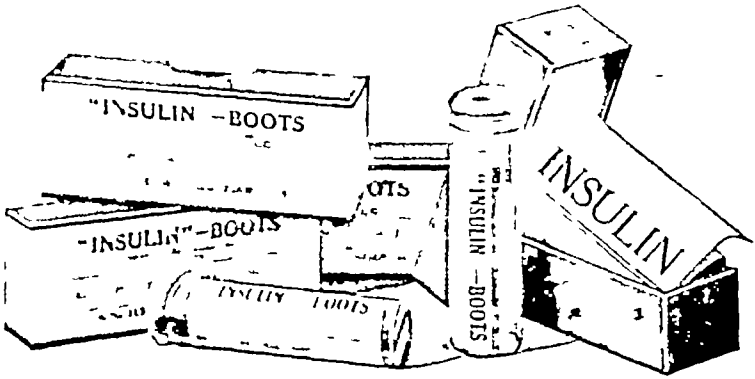
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The gelatin capsule, divided into two compartments, is dissolved on reaching the stomach The subsequent reaction forms

NASCENT FERROUS CARBONATE

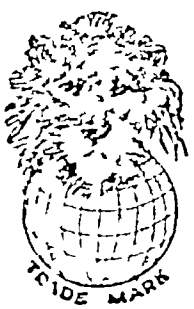
which is instantly dissolved in the acid gastric fluid With this object achieved, the progress which the patient makes is in many cases little short of marvellous

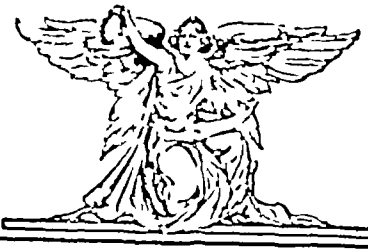
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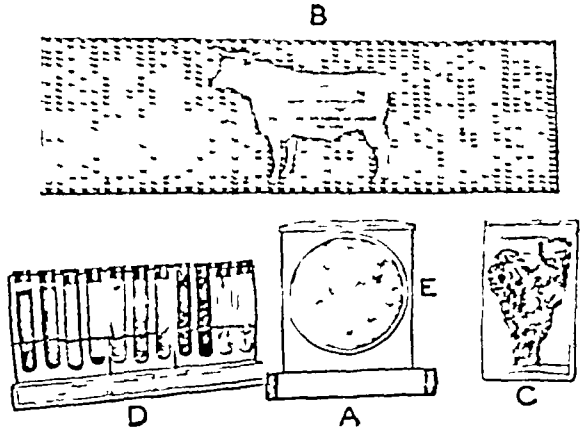


EXHIBITS OF
BURROUGHS WELLCOME & CO.

Chemical Section, Palace of Industry

BRITISH EMPIRE EXHIBITION

PART OF WELLCOME BRAND INSULIN DEMONSTRATION GENERAL EXHIBIT



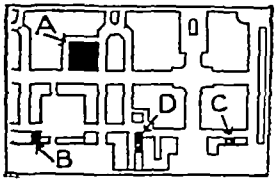
The Wellcome Brand Insulin in the tube (A) (1 inches long) is obtained from the pancreas of 1000 oxen (B) and will treat one ton of sugar (Sugar)
(C) Ox pancreas
(D) Stages in the production of 'Wellcome' Brand Insulin
(E) Section of ox pancreas showing Islets of Langerhans

In the manufacture of Wellcome brand Insulin, Burroughs Wellcome & Co. have followed their invariable policy of exalting the standard of purity by continuous research. Furthermore by four successive reductions in price, Wellcome brand Insulin has been made available to all classes of patients.

Other Exhibits are (B) Kepler' Malt Products (C) 'Wellcome Materia Medica Farm, and (D) Tabloid Photographic Chemicals

Extract from "The Times" of May 2nd, 1924

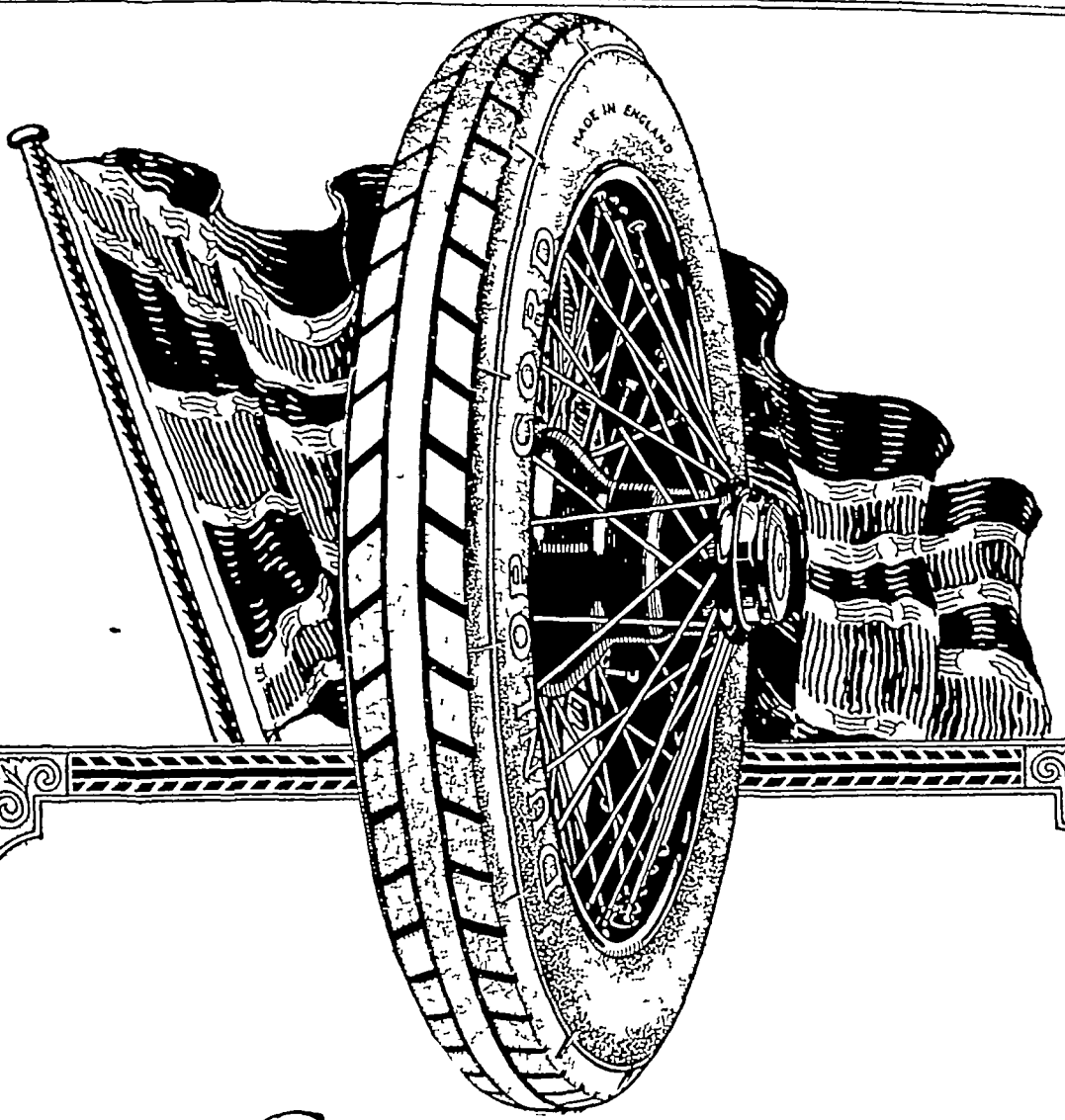
"In the Chemical Section of the Palace of Industries on one of the stands of Messrs. Burroughs Wellcome & Co. there is a small tube containing a white powder which is peculiarly interesting. It represents the amount of insulin hydrochloride obtainable from the pancreas of 1000 oxen. It gives an idea of the difficulty and costliness of obtaining insulin, which, practically unknown a year ago, is now used all over the world as the great remedy for diabetes, the pancreas of oxen being the main source from which it is extracted"



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confined state. These differences include (1) lack of exercise, (2) overcrowding, (3) inappropriate food—overfeeding with some constituents of the food, underfeeding with others, (4) imperfect hygiene, and (5) infection. Lack of exercise, except in so far as it may influence the consumption of oxygen by the tissues and thus indirectly affect the thyroid gland, is not a factor of importance in the production of goitre, for with precautions as to hygiene and food animals can be kept in the closest confinement without the development of goitre. Further, goitre reaches the height of its endemicity in races of mankind whose life is spent in hard manual labour.

Overcrowding, too, is a factor of importance only in so far as it involves a reduction in the amount of certain essential food constituents available for the use of each individual in the crowd or an augmentation of the unhygienic conditions of life under which animals crowded together may be forced to live. Overcrowding *per se* is of small importance as a cause of goitre in man, for the malady may be no more common among the residents of our overcrowded slums than among those more spaciously housed.

Food

The conditions of life I have postulated as likely to favour the development of goitre in domesticated animals—and therefore in man—are thus reduced to three: (1) inappropriate food, (2) imperfect hygiene, and (3) infection. I will consider first the effect on the thyroid of inappropriate food. Food may be inappropriate, so far as the thyroid is concerned, either by reason of its excessive richness in one essential or of its deficiency in another essential, or for both reasons—the richness in one element involving a relative deficiency of another. It is stated that an excess of protein causes enlargement of the thyroid in adult animals, but not in young ones, and that prolonged feeding with lean meat or liver causes the vesicles of the gland to be greatly distended with colloid. Having regard to other factors which may complicate the histological picture, I have been unable to satisfy myself that the changes referred to are the consequence of excess of protein *per se*. Changes in the thyroid consequent on the too exclusive use of a protein diet are probably more often the result of deficiency of iodine than excess of protein, and more often still the result of confinement of animals under unhygienic conditions of life, or of increase in the putrefactive flora of the bowel, or of all three factors in combination.

Pigeons and dogs fed on a diet excessively rich in butter may develop goitres of large size. Histologically they show intense hyperplasia, much luxuriant budding, and almost complete want of colloid. The hyperplasia can be prevented by increasing the amount of iodine ingested in proportion to the amount of fat consumed. It is significant that cod-liver oil, so rich in unsaturated fatty acids, so far from causing thyroid hyperplasia or goitre, affords absolute protection against it, even though the conditions of life under which the animals live be unhygienic. There can be little doubt that this is due to the iodine it contains in organic combination. It is remarkable to see the thyroids of butter-fed pigeons enlarged to ten or even twenty times their normal size, while that of birds fed on cod liver oil is normal both in size and in histological structure. Not all individuals are affected in this way by an excess of butter or other fat. The effect is much more prone to manifest itself when the hygienic conditions of life under which the animals are kept are imperfect, so that it is sometimes difficult to say how much of it is due to the fat excess and how much to bacterial action in the intestinal tract consequent on these unhygienic conditions of life. The varying effects noted in different individuals in the same experiment or in different experiments is, I believe, related to differences in their intestinal flora.

But even with these reservations it must be admitted that an excess of certain fats in the diet is likely to influence the thyroid gland unfavourably. In tadpoles thyroid hyperplasia is not produced by an excess of fats in the food, but the development of the organ is greatly retarded. It suffices to increase the supply of iodine in proportion to the amount of fat ingested by the tadpoles to counteract the ill effect of the fat excess on the growth of the gland and of the animal itself. It would seem that there is such a thing as a "fat-thyroid-iodine balance," and that more iodine is likely to be required by the thyroid gland, or more thyroxin by the tissues, in the presence of fat excess in the food than when no excess exists. Little as we know of the functions of the thyroid gland we know this: that it is intimately concerned with the utilization of oxygen by the tissues. It supplies the draught to the metabolic fire. If the fire be over-stoked the draught must be increased to keep it burning briskly. This function the thyroid fulfils by means of its active principle, thyroxin, and for the production of thyroxin, in amounts adequate to the needs of the organism, an adequate supply of iodine is essential. Anything which limits this supply or renders it insufficient for the needs of the organism may necessitate hyperplasia and hypertrophy of the thyroid gland. An excess of certain fats in the food is one such means.

Another food essential which may exert a definite action on the thyroid gland when ingested in excess is lime. The calcium excess does not cause hyperplasia, but distension of the vesicles with colloid and flattening of their lining epithelium. In this case also I found that the provision of an additional supply of iodine—a supply proportionate to the excess of lime—counteracted this effect. The lime excess appears to increase the viscosity of the colloid, thus favouring its accumulation in the vesicles, the iodine when present in sufficient quantity appears to keep the consistency of the colloid normal. The association of endemic goitre with chalky districts is one of its commonest characteristics: it is due to a number of contributory causes, one of which would appear to be the ingestion of lime in amounts out of proportion to the iodine available for the use of the gland. Iodine itself, when ingested in excess of the thyroid's needs and of those of the organism causes an accumulation of colloid in the vesicles almost equal to that brought about by an excess of lime. It is remarkable to see the two effects of calcium and of iodine, or of both together, as contrasted with the normal appearances in control animals: the vesicles are distended with colloid from lime excess less so from iodine excess but the amount of colloid in the vesicles differs in no way from normal when an animal receives an equal proportion of both lime and iodine in excess. It would seem that the avoidance of undue colloid accumulation is best effected when the amount of iodine ingested is in balance with the amount of lime ingested. It may be that one reason why

the sea coast itself, but goitre does not prevail in all mountainous countries, nor is it always absent from the sea coast. There must therefore be factors determining the production of goitre which are capable of exerting their effect even though the intake of iodine be adequate for all normal needs. Indeed, many of my own experiments, and some of those of Hart and Steenbock, leave no room for doubt that such is the case.

Gastro-intestinal Infection

The fourth condition of life which we have postulated as likely to influence the production of goitre in animals under confinement is imperfect hygiene. Its effects are illustrated by an experiment I carried out in 1922.

A number of pigeons were confined in cages of narrow dimensions, all were fed alike. In one group the cages, food, and water were allowed to become contaminated by the birds' excreta, in another group they were kept scrupulously clean. The experiment was continued for several months. Goitre developed among the animals confined in the dirty cages, but not among the animals confined in the clean cages. It would appear, therefore, that if lack of iodine were the immediate cause of goitre in the birds of the first group, the unhygienic conditions of life under which they lived gave rise in some way to this lack. A third group of pigeons similarly fed and confined in dirty cages were given an additional supply of iodine. A fourth were given cod liver oil. In neither of these groups did goitre develop, the additional intake of iodine in both serving to prevent it, counteracting, in short, the goitre-producing influences incidental to the imperfect hygiene. A fifth group, also confined in dirty cages, received fresh chlorine water as the sole drinking water supply, a sixth had fresh chlorine water introduced into the crop daily. The chlorine had a decided influence in counteracting the effects of the imperfect hygiene, but the protection it afforded against thyroid hyperplasia (goitre) was not absolute as it was in the case of iodine and cod liver oil. In all six groups the food supply was the same, there was no question of the food of any one group being more deficient in iodine than that of another.

It follows from this experiment (1) that the needs of the organism for iodine, especially in certain individuals, are greater in the presence of pollution of the food and drink than in its absence, and (2) that in the prevention of goitre under the conditions of this experiment perfect cleanliness was as effective as the provision of an additional supply of iodine in the food.

I will give another example of the same kind. Fish confined in tanks develop thyroid hyperplasia and goitre. The addition of iodine to the water in which they live prevents its development (Marine). But it can also be prevented by the addition of mercury perchloride (Gaylord). In the one case the goitrigenous influences remain but the additional supply of iodine prevents their operation, in the other the goitrigenous influences are themselves reduced in potency by the bactericide.

From animals to man there are on the [illegible] nine villages, eight of which are [illegible] the other on the same water supply [illegible] is an adjacent nullah, and in the [illegible] from one village to the next it passes [illegible] there are in India a number of [illegible] goitre with the extension of [illegible] cultivation and through villages [illegible] protected from pollution. Goitre [illegible] from the first village on [illegible] ninth village, within a [illegible] others, has its own water [illegible] among igneous rocks, it is [illegible] these villages [illegible] iodine [illegible] more than [illegible] that the [illegible] village than [illegible] increasing prev[illegible] seem to be a [illegible] content of the [illegible] increasing im[illegible] being in [illegible] this may be, [illegible] pres[illegible] in [illegible] action of the [illegible] candle or [illegible] from the [illegible] myself and [illegible]

regimen. Others who consumed the same residue in the same quantities and for the same length of time did not develop goitre when the residue was boiled.

These epidemiological observations, made in 1909 [illegible] been published when Marine reported an almost identical state of affairs in artificially reared trout. He found that these fish, when confined in tanks situated one above the other on the same water supply, showed an increasing proportion of thyroid hyperplasia and of visible goitres from the highest to the lowest tanks in the series, the food being the same in all. Gaylord, who made a similar observation, showed further that by scraping the inner surface of the water-soaked wood in tanks in which the fish were confined, and in which the disease was endemic, an agent was secured which produced thyroid hyperplasia and goitre when administered to dogs and rats. He found, too, that this agent was destroyed by boiling. The experimental production of goitre in the human subject in the way above mentioned was thus confirmed.

I concluded from my own observations and experiments on man that the chief causal agent of goitre in the villages of Gilgit was an organism or organisms present in the gastro-intestinal tract and introduced into it by way of polluted water or food. It would take too long to recount the results of the numerous experiments I carried out in following up these observations, those interested will find an account of them in my book on the thyroid gland. Suffice it to say that I have produced goitre in rats and goats by feeding them on cultures of faecal bacteria grown under anaerobic conditions from the faeces of goitrous persons. Further, by feeding rats and goats throughout pregnancy with such cultures I produced congenital goitre and cretinism in the offspring of rats and the "hairless disease" (a form of cretinism) with enormous congenital goitre in the offspring of goats. Surely if in two groups of animals, living under precisely similar conditions of life and receiving precisely the same food, goitre and its congenital manifestations are produced in those subjected to the influence of massive doses of faecal bacteria while they do not arise in those not subjected to this influence, it must be admitted that the bacteria administered are the determining cause of the goitre and of its congenital manifestations. Gastro-intestinal infection, brought about by way of polluted food and drink, is the last of the conditions of life to which I referred as likely to favour goitre production in domestic animals. The evidence I have presented to you will, I think, convince you that although taken last it is not least in importance in regard to goitre production, whether in animals or in man.

Treatment

I come now to the practical application of these results. If intestinal infection has the importance I attribute to it, then two things should be possible. (1) goitre should be curable by the administration of gastro-intestinal antiseptics, and (2) goitre should be preventable by preventing such intestinal infection. It is now eighteen years since I first drew attention to the effect of such intestinal antiseptics is thymol, salol, beta-naphthol, and soured milk in causing the disappearance of a proportion of cases of recent goitre when administered internally. This observation has since been abundantly confirmed, and the curative value of intestinal antiseptics in this disease is now beyond dispute. At one time I thought that intestinal organisms exerted their effect in causing goitre by means of their toxins, an opinion based on the knowledge I then possessed. It was, indeed, difficult at that time to conceive of my other way in which they could act, but further work has increased the range of possibilities. Although it is possible that intestinal bacteria may act in this way, yet, having regard to the effect of lack of iodine in causing thyroid hyperplasia and goitre in animals, and to the influence of iodine in preventing goitre in both animals and man, it seems more probable that intestinal bacteria exert their influence in a different way. Quite recently Wilkinson recorded an interesting observation which throws further light on a probable [illegible] bacteria [illegible]

there are more things in heaven and earth than are dreamt of in our philosophy"—a thought ever present in the mind of the research worker—and that, truly complete and rounded off as is the story I have here told there is much that we have yet to learn of the laws governing the normal function of the thyroid gland and of the causes which determine its departure from normal. It is by the application of the knowledge we already possess that the gaps in it will be made manifest and the means found to bridge them.

ANEURYSM OF THE BASILAR ARTERY SIMULATING OPIUM POISONING

BY

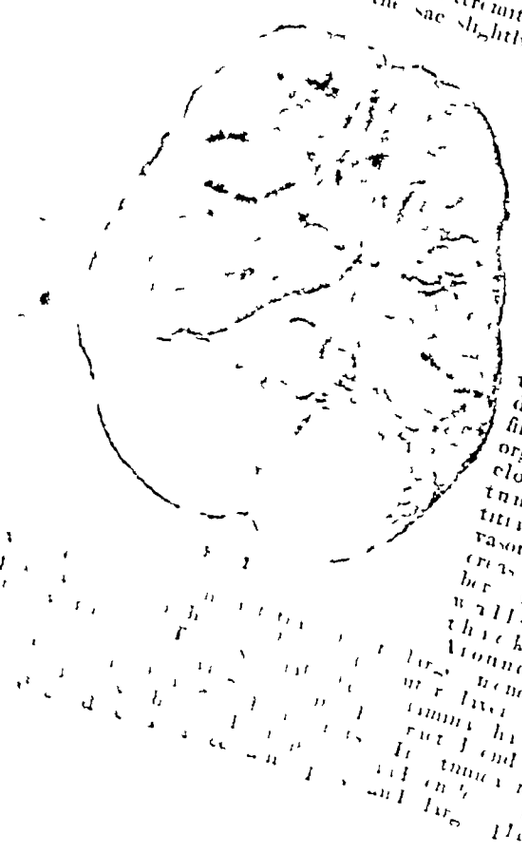
SYDNEY SMITH, M.D., D.P.H.,

PRINCIPAL MEDICO-LEGAL EXPERT, MINISTRY OF JUSTICE, CAIRO; AND PROFESSOR OF FORENSIC MEDICINE, ROYAL SCHOOLS OF LAW AND MEDICINE

The following case has a certain medico-legal and clinical interest.

A Berberine cook aged 30 years, apparently in good health, took suddenly ill whilst at work, with headache, vomiting, and rigors. Within two hours he became insensible, the pupils were strongly contracted, the breathing was 54 a minute, the blood pressure 134 systolic and 80 diastolic, and the deep reflexes were lost. The case was diagnosed as opium poisoning, and he was treated for this without effect. The coma gradually deepened, the temperature rose to 39·4° C. (=103° F.), and death took place on the fourth day after the first symptom.

On dissection the organs were found in a healthy normal state except the base of the brain where there was a fusiform aneurysm of the basilar artery (fig. 1). It formed a clot firm to the touch and was filled with non-organized blood. It was roughly pear-shaped, 3·1 cm. long, 1·5 cm. in diameter at the anterior extremity and 1 cm. in diameter at the posterior. It was situated along the middle line of the medulla and pons with a slight convexity to the right of the middle line and with tail and head slightly to the left.



The expanded head was lying in a depression which it had made in the anterior extremity of the pons 5 to 7·5 mm. deep, the rest of the sac slightly indented the pons and medulla. The basilar artery was traced to and from the aneurysm and appeared normal.

A transverse section of the tumour shows it to be the wall of an artery considerably thickened and distorted and filled with non-organized blood clot. In the tunica adventitia the vasa vasorum are increased in number and the walls are thickened. These changes are found in a lesser degree in the tunica media and intima, but the latter are not affected to any extent. Sections stained by Levaditi's method failed to show treponemata, but there is every reason to assume that the condition was one of gummatous arteritis.

A sagittal section of the mid brain and medulla (fig. 2) shows that there is a depression similar in shape to the tumour in the upper part of the pons and medulla and the depression in the pons causes pressure on and closure of the fourth ventricle, the floor of which is bent to such an extent that it almost touches the roof, and consequently all structures situated in the position are compressed and distorted. Such structures are the upper part of the pyramids, the arcuate ganglia, the pyramidal tracts in the pons, medial lemniscus, tecto-spinal tracts, medial longitudinal fasciculus, oblique fibres, and superficial and deep transverse fibres of the pons. In addition the nucleus of the third nerve, the fourth nerve in its lower part, and the nuclei of the sixth, seventh, and eighth nerves have undergone a certain degree of pressure, as also have the vital centres in the floor of the fourth ventricle.

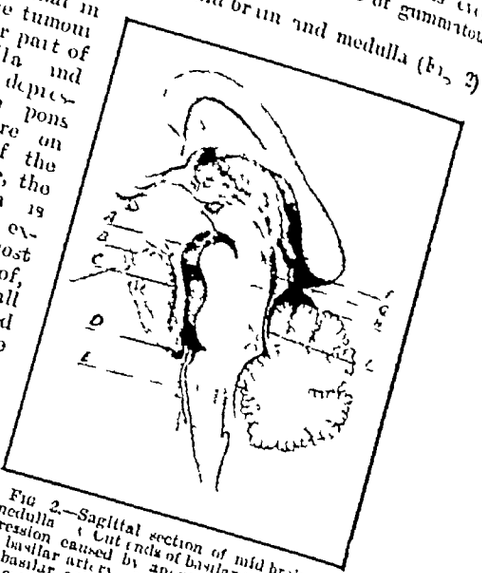


FIG. 2.—Sagittal section of mid brain and medulla. a Cut ends of basilar artery. b Aneurysm. c Pressure caused by aneurysm. d Depression of pyramid of basilar artery. e Depression of trochlearis. f basilar artery. g cerebral aquæduct. h nucleus trochlearis. i fasciculus longitudinalis medialis. j fourth ventriculus.

A transverse section of the pons below the aneurysm shows great condensation of fibres under the tumour, which is very apparent when contrasted with the areas not exposed to pressure. Microscopically there is to be seen great increased vascularity of the compressed area the arterial coats are thickened there is round celled infiltration around certain of the vessels, and in places small extravasations of blood. A peculiar feature of the section is that there is much greater vascularity in the compressed area than in the areas not subjected to pressure.

No history of any previous illness or disease could be obtained beyond complaint of a slight headache from time to time and the patient was regularly at work until the moment of attack. This is curious in view of the fact that there was such pressure on the pons and medulla and would indicate that the subjacent centres were able to carry out their functions under considerable pressure, and did so without serious inconvenience until a paint was reached when a little extra pressure was sufficient to completely disorganize them. Possibly thrombosis in the sac may have precipitated this failure.

From a medico-legal point of view the similarity of the symptoms to those of acute opium poisoning is of interest, for in this instance the diagnosis of such poisoning was made first by the medical attendant, and secondly by the hospital authorities and as a matter of fact the case was already being investigated by the police when the necropsy completely cleared up the diagnosis.

The case illustrates the necessity of a complete dissection and examination of the brain in all such cases of sudden death. The clinical features were typical of pontine pressure and the long period of coma and high temperature should have excluded opium poisoning.

I have to thank Prof. Gordon Ogilvie of the pathological department and Dr. Boulgaroff of the anatomy department for their help in preparing this case.

I was decided to explore the swelling as it was rapidly increasing and was causing the disappearance of the zygomatic process and of the eyelids. The patient was placed under general anæsthetic (chloroform and ether) and an incision was made parallel to and just above the left zygomatic process in the temporal fossa. A pus was reached and about two ounces evacuated and a drainage tube introduced. The abscess drained and a drainage tube introduced. The patient's condition generally but it was not maintained and the headache (now referred to the back of the head) became more intense and the speech defect more marked. It was decided to trephine over the left temporo-sphenoidal lobe, this was done on January 10th 1921. Chloroform was administered by the open method and just as consciousness was lost the heart and respiration was resorted to. This was kept up for about three hours and various efforts made to stimulate the respiratory centre but without success for though the heart and circulation continued to function there was absolutely no respiratory response. Suspecting that intracranial pressure was the cause of the respiratory failure trephining was proceeded with and about 5 oz. of pus evacuated from an abscess in the temporo-sphenoidal lobe but without the slightest return of the respiratory function even though artificial respiration was maintained for an hour and a half longer.

Necropsy

A limited *post mortem* examination disclosed a connexion between the abscess cavity in the left temporo-sphenoidal lobe and the temporal fossa as the great wing of the sphenoid was found to be perforated by a small hole admitting the point of a probe. This was independent of any of the normal anatomical foramina and was apparently at a point where the bone is usually very thin. The mastoid cells contained pus.

Professor Howden has since called my attention to a skull (macerated) in which the great wing of the sphenoid is actually perforated in the centre of a very thin area. Another point of interest found at the *post mortem* examination was the inclusion within the large abscess cavity of two small globular abscesses—pus contained within firm walls—which were practically floating free in the larger cavity. It was concluded that there had been several septic foci with abscess formation and that the more rapidly advancing softening process had surrounded and isolated the earlier small collections.

TWO CASES OF ANKYLOSIS OF THE LEFT TEMPORO MANDIBULAR JOINT

BY

P. T. CRYMBLE, M.B., B.CH.R.U.I., F.R.C.S.Ed.

SURGEON TO OUT-PATIENTS HOSPITAL FOR SICK CHILDREN; ASSISTANT SURGEON ROYAL VICTORIA HOSPITAL, BELFAST

These cases were encountered in the out-patient department of the Queen Street Hospital for Sick Children. In both the condition was of long duration (seven years and twelve years) had followed a serious illness had produced a most inconvenient deformity and was completely relieved by removal of the head and neck of the mandible.

The first problem in dealing with a case of long-standing ankylosis of the

in the one case for two and a half years, in the other for two and a half months.

Case I.

A girl who at the age of 2 was ill with consumption of the bowels for fourteen weeks. Subsequently an inability to open the mouth was discovered which persisted up to the age of 9, when she was brought to the out-patient department. When first examined the mandible was immobile and the upper and lower teeth were in contact. A gap between two upper teeth permitted small portions of solid food to be pushed into the mouth. Speech was not affected, and the child was intelligent and fairly well nourished. After some weeks of daily manipulation of a wooden wedge a slight amount of mandibular movement was obtained, and it was then discovered that the right head of the mandible moved whereas the left was immobile.



A



B

A, Patient attempting to open the mouth for operation. The upper and lower teeth in contact. B, Some months after operation the mouth can now be opened.

Operation.—Under local anæsthesia a skin incision was made along the left zygoma and then downwards in front of the ear, the zygoma was detached and turned downwards with the masseter, and the coronoid process was removed. Under general anæsthesia the head and neck of the mandible were exposed and removed.

After Treatment.—After operation five-eighths of an inch of movement was possible. For some months the daily insertion of a tape by the father prevented this movement being lost.

Result.—The patient was examined two and a half years after operation and no diminution in the amount of movement had taken place. The child has a better colour than previously, can eat and drink normally and her parents are well satisfied with the result. The teeth are growing in a very irregular manner.

Case II.

A girl who had had scarlet fever at the age of 2½ and measles three months later. Inability to open the mouth was noticed after the scarlet fever and since then the mandible had remained immobile and only liquid food could be taken. At the age of 12 the patient was brought to the out-patient department and one found immobility of the mandible with the upper and lower teeth in contact. The upper incisors lay anterior to the lower incisors, leaving a cleft through which fluids could be sucked.





B

Patient attempting to open the mouth for operation. The upper and lower teeth in contact. B, Some months after operation the mouth can now be freely opened.

After many weeks treatment with wooden wedges a slight movement was obtained and half an inch of movement at the left temporo-mandibular joint was obtained. The right temporo-mandibular joint remained immobile.

Operation.—The patient was anæsthetized by the [illegible] method. An incision was made in front of the left ear and after reflecting the skin the left zygoma and downwards in front of the

of virulent plague bacilli were substituted for flea infection The dose of plague bacilli injected was of the order used in testing the immunity of survivors of epizootics Employing such a dose the Commission found that from 97 to 100 per cent of Madras rats died of plague, while approximately only 20 per cent of Bombay rats succumbed Repeating the experiments with large numbers of rats, we found that plague-free towns such as Madras, Raipur, Dacca, and others, all widely scattered in India, yielded rats which gave 80 to 100 per cent mortality, while plague-stricken cities like Cawnpore, Lucknow, Poona, Bhagalpur, and others, also widely distributed over India, yielded rats highly immune to the disease On the whole the immunity of the rats caught in these latter cities was found to be in proportion to the extent to which each place had suffered from plague

We showed also that young rats from Bombay and young rats from Poona, caught at an age and at a time when they could not have been subjected to infection, were only very slightly more susceptible to plague than adult rats were from the same places Immunity to plague, therefore, appeared to be transmitted from parents to offspring The hereditary transmission of immunity was confirmed by two series of experiments in which rats bred from known stock were used

In the one series rats bred in special godowns from wild Bombay stock were compared with wild Bombay rats, of approximately the same age, captured in the city A dose of plague, administered subcutaneously killed 21 per cent of the captured rats, while the same dose proved fatal for 20 per cent of the bred rats In the second series rats bred from the survivors of experimentally produced epizootics were used Their parents had been exposed to severe infection and were therefore highly immune That the young were extraordinarily resistant to plague was proved by the fact that only one out of twenty five—that is 4 per cent—died from a dose of virus which killed 93 per cent of Madras rats.

These experiments indicated that epizootics of plague involve the death of susceptible rats and the survival of immune individuals The progeny of these survivors inherit their parents' immunity A succession of epizootics may thus lead to the establishment of a race of rats which is relatively immune to plague

In passing, I may be allowed to suggest that the evolution of an immune race of rats following on a long series of epidemics may explain the gaps in the continuity of epidemics which are known to have occurred in the history of plague in different countries I have already drawn attention to these gaps in the history of epidemics This theory appears to me to afford an explanation for the cessation of epidemics of plague in countries in which changes in the social life of the inhabitants fail to supply us with an adequate solution It also gives us some cause to hope that the present epidemic of plague in India will in time disappear There is, indeed, some evidence that this change is already taking place for, not only are the rats in the plague-stricken cities relatively immune to the disease, as I have stated, but a steady decline has occurred in the mortality from the disease in some of the great cities, such as Bombay

In the godown experiments just mentioned we were able to study the progress and issue of an outbreak of plague in a small group of rats living closely together confined in a room but in a village or town, the rat population is made up of a number of small groups of rats spaced out from one another in separate houses, and these conditions materially modify the issue The Commission was therefore fortunate to secure an opportunity for studying the progress of an epizootic among rats in a village The inhabitants of this village, guided by previous experience, evacuated their houses shortly after the outbreak of plague among the rats, and, in many cases they allowed us to place guinea-pigs in the empty houses We thus substituted guinea-pigs for men in the houses and we secured the advantage of full control over their movements When sickness and death occurred among them we were able to make careful and adequate bacteriological examinations While we succeeded in securing conditions which were more natural than those obtained in our godown experiments, we lost considerably in accuracy and precision for we were unable to control or examine the rats living in the village We used guinea-pigs to indicate the progress of the epizootic Our experience with these animals forced us to the conclusion that they constituted a more sensitive indicator of plague infection in a house than its human inhabitants

Infection was probably brought to this village by a woman coming from an infected house in Bombay city She herself did not contract infection, but infected the rats in the village by bringing infected rat fleas with her The house in which she lived was situated not far from the centre of the village, and it became the starting point of an epizootic among the rats which progressed slowly towards the periphery In the absence of the inhabitants the disease spread from one house to the next adjoining, and was evidently carried from house to house by infected rats A colony of rats in one house transmitted the disease to a neighbouring colony We can infer that in each infected colony of rats events occurred similar to those experienced in our godown experiments A certain number of the rats died of the disease, the more immune survived But all the colonies in the village were not infected, some escaped, so that, although the total number of rats in the village was reduced, many susceptible rats still remained From this mixed stock, in course of time, the rats of the village were replenished

It seems appropriate here to refer to certain experiments on the breeding of *Rattus rattus* which were carried out for the Commission in Bombay under Captain Taylor's supervision and with the assistance of Mr Avari These experiments enable us to understand the probable course of events in the village after the plague epizootic had come to an end and the villagers had returned to their homes Attempts to breed wild rats in captivity have generally been unsuccessful, and such data as were available before the Commission studied the subject referred to *Rattus norvegicus*, not to *Rattus rattus*, the species of rat mainly responsible for the communication of the disease to men

We succeeded in rearing rats of this latter species in specially constructed godowns which afford shelter for the parent rats in artificial burrows and nests which could be exposed for purposes of inspection Preliminary experiments in these godowns showed that rats would not breed when overcrowded—that is, when more than four pairs were confined in one godown When many pairs lived together in the same godown no young rats were born and the females when killed were not pregnant The most satisfactory arrangement to obtain successful breeding was to confine a single pair in each godown

Subsequent experiments were therefore made with single pairs and a large number of young rats were bred These experiments showed that one pair produced on an average, in one year, thirty six young, or a litter of six, the most frequent number, every two months In sixteen observations the average interval between any two litters was approximately fifty-three days A pair of rats bred in the godowns gave a litter when the male was four and the female five and a half months old Rats, however, look fully grown by the end of the third month and in nature may breed at this age The period of gestation was from three to four weeks More females than males were born in captivity Sometimes the young rats were eaten by their parents, but it is possible that in our experiments more young rats were destroyed in this way than actually occurs in nature

With these data we are in a position to gauge approximately the reproductive powers of rats We may calculate that a single pair can produce six rats every two months, and that these young rats in their turn are able to produce young ones in four months If a liberal allowance is made for young rats destroyed by their parents before they reach maturity, we may safely conclude that, in less than one year, a single pair can multiply to fifty pairs As a matter of fact, observations in villages show that such a rapid increase in the rat population does not actually occur It is probable that overcrowding, destruction by natural enemies and by disease, keep down the number It would be wrong also to conclude that every pair of rats is always fertile There can be no doubt, however, that rats do multiply very rapidly if they are afforded ample shelter and abundant food, so that in a village the rats destroyed by plague are replaced by breeding in the course of a few months

Rats in Indian Villages

Those who have never visited India can have little idea how numerous these pests are in Indian houses In the small village of Parel for example, where the Commission made observations, 2,195 rats were trapped in the houses during a single year This number gives an average of fifteen rats per building From one building which was

Infected fleas can then be carried over greater distances and can remain alive for a longer time till a suitable host is secured

Persistence of Rat Infection

The duration of an epizootic of plague in a town or village will depend on the size of the place Epizootics in large villages will last for a longer time than those in small villages But the season of the year when infection is introduced into a village will also affect the course of the disease When fleas are numerous the progress will be rapid, when few it will be slow A place infected late in one season, especially if the place is a large one, may continue to harbour infection during the hot weather, the disease then smoulders, but becomes active again as the weather becomes cooler and the fleas more numerous In these circumstances infection is carried over from one plague season to the next

Major Kunhardt has paid much attention to the subject of the persistence of infection in a district during the quiescent season His studies were made in the Deccan, where the active or favourable season for plague begins in July, reaches a maximum in August or September, and then slowly declines till the end of March The quiescent season lasts for the three months April, May, and June He is able to determine whether a particular epidemic in a village will terminate before the close of the quiescent season or will be prolonged through that season into the next active season by considering the population of the village and the time of the year when it became infected This is a matter of considerable importance, for he has shown that places which become infected in the succeeding epidemic derive their infection directly or indirectly from places which remained infected from one season till the next Further, he pointed out that much labour and expense might be saved and greater efficiency obtained by concentrating antiplague measures on the places in which the epizootic persists during the quiescent season It is at this season that the climatic conditions assist the abolition of the disease

For example he showed that 276 places reported plague outbreaks during the season 1913 14 in an area of more than twenty-one thousand square miles which supported a population of nearly four million persons living in six towns and 4,442 villages, 141 of these places became infected before the close of the year 1913 He concluded that they were not therefore likely to remain infected during the quiescent period of 1914 There remained 135 places which became infected in 1914 which might carry infection to the next epidemic season But, taking into consideration the population of these places and the month when they became infected, he excluded 112 of them as not likely to be of importance There remained only 23 places which required attention That is to say, he was able to state that 253 out of 273 places (91 7 per cent) which suffered from plague in that season were not likely to be the source of infection in the succeeding epidemic, so that, from the point of view of preventing the development of the next epidemic, they might be neglected Only 23 places required special attention because any one of them might be the source of infection in the new epidemic As a matter of fact, subsequent experience showed that only seven of the 23 places actually remained infected from the one epidemic to the next and, in the first three months of the new epidemic season, 32 places, which had not been infected in the previous year became infected directly or indirectly from one of the seven places which carried over infection

If it was possible to stamp out the epizootic in the limited number of places which retain infection from one epidemic to the next the number of villages infected in the new epidemic might be greatly lessened Major Kunhardt, in fact, has shown that it is possible to recognize potential sources of infection, but the problem of dealing with the epizootics in them has not yet been solved Some work has been done, but continuous study of this important problem has been interrupted

I can only mention here an experiment which was carried out by Dr Strickland in 1920 on the lines indicated by Major Kunhardt A brief account of this experiment is reported in the *Indian Medical Gazette* of January, 1923 The operations in no case reached anything like the standard which was necessary, yet the results proved that the method formulated by Kunhardt and Chitre is thoroughly effective in eradicating plague Unfortunately the experiment was discontinued, as money to carry it on was not available

The Commission studied the problems, which had attracted Greenwood's attention, in the United Provinces and in the Madras Presidency They showed, for example, that the exceptionally severe epidemics which occurred in the Muttra district in the year 1904-5 with a death rate per mille of 66 8, and in the Muzaffarnagar district in the year 1906-7 with a death rate of 56 7 per mille, were associated with an unusually high percentage of relative humidity in these districts in these years In a lesser degree the same phenomenon was observed in other districts in the same as well as in other years Plague epidemics were severe in the years in which the saturation deficiency of the winter months was low, and those years in which the saturation deficiency was high were always years of mild epidemics of plague

The district in the United Provinces most severely smitten by plague over a series of years is the Ballia district, it is one of the most humid in the province, especially during the quiescent plague season, so that fleas are more numerous on rats in June, July, and August there than in any other part of the province

Plague therefore persists in a larger number of villages in the Ballia district during the quiescent season than in any other district in the province Owing to the number of infected centres in the district at the close of the quiescent season the disease is distributed more widely and earlier in the active season, so that the epidemics are more prolonged and therefore associated with a higher mortality

But there are other factors which possibly favour the intensity of plague in this district—for example, the villages are larger and are separated from one another by shorter distances than in many other districts, so that the density of the population is great Then, again, the people of the district have for this reason to seek and find work in other parts of India and periodically return to their homes, communication with infected centres outside the district is therefore constantly maintained I have drawn attention to these factors, each favourable for the development of plague, in order to point out that any one of them by itself would be of little importance There are many districts in India where the density of the population is as great as, if not greater than, that found in Ballia, but these districts do not suffer remarkably from plague There are other districts in which the density of the population is less than in Ballia, where epidemics of plague have been more severe It is necessary, therefore, to bear in mind, when considering the liability of a particular place to become infected with plague, that a number of conditions must be fulfilled This was forcibly brought home to us in our study of the conditions in the Bundelkhand, especially in the town of Banda Here is a place where there are many rats very susceptible to plague and infested with fleas at certain seasons of the year to a degree compatible with the development of plague in other places, yet Banda had not, up to the time of our inquiry, suffered from plague This town is situated in the Bundelkhand, where, on the whole, the climate is hotter, and particularly drier, than that of the plague-smitten parts of the United Provinces The climate is of such a nature as to be unfavourable for the prolonged life of fleas when away from their hosts, although not markedly unfavourable for their activity and multiplication in the haunts of their hosts Plague has been introduced into the Bundelkhand only in exceptionally humid years, but such limited epidemics as have occurred have been severe, although not widespread

Similar conditions prevail in other parts of India—for example, in certain districts in the Madras Presidency In these districts rats are numerous in the houses of the inhabitants, they are very susceptible to plague, and the fleas on them are not so few as to make an epizootic impossible, but the climate is such as to decrease the chance of the transfer of infection to these places from infected centres, except in certain unusually humid years Districts certainly are known with climates not dissimilar from one another—the Bellary and Kurnool districts, for example—which have had a very different experience of plague This can be explained when we know that the Bellary district is adjacent to areas where plague prevails and communication between Bellary and these districts is

Dr H T BEWLEY remarked that encephalitis lethargica was first described in Vienna in 1917, without exciting much interest. He had seen one case of it, the patient had acute anæmia, complicated by double vision. The disease was apparently changing in character, and he thought it would not now be called lethargic, although some cases were of that type.

Dr R H MICKS drew attention to the correlation between the clinical symptoms and the pathological findings in cases of encephalitis lethargica. He had seen a case admitted to hospital with acute neuritis. The patient developed delusions, became Parkinsonian and drowsy, and shortly before death hiccup supervened. At the necropsy the floor of the left ventricle showed the perivascular infiltration similar to that in the specimens shown by Dr Smith ABRAHAMSON replied.

Dr A R PARSONS spoke, and Drs BOXWELL and

ASEPTIC RESECTION OF THE COLON

A MEETING of the Surgical Section of the Royal Academy of Medicine in Ireland was held in the Royal College of Physicians on May 23rd, with Mr R J STONEY in the chair.

Mr SEPTON PRINGLE read a paper on aseptic resection of the colon. He first reviewed the work which had been done on this subject, describing the methods which Halsted, Highsmith, Schoemaker, and Fraser had employed. Mr Pringle explained that his method differed only in details from those of Highsmith and Fraser. When the bowel had been mobilized and the vessels ligatured he applied a large crushing clamp with blades one inch wide to the intestine at the point above the growth selected for division. He then placed a narrow, fine forceps on the crushed portion close up to the end which was subsequently to be anastomosed. He treated the gut below the growth in a similar manner, and, on proceeding to carry out the anastomosis, the two fine clamps were approximated and the ends of the intestine united by mattress sutures, the clamps being left in position and thus controlling the bowel until the encircling line of suture was almost completed. He claimed that in this way there was less risk of infection occurring than in any of the methods previously described, and also that the internal shelf, or partial diaphragm, left in all these operations was less following his method. He had carried out the operation described in three cases of partial colectomy for cancer, and each made an excellent recovery without any sign of local or general infection.

Mr STONEY said that although Mr Pringle's conception of performing colectomy without exposing the opening of the bowel during the operation was not original, yet he had proved quite plainly that his method was superior to any previously described. Mr Pringle's method was apparently very simple, and had the advantage of requiring no special instruments. It was important to note that the intestine was divided through the crushed portion, so that there was no need to interfere with the mucous membrane. If the needle once went into the interior of the bowel the whole operation was wasted, but by Mr Pringle's method this could not occur.

Mr I CHANCE said that he had adopted this method. The application of the fine closing clamps needed to be very accurate: it must go down just to the junction of the gut with the mesentery so as to close the opening, and yet no further. It was necessary to take a very wide bite of gut on either side to cover the clamp ends.

Mr W PEARSON and Mr A K HENRY also discussed the method, and Dr MILNE HENRY described a simple form of ligature which she had devised for use in these cases.

Operation for Atrophic Dermatitis

Mr PEARSON showed a case of atrophic dermatitis following "trench feet" treated by periarterial sympathectomy. He said that this condition was a rare sequel of trench feet, and this was the second case he had seen. The trouble had started in 1915 with swelling and pain in the feet, since then there had been recurring attacks of vesication of the dorsum of the feet associated with coldness and tingling. He had performed periarterial sympathectomy over three weeks previously and so far the patient had greatly improved, but it was too early yet to know whether a cure had been effected. The patient said his feet had been quite warm since the operation, and he had not any vesication. It was a very simple operation to do. In another case the patient had had a great deal of local treatment without benefit, Mr Pearson had operated and the patient was completely cured.

Mr STONEY did not think he had ever seen a case in which there was such peculiar vesication as was present in Mr Pearson's case, although he had seen cases in which severe dermatitis had lasted for a long time and would not yield to treatment. He thought Leriche's operation would often be of great help. Mr H STOKES suggested the applicability of this operation to chronic ulcers. Mr PEARSON, in reply, said that Leriche's operation was first suggested seven years ago, and was at first advocated by Leriche, not for vascular conditions, but for reflex contractions and paralysis, in which the wounds occurred in the neighbourhood of large blood vessels and nerves. He personally did not think that the operation would cure such cases. It had been used with benefit in the treatment of callous ulcers.

Sudden Death in Cerebral Tumour

Mr A K HENRY read a preliminary note on an investigation of the mechanism of sudden death in cases of cerebral tumour. He dealt in particular with tumours of the posterior fossa giving rise to increased intracranial pressure.

It had been known, he said, for nearly a century that when intracranial pressure was increased the brain tended to herniate through all possible openings. Notable among these was the foramen magnum, and the hernia here consisted of the part of the cerebellum known as the tonsils and portions of the biventral lobes. In two of Cushing's cases the hernia, which he called the foraminal pressure cone, reached the level of the posterior arch of the atlas and compressed the medulla. The patient's life was saved in each case by resection of the arch. The fact of herniation and its results were beyond question. Mr Henry had investigated the mechanism which allowed this hernia to occur, in the hope that its comprehension might suggest means of preventing its calamitous effects. He had noted himself, and it had been noted by others, that death might occur in these cases when they sat up. The patient, feeling comfortable and well in the recumbent position, sat up in bed, and fell forward dead as if he had been shot. He drew attention to the fact that the act of rising from the recumbent posture was begun by bending the head forwards.

His conclusions were based on two simple observations and experiments.

First, if one looked in the dissecting room at the floor of the skull, after the skull cap and brain had been removed, while the cord and spinal canal were still intact, and if one moved the head and neck backwards and forwards, the cord worked like a piston in the upper part of the spinal canal. When the parts were flexed forward the cord appeared to retire down the canal, when the head and neck were bent back the cord tended to project up through the foramen magnum. What really happened was that the cord was like a stationary piston, while the canal moved and shortened over it. When, however, the cord had not been cut, and the brain was in position, the superimposed brain stem prevented the upward projection of the cord at the foramen magnum, and its progress being checked, the cervical portion of the cord became sinuous. At the same time the brain stem—which in the forward position of the head and neck was closely applied to the floor of the skull and, what was more important, to the odontoid process—moved when the parts were extended slightly back from the skull floor and the odontoid tip. If a sagittal section of the head were made in the cadaver, any pressure with the thumb in an outward direction upon the cut surface of the cerebellum, when the head was bent forwards forced the brain stem against the odontoid and the floor of the skull, when the head and neck were retroflexed it was impossible in the normal subject to force the brain stem by this means into the same close contact with the bones. When the head and neck were flexed forward the most caudal part of the cerebellum lay directly over a space shaped like a funnel. This space, which was the cisterna magna was largest when the head was bent forward and left most room for cerebellar hernia. When the head and neck were thrown back the size of the cisterna magna was diminished. The caudal part of the cerebellum was no longer poised over the opening of the foramen magnum, but lay over the atlas arch.

prophylactic inoculation against the enteric fevers the large initial dose of 500 million *B typhosus*, with 250 million each of *B paratyphosus* A and B, was given An example of much higher initial dosage was the method of inoculation against pneumonia used in South Africa by Spencer Lister, who gave a first injection containing 6,000 million each of four different pneumococcal strains Every kind of vaccine had been, and was still being, given, both on a large dose system in which a slight or moderate constitutional reaction was desired, and also in comparatively small doses, aiming at immunization without the production of any general disturbance She thought there was an increasing tendency to use small doses in treatment A similar difference of opinion existed concerning the interval between injections and the importance of the negative phase, and it was difficult to determine the comparative value of different techniques in our present ignorance of the immunizing processes of the body, and laboratory attempts at exact measurement of immunity production had unfortunately been of no more help than had vague clinical impressions Prophylaxis and cure of disease in the animal body were not always proportionately indicated by a high serum content of demonstrable antibodies, such as agglutinins The specific antibody content was probably not the only factor in immunity, much work, and perhaps changes in our conceptions, were needed before specific therapy could be properly controlled Miss Fox discussed the question of specific and non-specific therapy and the collection of material for bacteriological diagnosis She dealt briefly with active immunization against diphtheria, which had passed the experimental stage and was being practised with great success in America, also with the classification of pneumococci, aand with the beneficial results in the Rockefeller series of cases of the specific antiserum in Type 1 cases She referred to clinical possibilities of the study by Miss Mary Cowan of the rough and smooth varieties of the haemolytic streptococcus

Dr MARY COWAN said that from a single streptococcal strain she had been able to isolate a rough and a smooth type of haemolytic streptococcus, of which the smooth was virulent and the rough was not She had tried to immunize mice and rabbits, and was able to give immunity to mice by a serum produced from the rough to those infected with the smooth variety In rabbits this was only possible in a very small percentage When using a smooth strain alone she had 66 per cent of successes The serum of protected rabbits gave great variation in agglutinin content, some animals which had a very low titre lived and others with a high titre died No definite relationship was found to exist between the presence of agglutinins and of useful antibodies

Dr E LEPPER read a paper on the bacteriophage, with lantern illustrations She showed cultures demonstrating the chief characteristics of a bacteriophage—namely (1) inhibition of bacteriological growth, (2) lysis of bacilli, (3) filterability, (4) resistance to heat, (5) reproduction when incubated with a sensitive growing organism, (6) production of bacteriological variation The bacteriophage used in her experiments had been isolated from the urine of a woman suffering with bilateral pyelitis due to *B coli* It was lytic for the organisms grown from the urine of the same patient and for some other strains of *B coli* The lantern slides illustrated the marked immediate effect of a strong bacteriophage on a sensitive culture She found that a dilution of 1 in 100 bacteriophage reduced the number of colon bacilli present in an emulsion from 2 500 per drop to 10 per drop in fifteen minutes, a dilution of 1 in 10 of the same bacteriophage took one and a half minutes to produce the same result She suggested that such a bacteriophage might be introduced into the pelvis of the kidney in cases of *B coli* pyelitis when the causative organism was sensitive to its action

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AT a meeting of the Dutch Society of the History of Medicine on April 24th at Utrecht Mr C J S Thompson, curator of the Wellcome Historical Medical Museum, London, read a paper entitled The dawn of medication a chapter in the history of pharmacy from the earliest times to the seventeenth century

Reviews.

INTERNAL DERANGEMENTS OF THE KNEE-JOINT

THE subject dealt with in Mr TIMBRELL FISHER'S *Internal Derangements of the Knee-Joint*[1] is of great interest surgically, and includes a class of affections in which the lay public takes a keen interest The medical profession has been long and loudly reproached for its supposed therapeutic inefficiency as compared with the bonesetting fraternity, who are popularly supposed to be possessed of secrets which are unknown, not only to the trained surgeon, but also to the anatomist and the pathologist Mr Timbrell Fisher in his Hunterian Lectures did well to repeat the recommendation of Sir James Paget that surgeons should try to study the bonesetter's methods and to adopt such as are of value But already there is a better appreciation of the merits of orthopaedic surgery, Sir Robert Jones, in one of his valuable footnotes, in which are crystallized the experience and wisdom of an acute observer, tells us that while formerly injured football players in the North of England were generally taken to the bonesetter, "they hardly ever consult him now They say the cure does not last long," whereas the six members of an international team on whom Sir Robert Jones operated have had no trouble

We may take it that the work now under notice includes the matter of the Hunterian Lectures, with such additions as have seemed necessary Sir Arthur Keith, who contributes a foreword, rightly claims that there is only "one form of curative magic—the application of measures founded on an accurate knowledge of structure, function, and disease" But after studying all the wealth of anatomical and pathological knowledge and clinical experience which Mr Fisher lays before his readers, we are more than ever impressed by the fact that in very many cases an exact diagnosis is impossible, and that correct treatment cannot be undertaken until after the joint has been opened and the condition of affairs exposed to sight and thus exactly ascertained This is not to say that manipulation is not of great use It is, on the contrary, most valuable and is capable of curing many cases of internal derangement, when it fails, however, there should be no hesitation in proceeding to more radical methods In the hands of a surgeon sure of his aseptic technique, and thoroughly familiar with the anatomy of the parts, arthrotomy is an operation almost devoid of risk, and it is to be hoped that the public is becoming aware of this fact and will soon submit the knee to operation as readily as the vermiform appendix

By no means all derangements of the knee-joint are the result of displacement of semilunar cartilages, for symptoms of "slipping" or "locking" may arise from other causes, and it is precisely in these cases that manipulation may bring about a definitive cure, while it is highly improbable that it should cause healing of a fractured cartilage or fixation of a loose one, or have any beneficial effect on loose bodies or arthritic changes, except in the case of adhesions Rather more than half this book is devoted to a study of the pathology and surgery of the semilunar cartilages The author makes good his plea for a complete exposure and inspection of the joint in doubtful or difficult cases, and his method of displacement of the patella is certainly to be preferred to that which involves vertical section of that bone and a consequent scar on its articular surface Part II is devoted to a study of loose bodies in the knee-joint, of osteo-arthritis with symptoms of internal derangement and certain other forms of trouble On all these Mr Fisher has something to say worthy of consideration

The illustrations are clear, but we have quite failed to find Fig 7, which is referred to in the text on page 12

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[1] *Internal Derangements of the Knee Joint their Pathology and Treatment by Modern Methods* By A G Timbrell Fisher, M C, F R C S Eng, etc London H K Lewis and Co Ltd 1924 (Demy 8vo pp xii + 149 80 figures on 40 plates. 12s. 6d net.)

CLINICAL ELECTROCARDIOGRAPHY

THE handbook entitled *Clinical Electrocardiography* hardly requires any introduction to the medical profession As SIR THOMAS LEWIS says in the preface to this, the third edition,[1] it is intended to serve as an introduction to the subject and as a guide in understanding electrical curves Those who are already acquainted with the book will find few alterations in the new edition There is an additional series of electrocardiograms from a case of auricular fibrillation under treatment with quinidine sulphate, but the text in the main follows very closely the lines of the last edition

To those who are not familiar with the book it may be said that they will be surprised at the ease with which the subject, at once technical and exact, can be understood from the descriptions given of the various cardiac irregularities Without redundancy, and at the same time with minute accuracy, the methods of analysing the various curves are explained with a completeness often absent from larger and more ambitious works The book is eminently practical, and the author does not discuss the various theories or arguments upon which his conclusions are based, they are given in detail in his larger work It is thus of considerable value to anyone who wishes to be able to understand electrical curves though he may not himself have the facilities for making these records For anyone who intends using the electrocardiograph, we feel that it would be injudicious not to make himself familiar with its contents.

BLEULER'S PSYCHIATRY

DR A A. BRILL has rendered a definite service to psychiatrists in English speaking countries by providing them with a translation of *Professor* EUGEN BLEULER'S *Textbook of Psychiatry*,[2] for previously only a few monographic studies by the eminent director of the Zürich Psychiatric Clinic had been translated into English In the main the author follows Kraepelin's classification, and he does so because this is now understood in all countries, even if not everywhere accepted, while all other schematizations are usable only in certain schools He makes it clear, however, that it is impossible on principle to produce a division of the neuroses or psychoses into properly defined entities, be it according to disposition, releasing causes, mechanisms, syndromes, or outcome In a very interesting and weighty discussion of classification it is at least impressed upon us how complex are the factors which determine the form assumed by a psychosis It is as difficult to divide the psychoses and psychoneuroses into entities as it is to classify individuals into types Just as we do not meet with a pure introvert or extrovert, so it is rare to observe a pure case of manic-depressive insanity or schizophrenia (dementia praecox) There are always the mixed types which render "labels" difficult to apply and the prognosis difficult to determine, on the importance of such cases Professor Bleuler lays much stress, making the significant comment that "except in the rare extreme cases we now no longer have to ask, is it manic-depressive or schizophrenia? but *to what extent manic-depressive and to what extent schizophrenia*" It may perhaps be said that Kraepelin has failed to provide a convincing classification of his cases into clear-cut disease entities, and possibly such a classification is impossible, nevertheless, as the author says compared with the complete helplessness of previous years we have achieved (through the services of Kraepelin) a point of view from which it is possible to gain new ground steadily"

The author of this volume is best known for his studies of insanity from the psychological side, and the stress laid on this aspect of the psychoses gives his work a value and interest which is lacking in a purely descriptive psychiatry Professor Bleuler's work, and we here think of Jung as well in seeking by means of analysis, to discover a psychological foundation for the disease picture of dementia praecox, has been the stimulus for much useful investigation such, for instance, as that which aims to correlate the structure and content of the fantasies of dementia praecox with similar processes in primitive people An interpretative approach to the insane is also of value because it leads to an increased understanding of the patient's point of view, and, after all, the insane are only expressing in their own peculiar way, and in an exaggerated manner, the same desires, ambitions, hopes, and fears as animate the whole of humanity

We can cordially recommend this solid and impressive contribution to psychiatry to all those who take a serious interest in the problems of mental disorder

EPIDEMIOLOGY AND PUBLIC HEALTH IN AMERICA

IN the first volume of *Epidemiology and Public Health*[4] Dr VICTOR C VAUGHAN dealt with the respiratory infections in the second[4] he considers those diseases which may be roughly classified as nutritional disorders, alimentary infections, and percutaneous infections The chapter upon cholera infantum might almost have had as its title that of *infant mortality for it contains a great deal of information* with respect to the steps that have been taken in America with a certain measure of success, to reduce the mortality *among young children* Stress is properly laid upon the importance of breast-feeding indeed it appears to have been so greatly impressed upon the public in general that the "laws in more than one State say that every mother shall nurse her child for at least three months" We are not told the manner in which effect is given to these laws and what are, if any, the penalties for disobedience The mother must obviously fit herself for the function of nursing her child, and in most of the American towns there are said to be pre-natal clinics, so that no woman about to become a mother needs to starve or even to subsist on an insufficient diet

The manner in which milk is produced in this country is often compared to our disadvantage with that obtaining in America so that it is disquieting to learn with regard to the latter that 'with all the attention and care that has been given to milk supplies it is safe to say that although improvements in this food have been great and have led to the saving of many lives there is to-day in our large cities at least no perfectly safe milk supply" In villages and country places very little attention is given to securing clean milk indeed the milk supply of the large towns is better than that of some villages In many country places there is no dairy inspection no supervision of the milk sold and the idea that milk can possibly kill a child has never been entertained by any inhabitant Nearly one hundred pages are devoted to the consideration of typhoid fever and the account given of the incidence of the disease in the United States impresses the reader with the important part played by polluted water supplies as a causative factor A very graphic picture is painted of the decline of the disease in the large cities coincidently with the substitution for polluted water of a safe supply although it is considered that credit should be also given to the elimination of open privies accessible to flies and domestic animals to the wide extension of the uses of pasteurized milk, to the improved methods for detecting typhoid carriers and to the exclusion of such carriers from food-handling occupations The statement is made that *infected* water has killed more people than alcoholic drinks though admittedly this must be taken as a condemnation of infected water rather than as a recommendation of alcohol The author expresses the opinion that if man had been an obligate water drinker one of three things would have happened he would have been exterminated by water borne diseases or he would have acquired immunity from those diseases as have most of the lower animals or he would have continued to be a nomad moving constantly fleeing as it were from the localities which he

[1] *Clinical Electrocardiography* By Sir Thomas Lewis M.D F.R.S D.Sc F.R.C.P C.B.E. Third edition. London Shaw and Sons Ltd. 1924 (Demy 8vo pp viii + 126 101 figures. 8s 6d. net.)

[2] *Textbook of Psychiatry* By Professor Dr Eugen Bleuler Director of the Psychiatric Clinic, Zürich. Authorized English edition by A. A. Brill Ph.B. M.D Lond. London George Allen and Unwin Ltd. 1924 (Roy 8vo pp xviii + 635 51 figures. 25s. net)

[4] *Epidemiology and Public Health.* By Victor C Vaughan M.D., LL.D., assisted by Henry F Vaughan M.D. and George T Palmer M.S. In three volumes Vol II National Disasters Water-borne Infections, Percutaneous Infections London Henry Kimpton 1924 (Roy 8vo pp 917 53 figures 45s. per volume [illegible] in preparation)

contaminated with his own excretions The possibility of consumption of shell fish as a cause of typhoid fever does not appear to have been considered in the United States, at any rate not to the same extent as in this country

The standard set in the production of the first volume of this work has been well maintained in the second and places the work in the first rank of treatises dealing with public health, and though it will naturally be of more service to the American than to the British reader, the latter will add considerably to his knowledge of the subject by its perusal

THE ANTIDIABETIC FUNCTIONS OF THE PANCREAS

THE Wayne County Medical Society inaugurated in 1922 a series of lectures to commemorate William Beaumont and his famous work on gastric digestion The second series was entrusted to Professors MACLEOD and BANTING, who, in the words of the preface (contributed in the name of the committee), have with their fellow workers accomplished "one of the outstanding advances in medical therapeutics since the days of Beaumont" Professor Macleod delivered the first two lectures and Professor Banting the third, which concluded the series

The first lecture deals with the history of the study of the functions of the pancreas in its relation to digestion and metabolism of carbohydrates The more recent experimental work which led up to the final discovery by Banting and Best is fully and clearly described particularly the methods used for differentiating between the islet tissue and the acinar tissue which were perfected by R R Bensley and his school Professor Macleod gives a vivid explanation of Banting and Best's success in eliminating the autolytic enzymes of the pancreas sufficiently to preserve the antidiabetic hormone and permit of its presence being identified with certainty

In the second lecture Professor Macleod deals with the experimental results from insulin which justified the recommendation of the use of this material in the treatment of diabetes in man Everyone must admire the self-restraint which prevented the premature launching of insulin for therapeutic use The authors have given a rare example of caution and repeated painstaking trials which must serve as the pattern to be followed by anyone so fortunate as to make a discovery of comparable importance

The third lecture, that delivered by Professor Banting, consists of a short review of his own experimental researches, followed by a description of their clinical application in man This description is singularly complete, and in spite of much that has been published since by other observers it remains the best guide to the use of insulin in clinical medicine These Beaumont lectures promise to form the *locus classicus* of one of the greatest discoveries of medical science

REST IN TUBERCULOSIS

Rest and Other Things a Little Book of Plain Talks on Tuberculosis Problems,[6] by Dr ALLEN K KRAUSE, associate professor, Johns Hopkins University, is a selection from his various addresses (1918-22) sometimes altered for the occasion on a subject on which he is a recognized authority Rest he insists, is the sovereign remedy for tuberculosis, much effect unless rest was also part of the treatment Artificial pneumothorax, which involves the direct application of rest to the diseased lung has, he says, during the last decade gradually won recognition as the one effective weapon against advanced pulmonary tuberculosis discovered since Koch's recognition of the tubercle bacillus in 1882 The infection of children by sputum is held to be generally by hand to mouth out of doors, and not in the house or by means of dust or spray droplets

After considering the question whether adult tuberculosis is due to extension from childhood infection or to a second invasion, Dr Krause concludes that probably both processes occur, and discusses the means whereby early infection can be kept within due limits In describing antituberculous measures, with wise caution though with remarkable optimism Dr Krause insists that Laennec's advocacy of the unity of phthisis, Villemin's demonstration of the infectivity of tuberculosis, and Koch's discovery of the tubercle bacillus, form, with von Pirquet's test, the four great episodes in the history of tuberculosis, the last has established that the occurrence of tuberculous infection in man is almost constant As he picturesquely says "Before adolescence it is commoner than hair on the face, and after forty commoner than hair on the head, and in a great proportion of instances not so troublesome, unless he makes it so" Whether or not the infection goes on to cause disease depends on other factors, especially on what may be included under the heading of strain

In the address on an adequate tuberculosis programme stress is laid on the importance of education of the people and on the need for money to render this possible The last of these arresting addresses, that on some problems of medical education in tuberculosis, bewails the general absence of solid work and research in sanatoriums, and expresses the hope that they will become centres for investigation, and that they may also be utilized for instruction of neighbouring medical men

NOTES ON BOOKS

THE sixteenth volume of the second edition of the system of medicine, edited by Professor EMILE SERGENT and Drs L RIBADEAU DUMAS and L BABONNEIX,[7] which is devoted to infections of unknown parasitology, contains a description by various writers of seventeen diseases, of which the principal are scarlet fever, measles, small pox, typhus, influenza, rheumatism, whooping cough, rabies, foot-and mouth disease, and herpes We note that Dr Hallé, the author of the article on rubella, like most British authorities, does not believe in the existence of the fourth disease, he points out, however, that the scarlatiniform variety of rubella, may be regarded as independent disease by Dr Dukes, may be produced by the morbilliform variety and that mixed forms may also exist An interesting account is given by Professor E Marchoux of sweating sickness, with maps showing its distribution in France in 1877, 1887, and 1906 The inclusion of an article on herpes febrilis and herpes zoster by Drs P Gastinel and J Reilly is justified on the ground that both conditions are infectious diseases of which the cutaneous lesions are only one of the manifestations The article contains an account of recent work on the relations between herpes and encephalitis lethargica In the article on measles there is no mention of prodromal rashes, of which a full account was given by Dr J D Rolleston in the JOURNAL (1905, i, p 233), nor is there any mention made of alastrim or of the African and American types of small pox described by Dr J C McVail (ibid, 1919, i, p 297) in the article on variola.

The new number of the *Annals of Medical History*[8] bears on its cover the portrait of Llisha Kent Kane (1820–57), of whom Lieutenant Commander W M Kerr, of the Medical Corps of the United States Navy, contributes a biography Kane intended to be a civil engineer, but, being damaged by rheumatic endocarditis, his friends urged him to adopt medicine on the ground that he would be happier if he under stood and could manage his own case Eventually he became an assistant surgeon in the navy, and was senior medical officer in the first Grinnell expedition (1850–51) in search of Sir John Franklin, and in command of the second Grinnell expedition with the same object (1853–55) The frontispiece of the number is a portrait of Petrus de Abbono (1250–1316), whose work, *De Venenis*, is translated by Dr Horace Man chester Brown from the barbarous Latin of the edition of 1498, the article is illuminated by notes and a sketch of this mathematician, astrologer, and professor of medicine at Padua Dr Joseph W Courtney's interesting article on the multiple personality of Guy Patin represents him to have been a slavish imitator of Erasmus—a pedant, a hypocrite, but a bibliomaniac without any contemporary superior, this

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The Antidiabetic Functions of the Pancreas and the Successful Isolation of the Antidiabetic Hormone—Insulin By Professor J J R Macleod and Dr Frederick G Banting Medical Research Series No 2 Under the auspices of the War Commission of the Wayne County Medical Society Detroit Mich 1923 (Cr 8vo pp 63 4 plates 7s 6d net)

Rest and Other Things A Little Book of Plain Talks on Tuberculosis Problems By Allen K Krause M D Baltimore Williams & Wilkins Company 1923 (Cr 8vo pp 159 1 50 dollars in U S A 1 60 dollars in other countries)

[7] *Traité de pathologie médicale et de thérapeutique appliquée* Tome XVI Infections à germe inconnu Published under the direction of Emile Sergent L Ribadeau Dumas and L Babonneix Paris 1 Maloine et Fils 1923 (Demy 8vo pp viii + 473 30 figures Fr 25)

[8] *Annals of Medical History* March, 1924 Vol VI No 1 Edited by Francis R Packard M D New York Paul B Hoeber Inc London Baillière Tindall and Cox (8½ by 12¼ pp 142 illustrated Sub cription in Great Britain 42 2s for 4 numbers)

article ends in a dramatic situation occasioned by the advent of William Harvey armed with a dagger when Riolan is execrating "the Circulators' and especially their leader Dr O Larsell describes the activities of A A. Retzius (1796–1860), the anatomist, teacher, and public spirited citizen, the first of whose numerous discoveries was that of the inter renal organ in elasmobranchs which is the homologue of the adrenal cortex in higher animals Dr W R Steiner's article on the conflict of medicine with quackery begins with a consideration of the meaning of the word, and quotes the definition of quack medicine his father gave sixty four years ago as 'that mode of practising medicine which takes one idea and applies it to all kinds of diseases without reference to their origin or administers one remedy for all possible diseases '

During June and September there are few pleasanter trips to be made in Europe than to go by road *Through Central France to the Pyrenees*[9] The writer of a recent book with this title went in April but found some consolation in that the country was fresh and the roads when she took to them and the hotels, when open, were little frequented The main object of the tour was to sketch and the volume is enlivened by small landscapes, some in colours The authoress sketches better than she writes, but there are some useful hints The Paris Lyons, and Mediterranean Railway has just issued a pamphlet describing its motor car services in the Rhone Valley This contains some really inviting woodcut illustrations, including one of the Pont du Gard, described in the book noticed above, and a coloured drawing of the famous bridge at Avignon.

The elementary book on medicine by Dr A. VON DOMARUS[10] direc or of the medical department of the Augusta Victoria Hospital in Berlin intended as an introduction to the larger textbooks of medicine, contains concise descriptions of diseases and will doubtless prove useful to German students We have noted, however, several omissions, such as the absence of any reference to insulin in the treatment of diabetes to the Epstein diet in nephritis, or to the quartz lamp treatment of rickets perhaps the most surprising omission is the lack of any allusion to the Schick test and immunization by toxin antitoxin

Through Central France to the Pyrenees By Maude Speed. Illustrated with sketches by the author London Longmans Green and Co 1924 (Crown 8vo pp vii + 235. 10s. 6d. net.)

[10] *Grundriss der inneren Medizin.* By Dr A. von Domarus Berlin Julius Springer 1923. (Med. 8vo pp xiii + 640 58 figures. 3 dols.)

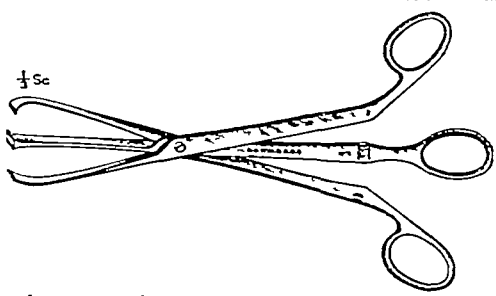
PREPARATIONS AND APPLIANCES

Elbon

ELBON Ciba brand is a synthetic compound prepared by the Society of Chemical Industry in Basel It is a combination of cinnamic acid and oxyphenylurea and its chemical name is cinnamolyl p-oxyphenylurea it acts as an antipyretic and internal disinfectant It is claimed that the drug has a very low toxicity and in particular does not lead to the production of methaemoglobin in the body The dose recommended is up to 60 grains a day Clinical reports show that the drug reduces fever and diminishes expectoration in pulmonary tuberculosis and septic bronchitis Elbon is recommended in the above mentioned diseases and also in hay fever and in such cases of chronic endocarditis as are refractory to treatment with salicylates

A New Three bladed Peritoneum Forceps

Mr THOMAS B MOFFAT F.R.C.S Sheffield writes The instrument illustrated has been made for me by Messrs Down Bros Ltd It will be found useful in grasping and bringing two raised peritoneal folds into position for suture in an anastomosis in sinking



a bowel stump or in invaginating a gastrostomy or caecostomy tube It is a modification of Pannett's three-bladed peritoneum forceps which have crushing blades which restrict their use to the parietal peritoneum. The multiple toothed non-crushing grip of Stiles's peritoneum forceps has been substituted for the crushing blade of Pannett's instrument.

The British Medical Association

ITS CONSTITUTION AND GOVERNMENT.

AN HISTORICAL SURVEY

BY

JOHN C McVAIL, M.D., LL.D., F.R.F.P.S

I.—EARLY DAYS

TIME flies Of the twenty six members of the Committee who drafted the constitution of the British Medical Association in 1900-1 more than half are dead, and the Representative Body, the outstanding result of the Committee's labours, reaches its twenty-first birthday at the Bradford Meeting of the Association in the present year, 1924 In these circumstances it has been thought desirable now to put on record the story of the Committee's work Having been one of its members, I am asked to undertake the duty, and in the leisure of retirement I comply with the request But, going through the various documents—minutes, proceedings, reports, old volumes of the BRITISH MEDICAL JOURNAL, and so forth—relating to what was done in 1900-1, I have found myself under the necessity of searching further and further back in the annals of the Association, so as to learn how a particular problem had come to the front at a particular time, and thus I have had to retrace the movement to the very beginning A retrospective sketch is therefore unavoidable, but it must be confined within narrow limits It is not a history of the Association that is proposed, but only a record of the development of its system of government Many of the details which follow will be found very dry reading—they certainly have proved very dry writing—and can safely be skipped by anyone who is not specially interested, but they may be of use when occasion arises to reconsider the scheme of government, as seems likely, from experience, to occur every few years

The Provincial Medical Association, founded at Worcester in 1832, had for one of its objects the "maintenance of the honour and respectability of the profession generally in the provinces by promoting friendly intercourse and free communication of its members, and by establishing among them the harmony and good feeling which ought ever to characterize a liberal profession" At its head there were to be a President and a Council, both to be appointed annually The members of Council were to be selected from the principal provincial towns, and their specified duties were to consider papers submitted and to receive subscriptions of a guinea yearly The Association's original membership of 50 had increased to 316 at its first Annual Meeting in Bristol in 1833, and the Council, all of whose names are given in the report of the meeting then numbered no fewer than 70 This was the original governing body

In the following year there was the foreshadowing of the formation of Branches when the Council recommended that—

> in towns where many members of the Association reside, occasional meetings of such members should take place for the promotion of the general objects of the Association—namely the free communication of professional knowledge and the cultivation of good feeling among the members

What may be regarded as the first Branch was formed in 1836-37, and consisted of the Eastern Provincial Medical and Surgical Association, which had come into separate existence in 1835 and was now amalgamated with the Provincial Association In 1837 three Branches were formed —at Wells, Bath, and Southampton—and at the Annual Meeting in Cheltenham that year regulations for Branches were passed They were to be established wherever it seemed proper, and the General Council was to provide "suitable instructions" for their guidance Every Branch was to govern itself, but by-laws were to be submitted to the General Council for approval An important regulation was—

> That all members appointed to offices by the District Branches be forthwith enrolled as members of the General Council.

Thus from the beginning representative government was broadly recognized by the Association in respect of both

Council and Branches As the story proceeds it will be seen how this ideal of representative government has been continually before the Association, how it was thought to have been achieved over and over again, but how within a few years dissatisfaction arose, and what had been arranged by one set of members was regarded by their successors as unrepresentative or insufficiently representative

As regards cost of management, the expenses of the District secretaries (no doubt including Branch secretaries) were to be defrayed from the general fund, but were not to exceed one-seventh of the guinea subscription, unless specially allowed by the Council, the maximum allowance being one-fourth of the guinea This principle of Branch outlays being paid centrally was at a later date departed from, and a separate subscription was for a number of years charged to members by the Branch itself As we shall see, Branch membership at the same time was optional, and before the original practice of paying all outlays from the central fund was reverted to, a third or more of the total members of the Association were not connected with any Branch The Branches increased in numbers steadily, and when the Association attained its jubilee in 1882 the total was 35, the membership of the Association being 9,563

An Early British Medical Association

A note of some interest may be interpolated in passing The Provincial Medical and Surgical Association, formed in 1832, changed its name into the British Medical Association in 1856 But it was not the first body to bear that title * In its early days several medical associations came into being, and are mentioned in contemporary literature The Eastern Provincial Medical and Surgical Association, formed in 1835, was not in rivalry with, but in imitation of, the Worcester creation There was also, by 1840, a North of England Medical Association, with its headquarters at Newcastle, and in 1841 mention is made of the "Eastern Medical Association of Scotland," which had been instituted some years before One such body was centred in London, and its name was the British Medical Association Its president was Dr Webster of Dulwich At its annual meeting at Exeter Hall in 1840, Dr Webster said that "they were assembled in the very spot where, four years ago, this Association received its final impress" As reported in the *Lancet* in 1845, at a meeting of the Association in Exeter Hall in January of that year, a body named the Association of General Practitioners in Medicine, Surgery, and Midwifery had written to the British Medical Association about amalgamation of the different district metropolitan associations, and had asked for a meeting Dr Webster had sent a friendly reply, but pointing out that the British Medical Association contained many consultants not admissible to a general practitioners' association The British Medical Association's annual meeting and that of its Council are reported in the *Lancet* How long it continued in existence I do not know, but its demise must have occurred within the next decade, seeing that the Provincial Association adopted the name in 1856

The Council in 1854-56

In 1854 at Manchester two resolutions were adopted regarding the Council Its headquarters had always been at Worcester, where the Association had been formed and where its President lived, but the publication of the JOURNAL had been transferred to London In that connexion it was decided—

That the members of the General Council resident in and within twenty miles of Worcester be requested to act as an Executive Council and to continue their services as hitherto in furtherance of the business of the Association to which Executive Council the Editor of the JOURNAL and the Secretary of the Association shall be responsible

It will be observed that a distinction had by this time been made between the General Council and its Executive, and this resolution regularized the position, which had previously depended on usage

Though the principle of representative government was already recognized, it cannot have been sufficiently acted on to please the members, as a further resolution was passed

"That in the opinion of this meeting, the representative principle ought to be fully adopted in the constitution of the governing Council, and that a Committee be appointed to examine, revise, alter and amend the laws of the Association especially those relating to the members of the Council and the constitution of the Branches"

The Committee was also instructed to ascertain the opinion of each member of the Association on the whole of the changes recommended, and to report at least four weeks before the next Annual Meeting The report desired is contained in the JOURNAL of May 25th, 1855, the membership of the Association being 2,094 This was a critical time Feeling ran high on various questions, including a proposal that the name be changed to "British Medical Association" That was defeated by 50 votes to 31 The whole of a two days' Annual Meeting at York in August, 1855, was occupied with discussions on finance and on the Committee's report Sir Charles Hastings was re elected, this time for life, as President of the Council and Treasurer of the Association It was resolved that the Council should consist of the officers of the Association and of members elected by the Branches, according to their size, those with less than thirty members having only their president on the Council, but if the membership were thirty or more the acting honorary secretary would also be on the Council, and for every twenty members beyond thirty there would be an extra councillor Another proposal was that the Annual Meeting might elect an additional member of Council for every twenty members not included in any Branch (At that time various parts of the country would not be within Branch areas) The General Council thus constituted was to appoint an Executive Council, to consist of two central officers, ten members of Council chosen by that body, and one secretary from each Branch This Executive Council in its turn could delegate its powers to any five members

But the retention of the old name of the Association and incomplete adoption of the representative principle caused much resentment, so that a secession was threatened Though the new Executive appointed as above hastened to issue a conciliatory address, several Branches sent in requisitions for a special general meeting to reconsider the laws This was granted, and the Executive issued voting papers as to the change of name The special meeting took place at Birmingham in November of the same year—1855 Sir Charles Hastings stated that a large majority of the voting papers were for the new name, "British Medical Association," and that this vote would be accepted frankly He went on to propose a resolution, of which the essential parts were two (1) the change of name at the next Annual Meeting, (11) the principle of absolute representation in electing the Council, "so that each member of the general body may have, by his representative, a voice in the management of its affairs" This resolution, and others of less importance, were carried unanimously, all threats of resignation were withdrawn, and peace was restored

In accordance generally with the recommendations of the above special meeting, the next Annual Meeting, which was held at Birmingham in August, 1856, unanimously adopted a code of laws which may be condensed as follows

(1) Name, British Medical Association

(2) Council excepting as to *ex officio* members to be elected solely by the Branches one for every twenty members besides the honorary secretary of each Branch

(3) Every candidate for membership of the Association to be recommended by three members

(4) The Executive Council to be called the Committee of Council and to have no power to delegate its functions to five members

It will be observed that this scheme did not include representatives of Association members who were not also Branch members, as had been contemplated at the meeting at York in the previous year, but even without this feature the Council as constituted in 1856 continued without change for a dozen years

1868-1873

It seems not to have been until the Annual Meeting at Oxford in 1868 that the question of government was again debated The proposal of 1856 had been that the Annual Meeting might elect an additional member of Council for

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Mr Muirhead Little has also ransacked in medical periodicals of the time of this former British Medical Association and has very kindly given me the benefit of notes which he had made

every twenty members not in any Branch In its new form at Oxford the scheme was that the Committee of Council be empowered to recommend to the Annual Meeting such representation of non-Branch members, but that the Committee should not undertake this duty where the outside members themselves made nominations in the same proportion The proposal was adopted and remitted to the Committee for execution At this time a Council of one in twenty would have had 181 members, besides the Branch secretaries Of course, however, no railway fares were paid till long afterwards In the following year (1869) at Leeds a resolution to increase the elected members of Committee of Council from ten to twenty was rejected In 1871 72 at Plymouth the President-elect and the Vice-Presidents were added to the Council, whilst a proposal to omit the secretaries of Branches from the Committee of Council and to increase the elected members from ten to twenty-five was rejected, as was also, in 1872 at Birmingham, a proposal to pay travelling expenses of members of the Committee of Council and of subcommittees In 1873 the Annual Meeting was held in London, and several alterations were made in the laws—alterations, some of which partly undid the work of 1855-56 The readers of addresses and presidents of sections were added to the Council The number of elected members of the Committee of Council was increased from ten to twenty, and any two members of the Association might also nominate candidates The Committee was requested to prepare a complete code of laws and by laws, based on the existing laws, and to report Accordingly a subcommittee was appointed for the purpose

INCORPORATION, 1874

The Council announced at the London Meeting in 1873 that the Public Companies Act having been so altered as to enable scientific associations to obtain benefits practically equivalent to those of a charter, but at a much less cost, preliminary steps had been taken for that purpose, and in view of incorporation under the Act revision of the laws was recommended The incorporation was carried out in 1874, when the Annual Meeting was held at Norwich, and a Memorandum and Articles of Association were adopted The preparation of by-laws was remitted to the subcommittee already appointed The appointment of Treasurer became triennial instead of permanent, and he became *ex officio* a Vice-President

The Memorandum and Articles (BRITISH MEDICAL JOURNAL 1874, vol ii, p 120) prepared by the subcommittee so as to comply with the Companies Act, were adopted on August 13th at Norwich (p 249) The members of Council were to be directors, and the liability of a member of the Association was limited to a guinea if the company had to be wound up at any time The Committee of Council might call an extraordinary general meeting when it saw occasion, and was bound to do so on receiving a requisition by not less than fifty members The quorum of an extraordinary meeting was to be fifty, and that of an ordinary general meeting twenty-five The business of the Association was to be managed by the Council and the Committee of Council The quorum of the Council was to be twenty-one and of the Committee of Council seven The General Meeting under the Act was to determine "the constitution, powers and modes of procedure of the Council and Committee of Council" (Article 25) The Branches, it was enacted, "shall be so constituted and shall have such powers and privileges, and be subject to such obligations as shall be determined from time to time by the Association in general meeting" (Article 27) The Editor and Secretary were to "receive such emoluments as shall be determined from time to time by the Association in general meeting" Voting by proxy was to be allowed, the proxy being a member of the Association

Thus the Association, with a membership of 6 000, constantly increasing, was to be under the absolute control of the General Meeting held sometimes in one part of the country and sometimes in another, and with a quorum of only twenty five In theory there was of course always the possibility of a heavy proxy vote by members who could not attend personally, but there was no real likelihood of that ever becoming the method of government

The Articles, being approved by the Council, and adopted by the Association, came duly into operation. Anyone who wishes to refer to them will find the articles and also the by-laws, in the BRITISH MEDICAL JOURNAL (1874, vol ii, p 121) They were adopted without change at the Edinburgh meeting in 1875 The main provisions of the by-laws were the following

The Council was to consist of the President, the Vice-Presidents, the President of the Council, the Treasurer, the readers of addresses and presidents of sections at the Annual General Meetings of the Association for the current and last preceding year, together with such other members of the Association as were to be elected annually by the Branches The Council was to meet at the Annual Meetings of the Association and oftener if required As already noted twenty-five members were to be a quorum, but for an extraordinary general meeting the quorum was to be fifty Each Branch was to elect a representative on the Council for every twenty members of the Branch together with one member to be called the honorary secretary These were jointly to represent the Branch on the Council

The Council was to elect annually, by voting papers, twenty members of its own body as members of the Committee of Council The Committee of Council, besides these twenty elected members, was to include the same *ex-officio* members of the Council excepting the readers of addresses and presidents of sections It was to meet not fewer than four times a year and seven members were to be a quorum The five members who had attended the fewest meetings were to retire annually and be ineligible for re-election for the ensuing year The Committee was to manage the general business of the Association excepting as otherwise provided by articles and by laws

Any twenty members or more might form themselves into a Branch subject to recognition by the Committee of Council Each Branch was to pay its own expenses and to be free to govern itself, within the fundamental laws of the Association

By-laws could be altered only at an Annual Meeting and subject to two months' notice

DEVELOPMENT OF REPRESENTATIVE GOVERNMENT

Important events in 1882-84 require next to be noted in the history of the government of the Association The subject came before the Annual Meeting held at Worcester in August, 1882 and once more the question was representative government It was resolved

That the Committee of Council be requested to consider in what way direct representation of Branches can best be secured.

The Committee of Council met quarterly, and was in practice the real governing body of the Association, except for the influence of the Annual Meeting Under a by-law (25) the honorary secretary of every Branch was a member of the Committee of Council, and a Branch could if it chose appoint more than one such secretary, whilst one of these could have prescribed to him the sole duty of representing the Branch on the Committee of Council

A special subcommittee in carrying out its remit issued a letter of inquiry to all Branches, asking whether they were satisfied with the existing system, whether the Branch paid the travelling expenses of its representative, and whether payment or non-payment made any difference in attendance at meetings Dr Nelson Hardy however, wrote to the JOURNAL protesting that an additional question should have been asked—whether, whatever might be decided as to appointment of representatives their votes ought to be under risk of swamping by *ex-officio* vice-presidents, whom he described as "a large body of wholly irresponsible members"

In the following year (May 17th 1883) a special meeting of the whole Council was held at Birmingham to consider the report of the subcommittee The report was in two parts of which the first contained four recommendations, namely

1 That there be one representative for every branch.
2. That such representatives be elected directly by the Branches
3 That they be elected annually
4 That the larger Branches should have the right to elect out of their members additional representatives on the following scale—namely that in Branches numbering more than 200 members, there shall be one additional representative for every 200 members.

These recommendations were adopted by the meeting of Council

The second part of the subcommittee's report contained recommendations which were considered separately, and the Council resolved as follows

(*a*) That a record of attendances be kept and published annually

(*b*) Looking to the first part of the report having already been adopted the Council and therefore the Committee of Council shall cease to exist and shall be replaced by the new governing or executive body

(*c*) The travelling expenses of the elected representatives shall be paid by the parent Association

(*d*) The President of the Association, the President of the Council, the President-elect, the Treasurer and the Vice Presidents shall be members of the executive body

(*e*) No member shall represent a Branch in the Executive unless he be a resident member in the Branch

These recommendations came before the Annual Meeting at Liverpool in 1883 By this time the membership of the Association was 10,050 The proposal about *ex-officio* membership of Vice-Presidents in the central body was modified as follows

'Each retiring President shall be eligible for re-election by the Association in annual meeting assembled as a Vice President for three years, provided that he continue a member of the Association'

The recommendation of payment of travelling expenses was rejected by a large majority

A lengthy by-law was adopted detailing the method of election and the powers and duties of the Council, which, it was decreed, "shall manage the general affairs and business of the Association, except as otherwise provided by the articles or by-laws"

Forecast of Divisions

A point of interest may be noted here with regard to the number and membership of the Branches Some parts of the country were still without any local Branches, whilst existing Branches did not need to have any definite area The total home Branches in 1883 numbered thirty-two The Council reported to the Liverpool meeting that

the long distances and the fatiguing journey from the principal centres of the Southern Branch and the consequent loss of time caused the Dorset and West Hants District of the Southern Branch to apply to the Committee of Council for recognition as a distinct Branch which after some consideration was given

A by-law as to Branches was adopted, after discussion The minimum number of members was to be twenty, amendments proposing a larger minimum being rejected on the ground that the formation of a Branch was subject to its recognition by the Council It would thus appear that if applications for the dividing up of existing Branches had been made throughout the country, and if the Council had granted the applications, the object which was subsequently achieved by the creation of Divisions sufficiently small to facilitate attendance by all who wished to attend could have been accomplished any time after 1883 Each Branch, however small, would have had a representative on the Council But such a system could not have worked A 10,000 membership of the Association, divided into twenties, would have meant a Council of 500 members, who would be called to attend quarterly meetings in London, and whose travelling expenses, as decided at Liverpool, would not have been paid

To make the above resolutions binding a *pro forma* Extraordinary General Meeting was held at Liverpool after the ordinary General Meeting, and a final meeting on August 17th at Exeter Hall

At the Annual Meeting of 1884 at Belfast, Mr C G Wheelhouse President of the Council, in moving the adoption of the Council's report, said

The Council had also during the year drafted a new constitution for the Association For fifty years it had been carried on by men who had solely the good of the profession at heart and it had increased in numbers till it now numbered nearly 12 000 members It believed he might say for the old Committee of Council that it had done its work well and that having seen the Association through periods of trouble and poverty it had left it landed upon a platform of success in all directions They were now entering upon a new constitution Instead of having a proportion of members of Committee of Council elected by the Annual Meeting they were electing a larger number of Branch representatives and the Branch representatives would henceforth take the government of the Association more largely into their own hands He sincerely hoped that the work of these representatives would be as hearty and thorough as that of their predecessors had been During the years of office of the old Council the Branches of the Association had spread in all directions, and it had now become a powerful body not only at home but in distant regions of the globe

At this time evidently the members who had grown up under the old system had the same kind of doubts about Branch representation as at a later time was felt about Divisional representation On both occasions the fears turned out to be causeless, though natural

From 1884 to 1896 I have not noted anything requiring to be recorded here

(To be continued)

THE EMPIRE AND HEALTH

In his inaugural speech at the opening of Wembley Exhibition the King spoke of health as one of the most vital imperial interests, and in many buildings throughout the Exhibition there are records of great achievements which were only rendered possible by the preliminary conquest of some disease West Africa, for example, is no longer the white man's grave, Malaya, Hong-Kong, and other dependencies have been similarly transformed Health measures have already laid the foundation of successful commerce and colonization in many places, but the problem of protecting native races from disease has to be solved before their existence can cease to be a world danger and become a world asset

Imperial Health in Retrospect

It is, therefore, not surprising that one of the twelve volumes making up a survey of the British Empire, which have been published in connexion with the Exhibition, is devoted to health considerations The book is entitled *Health Problems of the Empire Past, Present, and Future*,[1] and is written by Dr Andrew Balfour, C B, Director of the London School of Hygiene and Tropical Medicine, and Dr H H Scott of the same school They have succeeded in producing a very good bird's-eye view of public health history in its relation to the British Empire, which should achieve the object of evoking interest and stimulating inquiry, for it is something more than a mere collection of facts and figures The gradual evolution of a health conscience is traced first in Great Britain from the days of Richard Mead, pleading for cleanliness, and John Howard, preaching sanitation in prisons and cottages, both at the beginning of the eighteenth century, to Jenner in 1798, to Edwin Chadwick and the first Public Health Act of 1848, and to the advances that have since been made The growth of measures for safeguarding the health of seamen in the navy and mercantile marine from the days of Smollett's *Roderick Random*, and James Lind, physician at Haslar in the middle of the eighteenth century, has an interest of its own, and there are few instances of the British Navy having failed in its objective owing to the crippling effects of sickness Such calamities have been more frequent in the history of the army, and the ill fated Walcheren expedition in 1809 was only one of many disasters The need, however, produced the man required, and Dr (afterwards Sir James) McGrigor, first Director-General of the Army Medical Department, started the great work of improvement that has continued to the present

The history of health triumphs in the overseas possessions is illustrated in the spacious Tropical Health exhibit, which was described in our columns of April 12th (p 675) Certain communicable diseases constitute a serious drain on the resources of the Empire Ten of these diseases, which are widespread through many parts of the Empire (ankylostomiasis, cholera, dysentery, enteric fever, influenza, malaria, plague, chicken-pox, tuberculosis, and venereal diseases), are described by Drs Balfour and Scott each disease and the factors concerned in it are briefly considered, evidence is given of the damage inflicted on the Empire, and the measures of prevention and control are reviewed The importance of maternity and child welfare work is now acknowledged both at home and overseas, yet there are still some sad contrasts The present average infantile death rate in England is about 60, as compared

[1] *Health Problems of the Empire* By Andrew Balfour, C B, C M G, M D, B Sc, D P H, F R C P E, and Henry Harold Scott, M D, M R C I Eng, D P H, D T M Camb, F R S E London W Collins, Sons and Co Ltd 1924 (Med 8vo pp xxi + 413 9 plates 16s net)

with fifty years ago when 160 was nearer the mark Yet corresponding records from Poona (876), Bombay (667), Calcutta (330), and elsewhere in India indicate the immense amount of work still required in certain parts of the Empire

Alcoholism is another imperial burden treated cautiously by the authors, who recognize that "it is not only those who drink unadvisedly who speak unadvisedly with their lips" In regard to its disastrous effects on native races, however, there can be very little difference of opinion, and the importance of further active measures, both in this respect and in the matter of drug addiction, is undeniable

The financial aspect of public health is one that has constantly to be borne in mind. In the remoter past fear was the chief instigator of sanitary reform, and the adoption of health measures only followed epidemics, the idea of prevention has slowly grown, and now even more slowly grows the realization of the financial value of prevention of disease The exhibits of the Ministry of Health, described in our columns of April 19th (p 726), illustrate by photographs and models the amazing value of such waste products as house refuse if suitably treated So it may well be that as knowledge advances it will be possible to make sanitary measures productive not only of national health but also even directly of national wealth

Imperial Health in Prospect

The first international congress of the People's League of Health was held at Wembley and was more especially concerned with looking into the future and indicating lines of advance The provision of better housing facilities the need of more playing fields, and the relation of food and disease, were the subjects of discussion on the first day The conference on the second morning dealt with the value of air, sunlight, and water as health promoting agents Dr Rollier of Leysin, in discussing heliotherapy, laid stress on its special value in tuberculosis Professor Leonard Hill and Dr R Fortescue Fox urged, respectively, the health value of the open air and British spas, and foretold the growth of a healthier nation when these three agents—sunlight, air, and water—were employed more fully in the prevention and cure of disease The Section of Tropical Diseases heard papers by Sir Leonard Rogers on the great advance recently made in the treatment of leprosy, by Dr G Low, on filariasis, and by Dr Manson-Bahr on the newer methods of treatment including the rapid advance made since the adoption of antimony arsenic bismuth, emetine, and the synthetic preparation known as Bayer 205 Dr Andrew Balfour dealt with the relation of vermin to disease, especially rats and insects—a subject treated most graphically in a cartoon in the Tropical Diseases Section, which represents plague approaching a city Another section dealt with industrial diseases and hygiene, and in this, as also in that of mental diseases considered later, the need for legislation was emphasized—a subject brought into fuller detail at the final session of the conference

Great as have been the conquests over disease in the past it would appear that still more important victories are foreshadowed in the near future, both at home and abroad The Wembley Exhibition is performing a great service to the community as a whole by its emphasis on health, not only from a private individual point of view but from that also of the whole Empire, which depends for its very existence on the preservation of health

The volume by Drs Balfour and Scott will have a permanent interest as a brief record of the past and a statement of the administrative methods now being taken for the prevention of disease throughout the Empire It contains some excellent illustrations, many of them reproductions of little known cartoons The first of these dated 1809, is of the Walcheren expedition, one of the last is from the *Indian Medical Gazette* of June, 1923 showing the risk medical research in India runs of being wrecked by the policy of the Inchcape Commission, which has already stopped some of the most important of the researches which were being made for the benefit of the inhabitants of India Another is a clever sketch by P Vegin, made at the suggestion of Professor E Pavlovsky of Petrograd, showing death in the form of plague, drawn on a car by rats and attended by fleas, on its way to a doomed city

THE LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

As was announced in our issue of April 12th (p 677), the charter of the London School of Hygiene and Tropical Medicine received the Royal approval on April 1st Its affairs are to be administered by a Court of Governors and a Board of Management The Court is constituted as follows (the Minister or body by whom the individual governors are appointed is shown in parentheses)

Sir Harry Goschen K.B.E.
Sir George Newman, K.C.B M.D F.R.C.P and
Sir W Arthur Robinson, K.C.B C.B.E.
(Appointed by the Minister of Health.)
Professor H. R Kenwood C.M.G M.B C.M.
Professor Sir W J R. Simpson C.M.G., M.D F.R.C.P., and
H J Waring M.S F.R.C.S
(Appointed by the Senate of the University of London.)
Captain Sir Arthur Clarke K.B.E. and
Sir Ian Hamilton Benn, Bt. C.B D.S.O
(Appointed by the Seamen's Hospital Society)
Sir Gilbert Barling Bt C.B M.B F.R.C.S,
Sir E. Coey Bigger M.D
W L. H. Duckworth M.D
J B Leathes M.B B.Ch F.R.C.P., F.R.C.S
John C McVail M.D LL.D F.R.F.P.S and
Sir Humphry Rolleston, Bt. K.C.B., M.D F.R.C.P
(Appointed by the General Medical Council.)
Sir Malcolm Delevingne K.C.B
(By the Secretary of State for the Home Department)
Sir Herbert Read K.C.M.G C.B
(By the Secretary of State for the Colonies)
Colonel H P W Barrow C.M.G M.R.C.S L.R.C.P
(By the Secretary of State for War)
Major General Sir P Havelock Charles G.C.V.O K.C.S.I. M.D
(By the Secretary of State for India.)
Air Commodore D Munro C.B M.B F.R.C.S
(By the Secretary of State for Air)
Surgeon Vice-Admiral Joseph Chambers C.B C.M.G M.B
(By the Board of Admiralty)
W R Buchanan Riddell M.A.
(By the President of the Board of Education.)
Sir A. Daniel Hall, K.C.B LL.D F.R.S
(By the Minister of Agriculture and Fisheries.)
Sir W Leslie Mackenzie M.D., F.R.C.P.E.
(By the Secretary for Scotland.)
Sir Frederick Andrewes M.D F.R.C.P F.R.S
(By the Medical Research Council.)
Sir Walter M. Fletcher K.B.E. M.D Sc.D LL.D F.R.S
(By the Royal Society)
Sir George S Buchanan C.B M.D., B.S B.Sc
(By the Health Committee of the League of Nations.)
W Ray Esq J.P
(By the London County Council.)
Walter Eichholz, Esq J.P
(By the Metropolitan Asylums Board.)
Sir William Hodgson L.R.C.P.I L.L.F.P.S
(By the County Councils Association.)
Alderman Francis Askew J.P
(By the Municipal Corporations Association.)
Major General Sir David Bruce K.C.B M.B C.M. F.R.S.
(By the Lister Institute.)
Sir Henry Tanner C.B I.S.O F.R.I.B.A.
(By the Royal Sanitary Institute.)
Sir William R Smith M.D D.Sc LL.D F.R.S.E.
(By the Royal Institute of Public Health.)
R A. Bolam O.B.E. M.D LL.D., F.R.C.P
(By the British Medical Association.)

The first meeting of the Court was held at the Ministry of Health on May 29th Of the thirty-five members of which the Court consists thirty-two were present on this occasion Mr H J Waring was elected chairman of the Court and Sir Humphry Rolleston, Bt, Colonel H. P W Barrow, Director of Hygiene, A.M.S, and Dr John Robertson M.O.H Birmingham, were appointed members of the Board of Management The Board is now complete, and is constituted as follows

Appointed by the Minister of Health
The Rt Hon Sir Alfred Mond B
Sir George Newman K.C.B M.D
Sir Walter M Fletcher F.R.S (nominated by the Royal Society)
Appointed by the Senate of the University of London
Sir E. Cooper Perry M.D F.R.C.P
H J Waring M.S F.R.C.S
Appointed by the Seamen's Hospital Society
Captain Sir Arthur Clarke K.B.E.
Appointed by the Court of Governors
Sir Humphry Rolleston B K.C.B M.D., F.R.C.P
Colonel H. P W Barrow C.M.G., D.S.O
Dr John Robertson C.M.G O.B.E.

British Medical Journal.

SATURDAY, JUNE 7TH, 1924

SIMPLE GOITRE

CONFIDENCE in the apparent trustworthiness of axioms has been somewhat shaken by recent astronomical theories, and the statement that parallel roads will never meet does not command the same unqualified assent which formerly it received The expectation that travellers along divergent roads may eventually meet seems, to the unsophisticated, an even more unlikely prospect, yet the history of research work on goitre makes us beware of the transparent geometric doctrines The hypothesis that simple goitre was due to deficient iodine seemed to be leading inevitably to the conclusion that this pathological condition had a place amongst the diseases due to defects in diet The evidence in favour of an infectious germ seemed with equal certainty to lead to the inclusion of goitre amongst diseases due to harmful microbes The irreconcilables have met the divergence was apparent and not real

In the attempt to penetrate further into the etiology of goitre research workers have fastened on promising clues and followed these up, consolidating fresh ground inch by inch The influence of lack of iodine has been studied perseveringly, and much new knowledge has been brought to light The part played by bacteria, though not yet completely understood, has also led to a clearer comprehension of this disease In the British Medical Association Lecture we publish this week Lieut Colonel Robert McCarrison, a pioneer in goitre research, reviews the progress which has been made, and sums up the position as it exists to day

The hyperplasia of simple goitre may be looked upon as an attempt on the part of the thyroid gland to produce sufficient of the active principle, thyroxin, for the needs of the body For the production of sufficient thyroxin a constant and easily assimilable supply of iodine must be available, not in excess and not below a certain threshold, for both deficiency and excess dislocate the normal working of the gland Deficiency of iodine in the diet necessitates the exhaustion of the reserves stored in the thyroid, it results in hyperaemia of the gland and a race to keep abreast of the demands of the tissues Excess of iodine in the diet leads to an accumulation of colloid in the vesicles of the gland, an overloading with iodine containing colloid

These facts concerning the proper iodine proportions help to explain why gross dietetic errors are sometimes followed by goitre The enlargement of the thyroid gland attendant on an excess protein diet may not owe its origin to perverted protein metabolism, but simply to a deficiency of iodine in such a diet It appears that iodine is essential for the proper utilization of fatty acids and fats in pigeons and dogs intense hyperplasia of the thyroid follows a diet excessively rich in butter, a morbid process easily preventible by increasing the amount of iodine in proportion to the excess of fat Colonel McCarrison speaks of a "fat thyroid iodine balance," another instance of the fact that the tissues demand not only sufficient of the essential constituents of food, but also that these shall be represented in reasonable proportions one to the other, and be nicely balanced one against the other An analogy may be found in the necessity of a well balanced diet for the proper action of vitamins, to which we drew attention in commenting on Professor Mellanby's work on rickets (May 24th, p 921) Again, a diet too rich in lime salts leads to distension of the thyroid vesicles with viscous colloid, to be counteracted by adequate iodine, which serves to keep the colloid secretion normal in consistence Ample iodine in the diet also antagonizes the injurious consequences of an unhygienic mode of life

The following up of the iodine clue has carried the investigation of the etiology of goitre a long way along the road, but not to the end of the journey Iodine deficiency appears from experimental studies to be an immediate cause of goitre, and it may play a similar part in natural disease But it is not necessarily the ultimate cause Goitre sometimes develops when no error in iodine supply can be traced in the diet In such cases we may suppose that some agency is at work leading to inadequate assimilation or irregular utilization of the iodine liberally supplied Having reached the fields of speculation it may be well to approach the problem from a different angle and follow up another promising clue

Colonel McCarrison's researches have thrown suspicion on intestinal bacteria as agents in the causation of goitre He had already thrown much light on this aspect of the matter by observations made in certain Gilgit villages in the Himalayas, and had come to the conclusion that the chief causal agent of goitre in these villages was an organism or organisms present in the gastro intestinal tract, and introduced into it by way of polluted water or foods The evidence in this particular instance certainly pointed strongly to water, the story he tells of the Laurence Military Asylum, Sanawar, in India, is strongly confirmatory It can be read at length on page 993 of this issue But, briefly, it comes to this, that the substitution of a pure for an impure water supply has been followed by almost total disappearance of goitre from the asylum It was shown further that the new water contained no iodine Colonel McCarrison has, we think, the right to claim that this experience affords final proof of the influence of bacterial agents in the intestinal tract in causing goitre

In the past the attention of pathologists has been focused almost exclusively on individual pathogenic microbes—that is to say, well defined types of bacteria which can be isolated in pure cultures and which, when inoculated into susceptible animals, will produce a clearly recognizable form of disease The general influence of the multitude of so called non pathogenic germs which thrive within the alimentary tract is a subject which has been rather neglected In countless numbers these microbes prosper within the huge intestine, eating up available food and liberating their own waste products When some of these bacteria, such as the ubiquitous *B coli*, are cultivated outside the body, it can be shown that during their digestion of protein they give rise to by-products known to be poisonous Are these formed when these denizens proliferate in the intestines of their host, and, if so, do they exert any direct toxic action or indirectly interfere with the proper metabolism of essential foods?

It has been established that unhygienic conditions predispose to goitre, that a polluted water may determine the development of this disease, that goitre may become less frequent when an unwholesome water supply is purified, and that under like conditions a

large provision of iodine may counteract an unhygienic mode of life These observations suggest that groups of bacteria exist which, without themselves causing disease, disturb the right metabolism of iodine in the body and co operate in the causation of goitre Support for such an opinion comes from the record that an alteration in the intestinal flora, brought about by change of diet of by intestinal antiseptics, has a salutary effect on the progress of the disease This is the point to which these two different avenues of approach have brought us to day The two roads seem likely to meet, if they have not already done so Many clear indications as to the prevention and treat ment of goitre have already come to light We shall be in a better position still when we know more of the interaction of the different agencies proved to be of significance in the causation of this disease

MONOTONY

MONOTONY is defined in the dictionary as "an irksome sameness, or want of variety, as in literary composi tion, scenery, or mode of life" Monotony is distaste ful to humanity and discountenanced by Nature man is wearied by this irksome sameness, and eludes it by relaxation or even truancy, whereas in nature it is avoided by a device on which it is well to reflect The most captious critic of our universe could not complain of want of variety, for it offers us an infinite diversity of form, colour, and sound, and expresses itself in inexhaustible activities There is no irksome sameness in the life processes of even the lowliest creatures in the universe Cells are born, grow up, reproduce, and die, passing from stage to stage of an ever changing cycle The vacuoles of infusoria dilate and contract, the cilia of epithelial cells beat in unison each bending over its neighbour like oarsmen obeying the stroke ', even the growth of plants is not con tinuous, but takes place by fits and starts, for we are told that the stalk of the crocus grows by little jerks each with an amplitude of 0 002 mm , at periods of twenty seconds, and after each little increment there is a partial recoil The concentric spheres of starch grains are said to indicate a diurnal or nocturnal periodicity of activity and rest

There is no monotony in the conduct of the tissues of the human body, a rhythm of alternate activity and rest mitigating all routine Waves of peristalsis sweep along the alimentary tract, the lungs expand and diminish, the muscle of the heart is alternately at work and at rest, and throughout the whole system the programme of each cell s duties is relieved by constant change In the words of Thomas Hardy, So do flux and reflux—the rhythm of change—alternate and persist in everything under the sky

Many industrial occupations appear on the surface to be well deserving of the name monotonous For instance, in the cap padding section of the tin canister industry the girls insert a disc of linoleum or cardboard into tin caps at one second intervals all the day long, the only break being five minutes rest every half hour The process of fixing cutters to tobacco tin lids is repeated at intervals of about three seconds throughout the day Several other examples of fre quently repeated tasks and unvaried occupations are mentioned in a report issued this week by the Indus trial Fatigue Research Board On the extent and effects of variety in repetitive work '1 It is the object of the Industrial Fatigue Research Board to inquire into the conditions of employment and methods of work, and to promote better knowledge of the relations of hours of labour to the health of the workers and to industrial efficiency The consequence and preven tion of monotony in industrial occupations is the subject of the new report, which consists of two parts, the one by Dr H M Vernon on the degree of variety in repetitive industrial work, the other by Mr S Wyatt M Sc and Mr A D Ogden

It is a commonplace that monotony is tedious how, then, do intelligent creatures react to it and by what devices do they evade it? In searching for an answer t, these questions Dr Vernon carried out an extensive series of observations on repetitive occupations in factories where boots and shoes, tin canisters hand kerchiefs and other articles were manufactured Mr Wyatt studied the behaviour of workers whose duties consisted in cleaning, filling, padding, capping, and labelling small bottles in the works of a firm of manu facturing chemists Experiments were also carried out under simplified conditions in the laboratory in order to obtain information on the effect of introducing changes in the form of activity Three kinds of activity were studied—simple addition, mechanical computation and muscular work, comparisons were made of the work done on varied and unvaried days, on the frequency of errors, and on the total output We must refer readers to the report itself for details of the way in which these tests were performed and the results recorded, confining ourselves to certain general observations drawn from this inquiry Tasks which seem to be performed with the greatest regu larity and uniformity can be shown by exact analysis not to be repeated again and again with mechanical precision variety is provided, consciously or uncon sciously, by changes in activity, short rest, or changes in posture Complete continuity of work is therefore spontaneously avoided by the operative, and may be still further broken up without much difficulty Dr Vernon says The degree of variety in many indus trial occupations can be increased by giving facilities for changes of posture during the work In many tin canister operations the work can be performed either when sitting or standing but the workers often neglect their opportunities of making postural changes For instance the women engaged on a punching process at one factory were observed to stand for 18 per cent of their time whilst those on the same process at another factory did not stand at all Again, a number of girls engaged in soap packing could sit or stand, as they pleased but they exercised their option most capriciously without any system'

Another method of escape from the monotony of frequently repeated tasks is by conversation If the work is not completely automatic there is likely to be a decrease in efficiency during the period of conversa tion but since it relieves the monotony of the work it tends to maintain output at a more uniform level throughout the day In work which is entirely auto matic facilities for conversation are probably very desirable, since they diminish the tendency towards and the opportunities for 'mind wandering' or day dreaming which exist in some industrial pro cesses As a congenial break in the ordinary routine the tea interval is undoubtedly most beneficial The operatives afterwards return to work with renewed energy and greater powers of concentration The intermittent conversations carried on during work act as a mental relaxation It was noticed that the bored and strained expression resulting from long continued

[1] Industrial Fatigue Research Board. Report No. 26. 1924. H.M. Stationery Office. 1s. 6d. net.

activity gave place to a brighter and more cheerful attitude when conversation began

The results of the laboratory experiments showed that it is uneconomical to maintain the same form of unbroken activity throughout the spell of work, and that a considerable increase in the quantity and quality of output can be obtained by changing the form of the activity every fifty minutes in a spell of two and a half hours If such an improvement is possible when the length of the work spell is only two and a half hours, it is almost certain that a much greater increase would be obtained in spells of four or four and a half hours, such as are usually found under industrial conditions

The acceptance of these suggestions offers no difficulty Such interruptions of work and changes of activity are an imitation of the rhythm discovered in all natural and unconscious behaviour

THE TERCENTENARY OF SYDENHAM

THOMAS SYDENHAM was born at Wynford Eagle in Dorsetshire in 1624 He was baptized there on September 10th, but the exact date of his birth is not known Sometimes the baptismal rite was at that period deferred, especially perhaps in Puritan families such as the Sydenhams The Academie de Medecine n Paris celebrated the tercentenary on May 20th, the ceremony was attended by Dr Sidney Phillips, treasurer of the Royal College of Physicians of London, Dr J A Ryle (representing the Royal Society of Medicine), and Dr Russell, formerly secretary of the New Sydenham Society The president, M Dolens, in welcoming the British representatives, said that it was a great joy and comfort to the members of the Academie to work with the members of the profession in England, imbued as both sides were with the common sentiments of scientific communion, patriotic solidarity, and reciprocal esteem Professor A Chauffard then gave an address, in which he sketched the life of Sydenham from his war-like youth through his life as a physician in London, during which he produced the writings upon which his fame rests His reputation has always stood high in France, and Professor Chauffard said that the volumes in which he had himself studied Sydenham's writings had been owned and annotated by his grandfather and father In estimating the value of the work of a physician it was, he said, necessary to take account of three circumstances—his contribution of new facts, his governing methods and ideas, and his therapeutic ideals As to new facts, Sydenham's task, in his time when pathology was an unexplored field, was direct observation without preconceived ideas and free from the obsession of theories It was necessary to observe patients themselves and the symptoms they presented, to describe what was observed, and to give "clinical life" to general descriptions founded on the particular facts No one had done this better than Sydenham, and when reading his works it was impossible not to recall the methods and teachings of Trousseau, the great glory of French clinical medicine Sydenham had sometimes been called the English Hippocrates, and Trousseau might truly be called the French Sydenham Trousseau had called Sydenham's treatise on gout a wonderful monograph, because it was at once short and complete Trousseau had said that if the writings of Sydenham were turned into what was considered to be more scientific language we could not but be surprised at the truth of the picture this great man drew of gout, and at the few points that he left for others to add to it Sydenham, in his recommendations for the treatment of gout, had, Professor Chauffard said, shown his independence by condemning the methods then most in vogue—bleeding, purging, and sweating The first requisites for Sydenham were to restore the digestive functions, to diminish the number of meals, to use a milk diet, to go to bed in good time, to get up early, especially in winter, to seek tranquillity of mind, and to take a moderate amount of daily exercise, best on horseback Professor Chauffard next praised Sydenham's writings on small-pox, which also had excited the admiration of Trousseau, and then spoke of the foresight Sydenham had shown in the account he gave of hysteria Finally, the orator said, all Sydenham's therapeutic methods were simple, he held that the honour and dignity of medicine did not lie in prescribing beautiful and elegant formulas, but in curing the sick Sydenham was little influenced by the theories current in his day or by the writings of his predecessors, but he had himself admitted his indebtedness to Hippocrates, to Francis Bacon, and to Locke, his friend and contemporary "Let us then," Professor Chauffard concluded, "express our respect and gratitude to those old masters such as Sydenham, who, though their means of investigation were small, achieved so much We owe a great deal to them, and must never belittle the inheritance they left to us Sydenham must be placed in the first rank of our great predecessors" Dr Sidney Phillips expressed to the Academie the gratitude of the profession everywhere, and especially in England, for celebrating the tercentenary of Sydenham, and recalled that only last year it honoured in the same way the memory of Edward Jenner, the discoverer of vaccination Dr Ryle said that the generous recognition afforded to Sydenham was characteristic of the French nation, and congratulated Professor Chauffard on the admirable oration he had delivered The secretary-general of the Academie, Professor Achard, announced that the English delegation had brought as a gift to the Academie some editions of Sydenham's works and a very interesting photographic reproduction of the diploma of doctor of medicine conferred on him by the University of Cambridge In spite of the confusion of medical theories which prevailed in Sydenham's time, which was the age of Molière, and in spite of the errors due to want of knowledge of essential facts, the reader found in the works of this great practitioner large numbers of well observed facts and admirable clinical descriptions Even his treatment showed few imperfections due to the doctrinal errors of the age, for it was founded on sound judgement The Academie was glad to take that opportunity of expressing to its brethren on the other side of the Channel its friendly feelings and the high esteem in which it held English medicine

THE COUNTRY OF THE MACALISTERS

AN interesting feature of Mr Greiffenhagen's portrait of the President of the General Medical Council is the inscription, painted in the old-fashioned way at the top of the canvas, "Sir Donald MacAlister, Baronet of Tarbert" What and where is Tarbert? A West Highlander from the Lews, J C M tells us, would reply that it is the village between East and West Loch Tarbert in Harris, where the tweeds come from, in that southern part of the Long Island which belongs to the county of Inverness An Argyllshire man would also say that it lies between East and West Loch Tarbert, but he would place it in Kintyre on Loch Fyne, where the herrings come from A Dumbartonshire man would tell a third story—that the spelling is Tarbet, not Tarbert, and that it is the hamlet at the west end of the short road between Loch Lomond and Arrochar at the head of Loch Long Still another informant would spell it Tarbat, and would locate it quite on the other side of Scotland, on the north-east coast The atlas will show that each answer is right, in each case the name is given to a narrow neck of land between two lochs Tarbert or Tarbet means in Gaelic the place of dragging, where a fishing boat or other similar vessel could be hauled overland from one loch to another, and so save a long and

perhaps dangerous sea journey, say, round the Mull of Kintyre (or Cantyre), where contending tides are in frequent battle. The legend has come down through centuries that once a victorious Viking made an agreement with his defeated foes that as a basis of peace he would obtain possession of all the land he could sail round, and then, to their dismay, he dragged his boats, with full sail set, across the mile or more between the two Lochs Tarbert at the head of Kintyre, and claimed the whole of that long peninsula as within the terms of his bargain. This is the Tarbert from which Sir Donald MacAlister has taken his territorial title. Tarbert Castle stands prominently on a rocky ridge on the south side of the east loch. It is within the far-flung domains of the Clan Campbell, but Sir Donald's father (also Donald by name) was of Tarbert, and the MacAlisters (between the Campbells and whom, although old feuds are dead and buried, there is perhaps even yet no love lost) are the representatives of the hereditary holders of Tarbert Castle. Thus Sir Donald has taken the title for his new baronetage. The castle, an old stronghold perhaps of the Stuart period, is in ruins, and beside it there can be made out the lower part of the walls of an older fortress, belonging, it is understood, to the days of King Robert the Bruce. Bruce once held a parliament at Tarbert, and its castle (though not where the parliament met) was of much importance. Such commerce as existed between the mainland or Scotland and the more southernly of the Western Isles had chiefly to depend for transit on the two lochs which nearly meet at Tarbert, and the King no doubt levied toll on the traffic, besides maintaining the castle as a place of defence against possible invaders. The late Dr. Dugald Mitchell of Falkirk, a native of Tarbert and the author of a valuable history of the Highlands now not too easily obtainable, wrote also a most readable account of Tarbert and its antiquities. As a summer resort, if only the weather is good (an important reservation), the little fishing village, most picturesquely situated round the head of the east loch, is a charming centre for a brief holiday. It opens up not only the scenery of Loch Fyne, and of Knapdale and Kintyre from Lochgilphead in the north to Campbeltown in the south, but also the islands of Jura and Islay, the former with its mountains (the Paps), the latter with its golf course splendidly situated on the Atlantic shore beyond Port Ellen. The sail down West Loch Tarbert is delightful. If the traveller had time to explore he would find the prehistoric remains both of a British fort and of a vitrified fort on a hill at the mouth of the loch—no doubt a beacon hill as well as a stronghold. Then comes a pleasant crossing either south of Gigha Island, to Port Ellen, or north, with Jura to the east, through the Sound of Islay to Port Askaig, and thence inland to Bridgend. There a generation ago old Dr. MacIndeor acted both as medical practitioner and hotel keeper, and was successful in both capacities. Punctuality in meals was not his strong point—perhaps his professional avocations had led him to despise regularity—but the repast when it did come was excellent both as to the food and the cooking of it, and the old man's evening talk, about former days in the island, when the population had been two or three times as great and the ways of life still more primitive, was a real treat to the listener. We wonder whether any readers of the BRITISH MEDICAL JOURNAL have ever spent a night on a herring fishing boat on Loch Fyne. It is a great experience. Before the days of motor propulsion no sight could well be finer than that of the departure of the fleet from Tarbert Harbour on a summer afternoon, the sun shining on the dark reddish brown sails of the trawlers as they glided silently out into the loch. To a landsman their manner of catching fish was a revelation, and to a doctor the methods of locating the herrings provided a close parallel to the methods of scientific research. Whilst daylight lasted the fishermen had to depend on their observation of sea-fowl. The heavy-bodied solan goose rather itself slowly from the water into the air by a series of wide circling movements, its wings first flapping on the crest of the wave, till in gradually narrowing circles it attains a height at which its powerful eye can pierce the depths. Then, seeing a fish, it falls wedge-shaped, with its bird as apex, gaining momentum in its descent, so that its body has been known to be caught in a trawl net at a depth of half a dozen fathoms or more. With such guidance the trawlers sometimes cast their nets in daylight. When darkness falls they have to depend on their own eyes and the keenest sighted of the crew of four is detailed for the search. He hangs over the iron-shod gunwale of the boat and, whilst peering into the depths, strikes the gunwale at brief intervals with a bar of iron or the anchor. If there is a shoal of herring below the noise causes a sudden general movement of alarm, accompanied by a momentary flash of phosphorescence. If the flash is slight that may depend not on the smallness of the shoal but on its depth, and in any case the signal is at once accepted. The boats work in pairs, the great nets are paid out, a wide circle, gradually narrowing, is drawn, and then the nets with their struggling freight are slowly brought towards the surface. The frightened fish might escape over the top edge, but noisy splashing of the water drives them down. As the nets are drawn towards the surface the phosphorescence of the crowded herring darting this way and that, is wonderful. At first only the keenest eye can catch the gleam, just as in the case of the research worker. Once realized and demonstrated, anyone—even the purblind or most sceptical—can see it, and what is so manifest is not in the least extraordinary. But, to begin with, everything depended on the ability to recognize and appreciate the meaning of the phenomenon. Eyes to see the gleam are the absolutely essential requisite alike of the Loch Fyne herring fisher and of the laboratory worker surrounded by the finest equipment of modern science.

THE INDUSTRIAL FATIGUE RESEARCH BOARD

THE fourth annual report of the Industrial Fatigue Research Board, for the year ending December 31st 1923, gives a brief outline of the investigations and researches carried out by the Board in the period under review. Some of these have already been published in full as special reports and we have drawn attention to those of chief medical interest as they appeared. Other as yet uncompleted investigations are mentioned in the annual report and an account is given of the progress hitherto achieved. The general object the Industrial Fatigue Research Board has in view is to carry out schemes of research undertaken to promote better knowledge of the relations of hours of labour and of other conditions of employment to the functions of the human body having regard both to the preservation of health among the workers and to industrial efficiency. The general lines on which the work is being conducted are two—namely, laboratory research on some fundamental industrial problem, and inquiry based on observation of actual working conditions conducted in the factory. Along both these lines useful progress has been made and much valuable information has been given in the twenty-six special reports published by the Board. The question which is now often asked is How long will this work be extended? Apparently this work has been carried out up to the present limit of which has been determined by the circumstances employed have had to be determined by the circumstances and opportunities afforded and the special nature of each investigation has its own special limitation. It follows that these have to be taken into account in

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THE Secretary [illegible] from [illegible]

assessing the weight to be given to the conclusions arrived at Further, most of the work on which the Board is engaged comprises investigations which consist principally in comparing results obtained under one set of conditions with those obtained under another, consequently the positiveness of the conclusions depends very largely on the difference in the conditions under comparison Thus, although the acquiring of information has been a task successfully achieved by the Board, the practical application of the new knowledge is not such an easy matter Even when the conclusions of a particular investigation have been decisive, and called for some alteration of existing practices, the Board is unable to guarantee that the introduction of some innovation in industry will be attended by the same salutary results which pertained in the controlled conditions of the laboratory The final criterion must be the results of application under actual conditions of work The Board therefore suggests that any new method should be put to the test at first on a provisional basis and on a comparatively limited scale, and that trial should initially be confined to certain factories where the conditions seem to be specially suitable for the introduction of the change The Board has frequently invited the closer collaboration of industries, and at the present time this seems more than ever desirable Provisional trials of new methods ought not to be left to the goodwill or progressiveness of a few individual employers, but should be made a subject of interest to the whole of an industry Moreover, in the final stage of any part of the Board's work it is specially important to ensure that technical considerations receive due weight In discussing this problem in the annual report an interesting suggestion is made as to how this closer co-operation can be achieved It is that each important industry should set up a committee, representative of employers and workmen, and that this committee should have command of certain funds provided by the industry The committee should be responsible for examining results submitted by the Board, and after criticism applying them on the lines already described Such a committee could meet periodically to discuss problems affecting the human factor in industry, to consider proposals submitted by bodies such as the Board and the National Institute of Industrial Psychology, and to allocate funds to carry on such work as might be approved In this way the industry would have an opportunity of forming its own judgement as to the importance of the various problems, and would at the same time retain complete control of the steps to be taken Such an extension of the work of the Board by the industries themselves might lead to far-reaching benefits

EMOTIONAL AND VOLUNTARY FACIAL MOVEMENTS

PROFESSOR MONRAD-KROHN of Christiania, who is already well known to British neurologists, has ventilated a subject of great neurological interest in the current number of *Brain* [1] This is the dissociation between the voluntary and emotional movements of the face in cases of facial paresis of central origin His article should be read in connexion with that by Dr Kinnier Wilson, in the *Journal of Neurology and Psychopathology* on pathological laughing and crying It is well known that in the great majority of cases of facial paralysis of central origin, while the movements of the face may be lost on the affected side for voluntary innervation, they may yet be present on emotional stimulus, such as smiling or laughing In some cases this process is reversed In others it may be found that an emotional stimulus is capable of evoking a greater movement on the paralysed side than on the normal side These observations suggest that the voluntary motor apparatus and the emotional motor apparatus are to be regarded as distinct From a wider aspect the suggestions fall into line with much that has lately been written on the existence of two separate motor pathways—the pyramidal and the extrapyramidal Communications such as these go far to disprove the absurd allegation that is sometimes heard, that medicine has nothing more to learn from purely clinical methods

[1] *Brain* vol. xlvii Part I, 35.

HUMAN SPEECH

SIR RICHARD PAGET, Bt, who has for some years been engaged in the study of human speech and the mode of its production, communicated to a meeting of the Royal Society on June 5th a paper on the nature and artificial production of consonant sounds He began by expressing the opinion that human speech appears to be essentially a branch of human gesture which the ear has learnt to identify, without the aid of sight, by means of its secondary effect in modifying the resonance produced in air by or through the gesticulating members of the vocal cavity Thus, the laughter sound "Ha-ha!" is essentially a smile, made audible and emphatic by the sudden passage of vibrating air The view that speech is a development of gesture, and that "the earliest human language may be said to have been a language of gesture signs," is considered to be well established The acoustic observations described in the paper are held to confirm this view, and to indicate that speech is essentially a specialized form of facial expression

LECTURES AT THE ROYAL COLLEGE OF PHYSICIANS OF LONDON

THE Croonian Lectures at the Royal College of Physicians of London will be given this month, beginning on June 17th, by Sir Leonard Rogers, M D, F R S, whose subject is researches on leprosy and their bearing on the treatment of tuberculosis The Bradshaw Lecture, on the prevention of acute rheumatism, will be given by Dr F J Poynton on November 4th, the Mitchell Lecture, on tuberculosis of the larynx and its significance to the physician, by Sir StClair Thomson, M D, on November 6th, and the FitzPatrick Lectures, by Dr Charles Singer, on the history of anatomy, on November 11th and 13th All these lectures will be given at the College at 5 p m on each day The Lloyd-Roberts Lecture will be delivered at the house of the Medical Society of London on November 19th by Dr Herbert R Spencer, whose subject is the renaissance of midwifery

FLUELESS GAS STOVES

THE convenience and economy connected with the use of gas fires are admittedly so great that it would be a great pity if they came to be discredited either by the introduction of stoves unscientifically designed or by careless and ignorant usage There can be little doubt that a certain type of stove at present installed in private dwellings, workshops, and elsewhere may be detrimental to health for the reason that no provision is made for the escape of flue gases to the outer air With the laudable object of ascertaining the harmfulness or otherwise of these stoves a joint committee was appointed in 1922 by the Society of Medical Officers of Health and the Royal Sanitary Institute, and the report it has just issued is reassuring, for the conclusion from the evidence submitted is that no injurious effects upon health accompanied the use of flueless gas stoves under ordinary conditions—for example, where the rooms are of fair size, sufficiently ventilated, and not overcrowded—though this opinion is qualified by a warning against the risk of the escape of carbon monoxide Dr J S Owens, a member of the joint committee, in a well reasoned and detailed report, pointed out that although in 1921 the Departmental Committee on carbon

monoxide reported that it was not necessary or desirable to prescribe any limitations of the proportion of CO which may be used in gas supplied for domestic purposes, medical evidence was in favour of a limitation He quoted the evidence of Dr T H Stevenson to the effect that the death rate from coal-gas poisoning for towns where water gas was supplied was two and a half times higher than in towns in which none was supplied In two large towns adjacent to each other the rates were 3 5 per million and 0, the first was supplied with 25 per cent of water gas and none was supplied to the second A similar experience was reported from America, where water gas is supplied to a much greater extent than is the case in this country Dr Owens concludes, therefore, that since the number of deaths from gas poisoning varies with the percentage of CO in the gas, accidental leakages must be more deadly when the gas contains a high percentage of CO He points out that in the case of flueless gas fires for heating there is a great temptation to restrict the ventilation in order to economize heat, whatever may be the intention of the makers of such fires, the user will very often be found closing all openings which admit air to the room in order to get a comfortable heat, and this will always be a dangerous factor in the use of such stoves, for the conditions which produce adequate ventilation are, broadly speaking, opposed to those which make for a warm air, and this is a source of danger

HYPERTROPHY OF THE PROSTATE.

THE Statistical Department of the Johns Hopkins Hospital has issued a preliminary report on the etiology of benign hypertrophy of the prostate gland The purpose of the study is to show that with the aid of modern statistical methods the minutest detail which it might be desirable to know in the course of a thorough investigation of a special problem can be collected and made available for tabulation in every conceivable manner, with the minimum amount of effort For this purpose data from 997 cases of prostatic hypertrophy have been transferred to punch cards for a monographic study This research has been carried out with great thoroughness by Dr Mary Gover, and certainly constitutes a valuable contribution to our knowledge of a condition that has so far proved a pathological mystery The mean age of operation in cases of benign enlargement is 66 72 years, the period during which takes place being between 45 and 75 years of age Single men do not appear to be as liable to the trouble as married, but, on the other hand, when hypertrophy occurs the prostate becomes as large as in married men Previous affections of the genito-urinary tract are comparatively rare, and childhood diseases and certain infections of later life do not appear to have any relation to the condition Those who pursue sedentary occupations are no more likely to suffer from enlargement than those engaged in active work, whilst alcohol bears no relation to the disease These results, although all of a negative kind, are nevertheless of considerable interest, since they show that some of the factors that have been supposed to influence the development of enlargement of the prostate actually play no part in its production.

DOMINION VISITORS TO LONDON

THE Dominions Medical Hospitality Committee in London has arranged a programme for the entertainment of overseas visitors on certain days during June and July On Friday, June 13th, Sir Almroth Wright will give an address in his laboratory at St Mary's Hospital, Paddington, at 4 p m Visitors are invited to attend the Cavendish Lecture by Sir Robert Jones, to be given at a meeting of the West London Medico-Chirurgical Society in the Kensington Town Hall, on Friday, June 20th, at 8.15 p m On Monday, June 23rd, a visit will be paid to the works of Messrs Lyons and Co at Greenford, and on Thursday, June 26th, to the laboratories of Messrs Parke, Davis at Hounslow On Monday, June 30th, the Corporation of London will hold a reception and ball at the Guildhall, on Tuesday, July 8th, the Society of Apothecaries will give a dinner in its hall, and on Thursday, July 17th, the *Lancet* will entertain a company at luncheon On Wednesday, July 9th, a visit will be paid to Portsmouth, when the company will be entertained at luncheon by the Mayor in the Town Hall, and will make a tour of the dockyard at the invitation of the naval authorities Arrangements have been made also for a visit to Lord Mayor Treloar Cripples' Home, Alton The programme has been forwarded to all visitors who have registered their names, but anyone who has not received it is asked to send his address to the honorary secretaries of the Dominions Medical Hospitality Committee, 84, Harley Street, W 1

WE regret to learn that Dr Robert Kennedy, St Mungo Professor of Surgery in the University of Glasgow, and surgeon to the Royal Infirmary died on June 3rd We propose to publish a biographical notice in our next issue

ON the evening of May 29th Sir Donald MacAlister, Bt, K C B, was entertained by past and present members of the General Medical Council, and presented with his portrait, painted by Mr Maurice Greiffenhagen, R A

THE terms of office of the present direct representatives of the profession on the General Medical Council expire on December 31st next The Executive Committee recommends that the last date for the receipt of nominations shall be November 6th, and that voting papers should be issued on November 12th and counted on November 21st to 24th The result will be announced on November 25th The direct representatives are for England and Wales, Dr J A Macdonald Sir T Jenner Verrall, Dr P A Bolam, and Mr E B Turner for Scotland, Sir Norman Walker, and for Ireland, Dr Leonard Kidd

BIRTHDAY HONOURS

THE birthday honours list issued on June 3rd (the King's birthday), contains the list of honours His Majesty has conferred on the recommendation of the Prime Minister of the authorities of the Navy Army, and Air Force of the Colonial and Foreign Offices, and of the Government of India The names of the following medical men and women are included and on behalf of the medical profession we offer them congratulations

Baronet

Sir Humphry Davy Rolleston, K C B, M A, M D D C L, LL D, President of the Royal College of Physicians of London

Order of Merit

Sir Charles Scott Sherrington, G B E M A M D, D Sc, F P C P F R C S, President of the Royal Society

Knights

Alderman J Utting, J P, D L, M R C S L P C P Chairman of Finance Committee Liverpool City Council Lord Mayor of Liverpool 1917 18

Lieut Colonel Thomas John Carew Evans, M C, F R C S, L M S, Surgeon to His Excellency the Viceroy of India (Lord Reading) and was civil medical adviser in charge of the Indian Hospital Services Evans served in Egypt, France, and Mesopotamia during the War

Malcolm Watson M D Surgeon Rear Admiral Charles Mark Beadnell, C B (Military) of Black Sea Fleet and Mediterranean Fleet during the War Served in command with the Fleet

C M G

Aylmer William May, M D,
Principal Medical Officer, Northern Rhodesia (on the termination of the administrative functions of the British South Africa Company in Rhodesia)

C I E

Colonel Richard Heard, I M S,
Honorary Surgeon to H M. the King Surgeon General with the Government of Bengal

K B E (Civil)

Major General Wilfred William Ogilvy Beveridge, C B, C B E, D S O, M B
General Beveridge is honorary physician to the King and late Director of Hygiene at the War Office.

George Adlington Syme, M D,
In recognition of his services to the State of Victoria. (Mr Syme was President of the Australasian Medical Congress of the British Medical Association at Melbourne in 1923)

D B E (Civil)

Miss Janet Mary Campbell, M D, M S,
Senior Medical Officer for Maternity and Child Welfare, Ministry of Health and Chief Woman Medical Adviser, Board of Education

C B E (Military)

Lieut Colonel and Brevet Colonel (temporary Colonel) James Crawford Kennedy, M D, K H P, R A M C

C B E (Civil)

Professor Edward Provan Cathcart, M D, D Sc, F R S,
Professor of Chemical Physiology, Glasgow University For public services

William Christopher Dowling Prendergast, M D, M Ch,
In recognition of his services in combating lead poisoning

Miss Margaret Ida Balfour, M D,
Joint Secretary of the Dufferin Fund (Dr Margaret Balfour, who has had thirty two years service in India, was chief medical officer of the Women's Medical Service for India in 1916)

Dr San C Po,
Medical Practitioner and Municipal Commissioner, Bassein, Burma.

Andrew Milroy Fleming, C M G, M B,
Medical Director Southern Rhodesia and Principal Medical Officer, British South Africa Police and formerly member of the Legislative Council Southern Rhodesia (on termination of the administrative functions of the British South Africa Company in Rhodesia)

O B E (Military)

Surgeon Commander Robert William Basil Hall, R N
Major Harold Crossley Hildreth, D S O, F R C S, R A M C
Major Nelson Low, D S O, R A M C
Major Frederick Emilius Roberts, D S O, R A M C

O B E (Civil)

François Auguste Rouget, M D,
Medical Superintendent of the Civil Hospital, Mauritius.

Walter Musgrave Eaton, M D,
Assistant Medical Director and Medical Superintendent Ingutsheni Mental Hospital Bulawayo, Southern Rhodesia (on termination of the administrative functions of the British South Africa Company in Rhodesia)

M B E (Civil)

Captain Arthur Ambrose Emmanuel Baptist,
Assistant Director, School of Tropical Medicine and Hygiene, Calcutta.

Samuel Benjamin Jones,
Medical Officer and Magistrate, and Coroner, Anguilla Leeward Islands.

Kaisar i Hind Medal of the First Class for Public Services in India

Dr M R Ry Pazhamarneri Sundaram Ayyar Chandra Sekhara, Ayyar Avargal,
Director of the Tuberculosis Institute and Hospital, Madras

Rai Bahadur Upendra Nath Brahmachari,
Additional Physician, Out patient Department, Medical College Hospital Bengal

Rai Bahadur Lala Mathra Das,
Assistant Surgeon in the Punjab

ORDER OF ST JOHN OF JERUSALEM

The following promotions and appointments to the Order of the Hospital of St John of Jerusalem in England are announced

As Knights of Justice (from Knights of Grace) Serjeant Surgeon Sir Richard Havelock Charles, G C V O, K C S I, L L D, M D, F R C S I

As Knights of Grace Lieut Colonel George H L Hammerton, C M G D S O T D R A M C (T F) Sir Robert W Philip M D, L L D Lieut Colonel George Horne, M D, Colonel Sir Thomas Oliver M D

As Esquires Dr Septimus M Hubblethwaite Surgeon Lieut Colonel John H Hacking Surgeon Commander George O M Dickson I N Dr Alexander S Allan Dr Allan D Cameron Lieut Colonel Henry Ross C I E O B E, I M S, Colonel Sir Edward N Thornton, K B E., S A M.C

CONFERENCE ON MENTAL DEFICIENCY

A CONFERENCE on mental deficiency, arranged by the Central Association for Mental Welfare, was held at Westminster on May 28th and 29th The subjects covered in the four sessions were the best methods of dealing, administratively and educationally, with the mentally defective child, and the influence of heredity and environment in causing mental deficiency Lectures were also given on mental tests, their value to the medical officer, the educationist, and the social worker Dr H B BRACKENBURY, in the absence of Sir Leslie Scott, presided over the opening session, and subsequent chairmen were Dr F E FREMANTLE, M P, Dr W A POTTS, and the Rev Principal THOMAS

The Minister of Health

The Right Hon J WHEATLEY, M P, Minister of Health, in inaugurating the conference, said that it was twenty five years since Parliament made special provision for dealing with the mentally defective, but it was only now that the community was awakened to a sense of what was due from it in this particular field of social work He understood that many of those interested in this problem were labouring under the impression that no scheme would be acceptable to the Government which involved additional expenditure He wanted to relieve their minds of that anxiety so far as the present Minister of Health was concerned He would not subscribe to the idea that this country of ours was too poor to meet the expenses associated with the giving of assistance in such cases One in every two hundred of our population came within the category of the mentally defective, this meant a total of 170,000 persons He remembered that when, a few years ago, he was an official visitor at one of the large prisons in the country, he found the fact of mental deficiency marked on the door of cell after cell, he could not help wondering whether, after all, the proper person had been confined there He hoped that, in building up a public opinion for the protection of the mentally defective, they would do their utmost not to impair that public opinion already in existence which protected the independence of the individual in the community

The Reality of the Problem

Dr H B BRACKENBURY, in some remarks introductory to the discussion, said that he thought it would be a pity to obscure in any way the intense reality of the problem with which they had to deal An observation was frequently made that, as a matter of fact, we were all mentally defective persons in some degree This he strongly denied Mental deficiency was not a variety of the normal, it was a violent departure from the normal, and the fact that there was some difficulty in determining in certain cases the exact position of an individual must not lead them to forget the absolute reality of mental deficiency Again, it was said that mental deficiency depended upon environment, and that a person who was mentally deficient in one environment might not be mentally deficient in another That had a certain amount of truth, but he hoped that the problem would not be obscured by this either It was quite possible that there were persons in Europe to day who had the mentality of an Australian aborigine, or a Bushman, or an Eskimo, also that in its remote ancestry the human race had passed through stages at which it had that mentality But if a person with that mentality was born into Aryan stock in European countries it was an abnormality which had got to be dealt with very seriously, not a variety of the normal, and the dreadful reality of the problem with which they had to deal was obscured by thinking otherwise He declined to believe that the people he saw before him in that conference were merely varieties of mental deficients He believed that they had normal minds, and that the person they believed to be a mental deficient was something more than a mere variety of themselves It was necessary also to remember that they were dealing with these people in the social surroundings of Great Britain in this twentieth century, and their methods of dealing with them would depend upon their object with regard to them The object, leaving aside the racial or eugenic object, was threefold—individual, economic, and social They wanted to deal individually with these persons in order to make them as happy as possible in the conditions in which they had to live They wanted also to relieve the community of the economic dead weight which these persons represented, and here he meant not only the general public, but also the little community—the family to which these persons belonged They had also to moderate or

abolish the antisocial activities of these persons This must involve some restriction upon individual liberty He was afraid that in framing the Act under which this administration was carried out too much attention was paid in the House of Commons to an extreme clique who had such a regard for individual liberty that they were inclined to overlook the consideration of communal safety In the Act there were restrictions upon their own helpfulness which they would desire to have removed On the other hand, if they had to restrict individual liberty, there were two considerations to be borne in mind—that they should restrict that liberty only just so far as was absolutely necessary, and that if individual liberty were restricted the utmost possible must be done in common fairness within those restrictions for the individual concerned (Hear, hear) By all means let full regard be paid to the various interests which had grown up in connexion with this question —the teacher s interest, the doctor s interest, the local authority s interest—but the whole situation should be fearlessly reviewed with the object of arriving at the best administrative method With regard to special schools, he had come to the conclusion provisionally that the proper person to be in the special school was simply the high grade mentally defective child If the places were filled up with low grade mentally defective children the money was being wasted, and the best was not being done for the children placed in such schools He thought it desirable also that the teacher should not be segregated for the rest of his teaching life in one of these special schools, but that he should go back to a normal school for a time, both for his own sake and for the sake of linking up the schools of different kinds

The Education of the Mentally Defective

The discussion on the education of the mentally defective was opened by Mr SALTER DAVIES, director of education Kent County Council, who described an attempt which had been made in that county to establish classes in selected schools for markedly dull and backward children as well as for the higher grades of the so-called mentally defective The teachers of these classes had attended a special training course in the methods of instruction most suitable for such children The work was ably supplemented in Kent by a voluntary association which detected cases of apparent mental leficiency investi gated home conditions and followed up the children during holidays and after leaving school Dr HENRY HERD assistant school medical officer of Manchester said that feeble minded children should be transferred to special schools at the age of 7 or 8, and he regretted that so many teachers hesitated to report suspected cases until the children were too old to receive the benefit of such training

The subject of mental tests gave rise to an animated dis cussion Dr ROBERT HUGHES, school medical officer Stoke on Trent criticized some of the American tests which had lately come forward in such abundance, but he added that mental specialists in this country to judge from their published works, appeared to rely solely, at any rate so far as adult cases were concerned on their clinical knowledge and experience for the diagnosis and disposal of cases of mental deficiency and probably the ideal method lay somewhere between the e two extremes Mr CYRIL BURT, psychologist to the London County Council, emphasized the value of tests though he believed that they should not be the sole means of diagnosis Some remarks made by a director of education who did not believe in mental tests at all, and criticized the ways of examiners, were resented by some of the school officers present.

The Influence of Heredity and Environment

Professor E W MACBRIDE, in a paper on the influence of heredity and environment in causing mental deficiency challenged the view that whilst it was possible to vary the effects of environment by varying its amount it was impossible to change the effects of heredity except by linking it up with heredity of a different kind as could occur in sexual repro duction This idea, originally put forward by Weismann and carried to an extreme by some others, he believed to be totally erroneous. In his view environment did modify heredity potentially and he gave a description of some work which had been done in analysing the monstrosities of goldfish this suggested that spots were formed as a result of the weakening of the egg by exposure to filthy water or water deficient in oxygen during the earliest period of development He quoted another authority to the effect that in large working-class families where the mother had no help, symptoms of germ weakening became progressively more marked in the younger children the presumption being that fatigue substances in the blood of the mother checked the development of the germ His own view was that too frequently recurring motherhood tended to bring about mental deficiency in the offspring

Dr A F TREDGOLD, physician to out patients Bethlem Ho pital, said that it was not the case that heredity and environment were factors acting in opposition to one another all development was the resultant of both factors. Mental defi ciency was due to imperfect development of the cells of the brain cortex, and two types of defect might be distinguished secondary amentia, in which development was proceeding normally until arrested by some adverse factor of the environ ment acting directly upon the growing embryo, and primary amentia in which the cortical cells were incapable of full development owing to an impairment of germinal potentiality which was inherited. He held that the explanation of this germ change which best harmonized with clinical, pathological and genealogical data was that the change was an impairment of developmental potentiality brought about by adverse factors of environment There was no such thing as inheritance of mental defect even in cases where a defective parent had a defective child The inheritance consisted of tendencies to development only If the impairment of normal tendency was slight it led, not necessarily to actual defect, but to disturb ances of the function and durability of the brain cells if more severe the impairment might lead to an actual incompleteness of structure But even with mild degrees of germ impairment adverse factors of environment imposed an additional handicap He believed that the transmission of this germ impairment did not follow Mendel s laws but that the inheritance was blended so that it followed that the introduction into healthy plasm of plasm whose developmental potentiality was impaired migh have an injurious effect upon posterity extending over many generations.

No resolutions were passed by the conference, but its general tone was strongly in opposition to one speaker who laid stress on the burden which was imposed upon the normal by whatever was done for the mentally defective and urged a policy of doing for defective persons the least that could be done with security

MOTOR NOTES FOR MEDICAL MEN

BY H MASSAC BUIST

THE R A C SMALL CAR TRIAL LESSONS

THE lessons of the Royal Automobile Club six days' 1,000 miles trial of standardized small cars from Llandrindod Wells as a centre from May 12th to 17th inclusive, can be dealt with in comparatively small compass for the reason that, well planned and conducted though the test was, nevertheless the industry and trade did not support it in representative fashion, therefore everything in connexion with it has to be regarded in the light of that governing fact The value and strenuousness of a test depend neces sarily and always on two things the minimum conditions to be fulfilled and the quality and number of the com petitors setting forth to fulfil them Thus in the matter of hill-climbing all performances were judged by the best made but if that best performance is not the best pos ible performance on the part of the industry of the whole world at the given period then the standard of relative merit falls by whatever degree the leading car may fail to achieve the maximum possible What that maximum is none can tell unless the entry list is really representative This the reader must judge for himself though cars with engines up to as much as 1 000 c cm volume were allowed to figure on a classification according to price nevertheless an aggre gate of 21 manufacturers only sent in 29 cars of which 21 only were placed on the starting line and 17 finished 6 of them receiving class gold medals 5 class silver medal and one a 10-h p Lea-Francis, a special gold medal for consistent running hill-climbing and condition after the trial another an 8-h p Gwynne, the *Daily Chronicle* cup for the most meritorious performance in the trials irrespec tive of clas and the *Autocar's* silver cups to a 10-h p Trojan in Clas B and to a £10 tax Rhode car in Class C Therefore the proportion of awards to the numb r of cars competing is quite unprecedentedly high—in other words it cannot be said that the minimum performance necessary to secure a medal or an award of some sort was high Again when a l ad of clas awards we ar apt to think that a deal of competition took plac between one maker and another in order to ach i distinction In this con nexion one must bear in mind that there a re 10 en ries for the cla r cars not exceeding £120 in cost But in Class B, in which two 10-h p Trojan cars are given a

gold and a silver medal respectively, and which is for machines costing more than £130 but not more than £170, the precise extent of the competition amounted to this those £10 tax machines which carry the two class medals were challenged only by an £8 tax Austin "Seven"

AWARDS AND CONCLUSIONS

Having an indication of the particular character of this competition in the now long series of trials for standardized cars in this country on the six days' 1,000 miles principle, I will put on record the class medals awarded by way of completing the tale —Gold Medals Class B, Trojan, Class C, Rhode, Class D, Rhode, Class E, Gwynne, Class F, A C , and Class D, Palladium Silver Medals Class B, Trojan, Class C award withheld, Class D, Gwynne, Class E, Lea-Francis, Class F, Galloway, and Class G, Lagonda

The judges feel that the trials have been successful in demonstrating the many merits of the small cars which took part in them, especially as the machines competing were vehicles standardized precisely as sold to the public From the medical man's point of view the most important question is the condition of the machines at the end of approximately 1,000 miles running over roads which are used every day of the year alike by passenger car owners and by utility vehicles It is therefore important to note that the final inspection of the vehicles at the conclusion of the trial revealed that several of the cars were in need of repair In other words, it is to be concluded that had the trials been prolonged another day or two there would have been eliminations Of the twenty-one cars put on the starting line, one was disqualified, and three others were withdrawn on account of mechanical failures in the course of the running The 10-h p Surrey sustained a bent propeller shaft and a torque during the final day's run from Llandrindod Wells to Weybridge Apart from this, during the trial comparatively few marks were lost under the heading of reliability But the subsequent examination of the vehicles told the tale as set out above The parts that appear to have suffered most severely were front axle pivot pins and steering gear connexions, which are very vital portions of a chassis A few back axles developed noisiness during the trials, and springs squeaked The class of tubular front axle used proved unsuitable for such touring conditions In every case in which such an axle was fitted it had bent This should not be so, since properly designed and made tubular front axles can take the reaction of front wheel brake application—instance Lanchester practice No car in the trials had front wheel brakes Pivot trouble was extensive and was due to inadequate bearing surface and inattention In this connexion it should be noted that inattention caused loss of marks in the trials A medical man should not be required to give attention to these parts in the course of 1,000 miles' use As these trials are run to legal limit, the only conditions in which they might be held to differ from a medical man's use are these in the trial marks were awarded for the timed climbing of certain hills, therefore engines were overrun on a few occasions to an extent which would not obtain in ordinary use because the medical man would not try to make the best possible speed up some of these hills Against that, in the competition each of the cars was driven by an expert who understood every symptom emanating from its mechanism and who strove to save it to the utmost because, from reading the rules, he knew that the proportion of marks given for a reliable performance during the six days exceeded any he could possibly gain by risking a machine to achieve the best hill-climbing performance in the whole trials Further, though there was rain on some days, no one can pretend that the test on that road in the month of May imposed on the cars conditions anything like as severe as those which a medical man must be prepared to meet in the course of his practice, which necessitates his traversing roads in his district all the year round, alike when they are under snow and ice covered, when they are deep in rut and mire, and when they are dusty

POINTS TO NOTE

Noisy back axles may be attributed to overloaded bearings, or to lack of rigidity of their housings, or to both Undoubtedly faulty lubrication was the cause of the springs squeaking, though many were provided with gaiters Many of the cars had seating capacity for more than the passenger and the driver, nevertheless, two only were carried in the trials On the timed hills most of the engines showed signs of overheating Some climbed the gradients only by dint of skilful driving There appears to be much need for improvement in cooling systems and for the avoidance of the formation of steam pockets, the presence of which led to the cooling water in some of the engines boiling Five engines only were provided with fans, and no engine was furnished with a water circulating pump The judges note that the best performance in regard to cooling was made by an engine without either pump or fan, and having a radiator of comparatively small surface and good water supply capacity There is, however, nothing scientific in this conclusion, that is to say, no data are provided to indicate what is the relative efficiency of the engine in question In regard to brakes, the expert nature of the driving and that the trial was not a race are two circumstances that must not be forgotten Of the seventeen cars that finished at Weybridge, seven had had their brakes adjusted, once in each case, in the depot at Llandrindod Adjustment was made on the road in the case of one car only But many marks were lost under the heading of replenishment on the road, the reason being the inadequate capacity of some of the fuel tanks and radiators, or the difficulty of access, shape, or size of the filling orifices In this connexion it must be remembered that the longest day's run was 175 miles The electric engine starters, which were fitted in all cases except four, proved commendably trustworthy In one case only was an electric starter out of action at the conclusion of the trial This was alleged to be due to the immersion of the accumulator in one of the water splashes These splashes tested the suitability of the position allotted to magnetos, accumulators, and carburettors In some instances these components later suffered from the effects of immersion

THEN AND NOW

Altogether the Royal Automobile Club has conducted three trials confined to small cars as such It is curious that they have been organized over a period of exactly twenty years evenly divided—namely, from Hereford in 1904, from Harrogate in 1914, and from Llandrindod Wells in 1924 In the earliest trials the single and 2-cylinder types of engine were the outstanding classes In the earliest trial twenty years ago the Rover Company ran a 100-guinea car Last month the characteristics of the products of the industry represented were that most of them had 4-cylinder water-cooled engines, though there were some of the 2-cylinder air-cooled type Twenty years ago the average fuel consumption was at a rate of 30 2 car miles per gallon, or 20 ton miles per gallon, ten years ago it was 35 99 car miles per gallon and 23 95 ton miles per gallon, and last month it was 35 23 car miles per gallon or 32 76 ton miles per gallon Last month an 8-h p Gwynne did 46 22 car miles per gallon and the 9/19-h p Seabrook car did 37 63 ton miles per gallon, against 43 46 and 26 37 respectively for the best performance of ten years ago Last month the best petrol consumption was got by a car fitted with a jet variable from the driver's seat In conclusion, of course, the cars of to-day have vastly better acceleration, braking, and hill-climbing powers than those of 1914 and 1904

AT a meeting recently held in Paris under the presidency of Professor Roger, dean of the faculty of medicine, it was proposed to hold a medical congress of Latin races in Paris at the end of June, 1926, when the official languages will be French, Spanish, Italian, and Portuguese

THE annual French Congress of Stomatology will be held in Paris from October 20th to 25th inclusive, when the following subjects will be discussed (1) Dental caries, its problems, facts, and hypotheses, by M Fargin Fayolle (2) Expansion of the jaws in orthodontia, by M Izard A general discussion will also be held on (1) treatment of pyorrhœa, and (2) treatment of focal infections Further information can be obtained from the general secretary, M L'Hirondel, 57, Rue de Rome, Paris

CINCHONA BARK AND ITS ALKALOIDS

THE Chadwick Trustees had the happy idea of asking Sir David Prain to give a lecture on the economic and hygienic relationship of cinchona bark and its alkaloids, in the Chelsea Physic Garden The review we published a few weeks ago[1] of Dr Dawtrey Drewitt's *The Romance of the Apothecaries' Garden at Chelsea* was full enough to prove the place appropriate, and that the lecturer was well chosen is proved by the fact that before he became director of the Royal Botanic Garden, Kew, a post he held for some eighteen years, and while on the active list of the Indian Medical Service, Sir David Prain was director of the Botanical Survey of India and Superintendent of the Royal Botanic Garden, Calcutta

The lecture, which was given on the afternoon of June 4th, afforded to many an opportunity of visiting a secluded corner of London with which few even of those who profess to know the great city well are acquainted

Sir DAVID PRAIN said that European acquaintance with Peruvian bark was to be traced to an illness in 1638 of a Vicereine of Peru, the Countess of Chinchon, after whom the genus *Cinchona* is named This bark was thereafter exploited as a forest product in the province of Loxa, now Southern Ecuador It found a place in a London pharmacopoeia for the first time in 1677

The exploitation of forest products led to an increase in price, to contraction of supplies, and to a search for substitutes After 1753 the red bark of *C succirubra* from Chimborazo in Northern Ecuador competed with the pale bark of *C officinalis* from Loxa, which now was placed on the market as genuine or crown bark But red bark by degrees replaced crown, it became, and still is, the only cinchona bark treated as officinal In the bark trade substitution was repeated at intervals, the grey bark of *C micrantha* and *C nitida*, from Huanuco in Central Peru, competed with red Later the yellow bark of *C Calisaya* from Bolivia competed with grey, and after yellow became scarce the Colombian bark of *C lancifolia* was exported Colombian was the last of the South American cinchona barks of importance to pharmacy, Europe had therefore to undertake the cultivation of cinchona

Various limiting factors (Sir David Prain continued) govern the conversion of forest products into crops If labour is not available locally a crop must go where labour is France tried cinchona in Algeria in 1849 Holland did so in Java in 1851, England followed in Ceylon, the Nilgiris, and the Eastern Himalaya in 1861

Another factor is environment The climate and soil of Algeria were inimical to cinchona, those of Java were satisfactory Ceylon and South India supplied a suitable climate but an indifferent soil, the Eastern Himalaya has a climate marred by the occurrence of a distinct dry season

A third factor is adaptability Colombian bark does not thrive well, even in Java Red and grey both prove accommodating, even in the Himalaya Yellow can be raised in the Eastern Himalaya but not in South India

There are limiting factors connected with use as well as with production In the Andes rain-forests there are forty cinchonas, only some six of these have yielded bark of importance to pharmacy In these important barks the alkaloid content may vary, 3 per cent means a poor, 6 per cent a good, 9 per cent or over a rich sample This natural variation may be increased by environment a strain with bark "good" in Java may have bark "poor" in South India or the Himalaya The factor of alkaloid content, though a limiting one, need not inhibit cultivation, it does, however, involve careful selection of strains But the factor of allied alkaloid nature is more important, under existing conditions it involves the selection of particular kinds of cinchona bark

The alkaloids of cinchona may be amorphous or crystallizable All are remedial against malaria The physiological action of the amorphous is, however, the more rapid and the efficacy of the crystallizable alkaloids is increased when they are administered in an uncrystallized state

The crystallizable alkaloids in officinal cinchona bark were first separated in 1815 This derivative, "cinchonino," was found in 1820 to yield a definite alkaloid, quinine, and something more By 1852 this "something" was shown to include the crystallizable alkaloids cinchonidine, cinchonine, and quinidine

As compared with the variable percentage of alkaloids in a particular kind of cinchona bark, the proportion of these alkaloids to each other remains relatively stable In any sample of officinal red bark we may expect one-half the alkaloid content to be cinchonine, one-third quinine, one-sixteenth cinchonidine, only one-eightieth quinidine, the remainder—about one-eighth—is amorphous But the proportions differ in different kinds of cinchona bark Though quinine constitutes but one-third of the total alkaloid content in red bark, it forms three-fourths in crown bark Yellow bark may be richer in quinine than crown, grey is poorer in quinine than red By 1820, when quinine was first isolated, yellow bark was that most used in pharmacy, quinine became and still remains, the only alkaloid of cinchona bark that is officinal

As the only officinal alkaloid, quinine is that commonly prescribed for use against malaria It is therefore also the one chiefly separated from cinchona bark So marked is the effect of this fact that the purchaser of cinchona bark pays for it in terms of its quinine content But it costs about as much to work up a bark with a poor quinine content as it does to treat one with a high quinine content, and the latter finds a market before the former It also costs about as much to cultivate and harvest a cinchona with little quinine as one with much and the planter who can raise yellow bark, which may have five-sixths of its alkaloid content quinine, will grow this in preference to crown, where only three-fourths or the alkaloid content is quinine These economic relationships of cinchona bark and its alkaloids are often misunderstood It has been said that the abandonment of cinchona cultivation in Ceylon took place because 'cinchona' planted without scientific advice began to deteriorate", that the industry was abandoned by private enterprise in South India owing to the establishment of a cinchona monopoly by the Dutch in Java In Ceylon the cultivation of coffee had to be given up owing to disease Coffee was replaced by cinchona But Ceylon cannot like Java grow yellow bark, she can only, like South India grow crown As soon as Ceylon found that her return for the same outlay was inferior to the return obtained by Java Ceylon abandoned cinchona and took up tea The corresponding abandonment of cinchona by private enterprise in South India has been due to the fact that yellow bark, which cannot be grown there thrives better in Java than in any region outside Bolivia in which it has been tried The so-called cinchona monopoly of Java, if a monopoly at all was a quinine monopoly which was not the creation of Holland The necessity to grow yellow bark in preference to other kinds is an economic consequence of the accident that medicine regards the hygienic relationships of quinine as being unlike those of the other alkaloids of cinchona bark

It is not impossible that the conditions whose effects have been mistaken for a Dutch monopoly are responsible for complaints now current as to a world shortage of quinine Manufacturers of that drug who might be supposed to know the facts, seem disposed to believe these complaints exaggerated While would be consumers and potential suppliers of quinine are discussing the situation as regards the alkaloid the cinchona planter explains that he is less than satisfied with the price he receives for the bark he sells, and that it is not possible for him to market all the bark he can harvest This suggests overproduction not shortage it shows that the Java planter far from having obtained control of the output of quinine has lost control or the output of cinchona bark

We are more concerned however with the facts that the only cinchona it is possible to cultivate without financial loss is yellow bark and that this has put it beyond the power of our Empire to supply its own requirements as regards quinine Some do not think this a regrettable situation, on the ground that shortage of this remedy for malaria gives an impetus to the crusade against its cause We can appreciate the feeling prevention is better than cure Others however, hold the view that until prevention has

[1] BRITISH MEDICAL JOURNAL, May 3rd 1924 p. 787

been fully ensured, the provision of what is a reliable remedial agent remains a public duty Medicine, therefore, urges the State to grow cinchona, wherever it can be grown, more extensively than is done at present

This appeal by medicine might carry greater weight if fuller account were taken of the effect on the economic relationships of cinchona of those hygienic relationships of its alkaloids for which she herself is responsible Medicine has not overlooked this altogether, she considers all the alkaloids of cinchona as worthy of use, so long as they remain unseparated from one kind of cinchona bark It is only after the alkaloids have been extracted from their bark that medicine feels constrained to treat all but one of them as of no importance Even if it were true that quinine, as a remedy for malaria, is more useful than its companion alkaloids, it remains for consideration whether the treatment of these other alkaloids as waste products of no value be wholly justifiable It is to this action on the part of medicine that the economic relationships which now exist owe their origin If medicine can see her way to some modification of her present attitude, conditions that hamper the State and distress its servants might disappear, full advantage could then be taken of cinchona bark and its alkaloids

SOCIOLOGICAL ASPECTS OF MENTAL DISORDER

THE MAUDSLEY LECTURE

THE fifth Maudsley Lecture, before the Medico-Psychological Association of Great Britain and Ireland, was given by Dr JOHN CARSWELL in the Barnes Hall of the Royal Society of Medicine, on May 22nd, with the President, Dr EDWIN GOODALL, C B E , in the chair The subject of the lecture was "Some sociological considerations bearing upon the occurrence, prevention, and treatment of mental disorders"

Dr Carswell said that the freedom from restraint and provision for open-air life of patients in Scottish asylums was due in no small measure to the courage and initiative of James Rutherford Courage was needed in this domain, for the public suspected that any departure from convention in this branch of medicine was a menace to security Arthur Mitchell secured the establishment of the boarding-out system for chronic harmless patients, and the General Board of Control had generated an open-mindedness towards new methods which had reassured the public The lecturer had proposed for Glasgow machinery for placing the certification of alleged insane persons in charge of one medical officer, and securing provision for the treatment of suitable cases, without certification, in observation wards The proposals received the approval of the General Board of Lunacy and of the Local Government Board That scheme was put into operation, and was now in full working order There was no power of compulsory detention Glasgow parish, with a population of 600,000, was also the lunacy district, and the parish council, as such, administered the Poor Law, and as District Board of Control it provided and controlled asylum accommodation and treatment There was, therefore, no conflict of interest or official overlapping The intention was to ensure that no one should be placed under lunacy certificate who could be treated successfully otherwise It became possible, under the scheme, to make a systematic investigation into the occurrence of insanity, especially in relation to local, economic, and social conditions It was the results of this investigation the lecturer proposed to present in the course of his address He projected on to the screen a table showing, in this community of 600,000, first attacks of insanity during each year from 1901 to 1913, and the proportion per 10,000 of the total population The numbers ranged from 364 to 443, and the number per 10,000 from 5 6 to 7 7 The figures showed a steady rate, they included a number of idiot and imbecile children He then divided the cases into two age-periods—15 to 45, and over 45 years—and gave the proportion per 10,000 of the population Those in the first period embraced half the total population There was little difference in the proportions in the two sexes This active period, 15 to 45 years, gave a general average first attack rate of about 8 per 10,000 of population At the ages of over 45 years the male rate ranged from 12 6 to 20, and the female rate from 13 2 to 16 1

Dr Carswell's next inquiry was as to how the figures were related to the physical conditions of the people concerned There were 909 cases of which the cause of the mental condition was ascertained, and he placed them in five groups He exhibited the table, as follows

	Age 15-45.	Age over 45.	Total.
GROUP I. Constitutional instability ...	358	35	393
GROUP II. Toxic	152	96	248
GROUP III. Gross organic brain disease..	10	51	61
GROUP IV Senile changes	—	189	189
GROUP V All other causes ...	15	3	18
Total's ..	535	374	909
Percentage of total ascertained causes	58 8	41.2	

The figures showed that 67 per cent of the cases occurring at ages between 15 and 45 were based upon some constitutional morbid process, and this was the most constant element in the annual production of insanity at those ages Of all the cases at all ages 43 per cent had a constitutional basis, and 27 per cent at all ages were caused by syphilis, alcohol, or exhaustion states In 50 per cent of cases at ages over 45 senility was found to be the most prominent causative element

Pursuing the inquiry, he next showed the incidence of first attacks of insanity in two area groups that with a death rate above the rate for the whole city, and secondly, that with a death rate below the city average The period taken for this was 1911-13

Area Group	Population	Ages 15-45	Ages over 45.	Total.
I. Above average	199 000	186	149	335
II. Below average	198 000	165	91	256

The large number of cases which occurred at over 45 years of age in Group I pointed to economic and other social factors which acted more powerfully in poor and unhealthy districts than in places more favourably circumstanced The practical similarity of the occurrence of insanity at ages 15-45 in both areas was noteworthy

The important question arose as to how far the possession of observation wards kept down the number of persons certified as lunatics He replied that many people who required treatment but would not have reached a mental hospital as certified patients because of sentimental objections accepted this provision for their care, and a considerable number of persons were expedited on their way to asylum care by having this probationary care, which care satisfied their relatives that further treatment was needed He had no doubt that large numbers of patients were treated to a state of recovery who otherwise would have had to be certified He projected the following informing tabulation

	Males	Females	Total.
Total cases admitted	3 487	2 923	6 410
Discharged Cases			
Recovered ..	1,496	1 097	2,593
Improved ..	593	520	1,113
Certified Insane	1 163	1 128	2,291
Died	216	163	379
Total cases discharged and died	3 468	2 908	6 376
Remaining on May 15th 1914	19	15	34

The diseases comprised under the general term "insanity" fell mainly under two categories those in which the biological element was all-important, secondly, those in which that element was insignificant Social conditions, as met with in this country, seemed to have but little effect on the biological foundations on which mental stability depended

The figures he had presented could, he thought, be accepted as confirmatory of conclusions reached by Mott and others in their pathological researches He had taken the full active period (15-45) in order to show the full effect of constitutional instability in the production of insanity It was difficult to resist the conclusion that the adolescent group of insanities were, in substance, biogenetic psychoses He thought the term "adolescent" should not be allowed to obscure the fact that the morbid biogenetic element extended its influence beyond the adolescent period, and that it probably accounted for all those forms of insanity which were not due to toxic agencies gross brain lesions, and senile changes The figures he had given extending over thirteen years, showed in the age period 15 to 45, a production rate of insanity of about 8 per 10,000 of the population living at that period, of which about two-thirds were regarded as cases of biogenetic psychoses These figures gave no support to the belief that the nation was carrying an increasing burden of a C 3 population," by reason of an increased production of unfit progeny

After dealing with the prevailing views as to the influences of heredity and environment, the lecturer said that the prevention of mental diseases was even now in process of becoming a subject of systematic study, and it was hoped that further researches into the nature of the biogenetic psychoses would give helpful results Syphilis as it affected the central nervous system was in a hopeful stage of study, and public health administration was being looked to to control the spread of the disease Alcoholism might continue a trouble so long as human folly was blind to self interest The failures of senility would become less as the mode of life improved

His thesis, he said, was that at the present day insanity was as a social phenomenon, regarded in two ways First there were those who argued that it was largely a product of bad social conditions, and that the improvement of those conditions would necessarily lead to a marked improvement of the mental health of the community Secondly, some took the opposite view, that improved social conditions meant the preservation of the unfit and, consequently a higher production rate of insanity hence those holding this view were not enamoured of philanthropy It could be conceded, he said, that the persistent evidence, in almost identical degree, of constitutional instability in good and bad districts, with but little variation, created a difficulty for the advocates of both sides, and suggested that there might be error in both views Yet, on ethical grounds, Dr Carswell thought, the effort to salvage weak lives must go on, in the sanguine hope, as Maudsley expressed it, of attainment to a higher standard of mental health

Colonel DAWSON, in proposing a cordial vote of thanks to the lecturer, referred to the value of wards for early mental treatment in giving to nurses opportunity for training in mental work He thought the general impression derived from this lecture was one of encouragement, especially as there was always a tendency in nature to revert to the normal, whatever the oscillations from it might be

Dr SOUTTAR seconded, remarking that the great purpose of psychology was not merely to cure mental disorder, but to prevent such disorder arising The lecturer had shown that much could be done to raise the general level of the mental soundness of the race

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THE second International Congress of the League of Mental Hygiene organized by Clifford W Beers will be held in New York next April

THE first Italian Congress of Social Eugenics will be held at Milan from September 20th to 23rd and the meeting of the International Commission of Eugenics in which fifteen States will be represented, will be held in the same city on September 21st and 22nd

England and Wales.

PREVALENCE OF SMALL-POX

In a recent issue (May 10th, p 826) statistics were given of the prevalence of mild small pox in England in the first third of the present year, the total number of cases was 1,424, giving a weekly average of 84 In the subsequent four weeks, ending May 24th, there is evidence not of abatement, but rather of increase, the notifications having numbered 431 or a weekly average of 108 In Cumberland there is an improvement, Whitehaven and Maryport having no notifications, and those in Workington having fallen from 11 in the first of the four weeks to 2 in the last, Cockermouth, however, is not yet rid of it In Derbyshire there have been 208 notifications, the great majority (140) being in Chesterfield borough Within the last fortnight the disease has appeared also in Derby In the North Riding Middlesbrough continues to be the only place attacked it has had 55 notifications in the four weeks Northumberland has had 53 cases, all but 10 or them in Ashington Notts county is still affected the four weeks having produced 48 notifications 21 of them in the urban district of Hucknall and 18 in Basford

In his annual report for 1923 Dr Walter Garstang medical officer of health for Hucknall, gives an interesting account of the outbreak there The population is 17 510 The disease introduced by a contact from Kirkby in-Ashfield broke out on August 8th, and up to the end of the year there were 132 cases All were removed to Rushcliffe Small pox Hospital Nearly all were due to direct contact in the home, at school or at work School closure, Dr Garstang believes, was effectual in at least one instance in checking spread of infection The disease was disseminated in the collieries by miners mistakenly attributing the rash to the conditions of their work Carelessness of the general public and neglect of advised precautions were also factors The greater number of cases occurred in the age groups 5 to 20 years and 40 to 50 years A preponderance of male over female attacks at 5 to 15 years is attributed to school infection No man who served in His Majesty's forces in the late war contracted the disease Of the total 132 cases 107 were unvaccinated and 25 vaccinated and only 6 of the vaccinated were under 25 years of age None of the 132 cases had been revaccinated Six cases were vaccinated after exposure to infection but not soon enough to prevent attack which was very mild The distribution of the rash was on the whole characteristic Even in confluent cases there was little deep pitting and every case recovered without complications Dr Garstang holds that the conscientious objector" clause is abused in Hucknall Visitation of contacts was carried out systematically but the opinion is expressed that quarantine should be practised because contacts cannot be closely supervised if at their ordinary occupations or not at home when called on Cases might be seen one morning perfectly well and working but twenty four hours later they were found to have developed a rash while attending a cinema performance the previous evening In short in an epidemic of mild small-pox Dr Carstang evidently thinks surveillance of contacts without quarantine quite insufficient Notwithstanding all the difficulties we are glad to observe that by his obviously unremitting attention he appears to be gradually gaining control over the epidemic In 1923 the notification were in August 2, September 5 October 26 November 45 and December 54 In the Registrar General's weekly returns for 1924 it is shown that in the first ten weeks of the present year the notifications numbered 101 and in the next eleven weeks they totalled only 44 But the epidemic is not at an end and so long as the public of Hucknall will no accept the only sure method of stamping it out which they can accomplish within a month if they are unanimously so minded they will have to trust for its limitation to the vigilance of their medical officer and to the early and prompt notification of every case or suspected case by the doctors of the town, of whom in his report, Dr Garstang expresses his great indebtedness.

DR EDMUND SMITH, M O H YORK

Dr Edmund M Smith has tendered his resignation of the office of M O H York, owing, we regret to learn, to ill health He became deputy M O H in March, 1898, and in 1900 the office of M O H was made a whole-time appointment and Dr Smith was appointed In 1908, when the medical inspection of school children was brought into force, he became school medical officer, with Dr Galbraith as assistant school medical officer In 1900 an outbreak of typhoid fever occurred, which Dr Smith was able to trace to two conditions—the large number of infected privy-middens, and defective sewers, he made a special report in 1901 and the privy-middens were abolished and the sewers repaired He also procured the establishment of small-pox hospitals just in time to deal with an extensive outbreak in 1900-03 The improvement of housing conditions, the control of tuberculosis, the education of the public with regard to venereal disease, and the organization of maternity and child welfare work, are among the other services Dr Smith has rendered to York He has the satisfaction of knowing that the death rate fell from 20 3 in 1900 to 10 3 in 1923 The infant mortality has contemporaneously fallen from 211 to 51 The number of cases of typhoid fever notified in 1900 was 244, but in 1923 only 5

MANCHESTER HOSPITALS

The combined annual report of the Manchester Royal Infirmary and the Manchester Royal Lunatic Hospital for the year ended December 31st, 1923, draws attention to the reduction in the average cost of each patient and of each bed occupied that has occurred during the year It contains the annual report of the board of management, to which reference was made in our columns of February 23rd (p 348) The arrangement with the Christie Hospital and the Radium Institute whereby patients from these two institutions have been treated free of charge at the Infirmary has been of considerable benefit to a large number of patients suffering from cancer The massage and therapeutic department of the Infirmary has been enlarged, and the Royal Lunatic Hospital has been much improved by better lighting, telephone, and domestic arrangements being installed The vegetable supply of the hospital is now entirely drawn from the kitchen garden The report contains seven illustrations of the Infirmary

"SENILE DECAY"

The Metropolitan Asylums Board, at a meeting on May 31st, passed the following resolution "That the Minister of Health be asked to issue an order making aged poor persons suffering from senile decay chargeable to metropolitan boards of guardians" Mr Hubbard, the seconder of the resolution, gave figures showing that last year 581 patients were admitted to one asylum, 276 of whom were between 70 and 80 years of age, 84 between 80 and 90 years of age, and 8 over 90 years of age He had seen a woman of 98 years of age, certified for the first time as a lunatic, suffering from senile decay These old people were not lunatics, he submitted, and people suffering from senile decay should not suffer the stigma of lunacy

Scotland.

THE MILK SUPPLY OF SCOTLAND

A MEETING, arranged by the Board of Agriculture for Scotland, was held in Glasgow last week, under the presidency of the Lord Provost, to consider the whole subject of the preparation, distribution, and consumption of milk The meeting comprised representatives of all sections of the dairy industry in Scotland, of Government departments, and of the medical and veterinary professions Sir Robert Greig Chairman of the Board of Agriculture for Scotland, said that the physique of the people of Scotland was comparatively poor when compared with that of their fellow subjects from the Dominions, America, and the French rural areas This he attributed to the fact that in other countries the consumption of milk was greater The Board of Health and the Board of Agriculture desired to have behind them a dairy council that could attack the many problems with heartiness and goodwill, and endeavour to get reforms carried out Dr Orr, director of the Rowett Research Institute, Aberdeen, said that competition in the milk trade had now become international, and the fact that the price of summer milk was determined by that of Canadian and New Zealand cheese on the market showed the extent to which the milk industry in Britain was dominated by other countries Only about half the milk consumed was produced at home Mrs George Buchanan of Paisley, speaking as a milk producer, welcomed the proposed formation of a dairy council, and Mr James Dunlop, of the Board of Agriculture, stated that in Canada and the United States the consumption of milk had risen to 49 gallons a head a year, whereas in Britain it stood at 22 gallons The consumption in Sweden, Denmark, and Switzerland was even higher—69 gallons A committee was appointed representative of the various interests concerned to draft a constitution for the council

CENTRAL MIDWIVES BOARD FOR SCOTLAND

The examination of the Board, held simultaneously in Edinburgh, Glasgow, Dundee, and Aberdeen, has just concluded, with the following results Out of 112 candidates 107 passed Of the successful candidates 32 were trained at the Royal Maternity Hospital, Edinburgh, 21 at the Royal Maternity Hospital, Glasgow, 4 at the Maternity Hospital, Aberdeen, 13 at the Maternity Hospital, Dundee, 8 at the Queen Victoria Jubilee Institute, Edinburgh, 7 at the Cottage Nurses' Training Home, Govan, Glasgow, and the remainder at various recognized institutions At a meeting of the Central Midwives Board for Scotland for the hearing of penal cases, Dr James Haig Ferguson in the chair, it was reported that a certified midwife had been found guilty of procuring abortion and sentenced to penal servitude, and the secretary was directed to remove her name from the Roll of Midwives and to cancel her certificate, and in addition thereto, in terms of Section 8 of the Midwives (Scotland) Act, 1915, to prohibit her from attending women in childbirth in any other capacity At the same diet a midwife was censured, and admonished to adhere strictly to the rules of the Board in future, in respect of delaying two days to notify the local supervising authority of a case of ophthalmia neonatorum and of medical assistance being required

Ireland.

LOCAL GOVERNMENT AND PUBLIC HEALTH BILL (FREE STATE)

MR S BURKE, Minister for Local Government, in proposing the second reading of the Local Government Bill, stated that it proposed to abolish rural district councils, which had hitherto been the sanitary units, and transfer their sanitary functions to the county councils The resultant proposals of the bill were that the administration of all health services, curative and preventive, would be under the control of the county councils, which would appoint from their own members county health boards The powers and duties of the county council as sanitary authority would be exercised and performed by the county board of health The borrowing powers of a county council as rural sanitary authority for a county health district would, however, be exercised directly through the county council and not delegated to a board of health A county medical officer of health would be appointed for each county, he would be a whole-time officer and should possess a diploma in public health or sanitary science The Minister referred to many changes with regard to superannuation, and stated that in future the granting of pensions would be optional, thus repealing the compulsory superannuation clauses of the Local Government Act, 1919

Sir James Craig, M D (Dublin University), congratulated the Minister on the bill, which he heartily supported He, however, regretted that provision had not been made for a State medical service He also urged that provision should be made to ensure that the conditions under which foods were produced in Ireland were under better public health control, the introduction into England of certain classes of food that might be injurious should be prohibited He thought a very great improvement could be made in

the conditions under which creameries worked He was glad that the sanitary functions of the district councils were to be handed over to a larger body with wider interests—the county council He approved the provision with regard to the appointment of the county medical officer of health, who would be independent of private practice, specially qualified for the work, and possessed, he hoped, of practical experience in it There was no mention in the bill of the medical inspection of school children, but the Act governing that matter was not being repealed, and he hoped that as soon as the county boards had been established and the whole scheme was in working order the provisions of that Act, which was still in force, would be put into operation He would wish to see only half the cost of the health service paid out of local rates and the other half out of the central funds Where an official had given good service and was entitled to superannuation allowance no question should be raised as to whether he should get it He would ask the Minister to substitute in that particular clause the word "shall" for "may" In the counties and districts he regarded nursing as of great importance There should be a nurse in each district, as sufficient work would be found for her in dealing with tuberculosis, child welfare, and maternity work

President Cosgrave continued the debate, and suggested that the bill should be read a second time on the condition that a commission would be appointed to report on the entire question If the Minister adopted his suggestion he would be able to announce in a month the names of the commission and the terms of reference The debate was adjourned

COUNTY GALWAY MEDICAL SCHEME

A deputation, representative of the County Galway medical officers, waited upon the Minister for Local Government last week for the purpose of laying before him their views in connexion with (1) the scheme of the Galway County Board of Health for the rearrangement of the dispensary districts and the reduction of the number of dispensary medical officers, (2) the lack of hospital accommodation for the sick poor and the necessity for providing cottage hospitals in the county

The deputation was introduced by Mr Padraig O Maille T D, and consisted of Dr T Costello, Tuam Dr Foley, Ardrahan, Dr Callaghan, Ahascragh Ballinasloe Dr Kennedy O'Brien, Oughterard, and Dr Casey, Clifden Dr Hennessy, Secretary, Irish Medical Committee was also in attendance The deputation urged on the Minister the necessity, both in the interests of public health and the sick poor, of providing a number of cottage hospitals in different parts of the county for the treatment of acute cases of illness where removal to the central hospital at Galway would expose the patients to grave risks, and where the home surroundings did not permit of efficient medical treatment

Having heard their views on this, and on the proposal to rearrange the dispensary districts, the Minister assured the deputation that there would be no reduction in the number of dispensary districts in the county, but that, as vacancies arose, the existing district arrangements would be open to review As to the question of providing cottage hospitals, the Minister promised that the matter would receive full consideration

factory housing accommodation Mr Wheatley pointed out that very vital principles were involved in any action First of all there was the interference by the central authority in the work of the local authority and secondly the right of the local authority to interfere with the liberty of the subject

Encephalitis Lethargica.—At the instance of Sir Philip Dawson the Minister of Health on May 27th gave the following table of notifications of cases of encephalitis lethargica and of deaths in England and Wales for each quarter of 1922 and 1923 and for the first quarter of this year

Notifications.		*Deaths*	
1922		1922	
Thirteen weeks ended—		Quarter ended—	
April 1st	140	March 31st ...	55
July 1st	132	June 30th ...	86
September 9th	83	September 30th ...	82
December 30th ...	93	December 31st ...	66
1923.		1923.	
March 31st ...	448	March 31st ...	188
June 30th ...	479	June 30th ...	167
September 29th	144	September 30th ...	90
December 29th	154	December 31st ...	66
1924		1924	
March 28th	753	March 31st ...	225†
May 16th (7 weeks ended)	1,715		

* Uncorrected. † Approximate.

Mr Wheatley added that taking figures for a year it would be found that the notifications in England and Wales during the fifty two weeks ended June 2nd 1923 were 868 During the fifty weeks ended May 17th 1924 the notifications were 2,829 but the figures for the last seven weeks of this latter period were uncorrected

Medical Assistance for Old Age Pensioners.—Questioned by Mr Ayles on May 23th whether he was considering the provision of medical assistance apart from the Poor Law for old age pensioners Mr Snowden said he could disclose nothing before he introduced the Government proposals to lessen restrictions on old age pensions

Eyesight Test for Seamen.—Mr Stranger asked on May 27th if the Board of Trade would take the necessary steps to ensure that seamen engaged in British merchant vessels should undergo eyesight tests similar to those to which candidates qualifying as masters and mates in the merchant service had to submit The President of the Board of Trade said that the sight tests were compulsory only in the case of candidates for officer certificates but were open to all seamen and many were in fact tested Owners could require seamen to produce proof that they had had their sight tested before engaging them but to compel all seamen to submit to tests before signing on would require legislation and he doubted whether there was sufficient case for this

Army Hospitals in India.—Mr Richards gave on June 2nd a written answer to the inquiry by Mr Broad how far effect had been given to the recommendations of Lord Inchcape's Committee on retrenchment as regards hospitals in India The number of beds in the British and Indian Station Hospitals had been reduced by the amounts shown below

	British Station Hospital	Indian Station Hospital
Northern Command ...	1,016	1,140
Southern Command ...	476	287
Eastern Command ...	331	184
Western Command ...	83	55
Burma District ...	61	—

A reduction of fifteen officers of the Indian Medical Service has been carried out and the services of sixty assistant surgeons re being dispensed with It was anticipated that these reductions would effect a saving of 5 lakhs of rupees

Tuberculosis in the Navy.—The number of men discharged from the navy in 1922 on account of tuberculosis was as follows Seamen 84 engine room 48 marines 14 telegraphists 7 armourer 1 electrical artificer 1 shipwright 1 domestic 1 writers 3, victualling 4 ship's cook 1 regulating 1 seedie 1 total 178 The number of men in the navy (1 and) 143 The number of attributable cases was 3 tuberculosis was 143 The number of attributable cases was 3 apart from cases (if any) claimed to be due to war service The matter would be dealt with by the Ministry of Pensions The following method of arriving at a decision as to attributability to or aggravation by service was adopted when considering cases arising during the post war period. Attributability was only given in such cases arising (1) By direct contact with another case such as might occur in a sick berth rating from nursing or from sleeping adjacent to such a case (2) From extraordinary exposure or exertion on duty such as war Aggravation was given (1) Where the medical history of the case had shown a definite tendency to lung disease and a sufficient continuous record of service in small such disease (2) Where there was a record of service in ships craft where the ventilation and cubic space were limited (3) Where the disease arose under climatic condition which amounted to more than the ordinary exposure incidental to naval service As regards other cases of tuberculosis such as those arising in joints and other organs attributability or aggravation was given only in cases where there was direct evidence of injury to the part sustained on duty and where it was considered that the injury had caused a lighting up of the disease

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Lunacy Laws Royal Commission.—Replying to Mr Costello on June 2nd the Prime Minister said that it was not intended to include in the terms of reference of the proposed Royal Commission the question of lunacy law and administration in Scotland He did not think it undesirable that a member of the Government should be appointed a member of the Commission if his personal qualifications were such that the appointment would strengthen the Commission

Overcrowding and Tuberculosis.—In reply to Mr Black on May 28th the Minister of Health said that the question of compulsory segregation of persons seriously affected with tuberculosis would be considered in connexion with any proposals for the amendment of the Public Health Acts But on further inquiry by Mr Black as to the spread of tuberculosis through unsatis-

Asylum Buildings.—Mr [illegible] the Financial Secretary to the Treasury on June 3rd whether in view of the inopportune time at which the Government had decided to institute a general inquiry into hospital accommodation he had already invited the Voluntary Hospitals Commission to investigate the extent to which hospital accommodation might be inadequate and the extent to which it could be improved at an early date a bill dealing with smoke abatement.

The Minister of Health replied that the Government hoped to introduce

Correspondence.

INFANT DIETETICS, EGGS, AND PROFESSOR MELLANBY

SIR,—Professor Edward Mellanby has undoubtedly done great work in his laboratory investigations into the etiology of rickets More recently he has become a clinician, so recently indeed that the disappointments of practice have not yet deprived him of that self-confidence which the successful control of experimental work rightly engenders For the futilities of his predecessors in this field of work he has nothing but contempt In the past nothing serviceable has been taught or learnt, and dietetic prescriptions have as a rule been well calculated to aggravate the very mischief which they were designed to cure

In the light of the wisdom learnt in the laboratory he is come to teach what he calls the "new" method Under the heading "Clinical application of the foregoing facts," he sets out some specimen diets which not only prevent and cure rickets, but which "will often be found to bring about great improvement in other conditions of malnutrition and wasting"

Turning to his table of a diet for a child of 5 months of age, we find it consists of a daily intake of 25 ounces of milk with some orange juice and cod-liver oil and the truly amazing number of five eggs Professor Mellanby is careful to say that he does not put this forward as a panacea, but he says it is "a form of treatment which has a rational and experimental basis and ought to be tried" As an indication of its quality he reproduces photographs of a child before and after a course of this diet in a way that recalls the similar claims and similar illustrations published by the proprietors of certain foods

The fact is, of course, that the great majority of infants will thrive upon any sensibly constructed standard diet, and, if only Professor Mellanby will abate a little in the matter of the five eggs, the diet he suggests may perhaps be so regarded It requires no argument and no photographs to convince everyone that about 80 per cent of infants fed in the way suggested would make satisfactory progress It is with the remaining 20 per cent that the difficult art of therapeutic modification of the diet to control certain symptoms is concerned To these cases, although he admits their existence, Professor Mellanby does not address himself If he were, for example, dealing with an epidemic of acute diarrhœa I doubt if he would find salvation for his little patients even in a daily ration of five eggs Nor, I think, need he consider too closely the antirachitic content of any food prescribed in such circumstances, so long as it is capable of achieving its temporary purpose of controlling the diarrhœa Yet he has nothing but contempt for what he calls the "concoction" of albumin milk, and he has the very poorest opinion of those who occasionally prescribe it, because he regards the prescriber as thereby convicted of ignorance of the importance of a suitable vitamin content in the diet

One can only wait to hear from Professor Mellanby how he deals with that minority of infants which fails to thrive upon the standard diet He will then be faced with the real issue —I am, etc,

London W 1, May 26th H CHARLES CAMERON

VITAMINS AND TEETH

SIR,—In the course of his lecture on deficiency diseases, with special reference to rickets, which appears in the BRITISH MEDICAL JOURNAL of May 24th, Professor Mellanby says "It seems reasonable to suppose that, if teeth are badly formed they will be more susceptible to caries, but when this was suggested by M Mellanby it was met by opposition Dental authorities said there was no relation between dental structure and caries"

With all proper humility (or pride!) I claim to be a "dental authority" and I object to being saddled with views I never entertained If I remember rightly most of us objected not to the view that badly formed teeth predisposed to caries but to the claim that deficient dental structure was the cause of dental caries We still adhered to the view that, whatever their structure, "clean teeth cannot decay"

If Professor Mellanby will refer to the BRITISH MEDICAL JOURNAL, November 23rd, 1907, he will find a paper by myself which will show him that for many years some at least of the "dental authorities" have long realized the relationship between diet and defective dental structure, and between defective dental structure and decay —I am, etc,

London, W, May 30th. J G TURNER, F R C S, L D S

PARATHYROID THERAPY

SIR,—Some three years ago Dr Grove and I carried out and published some clinical experiments in which a variety of conditions were treated by parathyroid therapy with a certain degree of success I have been able recently to ascertain from the wholesale houses that the demand for parathyroid products is still maintained at a high level, but with the exception of a few isolated cases I have seen very little published in this country either to support or to confute the claims which were made for the efficacy of this form of treatment

I should be most grateful for permission to ask, through your columns, if practitioners who have used parathyroid therapy would very kindly send me brief notes of the results they may have obtained Endocrine therapeutics are at present in such a state of confusion that some such survey of one particular branch might yield results of value I do not, however, desire that any case should be recorded in which any form of polyglandular mixture has been used The information I should be glad to receive is as follows

1 Initial, age, and sex of patient
2 Diagnosis of condition
3 Condition of patient at beginning of parathyroid treatment
4 Dose of parathyroid used and name of manufacturer
5 Concomitant treatment
6 Course of illness and after-history (if any)
7 Result and opinion as to value of parathyroid therapy

Example

A B, female, aged 56 Rheumatoid arthritis Onset of acute exacerbation May, 1922 slight rheumatism for a year or two
June 3rd, 1922 Could not lift arm, pain in shoulders periarticular swellings left ankle, dorsum of left foot, left wrist, left hand One septic stump Parathyroid (G W C Co) gr 1/10 b d Calomel gr 1/8
June 7th —All acute symptoms gone
June 10th —'Better than before attack', swelling subsided, septic stumps removed
June 21st —Parathyroid (G W C Co) gr 1/20 b d twice weekly
July 14th —Sharp pain occasionally in one finger, no other rheumatic pain whatever
Parathyroid undoubtedly helped considerably in effecting a cure

I should be grateful if those who will kindly co-operate with me in this matter would address their letters to me at the Medical Schools, Downing Street, Cambridge —I am, etc,

Cambridge, May 31st H W C VINES

THE R A M C (T A)

SIR,—The present position of the R A M C (T A) is decidedly unsatisfactory, as there is a deficiency in the commissioned ranks of at least 25 per cent, according to the last Army List

It may be argued that there will not, for at least a good many years, be another war in any way approaching the magnitude of the last one, and that therefore there is plenty of time before one has to make up one's mind whether one ought to take any part in Territorial work The experience of the past twenty-five years shows, however, that emergencies spring up quickly, and that men, however willing they are, cannot give the best service to the Empire unless they have had some previous training It is becoming more and more evident that other countries looked on the pre-war Territorial Force as a negligible quantity, and it required the magnificent work of the then force to demonstrate that they had taken the trouble to get ready As far as medical men are concerned it is "up to them" to show that they do not intend to allow the standard of the corps to be lowered, and that can only be done by joining up in greater numbers than at present

The treatment that the pre-war Territorials received during the last war has, doubtless, caused long-continued dissatisfaction, but this state of affairs cannot easily recur, as it has been definitely decided that the Territorial Army is the second line of defence and that all medical men joining in future emergencies must go through this portal

The amount of work required during the winter months is not excessive and can easily be fitted in with one's civilian duties, while the summer camp enables one to have an outdoor life for a short time and to come in contact with men of all classes who believe in doing some practical patriotic work

It would be very helpful if existing officers would give their impressions of post-war conditions, and also if those who for various reasons are refraining from joining would state their objections —I am, etc ,

F W GOODBODY,
Captain R.A.M.C (T.A.).

London W June 2nd.

INDIVIDUAL MEDICAL DEFENCE

SIR,—The question of individual medical defence to which you made reference in an annotation in the issue of the JOURNAL of May 24th, and to which further reference is made in your issue of May 31st by Sir John Rose Bradford and Dr C M Fegen of the London and Counties Medical Protection Society, is one of paramount importance to the profession at the present time As you say

It is most disquieting to learn on the authority of Dr Fegen Chairman of Council of the London and Counties Medical Protection Society that much less than half of the practitioners of this country belong to a defence society

You then go on to say

The childlike optimism with which some 25 000 members of our profession refrain from protecting themselves at a trifling cost against incalculable risk passes our comprehension

Is there not another view? It may be that the defence societies are not popular with the profession because they do not offer that guarantee of security to undertake defence when the testing time arrives As at present constituted the councils of the societies have absolute discretion to defend or to decline to defend any member in any case within the scope of the society There is no contractual obligation to defend, and if a member should feel that he has been dealt with in an arbitrary fashion, and be thrown back on his own resources, he has no legal redress In a case where a medical man sought counsel's opinion with the view of taking legal action against a medical defence society, the following opinion was given

I very much doubt however whether a member of a society which is in law a limited company, has a personal action for damages because the society does not carry out its objects

To pay a premium to a medical defence society as at present constituted is not the same as paying a premium to a fire insurance company against fire risks although many medical men in their "childlike optimism" think otherwise. It may be said that it is a false analogy to make a comparison between a commercial risk of this character and a professional risk involving questions of professional honour, duty, custom, and tradition In a fire claim expert investigators are employed to test the validity of the claim, and it may be that the council of a medical defence society is comparable with such investigators The fire investigator has, however, the terms of the policy to guide his decision, but there is no such guide to the council of the defence society, which may decide in an arbitrary and unjust fashion

The solution of the defence question is for the British Medical Association to take this work, either by itself or through the defence societies, working in some definite organic relationship to it It may be said that this would not meet the difficult problem of doubtful claims There would always be a few cases of gross negligence or carelessness which could not be defended with honour and credit to the profession If, however the defence department had a rule that no case would be rejected until the Division to which the claimant belonged had been consulted in the matter, then a safeguard would be provided against hasty, arbitrary, and unjust decisions The Division from its knowledge of the local circumstances professional reputation, and character of the claimant would be able to render valuable help to the central committee in arriving at a decision to take up or turn down a case

This procedure seems cumbersome, but it would only be resorted to in special cases, and these would be or in frequent occurrence, and it would afford confidence in circumstances wherein a written contract or policy is perhaps impossible Many of the questions on legal points of professional matters—a large number or them minor and recurring—now put to the defence societies could be answered by the defence department in a legal column in the JOURNAL This would greatly help to maintain the sense of legal responsibility in professional matters among the members of the Association

It has always been the proud claim of the British Medical Association that it defends the general interests of the profession I submit that it is very hard to distinguish between the general and the individual interests, and the Association should undertake to defend both

This topic is again coming up for discussion at the Annual Representative Meeting next month and the opinions of Representatives and their constituents will perhaps be ripened before then by a discussion in your correspondence columns At the Portsmouth meeting last year I mentioned in connexion with the debate on this question that a decision had been taken to amalgamate if possible, the Canadian Medical Association and the Canadian Medical Protective Association Perhaps our two delegates—Sir Jenner Verrall and Dr Alfred Cox—to the Canadian Medical Association will be able to tell us on their return how far the scheme has progressed —I am etc

J S MANSON

Warrington June 1st.

FIBROMA OF PREGNANT UTERUS

SIR,—Dr Clyde McKenzie reports a most interesting case of obstructed labour due to a pelvic fibroid in a 2 para aged 29 (BRITISH MEDICAL JOURNAL, May 24th, p 909) The notes of the operation contain the following two statements "The fibroid was too low down to permit of myomectomy" and "The uterus was removed after removal of the foetus to minimize the risk of infection"

At the May meeting of the Edinburgh Obstetrical Society I expressed the opinion that if the patient's age justifies conservation of the uterus and the fibroid is not readily accessible, or its removal too dangerous owing to the risk of serious haemorrhage, the operation should be done in two stages—namely, (1) Caesarean section, and (2) myomectomy after an interval I also considered that removal of the uterus was not justifiable in cases of suspected sepsis, while in late cases of sepsis it was futile and also that a difficult myomectomy should be postponed if sepsis were present

A 3-para aged 33 had been sixteen hours in labour and the membranes ruptured sixteen hours A large cervical fibroid filled the pelvis and simulated the foetal head. When seen she was believed to be infected and a live baby was delivered by Caesarean section. No attempt was made to deal with the fibroid owing to the difficulty of access the vascular condition of the parts and the fact that she was septic The abdomen was closed without drainage She ran a temperature and discharged a large abscess through the wound which later required secondary suture Seven months later the abdomen was reopened and a cervical fibroid filling the pelvis was removed from the back of the cervix She made an excellent recovery and when seen recently was six months pregnant with her fourth child

This case emphasizes the points I am raising and is an interesting contrast to Dr McKenzie's —I am etc

E FARQUHAR MURRAY

Newcastle-upon-Tyne May 27th.

THE CAUSATION OF CANCER

SIR —Dr A Leitch has done me the honour of referring (May 31st p 983) to my letter of May 24th on this subject and it is interesting to find that he considers the specificity of cancer to be merely a "notion" or the majority of people law and medical, destined to be finally broken though only after a long period of time and that it is disputed by many of us

I do not know for whom Dr Leitch holds a brief it can only be for a small coterie and I am surprised that any pathologist should deny so obvious a fundamental fact There are very many specific diseases but non is more typically so than cancer Its nature, or course and termination are so invariably identical in every case that they can only be due to the action of a single specific agent It is imposing too much on one's credulity to ask one to

believe that any and every of the numberless mechanical alleged causes are capable of producing the same complex cancer syndrome in each case One can accept these mechanical irritants as predisponents, but it must be obvious that there is a specific exciting cause In the case of another specific disease—tuberculosis—it is known to follow exposure to cold, wet, and even trauma, but no amount of these can produce the disease, and no pathologist would dream of suggesting it The presence of the specific agent, the tubercle bacillus, is imperative, and the other causes are simply predisposing

Dr Leitch says that cancer is not a specific disease but a generic one, and yet he defines chimney-sweeps' cancer of the scrotum as a specific disease caused by soot Cancer is, then, a specific disease after all, and that is my contention, only I maintain that there is a specific unknown cause and that in this case soot irritation is merely predisposing

Dr Leitch is out to collect the "causes" of cancer and believes he is finding them How many does he consider necessary? He has already collected some dozens and yet is not satisfied I am hoping for the discovery of the one cause as well as those of many other specific diseases still unknown

The very fact that certain fluvial and marine fishes have been found bearing cancerous growths identical in every way with those occurring in man proves that his collection of causes cannot account for these, but it does suggest transmission of the disease by sewage, containing the specific agent of cancer, polluting the rivers and the ocean into which they flow

Nor is there anything extraordinary in the fact that a specific agent should be able to cause the exuberant proliferation so characteristic of cancer when one considers the enormous and varied proliferation which occurs normally in healthy generative tissue from the action of a single spermatozoon, which is, to all intents and purposes, a protozoan parasite —I am, etc,

Driffield May 31st A T BRAND, M D, C M, V D

PSYCHOLOGY AND JUNG AND OTHERS

SIR,—Not without pain and severe effort of concentration I have read the second instalment of the lectures of Dr Jung of Zurich I have also, for my sins, read his works, and at length I protest

Neither Jung nor his spiritual father Freud has produced, or can produce, a valid psychology, for the simple reason that they have never made the analysis necessary to lay, or even prepare, the foundation of a true system Their writings, and those of their followers, remind me of the philosophizing of the Schoolmen before the days of Galileo, it is not that what they say is wrong, or right, but the whole style of their talk offers no hold to the reason there is no sign of a system of thought based on deep foundations and developed thence step by step by consecutive and cogent arguments

In searching, as I always do, for the "germinal idea" in the works of Freud, I was astonished to find the lack of science, the mere levity, with which he selected his point of departure So far from making an analysis of the mechanism of thought, he has taken one factor—association of ideas—and built up around it not a science but an *olla podrida*, in which amidst abundant absurdities also appear many shrewd observations Jung has bettered the instruction, and given a more formal appearance of system, but without any veritable developmental science

The analysis that I indicate as requisite has actually been carried out you will find it in my *Principles of Psychology*, where I dispose of Freud in a footnote, there being in this no pretentiousness, but simply the application of a scientific method analogous to that of Lavoisier when in an observation he brought to the ground the whole portentous fabric of phlogiston He did not argue against it, he simply showed that it was inconsistent with real and rigorously tested principles

I have been so much perturbed at the importance assigned to Freud in comparison with my own scientific offerings that I have used my system here in a little application of research The result both consoles and inflates me It requires no brain power to talk Freudism, to gain a veritable insight into psychology demands even from the reader long and patient effort, and particularly a quality that must be both delicate and strong—a subtle but determined spirit —I am, etc,

London N W, May 20th. ARTHUR LYNCH

VOLUNTARY HOSPITALS COMMISSION AND ADDITIONAL ACCOMMODATION

SIR,—In the summer of 1922 the Voluntary Hospitals Commission decided to convene a conference of representatives of Local Voluntary Hospitals Committees, which was held in July at the Ministry of Health The conference was very well attended, and I think representatives from practically every Voluntary Hospitals Committee in England and Wales—and many of those in Scotland—were present The discussions which took place were of great value to the members of the Voluntary Hospitals Commission, whose main preoccupation at that time was the distribution of the Government grant of £500,000 in aid of the deficits on the maintenance accounts of the voluntary hospitals That task has now been accomplished Since that date a fresh, and perhaps even more difficult, task has been placed upon the Commission by the present Government, Fresh terms of reference have been given to them, which are as follows

"The Voluntary Hospitals Commission are requested to inquire into and to report upon the extent of the additional voluntary hospital accommodation required in England and Wales and the best means of providing and maintaining it

To obtain sufficient data on which to base a useful report will require considerable investigation The Commission have already sent out a questionary in regard to matters on which it occurs to them that information should be afforded, but it is felt that it would be of the utmost value if a full discussion could take place with the representatives of the Local Voluntary Hospitals Committees as to the best methods by which this investigation could be carried out A conference will be held at the Ministry of Health on June 18th, at 10 30 a m

It is earnestly hoped that all local hospital committees will be officially represented, but in addition all members of committees will be very welcome if they care to attend

In case members of committees should not be aware of the meeting may I venture to ask you if you will be good enough to give publicity to this matter? I may add that although the new terms of reference and the best method of giving effect to them will be the most important subject of discussion, some of the committees have put down other matters which they desire to have considered, and these will also be discussed —I am, etc,

ONSLOW, Chairman.

Voluntary Hospitals Commission, Whitehall, S W 1 May 20th

*** The conference in June, 1922, to which the Earl of Onslow refers, was reported in our columns of July 29th, 1922, p 187 One of the chief recommendations adopted (on Lord Onslow's motion) was that local hospital committees should not recommend any extension scheme to the public unless satisfied that the extension is necessary and is planned on a reasonable scale, and that the services cannot be provided by co-operation with other institutions, and also that sufficient funds will be available for the extension and to meet the cost of maintenance of the hospital, including the charges resulting from the extension

The Services

MILITARY OPERATIONS IN WAZIRISTAN

THE following have been appointed members of the Military Division of the Order of the British Empire for valuable services rendered in the field in connexion with military operations in Waziristan January 1922 to April, 1923 Captain W K Campbell, D S O V C R A M C, Captain (temporary Major) D H Hadden, M C, R A M C, and temporary Captain M K Kelavkar, I M S

The following are among the names brought to notice for distinguished service during the operations by General Lord Rawlinson of Trent Commander in Chief in India

Commands and Staffs Lieut Colonel C Hudson C I E D S O, I M S Colonel B Watts D S O (late R A M C)

R A M C Major A Irvine-Fortescue D S O Captain B C O Sheridan M C Lieut Colonel W M H Spiller Major C H Stringer D S O

I M S Major D C A Fitzgerald M C Captain G M Moffat Captain F R. Thornton, M C temporary Captain K. G Mohile Captain C J Stocker M C

Obituary

FORBES FRASER, C.B.E., F.R.C.S.,

Surgeon Royal United Hospital Bath

We have to record with deep regret that Mr Forbes Fraser, who was to have been President of the British Medical Association at its Annual Meeting in Bath next year, died on May 28th after a long and painful illness

The death of Mr Forbes Fraser of Bath—sometime consulting surgeon to the Second Army and to the Army of the Rhine—in the prime of his professional manhood and in the exercise of his great accomplishments, is one of those injurious caprices of fate which are the despair of finite human understanding, and that he should have fallen as he did, in the execution of his duty—poisoned by a wound received while operating—does but enhance the pitiful ness of such a waste of treasure.

No words could more fitly describe the feelings with which the news of Forbes Fraser's death has been received by his friends and the profession at large He had borne with abundant courage since December last an illness whose gravity none realized more fully than he From time to time there seemed a hope that his physical fitness and determination would bring him back to health, but the end came on Wednesday, May 28th, and our profession is the poorer

Forbes Fraser was born in 1871, the younger son of Mr Henry Fraser of Arbroath At the early age of 16 he passed the London matriculation examination and entered as a medical student at St Bartholomew's Hospital with an entrance scholarship His hospital career was marked by continuous success In 1890 he won a scholarship in anatomy and physiology, to which he added the Harvey prize in 1892, the Brackenbury surgical scholarship in 1894, and an exhibition with the gold medal for physiology at the intermediate London M B examination He obtained the conjoint diplomas in 1894 and the F R C S Eng in 1896 He had passed the final F R C S examination a year before he reached the age when the diploma could be conferred on him

Sir Henry Butlin, whose house-surgeon he was at Bart's, always predicted that Fraser would achieve distinction in his profession As a resident he was hard-working and conscientious A tale is told of his remonstrating against the sharp stings of Mr C B Lockwood's sarcastic wit and getting the characteristic reply, "Fraser, you know whom the Lord loveth he chasteneth" But the chastening process came therewith to an end

On leaving Bart's Fraser engaged for three years in practice at Tarporley in Cheshire where by dint of rising early and working late he contrived to find time for hunting and winning prizes in point-to-point races

In 1900 he settled in Bath as the partner of Mr Pagan Lowe His long connexion with the Bath United Hospital began in 1903, when he was appointed assistant surgeon In 1909 he was made a full surgeon and was senior surgeon of that institution at the time of his death He was also consulting surgeon to the Ministry of Pensions Hospital Bath, and to the hospitals at Chippenham Frome Malmesbury, and Shepton Mallet During the war Fraser joined the Duchess of Westminster's Hospital as surgeon, and spent many active months at Le Touquet One of his colleagues there, already quoted above, wrote thus of him in the *Times*

Forbes Fraser was a man of robust and virile mind who veiled the vigour of his character under a manner always gentle and self-effacing and sometimes—in the eyes of those not well acquainted with him—almost diffident But there was nothing diffident about him really Beneath his guise of mildness, which was not affected or calculated but represented quite faithfully the personality or natural mask of the man, lay an inflexible doggedness in the pursuit of such things as he felt to be important During the war he seemed to move and work under the impulse of an implacable enthusiasm which lashed him on to ever varying enterprises that gave promise of advancement in the surgery of war wounds and since he loved his profession and was a fine and original surgeon, he made his influence felt over a wide radius, and might have become a dominating figure in this field had he achieved earlier than he did his ambition to become consulting surgeon to an army In all professional affairs Forbes Fraser's code exacted from him the very highest standard of work and sacrifice of which he was capable and a high one it was But out of hours he was abundantly endowed with the capacity for enjoyment a magnetic and delightful companion, a keen and finished fisherman full of fun and good fellowship courteous, unselfish, and open handed to a fault He rarely spoke ill of anybody I recall his doing so only when he thought he detected in some person in authority an improper levity or callousness towards problems which seemed to him insistent Then he would let himself go Many a man now living, yes and many who in spite of him lie dead long since in France have had cause to bless his humanity and skill and unwearying diligence To us who worked with him and played with him and loved him he remains a fragrant memory and an abiding inspiration



MR. FORBES FRASER.

In 1917 he left the Duchess of Westminster's Hospital to take up special work at No 10 Casualty Clearing Station at Remy Siding The results of this work were published in the *British Journal of Surgery* under the title "Primary and delayed primary suture of gunshot wounds" Subsequently most of his work was at one or other casualty clearing station The advent of his surgical team was always welcome where active fighting was in progress The strain of battle surgery never ruffled him in a tired overworked operating theatre he radiated energy good temper and contentment These qualities combined with a sound knowledge of surgery and rare judgement led to his appointment as consulting surgeon to the Second Army After the armistice he advanced with this force into Germany, and became consulting surgeon to the Army of the Rhine In military and civil life alike he was held in high esteem as a consultant His unfailing consideration for the feelings of others enabled him to criticize and advise without detraction or offence and it was constantly said that Forbes Fraser never came into a consultation without giving real help He retired from the army with the rank of Colonel A M S and the C B E (Military) His return to civil practice in Bath found him ready with outlets for his energy The necessity of co-ordinating the medical services of the whole community was borne in upon him and he set heartedly to the development of a

scheme which should serve the Bath district He aimed at a linking up of well equipped cottage hospitals and hospitals in smaller towns with the Royal United Hospital, Bath Nothing but the cost prevented this plan from coming to fruition In private conversation and public address he won adherents and disarmed opposition Lack of funds made it impossible to embark on the complete scheme A beginning, however, has been made On Friday, May 16th last (as recorded in our issue of May 24th, p 915) H R H the Duke of Connaught declared open the Royal United Private Hospital and Orthopaedic Hospital at Combe Park, Bath, which has been built on the site of the Bath War Hospital This site was acquired by the managing board of the Royal United Hospital with the ultimate intention of transferring the whole hospital there The present buildings offer hospital accommodation for paying patients who cannot afford nursing home fees and a ward for the treatment of crippled children It is a sad reflection that the first patient was admitted on the day of Forbes Fraser's death, perhaps he would have wished no more fitting commemoration in time to come

His services to the profession were considerable He worked unremittingly for harmony and good fellowship He was an active member and founder of various surgical clubs, among them the Country Surgeons Club and the Bath and Bristol Surgical Club He had been president of the Bath Clinical Society, and had contributed actively to its stimulating influence amongst the doctors of Bath and a wide area around He was a member of the committee of the Bristol Medico-Chirurgical Society For the last two years he had arranged post-graduate courses of instruction at the Royal United Hospital, which were well attended and greatly appreciated

The British Medical Association had no more loyal member In 1912-13 he was chairman of the Bath Division of the Bath and Bristol Branch At scientific meetings he was a regular attendant, his communications were instructive, well prepared, and effectively spoken In business matters he thought quickly, judged wisely, and spoke little, but it was usually the final word His Bath colleagues had recently proved their high appreciation of his worth in recommending him as President-elect for the Annual Meeting of the Association in 1925 at Bath, and their nomination was approved by the Central Council at its last meeting on April 16th

In appearance Fraser was a typical Norseman, tall and spare, with clear blue eyes and a ruddy complexion His manner was unassuming, so that his modesty sometimes passed for diffidence, but behind this lay great self-reliance and unswerving determination to get the best out of himself and everyone round him The high reputation of Bath as a city of healing owes not a little to his powers of organization and straightforward dealing His favourite recreation was salmon fishing, much of his spare time was spent fishing the trout streams of Wiltshire He was also a keen motorist He was a man whose friendship was highly prized, and whose companionship would banish the cares of life To his skill he added good spirits and witty stories, a combination to which many of his patients owe their recovery

Forbes Fraser was twice married By the first marriage he leaves two sons and three daughters, his elder son is a medical student at St Bartholomew's Hospital By the second marriage there is one daughter His second wife survives him, and to her and all his family we extend our deep sympathy

Among the many tributes to his work and character that have reached us we quote the following

The tragic death of Forbes Fraser at the height of his career will cause an acute sense of personal loss amongst a very wide circle of friends In addition to the confidence he inspired in his colleagues and patients by his sound judgement and technical skill, he had the faculty of making firm friends amongst all those with whom he was brought into personal contact Gifted with good physique and a brilliant intellect, he carried out whatever he set himself to do with indomitable will and unsparing energy, and when he decided at the end of the war to confine his work to consulting and operative surgery he threw himself into his task with whole-hearted devotion and unbounded enthusiasm The immediate and striking success which followed his efforts was due even less to his great operative skill than to his remarkably sound knowledge of surgical principles Apart from being a surgeon of outstanding ability he was a physician of no mean order, and the circumstances which necessitated his engaging for a number of years in general practice, though they delayed the realization of his ambition to devote himself to pure surgery, enabled him in later years to bring to bear on surgical problems a breadth of view which was of the greatest value to all concerned His death imposes a loss on his colleagues, both in hospital and out of it, which can hardly be replaced Whenever his opinion was asked and whatever the nature of the case, one always felt that his advice was sure to be sound, and that some helpful suggestion for treatment would be certainly forthcoming His hospital work was invariably carried out with the same meticulous care and attention to detail that characterized his work in private practice However busy in other directions, he always made it a point of honour that his hospital work should not be allowed to suffer, and his invariable kindness and happy knack of inspiring hope and encouragement earned him the lasting gratitude of hundreds of patients of the humbler class His services, both as consultant and operator, were placed unsparingly at the disposal of the staffs of the various cottage hospitals in the surrounding area, and the number of calls made on his time and energy in connexion with country hospitals added enormously to the amount of work he managed to achieve One cannot help feeling that a lowered resistance from a long period of overwork was largely responsible for the relentless advance of the infection which caused his death He was a staunch colleague and a loyal, kindly, and generous friend Of a highly sensitive and somewhat emotional nature, he always kept himself firmly in hand and rarely allowed his feelings to overcome his habitual suavity of manner and speech Conspicuously honourable and straightforward in all he did, he had the most bitter contempt, which he never hesitated to express, for anything suggestive of cant, humbug, or meanness of purpose His enthusiasm, energy, and strong sense of public duty were an inspiration to all, and the affectionate regard in which he was held by all classes of the community is no more than a fitting tribute to one whose whole life was characterized by integrity of purpose, brilliancy of achievement, and an unfailing kindliness in all he did

A surgical colleague writes

It was only just before the war that Forbes Fraser decided to devote himself entirely to surgical work His merits, both as a leader of men and as a surgeon, were recognized in the war He did splendid work in connexion with the excision of infected wounds associated with gunshot fractures, his account of this, published first in the *British Journal of Surgery*, was embodied in the official surgical history of the war On his return to civil work he threw himself with great enthusiasm into all the forward surgical movements of the day His work as surgeon to the Royal United Hospital at Bath was notable for the great part he played in the modernization of that institution He took a great interest in orthopaedic surgery, and was fortunately able to bring health authorities and philanthropists together in founding a new open-air centre for the treatment of crippled children For a short time he acted as one of the visiting surgeons to the Pensions Hospital, Bath, where the present writer was able to renew his relations with him as a colleague Every surgeon in the Bath and Bristol district looked upon him both as a good friend and an inspiring teacher His gentle, self-sacrificing kindness to patients endeared him to an ever-widening circle His skill as an operator and his great experience as a surgeon would have earned for him a foremost place long ago if it had not been for his incurable modesty He had often discussed the strange fatality by which medical men fall victims to diseases in which they are most interested, and the last conversation about this subject was in November last, when he read a paper at a British Medical Association meeting on infections of the hand Within less than a month he pricked

his thumb at an operation for osteomyelitis, and for five months he fought a most painful, heroic, but, alas! a losing fight with the staphylococcus which then gained entrance to his system He was a man whom to know was to love, and his place will never be filled

The following account of Mr Forbes Fraser's service in France is contributed by Dr W P S BRANSON

Early in 1915 Forbes Fraser was invited by Colonel (now Sir Charles) Gordon-Watson the commandant, to join the staff of the Duchess of Westminster's Hospital at Le Touquet It so happened that at the time of Fraser's arrival in May, 1915, Gordon-Watson was laid up at home with enteric fever, and accordingly much of the major surgery of the hospital devolved upon the newcomer for several months In this he acquitted himself so well as to impose upon the minds of us, his colleagues, a belief in his professional excellence which years of subsequent experience of him only served to intensify This year, 1915, he spent in more or less humdrum and routine surgery, but he managed in the course of it to lay the spell of his gay, happy, lovable personality upon all of us who worked with him To me—his professional junior, but placed in authority over him by the accident of Gordon-Watson's illness—he was a most generous, considerate, and loyal friend, and I treasure the memory of the intimacy which enabled me to watch, at close quarters and for many months, the life and work of one so stimulating in his professional attributes and so engaging in his human ones In April, 1916, he left us for a time, having previously become engaged to be married to Miss Agnes Bailey, one of the original team of nursing sisters which accompanied the hospital to France in 1914 This lady subsequently became his wife and nursed him devotedly through his long and painful fatal illness He returned again to France towards the middle of 1917, and rejoined us in the autumn But almost immediately he was sent on loan, as surgeon of a surgical team, to the 2nd Canadian C C S, where he worked throughout the tragic and bloody Passchendaele fight By now his gifts and character had drawn the attention of those who were on the look-out for men of surgical promise and so it came about that presently, with the establishment of a research casualty clearing station to test the method of primary suture of wounds, Forbes Fraser had his opportunity, and took it No 10 C C S at Remy Siding was set aside for the experiment, and Fraser, then a captain was given the organization and conduct of the research This, perhaps his most far-reaching contribution to surgery, was an immediate and decisive success and opened a new and happier chapter in the history of the wounds of war The year 1918 saw Fraser back with us at Le Touquet, and with us he remained till the closure of the hospital in July of that year On his release he was immediately impounded by the consulting surgeon, who knew his worth, and sent to No 5 C C S as surgical specialist I was with a C C S of the same group in the autumn of this year during the last advance, and recall vividly how keen and fresh was his enthusiasm, altogether unabated by his already long and strenuous service He certainly was an inspiring and inspiriting companion Soon after the armistice he attained the height of his war-time ambition by gaining the appointment of consulting surgeon to the 2nd Army and went with this army to the Rhine, where he remained till his demobilization He was a distinguished man by the evidence of his material achievements, but what really stamped him as being beyond the common run of men was the blending in him of so many graces of the spirit

The first part of the funeral service, on May 31st, was held at St Andrew's Church, Bath Practically the whole of the medical profession of Bath, and a considerable number of medical men from Bristol, were present The Central Council of the British Medical Association was represented by Dr C E S Flemming (Bradford-on-Avon) and Dr H C Bristowe (Wrington), President-elect of the Bath and Bristol Branch The Branch was represented by the honorary secretaries, Dr C E K Herapath and Mr W G Mumford F R C S The Bath Division was represented by the Chairman, Dr R Waterhouse the honorary secretary and treasurer, Mr Mumford, and Dr C A Marsh Dr H C Tayler represented the Trowbridge Division, and Dr F F Bond the Wiltshire Branch Dr J A Nixon, C M G, Mr Fraser's fellow consultant to the Army of the Rhine, represented the Bristol Medico-Chirurgical Society The large church was crowded, not only with members of the medical profession and leading citizens, but with very many of Mr Fraser's grateful hospital patients

Dr C E S FLEMMING sends the following tribute, written on May 31st

The great congregation that to-day took part in the solemn and simple ceremony in St Andrew's Church must have realized that it was no ordinary service of tribute to a great man that all admired As they left the building they hesitated, as men bewildered by a great calamity They did not stop to talk—words could not tell their thoughts Something had gone out of life the sun was no longer shining in the valley of their work Forbes Fraser was a brilliant surgeon, his advice was widely sought and highly valued He was a born teacher, as those who attended his post-graduate lectures in his hospital well knew He was a fine administrator and a man of energy, as testify the new hospitals opened only a few days since He had that great tact that is born of true sympathy and a knowledge of men He took an active and leading part in the several professional societies to which he belonged But these things alone were not the reason of his far felt influence He had a remarkable personal charm, and a wonderful smile—a smile that betokened joy in life and in work with a seriousness in the sincerity and modesty of his manner and word that made it a delight to meet him and called forth the affection of his fellow practitioners, his patients, and the public There is no doubt that under his gentle and powerful influence the whole outlook and manner of medical and hospital life in Bath and the country round was changed and inspired with fresh ideals Keen in his work, with an alert mind, sound judgement, and large experience, his advice and help were in constant demand, and those who asked felt always that he was giving to the utmost so much that at last he overburdened his body As Dr Waterhouse, the Chairman of the Bath Division, said, he must have saved the Ethical Committee much work, for his influence and kindly tact smoothed away many a difficulty His criticism was never unkind though he had no use for humbug and he left no doubt in his hearer's mind as to what he thought nothing he said could have hurt any man's feelings There was much in Fraser to remind one of Donald Hankey's 'Beloved Captain' of whom, when the end came it was written But he lives Somehow he lives And we who knew him do not forget We feel his eyes on us We still work for that wonderful smile of his"

THE LATE MAJOR F W CRAGG

In our issue of May 3rd (p 806) we had with regret to record the death of Major F W Cragg I M S, and at that time published a short notice of his career By the last mail we have received from Lieut-Colonel W F Harvey, C I E I M S Director of the Central Research Institute, Kasauli a tribute to Major Cragg memory, written on behalf of his colleagues at the Institute, from which we extract the following passages The loss cannot be replaced, for Cragg had made for himself in the hill-laboratory community a niche which was all his own I can remember his return to Kasauli as a convalescent from dysentery during his period of military service in the great war and how he expressed himself as feeling that he had returned home That feeling is one which bears a very special significance in India and showed how happy he was in his work at Kasauli Soon after he returned to Kasauli to take up laboratory work once more he was appointed to the special charge of the Entomological Section of the Central Research Institute In taking over this charge Cragg was very insistent on his wish to carry out research actually in the field on those diseases in which an insect vector was a chief factor in transmission One of the first pieces of work which he undertook was a study of relapsing fever On this inquiry

he himself contracted the fever, but when he had recovered he insisted on carrying the inquiry to a conclusion It was on the occasion of a lecture, followed by a discussion, at the Section of Tropical Medicine and Hygiene of the Royal Society of Medicine, that Cragg made up his mind to investigate the prevalence of typhus fever in India And it is this disease which has claimed him as its victim and added his name to the lengthening list of those who have succumbed to infection while investigating the mode of its transmission Cragg was well aware of the danger of his inquiry, and although he had only comparatively recently recovered from a severe attack of relapsing fever was not deterred from undertaking this new investigation Truly this was a man imbued with a high sense of the duty of his calling as a research worker. Cragg had seventeen and a half years' service, and during that time had made a large number of contributions to medical entomology One of the great services which he, in conjunction with his colleague Major Patton, I M S, rendered to research workers on medical entomology has been the production of an important textbook on that subject His death at so early an age removes one who would have gone very far in making a still greater name for himself in the scientific world We can only extend to his widow and children our deepest sympathy and share with them their pride in the remembrance of how he met his early death

We regret to record the death, at Cheadle on May 17th, of Dr WALTER SCOWCROFT in his 70th year He received his medical education at Owens College, Manchester, and took the diploma of M R C S Eng in 1879 and that of L R C P I in 1890 After serving as house-surgeon to the Manchester Royal Infirmary he joined the staff of the Cheadle Royal Asylum as assistant medical officer about forty-five years ago, and became medical superintendent in 1903, which post he retained till his retirement in 1920 He was also a past lecturer on mental diseases at the Victoria University, Manchester During his long connexion with the Cheadle mental hospital he won the esteem and confidence of all with whom he came in contact He was a member of the Medico-Psychological Association of Great Britain and Ireland, and a member of the Stockport, Macclesfield, and East Cheshire Division of the British Medical Association He took great interest in collecting antique furniture, rare glass, pictures, and curios, of which he had formed a good collection A largely attended memorial service was held in the church in the grounds of the hospital

The death is announced of Mr EDMUND COMER BOARD, consulting surgeon to the Royal Infirmary, Bristol He was a son of Mr John Board, of Burnham-on-Sea, and was born on June 14th, 1838 He received his early education at Harrison's School, Bath, and afterwards became a student of the Bristol Medical School After holding the office of house-surgeon to the Royal Infirmary, Bristol, he was appointed assistant surgeon in 1869; he became surgeon in 1871, and held that office for twenty one years, on his retirement he was appointed consulting surgeon He was thus connected with the Royal Infirmary for over half a century He was for many years lecturer on forensic medicine in the Bristol Medical School Dr Board was a member of the British Medical Association and was for a long time honorary secretary of the Bath and Bristol Branch and eventually its president He was surgeon to the old Bristol Naval Artillery Volunteer Corps, in which he took great interest

Dr ARNOLD PICK, emeritus professor of psychiatry in the German University at Prague, has recently died at the age of 75

Dr VICTOR HENSEN, emeritus professor of physiology in the University of Kiel, died recently at the age of 89

The well known obstetrician Professor FELICE LA TORRE has recently died at Rome at the age of 76

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE

At a congregation held on May 30th the degrees of M B, B Ch. were conferred upon E V Beale

UNIVERSITY OF LONDON

THE following candidates have been approved at the examination indicated

THIRD M B B S—*Kathleen D Arnsby *‡§E Gallop *‡Dorothy Gibson *‡W O C Jarrett *‡§J Maxwell *‡A. T Rogers *‡W P H. Sheldon *‡§Hilda N Stoessiger *‡T C Summers *§H F Walker I. Atkin Rose Baranov L G Bourdillon Doris K. Brown J W Brown Dorothy D B Buckmaster H. Burt-White Grace D Chambers C E Cobb Doris B Collier Elizabeth M. Cowie Hilda M Cunnington, J A Currie D Davidson M A. B Demerdash H T Edmunds Barbara J Edwards Lucy M. Elsom W M. Evans, R. F Fagan, L. Forman C A H Franklin, L French G F Gibberd Laura P Gibbon Rachel Halperin J R. Hamerton Greta Hartley L. I. Henzell A D Hepburn Gwynedd Hugh Jones Kathleen M Hyslop J T Ingram R. Keene Lorna S. King R A.E. Klaber A J Kohlmar Gladys M. Lambourne, R E Lane J J Lewinstein F Louis Eveleen Lyles Lucy M T. Masterman, G O Mitchell C I. N Morgan R M. Morris Una F M. Morton L. Mushin Grace H Newell Frances L Nichol Lucy Parker A. C T Perkins Ethel A. Perrott J W G Phillips J W Poole K. N Purkis Margaret E Reynolds S. H. Robinson, May K. Ruddy F P Schofield H. B Shaw Patricia H. S Shaw A. I Silverman H K. Snell Doris M. Stone Margaret Swete, A W Taylor, W Thomas J H Thompson P Thwaites M. A Townsend Eileen M Turner Hermione M Usborne Dorothy M Vaux, J A. Walker R G R. West Joan F Whitelock. E Williams J G. Wilson Esther Wingate Isabelle J Woodhouse.

* Honours. † Distinguished in medicine.
‡ Distinguished in surgery § Distinguished in midwifery
‖ Distinguished in pathology

SOCIETY OF APOTHECARIES OF LONDON

THE following candidates have passed in the subjects indicated

SURGERY—H C Clifford Smith J H Cooper W R A Line R. Schofield L Statnigrosch
MEDICINE—E J Creais W R A. Line E J P McDowell J P McGuire W T Swanton
FORENSIC MEDICINE—F H Armanious R Hare W R A Line E J P McDowell
MIDWIFERY—K R. Chaudhri

The diploma of the Society has been granted to Messrs F H. Armanious, J H Cooper, E J Creais, and L Statnigrosch

Medical News.

THE fourteenth conference of the British Hospitals Association will be held in London on June 19th and 20th, at Victory House, Leicester Square, under the presidency of the Hon Sir Arthur Stanley, G.B.E At the morning session of June 19th an address of welcome will be given by the President of the Royal College of Physicians, Sir Humphry Rolleston, Bt, and Dr F N Kay Menzies will open a discussion on the relation of voluntary hospitals to municipal authorities In the afternoon Sir Wilmot Herringham will introduce the subject of the training of nurses, and at 4 30 p m. Lord and Lady Hambleden will hold a reception at 3, Grosvenor Place, S W 1 At 7 30 p m. there will be a dinner to the official delegates at the Royal Automobile Club On June 20th, at 11 a m., Mr R J Mellor, M P, will open a discussion on approved societies in relation to voluntary hospitals, and in the afternoon visits will be paid to the general and special hospitals of London

THE Linnean Society has conferred its gold medal on Professor W C M'Intosh, F R S, late Director of the University Museum and the Gatty Marine Laboratory at St. Andrews This, it is stated, is the first time this honour has been received by a Scotsman In presenting the medal the president of the society congratulated Professor M'Intosh on the recent completion of his great monograph of the British marine annelids He also mentioned that one of the earliest papers contributed to the society by the medallist was published sixty two years ago

THE annual summer dinner of the Glasgow University Club, London, will be held at the Trocadero Restaurant, Piccadilly, on Friday, June 27th, at 7 30 p m, when Lieut Colonel John Buchan, M A, LL D, will occupy the chair Any Glasgow University men not members of the club who desire to attend the dinner will kindly communicate with the honorary secretaries, 1, Harley Place, N W 1

A COMPETITION concert of the King's Service Choirs will be held on Saturday, June 14th, at the Chelsea Polytechnic Institute, at 3 p m It is part of the work of the Vocal Therapy Society, instituted mainly through the efforts of Lady Carnarvon, to test the therapeutic value of choral singing on the subjects of neurasthenia induced by the war The choirs come from the various neurasthenia hospitals, and the results so far are stated to have been encouraging.

THE prize founded by Dr J T Neech for the best paper read in each session before a branch or group of the Society of Medical Officers of Health has been awarded to Dr C O Stallybrass, Assistant M O H Liverpool His paper, entitled "Encephalitis lethargica some observations on a recent outbreak," was read before the North Western Branch in May, 1922.

THE arrangements for the provincial meeting in Liverpool of the Section for the Study of Disease in Children, of the Royal Society of Medicine, are now complete. At 2 p.m on Friday, June 27th, there will be a clinical meeting at the Royal Liverpool Children s Hospital, when cases will be demonstrated At 4 p.m. a series of demonstrations will given at the Medical Institution, and at 5 p.m. papers will be read on *x* rays in the diagnosis of pulmonary tuberculosis in childhood, by Drs. Hubert Armstrong and Thurstan Holland, on asthma in children, by Drs. C Paget Lapage and F S Adams, and on the treatment of congenital hypertrophic pyloric stenosis by Dr Leonard G Parsons. Members will dine together at the University Club on that evening, and on Saturday, June 28th, visits will be paid to the open air hospitals at Heswall and Leasowe, but the unregenerate may play golf at Formby instead

THE King has granted Dr. Douglas E Derry permission to wear the Insignia of the 3rd Class of the Order of the Nile conferred upon him by the King of Egypt in recognition of valuable services

PROFESSOR RAYMOND PEARL, of the Johns Hopkins University, whose paper on alcohol and life duration was published last week (p 948), will give a lecture at University College, London, on some recent experimental and statistical studies on the alcohol problem on Tuesday, June 24th The lecture will be given in the Applied Statistics Theatre at 5 30 p.m., and is open to all persons interested.

THE honorary secretary of the Sir Malcolm Morris Memorial Fund informs us that a very satisfactory response is being received to the appeal recently published in our columns for this fund (May 10th, p 841), and there is every hope that its objects will be achieved The subscriptions received up to June 3rd amounted to £251 13s Further subscriptions will be gratefully acknowledged if forwarded to the Honorary Treasurers, "Sir Malcolm Morris Memorial Fund, at 12, Stratford Place, London, W.1.

A PARTY of forty five medical students from Birmingham University visited Droitwich on May 31st under the guidance of Dr Douglas Stanley, lecturer in therapeutics The party was conducted round the baths by Drs Wilkinson, Dawson, Campbell, and Curtis

A COURSE has been arranged jointly by the London (Royal Free Hospital) School of Medicine for Women the London Lock Hospital, and the Elizabeth Garrett Anderson Hospital for the instruction of women practitioners in the treatment of venereal diseases It will begin on June 16th and will continue for two weeks The number of persons admitted will be limited to twelve, and the fee is five guineas Full particulars can be obtained from the Warden and Secretary, London School of Medicine for Women, 8, Hunter Street, Brunswick Square, W C 1

THE Earl of Balfour presided at the dinner of the National Institute of Industrial Psychology in London on May 29th. The institute was founded in 1921 by Mr H J Welch, at that time director of Harrisons and Crosfield, Ltd , and Dr C S Myers, F R S , then director of the Psychological Laboratory, Cambridge, who resigned his offices at Cambridge to organize the new institute Its aim is to study the human factor in industry and it has already succeeded in introducing tests for certain vocations so that the round peg should not be forced into the square hole It is claimed that improved methods have already been devised by which needless fatigue and wasted efforts are abolished There have been increases of output amounting in packing to 20 or 30 per cent , in work at the coal face of 16 per cent., in a catgut factory of 47 per cen , and in a bakery of 28 per cent It is the object of the institute in advising new methods to act in co-operation with the workers Lord Balfour, in the course of a speech wishing the institute success said that Parliament had done much to protect workers from danger and to ensure them from accidents promote sound education, and insist upon sanitary conditions, but all important as these things were they dealt with the external conditions and little had hitherto been done to consider the psychological aspect of the worker in relation to the work. He appealed to students of human nature to devote themselves to studying difficulties which when the engineer the chemist, and the physicist had done all that they could still left a great margin within which burdens were thrown on the workers these could be removed by judicious, skilful research It was not work that was the enemy What was needed was to prevent work being an intolerable burden and sometimes an injury to health and even to life Everybody with experience of life knew that work successfully accomplished was almost the greatest pleasure of which mankind was susceptible Mr C T. Cramp, general secretary of the National Union of Railwaymen supported the toast, which was acknowledged by Sir Robert Witt

THE annual dinner of the West London Medico-Chirurgical Society will be held at the Trocadero Restaurant Piccadilly, on June 13th The President Sir William Willcox, will take the chair. The Cavendish lecture will this year be delivered by Sir Robert Jones at the Kensington Town Hall at 8.15 p.m on Friday, June 20th The subject is some points in manipulative surgery A conversazione will follow, at which many firms will provide medical and surgical exhibits

COMMENCING on Monday June 16th the Royal Northern Hospital will give, in conjunction with the Royal Chest Hospital, a two weeks intensive course in medicine and surgery At St Peter s Hospital there will be a four weeks course in urology, from June 16th to July 12th Beginning also on June 16th the Children s Clinic (Western General Dispensary) has arranged a series of nine lecture demonstrations The following courses have been arranged for July and August cardiology, at the National Hospital for Diseases of the Heart general intensive course at the North East London Post-Graduate College (Prince of Wales s General Hospital) diseases of the chest, at the Brompton Hospital and neurology, at the West End Hospital for Nervous Diseases. Copies of the syllabus and particulars of courses can be had from the Secretary to the Fellowship of Medicine, 1, Wimpole Street W.1

COMMEMORATION DAY at Livingstone College was held on Saturday, May 31st, when a large number were present, under the chairmanship of Sir William J Simpson C M G A short statement by the Principal showed that thirty six students had entered the College during the present session He spoke of the encouraging reports received from former students of the value of the training received at the College and emphasized the need for an increase of students and subscriptions to carry on the work more usefully in the future A cheque amounting to £52 17s 9d was handed to the treasurer by the senior student, on behalf of past and present students to help meet the cash deficit as a token of gratitude esteem and goodwill to our Alma Mater The Treasurer, in acknowledging this gift, said that the financial side of the work of the College for the last few years had been one of considerable anxiety The Chairman said he felt that the course at Livingstone College was an excellent one which would be most useful to the missionary in order to teach him how to care for his own health and to get into the hearts of the people amongst whom he worked The Rev G H Eastman London Missionary Society Gilbert Islands described how the training had been of value to himself and his family to other Europeans, and to the people of the country amongst whom he worked placed as he was often three or four months from qualified medical aid The Rev A C Mill Baptist Missionary Society Congo told how the training received at Livingstone College had enabled him to be more useful in the mission field

A BOOK on encephalitis lethargica by Professor Wimmer, with a preface by Sir Frederick Mott will shortly be published by the firm of William Heinemann

THE Second International Congress on Comparative Pathology was held in Rome from April 27th to May 4th Among the subjects discussed were the grafting of organs, including endocrine glands, the present state of the cancer problem, vitamins and deficiency diseases in man and animals filtrable viruses the bacteriophage bacterial tumours of plants anky lostomiasis, bovinism and a number of other subjects on the border line of medical and veterinary pathology Among those who were present at the Congress and took part in the discussions were Professor Fibiger of Copenhagen, Dr Carrel of New York, Dr d Herelle and Professor Mauclaire of Paris and Professor Meyer of the University of California

PROFESSOR LOEWI of Graz has been awarded the international prize for physiology by the Royal Academy of Sciences of Bologna for his work on the cardiac nerves.

PROFESSOR SIEGMUND FREUD has been presented with the freedom of the city of Vienna for his services to medical science.

THE well known German surgeon Professor Trendelenburg was 83 years old on May 24th

ON the occasion of Professor Clemens Pirquet s birthday [illegible] of May 16th and 17th in the form of a [illegible] devoted to pediatrics

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W C 2, on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand W C 2

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Attiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc) *Articulate Westrand London*

MEDICAL SECRETARY *Mediocria Westrand, London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 4737, Dublin), and of the Scottish Office, 6 Rutland Square, Edinburgh (telegrams *Associate, Edinburgh*, telephone 4361 Central)

QUERIES AND ANSWERS.

SOMNAMBULISM

"W" writes A public schoolboy, aged 16, has recently begun to walk in his sleep He comes of a 'nervous" stock, but he seems otherwise quite well Should he give up work altogether? Should any treatment or drug be given? His medical attendant would be glad of advice and reference to any recent literature

INCOME TAX

Cash Basis

"L B C" is in correspondence with an inspector of taxes who declines to accept the cash basis for his firm's assessment

*** "L B C" may like to refer to our issue of November 19th, 1921, in which there is a note of an interview on this point between one of the principal inspectors at Somerset House and two officials of the British Medical Association It is there recorded that the principal inspector agreed that the cash basis system had been found to be well adapted to the assessment in normal circumstances of medical practitioners, and that it had become the usual custom, he expressed the opinion that where it was refused by inspectors it was on account of some special reason We suggest that 'L B C" might bring these facts to his inspector's knowledge, and ask him to explain what precisely are the special reasons why his own firm should not be allowed to adopt the usual custom and prepare their returns for assessment on a cash basis

Book Debts Sale of Share in Practice

A CORRESPONDENT writes that he has sold his half share exclusive of outstanding book debts His accountant and the inspector of taxes appear to agree in thinking that he should pay tax on the receipts

*** We are clear that he is not so liable The principle of the cash debt basis is that, taking one year with another, profits of a medical practitioner computed on a cash basis are sufficiently close to those computed on the basis of taking the receipts at the real value of the debts booked to justify the Revenue and the practitioner in regarding the two results as identical If our correspondent had computed his returns on the strict basis it is clear that he would have paid tax on the book debts in question, he computed his returns otherwise but that leaves unaffected the fact that when he paid tax he accounted for his liability on his earnings whether received in cash or not When he sells his share as from June 30 his liability to assessment will cease from that date so far as that share is concerned, the money he will receive will (so far as he is concerned) represent the realization of capital assets—that is book debts from past work —and he is not liable to pay income tax thereon His remedy if the charge is pressed is to apply to the inspector or General Commissioners for a division of the 1924–25 assessment as between periods before and after June 30th, he will, of course, be liable for his share of the tax on the former period and might properly appeal formally against any other charge, if it should be made

Medical Assessor

"MEDICAL ASSESSOR" is at present employed in the provinces, but finds it necessary to keep on his London flat, which costs him £104 a year Can he claim any allowance on that account?

*** No This is a hard case, but the legal authorities are clear, the maintenance of the London residence is not necessary to the performance of the provincial duties and no allowance is due

Expense of Servants

"LAMBDA" uses his house for both private and professional purposes, he keeps two maids and has a man to clean windows etc He has deducted £80 in respect of expense of servants, but the inspector of taxes proposes to allow £25 only

*** It is quite clear that in addition to the actual money wages of a maid, the expense of food, laundry, etc, must also be taken into account If, therefore, the portion of the premises used professionally require the whole time work of one maid, "Lambda's" claim of £80 is correct Sometimes the best course in such a case as this is to make a personal call at the inspector's office to effect an agreed settlement *Prima facie* £25 seems clearly inadequate

LETTERS, NOTES ETC

GOAT'S MILK IN TUBERCULOSIS

DR J F GIBBONS (Darlington) asks why goat's milk is not recommended more frequently as an adjuvant to the usual treatment of surgical tuberculosis He writes I have got excellent results in young children recently, although the family history and home conditions were not in favour of recovery

THE LEFT HANDED CHILD

DR. ELEANOR LOWRY (London) writes Sir Frederick Treves described a way of writing easily with the left hand which might be tried with some of these children It is simply to turn the paper at right angles and write downwards, instead of across I can write a copy-book style easily in this way, which is slower but more legible than my usual writing In trying to write in the usual position with the left hand the difficulty seems to be in moving forwards, but there is no difficulty in moving downwards I have often been told by teachers that left-handed children made to use the right hand are generally very bad spellers If there is anything in this, why not try Sir Frederick Treves's method?

THE LEPROSY PROBLEM

DR F G CAWSTON (Durban) writes In reply to a cable, the medical officer of health for Zanzibar has pointed out that lack of staff and the distance render a systematic treatment of leprosy in that part of the world impracticable at the present time I had hoped that he would be in a particularly advantageous position to test the relative advantages of the antimony and chaulmoogra oil treatments, for it was felt that the presence of scabies and other skin conditions which are common amongst lepers in the tropics would render a possibly permanent cure for leprosy by chaulmoogra alone very remote, whilst the employment of a combination of antimony and sulphur, as described in the antimony treatment, might reasonably be expected to produce a speedy effect in these skin conditions and, as antimony would appear to have a decided effect on the bacillus of leprosy in certain circumstances, the curing of associated skin conditions would enable the patient to recover more speedily than he would otherwise do The vast majority of lepers in the tropics are paupers, and in a considerable number of places there is no adequate provision for the isolation of the leper I think that the opinion given by the medical officer of health at Zanzibar may be taken to show the condition of things as it obtains generally along the East Coast of Africa and in many other parts of the world—in fact, the problem of the leper would often appear to be one of feeding rather than treating the large numbers that would have to be housed in leper asylums were all to be isolated although this would appear to be the right course in the interests of the world's health as a whole It will be a long time before every leper in the world can be expected to submit to intravenous injections of any drug, although, with improved technique, the speedy effects that are evident in many cases are certainly calculated to impress very favourably their affected fellow sufferers

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 30, 31, 34, 35, and 38 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 32, 33, and 34

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *279*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

450. Delirium in Heart Disease.

R. MASSINI (*Schweiz. med. Woch.*, April 24th, 1924, p. 397) describes two types of delirium which are characteristic of, if not strictly peculiar to, heart disease. The first type he describes as "travelling delirium," the patient believing himself to be in some other place than that in which he actually is. In other respects he may be perfectly sane: he may recognize his doctors and nurses and speak sensibly about his health. One of the author's patients, lying in a hospital in Basel, believed he was in Petersburg, though he could see from his window well-known landmarks of Basel. Another patient believed that he was in a hydro or in the home of his brother in another part of Basel. He recognized the people about him and his speech was perfectly sane, although he could not be convinced of his error of localization. After giving details of a third case illustrating the same phenomenon the author suggests that this "travelling" delirium is a continuation throughout the day of travelling hallucinations by night. The patient is under the impression during the night that he is travelling in a fast train and that he has reached some distant spot. This hallucination is characterized by its tenacity and uniformity; it may last for days and is always of bad prognosis. The other type of delirium is more rare. The patient sees a definite pattern wherever he looks. It consists of vertical bars or stripes which in some cases are crossed by horizontal bars or stripes—a chessboard or window-pane pattern covering every object the patient looks at. These bars appear blue about 1 cm. wide, and with an interval of about 2 cm. between each bar. The patient may also see printed lines in columns as in a newspaper but he cannot read them. As with the first type, this hallucination is unaccompanied by any other evidence of a disordered mind but the prognosis is not so bad nor the hallucination so persistent. It is possible, but not probable, that this second type may be associated with the administration of digitalis.

451. Fate of Infants of Tuberculous Mothers.

M. A. COUVELAIRE (*La Gynécol.*, January, 1924, p. 44), in a communication to the Société d'Obstétrique et de Gynécologie de Paris, surveys the fate of 63 infants born (since 1921) of mothers suffering from pulmonary tuberculosis and with tubercle bacilli in the sputum. All the children, of whom 61 were living and apparently healthy, were strictly separated from their mothers from the time of birth onwards. In half their number the individual weight was six and a half pounds or more. No fewer than 23 (38 per cent.) were dead within the first month after birth, and the percentage mortality was not greater among those of inferior weight, nor those whose mothers were at the time of labour in relatively more advanced stages of pulmonary tuberculosis. Turning to the cause of death in these infants Couvelaire was unable to find precise anatomical explanations and compares their decease to the extinction of a lamp which has burned up its oil. These children are born, he concludes, with a diminished "coefficient of vitality." The after history of the remaining infants who survived the first month, appeared to show that in conditions of complete isolation from the tuberculous parent or parents—and conditions which in other respects were hygienically satisfactory—their health and viability were not inferior to those of infants born of healthy mothers.

452. Chronic Haemolytic Jaundice.

F. PARKES WEBER (*Amer. Journ. Med. Sci.*, February, 1924, p. 220) gives details of an unusual blood picture in a case of this disease. The patient, a female aged 37 years when first seen in 1908, had had jaundice, pain in the right side, anaemia and weakness of two years' duration. In most respects she presented the usual features of the condition: she was jaundiced, the liver and spleen were enlarged, the urine was free of bile pigment but contained an excess of urobilin, and the faeces were well coloured. The red blood cells showed a lowered resistance to haemolysing agents. Her blood picture in some details suggested pernicious anaemia: haemoglobin 18 per cent., red cells 900,000 per c.mm., colour index 1, white corpuscles 6,000 per c.mm. The differential count showed an increase of lymphocytes, 45·6 per cent., and reduction of polymorphonuclear neutrophils, 46 per cent. There were present typical megaloblasts, smaller nucleated red cells but no ordinary normoblasts, a few polychromatophilic red cells, and many punctate basophilic red cells, definite anisocytosis and poikilocytosis also were present. There was no free hydrochloric acid in the gastric contents. She was treated with atoxyl but the great improvement which ultimately followed could not with certainty be attributed to this drug. In twelve months her general condition was very good and she was practically free of signs and symptoms. In 1923 she broke down, possibly as a result of excessive work in domestic service, and presented the same picture of jaundice, anaemia, weakness, and enlargement of liver and spleen, macrocytes were especially numerous among her red cells on this occasion, and showed polychromatophilia and decided poikilocytosis. Only one megaloblast was seen in counting 300 white cells.

453. Obesity and Genital Atrophy.

W. RAAB (*Wien. Arch. f. inn. Med.*, March 10th, 1924, p. 443) gives a detailed account of the clinical features and results of x-ray examinations in a group of cases of adiposity and genital atrophy (Frohlich's syndrome, or dystrophia adiposo-genitalis). The obesity and genital atrophy may vary in degree and may occur separately. The signs usually appear in childhood often following hydrocephalus or serous meningitis in infective diseases, in adults more frequently they are the result of tumour. The pituitary body plays an important part in the pathogenesis. An internal secretion is apparently produced in the middle lobe of the pituitary body, the posterior lobe and the peduncle being the secretory paths: it is stated that the hormones influence fat metabolic and genito-trophic centres in the base of the mid-brain. Tumours and other lesions of the pituitary body affecting the middle and posterior lobes cause dystrophia adiposo-genitalis, tumours of the anterior lobe in acromegaly do so only when they press upon the floor of the third ventricle, lesions of which also originate the disease. The hereditary form may be due to the following: congenital causes, hypoplasia of the pituitary body, hydrocephalus, abnormalities of the sella turcica and other malformations. The x-ray indications for the recognition of dystrophia adiposo-genitalis are (1) indications of tumour within or (2) above the sella turcica or detection of the tumour itself when calcareous; (3) indications of hydrocephalus internus at the sella turcica (sometimes with accompanying signs of brain tumour); (4) abnormal height, prominence, or thickness of the dorsum in a sella otherwise normal; (5) abnormal smallness of the sella. (In certain cases the form of the dorsum of the sella plays a part in the pathogenesis of the disease.) The genital trophic centre and the centre for the regulation of fat metabolism are probably a little distance apart in the floor of the third ventricle (the former nearer the pituitary body, the latter nearer the corpora mamillaria). Isolated lesion of the one or the other may occur.

454. Bismuth Treatment of Syphilis.

M. TRUFFI (*Rif. Med.*, April 7th, 1924, p. 331), having had sixty-six preparations of bismuth brought before his notice, remarks that selection of the best is somewhat difficult. Bismuth can be detected radioscopically for one to three hours after injection. The local reaction is seldom severe and elimination is speedy. Bismuth acts rapidly on the spirochaete: it provokes a speedy epithelialization of the lesions and in very early stages may help to abort the disease; in the secondary stage its action is well marked on condylomata and mucous patches and most authors agree that it acts well also in the tertiary stage, especially in vascular or cardiac syphilis. Its effect on the Wassermann reaction is disputed: it is often effective where arsenic and mercury have failed. Some of the soluble preparations, especially the tartrobismuthates, occasionally give rise to a good deal of local irritation (but less so than calomel). Stomatitis can be avoided, or mitigated, by reducing the initial dose and spacing the later doses. The renal function should be watched during treatment. Certain skin eruptions may occur, but are not common. After endovenous injections sharp dental neuralgia may occur. Bismuth is contra-indicated in severe kidney disease, anaemia (*of non-syphilitic origin*) and severe hepatic or cardiac disease. The author finds suspension preparations as a rule more active than those that are in solution.

455. Active Immunization against Diphtheria.

M. PAPIA (*Bol. de la Soc. Esp. de Biol.*, November 1923, p. 194, in *Arch. de med. cir. y esp.*, April 19th, 1924) carried out active immunization against diphtheria by toxin-antitoxin for the first time in Spain on 235 girls who had given a positive Schick reaction during an epidemic of diphtheria. As soon

as the reaction proved positive they were given a passive immunity by antitoxin, and two months later active immunity by toxin antitoxin Three injections of 0 5, 1, and 1 50 c cm were given with intervals of seven days between each injection Schick's reaction was tested three months later, when it was found that 97 75 per cent gave a negative reaction The reaction following immunization was very mild in the great majority of cases, being limited to a slight local infiltration without constitutional disturbance

Surgery.

456. Surgery of Renal Tuberculosis

E S JUDD and A J SCHOLL (*Annals of Surgery*, March, 1924, p 395) consider that tuberculosis is one of the most common and destructive of the surgical conditions of the kidneys In the early stages the lesion is small and well localized, and good results can be obtained from surgical procedures Renal tuberculosis is most common during early and middle adult life, and is primarily unilateral, there is no non operative cure, as it is a disease which only rarely heals spontaneously Primary nephrectomy is the operation of choice, partial resection is generally a failure, owing to the fact that an apparently normal renal segment may be studded with tubercles In the Mayo Clinic the usual procedure is simple extraperitoneal lumbar nephrectomy, as much of the perirenal fat as possible is removed, the pedicle is clamped with two heavy forceps and cut between, the pedicle being finally ligated The abdominal route is only rarely employed for the removal of tuberculous kidneys In most cases a portion of the ureter is removed, the extensive operation to remove the entire ureter, exposing a wide area to infection and absorption, greatly increases the risk and is rarely indicated Various methods are employed to deal with the end of the ureter Mayo cuts it with the cautery, allows the bladder portion to drop back, and closes the wound without drainage If a perinephritic abscess is present the risk of primary nephrectomy is increased it is best to drain this and remove the kidney later In the presence of bilateral infection one kidney may be removed In eighteen cases so treated fourteen died within one and a half years After unilateral nephrectomy nearly 60 per cent of cases were considered cured, 30 per cent died, whilst 10 per cent still had urinary trouble

457 Ascarides complicating Gastro-intestinal Operations

E HAIM (*Zentralbl f Chir*, April 12th, 1924, p 790) reviews the literature, including a case reported by von Hofmeister in which ascarides, after a gastric resection, found their way into the abdominal cavity and set up peritonitis During the last year Haim has had three similar cases in a period of less than three months The first case was in a woman, aged 43, who had had gastric resection performed for an ulcer on the lesser curvature Death took place three days later, with signs of peritonitis At the necropsy, when general peritonitis was found, one suture was seen to have given way In the peritoneal cavity there was a large ascaris, and numerous worms were present in the stomach and intestines The second case was in a woman, aged 59, in whom entero anastomosis was performed for a malignant tumour of the caecum At first all went well, but on the eighth day her condition suddenly became worse, and death took place the following day In this case also a suture had given way and an ascaris was found in the peritoneal cavity The third case was in a woman, aged 44, in whom a posterior retrocolic gastro enterostomy was performed for pyloric stenosis and numerous adhesions in the region of the duodenum and gall bladder Death took place on the sixth day with symptoms of intestinal obstruction At the necropsy no peritonitis was found, but the stomach was much dilated and the distal coil of the anastomosis was collapsed, twisted at an angle of 180 degrees, and contained an ascaris Haim is inclined to the view that intestinal parasites, which have become much more frequent since the war, find a favourable soil in situations where there is an obstruction to the passage of the gastric and intestinal contents A search, therefore, should be made for intestinal parasites before gastro-intestinal operations are performed

458. Surgical Treatment of Pulmonary Tuberculosis

F ARCHIBALD (*Amer Journ of Surgery*, February, 1924, p 17) points out that the earlier operators when performing the operation of extrapleural thoracoplasty for cases of pulmonary tuberculosis contemplated the removal of practically the whole bony thorax on the affected side The immediate mortality was high, practically 30 per cent, and led to a less extensive removal of ribs At present Sauerbruch removes 4 to 8 cm from the first to eleventh ribs inclusive, others take away a little more Of the cases which survive, however, it appears the proportion of cure is higher the greater the length of ribs excised The operation is done from the posterior aspect, and the ribs fall in diminishing the chest cavity by 50 per cent, breathing is abolished, and the affected lung given rest After treatment by compression and rest improvement takes place and even cure in some cases If the patient's resistance is good the case is an encouraging one for operation Archibald thinks that the best form of anaesthetic is gas and oxygen combined with local anaesthesia The operation is best done in two stages, in 39 cases the author has only had one immediate death from cardiac failure Out of a total of 47 cases 5 died shortly after the operation, whilst 13 required two months to three years after operation—all from extension of the disease in the other lung and other parts of the body Five cases were regarded as cured, whilst most of the remainder were improved He adds that this operation has won for itself an assured place in the treatment of selected cases of pulmonary tuberculosis and represents a real landmark of progress

459 Progressive Myositis Ossificans.

A P MACKINNON (*Journ of Bone and Joint Surg*, April, 1924, p 336) reports a case of progressive myositis ossificans in a male, aged 19 Except for deformity of the great toe from birth, his history had been good until 15 years old, when his right thigh was jammed by a log, and he was confined to bed for two months A few months later difficulty in raising the arms above the head supervened, and ridges began to form on his back, but he was able to work for three years after the date of the injury, when severe pain in the left hip and knee, gradually involving the right side, commenced, and he became unable to move either lower limb or rise into a sitting posture After nine weeks the pains disappeared, but the stiffness remained, and two and a half years later both knees, the right hip, and the lumbar and thoracic spines were completely fixed A ray examination showed masses of bone occupying the positions of various muscles The head was unaffected, but the left deep cervical muscles showed pencils of bone The back presented the appearance of a relief map, ridges of bone existing down the centre of the back and in the latissimus dorsi, the deltoids, and left brachialis anticus The right arm, forearm, and both hands were normal, and the lower limbs showed more involvement than the upper, irregular plaques and bands of bone being present in the upper third of both legs and on the dorsum of the left foot Both great toes showed typical microdactylia, the phalanges being fused and shortened The patient's intelligence, genitalia, blood sugar, basal metabolism, and blood counts were normal, and the Wassermann reaction was negative Reviewing the literature, Mackinnon points out that the etiology of this condition is still obscure and treatment unsatisfactory, no permanent benefit resulting from *x* ray exposure, removal of bone, or the administration of glandular extracts

Radiology and Electrology.

460 High-frequency Treatment of Bladder Tumours.

J GAUDY (*Bruxelles Médical*, May 1st, 1924, p 787) advances the claims of the high frequency current in the treatment of vesical tumours as against surgical treatment These tumours often recur in other parts of the bladder, necessitating repeated cystotomies, which may result in the transformation of relatively benign into extremely malignant tumours In all except a small minority of cases high frequency currents afford a method of treatment which is simple and efficacious, and when it fails surgical methods can do little more In treating benign tumours the simplicity of electro coagulation, the avoidance of cutting operations, and the perfect results render high frequency treatment preferable to surgery In the case of malignant tumours it has not been so efficacious, but the surgical results obtained at the price of extensive mutilations are even less encouraging The author describes in detail his method of application of high frequency currents The positive electrode is always of much smaller area than the negative, and when used per urethram is passed through a cystoscope The material covering the negative electrode should be saturated with water or saline solution and be kept moist lest superficial burns occur, at the end of the operation the skin should be carefully examined The negative electrode must not be removed from the skin until the current has been cut off On page 804 of the issue dated May 4th Gaudy describes the removal of pedunculated and sessile tumours after a preliminary cystotomy The tumour is drawn upwards and the healthy tissues divided by a cutting electrode, subsequent haemorrhage being prevented by vigorous high frequency treatment of the raw surface This technique is quite safe when applied to tumours

situated in the trigone or the neck of the bladder, but in the subperitoneal portion great care is necessary to avoid perforation and subsequent peritonitis The treatment of larger tumours by coagulation and excision of successive portions of the tumours has been disappointing In such cases he prefers to perform an extensive resection of the bladder, or when this is impossible to use *x* ray or radium treatment He concludes that (1) In tumours of the first degree (involving the vesical mucosa only) the method appears to be entirely satisfactory (2) In malignant papillomatosis with non infiltrated base good success has been recorded, but there have been recurrences, and many more sessions are necessary than in non malignant cases Slow disappearance of the tumour indicates malignancy (3) In malignant papillomatosis with infiltration of the base, recurrence is almost invariable particularly in the cicatrices After treatment the bladder often seems to be definitely healed but metastases appear in other organs (4) In tumours of the second degree (involving the submucous or the muscular coats) the usual result has been only palliative, and in some cases the treatment appeared to stimulate the growth of the tumour (5) In tumours of the third degree the results have been definitely bad and in some cases the progress of the disease appeared to be accelerated

461 Regeneration of Bone after Intensive Radiation of Malignant Disease.

C C ANDERSON (*British Journ of Radiol*, February, 1924, p 37) observes that the fact is not generally known that regeneration can occur in a bone which has been apparently completely destroyed by an invasion of a growth He quotes Bloodgood (*Journ of Surg* September 1920) and Joll (*British Journ of Surg*, July, 1923) as stating that there is no *x* ray proof that a fracture of a bone the seat of sarcoma may ossify Anderson describes three cases (1) A man, aged 35, who had an osteo-sarcoma of the sternum as large as half a football A secondary growth occurred in the left humerus and right ilium, a spontaneous fracture of the humerus occurred This was irradiated daily and the arm put in splints, in three weeks bony union was already advanced, and, although there was no visible callus, union was satisfactory (2) A man, aged 60 had a large round celled sarcoma of the left side of the lower jaw and symphysis, projecting into the floor of the mouth, and an enlarged gland at the left angle of the jaw Large shell cradling was present After irradiation treatment of the jaw and neck on either side there was a marked increase in deposit of calcium salts, and the growth became much smaller (3) A woman aged 24 had a round celled sarcoma of the left ilium the bone being enlarged to two or three times its normal size The whole hip was very tender, and a skiagram showed two fractures of the bone—one near the acetabulum and the other close to the pubic symphysis Full irradiation was given to back, front, and side Two months later the size of the left hip was normal and the patient was able to walk the bone was slightly flattened, but calcium salts had been largely redeposited throughout the ilium although the bone still appeared 'moth eaten' and the neoplasm was spreading across the symphysis

462. X ray Treatment of Uterine Myoma.

O SEAB (*Norsk Mag f Laegevidenskaben*, February, 1924 p 97) discusses the comparative value of operative and *x* ray treatment for myoma of the uterus in the light of an experience of 22 cases given *x* ray treatment between 1912 and 1921 In 4 of the cases the treatment was discontinued prematurely or medical supervision was inadequate Among the remaining 18 cases there were as many as 13 in which permanent amenorrhoea was induced, although the *x* ray dosage was timid as judged by modern standards In 4 cases amputation of the uterus ultimately became necessary because the haemorrhages persisted Lastly, there was one case in which only very weak *x* ray exposures were given in order that the patient, who was only 33 years old, should not suffer from permanent amenorrhoea This object was achieved though the myoma became smaller, menstruation continued In as many as 13 cases pseudo climacteric disturbances were observed, and in several cases they lasted for years and gave considerable trouble, there was however, no case in which serious mental disease ensued Reviewing the literature of the subject, as well as his own experiences, the author comes to the conclusion that the conflicting claims of operative and *x*-ray treatment may be so difficult to settle in a given case that neither the general practitioner nor the radiologist should attempt this task without the aid of a gynaecologist X ray treatment may in itself be free from danger but it involves the indirect danger of leaving undiscovered a focus of malignant disease which would have been automatically removed had the uterus been amputated for a myoma Generally speaking, an amputation is to be preferred in women under 40 or 45 because the benefits of the internal secretion of the ovaries are retained An operation is also indicated when the myoma is very large or gives rise to pressure symptoms affecting the bladder, ureters, or intestines Subperitoneal, pedunculated, intraligamentous, and cervical tumours causing symptoms, and submucous tumours require operative rather than *x* ray treatment This is particularly useful in those cases of extreme debility from loss of blood for which an operation would be too dangerous

463. X ray Treatment of Malaria.

J J MANOUKHINE (*La Presse Médicale*, February 15th, 1924, p 269) gives his experience in the treatment of malaria by what he calls auto-defensive resistance His idea is that malaria (and other infections) are fought by leucocytolysis rather than phagocytosis, and that this is largely carried out by the action of the spleen, he therefore stimulates the spleen by the application of *x* rays, being careful to limit the action to that organ alone and not to affect the liver Comparing his treatment with that by quinine in another hospital he claims to have obtained far better, quicker and more lasting results with the *x* ray treatment In quotidian ague it is necessary to give a sitting every day, with a break of five or six days after the tenth sitting In tertian and quartan ague one sitting a day before the febrile attack is his practice In chronic ague sittings on alternate days are advised—not more than fifteen applications in all He refers to sixty one cases treated in this way, and all definitely cured as shown by fall of temperature disappearance of all clinical symptoms, increase of weight, absence of parasites, and return to the normal blood picture

Obstetrics and Gynaecology.

464. Treatment of Abortion.

K. LAEMMLE (*Zentralbl f Gyn* February 9th, 1924 p 216) is a strong advocate of the active treatment of abortions, whether febrile or afebrile and gives statistics of his cases to support his contention According to him expectant treatment fails on account of bleeding which may occur and be sufficient even to cause the patient's death Plugging is not suitable for general practice and evacuation of the uterine contents does not always follow its use and thus bleeding recurs During the years 1912-22 315 afebrile abortions were treated in his clinic by removal of the contents of the uterus immediately on admission *Of these only 2.5 per cent. had a rise of temperature after the operation and in 1.6 per cent the fever only lasted one day* The mortality of this series was *nil* During the same time 217 febrile cases were treated, again all by active treatment paying no special attention to rigors which are stated by some to be a contraindication to such treatment or to the causative bacteria In 63 7 per cent of the cases the temperature fell immediately and in another 11 per cent it fell within twenty four hours. The mortality in these cases was 3 2 per cent Many of these patients however (nearly 30 per cent) had been feverish for a considerable time before admission, the times varying between five days and eight weeks Laemmle's method of treatment consists in dilating the cervix as far as possible with Hegar's dilators and then curetting with a blunt curette the gloved finger being inserted subsequently to ensure that removal of the contents is complete Care is taken not to bruise the uterine wall No douche is given as it is deemed unnecessary and in some cases perhaps harmful, the uterus is packed with iodoform gauze which is removed in twelve hours Ergotin 1 c cm is given intramuscularly but if serious bleeding follows the operation which is very exceptional, the ergotin is injected into the uterine muscle The author therefore submits that active rather than passive treatment is to be recommended, since it shortens the period of illness does not allow the general health to be undermined by loss of blood and enables the patient to return to work in the shortest time

465. Persistent Secretion of Milk.

G MARAÑON (*Arch de med, cir y esp* March 8 h 1924 p 4-9) records two cases of this condition The first occurred in a woman aged 38 who had had no previous illnesses or endocrine changes worthy of note apart from slight early cavities Her last pregnancy and delivery which had occurred three years previously had been normal She suckled her child for fourteen months like her previous ones but the milk secretion did not dry up nor menstruation return after weaning it When examined by Marañón two years after the birth of the child the breasts were still turgid and secreted a fluid which presented the naked eye and microscopical appearances of true milk No physical signs were found on examination of the various systems The

patient was treated by various opotherapeutic preparations, but no change in the milk secretion took place until about four years after the birth of the child, when it gradually diminished and finally ceased altogether The second case occurred in a woman, aged 29, who three or four days after termination of pseudocyesis of nine months' duration began to secrete milk in both her breasts, the secretion persisting for two years later, when she was first seen by Marañón Menstruation had not returned since the beginning of the pseudocyesis A considerable increase in size of the abdomen had also occurred, together with a feeling of an intra abdominal growth, so that an exploratory laparotomy was performed Nothing however, was found beyond an increase of fat in the abdominal wall and omentum and an infantile condition of the uterus and ovaries The patient was then treated by various endocrine extracts, without any effect The patient was apparently an example of Fröhlich's adiposo genital syndrome, which had remained latent until her marriage

466. Pregnancy in a Double Uterus

J CARAVEN (*Gynécol et Obstét*, 1924, ix, 2, p 184) records a case of accidental haemorrhage in which Caesarean section of a bifid uterus led to a happy issue both for the mother and for the premature infant Shortly after conception the patient complained of hypogastric pain bimanual examination left the diagnosis uncertain between double uterus with single cervix and adnexal tumour displacing the body of the uterus sideways After six weeks of amenorrhoea the left portion of the swelling was found to be larger, and extrauterine gestation was suspected Later examinations established the diagnosis of pregnancy in the left cornu of a double uterus At the end of the seventh month the foetus was found to be placed transversely, there was persistent external bleeding, but no sign of attachment of the placenta in the lower uterine segment Auscultation showed signs of foetal distress, and Caesarean section was carried out The internal haemorrhage which had accompanied the detachment of the normally situated placenta was found to have been slight The infant was living and healthy six months later Caraven discusses the advisability of removing one of the uterine cornua at the time of operation in similar cases

467 Fibroma and Pregnancy in a Double Uterus

O DAMBRIN and J BERNARDBEIG (*Gynécol et Obstét*, 1924, ix, 3, p 202) record a curious case of uterus didelphys The patient, 27 years old, had experienced considerable dyspareunia during her twelve months of married life, she was admitted to hospital complaining of abdominal pain and enlargement of a year's duration, accompanied during the last three months by frequency of micturition, obstinate constipation, and amenorrhoea Abdominally, a hard smooth median tumour, reaching above the umbilicus, was palpable, local examination showed the existence of two vaginae, of which the right was the wider and gave access to a cervix which appeared softened The two and a half months' pregnant uterus was recognized, and to the left a large tumour, extending into the abdomen, was thought to be an ovarian cyst Operation showed that the uterus was completely double, the right half being pregnant and the much larger left half being fibromatous The left half, with the corresponding tube and ovary, was extirpated Pregnancy continued to term, when a small living healthy infant was born, the complete septum which had divided the two vaginae did not survive after parturition The authors suggest a modification of the classification of this condition of double uterus

Pathology.

468. Blood Platelets in Malignant Growths.

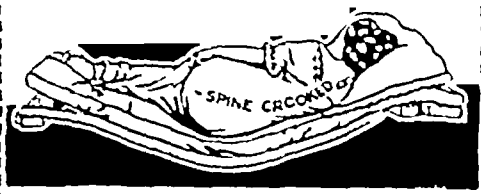
B N ROSENBAUM (*Zentralbl f Chir*, February 23rd, 1924, p 305) states that while the importance of blood platelets has long been recognized in medicine it is only recently that attention has been given to them in surgery At the forty sixth German Congress of Surgery Gundermann read a paper on blood platelets and malignant growths based on the study of 10 cases, in which he maintained that the number of blood platelets in malignant growths was considerably reduced—namely, to 22 000–175 000, as compared with Fonio's normal estimate of 200 000–300,000 per cubic millimetre During the last six months Rosenbaum has examined the blood in 75 cases of malignant growths at the surgical clinic of Irkutsk University Siberia, and found that in 19 cases there was a distinct increase in the blood platelets, while in 6 their number was normal There was no example of thrombopenia in his series, although he admits that in cases of cachexia with pronounced destruction of the haematopoietic apparatus, or in constitutional thrombopenia in association with malignant disease, a diminution of the blood platelets may occur He regards the size and staining capacity of the blood platelets as considerably more important than their number In all the cases of malignant disease which he examined large numbers of giant blood platelets were present, as well as those of normal size The giant cells presented a rounded outline and faint staining capacity, and doubtless represented a pathological form of blood platelets

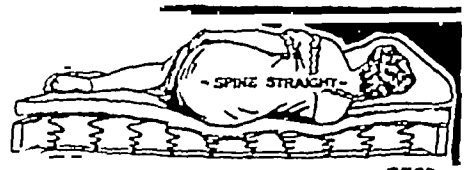
469 Cutaneous Vaccination against Chicken Cholera

AT a time when such favourable claims are being made for the cutaneous method of vaccination it is well to take note of the cases in which it appears to fail C CERNAIANU (*C R Soc de Biologie*, February 23th, 1924, pp 523 and 530) relates how during the past few years chicken cholera, which had been rampant in Rumania, causing vast devastation in the poultry farms, has been checked by intramuscular injections of a Pasteurella vaccine The author himself has found that the vaccination of the birds at the commencement of an epizootic served to arrest the progress of the disease within four or five days, the immunity so conferred lasting about three to five months Turning now to the rabbit, he endeavoured to produce immunity in the same way Two injections of a vaccine, prepared by heating the organisms to a temperature of 60° C for one hour, were given subcutaneously at an interval of nine days Fifteen days after the second injection three out of five of the rabbits gave an agglutinin titre of 1 in 50, whereas the other two were devoid of agglutinins Five days later the animals were given various doses of living organisms, it was found that the vaccinated ones could withstand three minimal lethal doses, but succumbed to four, while the control animals were killed by one M L D Proceeding now to cutaneous vaccination of rabbits he instituted comparative immunity tests between the cutaneous and the subcutaneous methods The same vaccine was used in each case Twelve rabbits were inoculated on the skin with the vaccine, the operation being repeated nine days later, two other rabbits were injected subcutaneously at the same time Fifteen days after the second vaccination they were all injected subcutaneously with the same dose of living bacilli—0 0005 c cm of a broth culture of the organism All the rabbits vaccinated by the cutaneous method died, the two vaccinated by the subcutaneous method survived These experiments, though performed on only a small number of animals, suggest strongly that the cutaneous method of vaccination is not likely to meet with success in the case of every organism

470 Reproduction of the Bacteriophage in a Synthetic Medium

As it has been conclusively shown that the bacteriophage will only reproduce in the presence of growing organisms, ELIZABETH H LEPPER (*British Journ Exp Path*, February, 1924, p 40) endeavoured to determine whether its reproduction was dependent on the protein in the medium She employed a medium of synthetic composition containing ammonium phosphate, sodium dihydrogen phosphate, glucose, and distilled water, with a reaction of *p*H 6 8 Growth of a strain of *B coli* in this medium was a little slower than in 2 per cent peptone solution, but the actual number of organisms formed was rather larger, probably on account of the glucose In this simple medium, and in the same medium containing varying quantities of peptone, *B coli* was grown in the presence of bacteriophage, after five hours' incubation a viable count was performed, and half an hour later the tubes were heated so as to enable a titration of the lysin produced to be performed It was found that in the plain medium containing no protein lysin was produced, but that its titre was 1 in 10 000 times less than that produced in the peptone water culture This could not be attributed to a difference in the number of the organisms, as this was too small to be significant Moreover, the addition of 0 04 per cent peptone to the synthetic medium raised the growth of the organism to that which occurred in the control tube, yet the lysin produced was still 100 times weaker than that in the control Further experiments were conducted to see if the bacteriophage could be transmitted in series in the synthetic medium This was found to be possible, but the lysin obtained was considerably weaker than the original strain Attempts to restore its activity by passage through peptone water were unsuccessful It appears, then, that though the bacteriophage can be transmitted in a medium devoid of protein, its activity suffers a severe diminution On the other hand, the addition of small quantities of peptone raises the titre of the lysin considerably—far more than is explained by its stimulating effect on the growth of the organisms It is possible, therefore, that some accessory substance is required for the complete reproduction of the bacteriophage





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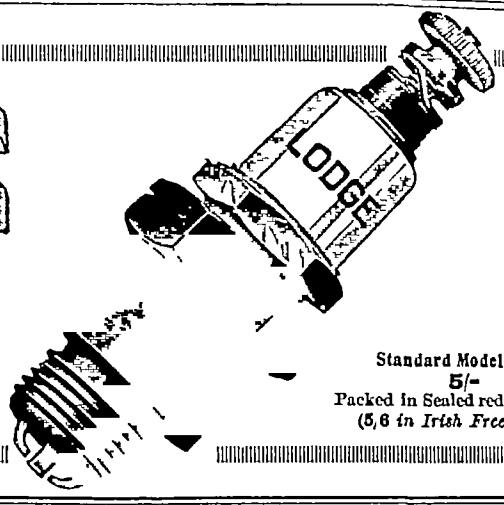
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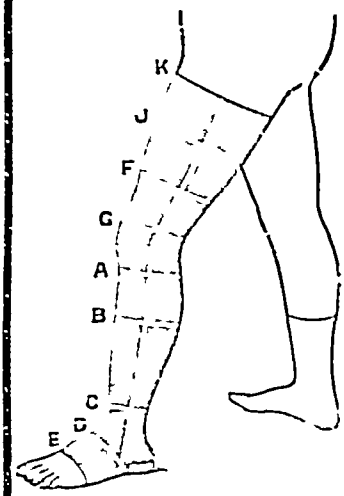
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The House is situated on an estate of 200 acres, and has extensive pleasure grounds and a Farm connected with it. It lies between Bristol and Bath 3 miles from Bristol Station, and within 2½ hours journey from London.

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BARNWOOD near GLOUCESTER

Telegrams Barnwood

Exclusively for PRIVATE PATIENTS of the UPPER AND MIDDLE CLASSES

The Asylum is beautifully situated and affords the most perfect means of classification and separation of patients.

Voluntary Boarders are taken under certificate.

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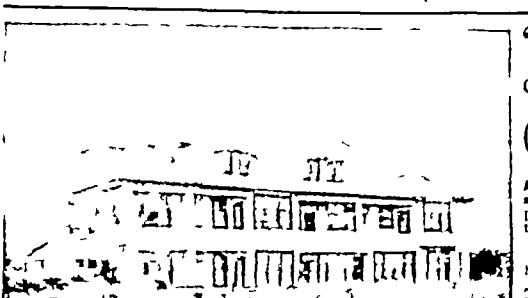
The MANOR HOUSE is a large mansion standing in its own grounds and is entirely separate from the Asylum. Patients are received into it on the same terms as into the Asylum.

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This Registered Hospital receives for treatment PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES of both sexes. The Hospital its Branches (including a Seaside Home at Llanfairfechan, North Wales), and numerous villas are surrounded by over 1,000 acres of Park and Farm.

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TELEPHONE No. 56.

DR. RAMBAUT can be seen by appointment on Wednesdays at 30 Harley Street W. 1.

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Large Mansion with 12 acres of ground. (See Medical Directory pp. 2136).—Apply J. H. EARLS, M.D., Resident Physician. Tel.: Brixton 165.

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HOSPITAL FOR MENTAL DISEASES.

President The Right Hon. the EARL MANVERS

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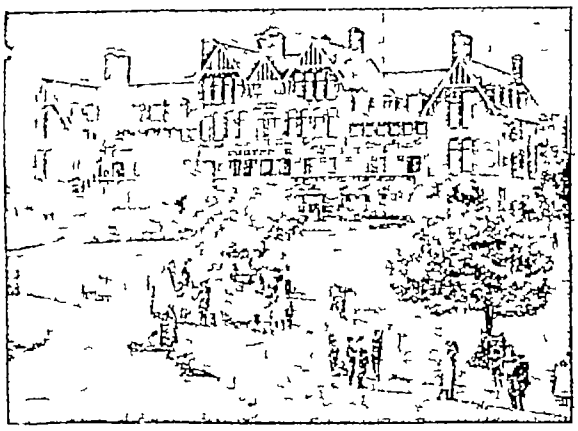
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For CHILDREN of WELL-EDUCATED PEOPLE OF VERY LIMITED MEANS

Charge 10/- a week for each Child

This fee is subject to addition or deduction according to Parents' means.

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The usual stay is four weeks but some wards are reserved for serious cases requiring special treatment, and for these a lengthened stay may under some circumstances be granted and the age limit raised to 14 for Boys and 16 for Girls.

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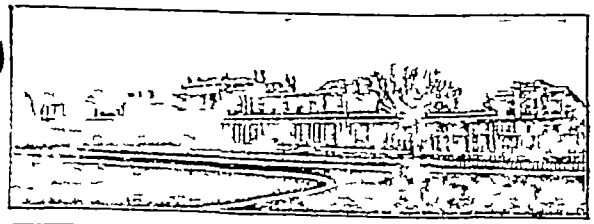
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Situated in a large park in a healthy and picturesque locality easily accessible by rail via Bristol Winterbourne Patchway, or Yate Stations. Uncertified Boarders received.—For further information see Medical Directory page 2177, Terms moderate.—Dr J. D. THOMAS and Dr J. R. P. PHILLIPS O.B.E. Resident Physicians and Licensees

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TELEPHONE 51

A PRIVATE HOSPITAL FOR THE CARE AND TREATMENT OF THOSE OF BOTH SEXES SUFFERING FROM MENTAL DISORDERS.

Extensive Grounds Detached Villas Chapel Garden and Dairy Produce from own Farm

Terms very moderate *Illustrated Brochure on application to The Secretary.*

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At BANCHORY and MURTLE

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These Sanatoria are situated amongst **Ideal Surroundings** in **Middle Deeside**, the reputation of whose **Climate** in the treatment of Lung Diseases is well established.

Both Institutions are well equipped with **Research Laboratory, Throat Room, Dental facilities,** and powerful **X-Ray Plant. Full Day and Night Nursing Staffs** are employed.

Special Treatment by artificial **Pneumothorax** (with X-ray control), the various **Tuberculins,** and Autogenous **Vaccines** are all available without extra charge.



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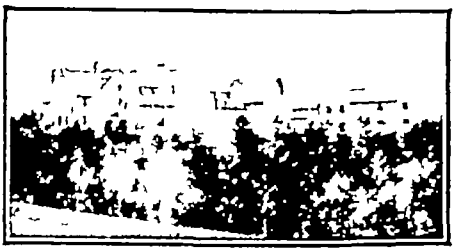
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For particulars apply SECRETARY



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AT MURTLE, ABERDEENSHIRE

Senior Physician Dr J. M. JOHNSTON

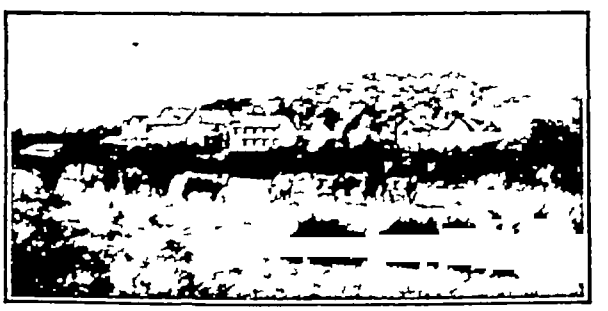
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Inclusive terms **7 Guineas a week.**

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This Sanatorium is established for the treatment of Tuberculosis of the Lungs and of the Pleural Cavities. It is situated in the midst of a large area of park land at a height of 450 feet above sea level, on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views.

Trained nursing staff day and night. X-Ray apparatus. Treatment by Artificial Pneumothorax in suitable cases. Electric lighting in every room. Heating by Radiators.

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PENDYFFRYN HALL SANATORIUM (EST. 1900)

Penmaenmawr, N. WALES.

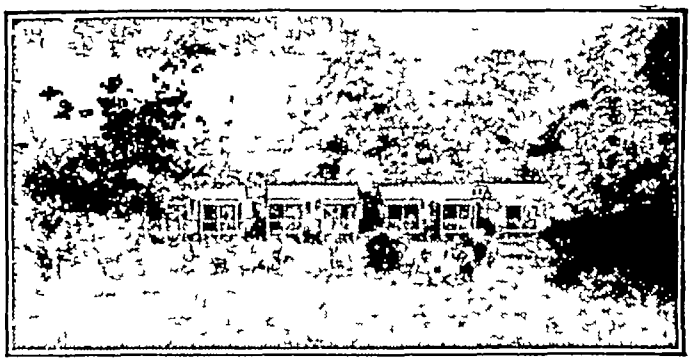
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P. L. T. BENNETT, M.C., L.R.C.P., T.D.D., late Assistant Resident Medical Officer to BROMPTON Hospital for Diseases of the Chest.

Matron Miss L. HANSON, late King Edward VII. Sanatorium, MIDHURST, assisted by a full Day and Night Nursing Staff.

For full particulars apply to S. GUTHRIE, Esq., Assistant Secretary.

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All forms of treatment, including X-ray, Vaccines, and Pneumothorax in suitable cases Trained Nurses Individual attention.

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Tuberculosis Cure Station, 5,000 feet high, SWITZERLAND.

Accommodation for 100 Patients.

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Specially built for the Open Air Treatment of Tuberculosis and opened in 1901 Bracing mountain air Elevation 860 feet above sea level. Sheltered situation in pine wood Graduated walks

Electric light throughout building and in shelters. Fully equipped X Ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night **A few rooms are now reserved for Surgical Cases not requiring immediate operation.** Terms 4 to 6 guineas per week Medical Superintendent FELIX SAXL M B, Ch B

For particulars apply to the Secretary

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Established 1909 Phone: Grange-over Sands 51. **For the Curative Treatment of moderately early cases of Pulmonary Tuberculosis.** (Non pulmonary cases not requiring operative treatment also received including children) Bracing situation on N Shore of Morecambe Bay beautiful surroundings. Heating, in bedrooms dining, halls and recreation rooms electric light throughout Terms £2 8s. per patient per week or £120 per bed per year Vacancies for patients of either sex Medical Superindt: C FERGUSON WALKER, B A M D B S Lond D P H Manch

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Established in 1909 for Open air Treatment of Pulmonary Tuberculosis.

Bracing situation 600 feet above sea level sheltered from north and east

All forms of recognized Treatment including Artificial Pneumothorax available

Non pulmonary cases requiring operative treatment received, including children

Within easy access from all the large towns Midland Terms from 3½ guineas

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Every kind of Bath. Plombière Lavage.
Every kind of Massage.
Every kind of Electricity
Every kind of Diet.
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High Frequency Electric Lift.

Prospectus from Secretary *Telep* 311

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PRIVATE WARDS, 5 Gns. per week, exclusive of Surgeon's fees but inclusive of X Rays, splints, plasters massage and gymnasium.

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Seamen's Hospital Society.
LONDON SCHOOL of TROPICAL MEDICINE
Endsleigh Gardens, N.W.1.
Next session will commence on 1st September, 1924.
For Prospectus and further particulars apply to The Secretary, London School of Tropical Medicine, Endsleigh Gardens, N.W., or to the Head Office and Hospital, Greenwich, London, S.E.

SCHOOLS for BOYS and GIRLS, TUTORS for ARMY, and ALL EXAMS.
Mr. J. A. J. PATRY having an Institute and Private Tuition Establishment, and Preparatory Schools and Tutors for all Examinations, will be glad to hear from Parents in their choice by sending three stamps (charges), prospectus and PATRY'S MONTHLY JOURNAL.
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For further particulars apply to Mr. H. J. Stiles, Dean, West London Hospital, Hammersmith, W.6.

F.R.C.S. (Edin.)
A TUTORIAL CLASS for the next Examination commences early.
Particulars from CHAS. R. WHITAKER, F.R.C.S., Assistant to the Department, Surgeons' Hall, Edinburgh.

SCHOOL FOR THE DEAF.
Special methods for speech defects in hearing children.
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COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th.—Prospectus from the Hon. DEAN, School of Tropical Medicine, University of Liverpool.

Small Private Residential SCHOOL, established 21 yrs. for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS. Special Department: Pupils over school age. Under Medical supervision.—Prospectus: Mrs. MERRILEES, Principal, St. Paul's House, Upper Mare Hill, St. Leonards-on-Sea.

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The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September and December. For Regulations apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

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THE UNIVERSITY EXAMINATION POSTAL INSTITUTION offers special postal preparation at moderate fees. For full particulars and Medical Prospectus (32 pp.) apply to the Principal of the Institution, Mr. E. S. WEYMOUTH, M.A., 17 Red Lion Square, W.C.1.
During 1903-13 the Institute prepared 18 Candidates successfully for the R.A.M.C. Entrance Examination, two of whom won first and second places respectively. It also prepared 22 successfully for the PROMOTION TO MAJOR Examination.

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"Pre-eminent success in the education and treatment of stammering and other speech defects."—*The Times*
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(By kind permission of the Royal Society of Medicine.)
Post Graduate Courses in the Associated General and Special Hospitals are arranged for July and August in the following subjects: Cardiology, Ophthalmology, Diseases of the Chest, Neurology and a fortnight's Intensive Course in Medicine and Surgery, July).
Further particulars of these Courses, with the Bulletin giving information of the clinical opportunities at the London Hospitals, may be had from the Secretary.
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Address .....
Examination in which interested .....

ST. MARY'S HOSPITAL, LONDON, W.2.

INSTITUTE OF PATHOLOGY AND RESEARCH.

A course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the Summer Session. The remaining Lecture will be given in the Lecture Room of the Bacteriological Department of the Institute on Thursday afternoon at 5 p.m. as under —

	JUNE 12TH	SUBJECT
WILLIAM BATESON, M.A. D.Sc. F.R.S. (Director, John Innes Horticultural Institution)		"The Determination of Sex."

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee

DIPLOMA IN
PSYCHOLOGICAL MEDICINE.
Diploma in OPHTHALMOLOGY

Short Intensive Postal Revision Courses in Preparation for these Diplomas —Apply to the SECRETARY Medical Correspondence College 19 Welbeck Street, London W 1

University of London

NOTICE IS HEREBY GIVEN that the Senate will proceed to elect EXTERNAL EXAMINERS for the calendar year 1925 for the Examinations above Matriculation as follows:—Except when otherwise stated Examiners will act in all Examinations in which the subject is included. Where Examiners are to be appointed for (*a*) Intermediate Examinations only and (*b*) Final and Higher Examinations only the fact is indicated after the name of the subject below in these cases the same Examiner cannot hold both appointments

FOR THE CALENDAR YEAR 1925.

For the First Examination for Medical Degrees
Biology — Physics.

For the Second Examination for Medical Degrees
Chemistry (2) — Physiology

Higher Examinations for Medical Degrees
Medicine (2) — Obstetric Medicine
Mental Diseases. — State Medicine.
Neurology — Surgery
Tropical Medicine

N.B.—Attention is drawn to the provision of Statute 124 whereby the Senate is required, if practicable to appoint at least one Examiner who is not a Teacher of the University

Application forms (or forms if more than one Examinership is applied for) and particulars of the remuneration and duties can be obtained from the External Registrar

Candidates must send in their names to the External Registrar GEO. P. GOODCHILD M.A. B.Sc. with any attestation of their qualifications they may think desirable on or before Monday July 7th 1924. (Envelopes should be marked "Examinership")

The Senate desire that no application of any kind be made to individual Members.

If testimonials are submitted one copy only of each is required. In no case should original testimonials be submitted. If more than one Examinership is applied for a separate and complete application must be forwarded in respect of each Examinership. The appointments will be made by the Senate in November. Applicants who desire that the result should be communicated to them are requested to enclose a stamped and addressed envelope with their applications.

University of London, South Kensington, S.W. 7. June 1924. — L. C. PERRY, Principal Officer

London (Royal Free Hospital) SCHOOL OF MEDICINE FOR WOMEN (University of London)

POST-GRADUATE COURSE IN TREATMENT OF VENEREAL DISEASES

A Course open to Medical Women only will begin on Monday June 16th, and continue for two weeks. The practical work will be carried out at the London Lock, Royal Free, and the Elizabeth Garrett Anderson Hospitals. Fee £5 5s.

Number of graduates to be admitted to the Course will be limited to twelve.

Programme and all particulars to be obtained from L. M. BROOKS Warden and Secretary, 8 Hunter Street, W.C.1.

University of Cambridge

Diplomas in (*a*) PUBLIC HEALTH (*b*) HYGIENE (for foreign graduates) and (*c*) TROPICAL MEDICINE & HYGIENE

COURSES OF INSTRUCTION in the subjects of the examinations under the New Regulations will commence 10th October 1924. Full particulars to be obtained from Mr. I. H. PURVIS Public Health Chemical Laboratory Medical School Cambridge.

Medico-Psychological ASSOCIATION OF GREAT BRITAIN AND IRELAND

The Examinations for the Gaskell Prize and Certificate in PSYCHOLOGICAL MEDICINE will be held at Bethlem Hospital, London July 7th to 9th. Entrance fees £3 3s. to be paid to Registrar prior to June 15th.

Essays for Bronze Medal to be sent to the Registrar prior to June 15th.

H. B. LEECH Acting Registrar
County Mental Hospital
Hatton near Warwick May 1924

Shropshire Orthopædic HOSPITAL, Gobowen near Oswestry

COUNTRY OPEN AIR WARDS. 300 BEDS.

GIRL STUDENTS WANTED to learn Orthopædic Work and prepare for the Conjoint Examination of the C.S.M.M.G. Three years training. Salary first year £16 second year £20 all found, uniform.—Apply Miss HUNT R.R.C.

University of London

The Senate invite applications for the University Chair of Medicine tenable at the London Hospital Medical College. Salary £2,000 a year.

Applications (12 copies) must be received not later than first post on June 23rd 1924 by the Academic Registrar University of London, South Kensington S.W.7 from whom further particulars may be obtained.

ROYAL ARMY MEDICAL CORPS.

EXAMINATION FOR COMMISSIONS

An Examination for not less than 20 Commissions in the Royal Army Medical Corps will be held on 30th July 1924.

Applications to compete should be made to THE UNDER SECRETARY OF STATE, the War Office not later than 20th July 1924. The presence of Candidates will be required in London from 28th July.

Students who have entered for their Final Professional Examination in July may submit applications the acceptance of which will be subject to the Candidate qualifying and being registered before 30th July 1924.

Intending Candidates can obtain a full statement of the duties and emoluments of the Service on written application to THE UNDER SECRETARY OF STATE the War Office, Whitehall S.W.1.

Glasgow Post-Graduate MEDICAL ASSOCIATION

The following arrangements have been made for Post Graduate Teaching in Glasgow during the Summer of 1924:—

(*a*) A GENERAL MEDICAL AND SURGICAL COURSE from 18th August to 13th September. Fee £10 10s., or £6 6s. for first or second fortnight.
(*b*) SPECIAL COURSES IN VARIOUS SUBJECTS
( ) CLINICAL ASSISTANTSHIPS

Syllabuses and any other information may be had on application to the Secretary, Post-Graduate Medical Association, The University, Glasgow.

The Welsh National School OF MEDICINE

APPOINTMENT OF LECTURER IN SPECIAL SENSE PHYSIOLOGY

The Board of Medicine invites applications for this post the salary of which will not exceed £750 per annum.

Candidates are requested to state their age and qualifications and furnish proof of a training in Physics and of ability to prosecute original research and to submit the names of three gentlemen of recognized authority who would be willing to act as referees. Testimonials are not desired.

The new Lecturer will be expected to take up his duties in October 1924 and as a member of the staff will be required to join the Federated Superannuation Scheme for Universities.

Further particulars may be obtained from the undersigned to whom candidates should send on or before June 21st, 1924. fifty copies of their applications.

University College, Cardiff. May 31st 1924. — D. J. A. BROWN, Secretary

University of Leeds

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY

The Council will shortly proceed to the appointment of a Lecturer in Chemical Pathology at a salary of £600 a year. Candidates must be fully qualified and registered medical practitioners.

Further particulars may be obtained from the Registrar The University Leeds who will receive applications up to the 30th June 1924.

A Resident Medical Officer

(Male) is required for the HOVE HOSPITAL (Carr-Burton Memorial) Sackville Road Hove. Must be unmarried and under 40 years of age.

Salary £175 per annum with board and lodging.

Applications with copies of recent testimonials should be sent to the Assistant Secretary by the 14th inst. Candidates must prove by reference to the current Medical Register or by the production of a certificate of registration that they are legally qualified to practise both Medicine and Surgery.

For further particulars apply to Mr. A. P. LEAK Assistant Secretary Brighton, Hove and Preston Dispensary 11 Queen's Road Brighton.

Beckett Hospital & DISPENSARY, Barnsley (120 Beds.)

Applications are invited from fully qualified male practitioners for the post of JUNIOR HOUSE SURGEON. Salary £160 per annum with board, residence and laundry.

Applications, stating age qualifications and experience accompanied by testimonials, to reach the undersigned not later than June 14th.

ARTHUR L. BOURNE Secretary

Liverpool Stanley Hospital.

One Male HOUSE SURGEON and one Female GYNÆCOLOGICAL HOUSE SURGEON required for July 1st next. Salary £100 per annum with board, residence and laundry.

Applications together with copies of three recent testimonials to be sent to the undersigned not later than June 13th.

FRANK WHITEY, Hon. Secretary

Applications are invited for

the post of BACTERIOLOGIST and ASSISTANT MEDICAL OFFICER of HEALTH in the Bahamas.

Candidates should be registered medical practitioners with special experience of bacteriology and administration especially of venereal disease. The appointment, in the first instance will be for three years at a salary £1,000 per annum. Private practice is not allowed. A free passage to the Colony is provided for the Officer but if married he will be required to pay the passage expenses of his wife and family.

Further particulars, and the necessary forms of application, can be obtained from the Private Secretary (Appointments) Colonial Office Downing Street, London.

The Barbados General HOSPITAL.

Wanted, a duly qualified Medical Practitioner (Male) as RESIDENT SURGEON of the Barbados General Hospital. A man who has had experience in administering anæsthetics preferred.

Salary £300 per annum with uniform, board quarters and laundry at present date of entry war bonus of 10% in addition to the salary. The appointment will be for three years, and the successful candidate will be required by the Board at the full term of service.

Applications are expected by professional and other testimonials, dating as late from which will be received by the Secretary and Secretary of the General Hospital up to 12 o'clock noon on Wednesday August 13th 1924.

Canadian Graduates must be registered in a Province registration by which they can practice, and be registered in the United Kingdom.

Candidates holding a Diploma in Midwifery must be registered in the State of New York.

By order of the Court of Governors,
J. WARD Steward & Secretary.

General Hospital, Jemmotts Lane,
Bridgetown, Barbados, B.W.I.
May 8th, 1924.

Two Medical Officers and one

ASSISTANT PORT HEALTH OFFICER are required by the Government of HONG KONG at a salary £800 per annum rising by annual increments of £25 to £1,000 per annum, plus a cost of living bonus at present 20% of salary. A commencement is for three years in the first instance. If after the expiration of this period the officers' work and conduct are satisfactory, he will be placed on the pensionable establishment, and will then become entitled to contribute 5% of salary towards a widow's and orphans' or Government Officers. Government quarters may be provided for which a small rental is charged. Hong Kong allowance of £100 a month. Candidates may be married but unmarried men preferred. Free passages granted.

It is essential that candidates should have had the appointment of House Physician or House Surgeon and have completed their Final Examination in the case of the Assistant Health Officer a Public Health qualification.

Applications should be addressed to the Private Secretary Appointments Colonial Office, London, S.W.1.

Egyptian Government School OF MEDICINE.

Applications are invited for the post of PROFESSOR OF BIOLOGY at the Egyptian Government school of Medicine Cairo. Pay from £E 900—1140 with allowance. The instruction to be given either in Arabic or in English. Candidates must present evidence of not less than three years teaching experience in Biology (including Botany) in some recognized University or Institution. Copies of or references to original work should accompany the application which must reach the Ministry of Education, Cairo not later than June 30th 1924. Further particulars of the post can be obtained from the Egyptian Educational Offices in London (4 Victoria Street, Westminster S.W.1) Paris (21 Rue de Berlin) and Geneva (40 Rue Candolle).

West Bromwich and District HOSPITAL.

(General Hospital, 160 Beds.)

Wanted a RESIDENT HOUSE SURGEON Male. He must be doubly qualified and unmarried. Salary £220 per annum with board, residence and laundry.

In the event of the Assistant House Surgeon who is an applicant for the position being elected candidates are asked to state whether they are prepared to accept the post of Assistant House Surgeon. Salary £180.

Applications stating age and if possessing a knowledge of Ophthalmic surgery and accompanied by copies of recent testimonials should be sent to me on or before June 16th.

By Order
FRANK I. HANCOCK
Secretary & Superintendent.

The London Lock Hospital,

91 Dean Street, W.1.

Applications are invited for the following paid CLINICAL ASSISTANTSHIPS in the Out-patients Department for the period 1st July to 31st December 1924. Two vacancies at each following Clinic and one vacancy at each Mid-day Clinic.

The Clinics are held as follows:—Mondays at 1 o'clock mid-day and 6 p.m. (Men) under Mr. CHARLES GIBB, F.R.C.S. Tuesdays at 1 o'clock mid-day (Men) under Mr. J. H. B. McDONAGH F.R.C.S. and 6 p.m. (Men) under Mr. J. JAMES ABRAHAM F.R.C.S. Wednesdays at 6 p.m. (Men) under Mr. J. H. B. McDONAGH F.R.C.S. Thursdays at 1 o'clock mid-day (Men) under Mr. J. HEWAT LANE, F.R.C.S. Thursdays at 5 p.m. (Women and Children) under Mr. A. LAWRENCE ABEL, F.R.C.S. Fridays at 6 p.m. (Men) under Mr. J. JAMES ABRAHAM, F.R.C.S. Saturdays at 1 o'clock mid-day (Men) under Mr. A. LAWRENCE ABEL, F.R.C.S.

All applications must be made on the official form which can be obtained from the Secretary and should be filled in and returned to the undersigned not later than 10 a.m. Monday 9th June 1924.

By order of the Board,
14th May 1924. H. J. EASON, Secretary.

Queen Mary's Hospital for

THE EAST END, Stratford, E.15.

To celebrate Mary's 60th and 12th Foundation Out-patient Attendances will be...

HONORARY ASSISTANT PHYSICIAN.

There is a vacancy on the staff of this Hospital for an Honorary Assistant Physician.

The Assistant Physician will have some Beds allotted to him in the Hospital and will be required to see Out-patients.

Application accompanied by copies of testimonials, from candidates, who must be fully registered practitioners of the Cambridge, London University or Edinburgh Members of the Royal College of Physicians, should be lodged with the undersigned not later than 16th July 1924.

RAPHAEL JACKSON, Major, Secretary.

Queen Mary's Hospital for

THE EAST END, Stratford, E.15.

To celebrate Mary's 60th...

Applications are invited from fully qualified and registered Medical men of the following grades:—

1 HOUSE PHYSICIAN.
2 HOUSE SURGEONS.
1 OBSTETRIC HOUSE SURGEON.
1 HOUSE PHYSICIAN AND CASUALTY OFFICER.

The Hospital is closed during August, Mary Day and Bank Holidays.

Candidates who have previously held a Hospital appointment must send copies of their reports as to their conduct and ability, and all particulars can be obtained not later than Wednesday the 11th June.

RAPHAEL JACKSON, Major, Secretary.

National Hospital for the PARALYSED AND EPILEPTIC

Queen Square, W.C.

An ASSISTANT PATHOLOGIST who shall be medically qualified with special training and experience in Bacteriology required for part-time work at the National Hospital. He will be expected to attend for half days a week or more under the Director of the Pathological Laboratory of the Hospital. Salary £250 per annum.

The appointment will be for one year and the successful candidate will be eligible for re-election.

Application should be sent to the undersigned on or before Monday June 23rd.

GODFREY H. HAMILTON, Secretary.

National Hospital for the PARALYSED AND EPILEPTIC

Queen Square, W.C.

RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Resident Medical Officer and should be sent to the undersigned accompanied by copies of three recent testimonials, not later than Monday June 23rd. The salary is £200 per annum with board and lodging.

Applicants should state if they are willing to accept either the post of Senior House Physician or that of Junior House Physician. Salary in each case £150.

GODFREY H. HAMILTON, Secretary.

London Temperance Hospital,

Hampstead Road, N.W.1.

Application are invited for the following post which will be vacant on June 9th.

RESIDENT MEDICAL OFFICER. Honorarium £200 per annum with residence, board &c.

Applications with testimonials, should reach the Secretary on or before June 10th.

A. C. ADAMS, Secretary.

West London Hospital,

Hammersmith Road, W.6.

Required one HOUSE PHYSICIAN and one HOUSE SURGEON and one RURAL HOUSE SURGEON and RESIDENT CASUALTY OFFICER (males). These three appointments are tenable for six months from 1st July next, subject to one month's notice on either side. Salary £100 per annum, with board, lodging and washing allowance.

Candidates are required to be registered under the Medical Act to send four copies of their letters of application and four copies of each testimonial submitted so as to reach me not later than Tuesday 17th June.

Selected candidates will be required to call upon such members of the Medical Staff as directed, to be in attendance at a Meeting of the Medical Council on Friday 20th June at 4 p.m. and the House Committee Meeting at 4.45 p.m. the same day when the appointments will be made.

H. A. MADGE, Secretary.

Bristol Royal Infirmary

Applications are invited for the post of HONORARY PHYSICIAN. Candidates who must be Doctors of Medicine of one of the Universities of Great Britain and Ireland, or Fellows or Members of the Royal College of Physicians of London, Edinburgh or Ireland to send in their applications stating age together with copies of testimonials to the undersigned on or before Monday June 16th 1924.

ELLIS C. SMITH, F.C.I.S.
May 7th 1924. Secretary & House Governor.

Bristol Royal Infirmary

Applications are invited for the post of HONORARY ASSISTANT PHYSICIAN. Candidates who must be Doctors of Medicine of one of the Universities of Great Britain and Ireland, or Fellows or Members of the Royal College of Physicians of London, Edinburgh or Ireland, to send in their application stating age together with copies of testimonials to the undersigned, on or before Monday June 16th 1924.

ELLIS C. SMITH, F.C.I.S.
May 7th 1924. Secretary & House Governor.

General Hospital,

Nottingham.

Wanted a HOUSE PHYSICIAN. Appointment for six months, commencing July 1st. Salary at the rate of £150 a year with board, residence and laundry. Application stating age, qualifications and experience with copies of testimonials to be delivered to me not later than Monday June 16th.

P. M. MACCOLL,
House Governor & Secretary.

General Hospital,

Nottingham.

Wanted a HOUSE SURGEON. Appointment for six months commencing July 1st. Salary at the rate of £150 a year with board, residence and laundry. Applications stating age, qualifications, and experience with copies of testimonials to be delivered to me not later than Monday June 16th.

P. M. MACCOLL,
House Governor & Secretary.

General Hospital,

Nottingham.

A HOUSE SURGEON is required for the Ear, Nose and Throat Department which is under the joint charge of two Honorary Aural Surgeons. Appointment for six months, commencing on or about July 1st. Salary at the rate of £150 a year with board, residence and laundry.

Applications stating age, qualifications and experience with copies of testimonials to be delivered to me not later than Monday June 16th.

P. M. MACCOLL,
House Governor & Secretary.

Stroud General Hospital

HOUSE SURGEON wanted. Candidates must be duly qualified and registered. Salary £150 with board, lodging and washing. The Hospital (250 beds) serves a population of about 70,000 in a manufacturing and agricultural district and is well equipped (X-ray apparatus &c.) V.D. Clinic.

Applications, with testimonials, should be sent to the Honorary Secretary. The Hospital, Stroud on or before June 14th 1924.

City of London Maternity HOSPITAL, City Road, E.C.1

Applications are invited from fully qualified and registered male candidates for the post of RESIDENT MEDICAL OFFICER (vacant July). Six month appointment at £100 per annum with board, lodging and washing.

Application with 12 copies of three recent testimonials should reach the undersigned by June 14th.

RALPH B. CANNINGS, Secretary.

Wanted.—Outdoor Assistant, married, for private and panel practice in Midland town. Salary according to experience and unfurnished house.—Address stating age nationality and other essential particulars No 2822 BRIT MED JOUR. Office 429 Strand, W C 2.

Wanted—Assistant, for large private and panel practice near Manchester Young and energetic worker essential Dispenser and book keeper kept.—Address applications with particulars to No 2810 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Wanted, Assistantship or long LOCUM by M.B Ch B (Edin.)—Woman Two years hospital experience. General and Specials Good anæsthetist. Dispensing Cyclist and motor-cyclist Drives car.—Address, No 2828 B M J Office 429, Strand W C 2

Wanted, Assistantship by M B Ch B (woman) town or country indoor or out. Energetic, good cyclist. Free shortly (by arrangement).—Address No 2827 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted, Gentleman as ASSISTANT in General Practice in Manchester Panel Please state qualifications, experience age married or single, and nationality Rooms and attendance provided Appointment now vacant Usual bond.—Address No 2833 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted—Middle of June, ASSISTANT (Male) for an industrial PRACTICE in Midlands Applicants please state age qualifications experience, and other essential particulars.—Address No 2823 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted, August Capable ASSISTANT for responsible post, married. Large Practice. Previous experience, and unexceptional references essential Good house and salary to suitable man.—Address No 2703 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted by M A, M B., (T C D) aged 28 British ex service man ASSISTANTSHIP or Management of Branch in or about London 4½ years panel experience Long Locum entertained.—Address No. 2836, BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Wanted, for Far East, young MEDICAL MAN preferably with some experience of practice, to proceed immediately for full particulars address No 2841, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Doctor offers Assistantship, would suit man newly qualified seeking knowledge of general practice. Must motor cycle congenial surroundings small salary increasing if suitable Live in all found.—Address, No 2816 BRITISH MEDICAL JOURNAL Office 429 Strand, W C

Gentleman required, young, just qualified suitable for panel and private Practice just outside East end London Please state age references married or unmarried, and other essential particulars Photo if possible.—Add No 2839 BRIT MED JOUR. Office 429 Strand.

Medical Assistant required—Experienced in X rays and Electro-therapeutics D R M E applicants preferred.—Address No 2802, BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

M R C S Eng, male, æt about 26 single well received recently qualified keen, conscientious and willing desires post as ASSISTANT.—Address all particulars to No 2807 BRITISH MEDICAL JOURNAL Office 429 Strand W C

M B, B Ch, aged 30, British born desires ASSISTANTSHIP (London preferred) or LOCUM (anywhere) Motorist cyclist linguist, energetic and abstainer Free 16th inst.—Dr. L. , Shrewsbury Road, Forest Gate Phone Forest Gate East Ham

South Wales—Assistant wanted Salary £400 a year with rooms fuel and attendance Single man preferred.—Apply stating age and giving references to W. Coltd Bunker Co Ltd 9 Hanover Street Liverpool

Lady, 35, wishes, to hear of London Specialist requiring SECRETARY about autumn. Willing help also in house in the country.—Address No 2817 BRITISH MEDICAL JOURNAL Office 429 Strand W C.

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Locums—An experienced Doctor who has had own practice, desires Locum Tenancies for June and July London preferred, not essential Terms £7 7s. p w Does some ten locums annually Well recommended. Now disengaged.—Add 'MEDICUS 58 Talbot Road Bayswater W

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M D Glasg, experienced in all classes general Practice and in major surgery, would undertake LOCUM Work for several weeks beginning early in August. Home around London preferred not essential. Holds visiting hosp. appoint. Well received, abstainer.—No 2835, B M J Office 429 Strand W C 2.

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Wanted, Partner with good Medical qualifications in good-class Practice. No panel, no dispensing 40 minutes from London, rapidly growing district Share worth £1,200, 2½ years purchase.—Address No 2821, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2.

Wanted—Partnership, after preliminary Assistantship in general Practice in or within easy reach of London by Scots graduate æt 27 single. Five years hospital and G P experience. Free end of June.—Address, 2712 BRIT MED JOURN Office, 429 Strand W C 2.

Wanted—Partnership in good-class general Practice in hospital town, preferably non university by honours graduate G P experience and 3½ years hospital in Surgical, Midwifery Gynæcology Highest testimonials.—Address, No 2550, B M J Office 429 Strand, W C.

Wanted—Partnership, ASSISTANTSHIP with view or PRACTICE in or near Glasgow good house cash available.—Address, No 2809 BRITISH MEDICAL JOURNAL Office, 429, Strand W C 2

Wanted—Partnership, in Torquay or neighbourhood by M D aged 36. Experienced in general practice.—Address, No. 2811, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2.

Wanted, Partnership, preferably with succession, or PRACTICE (£1,000 to £1,200) in or near London or large city by well-qualified Scotch graduate, aged 30 Capital available.—Address No 2829 BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2.

Wanted, by highly qualified man used to major surgery PARTNERSHIP of about £700 to £800 p.a. net, with scope in town with up-to-date hospital House to let must be available. Married.—Address No 2804, BRITISH MEDICAL JOURNAL Office, 429 Strand W C

Ear, Throat, and Nose—PARTNERSHIP or ASSISTANTSHIP with view to succession required by M D F R C S Ed. with long experience of above special work. Capital available.—Address, No 2830 BRITISH MEDICAL JOURNAL Office, 429, Strand, W C 2

North Wales—Welsh-speaking PARTNER urgently wanted for extension Abstainer essential. £400 minimum guaranteed. Scope for great and rapid increase. Premium £500 by instalments.—Full particulars to No 2825 BRIT MED JOUR. Office, 429 Strand W C

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Lord Mayor Treloar Cripples' HOSPITAL AND COLLEGE Alton Hampshire

Applications are invited for the post of JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER Appointment tenable for six months as from the 1st July Salary at the rate of £250 per annum with board residence and laundry

Applications with copies of recent testimonials should be addressed to Sir HENRY GALVAIN M D Medical Superintendent, Cripples Hospital Alton, Hants.

Dundee Town Council

PUBLIC HEALTH DEPARTMENT

KING'S CROSS INFECTIOUS DISEASES HOSPITAL.

RESIDENT MEDICAL OFFICER (SENIOR) is required at an early date for the above Institution

The salary will be at the rate of £350 per annum rising by annual increments of £25 to £400 per annum with board and lodging

Previous experience as resident medical officer in an infectious diseases hospital is essential

Application form and schedule giving further information regarding the appointment, may be obtained from the undersigned to whom applications must be sent on or before Wednesday, June 18th next.

W L BURGESS,
Public Health Dept Medical Officer of Health.
West Bell Street,
Dundee June 3rd 1924

Seamen's Hospital Society,

Greenwich, S E.

The Committee invite candidates for the appointments of HOUSE SURGEON and HOUSE PHYSICIAN at the Dreadnought Hospital, Greenwich. Candidates must be male, doubly qualified and registered The elected candidates will be required to take up duty on the 1st July, 1924.

Salary at the rate of £150 per annum and a proportion of fees with board residence, and washing The appointment will be for six months. Applications stating age, together with copies of not more than three recent testimonials, to be sent in on or before the 19th of June to the undersigned, from whom further particulars can be obtained.

By order
Greenwich, P J MICHELLI,
May 31st 1924 Secretary

Derbyshire County Council.

LOCUM TENENS-TUBERCULOSIS OFFICER.

Locum Tenens wanted for Holiday Duty in August and September The Officer will take charge of Tuberculosis Dispensaries throughout the County No evening sessions. Remuneration at the rate of £700 per annum. Candidates should have had experience of Tuberculosis work in a Sanatorium or Dispensary

Applications, giving short details of experience in Tuberculosis and Public Health work should be sent in at once addressed to the County Medical Officer New County Offices, St Mary's Gate Derby

Royal Waterloo Hospital for

CHILDREN AND WOMEN,
Waterloo Road, S E 1

Applications are invited from qualified male practitioners for the following post vacant on July 1st 1924. Non Resident CASUALTY OFFICER to work in the out-patient department on week-days at £150 per annum lunch and tea provided Applications with copies of testimonials, should be forwarded by Tuesday June 17th to the Secretary at the Hospital from whom further particulars can be obtained

Royal Waterloo Hospital for

CHILDREN AND WOMEN
Waterloo Road, S E 1.

There is a vacancy for an HONORARY PHYSICIAN in charge of out patients. Candidates must be graduates in medicine of a University recognized by the General Medical Council and members of the Royal College of Physicians Applications must be sent to the Secretary at the Hospital on or before June 17th, with copies of not more than three recent testimonials

Royal Northern Hospital,

Holloway N 7

An ANÆSTHETIST wanted must be a registered medical practitioner residing in the neighbourhood of the hospital. The appointment is for twelve months with eligibility for re election, and is open to qualified medical women.

Honorarium £10/10/0 per annum

Applications, with copies of three testimonials should be sent by the 16th June to the undersigned, from whom particulars of the appointment may be obtained.

GILBERT G PANTER
Secretary

Doncaster Royal Infirmary

JUNIOR HOUSE SURGEON (male) required at once The scope of work is wide and valuable surgical experience is afforded Salary £150 per annum with board residence and laundry

Applications with full particulars and copies of testimonials to reach the undersigned by Thursday 12th June 1924

R. WILFRED A. ELLISTON, Secretary

The Royal Infirmary,

Sheffield (363 Beds)

The Weekly Board of Management invite application for the following posts of

HOUSE SURGEON
ASSISTANT CASUALTY OFFICER
EAR, NOSE AND THROAT HOUSE SURGEON

The salary attached to each appointment is £60 per annum with board and residence

Applications, with copies of testimonials to be addressed to the undersigned

JNO W BARNES, Secretary
Board Room. May 26th 1924.

The Royal Infirmary,

Sheffield. (363 Beds)

The Weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON The salary attached to the appointment is £60 per annum with board and residence.

There are 52 Ophthalmic beds and the post offers exceptional opportunities of gaining experience in Ophthalmology

Applications with copies of testimonials, to be addressed to the undersigned

JNO W BARNES, Secretary
Board Room May 26th 1924

Salford Royal Hospital,

(260 Beds)

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER (Male) which will become vacant on the 30th June next.

Salary at the rate of £175 per annum with board and residence. The appointment will be for a period of at least six months. Candidates must be registered under the Medical Acts

Applications stating age and qualifications, together with copies of testimonials and certificate of registration to be addressed to the undersigned without delay By order of the Board

GEORGE RUDDLE,
Salford Royal Hospital, Gen Supt. & Secretary
Manchester June 3rd 1924

District Infirmary,

Ashton under Lyne
(General Hospital, 200 beds)

MALE HOUSE SURGEON wanted for July 1st, Six months appointment, renewable. Salary at the rate of £150 per annum with board residence, and laundry The resident staff consists of a Resident Surgical Officer and two House Surgeons.

Applications and testimonials to be sent to LEONARD BOTTOMLEY Esq M A. LL.D Honorary Secretary, 120, Stamford Street Ashton under Lyne.

FRANK OLIVER,
May 30th 1924 General Supt and Sec.

Bristol General Hospital.

HONORARY CLINICAL ASSISTANTS

The Committee invites applications for these appointments in the various Out Patient Departments at the Hospital The appointments are for six months commencing July 1st next, and the holders will be eligible for re-election

Candidates must be fully qualified and registered medical practitioners and applications are to be forwarded to the undersigned on or before Monday, June 16th from whom further particulars may be obtained.

THOMAS W GREGG Secretary

Manchester Royal Eye HOSPITAL.

HONORARY SURGEON

The Board of Management invite applications for the above post. The chief work will consist in giving opinions on such general surgical cases as may be referred by the Honorary Staff

Applications to be addressed to the Chairman of the Board of Management not later than 30th June

W S PROPHET Secretary

Manchester Royal Eye HOSPITAL.

HONORARY AURAL SURGEON

The Board of Management invite applications for the above post. Applications to be addressed to the Chairman of the Board of Management not later than June 30th.

W S PROPHET Secretary

Manchester Royal Eye HOSPITAL.

HONORARY DENTAL SURGEON

The Board of Management invite applications for the above post. Applications to be addressed to the Chairman of the Board of Management not later than June 30th.

W S PROPHET, Secretary

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.		**PUBLIC HEALTH** *(continued)*
ENGLAND	**WALES** *(continued)*	EAST SUFFOLK ADMINISTRATIVE COUNTY (*Assistant Tuberculosis Officer*)
MIDDLESBOROUGH (*Medical Aid Association or Workmen's Club*)	OAKDALE MON (*Medical Officer for Medical Aid Association*)	GELLYGAER URBAN DISTRICT COUNCIL (*Medical Officer of Health*)
SOUTH BANK & ESTON (*Medical Aid Associations or Workmen's Clubs*)	OGMORE VALLEY GLAMORGAN (*Wyndham Colliery Medical Aid Society*) (*Workmen's Medical Scheme*)	HUNTINGDON ADMINISTRATIVE COUNTY (*Assistant County Medical Officer and Assistant School Medical Officer*)
WALES.	TONDU & ABERKENFIG GLAMORGAN (*Workmen's Medical Scheme*)	LINCOLN CITY AND COUNTY BOROUGH. (*Medical Officer of Health*)
ABERTRIDWR, GLAMORGAN (*Winsor Colliery (Medical Scheme*)	**PUBLIC HEALTH.**	NORFOLK EDUCATION COMMITTEE. (*Assistant School Medical Officer*)
EBBW VALE MON (*Workmen's Medical Society*)	ARGYLLSHIRE EDUCATION AUTHORITY (*Tuberculosis Medical Officer*)	NOTTINGHAMSHIRE (*County Medical Officer of Health*)
GILFACH GOCH GLAMORGAN (*Workmen's Medical Scheme*)	BARNSLEY COUNTY BOROUGH (*Assistant Medical Officer of Health and Assistant School Medical Officer*)	SOUTHWARK: METROPOLITAN BOROUGH (*Tuberculosis Officer*)
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN (*Workmen's Medical Scheme*)	DUNDEE: EDUCATION AUTHORITY (*Senior Assistant Medical Officer*)	STOKE-ON-TRENT EDUCATION COMMITTEE. (*Assistant School Medical Officer*)
MARDY GLAMORGAN (*Workmen's Medical Scheme*)		YORKSHIRE: NORTH RIDING COUNTY COUNCIL. (*Assistant School Medical Officer*)

(b) Colonial Medical Service.—WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou & St. Vincent and St. Lucia).

(c) Overseas Appointments

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch
NEW SOUTH WALES. (*All Friendly Society Appointments*)	Dr. R. H. TODD (Hon. Sec. New South Wales Branch) B.M.A. Building, 135A, Elizabeth Street, Sydney, N.S.W.	QUEENSLAND (*Brisbane Associated Friendly Societies Medical*)	Dr. R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street, Brisbane.	VICTORIA. (*All Institute or Medical Dispensaries.*)	Dr. FRANK DAVIES (Hon. Sec. Victorian Branch) Medical Society Hall, E. Melbourne, Victoria.
				WESTERN AUSTRALIA. (*Contract and Lodge Practices.*)	Hon. Sec., Western Australian Branch No. 6, Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address: 429 Strand, W.C. 2.
June 4th 1924

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

The Princess Mary Maternity HOSPITAL,

Jubilee Road, City Road, Newcastle-upon-Tyne. (No. 8.)

Wanted ASSISTANT MEDICAL RESIDENT OFFICER to take up duties at the above Hospital on 1st July 1924 who must be fully qualified registered medical practitioner. The appointment is for three months, at the end of which he shall with the approval of the Committee of Management, take up the Senior appointment for a further term of three months. Salary at the rate of: Assistant Resident Medical Officer £40 per annum. Senior Resident Medical Officer £80 per annum, together with board and laundry.

Applications stating age and qualification with copies of three recent testimonials, to be sent to the Secretary, Mr. NEIL BAXTER, 18, City Road, Newcastle, on or before 11th June 1924.

London Hospital, E.1

Applications are invited for the post of FIRST ASSISTANT to each of the four Medical Firms.

The salary will be £400 per annum which will be paid by the Hospital and the Medical College jointly.

Applications will be received up to the first post on Monday, June 16th.

Particulars of the appointment may be obtained from the House Governor, London Hospital, E.1.

Hampstead General and NORTH WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.

Appointments of CASUALTY MEDICAL OFFICER and CASUALTY SURGICAL OFFICER. Applications are invited from registered medical practitioners for the positions of Casualty Medical Officer and Casualty Surgical Officer at the out-patient department of the Hospital, Bayham Street, Camden Town, which will become vacant on July 1st next. The salary for each appointment will be at the rate of £100 per annum, together with board, residence etc., and the period will be for six months.

Applications stating age, qualifications, experience, together with copies of not more than three testimonials, should reach the Secretary not later than noon on June 14th next.

Storthes Hall Asylum, Kirkburton, near Huddersfield.

ASSISTANT MEDICAL OFFICER wanted. Must be fully qualified and registered. Previous asylum experience desirable but not essential. Salary £400 per annum, rising £25 annually to £500 with board, apartments and laundry.

Appointment is made subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Apply with usual particulars as to age, qualifications, etc., to the Medical Superintendent.

Hampstead General and NORTH WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.

Appointments of HOUSE PHYSICIAN and HOUSE SURGEON.

Applications are invited from registered medical practitioners for the positions of House Physician and House Surgeon, which will become vacant on July 1st next. The salary for each appointment will be at the rate of £100 per annum, together with board, residence etc., and the period will be for six months.

Applications stating age, qualifications and experience, together with copies of not more than three testimonials, should reach the Secretary not later than noon on June 14th next.

Victoria Hospital, Accrington. (Co. Surgical Beds.)

HOUSE SURGEON

There will be a vacancy at the above Hospital on the 1st July next for a fully House Surgeon. Salary at the rate of £150 per annum with board, laundry and residence.

Applications with testimonials should be forwarded not later than 14th June to the undersigned from whom further particulars can be obtained.

A. H. AITKEN, Hon. Secretary.

Parish of Lambeth Board of GUARDIANS

Wanted a MALE JUNIOR ASSISTANT MEDICAL OFFICER for the Lambeth Parish Hospital (including Lying in Wards) and for the outrelief districts of the parish administered there from Applicants must be fully qualified and have recently held a resident appointment at a recognized teaching school The work is arranged so that a wide experience may be obtained by the officer appointed

Remuneration at the rate of £200 per annum, with full residential allowance.

Written applications to be sent to the Clerk to the Guardians Guardians Offices, Brook Street Kennington S L 11, not later than Monday 16th June 1924

St Marylebone Hospital, Ladbroke Grove, W 10

A THIRD ASSISTANT MEDICAL OFFICER (Male) required The Hospital (Poor Law Infirmary) has 730 beds contains a wide range of clinical material both acute and chronic, at all ages, and has a consulting staff of eleven members.

A previous hospital appointment a necessity Quiet quarters Garden with grass and hard courts Salary £300 per annum, with board, lodging, and washing

Apply in writing with *full particulars*, to the Clerk to the Board Guardians Offices 1, Northumberland Street W 1 Interview by appointment only

The Harrogate Infirmary

Applications are invited for the position of HOUSE SURGEON (male) British

The appointment will be for six months and may be renewed for a further period not exceeding six months Salary £150 per annum, with board, lodging and laundry

Candidates who must be duly registered are requested to forward their applications stating age, qualifications etc. to the undersigned on or before June 14th Selected candidate to take up duty on June 23rd

GEO BALLANTYNE Secretary

Kent & Canterbury Hospital

Required on July 16th RESIDENT MEDICAL OFFICER. Salary £175 per annum The work is equally divided between two Resident Medical Officers and special opportunities exist for gaining experience in Ophthalmic and general work

Applications with copies of testimonials should be addressed to the undersigned, not later than June 10th

F P CARROLL Secretary

Hon Radiologist, War MEMORIAL HOSPITAL Enfield Middlesex (52 beds)

Applications are invited from qualified medical men for above post.—Address, Hon Sec. as above

Telephone: Langham 2728
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4 DEATH VACANCY — Good-class non panel PRACTICE of over £2,500 a year in East Coast Town Staff Appt assured Nice house on lease at moderate rental L.T in charge. Full details given

5 CONFINES OF CITY—General PRACTICE of £1 250 a year including £550 from appts and small panel. No midwifery Fees good Convenient residence on long lease at £125 Premium £1 500

6 WOMAN DOCTOR'S PRACTICE (London, N W) for Sale through failing health Estd 2 years. Income already £700 Fees 2/6 to 7/6 Capital scope moderate rent. Price £800

7 SEAPORT TOWN (N W Coast) Average income £1 500 Panel and appts. £600 Good scope for active man. Vendor's health very indifferent. Well situated residence and garden on lease. Price £2 300

8 BIRMINGHAM —General PRACTICE over £800 a year with panel and great scope as Vendor has held same 40 years and has refused all midwifery and night work Convenient house and garden on lease at low rental

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GLAMORGAN — Well-established G.P Income over £1,400 p.a. Panel 3 appointments Good fees, scope. Nice house residential district. Premium £2 000

LONDON N E—Old-established G P Panel nearly 400 Average cash receipts £950 p.a. No midwifery scope Premium £3 000 to include freehold house, or would let.

MIDDLESEX — PARTNER (after preliminary assistantship) in very old-established G P Income over £4,500 p.a. Panel 4,000 Several appointments. House available. Premium for one-third share two years purchase.

LONDON, S W —PARTNERSHIP in old established G P Panel about 1 000 Income over £3 000 3 appointments. Premium two years purchase £2 500 down

LONDON W C —Established G P non panel (scope). Income over £600 (scope) Good fees. Upper part sub-let at profit rental of £80 p.a. Premium £1,100 to include lease, furniture, fittings

EAST COAST —DEATH VACANCY —High class non panel PRACTICE, situated in busy town Income over £2,500 p.a. Staff appointment Fees 7/6 upwards Nice house excellently situated to let or for sale Practice only suitable to one with good degrees and professional standing

MIDLANDS (North) — Industrial PRACTICE. Panel nearly 1 200 Income over £2 000 p.a. Hospital appointment Premium one and a half years' purchase

CHESHIRE.—PARTNERSHIP in old established G P Income nearly £4 000 p.a Panel 1 500 Fees 5/ to £1/3/6 Mids £3/3/0 to £10/10/0 Nice house with garden rent £56 p.a Premium for half share, 1½ years purchase £2 000 down Suit married man about 30

GLAMORGAN —Well established G P Income over £1,400 p.a. Panel 2 appointments Fees 3/6 to 1 guinea. Midwifery 2½ to 10 guineas. Nice house 4 bedrooms 3 reception rooms. Practice consists mostly of Cardiff business people resident in district. Premium £2 000

Purchasers, stating their requirements will be sent particulars of other suitable Practices and Partnerships for sale free of charge.

Please address all communications to the Manager, Mr W H. GRANT, Medical Transfer and Insurance Department.

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Printed Prospectus of Terms, etc., post free on application.

Lancs —University Town about 4700 p.a. Panel over 90. Assistantship very large scale. Good House and garden. Moderate price for Practice and House.—Apply No 7553.

New Zealand —About £1,600 a year. Country Town in North Island near sea. Agricultural district. Premises £1,500 including furniture of house etc.—Apply No. 7551.

Sussex Resort —Partnership Over £2,200 p.a. Panel 1,600. No midwifery. Half share £1,000. One-third share for remainder of two years purchase.—Apply No. 7550.

Notts —Nearly £1,300 Panel increasing. Opportunity unusual. Corner house to let on easy.—Apply No 7549.

London, W —About £2,000 a year. Established 13 years. Number of panel patients 1,600. Fees from £1 1s. Old-standing General PRACTICE, Central. Treatment, Massage work, etc. Good class connection and modern Low premises; rent £200.—Apply No 7548.

London Suburb —About £750 per annum. Old-established panel and fees PRACTICE. Very retiring. Fees 3 & 5 guineas. Doctor's house. Rent £65.—Apply No 7546.

Cheshire —Nearly £1,000 a year. Old-established Practice. HALF SHARE for remaining 3 years. Increase last two years 140 Appointments £1,200. Good fees. Good house and garden to rent.—Apply No 7540.

South County —Over £1,000 p.a. Panel 650; other appointments £120. Practically unopposed. Large house, excellent etc. Good garden. All sport.—Apply No 7536.

Midland Town —About £1,100 a year. Established PRACTICE. Panel 900. Appointments £10. Very little midwifery. Large house and garden. Price £1,600 including drugs, etc.—Apply No 7534.

Norfolk Coast —Nucleus for disposal, in favourite Seaside Resort. Visiting fees 3/6 to 5/. Good house. Reception, 4 best rooms, consulting room and dispensary. Lawn etc. On lease; rent £70. Small panel.—Apply No 7521.

London Suburb —About £500 a year. Panel 400 to 500. Good fees. Old-established House with good garden to rent. No midwifery. Easily worked. Scope for increase. Vendor retires 25 years.—Apply No 7516.

Near Birmingham —£2,400 p.a. Old-established. Opposition light. Good fees. Panel 1,800. Appointments worth £500 (about). Good family House with garden tennis etc. For sale with PRACTICE.—Apply No. 7501.

Open Air Sanatorium, £6,000 a year. Old-established. Splendid premises on lease. Every investigation. Net profits over £1,500. Premium very moderate. Personally known.—Apply No 7420.

Midlands —£800 a year, Industrial Town. Panel 800 easily worked; no Car. House with large garden, lawn and orchard. Sell or Let. Premium for practice £1,000.—Apply No. 7483.

Lancashire —Old established PRACTICE. Nearly £1,200 plus £280 appointments. Panel over 800. Good detached house with 2 acres ground, tennis etc. Apply No 7449.

Cheshire — £3,500 a year, PARTNER wanted. Good Suburb of large Town with Hospital. Good fees. Panel £1,000 a year. Good house available. Half share for sale.—Apply No 7444.

Near Manchester — Nearly £2,000 p.a. Panel worth about £600 p.a. Modern house with separate surgery to rent. Premium 1½ years' purchase; easy terms. Good schools near.—Apply No 7366.

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LONDON N.—Panel and private PRACTICE for sale. Income £1,100. Fees 1/- up. Number on panel 1,100. House containing 6 bedrooms, surgery waiting room. Rent £78. Premium £1,700.

LONDON S.E.—PARTNERSHIP in old established middle and working class Practice for sale. Income £3,300. Nice corner House of 11 rooms, waiting room and surgery, garage and small garden. Number on panel 900. Premium one-third share £1,000.

LONDON S.E.—Large and private PRACTICE for sale. Number on panel 900. Income about £900. Large consulting room. Rent £80. Garage let at £50 per annum. Fees 2/- up. Premium £1,500.

LONDON W.—Partnership in private PRACTICE for sale. 1,100 on panel. Cash receipts for 1923 £852 12s. 10d., £995. Good class patients. Fees 5/- to 10/6. Opportunity to acquire an interest in old established PRACTICE. Rent £110. Vendor going abroad. Premium for half share £1,500.

LONDON S.W.—Old established PRACTICE for sale. Worked by Vendor 37 years. Average income £1,500. Number on panel 700. Good class. House in good order. Rent £130 per annum. Fees 2/- up. Premium two years' purchase.

NOTTS.—LIGHT LIVERIED in large panel and private Practice. Average income about £1,000. Could be built up in reasonable time. Premium for one-third share £1,000.

PARTNER required in large private and panel Practice at Leigh. Good industrial district. Age 25 to 35 years. Must have had some experience in general practice and hold Hospital appointment. Third share offered. Preliminary as to capital necessary.

LANCASHIRE.—Old established PRACTICE to be disposed of by Vendor (35 years). Average income £1,180. Transferable appointments £280. Compact Practice, expenses small. Panel 800. Nice House to be sold. Good garden orchard, tennis lawn, etc. Good schools near. Premium for Practice, house and grounds, £1,000.

PARTNERSHIP.—LANCASHIRE. In fashionable seaside town. Corner house, 11 rooms, all modern conveniences, including electric light. Could be rented. Income £1,150. No club work. Would suit middle-aged married man. Half share for sale. Premium two years' purchase.

GLAMORGANSHIRE.—Old established PRACTICE. Income £1,385. Panel 800. Surgeon to several collieries, all transferable. Radius of Practice one mile. Two central good cottages adjoining. Rent £50. Premium one and a half years' purchase.

SHROPSHIRE.—Old established PRACTICE for sale. Income £875. Number on panel 420. Fees 3/6 up. Seven roomed old brick house. Large garden and garage. Rent £47 10s. Premium £1,000.

PARTNERSHIP.—MONMOUTHSHIRE. Income £1,020. Number on panel 2,000. Fees 2/- up. Medical attendants to eight collieries. Nice House, seven rooms and surgery, waiting room, consulting room, dispensary. No garden. Rent £40. Premium for one-third share £1,250.

LANCASHIRE.—Town PRACTICE. Number on panel 1,600. Average income £1,093. Fees 3/6 up. Easily worked. Nice house. Rent £31. Vendor going abroad. Premium £1,500.

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Home County —Unopposed PRACTICE of £1,600. Panel and appointments £500. Beautiful District. Salubrious. Well built house with very nice garden and tennis court. Can be bought.

Yorkshire —Practice of £1,200 in prosperous town. Panel 1,000. Rent £80. Premium 1½ years' purchase.

East Coast —Practice of £1,700 in beautiful seaside resort. Panel 800. Appointment £80. Good class. Lease let or house with fine garden. Rent £140.

South Coast —Partnership Half share of £2,300 in pleasant town. Panel 1,000. Appointments £500. Good house with large garden. Rent £90. Premium £2,200.

Within 25 miles —Middle and working class PRACTICE of £1,700. Panel 1,100. Vendor retiring. Old established. Rent £42.

X-Rays Practice of £1,750, increasing. Vendor leaves the hospital staff. Largest town in South of England.

London, S.E —Middle and working-class PRACTICE of £1,300. Panel 900. House with nice garden and large consulting room. Rent £120.

Liverpool —Practice of £1,400 in residential suburb. Appointments £90. Panel 1,100. The Practice is small. Price, Rent £60.

North London —Middle and working-class PRACTICE of £1,600. Appointments £120. Panel 1,100. Midwifery has been done and there is great scope. Rent £65.

Birmingham —Middle and working-class PRACTICE of £815. Panel over 700. Midwifery. Great scope. Double-fronted house with large garden. Low rent.

North Wales —Practice in beautiful seaside place. Receipts £550. Small panel. Cottage hospital. Good house and garden, rent £50 on long lease. Garage. Premium £650.

New Zealand —Unopposed PRACTICE of £1,800. Beautiful district in North Island. Convenient House. Good roads. Scope for surgery. Good introduction. Premium £1,500.

Death Vacancy —Partnership Third share of £4,500. Middle-aged working-class Practice 10 miles out. Appointments £800. Panel 1,600. Rent £75 including rates and taxes.

West End —Partnership Share worth over £2,000 in first-class Practice. Partner should be English and useful to good class society. Very good class. Reasonable premium.

East Coast —Practice of £1,150 in favourite seaside place. Panel 800. Appointment £40. Cottage hospital. Rent £60. Premium £1,400.

Cheshire —Partnership Half share of £3,900 in residential place. Panel 1,100. Compact house, rent £55. Premium 1½ year purchase, £2,000 down.

West London —Practice of £1,250 including 1,200 panel and fine position for working up a large income. House on long lease at reasonable rent.

SW County —Partnership Half share of £2,000 in country town with a cottage hospital. Appointments and panel £850. Good schools. House can be obtained.

Purchasers during their requirements can have Particulars of other Practices not advertised.

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An Accountant's certified report is required in respect of every practice or partnership the disposal of which is undertaken by the Agency —

The commission chargeable in respect of any practice in Great Britain placed exclusively in the hands of the Agency for transfer has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being £50. In the case of Foreign and Colonial practices similarly placed the maximum is £75

NO CHARGE IS MADE TO PRINCIPALS FOR THE INTRODUCTION OF LOCUM TENENS OR ASSISTANTS

Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges.

PRACTICES AND PARTNERSHIPS FOR SALE.

1 CROYDON — Old-established middle and working-class PRACTICE Steady average income of nearly £2,400 Panel of 1,850 Fees chiefly 3/6 and 5/ About 40 midwiferies a year Excellent house with 3 reception rooms 6 bedrooms etc Garden, garage Held on lease. Rent £95 p.a. Premium 1½ years purchase

2 YORKSHIRE.—Large clean town Well-established middle and working-class PRACTICE Income £1 300 including £580 from panel and £350 from appointments Advice and medicine from 2/6 visit and medicine 3/6 upwards Very little midwifery lowest fee 2 guineas Good detached freehold house with small garden Electric light Garage Price £2 500 of which £1 500 could remain on mortgage. Premium £1,400 cash

3 PARTNERSHIP —EAST COAST —In a thriving Seaport Town (population over 100 000) the fifth share (to commence with) producing over £1,000 per annum in a leading and old-established non panel Practice is for disposal owing to the retirement of the junior partner Visits 5/ upwards Midwifery from 2 guineas 130 cases yearly Excellent house available in good position with 3 reception rooms 5 bedrooms bathroom, etc. and garden Rent £60 p.a. on lease Premium 1½ years purchase. Remaining partner is on the Hospital Staff Incoming partner should be married under 35 years of age and have held a Hospital appointment.

4. PARTNERSHIP —SURREY Residential Town (population over 20 000) in a beautiful district a two-fifths share producing nearly £850 a year in an old-established practically non-dispensing Practice held by Vendor 20 years is for disposal Receipts average £2,110 per annum including appointments £93 and panel of about 1 100 Visits 4/ to 10 6 Midwifery 3 guineas upwards 30 cases yearly Premium 2 years purchase. Ingoing partner should be well qualified under 35 years of age, and, if possible, a Gynæcologist. Good society golf tennis, etc

5 GLOUCESTERSHIRE —Very sound Country PRACTICE held by Vendor nearly 20 years. Steady average income of £1,450 including a panel list of 1 177 Practice is situated in extremely beautiful country Good freehold house with garden Price £1 200, but all the money can remain on mortgage and be paid by instalments. Prem £2 000 £1 000 down and balance as arranged

6 SEASIDE RESORT NORTH WEST. COAST —Old-established good-class PRACTICE (held 20 years by present Incumbent) averaging £1 310 per annum for the past three years No panel, and practically no midwifery or night work Visits 7/6 to £1 1s Car not kept Good house (facing sea) Rent £150 Premium 1½ years purchase. Vendor selling on account of ill health

BRISTOL.—Very sound middle and working-class PRACTICE held nearly 25 years by present Incumbent who is relinquishing on account of ill health Average cash receipts over £1,200 a year including several small appointments and a panel of over 1 500 Visits 3/6 to 10/6 Midwifery from 3 guineas, about 30 cases Very good house specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance 5 bedrooms etc Garden Premium £1 800

8 DERBYSHIRE.—HOSPITAL TOWN -Old-established PRACTICE held 13 years by present Incumbent who is relinquishing on account of ill health Cash receipts for the past 3 years average £3 372 per annum including about £1 500 from panel Fees 3/6 to £1 1 0 About 50 cases of midwifery a year at 2 to 5 guineas Centrally situated house (2 reception rooms consulting and waiting rooms 6 bedrooms, bathroom etc) on lease at £100 a year Premium £5.000 Good scope for surgery and Vendor is on the Staff of the Hospital

9 SOUTH WEST OF ENGLAND -COUNTY TOWN -A ONE-THIRD SHARE, producing £800 is offered in a good-class non panel and considerable amount of surgical in the town and the incoming S) will eventually be elected to

1 PARTNERSHIP LANCS LARGE TOWN The third share of an old-established lucrative and money making Practice worth for the last financial year £3 722 can be acquired by a young unmarried man Panel list of over 1 800 and patients operative fees Visits 2 to 5 Midwifery 2 to 3 guineas Ingoing partner could reside with Vendor or unfurnished rooms are available Golf to be had Premium 1½ years purchase

11 CHESHIRE —Twelve months' PARTNERSHIP introduction will be given to an old established middle-class and panel Practice (1 600 patients on list) worth last year £2 100 Situated in a large town (population nearly 100 000) close to seaside resort. Visits 2/6 to 5/ Midwifery 2 to 3 guineas about 100 cases yearly Car not required Good house with garage, available at end of introduction Premium 1½ years purchase

12 LINCOLNSHIRE —Unopposed Country PRACTICE very easily worked Average income over £1,100 Fees 2/6 to 10 6 Very little midwifery Good detached house in its own grounds, with 7 bedrooms etc. Rent £80 on lease Premium £1,600

13. LONDON WEST END —PARTNERSHIP —A quarter share (to commence with) and up to one-third in 2 years and one-half in 4 or 5 years, with ultimate succession if desired is for disposal in a first-class general Practice Income for the immediate past year £3,020 Fees mostly 1 guinea upwards and a few at 10/6 Purchaser should be a Graduate, or hold some higher qualification Premium for the quarter share £1 500

14 WEST CENTRAL —Sound easily worked PRACTICE of about £770 Very good scope as the Vendor has suffered from ill health since the war Fees mostly 10/6 Very convenient flat. Rent £58. Premium £1,100

15 LONDON EAST —Well established middle and working-class PRACTICE Income over £1,150 Panel of 1 700 Surgery fees 2/6 Visits 3/6 upwards No midwifery Well situated house will be sold or let Premium £1,750

16 NEW ZEALAND (NORTH ISLAND) —Unopposed and increasing PRACTICE in a very beautiful district on main line about 76 miles from a large city and worth nearly £1,300 a year including easily worked appointment at £100 Visits into Township 10/ mileage 6/ midwifery 5 gns Good and up-to-date house (built by Vendor's predecessor) containing surgery 2 reception rooms 3 bedrooms and sleeping porch bathroom etc with an acre of ground tennis court etc. Rent £120 on lease Climate perfect sport of all kinds, telephone churches and shops of every description Premium £1,000

17 CANADIAN COAST TOWN —Old established middle class PRACTICE, held by Vendor 30 years. Income for the last 12 months £1,650 Average for the last ten years £1 350 No appointments Nearest opposition 10 miles. Fees consultations 1 dollar medicine no 1 dollar extra. Visits 2 to 8 dollars Not much midwifery fees 15 to 35 dollars House is Vendor's own property and contains 2 reception rooms professional rooms 5 bedrooms, bathroom etc Central heating Electric light Small garden Trout and salmon fishing Prem for house and practice £3 500 payable £2 000 down

18 SOUTH SEA ISLANDS —In a Capital City a well-established lucrative and increasing PRACTICE averaging over £1,200 per annum Good climate malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards. Midwifery from 5 guineas Dispensing optional Practice can be worked on foot Good bungalow residence in excellent position with ¼ of an acre of garden Electric light, etc Rent £10 a month on lease Premium £800 Income Tax 1/ in the pound over £500

19 NORFOLK COAST TOWN —Old established PRACTICE held by Vendor many years The average income is only about £600 but there is large scope for increase Small panel of about 200 Fees 3 6 to 1 guinea. Very little midwifery Well-situated house, with small garden Rent £180 on lease Premium £900

20 NEW SOUTH WALES —Old-established unopposed non-dispensing PRACTICE situated in a small town (containing 1 public School Post Office Stores Shops and Churches of all denominations) in a very pretty district Cash receipts for the past 3 years average £1 200 per annum including small Lodge worth £80 Visits 7/6 to 10/6 (mileage 7/6 to 10,6 per mile) Midwifery 5 guineas Attractive Bungalow Residence with wide veranda round 3 sides and containing consulting room surgery (separate entrance) laboratory reception room (19 × 20ft) 3 very large bedrooms maid's room bathroom etc. Garden. Acetylene gas plant Rent £104 on lease Premium £1,000, half down and balance in 1 or 2 years

21 FAR EAST —MEDICAL OFFICER required for Railways Salary about £600 a year increasing annually Three years engagement First-class passage out and home Age 25 30 Scotsman pref Personal application if possible to Bovril Medical Agency

22 FAR EAST APPOINTMENT - ASSISTANTSHIP with view to Partnership, and ultimate succession in two years to an extensive Practice Salary £800—£1,000 with furnished quarter Passage paid Knowledge of tropical medicine essential Age 25 to 35 Sport etc Personal application if possible to Bovril Med Agency

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HOME COUNTY.—(1) PARTNERSHIP in first rate Practice over £7 000 £8,000 p.a. in beautiful residential Country Town. Principal (age 40) to reside. Premium one-third. Share two years. Purchaser must be energetic and keen golfer. Good Residence. Total assets £25,000.

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HOME COUNTY.—(3) Old established Country PRACTICE £1,000 p.a. in beautiful part, under 45 miles from London. Very good house (first floor reception rooms) with nice garden. Price £2,250. Premium for Practice £2,400.

YORKSHIRE (WEST RIDING).—(4) Well established PRACTICE £1,050 p.a. in Industrial District easy reach of Splendid Panel. Convenient modern house. Rent £48. Premium one-third. Two years purchase.

SOUTH WALES.—(5) Very old established PRACTICE, over £1,350 in beautifully situated Country Town. Panel over £450. Principal must be keen golfer and sportsman. Modern house with half acre garden, to be sold. Good house and yard. Premium £2,200.

SOUTH OF ENGLAND.—(6) PARTNERSHIP in old established PRACTICE £1,300 p.a. in one of nicest towns in Panels. Non-Panel very large. House can also be rented. Premium one-half. Two-thirds two years purchase.

YORKSHIRE (WEST RIDING).—(7) PRACTICE over £1,000 p.a. in thriving Industrial Town. Panel large. Good House. Rent £80. Premium £2,250.

HOME COUNTIES.—(8) PARTNERSHIP in good class Practice. Good X-ray and electrical connection. Practice in Residential Town. One-third share at first with intimate connection. Partner must be experienced in X-ray work. Excellent chance of permanency.

DEATH VACANCY SOUTH COAST.—(9) NUCLEUS of Practice in popular Watering Place. Spring next owing to death of young practitioner. Panel about 240. Two houses available for partnership.

DEATH VACANCY, LONDON, N.W.—(10) Good old-established PRACTICE, about £2,000 p.a. in Residential District. No panel. Non-Laumb's (converted) house (8 bedrooms). Rent £52.

MANCHESTER.—(11) PARTNERSHIP in old established good-class practice over £1,500 in Residential District. Capital. One-fourth share will be sold for £2,100 with option to purchase further shares up to one-half. Partnership open to fully qualified M.D. or F.R.C.S.

WEST MIDLANDS.—(12) PARTNERSHIP in old established Country Practice, over £3,000 p.a. Panel 2,100. Rent £40. Partner about 30 years of age to work with some Surgical experience. Well equipped Cottage Hospital. Premium one-third share two years purchase.

WEST END OF LONDON.—(13) PARTNERSHIP in high class nursing home. Practice fee-charging £1,100. Premium with assets £2,000 paid £1,000. Ample scope for increase.

MIDLANDS.—(14) PARTNERSHIP in very old established Practice over £4,200 in large Country Town. Panel 2,000. House contains 6 bedrooms, &c. Price £7,500. Premium one-third. Three years purchase.

YORKSHIRE (EAST RIDING).—(15) PARTNERSHIP in well established Practice near York £2,000 p.a., in pleasant Country Town. Panel about 1,600. Good house to be let on lease of ground. Rent £40. Premium one-half share two year purchase. Partner aged about 30 preferably with experience in Major Surgery. Fine Hospital in Town.

KENT.—(16) PARTNERSHIP in well-established good-class middle-class Practice, over £2,000 in delightful Residential District. Panel 500. Very good society. Golf. Premium one-third (or one-half) share two years purchase. Partner must be gentleman, Public School or University man for preference.

NOTTINGHAMSHIRE.—(17) PRACTICE averaging £1,200 p.a. in Residential Town. Panel 900. Corner House (11 bedrooms, &c.). Rent £60. Premium one and a half years purchase.

SPECIAL OPHTHALMIC PRACTICE.—(18) About £1,400 in high-class Inland Health Resort. Operative and excellent cases for last few years. Considerable scope for increase. Premium £2,000.

FAR EAST.—(19) Excellent opportunity for well qualified man to acquire a PRACTICE in one of the principal Cities. Varsity man (26-30) accustomed to good-class practice preferred. Premium required £800.

EAST COAST.—(20) Popular Resort. Old established middle and working-class PRACTICE of £1,184. Panel 617. Men of house (5 bedrooms) £60. Premium £1,400.

SOUTH OF ENGLAND.—(21) PARTNERSHIP in high-class Practice about £2,500 p.a., in beautiful residential Watering Place. No panel or midwifery. Patients include many County families. Share up to one-half at two years' purchase.

SOUTH COAST.—(22) PARTNERSHIP (with view to succession) in well-established non-dispensing Practice over £3,000 p.a. in Health Resort. No panel. Visits mainly 1 for 2/-. No midwifery. One-third share at first at two years purchase.

LONDON, S.W.—(23) PARTNER required (after short period) in mainly consultant practice and working connection. Practice nearly £2,000 p.a. Lower floor, part of two-storied Panel (150). Rent of house £50. Other half share two thirds. Offer £1,200.

SOUTH COAST.—(24) PARTNERSHIP in Panel and Private Practice, over £1,000 p.a. in popular Seaside Resort. Panel 1,150. Premium one-third share two years purchase. Partner must be energetic and keen golfer.

DEATH VACANCY.—(25) East Coast Old-established PRACTICE about £2,000 in important Seaport Town. No panel. Commodious and well situated house.

EASTERN COUNTIES.—(26) Old established PRACTICE £1,855 p.a. in pleasant Market Town. Panel 1,150. No midwifery. Excellent detached house (7 bedrooms). Very good garden. Cottage Hospital. Premium one and a half years purchase.

SOUTH COAST.—(27) Good class PRACTICE of £1,350 per annum. Excellent house. Premium £1,200.

SOUTH MIDLANDS.—(28) Well established unopposed PRACTICE averaging £1,181 per annum in good agricultural district. Panel 800. Detached house (8 bedrooms) in grounds of half acre. Rent £65 per annum. Premium £1,700.

SEASIDE TOWN AND HEALTH RESORT.—(29) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good-class established practice. Share worth £1,000 p.a. after two years purchase.

WEST OF ENGLAND.—(30) Well-established good class panel and private PRACTICE, over £1,080 per annum in favourite Town. Panel now rapidly increasing. Good house. Premium £1,650.

INLAND HEALTH RESORT.—(31) Well established PRACTICE in the midst of Residential Town. Receipts 1923, £1,819. Panel 200. Detached bedroom house. Premium £2,400.

YORKSHIRE (WEST RIDING).—(32) Old established PRACTICE over £1,700, in clean Manufacturing Town. Panel 1,100. House contains 3 bed and 2 dressing rooms. Garden half an acre. Pretty premises. Age under 40. Premium £2,000 to include book debts, tenant's fittings, &c.

EAST ANGLIA.—(33) Well established PRACTICE in Industrial Town and Agricultural centre near the Coast. Receipts average £2,075 per annum. Panel 2,150. Excellent house (3 bed and 2 dressing rooms). Premium one and a half years purchase.

LONDON, N.—(34) PARTNERSHIP in Cash and Panel Practice of £1,800 in Residential District. Panel 2,140. Hours to commence by arrangement. One-third share at once. Premium £1,200. Incoming Partner must be married.

ESSEX.—(35) NUCLEUS of Practice in Industrial Village. Panel and Midwifery refused. Detached house (4 bedrooms and 2 attics) with garden. Premium Practice and House £1,000. Majority of scope.

SPECIAL OPHTHALMIC PRACTICE.—(36) About £1,000 in Seaside Town, South of England. Would suit elderly practitioner retiring, and wanting quiet practice with small expenses, in healthy place. Premium £700.

SOUTH OF ENGLAND.—(37) PARTNER required in very good old-established Practice in Seaport Town. Panel under 2,000. Share worth £700 to £800 at two years purchase. Partner must be keen and energetic and not much over 30.

MIDDLESEX.—(38) PARTNER required in very old-established Lucrative practice over £4,500 per annum, in Industrial District. Panel 1,600. Small house (4 bedrooms). Rent £52. Premium one-third share two years purchase.

SOUTH OF ENGLAND.—(39) PARTNERSHIP in an old-established PRACTICE of £2,000 in beautifully situated Country Town. Panel 1,100. Very good educational advantages. Cottage Hospital. One-third share at 2 years purchase.

MANCHESTER.—(40) Old established and increasing middle-class PRACTICE over £1,400 per annum, in Suburb with Hospital and opportunities for Surgery. Small panel. Good house (3 bed rooms) in excellent position. Rent £50. Premium one and a half years purchase.

SCOTLAND NORTHERN HIGHLANDS.—(41) PRACTICE averaging over £1,600 per annum in a Town. No panel. House (3 bedrooms, &c.) in best residential part. Ample scope for midwifery and panel. Premium £1,200.

SHROPSHIRE.—(42) PARTNERSHIP in Country Practice, nearly £1,350 per annum. Detached house (5 bedrooms) with nice garden. Rent £60. Cottage Hospital. Premium one-half share £800.

SOUTH OF ENGLAND.—(43) PARTNERSHIP in a good class non-panel practice of £2,400 per annum in beautifully situated Country Town near the coast. One-third share for disposal at two years purchase. Partner should be Oxford or Cambridge graduate, no over 35 and preferably Public School England. Preliminary Assistantship. Salary £300 p.a.

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MIDLAND TOWN.—(45) Old-established PRACTICE about £1,100 per annum in residential Suburb. Panel 1,100. Good House and large garden. Premium £1,500.

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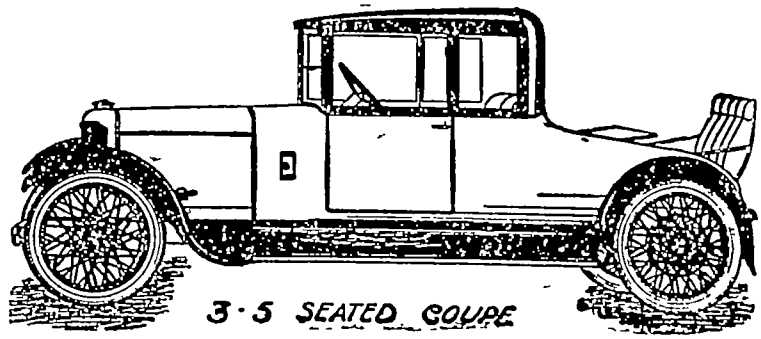
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JUNE 11TH 1921

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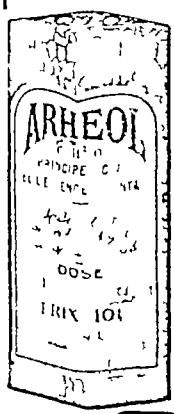
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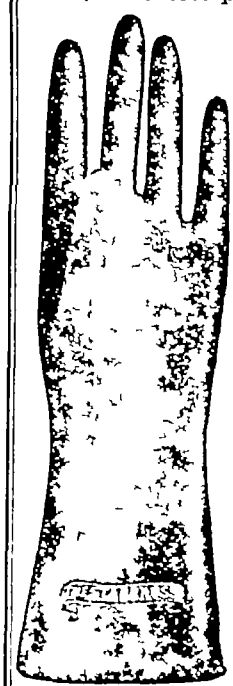
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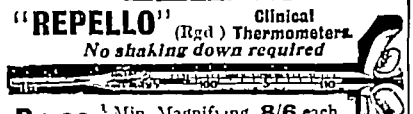


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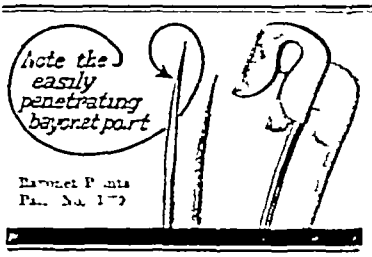
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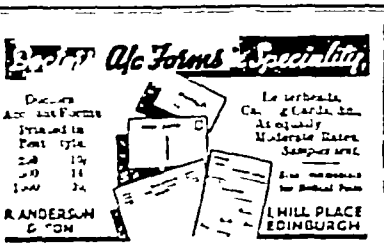
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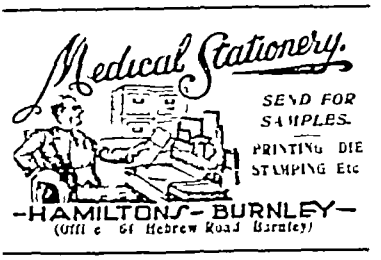
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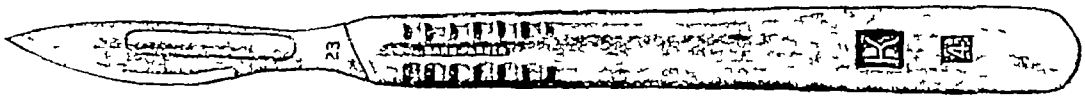
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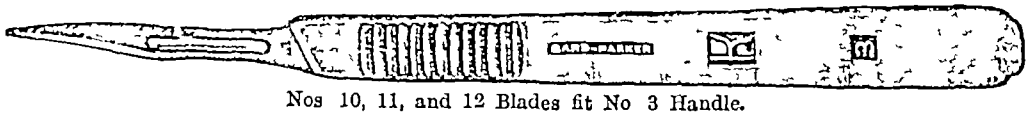
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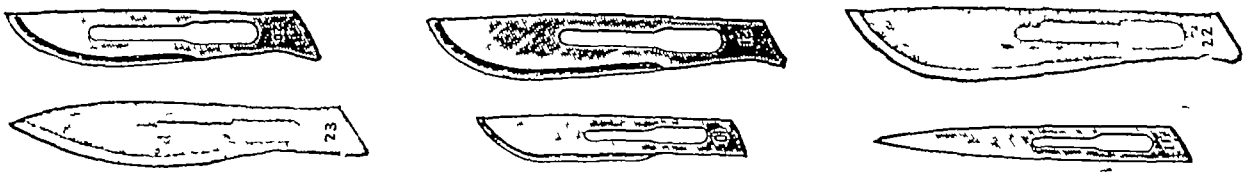
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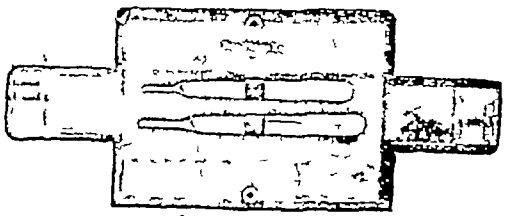


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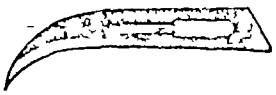




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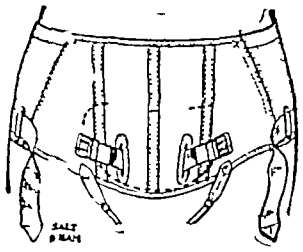
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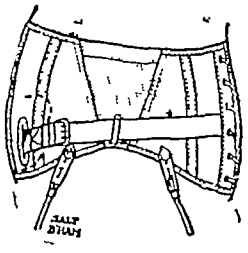
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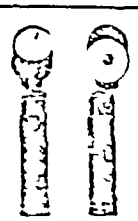
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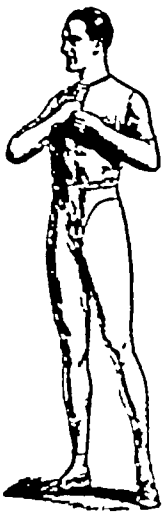
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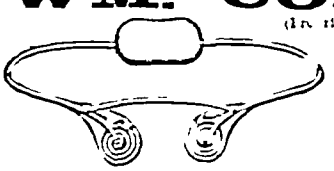
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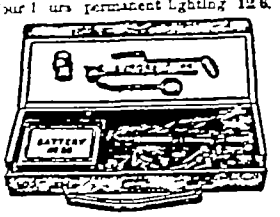
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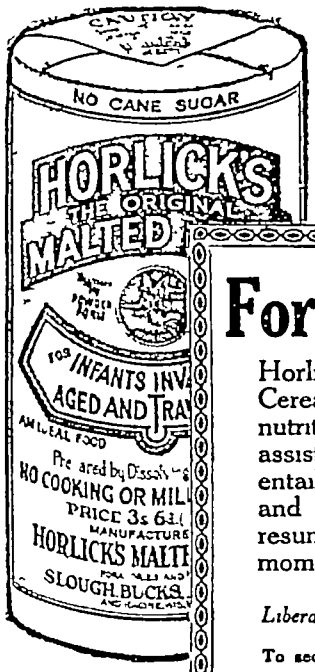
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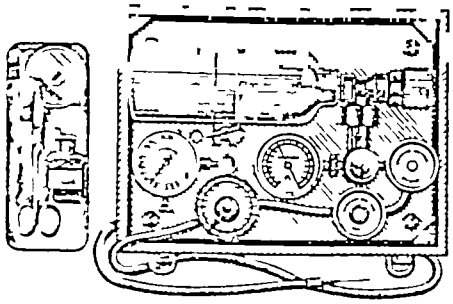
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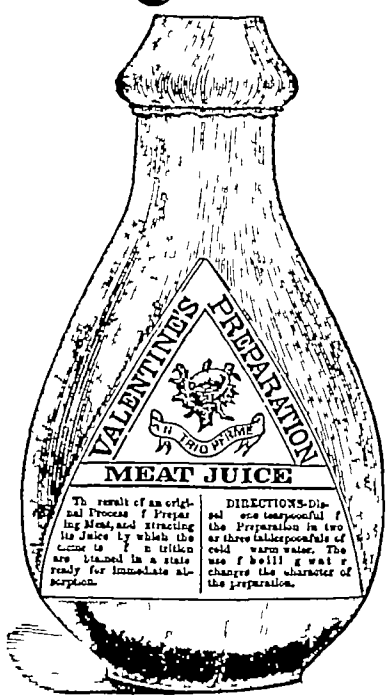
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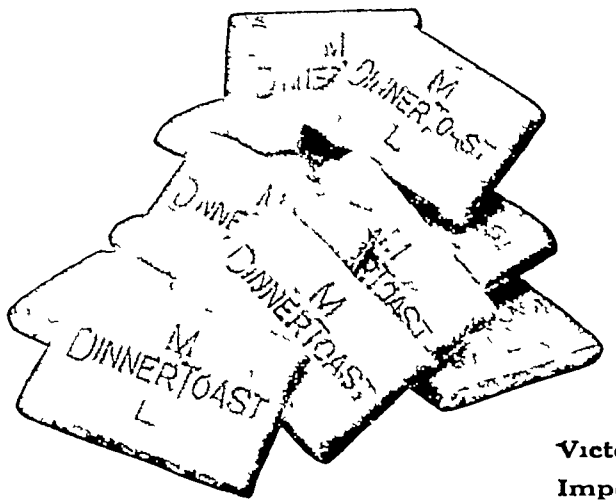
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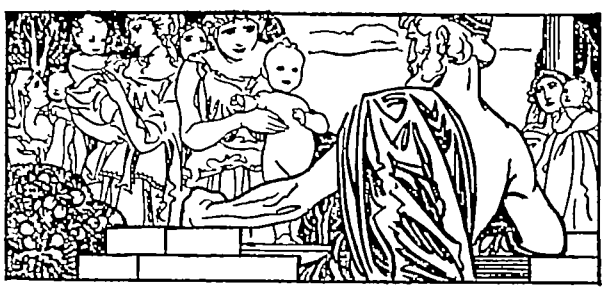
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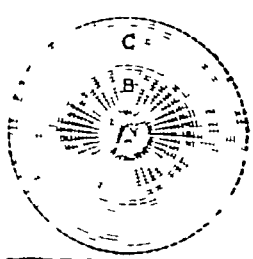
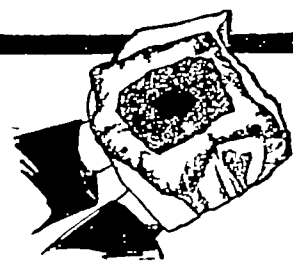
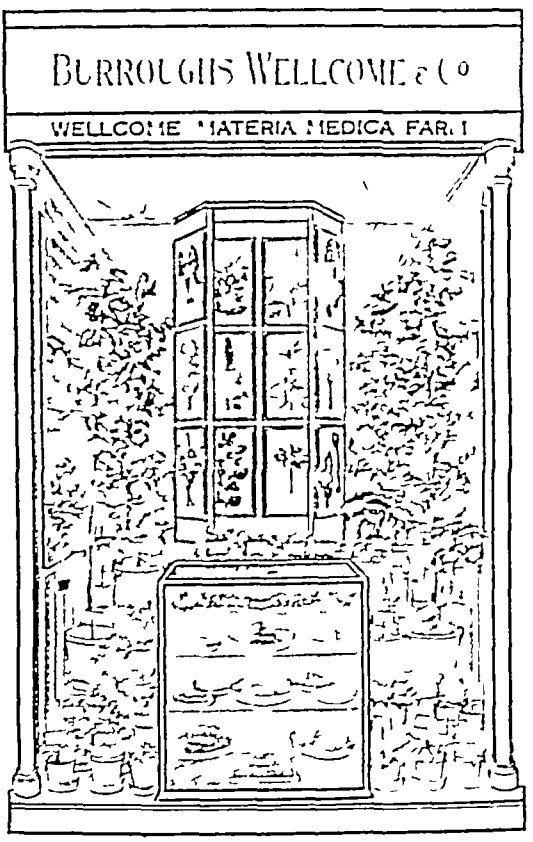


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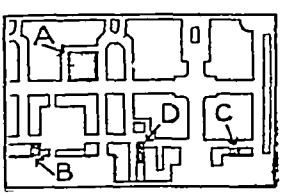
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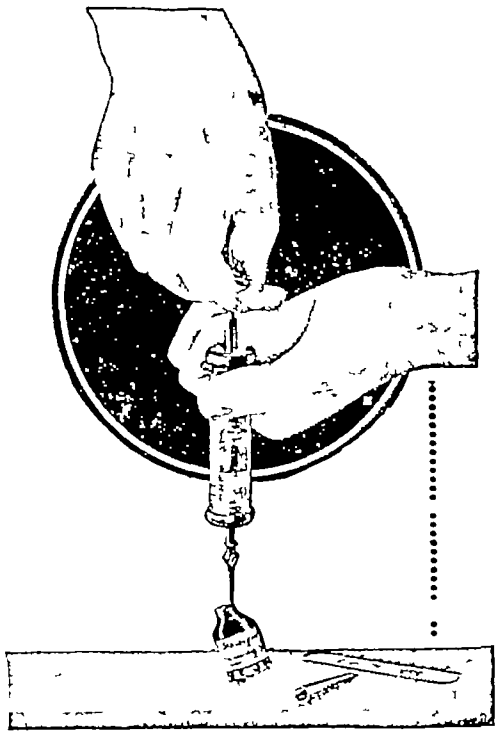
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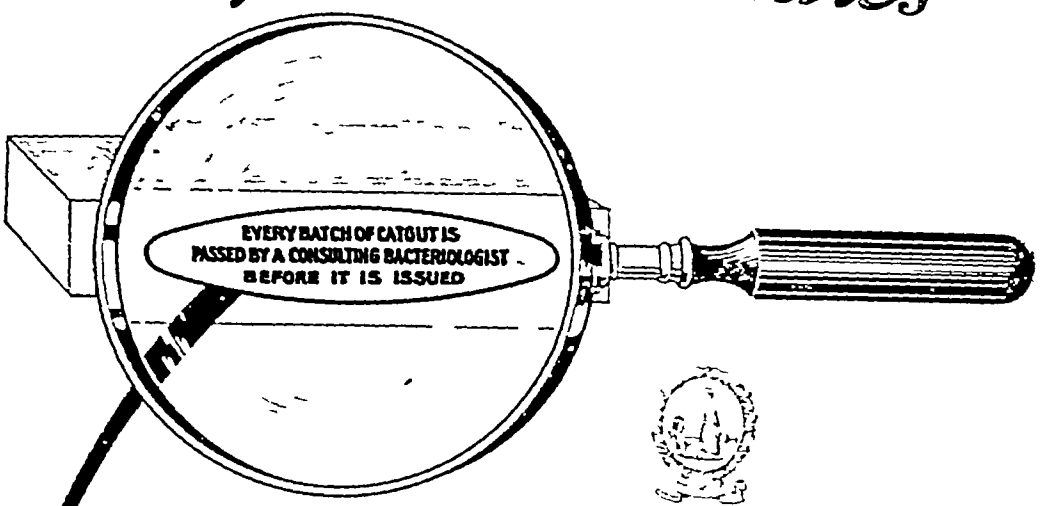
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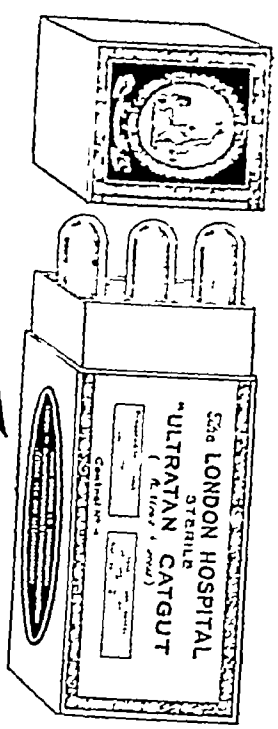
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Remarks on THE TREATMENT OF FIBROIDS OF THE UTERUS *

BY

CUTHBERT LOCKYER, M.D., F.R.C.P., F.R.C.S.

SURGEON TO IN PATIENTS SAMARITAN FREE HOSPITAL FOR WOMEN LONDON, W.

It has been variously estimated that uterine fibroids can be demonstrated in from 10 to 25 per cent. of all women, and Frank has stated that 35 per cent. of uterine fibroids require treatment. Uterine fibroids which cause no symptoms require no treatment, it may be wise to withhold their discovery to the patient's friends and if the possessor of the tumour is conscious of its presence the growth should be kept under periodic observation. The advice of those radiologists who favour submitting asymptomatic fibroid to x rays is countered by the recommendation to let sleeping dogs lie lest worse should befall.

Uterine fibroid requiring treatment may be dealt with by palliative or by curative measures, and the various operative procedures at our command are so thoroughly established that their discussion has fallen into the background, and modern debate has centred around the position at present held by radiotherapy.

In speaking of operative measures we feel we are dealing with unequivocal curative or radical treatment. According to the character and position of the fibroid the route of attack chosen may be vaginal or abdominal. The vaginal procedures include the removal of pedunculated fibroids from the body of the uterus and the cervical canal, they comprise hysterotomy or the splitting of the cervix with the removal by morcellement of small fibroids occupying the uterine cavity which are too large for avulsion after simple dilatation, many uteri are removed for fibroid which might be treated in this way. Finally, vaginal hysterectomy is admissible for a certain number of cases. Vaginal myomectomy by morcellement I have performed on six occasions for necrosing and sloughing fibroids the size of a twenty weeks' pregnancy. In one (reported) case I had to proceed to vaginal hysterectomy in that the uterus was saved, but I have no knowledge as to subsequent pregnancy. Of vaginal hysterectomies for fibroids I have had thirty-three. All the cases did well to the conference will a claim be made when considering treatment by radium. Abdominal operations for fibroids of the uterus include myomectomy, supravaginal amputation, and total hysterectomy.

Myomectomy

Strenuous efforts are being made to popularize this seemingly safe and apparently ideal operation. Among the arguments in its favour use is made of the indisputable haemostatic value of radium. Should menorrhagia or metrorrhagia supervene after myomectomy "we can fall back on radium", should another fibroid develop the same applies (Stephen Tracy, Gray Ward). I can hear the radiologist saying, "You should have come to me at the start."

The clear indications for this fascinating and conservative operation are (1) to preserve for the non-gravid woman a functional uterus, (2) to cope with a surgical emergency in the gravid state. For a patient in the fertile period the removal of a few interstitial fibroids is a laudable procedure, but I have seen some thirty fibroids served up on a dish as a product of enucleation from a single uterus. I have seen a uterus (scarred all over and deformed by myomectomy for multiple interstitial growths) left behind, although bulky enough to lie well up in the abdomen after the operation was finished. Such sights convince me that other operators regard the utility of myomectomy in quite a different light from myself. My belief is that, following deep myomectomy with the opening up of the uterine cavity which is often necessary, convalescence is by no means smooth and that morbidity is increased. Nineteen cases in the Mayo series came to subsequent operation "mostly for infection." When, however, the trifling superficial and the deep more serious myomectomies are grouped together the primary mortality of this operation can be made to compare favourably with that of hysterectomy. At the Rochester Clinic it is only 0.5 per cent., and Vineberg had a run of 123 cases with no mortality.

With Mayo's statistics of myomectomy afford valuable information on the question of subsequent fertility. Of 741 myomectomies (abdominal 617 and vaginal 124) 59 subsequently became pregnant, 44 children were known to have been born, whilst 15 women were gravid at the time of reporting. Nineteen of these myomectomies were performed during pregnancy. Twenty-three women who had led sterile married lives were known to have had one or more children subsequent to operation.

The following notes of some cases of pregnancy after myomectomy are kindly supplied by Dr. Gibbon Fitzgibbon.

Case 1.—An unmarried woman aged 35 with severe metrorrhagia underwent myomectomy in May 1919. A fibroid the size of a pickled walnut was removed from the fundus and two others half that size from the posterior wall all through one incision in the posterior wall. Twenty-seven other fibroids varying in size from a large pea to a hazel-nut were removed through an incision in the anterior wall. The tumours were all intrastitial or submucous. Cavity opened. The patient married in 1922 and became pregnant in August 1923. Progress to date normal.

Case 2.—Patient aged 36. An adenomyoma the size of a golf ball was cut out of the right cornu of the uterus as it would not shell out in April 1922. She had been married four years sterile. She was confined normally in May 1923.

Case 3.—Patient aged 31, married one year. Fibroid the size of a hen's egg enucleated through an incision in the anterior wall and the slightly small raw through an incision in the posterior wall. Confined spontaneously at term in January 1923—that is a year later.

Case 4.—Patient aged 30, married several years, sterile. Myomectomy in 1917—fibroid the size of a large foetal head enucleated from posterior wall and fundus. The uterus was very distorted and much enlarged. The patient was confined normally at term fifteen months later.

Dr. Fitzgibbon performed 56 hysterectomies: 38 abdominal myomectomies, and 7 vaginal myomectomies all for fibroids during three years.

The most emphatic way of conveying my opinion as to the range of utility of a given operation is to state the use to which it has been put. In a series of 545 major operations for fibroid I have performed abdominal myomectomy 33 times, or in 6 per cent. of the cases there was one death due to the fact that a large umbilical hernia and massed adhesion of the small bowel had to be dealt with. Three portions of bowel were excised to prevent a hoped-a return of chronic obstruction but this proved more than the patient could stand and the myomectomy statistics suffer accordingly.

The restricted use to which I have put this operation—6 per cent.—as compared with Dr. Giles's 16 per cent.—expresses my own view as to its limitations. I regard a deep myomectomy as involving somewhat greater risk than a supravaginal amputation but this additional risk should be ignored if there is a chance of subsequent child bearing. Considering the applicability of myomectomy to the gravid state I note that on six occasions I performed this operation to deal with some grave condition.

In two cases there were acute abdominal symptoms occasioned by a torsioned pedicle and strangulation of the growth. One went to term, the other miscarried within twenty-four hours with a seven and a half months foetus, which died soon after delivery, but the puerperium was normal. In the other four cases the pregnancy continued to term, the labours and puerperia being uneventful, the children were all healthy and lived. In Dr. Giles's series of thirteen cases eight children were known to be saved.

I submit (1) that myomectomy during pregnancy is well tolerated by the gravid uterus, (2) that it is not indicated for fibroids which lie well up in the abdomen and are causing no symptoms, (3) there is uncertainty in the presence of severe bleeding as to the possibility of saving the gravid uterus, this should act as a deterrent to performing myomectomy unless urgent symptoms call for interference but in wisely selected cases it has proved to be a satisfactory operation.

[3311]

* Introductory to a discussion at the Medical Society of London.

Supravaginal Amputation or "Subtotal Hysterectomy"

This operation has divided gynæcologists into two schools (1) those who advocate its total abolition from the technique hitherto acknowledged to be classical, (2) those who are in favour of retaining an operation which has done more than any other to build up the solid reputation which surgery enjoys at the present day in the treatment of fibroids History alone would be no justification for the retention of any surgical procedure which has served its day, however brilliantly, but ought now to be regarded as obsolete If there were no halfway house, if a surgeon be called upon always and without exception to perform either a partial or a total hysterectomy in the radical treatment of fibroids, my own choice would soon be made—I should enlist under the totalists Considered as a whole the latter have by far the best of the argument, but it is my conviction that the totalists go too far in refusing to admit that the easier, quicker, and, in certain cases, the safer operation has still a place in surgery The special niche in the temple of surgery for this historic and laudable procedure of Baer's is a very small one maybe, but it is destined to remain The risk of leaving behind a malignant or potentially malignant vaginal cervix can, with due care, be reduced to a minimum If subsequent to bearing a child a woman requires radical treatment for a fibroid of the uterus, by all means remove the cervix If a nullipara has suffered from chronic cervicitis, again remove the cervix But very many subjects of uterine fibroids are elderly nulliparæ and virgins with small, it may be atrophic, cervices and with no internal complications requiring vaginal drainage In such cases the vaginal cervix may be left with a logical sense of security, especially if the uterus is opened up and examined before the pelvic toilet is complete Finally, I may here quote Professor Cullen, who says in a letter to me, "In many of our densely adherent cases an attempt to remove the cervix with the tumour would be almost criminal"

In 479 abdominal hysterectomies for uterine fibroids I have employed the supravaginal operation 284 times, with 5 deaths—a mortality of 1 76 per cent There can be no question, then, as to the safety of the operation from the point of view of primary mortality, such danger as exists concerns the leaving of a potentially malignant cervix —carcinomatous or sarcomatous

One or two of the arguments in favour of the supravaginal amputation which are advanced by the habitualists leave me cold, but I will reserve my criticisms thereon until I have said a few words on the subject of—

Total Hysterectomy

This is an older operation than supravaginal amputation as we know the latter at present In the *Medical Gazette* (London) for December 8th, 1843, we read that Heath performed total hysterectomy for myoma, with a fatal issue (from haemorrhage) in seventeen hours The first successful panhysterectomy in which a myomatous uterus (together with both ovaries) was removed was done on June 25th, 1853, by W Burnham of Lowell, but he seems to have abandoned the total method forthwith, for in the same year both he and Kimball performed the supravaginal operation successfully It is easy to surmise that the reasons for substituting amputation at the vaginal junction for total hysterectomy had to do with the saving of time, the lesser risk from haemorrhage, and from damage to the ureter obviated by the amputation method The relative risks of these two operations at the present time is a point to be carefully considered and in doing so it is obvious at once that if the primary mortality is the same for both, the subsequent risks involved by leaving the cervix become a strong reason for preferring the total operation

But can we rely upon figures to answer this question of relative operative risks? I find it hard to do so for the following reasons (1) So many total hysterectomies are done because the operator has no choice He is compelled to remove the whole uterus for a large cervical fibroid, and he would do so in all septic cases—for example, pyosalpinx, suppurating ovarian tumours and infected fibroids (2) The supravaginal operator may and often does, employ an amputation in such cases—in fact, wherever circumstances do not compel him to do otherwise He will thus have two totally different types of cases in his operation series, and this distinction finds no true expression in bald statistics Figures kindly supplied me by Dr Fletcher Shaw, with permission to use them in this discussion, show what I mean In 162 supravaginal amputations he had a mortality of 4 3 per cent, in 57 total hysterectomies the mortality was 7 per cent The reason for the higher mortality in the latter is that the four deaths occurred in exceptionally severe cases Estimations of morbidity percentages would be influenced by the same factors

Statistics prepared by Mr McCullagh, Registrar of the Samaritan Hospital, show that of 203 "subtotal hysterectomies" performed in the last three years, four ended fatally = 1 97 per cent mortality, whilst in 78 panhysterectomies there were seven deaths = 8 97 per cent mortality If, therefore, such figures could be taken at their face value it would mean that the total operation carried a risk four times greater than the partial hysterectomy, whereas they only represent the result of a selective process —that is, supravaginal amputation as routine, total hysterectomy when compelled If we compare a large series of total hysterectomies performed by one operator with a concurrent series of the same operator's supravaginal amputations we shall obtain a much fairer and more reliable estimate My thanks are due to Professor Miles Phillips for enabling me to do this His series of total hysterectomies number 199, with five deaths = 2 54 per cent about His series of "subtotal" hysterectomies number 258, with three deaths = 1 16 per cent Again, I find a review of my own experience is a help in this matter My series of total hysterectomies for fibroids number 195, with three deaths = 1 54 per cent, my series of supravaginal amputations number 284, with five deaths = 1 76 per cent

Taking Miles Phillips's results and mine together it seems fair to make the deduction that the primary risk of the two operations varies within quite small limits, but what difference there is is slightly in favour of the "subtotal" operation Before investigating this point I imagined that results would register a much higher relative mortality against the total operation, and was tempted to think that if total hysterectomy became general the increased primary mortality rate would more than outweigh the risks entailed by leaving the cervix This view I no longer hold, and therefore my figures—195 total as opposed to 284 partial hysterectomies—need explaining The reason for the larger number of supravaginal amputations is due to the fact that before I encountered three cases of cancer in the stump my habit was to employ the partial operation, and time has not yet allowed me to redress the balance and reverse the figures In a letter from Miles Phillips he says, "I have never regretted doing a total hysterectomy, but I have occasionally regretted not doing it" I share this feeling, being ready to acknowledge that though I am unconscious of having left behind a potentially malignant cervix in my series of amputations, such cases may have existed and gone elsewhere for treatment Dr Oldfield of Leeds, in writing to me on this subject, allows me to make use of the fact that after a subtotal hysterectomy bleeding occurred a month later and he removed the cervix for cancer, the patient was known to be well up to two years later Also in another case of his a growth was noticed in cutting across the cervix, radium was applied later, but the growth increased rapidly and death followed It is of vast importance that such experience should come to light At the Rochester Clinic there have been 13 such cases Polak mentions 250 cases of cancer of the stump, all of which occurred after one year, and another series of 20 cases is mentioned in American literature Cullen writes, February, 1924 "We have seen carcinoma develop in the cervix stump years after supravaginal hysterectomy, and I have one in the ward at present At most we have only had four or five such post-operative complications in over thirty years" As long ago as 1906 the President, Dr Herbert Spencer, collected 28 cases so that considerably over 300 have already been published Furthermore, routine serial sections of 900 total hysterectomies have shown that cancer coexisted in the stump in more than 2 per cent To the risk of cancer must be added that of sarcoma, which although not great, cannot be overlooked

One of the main points in the arguments for the partial operation is that the vagina is left intact, whilst with the total operation it is shortened I contend that there is no need to shorten the vagina in performing the total operation Whilst drawing up the cervix the vagina can be dissected off the latter almost down to the external os, and if the lateral stumps, including the round ligaments, are sutured to the vaginal angles there is no shortening, on the contrary, the passage is actually lengthened by the absence of the vaginal cervix, its upper limit being that of the original fornices

As regards morbidity, simple cases run as smoothly after the total as after the subtotal operation and purulent cases do better with the vaginal drainage afforded by the total operation than without Do all these considerations justify one in condemning the partial operation to the extent of its total abolition I do not think so, the easier and quicker operation is now on occasion, be justifiable where the longer more tedious and bloody procedure would not Consideration of the claim for the total operation should lead to utmost caution in the selection of cases for the quicker operation they should have a most sobering effect on our judgment, but a habit may be cured without total prohibition

The Fate of the Ovaries

As hysterectomy for fibroids is more often performed on women over the age of 40, it might be argued with some plausibility that the sacrifice of both ovaries is of no importance My own view is that even above that age it is better to conserve one or both ovaries if these organs are healthy, and I raise this question of oophorectomy because it is known to be the custom of some operators of large experience deliberately to remove all ovarian tissue in every hysterectomy for fibroids which they perform Miles Phillips writes "I firmly believe the majority of patients are more comfortable and satisfied if both ovaries are removed with the uterus. In my early days I took pains to conserve ovaries, but I gradually came to realise that those women in whom all ovarian tissue had been removed for one reason or another gave the most perfect results I have tested the matter in all possible ways and now have no doubt in my own mind" In the same letter this authority states that 185 hysterectomies were performed for patients between 21 and 40 years of age, and 18 for patients between 21 and 30 I should have expected very severe menopausal symptoms to have followed the spaying especially in the younger patients Cullen states (February 5th, 1924) 'In patients prior to the menopause the tubes and ovaries are invariably saved unless diseased or unless they are perched so high on the tumour that their salvage is fraught with danger to the patient" Professor Blair Bell writes to say that 'When conservation of the normal ovary in the normal situation is not feasible owing to infection of the appendages or other reasons, I always make an ovarian graft in women under 40 years of age" That is exactly what I imagine to be the practice of most of us present here to-night, in fact, I believe the Manchester, Birmingham, and Sheffield schools to stand alone in advocating routine castration during hysterectomy for fibroid

Radiotherapy

The value of *x* rays and radium *in checking* haemorrhage is now universally admitted As haemorrhage is the most prominent symptom of uterine fibroids, it might naturally be inferred that radiotherapy would find a large field of utility in dealing with these growths Experience has already shown that the symptomatic treatment of uterine fibroids by radio-active bodies is by no means without inherent risks Complete haemostasis can only be effected by a "bloodless castration" which (*pace* the fore named schools) is a disaster for a woman under 40 Quantitative dosage—the scientific measurement of administrative rays so as to bring about a given alleviation of symptoms—has yet to be attained The claims that are made in this direction do not carry conviction, but there seems more hope for the control of radium than for bringing Roentgen rays into quantitative subjection.

Time does not permit of discussing the value of radiotherapy in general, and to-night we must confine our remarks to the treatment of uterine fibroids A full knowledge of the life history and associated conditions of uterine fibroids is essential to anyone who presumes to treat these tumours, and this is what so many radiologists appear to lack—absence of all knowledge of morbid anatomy and general pathology can alone account for some of the extravagant claims which are made, phenomenal size of the growth, the presence of pyosalpinx, degeneration of the tumour, are no contraindication to the use of the Coolidge tube according to some *x* ray enthusiasts On the other hand, surgeons who have studied pelvic pathology have come to realize that, whilst radiotherapy is an undoubted handmaid to gynaecology, its uses where fibroids of the uterus are concerned is confined within extremely narrow limits—some putting it at 10 to 17 per cent of all cases requiring treatment, others placing it as low as 5 per cent Its mortality risk has been placed at 1 5 per cent (Harold Bailey), which is about where hysterectomy stands and the risks of actual fatality are by no means so negligible so that it becomes a greater responsibility to advise the use of radiotherapy than to advise a radical *curative* operation The feeling of this responsibility is due largely to a *sense of insecurity of diagnosis* I have known an ovarian cyst *x* rayed for years with very untoward results Carlton Oldfield writes of a similar experience (not his own), and examples are multiple

In spite of the fact that as long ago as 1904 Hett of Ontario treated fibroids "successfully" by *x* rays, there is a complete absence of knowledge as to what will be the ultimate fate of the irradiated tumour, and this adds to our sense of insecurity One hoped that the early claims of Kroenig and Gauss of 100 per cent cures and an applicability of 85 per cent would be toned down by riper experience as time went on, but when we read in the literature of 1923 that "90 per cent of all fibroids may be dispersed by *x* rays or radium without serious risk or discomfort" (a quotation of Nigel Stark's), and when Beclere states that his experience of 700 cases teaches him that "the only conclusion permissible is that the sole obstacle to successful treatment is the submucous myoma" we are completely staggered by such exaggerated claims It is not surprising that Weiss, in a most judicial paper on the treatment of fibroids, said the object of his communication was to condemn the indiscriminate use of radium, or to find Gillhorn stating that "the man who administers radiotherapy indiscriminately disregards the best interest of the patient" "The indiscriminate use of radium will lead to a high mortality," says Weiner, and another American authority (Frank) puts it, X ray therapy needs to be protected from its friends" Granted that radiotherapy is of great value in the treatment of a prescribed number of uterine fibroids, we have to decide two questions (1) What are its limitations? (2) In what form is it best employed? In attempting an answer to the first consideration I should include (1) Some of the 33 cases in which I performed vaginal hysterectomy—that is, cases in which the operative mortality was *nil*, the tumours relatively small, and uncomplicated by degeneration or diseased appendages, cases, that is, in which the symptomatology closely simulates the myopathic uterus (chronic metritis) by causing the postponement of the menopause, with severe bleeding after the age of 40 (2) Cases of uncomplicated fibroids requiring treatment but in which considerations of the general health contraindicate operation—for example, cardiac and renal diseases, Graves's disease, diabetes, phthisis, and other respiratory complications, and finally dread of operation (3) As an alternative to blood transfusion in cases of profound secondary anaemia to render the patient fit to stand radical curative measures Weiss records eight cases with a haemoglobin percentage below 35 which were treated by radium, and in two of them the uterus was removed subsequently

As a mode of employment, whether to use *x* rays or radium, there is no doubt in my mind that the latter is in every way preferable The application of radium, after intrauterine exploration and curettage, has the great advantage of simplicity of technique and rapidity in action. One application is usually sufficient to check haemorrhage Moreover, it is claimed that radium is less destructive to ovarian

tissue than are x rays, whilst its effect on the uterine muscle is greater

Taussig states that "radium is less likely to produce vomiting, cramps, and catarrhal stools," and that it will induce amenorrhoea when x rays have failed In the use of radium we have a better conception of dosage than when x rays are employed

My own experience with the use of radium in the treatment of haemorrhage has been in chronic metritis, and the results have been so favourable that I shall be tempted to extend its application to the treatment of haemorrhage in cases of small uncomplicated uterine fibroids at the time of the climacteric—in other words, for this group of cases I regard it as legitimate to consider the use of radium as an alternative to hysterectomy

In conclusion, if asked "In what cases do uterine fibroids still require operative removal?" my answer would be, In 55 per cent of all fibroids no treatment whatever is needed In the remaining 45 per cent, 35 per cent require removal, leaving 10 per cent to be dealt with by radium This is equivalent to stating that the field for operation is from three to four times as great as that for radiotherapy

In the treatment of uterine fibroids surgery and radiotherapy may be run tandem—but to radiotherapy we assign a very subsidiary status

THE PATHOLOGY AND SYMPTOMS OF DUODENAL ULCER *

BY

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In contrast to gastric ulcer, increased activity of the stomach, both motor and secretory, is a characteristic feature in subjects of duodenal ulcer Indeed, this increased activity (the duodenal type of stomach) may be regarded as the essential predisposing condition, and depends on the derangement of the normal neuro-muscular mechanism of the stomach

Neuro muscular Mechanism

Though this is as yet imperfectly understood, clinical evidence is of the greatest assistance to a correct understanding There are three points to be emphasized

1 True peristalsis (that is, the combination of a deeply contracting segment immediately proximal to a synchronously inhibited segment) is seen neither in the oesophagus nor in the fundus of the stomach, but commences approximately at A B (see figure), as proved both by radiography and direct inspection during laparotomy True peristalsis is characteristic of those parts of the gastro intestinal tract which are influenced by a dual antagonistic nerve control—(1) *motor* (that is, parasympathetic), acting through Auerbach's plexus, and (2) *inhibitory* (that is, sympathetic), acting perhaps through Meissner's plexus [1] The inference is that the sympathetic only enters on its inhibitory functions at A B This receives support from a consideration of the second point

2. In his study of Auerbach's plexus Keith[2] described a nodal point at A (see figure), and found that mechanical stimulation evoked a contraction on the greater curvature That an ulcer in this situation produces the most marked spasmodic hour glass stomach indicates that in both the stimulation of Auerbach's plexus at this point excites the greatest motor response, because there is here little or no counterbalancing sympathetic excitation to inhibit this phenomenon The spasmodic hour glass stomach opposite an ulcer at A may be obliterated by pulling during laparotomy, and will often repeatedly reform (a feature progressively less pronounced as the duodenum is approached), but an incisura opposite an ulcer in the mid zone is absolutely unknown, and manipulation only induces inhibition

3 X ray observation demonstrates a normal period of delay in the passage of food through the pylorus—a delay accentuated by any excitation of the sympathetic (that is, by apprehension, anxiety, etc), and associated with diminished secretory activity (the "irritation of the duodenal stomach") Perhaps I may be allowed to emphasize again that clinical evidence supports the view that pyloric closure is controlled by the sympathetic, as Elliott[3] has shown to be the case in the ileo caecal valve It is reasonable, then, to regard the fundus of the stomach, proximal to A B, as a dilated pouch of the oesophagus controlled by the vagus alone From this point onwards the sympathetic enters on its antagonistic inhibitory control with progressively increasing domination

On these grounds we may assume that predisposition to a duodenal ulcer ("the duodenal stomach") is hyper activity, due to a relative increase of normal vagus control, insufficiently balanced by normal sympathetic inhibition

The pathology of duodenal ulcer is dependent, then, on two sets of factors—one predisposing and the other exciting

PREDISPOSING FACTORS

The predisposing factor is the relative increase of vagus excitation established by diminution of sympathetic control or by increased vagus stimulation

Diminution of Sympathetic Control

Now there is an outstanding example of an alkaloid which paralyses sympathetic ganglion cells—that is, nicotine On these grounds I have for some years prohibited smoking in cases of duodenal ulcer

(*a*) *Influence of Tobacco*.—The proportion of men to women is roughly four or five to one (in itself perhaps some indication of the influence of nicotine), and 96 per cent of the males were smokers I have endeavoured to divide the smokers into three groups excessive, heavy or continuous (together comprising 60 per cent), and mild smokers (40 per cent) in whom it was not a fixed habit

Of the smokers, 22 per cent abandoned the habit, or nearly so, with the result that, independently of the character of the surgical treatment instituted, 90 per cent were cured, 8 per cent greatly relieved (98 per cent), and 2 per cent only failed A mild reminder of the original symptoms was voluntarily attributed to tobacco in 5 per cent of these Where tobacco was unchecked, only 47 per cent were cured, and 12 per cent recurred Recurrence is four times as frequent in non-abstainers The comparison is still more striking in Table I

TABLE I

	Abstained			Habit Unaltered		
Excessive smokers (29%)	Cured 90% Relieved 8%	98%		Cured 33% Relieved 15%	48%	
	Recurred 0			Recurred =33%		
	Failure 0			Failure =13%		
Heavy or continuous smokers (31%)	Cured 55% Relieved 45%	100%		Cured 44% Relieved 33%	77%	
	Recurred 0			Recurred =22%		

In mild or occasional smokers the influence on the result is negligible, while 14 per cent of those who did not vary their consumption volunteer that their "reminders," or occasional "stomach upsets," are attributable to tobacco In one instance recurrence after six years' complete immunity following operation was definitely attributable to gross over-indulgence The influence of tobacco in the development of duodenal ulcer will be further elaborated, but mention must be made here of a possible second factor in the diminution of sympathetic control

(*b*) *Sex*.—I have long noted that symptoms of visceral disorders in women are often either accentuated or relieved by the onset of the climacteric Now we know that the suprarenal medullary hormone is an adjuvant to sympathetic nerve stimulation, and, since the antagonistic vegetative nerve impulses normally balance each other, it is reasonable to infer that their chemical associates similarly contribute to the establishment of a physiological equilibrium Falta (quoted by Higier)[3] classifies the hormone of the sex glands with the adrenal medullary hormone, and it is here suggested that perhaps the loss of this ovarian inhibitory influence at the climacteric may contribute to

* Communicated to the Nottingham Medical Society, February 20th, 1924

the vagus domination characteristic of the 'duodenal stomach.' Thin non-females (tobacco can be excluded in all but a doubtful 12 per cent., but allowing for occasional mild dyspepsia definite ulcer symptoms appeared at an average age of 25 years against 37 in men. In thin women the enteric lesion (which will be next considered) could only account for ulcer pain position in 22 per cent., while in 33 per cent. the onset coincided approximately with the menopause; therefore the establishment of the duodenal stomach" may perhaps be accounted for in 55 per cent. of this class. In stout women (in whom the mesenteric factor is usually lacking) 57 per cent. date the onset of ulcer symptoms approximately at the menopause. The figures are curiously similar in the two groups. There is further evidence of abnormal marital relations (two cases), artificial menopause (one case), premature death of the husband (one case), all of which perhaps strengthen the hypothesis. It is interesting that in some instances symptoms disappeared during pregnancy (a small ulcer recently inflamed).

Increased Vagus Excitation

The vagus is the motor nerve as far as the distal third of the transverse colon, the situation of one of Keith's nodes,[2] and it is reasonable to suppose that increased vagus excitation is most readily elicited by stimuli (either inflammatory or mechanical) in the area of vagus supply. Tuberculous ileal gland, appendix, adhesions to the ileal mesentery, Lane's kink," etc., are all examples of irritation of the sensitive mesentery. I have elsewhere pointed out that the resulting symptoms are but a mild summary of the severe manifestations of acute infective conditions when the mesentery is involved in local inflammatory processes.[3] Prolapse of the right colon is similarly liable to excite excitation when the mesentery (with its contained nerves) is unduly supporting function. Usually general visceroptosis is similarly excited a dorsal mesenteric prolapse through its sympathetic control be diminished relatively superficial mesenteries contribute to vagus domination. For various reflex effects on the stomach of such mild conditions, or emphasized in detail,[4] the present analysis supports the view that these are definite predisposing factors in the establishing vagus domination in the stomach.

Mesenteric Lesions.—Attention must be directed to prolapse of the right colon commonly seen in thin subjects. Let us in the subject with well supported viscera. Now the symptoms of such conditions on the intestine are inhibitory, and these will be manifested by constipation. This symptom then may broadly be taken as evidence of the presence of a mesenteric lesion. Again, all types of subject do not run a similar clinical course. Accordingly I have divided the cases into three groups: a fat type (constipation noted in 29 per cent.), a medium (athletic) type (constipation noted in 36 per cent.), and a thin type (constipation noted in 46 per cent.). Constipation is noted in 53 per cent. of the total, and since tobacco exerts little influence in this respect (rather the contrary) it is significant that 60 per cent. of men were heavy or continuous smokers. Now, such lesions in the vagus area also stimulate the sympathetic, which, I have shown, usually dominates.[5] The effect of nicotine should be to reverse this effect, and, in addition to evidence already adduced, the following facts are significant:

Of the three types the percentage of cures is approximately the same (that is, 60 to 65 per cent.), but abstinence from tobacco after operation is definitely associated with the cure in 63 per cent. of stout subjects, 40 per cent. of medium build, and only 6 per cent. in the thin type. If we classify together those cured and greatly relieved, and consider stout and medium types together, 83 per cent. were cured and tobacco influenced the result in 53 per cent. In thin subjects 60 per cent. were also cured, but in only 33 per cent. could any influence of tobacco be traced.

It may be inferred that tobacco is the most prominent predisposing factor in stout types with well fixed viscera, and in thin subjects with visceroptosis mesenteric lesions figure most prominently in the etiology. In the latter tobacco is less harmful, because sympathetic domination is normally marked.

The analysis of various operative procedures supports these deductions.

Gastro-enterostomy Alone.—Excluding perforation, an equal proportion were cured or greatly relieved. In stout or sturdy subjects about 50 per cent. were cured or nearly so—a result influenced by tobacco in 30 per cent. Thin subjects present a marked contrast (Table II.).

TABLE II.

		Cured.		Cured and Much Relieved.	
Stout and medium	45	Tobacco influence 80% Short history ... 20%		74%	Tobacco influence 70% Short history ... 30%
Thin.	20	Tobacco influence 6 Short history ... 66%		100%	Tobacco influence 0% Short history ... 40%

It is clear that gastro-enterostomy alone, together with subsequent abstinence from tobacco, will usually prove successful in stout subjects; this is especially so when vomiting is a prominent symptom (70 per cent.), but in the thin type a search for and remedy of a remote mesenteric lesion is indicated as well as a reduction of tobacco. This is supported by the fact that of the total recurrences and failures nothing beyond the short circuit was done in 50 per cent., while the 40 per cent. partial successes in thin subjects are attributable to the failure to remedy associated mesenteric abnormalities.

Gastro-enterostomy with invagination of the ulcer (60 per cent.) should be practised wherever possible. Thus 64 per cent. were completely cured in a total of 85 per cent. satisfactory results. There were no recurrences. Of the total partial successes in 33 per cent. the ulcer was not buried. Of the 60 per cent. cures in stout subjects 40 per cent. the ulcer was buried; in thin subjects 82 per cent. were cured and the ulcer was buried in 87 per cent.

Gastro-enterostomy together with so-called Mesenteric Procedures.—Excluding cases of obstruction, Table III. confirms the view that caecopexy, ascending colopexy, plastic release of Lane's kink (and its analogue the so-called controlling appendix), etc., by removing any cause of vagus over-excitation contribute to the completeness of the result of gastro-enterostomy with invagination of the ulcer, particularly in thin subjects. Further, of the total complete cures, caecopexy or ascending colopexy (according to findings) was performed in 29 per cent., and in 23 per cent. of these greatly relieved. While the only recurrence when gastro-enterostomy and colopexy were combined was due to tobacco beyond all question.

TABLE III.—*Cured and Relieved.*

	Cured		Relieved	
	Stout and Medium (60%)	Thin (70%)	Stout and Medium (6%)	Thin (21%)
Ascending colopexy ...	11	5	2	2 (10%)
Other mesenteric procedures in the vagus area	13	6 (51%)	—	4 (60%)
Ulcer only when adhesions to gastrosplenic omentum reported	5	—	—	—
Gastro-enterostomy alone	41%	15%	5%	—

When the influence of tobacco in stout and medium types is recalled it is significant that when mesenteric procedures were combined (29 per cent.) 60 per cent. were cured, while in thin subjects this combination in 51 per cent. gave 70 per cent. cures. It is also significant that gastro-enterostomy alone cured 41 per cent. of sturdy and only 19 per cent. of thin subjects.

This means that prolapse of caecum and ascending colon may lead to vagus over-excitation by mechanical trauma of the mesentery, and that inflammatory lesions produce a similar effect. While these are prominent predisposing factors in thin subjects tobacco is the most prominent factor in the sturdy, though it is important in both.

Incidentally the figures afford an independent testimony to the value of various 'fixation operations' when designed to protect the mesentery from mechanical trauma.[6]

The conclusion to be drawn from the foregoing is that predisposition to a duodenal ulcer consists in a relative increase of vagus domination leading to excessive motility, excessive secretion, and incompetence of the pyloric sphincter.

EXCITING FACTORS

The exciting factors may be enumerated as follows Acid, distension, trauma, infection

Acid, in the absence of pyloric control, has free and continuous access to the first part of the duodenum, in a persistent degree defying normal neutralization The effect of acid on injured tissues has been emphasized by Sherren,[7] Patterson,[8] and others, while the numerous and exact experimental and clinical observations of Bolton[9] have established the effect of acid as a primary exciting factor in gastric ulcer The effect of acid on healed ulcers is common clinical experience—they are always likely to break down and lead to secondary ulceration Bolton[10] has shown that the high acidity in duodenal ulcer is largely due to defective regurgitation He assumes that this phenomenon is due to pyloric closure, but I shall endeavour to show that it is prevented by the closure of the duodenum at the site of the ulcer by the incisura Obstruction here further exposes the ulcer to continued irritation by acid, trauma, etc, and favours persistence Pyloric closure would protect the ulcer and tend to assist healing—clinically this is not the case

Distension, resulting from an incompetent pylorus, is constantly seen during operation, it probably interferes with normal circulation

Trauma—The rapid rush of insufficiently digested food through an incompetent pylorus invites trauma of the duodenum, just as, with the closed pylorus, trauma is a factor in exciting pyloric ulcer

Infection may take effect in three ways (*a*) Direct Normally a short stay in the acid contents of the stomach does much to negative direct infection, in the 'duodenal stomach" organisms are passed rapidly into the duodenum, I believe this route of infection to be commonest (*b*) By the blood stream This is parallel to acute blood infections of the appendix, gall bladder, and intestine (for example, Henoch's purpura, etc) Wilkie[11][12] suggests retrograde venous embolism as a cause The embolic origin of perforating ulcers is, in my belief, common, and constitutes a different type of ulcer Thus I estimate that only 13 per cent of perforations give a long standing history of definite ulceration, while some (unlike the long standing ulcer) show a permanent recovery with invagination alone In this respect the length of history related to the type and tobacco habit is instructive Excluding perforation, about 25 per cent of sturdy subjects had symptoms for less than six months (also under one year), in 67 per cent there was over two years' history In thin subjects the figures were reversed—that is, under six months, 44 per cent (total under a year, 66 per cent) over two years, 33 per cent Table IV (length of history related to tobacco) shows curiously similar figures

TABLE IV

	Excessive or Heavy Smokers	Stout and Medium Subjects	Moderate or Light Smokers	Thin Subjects
	Per cent	Per cent	Per cent	Per cent
History of six months and under	23	25	45	44
History of two years and over	67	67	40	33

From this it may be inferred that the massive and extensive "tobacco ulcer" characteristic of stout subjects produces its effects slowly and such ulcers run a chronic infiltrating course and seldom lead to acute perforation Conversely the small puckered ulcer less influenced by nicotine, and commonly found in medium and thin subjects, runs a more rapid course and is more liable to acute perforation (*c*) The possibility of lymphatic infection has been emphasized by Braithwaite[13] The difficulty experienced in demonstrating this route would seem to indicate its infrequency The frequency of infection from the appendix has I believe been exaggerated

Although alcohol undoubtedly exaggerates the symptoms, I have been unable to get positive evidence that it is an exciting cause

SYMPTOMS

A study of the commoner symptoms in relation to type, character of lesion habits, and result of treatment, is instructive

Heartburn and "waterbrash" is present in 23 per cent of cases of which 27 per cent are smokers and 7 per cent abstainers The proportions do not differ materially in the three types Tobacco is a prominent cause After operation on the sturdy type these "reminders" could be controlled in 30 per cent by a limitation of tobacco This was only achieved in 10 per cent of thin subjects Further, of the 34 per cent of cures in smokers 23 per cent abstained from the habit after operation, and it is probable that at least 25 per cent of reminders are due to tobacco The relationship of tobacco to hypersecretion has recently been emphasized by Moynihan Heartburn should be regarded as indicating a predisposition to ulcer, but not as symptomatic of ulceration

Pain

Pain may be absent (10 per cent), atypical (that is, not related to food), or conform to the typical "hunger pain" The variability of this symptom in relation to the constancy of the lesion indicates that the ulcer is itself insensitive, and this view is strengthened by the wealth of clinical evidence relating to the insensitiveness of the gastro-intestinal tract[14]

Atypical pain may be present alone, or associated with (but distinct from) bouts of hunger pain in 72 per cent of cases, of these, 40 per cent were stout, 31 per cent were medium, and only 18 per cent were thin subjects In this group the large tobacco ulcer (characteristic of large subjects) claims 54 per cent, the small puckered ulcer only 18 per cent (as a contrast, note the percentages in hunger pain) In the large ulcer atypical pain is detailed as follows violent or continuous epigastric pain 50 per cent, continuous or not related to food 35 per cent, ordinary "colic" and typical 'gall stone colic" types 7 per cent of each In the small ulcer the details are acute epigastric pain 60 per cent, shortly after food 20 per cent, variable 20 per cent Thus atypical pain seems dissimilar in these two types

Remission of symptoms is characteristic of most varieties, but certain points may be emphasized In the small ulcer remissions are often due to alternate healing and breaking down, as evidenced by the frequency with which the occult blood test may be negative in a quiescent period In the large ulcer they suggest that a callous, insensitive ulcer (for example, varicose ulcer of the leg) is subject to recurrent inflammation, and the secondary hyperaemia of the adjacent sensitive mesentery and peritoneum is responsible for the symptom of pain, not necessarily related to food, during the periods of inflammation Continuous pain in stout subjects (35 per cent) is an example of this In a small proportion pain is not related to the ulcer but to the factors contributing to its existence It should be emphasized that, in contrast to the common type of ulcer, the large tobacco ulcer is not usually associated with hunger pain as a prominent symptom

Hunger pain (60 to 65 per cent) is the classical symptom of duodenal ulcer (Moynihan) It is not directly influenced by tobacco, nor is it due to any sensation in the ulcer If the ulcer were responsible for the symptom, the larger ulcer should accentuate the hunger pain The reverse is the case (Table V)

TABLE V

Large Ulcer		*Small Ulcer*	
Hunger pain present = 40%		Hunger pain present = 80%	
(*a*) Prominent symptom	27%	(*a*) Prominent symptom	70%
(*b*) Occasional symptom	8%	(*b*) Occasional symptom	7%
(*c*) Hungry feeling	4%	(*c*) Hungry feeling	3%

In marked contrast to the large "tobacco ulcer" of stout subjects, hunger pain is characteristic of the small puckered ulcer of thin and medium subjects (in whom tobacco plays little part) This is supported by figures from an entirely different standpoint Thus 68 per cent of those complaining of hunger pain were completely cured, and this is practically identical with the proportion of cures in mild smokers who did not vary the habit after operation, of these only 23 per cent were stout and 42 per cent thin

Pathology of Hunger Pain

Increasing experience confirms the conviction that several factors are involved in the causation of this symptom, the significance of which depends on an appreciation of the mechanism of physiological hunger Five years ago[1] I suggested that hunger is not, as hitherto believed, initiated by, but coincident with, the onset of gastric movements Thus, as the fully oxygenated alveolus stimulates the afferent vagus to inhibit inspiration, so do the engorged gastric and pancreatic glands similarly excite the afferent vagus, while the efferent response initiates the movements coincident with hunger The contraction of superficial blood vessels (and the consequent engorgement of the deeper ones) in cold weather was emphasized as contributing to an increased blood supply to, and a more rapid anabolism in, these glands, with the result that increased hunger is a feature of cold weather

Now it is common knowledge that the gradual evolution of physiological hunger to the pain of starvation is only a question of degree, and it must first be premised that pain in the latter may often be an extreme exaggeration of the former Three factors, then may be emphasized as responsible Mechanical, vascular, and neuro-muscular

The Mechanical Factor—There are many ways in which the movements coincident with hunger may irritate mechanically sensitive structures. If such stimuli arise in the vagus area they may, in addition accentuate this symptom by the resulting anabolic effects of efferent vagus stimulation upon the glands mentioned. This mechanism is best illustrated by a case of some interest.

Some years ago a girl of 20 complained of very acute bouts of hunger pain (see figure). All investigations completely negatived the existence of ulcer. Fortunately I explored her under spinal anaesthesia for the only abnormality was the attachment (D) of a prolapsed caecum and ascending colon to the proximal transverse colon (*a b*) which at a point opposite was supported by bands (C) attached to the sensitive peritoneum external to the duodenum (T). Three consecutive mass movements demonstrated that the caecum and ascending colon, during contraction assumed the position of the dotted outline (E) with resulting tension on the proximal transverse colon and therefrom on the point T.

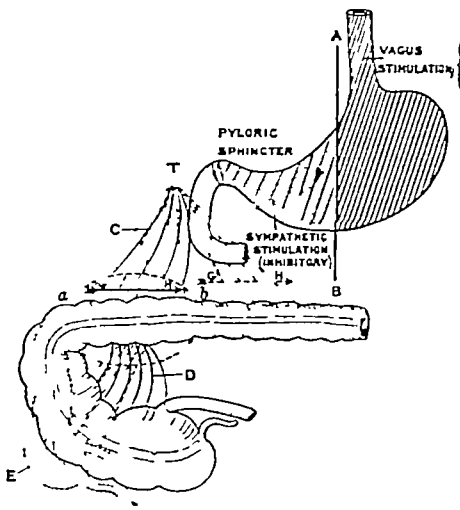


FIG 1.—*a–b* inhibited area of transverse colon during mass movement. G–H and G′–H′ altered position of inhibited area during contraction. T the point where traction was manifest during contraction. C bands attaching transverse colon to peritoneum near duodenum at T. D attachment of caecum to proximal transverse colon. E, dotted lines showing altered position of caecum and ascending colon during contraction.

The contraction stopped at *a*. A repetition of the phenomenon confirmed the observation. The third contraction again stopped at *a* but on this occasion it skipped the segment *a b* (which was at no time observed to contract) and recommenced at *b*. The inference was that in the segment *a b* contraction was inhibited by mechanical traction. Such a mechanism, started with the movements of hunger could well account for hunger pain but in addition this was probably accentuated by the contraction driving the inert segment [14] onwards (G–H G′–H′) and increasing the tension on T. On these grounds the caecum and ascending colon were freed from the transverse colon and ascending colopexy performed. A permanent cure resulted.

It need only be added that hunger discomfort, at times amounting to pain, is not uncommonly seen in thin subjects with peritoneal or mesenteric abnormalities when it is certain that no ulcer exists. Finally, such cases support the view that this symptom sometimes arises from the mesenteric factors contributing to the formation of the ulcer rather than from the ulcer itself.

The Vascular Factor—If hyperaemia induced by cold weather, and, incidentally the analogous artificial hyperaemia induced by alcohol (for example, cocktails) can accelerate glandular storage and accentuate hunger, it may be inferred that hyperaemia from inflammation can excite a similar effect. All surgeons are familiar with the free vascular connexions of the duodenum with the head of the pancreas (a feature not normally observed in relation to the body of the stomach), and there is little doubt that increased vascularity of the duodenum can be readily reflected in that of the head of the pancreas. Again, it is not very uncommon to find hunger pain associated with gastric ulcer. I have noted that in such cases the ulcer is high up and connected with the pancreas by loose vascular adhesions. It is significant that I have never known hunger pain associated with the hard callous ulcer *infiltrating* the pancreas presumably because the surrounding ring of fibrous tissue effectively prevents any vascular connexion between the two. That the clinical accentuation of symptoms in winter is so common in cases of duodenal ulcer confirms the vascular hypothesis. Accordingly it is suggested that increased glandular storage from hyperaemia, the result of inflammation in direct vascular connexion with the pancreas is an accessory factor in the causation of hunger pain particularly in duodenal ulcer.

The Neuro-muscular Factor—An ulcer limited to the duodenum constitutes an inflammatory lesion of an insensitive structure and as such is devoid of sensation. But inflamed muscle does not contract. Such lesions, then form an inert area [14] which I have elsewhere shown, breaks into the co-ordinated sequence of contraction and inhibition which together constitute the peristaltic wave. The intestine treats such inert areas (of which examples are numerous) as foreign bodies, and drives them down the intestinal tract. The attempted *invagination* is prevented by the anchorage of the sensitive mesentery in the case of duodenal ulcer by the sensitive peritoneum (analogous to the tension at T in the case described in the figure). If this conception is correct the small free ulcer, in which attempted invagination is easier of accomplishment, should be prominently associated with hunger pain. This is borne out by the fact that hunger pain is prominent in 80 per cent of small and only 40 per cent of large ulcers, while this symptom is infrequent in the large tobacco ulcer.

These observations leave no doubt that the ulcer constitutes an insensitive lesion of an insensitive tract, and that the characteristic hunger pain is caused by a combination of the three factors discussed.

Vomiting

Vomiting (67 per cent.) was twice as frequent in the stout and medium types as in the thin type. It has been indicated that the inflammatory lesion irritates locally both Auerbach's plexus and the sympathetic. When the latter influence is diminished (or absent) the cells of Auerbach stimulate the muscle to contract (the "ulcer incisura"). Therefore the more extensive the ulcer the more marked will be the incisura, and the more complete the spasmodic obstruction. Since gastro-enterostomy is most effective in the presence of obstruction, the success of this operation should afford proof that the obstruction is spasmodic and is caused by the incisura (not, as Bolton[10] claims, by pyloric spasm"). Accordingly it is instructive to find that when vomiting was a symptom 90 per cent. of stout subjects were cured and 10 per cent. greatly relieved (100 per cent. satisfactory results). It should be noted that the large ulcer is characteristic of stout subjects. As a contrast only 66 per cent. of thin subjects (small ulcer) were cured and 20 per cent. relieved. (Allowing for the good effect of associated mesenteric procedures in these, the latter figures may well be even smaller.) That the obstruction (and prevention of normal regurgitation) is at the site or the ulcer (whether spasmodic or organic) and not at the pylorus, is confirmed by considering haematemesis.

Haematemesis

Haematemesis (17 per cent.) occurred in 30 per cent. of stout subjects (large ulcer), 18 per cent. of medium, and in only 7 per cent. of the thin type (small ulcer). If the pylorus were closed melaena and haematemesis would be equally common to all types of subjects, and would not vary with the character of the ulcer. The fact that haematemesis was over four times as frequent in the stout subjects with the large ulcer (which is more liable to haemorrhage) than in the thin subject with the small ulcer (nearly seven times as frequent in stout and medium) indicates that the pylorus is patent and the obstruction lies distal to it at the site of the ulcer.

TREATMENT

Discussion of the different methods of treatment is not possible within available limits but there are one or two points deserving of mention. The effect of acid on scar tissue has been referred to, and the liability of such scars to subsequent ulceration. It is probable that ulceration deep enough to invade Auerbach's plexus will rarely heal without some degree of scarring (even if it is microscopic in degree). The invasion of Auerbach's plexus will always result in distortion of the 'duodenal cap' as demonstrated by expert radiography, and if these premisses be accepted it is probable that permanent cure cannot be expected with certainty by other than surgical measures.

If, as already suggested, acute perforation is more probable in the free small ulcer with the recent history, early operation is the sound advice and this receives some support from a study of the results in relation to the

length or history of ulcer symptoms Here the tobacco factor must be allowed for

Thus, if those with a history of one year and under be compared with those who have suffered for over two years, there is some evidence that earlier treatment is likely to yield the best results For in the first class 71 per cent were cured (tobacco was a factor in only 20 per cent), whereas in the second class 52 per cent were cured (tobacco influenced the result in 38 per cent) There were no recurrences in the first group and 10 per cent in the second, in 5 per cent of which tobacco may be blamed The failures were 5 to 7 per cent, and whereas tobacco could fairly be held responsible in all of the first group, no such influence could be traced in the second

Gastro-enterostomy forms an essential part of the treatment of the ulcer in the majority of cases, as it permits regurgitation of bile and diminishes intragastric and duodenal tension, and the ulcer should be invaginated whenever possible In the thin type the associated remedy of mesenteric and peritoneal abnormalities is indicated In all types the reduction of or abstinence from tobacco is essential

Conclusions

The predisposition to duodenal ulcer consists in the relative increase of the normal vagus stimulation, which establishes the "duodenal stomach" Tobacco is the outstanding cause Factors which may excite ulceration in such a type of stomach are (1) acid, (2) distension, (3) trauma, (4) infection, and possibly (5) alcohol, the effect of all these in producing ulceration is accentuated by an incompetent pylorus Any combination of these exciting factors may determine ulcer formation in such a type of stomach, but in the "sympathetic type" with the closed pylorus (the antithesis) a gastric ulcer is the more probable result

I should like to express my gratitude to many colleagues who have allowed me free access to the notes of their cases, and to add that in this study percentages have only been adopted as the simplest means of comparison

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TREATMENT OF TUBERCULOSIS OF BONES AND JOINTS*

BY

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TWENTY years ago tuberculous disease attacking the spine or the hip dealt hardly with the bodies of its victims, only too commonly the story was one of persistent pain, increasing deformity sinuses profusely discharging, the dragging out of months then hideous disease with its added miseries and at the last end, death But now there is little excuse for delay in diagnosis or prompt admission to a special hospital and if admitted in good time the patient quickly loses all his pain, ceases to go downhill, and starts the slow process of recovery This review must cover not the conception of the disease then the general treatment of the patient, and finally the local treatment of bone or joint focus

The Character of the Disease

Spinal caries or any other bone or joint focus—is an obvious manifestation of a hidden deep-rooted disease

Tuberculous disease of a joint or a bone is serious enough, but it is a weed with a very deep root you may pluck the head but the root will not come with it A bone focus is a proof of established tuberculous infection of the body, but even this is not all for the new focus is tangible evidence that the invasion of the body is advancing For months or years trench warfare has been carried on in the deep-seated lymph glands, from time to time there have been attacks, bacilli have been distributed in showers by the blood stream, but the tissue cells have known how to deal with them But now things are going wrong

The rival powers of man and tubercle bacillus seem very delicately balanced The virulence of the tubercle bacillus in bone and joint disease is almost invariably constant Man is the variable factor In good circumstances he has the upper hand, under sufficiently bad conditions he becomes its prey But this is a fight in which we can join, and treatment has now become so effective that we can almost ensure victory We can decide whether the patient will almost certainly recover or run very grave risk This responsibility rests jointly upon those on whom it falls to authorize the admission to hospital and pay the maintenance, and upon those who carry out the treatment

But success costs time and money At present these necessaries are often dealt out to us so grudgingly that we are driven to make a fine art of spending the smallest possible sum on the treatment of each patient This makes our task not only very difficult, but often very unsatisfactory, for while it is comparatively easy to restore health in an open-air hospital, it is difficult to maintain that health after the patient goes home, and often impossible if he goes too soon Similar causes produce similar results a deep-seated tuberculous infection, and his home conditions, produced the focus for which our patient came into hospital If he goes back with the infection inconclusively checked and his home conditions are unimproved, his vitality and powers of resistance are likely to return to a low level Further showers of bacilli may follow and lead to a new focus, or the old focus may be lit up again

A cure in one hospital's register may be a very sick patient in another hospital's bed This is tragical for the patients, misleads the surgeons, and falsifies statistics But it is an experience that is disappearing where the hospital staff make certain of maintaining constant supervision of their cases after they go home

The Treatment of the Disease

I First to raise the patient's general vitality as quickly and as fully as possible

II Ultimately to restore the full health of the patient, who should be free from any sign of tuberculosis, focal or general, with his powers of resistance to the tubercle bacillus so raised as to enable him to repel any further attack

III The prompt elimination of any factor, such as strain or movement, harmful to the diseased part, and the application, so far as possible, of rest, comfort, and stimulus to local circulation

IV The avoidance of septic infection

V The restoration of the strength and function of the affected part

These points are best achieved by prompt admission of the patients to an open-air orthopaedic hospital The development of perfect technical methods of treatment is the first duty of the hospital staff, the organization of team work to bring the patient promptly to that treatment is another, and for this they must rely on the help of the doctors of the district as well as of the tuberculosis officers A little delay, then a little postponement, and we may find the disease has become, to quote the words of Percival Pott, "Most melancholy to see, most miserable to endure" We can neither afford delay nor to remit any established principle of treatment The virtues of sunlight and moving air should not induce us to relinquish the accuracy of our splintage Operations may be helpful, or even essential, to cure, but to consider them as short cuts is a sin which will be visited on our patients Rest and time remain the essential ingredients of our prescription [2]

General Treatment

General treatment comprises the skilled use of four great natural remedies *rest, good feeding, open air,* and *sufficient time* Of the rest and the time, Hilton and Thomas have said all that is necessary—the one with charm, the other with emphasis

Good Feeding—Food must be adequate but not excessive, simple but well cooked and attractive, appropriate to the

* Read as a special lecture at the provincial meeting of the Tuberculosis Association at Cambridge April 11th 1924

season and the weather Our patients are very much exposed to the weather, and when it is cold require more food and especially more fat In very hot weather, on the other hand, flesh and fat should be very largely replaced by fruit and vegetables Plenty of water should be given, mostly between meals

Action of Sun —Ultra-violet rays are stopped in the outer layers of the skin, in large doses they destroy bacteria on the surface and epidermal cells, in smaller doses they stimulate the cells and tend to produce pigmentation The sun's rays, as their wave-length increases from violet towards red, gradually lose photo-chemical activity, but gain in penetration and heating power It is unknown whether epidermal pigmentation is associated with an indirect antibacterial or antitoxic effect in tuberculosis That there is some indirect photo-chemical effect is clear from the danger of focal or general reaction in patients unprotected by pigment, but I know of no proof that the effect is antibacterial or antitoxic The skin is heated throughout its depth The arterioles in the corium dilate, and the circulation in the skin becomes very active The warmth and increased circulation in the skin intensify its metabolism But the strong rays of the summer sun, if unchecked by cool and moving air, quickly overdo this heating, the skin and the whole body get too hot, general loss of tone results Any further overheating leads to danger Thus we learn that free use of the sun's light without protection, or of its heat without associated cooling, is wholly bad Sun and air act together, but the sun has been given all the credit It is the old story—it pays to advertise! Expose a child to sun and wind, a coloured advertisement of the sun's action appears in the skin, in the public eye that settles it the virtue must lie in the sun and the treatment is termed *heliotherapy* This is a little unfair to the wind But it is equally unfair to the sun to assess his value on the effect of his untempered activities We should make sure of our ground before we single out photo-chemical action as the beneficial agent, concentrate on its administration, and measure actinic activity as a guide to the value and the dosage of the sunlight I am not yet convinced that the advantage of pigment is other than protective Good pigmentation is a great help to a patient for he can be exposed to sun and wind for much longer periods than others who have been unable or less able to protect themselves with bronze armour But the very pigmentation has its dangers It is the visible and obvious thing in heliotherapy—it catches the eye and diverts the mind One danger is that it may divert the mind from a true conception of the help of the sun, another is that its degree may be taken as a *measure* of cure This brings me to a question of great importance Sunlight acts on the body in two ways—*photo chemical* and *calorific* These activities differ profoundly Is it not just possible that in deep-seated tuberculosis as in rickets, photo-chemical action and cod-liver oil are only of value in cases where there has been a diet or light deficiency? For this the doses needed are but small, and there is some evidence that the respiration of air exposed to unfiltered sunlight is enough? Certainly the stimulating quality of light is helpful up to a limit, not yet defined But where there is no such deficiency, has the exposure of the skin of the body to photo-chemical light any further value? Now I would put forward these points

1 The first step in heliotherapy is the carefully graduated exposure of the body in order to develop pigment, and until and unless pigment is developed only a small dose can be tolerated, and more than a small dose is definitely harmful.

2. Pigmentation, so far as is known, is definitely and merely a protection of the deeper layers of the skin and underlying tissues from the photo-chemical effect of sun light

3. Sunlight contains both light and heat a good skin takes prompt steps to stop the light as near the surface as possible This is exemplified in the highest degree in the negro, in fact, the better the skin and the more acclimatized the race, the more effective the barrier

4 The more completely photo-chemical activity is cut out, the better the patient responds to heliotherapy

It is already clear that for superficial lesions a source of ultra violet light is necessary, this can be supplied artificially, but in other forms of surgical tuberculosis the tungsten arc or the mercury-vapour lamp are cold and relatively valueless substitutes for the sun

The Wind —The sun saves the patient from undue cold, the wind from undue heat The combination is pleasurable, and, like a contrast bath, it promotes an active hyperaemia in the skin There is also reflex stimulation of deep organs, we all feel the benefit after a run in the back of an open car

To sum up Neither sun nor wind can be used to the best without the other Together they work in ways far beyond direct heliotherapy as a source of health and vigour Possibly, too, the partnership between sun and air may be more intimate than we know fully yet, one virtue of open air wards may lie in the effect on our patients of breathing air which is often sunny as well as always fresh

The Skin —Clearly the skin is our first line of defence against invasion of the body, and it is so effective in resisting bacteria that its efficiency is often forgotten There is evidence that it plays an important part in our reaction to the tubercle bacillus Both its sensibility and metabolism appear to share in this action Good pigmentation carries with it a good prospect of sound and permanent healing Pigmentation is a response of the *skin* to light and *ipso facto* a sign of a good skin—a skin capable of cutting out the violet end of the spectrum capable also of gaining the best and most lasting benefit from other effects of sun and wind We talk of the sun and think little of our skin Sun and wind may give the skin useful hints, but it is the skin which interprets them to our advantage

There is an experience which deserves special memory when the factors in the success of modern treatment are being assessed There was a short period when surgical tuberculosis was being treated in open air hospitals without heliotherapy Fresh from London I went to the open-air hospitals at Baschurch and Heswall Pott's disease and hip disease had meant sadness and suffering, and I found a set of children as healthy and jolly as could be, and at Heswall I was told that not a case had been lost from lardaceous disease for two years Between the old days of white children and these days of brown children there was a decade or so when rosy-cheeked children thrived in open air wards

Local Treatment of the Affected Parts

Rest from strain and movement without constriction, comfort and stimulus to local circulation It is necessary to decide first what degree of surgical rest is to be maintained and for how long further whether there are stages for each of which a different degree of rest is appropriate and, finally, to consider the principles of splintage Once our aims are defined we want to be able to pick out those methods which will lead to sound healing with the best and most free use of the part—healing which will stand wear and tear and pass the test of time The splintage should

1 Hold the parts accurately and comfortably
2 Not constrict the circulation in the affected part
3 Not interfere with respiratory movements
4 Allow exposure to sun and air
5 In spinal caries should allow full exposure of the back without risk of strain and where bone destruction has made a local kyphos inevitable and desirable it should be minimized and compensatory curves developed
6 Be as simple inexpensive and widely applicable as possible.

Methods of Immobilization —First let me take Shropshire and the rule of H O Thomas—"Rest enforced uninterrupted and prolonged" When we remember that Thomas's father was a successful bonesetter and that before he was qualified he assisted his father his very conservative methods have added significance To him the secret of success was rest with avoidance of local constriction (*a*) *rest from movement*, and (*b*) *rest from pressure* He favoured unremitting rest throughout the whole period of unsoundness but was insistent on secondary diagnosis" an ascertainment of the recovery of a joint so that it might be known when movement might begin Thomas hated the constriction of an inflamed joint He says that joints thus treated "are always long delayed in

the unsound condition, and even when they improve they remain long hampered by some degree of false or unsound ankylosis"[4] At Alton great care is devoted to posture, and to weight extension of the joints with a view to mobility, but immobilization is less complete At Leysin everything is designed so that the whole body may be exposed to the sun Mobility is Dr Rollier's aim in every instance In cases where one can expect the bearing surfaces to be well adapted this is undoubtedly right, but where the joint surfaces are much deformed the marriage of extensive disease and restricted movement is perhaps happy at Leysin, but afterwards the wear and tear of life and the ups and downs of health will put the couple to severe tests We have found divergences of aim and of method, in one hospital mobility is always the goal, however serious the disease and deformed the articulating surfaces So, too, there are schools of absolute and of relative immobilization My own belief is that during the period of active disease, characterized by pain and muscular spasm before splints are applied or if they are inefficient, perfect surgical rest is indicated But when all pain and muscular spasm are past, and muscles are no longer quick to resent, but ready to induce, minor movement of the joint, relative immobilization is allowable At the end of treatment comes the "secondary diagnosis of restoration" But in the meantime, as soon as the height of the disease is past, one must decide whether ankylosis or mobility is to be the aim Where the damage has been severe, ankylosis may be preferable to limited and not altogether safe mobility

Except in the minority of cases where ankylosis is the aim, three stages can be distinguished (1) during active disease—rest, enforced, uninterrupted, (2) during the stages of healing—comparative immobilization, (3) the stage of free use, under careful supervision During the convalescent and after-care stages Thomas's tests should be applied again and again

Operative Methods

For children under 16 formal operations are seldom if ever warranted, but in adults when disease is advanced, and a stiff joint is the best that can be hoped for, an excision will give a healed, strong, painless limb more quickly, more certainly, and of sounder stability, than conservative measures, and more safely *Operative internal splintage* has real value in spinal caries in adults

Cold Abscess—Sir Henry Gauvain aspirates frequently, but at Shropshire and Leysin an abscess is only aspirated if it threatens the skin A fine needle is used, no determined effort to empty the abscess is made, as a rule nothing is injected Sir Robert Jones has always taught that the fluid in a cold abscess is harmless, Dr Rollier is equally convinced To open and drain a cold abscess is to commit a surgical crime

Besides all these things there are many points of technique suitable for a demonstration, but too confusing to include in a review such as this I have tried to make the main issues clear A tuberculous focus in a bone or a joint is the obvious part of a deep-rooted disease, serious in its crippling if there is delay, disastrous if there is neglect but it is also evidence of tuberculous infection of the body which pre existed but is now gaining the upper hand On the other hand modern treatment, with its artistic use of *rest food* and *weather*, if started in good time and kept up long enough will almost always bring about a cure—a cure that skilled after-care will make permanent Thus crippling and disaster can be forestalled, and health and activity take their place This treatment may institute a special open air hospital and a staff experienced and expert but there is no need to transplant a patient from his home climate to a distant hospital Rather use a hospital in the district best, for it will admit its patients early follow them home when they go out, and spare no effort to make their cure complete and final

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LACK OF EXERCISE AS A DETERMINING FACTOR IN THE EPIDEMIOLOGY OF BERI-BERI

BY

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During investigations by a committee into the occurrence of beri-beri in the prison at Freetown, Sierra Leone, it was observed that the disease affected those who were employed as tailors to a greater extent than other prisoners Of 59 cases of beri-beri in 1922, 34 occurred in tailors—that is, 57 per cent The average daily strength of tailors was 15 per cent of the average daily strength of all prisoners, that is to say, the 15 per cent of the population employed as tailors yielded 57 per cent of all the notified beri beri cases It appears, therefore, that in Freetown Prison in 1922 there was some factor in the occupation which rendered tailors particularly prone to develop beri-beri

It has been suggested that convicts sentenced to three years or over suffer more from beri-beri than other prisoners, and also that they are, *from mental depression, more prone* to all diseases Of the 34 tailors affected, 18 were convicts (long sentence) and 16 were common gaol prisoners (short sentence), on the figures, the conclusion was that both convict tailors and non-convict tailors are susceptible to beri-beri

In an endeavour to discover factors other than length of sentence which may predispose tailors to disease generally, and to beri-beri in particular, the conditions under which the tailors worked were considered Such factors as overcrowding or insanitary surroundings were not found to have any influence, nor was there any distinction between tailors and any other class of prisoners as regards food, water supply, or sleeping accommodation The factor which appeared to be all-important was lack of exercise, due to the sedentary nature of the occupation It should be pointed out that even the exercise of half an hour a day prescribed was liable in the rainy season to be curtailed or even omitted altogether

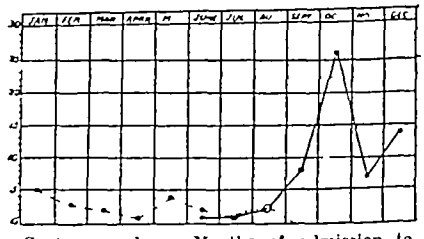
The facts which came into prominence during the investigation were reported upon, and recommendations were made as regards diet, also one which involved drastic alteration in the employment of tailors, it was to the effect that no prisoner should be employed for more than half his working day in tailoring, and that the other half should be spent in some active outdoor occupation, such as stone-breaking

The effect upon the death rate among the prisoners is shown in the following table, the years mentioned are those in which beri-beri appears in the records

Year	Total Deaths	Deaths from Beri beri
1913	20	5
1919	8	2
1920	12	3
1921	25	3
1922	12	3
1923	3	1*

* This case arrived in Freetown Prison from Kennema Prison on July 26th 1923 and died September 5th 1923

The effect upon the admissions to hospital for beri-beri is seen in the graph



Continuous line Months of admission to hospital of 59 cases of beri beri during 1922. *Broken line Months of admission* to hospital of 20 cases of beri beri during 1923

The admission of cases early in the year 1923 is partly to be attributed to the detection of early cases due to the increased vigilance of the prison medical officer The notable fact is that whereas in 1922 the beri-beri admissions commence in July and rise to a maximum in October, which is the common curve of beri-beri admissions in Freetown *Prison* Hospital, in 1923 no case was admitted subsequent to August, that is to say, that in 1923 the disease disappeared just at the very time when usually it begins to

increase rapidly It appears, then, that the modifications in diet and in the working conditions of the prisoners have produced the effect of materially reducing the incidence of beri beri, and with it the death rate

Experiments on Fowls

In the meantime experiments on fowls were undertaken, with the design of throwing light upon this and other questions The first experiments included one which would show whether sunlight was capable of preventing the development of polyneuritis in fowls fed on a diet of highly polished rice and water, and also one to show whether exercise was capable of preventing such development

The Effect of Sunlight

Fowls were exposed to direct sunlight for several hours daily while others were kept constantly in the dark the conditions being otherwise equal The fowls in the two categories died in the same time as did control fowls exposed to a normal indoors variation of light and dark. No evidence of any preventive effect of sunlight or any contrary effect of lack of sunlight was obtained.

The Effect of Exercise

Fowls were kept in two batches—the first in individual small cages in which there was no room for free movement the second in a large run where free movement was possibl The difference in the periods of survival was striking all the fowls deprived of exercise died in seventeen days or less whereas of those which had free movement none succumbed in le s than thirty-one days

The exercise experiment was considered of importance and was repeated The conditions were as follows

Each animal of batch number one was placed in a separate cage of such size that, while the fowl had ample room to turn round and stand upright and feed it was prevented from obtaining exercise The cages were placed in a large room well ventilated and well lighted. The fowls of batch number two were allowed to roam free in the room and were provided with a stick on which to roost some feet above the floor The room and cages were thoroughly washed before starting the experiment and each day the floor of the room and the cages were swept out and dusted with clean sand The small cages permitted slightly more movement while the room space permitted much more exercise than in the first experiment The diet as before consisted of highly polished rice and water The results of the experiments were

Of five fowls fed on polished rice and water none survived longer than twenty-six days when deprived of exercise

Of five fowls fed on polished rice and water all survived thirty-eight days or longer when allowed free exercise

A control experiment was carried out in order to determine whether lack of exercise would adversely affect fowls which were given a normal diet for this purpose the same small boxes were used Of five fowls kept in these boxes under identical conditions except as regards diet none died in a period of three months on the contrary all kept in excellent condition and increased greatly in weight.

The conclusion to be drawn from these experiments is that, given a group of animals which are subsisting on a diet containing insufficient anti beri beri vitamin, lack of exercise forms a very important factor in precipitating the ultimate result

The results of the two experimental investigations in fowls confirm thus in a most definite and convincing manner the conclusion arrived at as the result of clinical observation in man—namely, that lack of exercise played an important part in precipitating the occurrence of beri beri in tailors in Freetown Prison

Attempts were made to ascertain whether this factor may not have produced effects of a similar kind in other epidemics of beri beri An observation on this point is made by Lasnet in Senegal Lasnet[1] found that, in the gaol at Dakar, military prisoners who were exempt from outdoor duty developed beri-beri in greater proportion than other classes of prisoners It is noted that when the disease made its appearance for the first time compulsory exercise was invariably followed by an amelioration of symptoms Davidson says that the disease attacks men on active service far less severely than those in barracks

Lack of exercise is frequently mentioned in a general way as a contributory cause, especially when coupled with overcrowding and insanitary surroundings, but it does not seem to have been recognized hitherto that lack of exercise has such a definite effect as has been brought into evidence by the observations and experiments here recorded It is probable, however, that this factor plays a part which may in some cases be of great importance It may, for example, serve to explain such facts as surgical beri-beri occurring in patients lying in hospital The records of epidemics are as a rule of little service in throwing light upon the effect of this factor, as they do not afford information as to the amount of exercise taken by those affected by the disease—the significance of this not having been realized Such records, however, as those given by Greig[2] seem to suggest that lack of exercise may have had a definite influence Under "Occupations of persons attacked by epidemic dropsy" he gives a table for males This table shows that in 293 cases the highest incidence was in clerks (104) Greig considers that the extensive outbreaks of epidemic dropsy are determined by a sustained high price of food grains, and that 'it is just those persons with small fixed incomes who would be most severely affected" In this way he explains the high incidence among the clerical artisan, student or petty trader classes While it is difficult to assign a proportional value to the figures given the fact that a sedentary occupation, such as that of clerks, yields such high figures of epidemic dropsy is suggestive Clerks cannot be regarded as the class who are most adversely affected in their diet by an increase of the cost of grain

Beri-beri is notoriously a disease which occurs in institutions and in places where a fixed diet and some degree of confinement are almost constantly present—for example prisons, asylums ships, etc It is important for those in charge of institutions to realize that such useful occupations as tailoring, mat-weaving and basket-making are not such as to provide sufficient exercise

SUMMARY

1 Observations of an epidemic in Freetown Prison suggested that lack of exercise played an important part in determining an attack of beri beri where the necessary predisposing conditions of diet existed.

2 Experiments on fowls showed clearly the decisive influence of lack of exercise in accelerating death in animals fed on a diet deficient in vitamin B

3 In previous beri beri epidemics this factor has been almost entirely overlooked

4 The fact that lack of exercise accelerates and accentuates the ill effects of a diet deficient in vitamin B opens up an interesting problem in metabolism

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[1] Lasnet *Lancet* April 3rd 1897 p 873. [2] Davidson *Edin. Med. Journ.* August 1831. [3] Greig E. D. W. *Sci. Mem. Off. Med. and San. Dept. Gov. India* No 43 p 10

THE INTRANASAL OPERATION FOR DISEASE OF THE LACRYMAL APPARATUS

BY

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THE treatment of disease of the lacrymal apparatus has always been full of disappointments both to the ophthalmologist and the patient The rhinologist has ignored it, although a considerable proportion of the cases of disease of this system originate in the nose In consequence it has been left to the ophthalmic surgeon to do the best he could with probes styles and excision of the sac The introduction of drainage of the sac through the nose by one or other of the operations now performed has modified the treatment considerably and to a very great extent done away with the troublesome effects of excision of the sac The cases must be properly selected as the operation is devised for disease arising from stenosis of the lacrymal duct, and is useless for epiphora due to some defect of the puncta or canal culi facial paralysis or disturbed secretory function of the gland

For mucocele or suppuration of the sac the operation offers a method much preferable to excision of the sac doing away with the unpleasant epiphora which remains after the latter operation For some reason the intranasal operation has not made as rapid an advance as it deserves though a steadily increasing number of cases are being operated on

in this way Its advantages, according to West, are as follows

1 The physiological function of the path for tears is again restored so that not only a suppuration of the sac a lacrymal fistula, or a phlegmon is healed but also the tears flow normally through the nose A later epiphora is accordingly avoided
2 A so called cure by probing is rendered unnecessary
3 The lacrymal gland is spared
4 A skin incision or curetting from without with eventual scar formation is avoided

Looking briefly at the anatomy of the lacrymal apparatus, we find a punctum at the inner angle of the upper and lower eyelids, each opening into a canaliculus, these unite and enter the lacrymal sac at about the middle of its orbital or external wall The sac terminates below in the nasal duct, which runs downwards and opens by a valve-like opening below the anterior part of the inferior turbinate The sac lies in the lacrymal groove and is separated from the interior of the nose by the nasal mucous membrane and the posterior part of the ascending process of the superior maxilla anteriorly and the lacrymal bone posteriorly Occasionally a forward ethmoid cell is found over the sac, the position of which is just in front of the middle turbinate bone The duct does not always run in a straight line down from the sac, but may bend at an angle, and in such cases probing is more likely to do harm than good

I have operated on sixteen patients, in four of whom it was necessary to open both sacs, so that the series comprises twenty operations These have been cases of epiphora, of mucocele of the sac, and of suppuration of the sac with and without fistula and phlegmon The operation performed has been that advised by West with slight modifications of no importance

The sac is washed out and a few drops of cocaine injected The nose is packed twenty to thirty minutes before the operation with ribbon gauze wrung out of 20 per cent cocaine and 10 per cent resorcin The position of the sac is first measured off outside the nose, and then marked on the mucous membrane if there is any difficulty in locating it without doing this It is only in narrow noses that this difficulty arises A very full curved incision is then made down to the bone, and the flap reflected backwards and most of it removed The bone is then removed in thin layers, this is the most difficult part of the operation, as there is a great tendency for the chisel or gouge to slip If one attempts to remove large pieces of bone at a time there is danger of considerable splintering of the ascending process of the superior maxilla, causing unnecessary trauma and increase of granulation tissue, the consequent narrowing of the opening being the cause of a disappointing result Sometimes, owing to the shape of the ascending process, a very considerable thickness of the bone has to be removed In all cases the opening in the bone should be made as large as possible, not only from above downwards but from before backwards When sufficient of the ascending process of the superior maxilla has been removed the opening can be enlarged by Killian-Grunwald and Watson-Williams punch forceps A fine probe passed through the lower canaliculus will push the sac wall through the opening like a tent It can then be caught with a fine hook and a large piece cut out of its wall or caught with punch forceps and an opening punched out The opening can then be enlarged with punch forceps till the probe will pass horizontally into the nose and freely in all directions The base of the flap which was resected is then turned over the posterior edge of the opening This portion of the flap has not been kept in all cases and its retention does not appear to be a matter of importance The sac is washed out daily for a few days, the nose douched and granulations destroyed if they tend to become large If the operation is successful, discharge from the punctum and lacrymation ceases, and in twenty-four hours the inner angle of the eye only shows normal moisture If the result is not going to be good, in some cases there will be a gathering of tears at this point although the passage is free to the probe and the flow of tears from the nose

I have only been able to trace the result in fifteen operations Of these twelve say that they are completely cured and have no epiphora One case of double suppuration of the sinus has written saying that she still has discharge and epiphora, but has not had any "abscesses," and one has epiphora The latter case has been seen, and passing a probe shows the opening to have closed This sometimes happens (it has occurred in two of the twelve cases who are free from symptoms) and the opening has to be remade One woman, not included in the above number, when seen about three months ago, said that if she went out in the morning she had epiphora, which stopped when she went home and did not recur if she went out again This seems to be rather strange, but she held to the statement as being correct Of the other cases nothing is known, but one had a second operation owing to recurrent suppuration four to five months after the first operation She left hospital apparently cured, but the final result is not known

In all the cases in which a fistula was present it healed rapidly I have never operated on a case during an acute attack of inflammation, but have done so when the symptoms were subsiding The operation is not difficult, in a few cases it is necessary to remove the anterior end of the middle turbinate or to correct a septal deviation before the area of operation can be reached

Failure may occur, owing to the opening not being sufficiently large in all directions in the first place, or to free granulations springing up which cannot be kept down, and all surgeons have had cases in which the opening had to be remade After the second operation the granulations do not appear to be so vigorous According to Frieburg the canaliculi can normally force tears along to the sac, functioning like a regularly working pump If this power is lost lacrymation will continue, and amongst the reasons given for this loss of function are (*a*) long or improper slitting of the canaliculus, (*b*) long-continued probing or the use of too large probes, (*c*) cicatricial alterations of the surrounding soft parts causing impairment of the muscular apparatus

Statistics vary, I have been able to collect the following list showing the percentage of successes of various operators

West	90 per cent
Frieburg	71 ,,
Polyak	85 ,,
Fraser (in 50 cases)	72 ,,
Knutson—	
In simple cases	89 2 ,,
In cases of phlegmon and those with cicatrices and fistula	60 11 ,,

The operation offers considerable advantages over excision of the sac, but the question whether it is safe subsequently to perform an operation for cataract or one involving the opening of the eye is open to doubt, as some infection of the sac persists after the operation in some cases

LYMPHATICOSTOMY IN PERITONITIS

BY

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To Costain[1] we are indebted for the suggestion that opening and draining the thoracic duct may assist surgical measures in serious cases of general peritonitis He assumed that the chief cause of toxaemia in peritonitis was the flow of toxic lymph into the left subclavian vein, and went far to prove this in dogs suffering from gangrenous appendicitis by diverting this stream to the surface of the neck He published a successful case of lymphaticostomy in a girl with pneumococcal peritonitis

In the following case recovery ensued after lymphaticostomy in an attack of peritonitis which was apparently hopeless Opinions naturally differ as to what is hopeless, but experience has led me to consider that the type in question has a mortality of over 90 per cent I may add that I look on the ordinary severe appendicitis, with considerable pus in the lower abdomen, with reasonable optimism, and leave the case reported here to speak for itself

An agricultural labourer aged 48 was admitted to Addenbrooke's Hospital on April 15th, 1924, with a history that on April 13th he awoke at 2 a m with severe abdominal pain In spite of that he got up and milked the cows His bowels acted, but he became progressively worse with pain and vomiting on April 14th, and was admitted to hospital on the afternoon of

April 15th At this time there was considerable distension of the abdomen restricted respiratory movements especially in the lower abdomen surface hyperæsthesia in the left iliac region and deep tenderness across the whole lower abdomen Per rectum there was tenderness and a tense feeling in the pre-rectal pouch Pulse 88, regular temperature subnormal tongue dry A large faecal vomit occurred just before I examined him Unable to make any diagnosis other than acute abdomen I opened in the middle line and inspected numerous coils of small intestine all of which were acutely inflamed distended and deep scarlet in colour with occasional slight smears of pus The appendix was perforated around it there were no local conditions other than those general to the middle and lower abdomen The appendix was removed and the wound closed without drainage the severe distension causing the usual difficulties in such cases of abdominal wall closure Having decided that this was a case where recovery by the usual methods of after treatment was almost out of the question I proceeded to perform Costain's lymphaticostomy

I exposed the junction of the internal jugular with the left subclavian vein and identified the thoracic duct by its position and by seeing it fill with beads of brilliant clear yellow fluid resembling thin honey drained from the comb The duct was ligatured off from the vein slit up and stitched to the skin the wound was left open and lightly filled with gauze A culture from this lymph was proved next day to be sterile

On April 16th the patient was progressively more ill he was semiconscious at 10 a.m pulse irregular and feeble There was only a small exudation from the wound in the neck Abdomen still distended At 11 p.m he was still semiconscious could just be roused chyle was discharging more freely from the neck Respirations 28 pulse 128 The next day he was fully conscious the pulse had improved though the abdomen was still distended Chyle was pouring freely from the neck

On April 19th the distension was decreasing good result at last after numerous enemas and six doses of pituitrin at intervals The neck was still discharging freely Pulse good

On April 23rd the distension had gone There was discharge of pus from the abdominal wound and sudden diminution of chyle from the neck By April 26th the neck was practically dry the bowels acted daily Since April 17th the temperature had never been above 98 8°

The patient was discharged from hospital on May 10th with both wounds healed and normally convalescent

Two points appear to me to call for comment

1 The thoracic duct is not very easy to find I had practised several times on the cadaver and consider it a difficult minor operation, because the duct is delicate in texture and thinner than one expects After the exposure by dissection one is glad to have confirmation in the living subject by the presence of beads of lymph In this case the beads were honey yellow at the time of operation two days later the discharge had the usual appearance of thin dirty milk

2 The paucity of lymph in the first twenty-four hours in this case is explained by the fact that this man was depleted of fluid by starvation and by a large faecal vomit it was only after continuous rectal saline for twenty four hours that lymph began to flow freely No measures were taken to stop the flow or lymph, and this subsided in a week, Costain states that the lymphatics on the right side restore the circulation

REFERENCE.

[1] *Canadian Med Assoc Journ* November 1922. *Surgery Gynæcology and Obstetrics*, March 1923 p. 365. *Medical Annual* 1924 p 9 abstract by Dr E. Wyllys Andrews.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

SOME INDICATIONS FOR TUBERCULIN THERAPY

TUBERCULIN in certain cases appears to act like a charm, in others to do little or no good, and in others again to do actual harm

I have under review 96 afebrile patients treated with tuberculin, all of whom showed a considerable degree of ill health Before treatment each case was tested by the modified von Pirquet test of Ellis, in which the dilutions used are 1 in 500, 1 in 100, and 1 in 10 old tuberculin Those who react to 1 in 500 are called "hypersensitive" those to 1 in 100 "sensitive," and those to 1 in 10 "subsensitive"

For a time I was puzzled as to what factor influenced the results I tried grouping the cases according to physical signs, degrees of sensitiveness to tuberculin, and so on, but the exceptions in each class were many I then hit on the expedient of dividing the cases under headings of effect of treatment," grouping the cases as "good," "fair" and "no change" By "good" I mean those which were to all intents and purposes in good health at the end of the course by "fair" I signify improvement I found that by this method under the heading "good" were included all children and adults with low blood pressures (tubercle bacilli negative in both classes) The remainder of the cases came under the headings of "fair" or "no change"

I then found that the low blood pressure cases (tubercle bacilli negative) were either hypersensitive or sensitive to tuberculin and that the high blood pressure cases were less sensitive I could come to no definite conclusion about the tubercle bacilli positive cases, so I put them into a separate class My results finally worked out as below

A. Sputum negative to tubercle bacilli

1 Children under 14 16 cases—100 per cent good.

2 Adults—

(*a*) Blood pressure 120 or under 37 cases—100 per cent good these were all sensitive or hypersensitive

(*b*) Blood pressure 130 and over (1) Sensitive 13 cases—100 per cent fair (2) Subsensitive 14 cases—23 per cent good (all asthmatics) remainder unchanged.

B Sputum positive to tubercle bacilli 16 cases—50 per cent fair none good

It became evident that blood pressure was an important factor, and it seemed probable that the degree of fibrosis in the lung would influence this In order to ascertain it this were so I examined a series of hospital records with special reference to the amount of fibrosis indicated by x-ray photographs, and classified them as above

A. Sputum negative to tubercle bacilli

1 Children under 14 14 cases—beyond some enlarged hilus glands very little change

2 Adults—

(*a*) Blood pressure 120 and under 20 cases—very slight fibrosis in all except 2 in which it was marked.

(*b*) Blood pressure 130 or over 48 cases—all had marked fibrosis except 10

B Sputum positive to tubercle bacilli 22 cases—in every case there was marked fibrosis

Conclusions

1 Fibrosis is an important element in tuberculin therapy and, other things being equal the less fibrosis there be the more satisfactory the results with tuberculin

2 Hypersensitiveness is no contraindication to tuberculin therapy

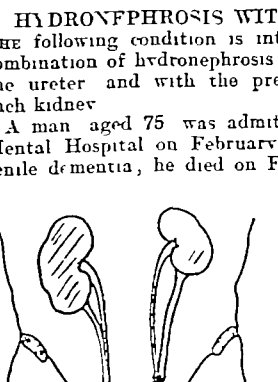
3 In subsensitive cases much improvement with tuberculin cannot be expected save in cases of asthma

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HYDRONEPHROSIS WITH DOUBLE URETERS

THE following condition is interesting on account of the combination of hydronephrosis with a calculus impacted in the ureter and with the presence of two ureters from each kidney

A man aged 75 was admitted to the Northumberland Mental Hospital on February 14th 1924 suffering from senile dementia, he died on February 26th There was a history of an illness twelve years before supposed to be renal in origin but no details could be obtained



At the necropsy the following unusual condition was found The right kidney weighed 4 oz and had a small cyst at the upper end Emerging from the lower end was a second ureter which passed side by side with the normal ureter to the bladder Both contained urine and appeared to have functioned The left kidney when emptied weighed 1 oz and showed merely a thin shell of kidney tissue filled with clear urine As in the right kidney a second ureter emerged from the lower end of the kidney These two ureters passed downwards and united 3 inches from the bladder Just below the junction a calculus with a rough surface and as large as a good-sized hazel nut was impacted completely blocking the ureter

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Reviews.

THE PRIMATES

DR CHARLES F SONNTAG, prosector to the Zoological Society of London, has rendered a valuable service to all biologists by the publication of his monograph on *The Morphology and Evolution of the Apes and Man*.[1] As Professor ELLIOT SMITH states in a helpful foreword, students of anatomy and anthropology have hitherto had no book giving complete information to which to turn for enlightenment in primate anatomy. Fortunately the book under review amply supplies this deficiency and will in consequence be heartily welcomed by all teachers of human and comparative anatomy. Dr Sonntag, with considerable skill, has placed on record in an accessible and interesting form his own first-hand knowledge of the primates. The monograph contains not only a detailed account of the structure and comparative anatomy of this order, but also an appreciable amount of original information based upon the important investigations of the author himself. A careful and critical analysis has been made of the extensive literature upon the apes, and frequent reference is made in the text to the more important papers, an invaluable addition to the research worker is the incorporation of a very complete bibliography. The book is freely illustrated by photographs of living animals and a large number of line drawings, which adequately fulfil their purpose.

Without reservation this work may be recommended, not only to the anthropologist and anatomist, but also to a wider range of readers who will be able to peruse it without difficulty on account of the simple and clear style of presentation.

CLINICAL LABORATORY METHODS

AMONG the throng of books which thrust themselves upon the notice of the laboratory worker, it is a pleasure to meet with such a one as *Clinical Diagnosis by Laboratory Methods*, written by Professor JAMES CAMPBELL TODD. The very fact that the work, first produced in 1908, has now reached its fifth edition,[2] and that it has been reprinted almost annually since 1912, bears witness to its popularity. The print is good, the paper comparatively thin, so that, although there are between 700 and 800 pages the book is not unwieldy. The illustrations are clear and the coloured plates faithfully reproduced. Considering the comprehensiveness of the book and the precision with which the various procedures are described, thus enabling the laboratory worker to dispense with all but the larger works of reference, the price is not high. One wonders, however, whether, without increasing the size of the book or its cost, those thirty or more pages giving details on the use of the microscope might not be reduced or even omitted, and room be thus found for two or three other methods of examination. By the time a student reaches the stage of clinical diagnosis by laboratory methods he should know how to use his instrument, if he does not, a few words from his teacher would do more than pages of description, and surely it is not necessary to tell him that "artificial light is important for those who must work at night." Certainly a student who could not be trusted to know this ought not to be told that in the case of infants with small veins blood for examination "may be secured from the superior longitudinal sinus by puncturing through the posterior angle of the anterior fontanelle." Illustrations add to the cost of production, and some of these appear to be hardly necessary. For example, there is a picture of a microscope with a legend informing the reader which is the coarse and which the fine adjustment, which is the base and which the tube, again, the ordinary centrifuge and its tubes are separately depicted, and there are ten separate illustrations of urinary casts. In place of all this space might be found, let us say, for Maclean's method of estimation of blood sugar, the obtaining of 0·2 c.cm. by finger-prick is less feared by the patient than withdrawal of larger quantities from a vein at hourly intervals. For the benefit of workers in the tropics mention might be made of *Bacillus pestis* in the sputum of a pneumonic plague patient, and of the uses of gland puncture for diagnosis of the bubonic form from conditions with which it may be confounded. The short paragraphs on *Dracunculus medinensis* should be corrected to harmonize with modern views of the life-history, and the illustration of *Taenia solium* should be redrawn to show its double row of hooklets. The methods of examination, however, which are given have been well and wisely selected, the descriptions of the technical details are clear, and the inferences to be deduced from the results obtained are concisely put, the author has been careful to distinguish the work of the clinician from that of the biochemist, and thereby to denote clearly the clinical significance of the findings. In short, he has carried out admirably his intention of writing a book which is at the same time clear, practical, and precise. Scattered throughout the work are numerous useful "wrinkles" which go to prove that the author has an intimate knowledge of the procedures he recommends. There is little doubt that this edition will enhance the popularity of the work.

The latest (seventh) edition of DRS KLOPSTOCK and KOWARSKY'S book on methods of research, clinical, chemical, microscopical, and bacteriological,[3] is an improvement on the earlier issues. A considerable amount of new matter has been introduced, and modifications have been made in some of the older methods described. In spite of this, however, we do not think it will displace similar books already in use in English laboratories, because the latter show a more judicious arrangement and selection of tests. The present book is handy in size, well printed, and cheap. The illustrations are not numerous, and some of them are rather crude. The work is divided into twelve chapters. The first three deal with the bacterial flora of the mouth, throat, nose, and eyes, and the fourth with examination of the sputum, then follow chapters on the examination and analysis of stomach contents, the faeces, urine, blood, puncture fluids, and so on, the final chapter being devoted to bacteriological methods, nutrient media, and staining processes. The sections are not well balanced, the best are those on the urine and on the blood, which occupy 136 and 138 pages respectively, whereas 15 pages suffice for the stomach contents and 46 for media, staining processes, and methods of bacteriological investigation. Analogous inequalities are exhibited within the individual sections, thus, in that on the blood six pages are taken up in describing the test for blood urea, whereas in that on the changes in the blood picture in infectious and other diseases twenty-three conditions are disposed of in a couple of pages. Again, on the question of tubercle bacilli in the sputum, one page is given to the cultural characteristics and properties of the bacillus, two pages to antiformin, and one to differential diagnosis of the organism, but no reference has been found to tuberculin and its uses, nor anything as to the preparation of the specimen for staining, the reader being merely referred to the staining formulae in the brief appendix 450 pages further on. The authors seem to have tried to compress too much. It is not possible in 545 small pages to deal with the body cavities and body fluids, the excreta, and skin conditions, from the bacteriological, chemical, clinical, and microscopical aspects, more especially when, in addition, investigations by animal inoculation take up considerable space. The work in consequence partakes largely of the nature of a dictionary.

[1] *The Morphology and Evolution of the Apes and Man*. By Charles R. Sonntag, M.D., Ch.B., F.Z.S. With a foreword by Prof. G. Elliot Smith, M.D., F.R.S. London: John Bale, Sons and Danielsson. 1924. (Demy 8vo, pp. xi + 344, 97 figures, 12 plates. 30s. net.)

[2] *Clinical Diagnosis by Laboratory Methods*. A Working Manual of Clinical Pathology. By James Campbell Todd, M.D. Fifth edition. Philadelphia and London: W. B. Saunders Company. (Demy 8vo, pp. 760, 190 figures, 12 plates. 28s. net.)

[3] *Praktikum der klinischen, chemischen, mikroskopischen und bakteriologischen Untersuchungsmethoden*. Von San. Rat Dr. M. Klopstock und Dr. A. Kowarsky. Siebente, umgearbeitete und vermehrte Auflage. Berlin: Urban and Schwarzenberg. 1923. (Cr. 8vo, pp. viii + 559, 46 figures, 24 coloured plates. Swiss fr. 12.)

THE U S N HOSPITAL CORPS HANDBOOK

THE Bureau of Medicine and Surgery of the Navy Department of the United States has lately published a *Hospital Corps Handbook*,[1] which replaces the old *Handy Book* and is the counterpart of the British Manual of Instruction for the Royal Naval Sick Berth Staff, recently noted in our columns. It is, however, a much more elaborate and bulkier volume than the British manual, as it consists of more than seven hundred closely printed pages, epitomizing practically every field of medicine, surgery, dentistry, nursing, chemistry, materia medica and pharmacy, sanitation, toxicology, bacteriology and the general duties, functions and administration of the medical services of the United States Navy. It is intended, not so much apparently as a manual of instruction but as a book of reference and this in fact would seem to be its most useful function for it is scarcely possible to suppose that the Hospital Corps men in their short period of training—we are told in the Surgeon-General's annual report for 1923 that this has been reduced from six to four months—could assimilate more than an insignificant portion of the extremely wide and at the same time concise and condensed information contained in it. The period of enlisted service in the Hospital Corps U S N is four years, and even in that time a full knowledge of all the subjects in the Handbook would be difficult to acquire. Many of the subjects are specialist subjects. There is for example, a School of Dental Medicine for the U S N opened last year, at which ten of the Hospital Corps men completed a course of technical instruction. Again, there was a four months course of instructions for five men in *x* ray work at the Naval Hospital in Washington, and twelve more received instruction in physiotherapy in New York and at Harvard. These and other facts which are gathered from the annual report for 1923 point to the Handbook being intended for specialist work in subjects such as these as much as if not more than, for general instruction and training. Indeed, its readers are informed that they must not depend on it entirely, and are urged to consult other reference books and a variety of regulations, manuals, bulletins, journals and circular letters. To emphasize this, a short bibliography is added to some of the chapters.

The various chapters have been written by members of the medical, hospital, and nurse corps and have been reviewed and revised by Lieutenants W. J. C. Agnew and W. W. Behlow, and Chief Pharmacist N. L. Saunders of the United States Navy. The subject-matter is presented clearly and accurately, and is well up to date. We have been unable to detect any omission of importance except perhaps details of the organization and management of hospital ships. The lessons of the war in field sanitation, chemical warfare, aviation medical service, and prevention of disease are all included. The book is unique of its kind and is of value not only to Naval but also to Army and Air Force Medical Services. It contains, for example, valuable information on dietetics, embalming, organization and administration of hospitals and other subjects which do not find a place in British manuals. Incidentally, it is of interest to know that there is the same difficulty in the United States as in the United Kingdom in recruiting both the Medical Corps and Hospital Corps of the Navy. The establishment of medical officers is 800, but in 1923 they were some forty below strength. The strength of the Hospital Corps available for the work of the medical services of the U S Navy and Marine Corps, numbering together about 105 000 was 3 288 or 400 short of requirements. The Dental Corps of 149 dental officers and the Navy Nurse Corps of 495 nursing sisters were up to strength and a considerable amount of the work of the Hospital Corps men was consequently taken over by the nursing sisters, owing to shortage in the strength of the men. The Handbook supplies the needs of all these. The price at which it may be obtained, one dollar, is as unique in these days as the book itself. Copies may be procured at this price from the Superintendent of Documents Government Printing Office Washington, but the purchaser must agree not to resell or distribute for profit.

[1] *Hospital Corps Handbook. United States Navy. 1923.* Published by the Bureau of Medicine and Surgery under the authority of the Secretary of the Navy. Washington: Government Printing Office. (Med. 3—) pp. v + 717, 210 figures.

THE CIRCULATION

THE second edition after an eight years' interval of Professor CARL J. WIGGERS's *Modern Aspects of the Circulation in Health and Disease*[2] provides a welcome source of reference to the modern physician in sympathy with the laboratory aspects of the subject. It is indeed unnecessary to do more than remind the reader of the numerous valuable papers this physiologist has published on the problems of the circulation to which the author has devoted nineteen years of laboratory work. This edition not only incorporates his published researches, but in it some of his recent work here sees the light for the first time. An outstanding feature of the book is the critical estimation of the observations of others, the author's practical familiarity with the subject rendering his presentation of it the more effective. Thus the far-reaching influence of Einthoven, Sir James Mackenzie, Sir Thomas Lewis, Professors Starling and Bayliss and other workers is convincingly shown. The aim is to explain the application of laboratory methods to the elucidation of clinically obscure conditions and to the initiation of new methods of treatment. With this object the most modern conceptions of the circulation in health are first considered, then an account is given of the various instruments and procedures available for studying the human circulation and lastly the data obtained by experimental investigation of abnormal conditions in the laboratory are correlated with the results obtained by instrumental methods at the bedside and these in turn are compared with the ordinary signs and symptoms observed in everyday practice.

Among the new chapters in the present edition is one on functional disturbances of the heart and circulation in it after reference to the physiological syndrome of effort which in healthy persons appears only as the result of prolonged and vigorous exercise, the features of the effort syndrome or neuro-circulatory asthenia are considered. The text of this admirable monograph is clear and condensed and each chapter has a selected bibliography which is an additional boon to the researching reader.

NOTES ON BOOKS

SINCE 1915 Dr. SCHÄFFER's book on the treatment of skin and venereal diseases has achieved its sixth edition[3] which is the first edition to make its way into the office of this journal. For this late appearance on British shores the war is perhaps responsible. As a general rule books which deal or rather attempt to deal solely with the treatment of skin diseases are disappointing because successful treatment is so intimately bound up with correct diagnosis that it is almost impossible to separate the two subjects. The work now before us is however a very good example of its class, and to the section on venereal disease the above mentioned objection does not apply. The part which deals with pure dermatology opens with a preliminary general discourse on the treatment of dermatoses and this is followed by a consideration of the chief conditions arranged in alphabetical order. The various physical methods of treatment which are coming to occupy a more and more prominent part in the therapeutics of skin diseases are adequately dealt with. The author in his very good account of *x* ray therapy says that he never employs unfiltered rays, but always uses an aluminium filter of 1/2 or 1 mm. thickness. There is no doubt that the modern tendency is in this direction although excellent results may often be obtained with small doses of unfiltered rays in chronic eczema and other superficial conditions. No detailed directions are given for the employment of *x* rays in the treatment of ringworm of the scalp—an important and dangerous field in which caution is very much needed. The author suggests a very practical dodge for applying *x* rays to the interdigital clefts: the fingers are spread out on a block of soft clay, which keeps them comfortably in position. Plasticine no doubt would do very well for this purpose. The section on syphilis includes a description of the microscopic technique for the detection of spirochaetes and also for the performance of the Wassermann reaction. The Sachs Georgi reaction is also mentioned but no

[2] *Modern Aspects of the Circulation in Health and Disease.* By CARL J. WIGGERS, M.D., Professor of Physiology, Western Reserve University, Cleveland, Ohio. Second edition, thoroughly revised. Pp. xi + 1 to 1 + 1 to 1 + 1 to 1

described The book may be useful and interesting to those who have some preliminary knowledge of the subject, but general practitioners and students might just as well support home industries

The third edition of Dr JOHN A KOLMER'S *Textbook of Infection, Immunity, and Biologic Therapy*,† the first edition of which appeared in 1915 (JOURNAL, 1915, ii, p 328) and the second in 1917 (ibid, 1919, ii, p 76), has been considerably enlarged and in great part rewritten In the title the words "biologic therapy" have been substituted for "specific therapy" because more space has been devoted to vaccine and serum therapy and the treatment of disease with non specific protein substances The subject of chemotherapy, to which the author is devoting a monograph, has been omitted from the present edition Among the new matter we find chapters on the principles of active immunization, prophylactic active immunization in diseases of human beings and the lower animals, principles of passive immunization, and the principles of non specific protein therapy, the biologic therapy of tuberculosis, and blood transfusion References to the literature are given at the foot of each page The reader will find ample information on such novel subjects as the Twort d'Herelle phenomenon, cutaneous tests for allergies to pollens, foods, and other substances, Wildbolz's auto urine reaction, the treatment of hay fever, asthma, and food allergies by desensitization, the use of convalescent serum in the prophylaxis and treatment of certain infectious diseases, and the principles of non specific protein therapy

† *A Practical Textbook of Infection Immunity, and Biologic Therapy, with special reference to Immunologic Technic* By John A Kolmer M D, Dr P H D Sc (Hon) Third edition. With an introduction by A J Smith M D Sc D, LL.D Philadelphia and London W B Saunders Co 1924 (Roy 8vo, pp xvii + 1210 202 figures, 51 in colours 60s net)

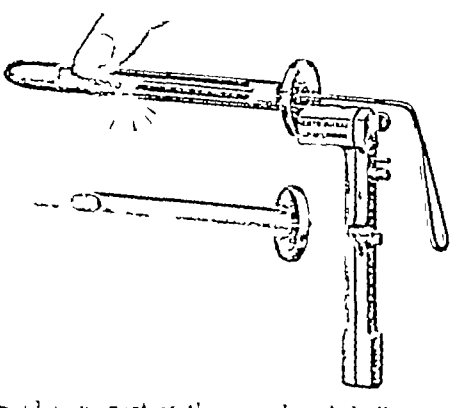
PREPARATIONS AND APPLIANCES

Atoquinol

ATOQUINOL "Ciba" brand is a synthetic drug prepared by the Society of Chemical Industry in Basle, and supplied in this country by the Clayton Aniline Company, Ltd, 68½, Upper Thames Street, E C 4, who also supply Elbon noticed last week (p 1009) The drug is the allyl ester of phenyl cinchonimic acid, the latter substance is better known under the proprietary name "Atophan" The replacement of methyl or ethyl radicles by the allyl group is known in certain cases to enhance the therapeutic activity of synthetic drugs Atoquinol is recommended for use in uric arthritis, gout, dermatoses of arthritic origin, and in other allied conditions The dose recommended is up to 15 grains a day Clinical investigations have shown that atoquinol increases the excretion of uric acid and produces benefit in cases of gout Atoquinol is insoluble in water but is freely soluble in lipoid solvents, and an ointment is supplied containing 20 per cent of the drug for cutaneous administration

Fenestrated Urethroscope Cannula

Dr H D L SPENCE (London) writes The cannula is shown attached to a Luys handle, but is adaptable to most internally illuminated urethroscopes It was designed for dealing with subepithelial cysts in the penile urethra associated with some degree of hard infiltration Such cysts are readily palpated but when of moderate size may give no exact indication of their position when inspected intra urethrally It is by no means uncommon to find, after bringing the end of the endoscopic tube into apparently correct position and incising freely, that considerable haemorrhage results but the cyst has escaped Using a fenestrated tube of suitable length the cyst is pressed through the lateral window, and any departure from this position is immediately notified by its reappearance on



an adjacent part of the cannula A Kollmann knife may then be passed through the intruding tissue with reasonable assurance that there will be minimal damage and the incision will not be unnecessarily deep A pledget of cotton is at once introduced to the site of the incision which has now a clear field The edges of the wound are then pulled forward out of the way by the cotton and so facilitate cleaning there is a small hook at the end of the cannula The latter was made for the Genito-Urinary Manufacturing Co, Ltd, 64, Great [illegible] W.1.

The British Medical Association

ITS CONSTITUTION AND GOVERNMENT.

AN HISTORICAL SURVEY

BY

JOHN C McVAIL, M D, LL D, F R F P S

(*Continued from page 1012*)

II.—RIVAL POLICIES AND SCHEMES

1896-1898 A FIASCO

IN 1896, preliminary to the Annual Meeting at Carlisle, an Extraordinary General Meeting was held at Birmingham, the subject again being constitution and government At Carlisle Sir Willoughby Wade moved a resolution for the repeal of certain by-laws and the adoption of a new by-law of which the objects were the appointment of a Committee of Council of 11 members, the filling up of death vacancies and other vacancies by the Council, monthly meetings of the Committee of Council, and the handing over to that Committee of the work hitherto performed by the Journal and Finance Committees The resolution was seconded by Dr Ward Cousins Mr Lawson Tait thought this proposal insufficient, and after discussion it was resolved (Sir Willoughby Wade having meantime withdrawn his motion)

"That the question of an alteration in the government and executive of the British Medical Association be referred to a special committee to be appointed by the Council"

A Constitution Committee thus appointed recommended (BRITISH MEDICAL JOURNAL, vol ii, 1897, p 146) that unattached members should have a right to vote at the elections of representatives upon the Council, that the cost of these elections should be paid from the general funds of the Association, that Council reports should be submitted in the first instance to the Branches, that the Council should appoint an Executive Committee of ten members with the President of Council and Treasurer to meet at least once a month and to "have complete control over the affairs of the Association and over its officials, and over the conduct of the JOURNAL, and should report to the Council at each quarterly meeting" An honorarium of three guineas was to be paid to each member for complete attendance at each meeting

The Council refused to send this report to the Branches, but the President of Council stated to an Extraordinary General Meeting on July 27th, 1897 (BRITISH MEDICAL JOURNAL, vol ii, 1897, p 302), that he felt it should come before the Annual Meeting The Council agreed, and it appeared as an appendix to the report

The Annual General Meeting was held on the same day as the Extraordinary Meeting The report of the Constitution Committee was neither adopted nor rejected, but was referred back to the Council to consult the Branches and to reappoint the Committee—or those of it who would attend regularly Dr Ward Cousins (p 309) said that at the Liverpool meeting with 2,000 members present, after a two days' debate, "the representative system was adopted," and "was established in 1885" This proposed committee of twelve "would paralyse the Council," he held The Constitution Committee, somewhat altered in membership, sent a copy of its report to the Branches (which the Council had declined to do) and asked for their opinions Only eighteen Branches replied, and only one of the eighteen approved of the Committee's first recommendation—namely, that unattached members should have votes for Branch representatives to the Council Nine disapproved and only two approved of the Association funds bearing the election expenses The appointment of an Executive Committee by the Council was approved by five Branches and disapproved by six The other points were of less moment and need not be detailed, but on considering the replies the Committee advised that, in view of the little interest shown by the Branches, and of the opposition manifested to any change in the existing constitution, the Council should take no further action in the matter At the General Meeting at

the Edinburgh congress in 1898 the Committee's recommendation was adopted and the subject dropped The movement, therefore, initiated at Birmingham in 1896 proved a failure, in fact a fiasco It seemed to show that the Branches, even appointed on a representative basis, were not sufficiently interested in matters which were of first importance to the rank and file of the profession to give the proposals of the Committee the consideration they deserved In the development of the constitution, however, that was the darkness before the dawn

THE MANCHESTER CONFERENCE, 1900

In 1899, the Medical Guild, Manchester, set about promoting a conference of delegates from societies and associations of general practitioners throughout the country Evidently the Guild was a body representative of the more active and reforming general practitioners of the teeming industrial population of Lancashire The objects of the conference were (1) to promote greater adhesion and better organization amongst the general practitioners of the country, (2) to afford opportunities of meeting and discussing together all matters affecting their welfare, and in this way bringing their views to a focus, (3) by giving publicity to their views, to influence public opinion in their favour and so uphold and improve the status of the profession, and (4) to provide machinery whereby the advantages of an annual conference may be secured to the profession

The secretary to the Conference Committee was Dr Samuel Crawshaw, Ashton under-Lyne One of his first difficulties had been to ascertain what local medical societies existed, so that they might be informed of the conference A circular was widely issued, and its main points, as above indicated, were reported in the BRITISH MEDICAL JOURNAL (September 16th, 1899, p 735) This elicited a letter the following week from Dr Brassey Brierley, who complimented Dr Crawshaw on his activity, but advised that as nearly all Guild members were also members of the British Medical Association the battle should be fought within the Association Dr Crawshaw, however, urged that the Guild's conference would be speedier and more likely of success (October 14th, 1899, p 1043) Looking to the collapse of the effort begun at Birmingham in 1896, and abandoned at Edinburgh in 1898, Dr Crawshaw's pessimism is not surprising Thirty-five medical societies, six Branches of the British Medical Association, and also the Council of the Association were reported at the time to be represented at the Conference at Manchester, but a later statement by Dr Wolstenholme at the Ipswich Meeting (BRITISH MEDICAL JOURNAL, 1900, vol ii, p 321) was that fifty-four delegates represented fifty four medical bodies, including seven Branches of the Association, as well as representatives of the Council The Conference extended over the first three days of May, 1900

The first speaker called on by the chairman (Mr Wright Manchester) was Mr Victor Horsley and this brings into the story a man who henceforth played a great part in it He criticized the British Medical Association and the General Medical Council, and urged amendment of the Medical Acts Immediately following Mr Horsley's paper the question which had been mooted in Dr Brassey Brierley's letter was interposed Dr Smith Whitaker of Yarmouth supported Dr Crawshaw in thinking that they should proceed independently of the Association, no doubt because of the failure of 1896-98 Dr Alfred Cox of Gateshead took the opposite side very strongly, but the discussion was not completed at the moment and questions referred to by Mr Horsley were taken up again Resolutions were carried for amendment of the Medical Acts in respect of illicit practice death certification, direct representation on the General Medical Council, also for a higher standard of preliminary education, against giving legal status to midwives, but requiring careful regulation of registration of midwives were granted, against abuse of hospital and other medical charities, and in favour of a minimum rate of five shillings per healthy member per annum in club practice subject to an income limit

Medical organization was the principal subject on May 3rd, the last day of the meetings The discussion was by far the most important part of the Conference, and the resolution passed was the direct forerunner of the policy subsequently adopted by the British Medical Association Some account of it must therefore be given here The debate was opened by Dr E Jepson of Durham, who pointed out the evils which the profession suffered through want of cohesion and mutual help, and through suspicions which would be dissipated by friendly local meetings He thought the British Medical Association would do a good work in assisting financially in the organization of the profession throughout the country Dr Crawshaw followed, and proposed certain resolutions He said the main object was to point out to the profession the value of delegation, and to make annual such a conference as they were then holding The resolutions which he moved were slightly altered in the course of discussion and were ultimately carried in the following form (BRITISH MEDICAL JOURNAL, May 12th, 1900, p 1169)

> That in the opinion of this Conference no scheme of medical organization can be considered satisfactory unless it provides the following machinery
>
> (1) Local or district associations formed wholly or partly for the discussion of medico-ethical or medico-political topics to which every registered practitioner willing to conform to the rules shall have the right to belong such associations to be formed for this purpose where not already existing
>
> (2) An annual conference of delegates from these associations at which conference only medico-ethical and medico-political topics shall be discussed and voted for
>
> (3) A central Executive Committee which shall be nominated and elected by the local associations for three years one-third to retire annually and to be ineligible for re-election for one year

It will be observed how closely this scheme approximates in principle to that of the British Medical Association as now constituted

But the resolutions made no reference to the Association They were quite independent of it That was immediately pointed out by Dr Cox He declared that a multiplicity of associations was bad The British Medical Association was the proper body, *as its essential object was to maintain* the "interests and dignity of the profession" It had existed for sixty years and had attained a position of importance which ought not to be thrown away If possible no new body should be formed but the old one should be reformed This was to be done by all members using their lawful power as members If the Branches were properly organized the Council of the Association might be changed Dr Cox's vigorous speech elicited both opposition and support Dr Smith Whitaker wished for a new organization formed of delegates of local societies Dr Brown Ritchie (Manchester) thought the difficulty of reforming the Association was not so great as supposed Districts might be made within large Branches and by their means command might be acquired over the Council of the Branch Dr Anderson (London) supported Dr Cox In the end Dr Cox's resolutions giving effect to his views were carried by a large majority As before the resolutions were slightly altered in the course of debate They were adopted in the following form

> That this Conference is of opinion
>
> (1) That the present need in medical organization is concentration
>
> (2) That the multiplication of associations other than those purely local is to be deprecated
>
> (3) That the size position and wealth of the British Medical Association make it the most suitable national medical organization and
>
> (4) That the efforts of all medico-ethical and similar associations and of the Conference should be directed to the conversion of the British Medical Association into an energetic body really representative of the majority of the members of the profession

This was the outstanding result of the Conference and its further proceedings need not be recounted but we shall see how completely its essential objects were ultimately attained

THE COUNCIL'S SCHEME 1900

Meantime while reform in medical organization was being discussed outside the Association its Council was considering and preparing to deal with the problem on its own lines It recognized that the Association had outgrown the

articles and by-laws adopted in 1874 Some of these had been altered and added to from time to time Many were repetitions the one of the other, and the whole body of regulations had become so complicated that constant reference had to be made from one to another to ascertain which the Association was to follow The articles largely dated back to and repeated the regulations which had governed the Association in the voluntary days, prior to its incorporation The changes made in 1883 had been by means of by-laws which were easier to pass than articles under the Joint Stock Acts, but the time had come when the great growth of the Association, not only in the United Kingdom but in the Colonies, had forced on the Council the necessity for a new departure Even in 1874 the object had evidently been to prevent the whole work and administration being upset by a chance vote of a general meeting at which the attendance might be preposterously small in relation to the membership of the Association The election of the Council had been in the hands of such meetings, and the policy of 1874 was to have it in great measure composed of representatives of Branches But this reform was brought about merely by the passing of by-laws which could be abrogated or changed under the Companies Act by annual meetings With the same capricious power, though theoretically controlled by proxy voting Now, in 1900, it was felt that new articles of association should be obtained, yielding a more stable constitution

The proposed articles centred round the composition and powers of the Council Taking the powers first, Article 35 was to be as follows (BRITISH MEDICAL JOURNAL, July 7th, 1900, pp 54-56)

The management and control of the business and affairs of the Association, including the disposition of its funds, shall be vested in the Council who shall in addition to the powers and authorities by these presents expressly conferred upon them, exercise all such powers and do all such acts and things as may be exercised or done by the Association and are not hereby or by statute expressly directed or required to be exercised or done by the Association in general meeting subject nevertheless to the regulations in these articles contained and to the provisions of the statutes and to any by laws being not inconsistent with the aforesaid regulations and provisions which may be prescribed by the Association in general meeting but no by law made by the Association in general meeting shall (a) invalidate any prior act of the Council which would have been valid if such by law had not been made, or (b) direct the expenditure of any of the funds of the Association"

Next, as to the composition of the Council, it was to be partly *ex officio* and partly elected by the Branches The *ex officio* members were to consist of the President, the President of the Council, the Treasurer, the Vice-Presidents of the Association, Presidents of the Association, Presidents of the Branches and Treasurers—their number might be about a hundred The elected members would probably be three or four over that figure The elected members would be one for each Branch, and every Branch with over 200 members would have an additional representative for each additional 200 The total Branches at that time were 66, their total representatives would be about 76 so that Council would be a body of about 100 members the *ex officio* part of them corresponding broadly to aldermen in English municipal government These had, however, to be annually elected to the offices which led to their membership

The Council therefore regarded itself as a genuinely representative body well qualified to manage the affairs of the Association if only it could be freed from the risks attaching to the Annual General Meeting with its meagre and casual attendance varying year by year according to the place in which the meeting chanced to be held—from Port Talbot in the south to Aberdeen in the north and from Ipswich in the east to Bristol (not to speak of Dublin) in the west

It will be observed that in this scheme there was no provision for the direct representation of meetings of members throughout the country corresponding to the Manchester Conference or for any corresponding representation of small groups or members who could attend such meetings The local unit was still to be the Branch which usually covered an extensive area or country and in some cases had a membership of one or two thousands The time needed to attend a Branch meeting was often more than a busy man could afford, especially a young man building up a practice, and keen to be always within easy call Also, the subjects discussed at the Branch meetings were mainly clinical or scientific, and the men who attended would consist largely of those who had already made good Medical politics and medical ethics, questions of contract practice, abuse of hospital charities, the conditions of Poor Law medical service, and other such matters, would not bulk so prominently as in gatherings of a dozen or a score of men working in a single town and its immediate neighbourhood It is doubtful, indeed, whether the members of Council throughout the United Kingdom realized the strength of feeling behind the Manchester movement, even if they had read in the JOURNAL the account of that three days' conference And if they did realize it, some of the older men would perhaps be doubtful of any policy of extending widely the activities of the Association outside the dignified sphere of medical science But the scope of the Association had already included "the maintenance of the honour and interests of the medical profession," and the reformers had good ground for holding that that object had not been sufficiently kept in view

The Extraordinary General Meeting called to deal with the Council's scheme was held in Exeter Hall (the site of which is now occupied by the Strand Palace Hotel) on July 18th, 1900 The President, Dr J Ward Cousins (Portsmouth), was in the chair, and there was an attendance of about 270 members, names being registered on entering the hall At the beginning of the meeting some prejudice was created by the reply to a question asked by a member who had given notice of various amendments The reply from the chair was that counsel had advised that no amendments could be proposed to the resolution of the Council which he was about to move, the resolution must either be accepted or rejected as it stood This, in law, was the only course that could be followed in the circumstances, and it had to be adopted, as we shall see, when the results of the labours of the Constitution Committee came before another Extraordinary General Meeting It had not, however, been understood beforehand, and the announcement created resentment on the part of many present It had the incidental advantage of making the meeting a brief one

The President moved the approval of the draft new regulations Their object was to give stability to the Association, and to bring about a closer contact with all the Branches New articles were necessary because of apparent discrepancies The representative principle had been adopted in 1883, and the purposes of the Council were broadly liberal One of the objects of the new articles was to prevent twenty-five gentlemen at the Annual Meeting from revolutionizing the Association, but otherwise the powers and duties of that meeting would be practically the same as in the preceding twenty-five years Dr Roberts Thomson (Bournemouth), in seconding the resolution, emphasized the same point as to the dangers of the Annual Meeting, and said the object of the new articles was to throw all the work back on the Branches Thus the representatives of the Branches would advise the Council, which would carry out the wishes of the Association If, however, the new articles failed they could be swept away a year afterwards But the Council's scheme met with no support from any subsequent speaker Mr Victor Horsley attacked the President and the Council and the proposed articles The Association was in need of reorganization, and the subject should be discussed at the Annual Meeting at Ipswich Dr Brown Ritchie also disapproved the Council's proposals, which absolutely ignored the Association's 40 per cent of unattached members, whose only chance was at the Annual Meeting Dr F Pope (Leicester) moved that the question be put This was seconded and carried The President then put the original resolution for the adoption of the new articles, which on a show of hands was declared to be lost, and the proceedings terminated This was the end of the Council's scheme

(To be continued)

A REVIEW OF MEDICAL EDUCATION IN SOVIET RUSSIA.

BY

W HORSLEY GANTT, B Sc, M D,

FORMERLY CHIEF OF THE MEDICAL SECTION OF THE AMERICAN RELIEF ADMINISTRATION PETROGRAD UNIT

ANY discussion of Russian institutions is unintelligible except in the light of what has happened there since 1914 under enormous forces of war, revolution, famine, and disease As Russia has been partly isolated for ten years from most other nations, I shall undertake a brief survey of conditions and of general education there before passing on to the details of medical education The observations and facts are based on a year's work in Soviet Russia with the native medical profession under the American Relief Administration Contacts were made with all sorts of the medical profession from the Caspian to the White Seas, and with medical schools in many parts of Russia

There is no conscious political tendency or bias in the mind of the writer In view of the complex conditions which have long existed in Russia's history, and of the comparatively short time which has elapsed since the revolution and its combination with other gigantic forces I make no attempt to ascribe praise or blame for the result of these forces, or to place responsibility for them on any party or parties

REVIEW OF CONDITIONS

It is remarkable that the medical universities have continued to function as well as they have when we review the conditions These have not been normal for ten years At the beginning of the world war in 1914 the medical universities in Russia were well equipped and received all that they needed, although the number of students handled was not sufficient for Russia's needs Many of them were heavily endowed by private benefactors Medical education was, moreover, specially favoured by the Czarist regime and thus it fared well Members of the royal family frequently made endowments to the medical institutions, for example, the Leningrad Obstetrical Hospital, which was erected by the last Czarina at a cost of over a million pounds, is one of the finest hospitals of its kind in the world

1914-1920

From 1914 on the schools received progressively less in funds and materials, so that by 1917 they were getting about half of the pre-war funds and practically no medicaments or equipment except that little manufactured within Russia The conditions of the hospitals and of the personnel were, however, not precarious, there was food, fuel, and a surplus in some things Then came the upheaval of two revolutions, followed by four years of widespread famine and decimating epidemics, during which time the Great Experiment of Communism was applied to the schools as well as to the individual During these years there were almost no funds, materials, or any kind of medical supplies, no repairs to the buildings, and only a pitiful amount of fuel or food, and earnings were made impossible because all trading was abolished by law and punished by imprisonment Besides the schools, practically all members of the personnel suffered The question of bare existence from day to day, due entirely to general economic conditions, of getting what was necessary to hold body and soul together, was the one thought uppermost in everyone's mind Distinguished professors spent part of their time in squads shovelling snow, standing in line for their rations of black bread and potatoes and herring, and hurrying by foot from one post of duty to another, and in the time left performing their special duties

1921—N.E.P Relief

In the latter part of 1921 relief organizations came into Russia, and the New Economic Policy ("N E.P") of the Soviet Government supplanted Communism Neither of these factors helped the schools much The relief gave millions of Russians a meagre ration, and kept the hospitals going, it offered no substantial direct aid to the schools. The N E.P was not the same help to the hospitals and schools that it was to business and the individual, as all the schools are controlled and financed by the Government For 1922 and 1923 they have received, however, an increasingly larger amount from the Government, and a few new materials, and some of the most necessary repairs have been undertaken.

PRESENT CONDITIONS

Russia is still impoverished in every department, nearly all supplies are exhausted, and she is just beginning to trade with the outside world As her manufactured goods were imported, the supplies of these have been depleted and not replaced A return to normal material conditions has been impossible in the two and a half years during which improvement has slowly taken place, and it is incredible that these conditions, which became rapidly worse for seven years, can be restored to their former state of materialistic prosperity in less than many years Destruction is swifter than reconstruction, even when the latter takes place under the most favourable conditions

In view of the enormous amount of propaganda both for and against the Soviet Government, and the resulting lack of understanding of the conditions in Russia, it seems important to emphasize the influences operating there We must remember the following things

1. Russia was largely an agricultural country which obtained its principal manufactured goods by selling foodstuffs to Europe and buying chiefly from Germany

2. From 1914 to 1917 Russia probably lost more men and materials in the world war than any other participant in this time, and she was in worse condition then than any other of the warring nations at the end of the war She was thoroughly defeated even at this time, before her real internal war began.

3 In 1917 there were two revolutions, and the second revolution took place not only in Moscow and Leningrad but in every town and village, involving wholesale destruction of property and life and obliteration of many institutions.

4 In 1918 and 1919 Russia was not only fighting a civil war between Whites and Reds, but nearly all the people were mobilized and fighting either with or against all the Allied troops that could be sent into her territory through Archangel, Vladivostok and Odessa.

5 When finally the smoke of battle died down in 1919 it was followed by epidemics of typhus small pox, and cholera, involving about 25 000 000 of the 130 000,000 people in Russia

6 The years 1920, 1921, and 1922 were famine years caused mainly by drought, and resulting in acute food shortage to 60 000 000 people at one time 11 000,000 people were being fed by relief from other nations principally England and America.

7 The total amount of relief sent into Russia (chiefly through the American Relief Administration British Save the Children Fund, operating largely under the Nansen Mission Society of Friends, and the German French and Swedish Red Cross Societies) amounted to about £30 000 000 nine-tenths of which was spent for food, and one tenth for medicine hospital supplies and clothing—an average of about 5s. per inhabitant

8. The principle of Communism was applied in its strictest form to every person and every institution in 1918 1919 1920, and 1921 when it was modified and substituted by the New Economic Policy or N E.P

9 These revolutions were accompanied by numbers of exiles, imprisonments and executions, which might be expected when one extreme faction is replaced by another under arms in a feudal and semi Asiatic country in which the seeds of revolution have been sprouting for nearly a century

10 Russia has just begun on the long and tedious way toward materialistic reconstruction.

The sum-total effect of these long years of war, revolution, famine, and disease has been obliteration of nearly every custom form of society, and institution that existed under the old regime But life pushes, and out of all this a regeneration has slowly begun, astonishingly rapid in some directions and painfully slow in others

General Education in Russia

The effect of the new regime on general education has been to destroy or wholly modify the former schools in which a few were well educated and the mass of the population entirely uneducated and to institute a system wherein millions are given at least elementary instruction Communism and Marxism are underlying principles of all the present instruction and are taught to children as soon as they begin to learn history The primary purpose is to remove the old illiteracy of Russia as fast as possible, and

also to train each individual in Marxism so that he can be counted on to be useful to the Soviet Government Thus a new regime, constructed partly out of Russian illiteracy and nurtured in Marxism, may grow up to become the Communist party of the future

The amount of total illiteracy has already been reduced by about 10 per cent under the Soviet regime, but there are still 65,000,000 people in Russia unable to read or write The difficulty of educating these inert masses is evident when we consider the financial and intellectual means at hand to carry on education, and the fact that probably half of the intelligentsia have left Russia

Instruction of the children is simplified by the fact that a majority of children over 5 are cared for in children's homes, where they receive some sort of teaching daily The discipline of children, and even the government of the school, is left mostly to the pupils themselves, who are organized on the basis of independent soviets (governing committees) The pupils may even vote to expel one of their members for some misdemeanour, and their decision is final These schools lack the atmosphere of rigid discipline of the usual primary and secondary schools in other countries In a classroom the pupils are moving about freely, or gathered in groups for discussion A free and easy relation exists between teachers and pupils and between boys and girls, and there is no strict separation of the sexes Such a state of affairs in an American school would at once result in play and disorder, but it does not seem to do so, at least in the classroom, with these Russian youngsters They look as serious as a group of collegians

Those who oppose the Soviet Government point to the increase of immorality amongst school children and the supplanting of orthodox religious instruction by the teaching of Communism, the preference given to Communist students, the chaotic condition of the higher schools, and the failure of the soviets to accomplish all that they planned in education, while the supporters of the present Government lay the responsibility of its failures on general economic conditions and ignorance of the peasant, and they point to the decrease in illiteracy and the increased opportunity given to the masses They say that political control is necessary to create order and to prevent a counter revolution But no matter how serious have been the mistakes of the present regime, they have at least made sincere efforts than were made before to educate the masses

Thus we see that general education of the masses has just started with the advent of the Soviet Government Although it is as yet grossly inefficient and conducted on Communistic principles, it is removing some of the Russian illiteracy The masses who received no education before the revolution, now get some sort of education, and the intelligentsia, who were highly educated before the revolution are now able to get only a broken and uncertain schooling on a par with the general masses

MEDICAL EDUCATION

As medical education is a technical training based on scientific principles which have nothing to do with politics, it has changed very little in its fundamentals in the past few years compared to the other schools The chief changes that have occurred have been due to lack of funds for equipment personnel and upkeep Personal privations and emergency conditions have been well endured, and have not interfered with the work of the medical schools as much as one would expect and all the medical schools have survived the worst period

Instruction in Communism and some attempt at Soviet control has been introduced into the medical schools of Russia During the period from 1918 to 1921, when a strict application of Communistic principles was made to the medical schools were also sovietized At present the residual changes are

1 Lack of preparation in the number of students
2 Lack of preparation in the percentage of women and of workmen students
3 Lack of funds
4 Political control of the school by a Central Soviet Committee in Moscow
5 Lack of repair of buildings and equipment through exhaustion and consequent results lowering of efficiency of teaching in some branches, there has been some growth in other lines, particularly in public health instruction The schools were nearly completely paralysed from 1917 to 1920, but made a remarkable partial recovery during 1922 and 1923, and they are being gradually restored to their former condition

Owing to the loss of Finland, Poland, and the Baltic States the medical universities at Helsingfors, Warsaw, and Dorpat are no longer Russian There remain functioning medical schools in Russia in the following cities Leningrad (3), Moscow (2), Kiev, Odessa, Kazan, Saratov, Khárkov (1805), Ekaterinoslav (1915), Perm (1917) A new school has recently been opened at Krasnodar The Russian medical faculties from Warsaw and Dorpat have been transferred to Rostov-on-Don and Voronej The proportion of doctors in Russia is 1 to 5,800 population, and roughly one-tenth of these doctors are women About one-third of the medical profession succumbed during the recent famine and epidemics The proportion of doctors in the United States is 1 to 800, and in Great Britain about 1 to 1,400

DETAILS OF MEDICAL EDUCATION

We may now specifically examine the state of medical education as it existed at the end of the 1922-23 session in regard to (1) Selection and number of students, (2) courses and degrees, (3) selection and control of faculty, (4) expenses of students, (5) budgets of schools, (6) improvements

The authority for most of these details is a confidential report from a Russian doctor who has been dean for many years of one of the largest medical schools in Russia

During 1918, 1919, and 1920 the medical schools were overcrowded with unprepared students The principle of "everything for everybody" counted to some extent in the schools It was during this period that one did not require a ticket to ride on the tramways, with the result that the tramways could not run because of the riders, and no one rode

In pre-war times women had access only to special schools, the chief of which was the Women's Medical Institution in Leningrad They were always admitted by examination Men were admitted also by examination, unless they had received a certificate of graduation from a recognized gymnasium Since the war the requirements have been changed, so that now, for both sexes, an attest is necessary from the secondary schools, which have replaced the former gymnasiums and professional schools A professor of pharmacology in Leningrad says

'During the revolution the attempt was made to accept as students even such people who had not passed through a grammar school, after a very superficial examination This attempt resulted in unprepared students although this did not lead to as sad results as one might have expected, for the unprepared students proved unable to pass the examinations required by the medical school in order to be transferred from class to class, and after a year or two a majority of them left the school It should be noted, however, that the overfilling of schools with students had a bad influence on the teaching At the present time, besides ordinary schools students are supplied to the medical schools also by the so-called 'rabfaki'—that is, courses for workmen, whose special aim is to prepare workmen for entering high schools Although the general culture of people graduating from workmen's courses is not high, the preparation mostly proves satisfactory

'Due to the fact that already in pre revolution times, and more especially during the last years, the Leningrad schools were unable to accept all those desirous of instruction it was necessary every year to make a certain selection among the candidates to be admitted In pre revolution times this was done by means of a comparison of attests, those being admitted who had the best papers It should be mentioned that there existed restrictions in regard to the Jews At the present time special commissions attend to the admittance of students and, in compliance with the existing official rules preference is given to members of the Communists' party, persons having attended workmen courses, and people commandeered by professional unions, persons belonging to the workmen peasants' class, etc These methods of admittance account for the marked change in the class elements among the students—for instance those of the Military Medical Academy, as shown in the table below The ages of the students at entrance varies between 16 and 35, but most of them are 17 to 18 years old when entering"

Number of Students

Although there has been a shortage of doctors in Russia, the Government has probably been a little too enthusiastic about the capacity of the medical schools to supply all at once this deficit More finances, equipment, and teachers are needed thoroughly to instruct the increased numbers which they are called upon to care for

This letting down of the bars has resulted in an overcrowding of the medical schools which can be seen from the following tables of comparison The schools were compelled to take three or four times as many students at a time when they had less than a quarter of the income and equipment for a normal number of students But "it is an ill wind that blows nobody good," and this overcrowding has had the beneficial effect of stimulating interest in public health questions, and of giving some practical medical education to many who, though they cannot qualify as doctors, can take minor positions as "felchers"

The following table gives an idea of how the number of students, as well as their social class elements, have changed at the Military Medical Academy of Leningrad, formerly the Imperial Medical Academy

Table showing Number of Students and their Social Class (1913-22)

	1913-17	1918.	1919	1920	1921.	1922.
Freshmen	321	486	1 3.6	829	1,054	671
Total number	900	1,257	2 103	1,682	1,875	1 715
Percentage from workmen and peasants class	19	30	52	62	84	93

Graduates

There graduated at the Academy in 1913 160, in 1914 130, in 1915, 1916, and 1917 there were no graduations, in 1918, 72, in 1919, 108, in 1920, 63, in 1921, 48, and in 1922, 52

The Leningrad Medical Institute formerly the Women's Medical Institute, was founded in 1897

When inaugurated the institute was calculated for 1.500 students with a yearly acceptance of 200 to £50 Owing however to the enormous mass of those desirous to enter the institute for study this number increased after the revolution and exceeded 1 000 persons a year and in 1919 the total number of those accepted reached 3 635 At the present time it has been again decided to reduce the admissions for the Government has convinced itself that the Commissions of Professors were right in asserting that the school cannot successfully handle so large a number of students An idea of the number of students accepted during the various years since its foundation as well as of the number of graduates and students working at the institute may be gathered from the following table

Year	Students.	Graduates.	Year	Students.	Graduates.
1914	1 149	282	1919 ..	3 635 ..	37
1915	1 594	65	1920	1 833	25
1916 ..	1 720	176	1921	2 320	103
1917	2 065	80	1922	2 481	136
1918	3 287	75			

The number of students and graduates from the State Institute of Medical Science is shown in the following tables

Students

1910-11	310	1917 18	1 480
1911 12	456	1918-19	1 503
1912 13	783	1919-20	1 511
1913-14	1 014	1920-21	1,163
1914-15	1 135	1921 22 ..	1 279
1915-16	1 297	1922 23	2 170
1916-17	1,378		

Graduates

	Men.	Women		Men.	Women.
1916	6	22	1919 (Dec.)	26	8
1917	27	54	1921	47	33
1918	40	37	1922	22	32
1919 (July)	22	21	Total	190	207

The University of Saratov, which is one of the smaller medical schools, cared for 400 to 500 medical students before the war, in 1922-23 it had about 2 000 medical students enrolled The ratio in the other schools outside of Leningrad has been practically the same as in the University of Saratov—for example, in the University of Odessa Medical School there were in 1914 nearly 1,000 students, in 1917 1,500, in 1921, 3,500, and after 1921 there was a slight decrease again

Courses

The regular duration of the studies at the medical schools in Russia is five years The first two years are occupied with chemistry, physics, biology, anatomy histology, physiology and physiological chemistry, with laboratory and practical work in each The fourth and fifth years are devoted to clinical work I am informed that although the programme of the medical schools has been carefully revised after the revolution, it has in the main part kept up its former character But by order of the Central Soviet authorities the study of social hygiene history of materialism, and political organization of the R.S.F.S.P.* has been made obligatory for the students

The work of the students is controlled by practical tests and by examinations held at the end of the second year State examinations before government commissions formerly were in vogue before the applicant was permitted to practise, these were minimized during the war and abolished in the revolution, the schools being entitled to issue diplomas for the right of practising to all those who went through courses Now State examinations are re-established It is planned in the near future to compel the students to spend a year in a hospital not connected with the schools before practising

Doctor's Degree

Physicians desirous of devoting themselves to scientific careers and of getting positions of teachers were first to proceed to the degree of doctor of medicine in pre revolution times Since the revolution all scientific grades and titles, including that of doctor of medicine, have been officially abolished However, even now schools are enabling those who are desirous of it to pass through examinations on a series of sciences closely connected with the specialty selected by the applicant Those passing through such examinations are then expected to write a scientific work of the same kind as the former dissertations, after which they get from the school documents certifying to their scientific qualifications Such qualifications are required from candidates to the posts of senior teachers The former system, therefore, has been maintained in its essential points

Selection and Control of Professoriate

Of special significance for the schools is the method of selecting professors In pre revolution times this selection was carried out by the collegium of professors, after which the candidate nominated was sanctioned by the Minister Cases of disapproval by the Minister were very rare Now the selection of professors is effected by central authorities through the medium of the State Scientific Council in Moscow, to whom each school collegium (which besides professors and teachers includes also students) merely submits its candidates

Medical education is under M Lunacharsky an efficient and ardent Communist who is at the head of all Russian education The State Scientific Council in Moscow and the local school collegium which are the governing bodies of the schools, have a majority of their members from the Communist party, whether professors or students In this way a unified control emanating from the Kremlin in Moscow is exerted over all education in Russia This local school collegium which is subservient to the Central Committee, is an illustration of government by a soviet

The rector of the university is appointed by the Soviet Government and the rector in turn appoints the dean The committee which has to do with the selection of professors and all university appointments is composed of three members—one from the Political Commissar one from the Narkomzdrav (Public Health Office) and the third from the organization of students (Communist)

Thus the control is nominally in the hands of the Communists However the nominal control does not make so much difference as one would expect The majority of rectors and deans though appointed by the soviets are those who formerly held these positions I have never known of an efficient man ejected unless he were suspected of being counter-revolutionary The chief professors and officials have rarely been changed from positions they held before the revolution The assistants were sometimes shifted so that in the words of a professor of physiology from the University of Odessa "sometimes a professor gets an assistant whom he does not want and must take him because he is appointed by this committee"

This political control is probably not a harmful one as it would be in other countries and it has certain advantages It tend to preserve order and prevent discussions and

* R.S.F.S.R.=Russian Socialistic Federative Soviet Republic

anarchy at a time when further squabbling would be suicidal, and strict discipline is necessary for rejuvenation The schools may owe more than they realize to this strict control

Finances of Medical Schools

The financial position of the schools can be readily judged from the preliminary review of the events which have taken place in Russia However, a few statements from a professor of medicine as to how the expenses of the students, the salaries of the faculty, and the budgets of the schools are met, may help to visualize the situation

In pre-revolutionary times the students of medical schools paid 50 gold roubles (£6) for each semester An exception to the rule was the Military Medical Academy, where a great majority of the students were enjoying subsidy from the War Department and therefore were freed from payment of fee Other schools, too, used to exempt the most needy among the students and there existed State and public and private funds, out of which subsidies were paid to a certain number of students They were distributed by the school administration, with participation of the students After the revolution payment of fees was abolished, but there was also discontinued payment of subsidies to the students (the bonds in which the subsidy funds were invested having been annulled by the Government), also there were closed the students' kitchens which were transformed into public kitchens for the population at large All that made the condition of the students very hard, the large majority of them owing to these changed conditions, were compelled to combine with their studies some work in order to earn their living

Now the conditions of studying (as well as of life in general) are notably improving although beginning with this (1923) year a fee is again required amounting to 200-500 roubles (£1 to £2 10s) for a semester Subsidies have been introduced again (in a much larger number than they existed before the revolution), but the subsidies nowadays are distributed according to special rules, preference being given in that distribution to those who are members of the Communists party, or belong to the workmen's and peasants' class There are also homes and kitchens being restored for some among the students

At the present time many students of the medical schools get food from the European Student Relief Committee Thanks to this assistance students who otherwise would have been compelled to quit studying altogether are enabled to continue their studies"

At the State Institution for Medical Science, of a total of 2,170 students, 700 received a subsidy for the year 1923

The European Student Relief Committee has been feeding from 8,000 to 31,000 students in Russia since 1921 British funds have been caring for the universities in Kazan, Saratov, Rostov, Novacherkask, Simferopol, and Kharkov, and American funds for Moscow, Leningrad, Kiev, Odessa, and Ekaterinoslav The work of this organization has been and continues a great stimulus to the life of the universities Of its influence Mr F T Colton says

Besides the material aid the act of practical sympathy at the hands of their fellow students and intellectuals in other lands has imparted new morale to the hard pressed higher educational forces of the nation thereby giving an impulse to the recovery and reconstruction of university life

The selection of students to eat in these kitchens has been made by a committee of nine—three each from the Relief Committee from the Student Body, and from the Communist party

Position of the Faculties

The maximum salary of a professor in the medical schools before 1914 was about £60 a month, and living in Russia was cheaper than in most other countries of Europe Then salaries dropped rapidly in 1915 and 1916, so that by 1917 they were barely equal to living expenses From 1917 to 1921 no salaries were paid in Russia, and everyone who performed some "useful production work" was issued a ration During these years the instructors therefore received rations depending on the number of positions they held A man who was able to hold a position in two institutions received two rations Rations were issued according to grade such as manual workers, Communists, heroic work etc

During the worst time in 1919 and 1920, the resources of the ration could possibly less than a pound of black bread and about half a pound of potatoes daily for the scientists With the institution of the New Economic Policy in 1921 salaries were again paid These started at about £1 (ten gold roubles) monthly and have gradually risen to about £2 10s as a maximum supplemented by a ration of flour barley and potatoes of about 1,500 calories daily and free treatment Dr Pavlov who, special worth has been recognized by the soviets, receives this amount The amount received is sufficient to support the recipient, but with no surplus for any books, comforts, or luxuries, and if there is a family the others must obtain some form of employment which will provide them also with the means to live The greatly reduced standard of living in Russia, the absence of all luxuries, and the cheapness of plain food make it even possible for two or three to live on this maximum salary The average salary is about half to two-thirds of this amount Although bare living is cheap, all luxuries and most comforts are much more expensive than in England or America Unfortunate has been the man who has not had either many valuables to sell or relief from abroad to tide him over these years

The budget of the Military Medical Academy in 1916 was 875,000 gold roubles and in February 1923, 24,000 gold roubles, or at a rate of 288,000 for the year (£28,000)

The Leningrad Medical Institute had 115 instructors in 1913, 119 in 1914, and 184 in 1923 The budget was 400,257 roubles, 377,599 roubles, and 33,484 roubles (gold) for these respective years

The State Institute of Medical Science, founded by the well known neurologist Professor Bechtereff, and existent formerly on private funds, received in gold 276,395 roubles, 222,444 roubles, and 33,592 roubles for 1913, 1914, and 1922 respectively

We have attempted to describe the conditions and forces at work in the medical schools rather than to evaluate their work It should be added, however, that if we consider these unfavourable conditions, the efficiency of the medical institutions has increased rather than diminished during the last few years

Conclusion

To conclude this account of medical education, we find that the schools have suffered from the general material conditions in Russia, and because of this they are far behind They have not benefited much from the changes which have helped general education at the expense of the higher schools—the preliminary instruction of the masses instead of the thorough education of the few Although apparently normal results are being attained, it is at great expense of human energy, with exhausted equipment and supplies, with a new type of student, without full control by the medical faculty, and altogether under conditions that even now are far from favourable

On the other hand, the schools have been kept alive in spite of material destitution While there has been no improvement in equipment, there have been adaptations and growth along certain lines Plans have been made for reorganization when the money is available The medical faculties have toiled ceaselessly for the survival of their institutions, and the Department of Education of Soviet Russia realizes the need of medical instruction to the life of Russia and the success of their government, and they will do all that they can to support them when they feel that they have a surplus of funds over and above what they require to strengthen and secure the present government In proportion to its financial ability, the Soviet control has made marked advances in public health education, especially in the care of mothers and children and in the prevention of venereal diseases There have been also sacrifices of "party principle" to efficiency

There is room for optimism in spite of the past chaos, the present overcrowding and lack of funds, and the subserviency to political control On the part of both students and faculty there is an increased sense of responsibility and seriousness Says a medical educator of Russia in a personal communication

"The medical schools of Russia were formerly well equipped and furnished the students with solid medical education, particularly on the theoretical side They also did intense scientific work

'The war and revolution placed the schools in a very difficult position, restricting to the minimum their financial resources The conditions became still harder because of the fact that after the revolution the number of students in high schools had been extremely increased The work of the students was further impeded by the lack of scientific preparedness of many of them and their lack of financial resources

At the present considerable improvement is noticeable in all those respects, and it may be confidently expected that the schools will get back to their former condition

This hope is based on the following facts (1) Scientific work did not discontinue at the schools even in the most unfavourable times, (2) the progressive increase of funds assigned to schools, (3) increase of the intensity of the students work"

British Medical Journal.

SATURDAY, JUNE 14TH, 1924

CONTROL OF CERTAIN NEW REMEDIES

SINCE we last referred here to the Therapeutic Substances Bill it has passed through Committee stage in the House of Lords, when certain amendments not affecting its principle were made it is now in the form in which it will be presented to the House of Commons, where we may wish it better luck than it had last year It raises no political or controversial question, and as the Government is, we believe fully convinced that legislation is necessary, it seems reasonable to expect that facilities will be given for its consideration by the Commons this session The British Medical Association first moved in the matter some four years ago, when it represented to the Ministry of Health that it was desirable to institute in this country a system of controlling the manufacture and importation of certain new classes of potent chemical and biological products such as then already existed in some other countries This was also the opinion of other bodies interested, including the Medical Research Council The Minister of Health (Dr Addison) appointed a departmental committee, and the recommendations it made were embodied in a bill which has now twice been approved by the House of Lords

That a new and special system of control has become necessary is striking proof of the advances recently made in therapeutics and pharmacology through the rapid development of bacteriology and the higher chemistry The supervision of the purity and potency of drugs supplied to the public is no new idea and for centuries the Royal College of Physicians of London was the chief authority in England It was given the right to inspect druggists' shops and stocks in London and it issued a pharmacopoeia, this was revised from time to time, became the standard in England, and had a considerable influence on the action taken in the other parts of the United Kingdom The Medical Act (1858), which created the General Medical Council imposed on it the duty of preparing the *British Pharmacopoeia*, and the activities of the Royal College in this respect came to an end When the last edition of the *Pharmacopoeia* (1914) was in preparation relatively little use was being made of the substances to which the new bill is intended to apply —namely vaccines, serums, toxins antitoxins, antigens pituitrin, insulin, and such synthetic substances as salvarsan and its congeners 'used for the specific treatment of infective disease Power is taken to add to this list any other substances the purity or potency of which cannot be adequately tested by chemical means The framers of the *British Pharmacopoeia* have hitherto depended on such means and it is the necessity of setting up standards and tests of special kinds that has led to the withdrawal of the control of these substances from the General Medical Council It will be represented on the advisory committee which will in effect be the body to determine the standards and to prescribe the tests, this committee will also contain representatives of the Medical Research Council of the Pharmaceutical Society and of the Institute of Chemistry, as well as of the Ministry of Health the Scottish Board of Health, and of the Home Minister of Northern Ireland

To prescribe a standard and the tests to be used for determining whether it has been attained is of the nature of research work and the Medical Research Council has done a good deal in this direction—in connexion with salvarsan and insulin for example The application of the tests to particular samples is routine work, and it would seem that some plan for carrying it out will have to be devised The manufacturer of any of the substances of the classes enumerated will be required to take out a licence and his factory also must be licensed The advisory committee will have in effect to settle the form of licence and will be authorized to inspect the premises and plant and the process of manufacture and the means employed for standardizing and testing the manufactured substance and to take samples thereof ' Authority to inspect and take samples is in the circumstances tantamount to an obligation but the bill says nothing about how the inspection is to be carried out or how or where the samples are to be examined It seems clear that the committee must have a laboratory and command the services of suitable skilled persons to inspect factories and to examine samples Further a foreign manufacturer must satisfy the Customs that any samples imported into this country are of the potency and purity prescribed for substances manufactured here, this would seem to imply a certificate from the committee, and this could hardly be given without an examination of samples carried out under its direction Lastly, the manufacturers in this country will wish to take means in their own interests, to make sure that the substances they make are in all respects of the required standard

It seems to be a case for concerted action There is no doubt plenty of time to consider what should be done for the bill has not yet reached the Commons, and it is proposed not to bring it into force until at least a year after it is passed Pharmacy and chemistry are represented on the advisory committee, but practical medicine is not though the standardization of the potency of the substances with which the bill is concerned is a matter of first rate importance to it The omission is we think to be regretted for though the profession may be quite ready to trust the Medical Research Council to set up suitable standards and tests it may properly desire to have a part in their day to day application and in the working of such a laboratory as is here contemplated Once established the laboratory could probably be made self supporting

THE ETIOLOGY AND PREVENTION OF RABIES

THE recent report by the Ministry of Agriculture of two cases of rabies in dogs in quarantine draws attention to the isolation which this island enjoys from a disease which is still very prevalent abroad The Ministry imposes a six months quarantine on all dogs entering this country it is probable that the outbreak some years ago was due to a violation of this regulation by dogs brought over by aircraft The two cases now reported occurred in dogs which had been confined for three days and three months respectively It is a convincing demonstration that the quarantine is still very necessary although to the owner of the dog it may be an irksome precaution Some experimental work that has been undertaken abroad however, suggests that it may soon be possible to substitute for it an equally efficacious method of protection.

These experiments consist in attempts, in Japan, America, and Italy, to immunize dogs by methods not requiring the long series of injections practised at the Pasteur Institutes Hogyes has devised a simpler method, which has been used for some time in Sofia with considerable success, only 0 11 per cent of failures were reported in about 6,000 cases [1] A modification of the Hogyes technique, requiring only six injections, has been in use in America,- and over 15,000 domestic animals have been thus treated There were about 1 5 per cent failures, however, probably due to the inoculations being made some considerable time after infection Recently, however, two Japanese workers—Umeno and Doi—have introduced a single injection method Their vaccine is prepared from the brain and cord of a rabbit dying from a laboratory strain of rabies which kills the animal in seven days—that is to say, a " fixed " virus To the ground up nerve tissue is added four times its volume of a phenolized glycerin saline solution, and the mixture is kept for a month in an ice chest (or a fortnight at 18° to 22° C) in order to reduce its virulence It keeps much longer than ordinary rabies vaccines—about two to three months at room temperature A single injection—the amount used depending on the weight of the animal—is given In Japan over 30,000 cases have been thus vaccinated with only one failure, and in the areas where it has been used rabies has already been reduced by 75 per cent Eichhorn and Lyon[2] have recently conducted a series of carefully controlled laboratory experiments on this vaccine with very successful results In actual practice in the United States over 25,000 animals have been inoculated, with no failures Unfortunately it is not known how many dogs were exposed to the disease In the county of Los Angeles, California, alone, however, in 1923 there occurred 808 positive cases in dogs and nine human deaths from hydrophobia A compulsory vaccination scheme has been put into operation there and results will be awaited with interest In Italy also the disease has assumed epizootic proportions,[3] and the same vaccine is in use there So far, however statistics are not available

Meanwhile work on the etiology of the disease is still in progress elsewhere Manouelian and Viala[4] have recently published an account of an organism which they claim to be the causal agent of rabies In stained preparations it appears elongated, fusiform, pyriform, or spindle shaped Its average length is 1 to 2 μ, but smaller forms reaching the limits of visibility have been encountered The body seems to be filled with chromatin granules and surrounded by a membrane The observers have found them in the salivary glands as well as in the nervous tissue They consider that Negri bodies result from the agglutination of these parasites Levaditi and his fellow workers[5] have described a micro organism which they believe is the cause of encephalomyelitis in rabbits They hold that it is a protozoon belonging to the microsporidia (the group which includes the organism of silkworm disease discovered by Pasteur) and they have called it *Encephalitozoön cuniculi* Manouelian and Viala consider that their organism, although distinct, is so similar that it belongs to the same genus, and they have in consequence named it *Encephalitozoön ribieri* They have been able to demonstrate it in sections fixed in a special solution and stained with well known stains such as Mann's, Giemsa's, iron haematoxylin, and so on Results of biological and experimental work have not been published yet, however

Kelser in America[6] has recently been able to show that, contrary to general opinion, Negri bodies can be found in " fixed " virus as well as in " street " virus infections (that is, natural infections) He was able to find them on the third day after infection, but not after the fourth day However, minute refractile bodies were seen from the second day until death on the eighth day These are possibly the same as seen by the French workers The question of the etiology of rabies, while greatly advanced, cannot, however, be regarded yet as definitely settled until more confirmatory work has been undertaken

FREE INSULIN

We have received an inquiry as to the conditions under which insulin may be supplied free by local authorities In the first place, it is to be said that insured persons receiving insulin treatment from their insurance practitioners are entitled to be supplied at the cost of the insurance funds with the insulin ordered by the practitioners Further, it is within the powers of boards of guardians, on the advice of their medical officer, to pay for the supply of insulin in cases of destitution Under Section 133 of the Public Health Act, 1875, a sanitary authority may, with the sanction of the Ministry of Health, provide a temporary supply of medicine for the poorer inhabitants of its district, and we understand that the Ministry of Health has, under this section, sanctioned arrangements proposed by several sanitary authorities for the supply of insulin in cases of diabetes, subject to certain conditions It would appear, therefore, that it is within the power of a local sanitary authority which desires to supply insulin to the poor of its district, for whom public provision has not otherwise been made, to submit a scheme to the Ministry of Health Under the Public Health (Scotland) Amendment Bill, which is a Government measure and is awaiting second reading in the House of Commons at the present time, the Scottish Board of Health is seeking powers for local authorities to make such arrangements as may be sanctioned by the Board for providing medicines and treatment to persons who are suffering from diabetes or such other diseases as the Board may prescribe, and who, in the opinion of the local authority, require assistance in obtaining such medicines and treatment Under such arrangements insulin could be provided by the local authority

EARLY TREATMENT OF MENTAL DISORDERS

The foundation stone of a new reception hospital for the treatment of early cases of mental disorder, attached to the St Andrew's Hospital for Mental Diseases, Northampton, is to be laid on Friday, June 27th The conception of the governors is that all patients, whether voluntary boarders or certified, who give hope of recovery in response to treatment, should be received in a separate hospital, where they would not be disturbed by noisy and turbulent patients, nor associated with demented or degraded invalids Account, however, has to be taken of the fact that the patients the most easily cured are frequently themselves noisy A subcommittee consisting of two members of the committee of management, accompanied by the medical superintendent (Dr D F Rambaut) and the architect of the hospital (Mr S F Harris), visited all the mental hospitals in England where any attempt has been made to separate recently admitted patients from the chronic insane The subcommittee visited Harrogate to study hydrotherapy, and also inspected the psychiatric and

[1] *Journ. Amer Vet Med Assoc*, 1924, lxiv, p 678

neurological clinics at Utrecht and Amsterdam, where the system of treatment there followed was discussed with Professor Dr Winkler and Professor Dr Bouman They also visited the St John's Hospital at Brussels Much assistance was given by Dr C Hubert Bond, Commissioner of the Board of Control, the late Dr Alfred Miller of Warwick Mental Hospital, and Dr Lionel Calthrop of Harrogate The new hospital will be erected on a site sloping gently to the south It will provide for sixteen patients of each sex, it will have its own separate entrance and will be surrounded by its own gardens A comprehensive system of baths will be installed, together with massage rooms and a Turkish bath in a separate building There will be an operation room, with anaesthetic and sterilizing rooms, and there will also be provided bacteriological, pathological, and chemical laboratories, consulting rooms for psychotherapy, clinical rooms, an oculist's room, a dentist's room, a photographic room, rooms for x ray and electrical treatment, and a medical library Arrangements have been made to permit the extension of the building if necessary The plans provide on both the male and female sides for a large number of separate rooms, for a dormitory containing ten beds opening on to a veranda, and for a day room and solarium Those patients who benefit from treatment in the special hospital will complete their convalescence in villas

A STUDY IN INTERNATIONAL VITAL STATISTICS

AT the May meeting of the Royal Statistical Society Dr Major Greenwood read a paper in which he compared the mortality statistics of Sweden and of England and Wales He referred at the outset to a study of the vital statistics of Sweden contributed to the society by a former honorary secretary, the late Frederick Hendriks, which, he said, remained the only comprehensive account of the subject in English His own paper dealt mainly with changes of mortality in adult life during the period which began with the years when reliable statistics for the two countries first became available—that is, about 1840—and ended with the war The interest of the study lay in the change which had taken place in the relations between the mortality of the two countries at certain age periods Seventy or eighty years ago male mortality from childhood to the age of 35 was greater in England and Wales than in Sweden, and less at ages over 40, the mortalities of females in the two countries bore a similar relation one to the other, but absolutely the English rate was higher at all ages In the decennium 1901-10 the relative positions were completely reversed, below 30 in males and below 35 in females the English mortality had become less than the Swedish, while after 40 the English rate was from 25 to 50 per cent worse than the Swedish The contrast was remarkable During the period English young and adolescent rates had improved extraordinarily, mortality at ages 40 to 50 relatively little, Swedish adolescent mortality, on the contrary, showed little change, while at later ages the rate had improved almost 50 per cent It should be a matter of interest to this country to try and discover whether this remarkable change in the relative positions was associated with any alteration of economic or social condition instructive to ourselves In the seventy years which preceded 1910 the prosperity of the United Kingdom increased far more than that of Sweden, but during that period of commercial expansion and increasing wealth the mortality in the less prosperous country at the ages of maximal productivity, 30 to 60, became increasingly better than ours So far as adult ages were concerned, if the rate of mortality were taken as a measure of national efficiency from the hygienic and sociological point of view, Sweden was a more efficient community than our own nation Looking upon a birth as an investment of life capital, and years lived between 20 and 60 as national interest on the investment, in which country did the investment pay better? The answer was that in Sweden every 1,000 male live births yield 28,373 years of life between 20 and 60, in England and Wales 26,317, in females the yields were 29,205 and 27,921 respectively—that is, male life capital earned 7 per cent more interest and female 4 5 per cent more than in England The higher adolescent mortality of Sweden had not sufficed to neutralize the advantage of the lesser infantile mortality which her figures had continued to show Nor could our present superiority at adolescent ages give a compensating satisfaction if the Swedish view of the cause of the deterioration of these rates in their country were correct If, as their writers have held, their high mortality at ages 15 to 20 was mainly a consequence, direct or indirect, of the increasing introduction of young lives to industrial work, it would appear that our own future gave ground for apprehension A study of recent death rates made it probable that the rate of decline at younger ages was slackening, the demand for increasing production in industry, the unsatisfactory state of domestic housing, the permanent impoverishment of large classes of the community, all made it likely that there will be an increasing influx of the young into factory or industrial employment We could not count upon our superiority at this time of life being maintained In the ensuing discussion Sir Athelstane Baines emphasized the need of caution in drawing inferences owing to the great diversity between English and Swedish conditions Mr Jastrzebski remarked that the contrast between England as a whole and Sweden as a whole could be paralleled by the contrast between Stockholm, the only really large urban area, and the rest of Sweden Dr Sjöstrand (Special Counsellor to the Swedish Legation) attached importance to the climatic conditions of Sweden as factors of the relatively high mortality in early adult life, and thought that the more intense struggle for existence in England and Wales might partly explain the higher death rate in that country at later ages He was willing to believe that the temperance movement had been a contributory factor of the improvement in the adult mortality of Sweden, but it was necessary also to bear in mind the effect of the introduction of modern sanitary systems, compulsory gymnastic training, and regular habits of outdoor exercise Sir Arthur Newsholme after asking Dr Greenwood to supplement the paper by a more detailed study of the mortality of early life, found fault with the phrase that England had been "distanced in the race for improvement" England had had different improvement at different ages, but there had been a large amount of improvement and when it was considered that three-fourths of the people of England lived in towns and indoors, in somewhat crowded conditions, the results were marvellous and not conducive to any measure of mental depression Mr de Sahlin (Consul-General for Sweden) thought four factors had to be considered (1) the late arrival of the industrial era in Sweden, (2) the distribution of industries among the rural districts, (3) the decreased consumption of alcohol (4) the political power acquired by the labouring classes enabling them to carry through various social improvements These four factors largely affected the demographic situation in Sweden

THE MEDICAL AND PATHOLOGICAL RESEARCH INSTITUTE, MELBOURNE

THE Walter and Eliza Hall Institute of Research in Pathology and Medicine is attached to Melbourne Hospital and under the control of a board consisting of representatives of the Hall Trustees the Council of the University of Melbourne and the committee and medical staff of the Melbourne Hospital The buildings were completed in

1916 At the conclusion of the war Dr S W Patterson, M D, B S, D Sc, a graduate of Melbourne University, was appointed first director of the institute, and assumed office in December, 1919 Research is the principal object of the institute, but assistance is offered as far as possible to the medical staff of the hospital in *post-mortem* work and clinical pathology The two resident clinical pathologists of the hospital work in laboratories in the institute, under the supervision of the director There are small ward laboratories in each medical unit, so that the resident pathologists are freed from a large amount of the simpler routine examinations, and have time to devote themselves to more intricate bacteriological and chemical work A certain amount of teaching is undertaken, and a pathological museum, containing several hundred macroscopic and microscopic specimens, is housed in the institute The primary object of research is kept in the forefront of the institute's operations We have received a bound volume containing twenty-eight original publications, reprinted from medical journals, contributed by the staff in the last three years The study of diseases of the respiratory tract which occur in Australia has been pursued with considerable success, and is the theme of several articles In the diagnosis of hydatid disease the complement fixation test has been elaborated and made a routine laboratory procedure, and its results compared with those obtained with the precipitin reaction and with the intradermal skin test Papers have been published on the pathology of amoebic and bacillary dysentery, and on the bacteriology and serology of a type of dysentery bacillus not previously described in Australia Many other subjects have been investigated In an article which appeared in the *Medical Journal of Australia* in April, 1923, Dr Patterson states that the director and first assistant are members of the honorary medical and surgical out-patient staff of the hospital, and are thus enabled to keep in touch with and continue investigations on patients attending the hospital The hope is expressed that, should the hospital buildings be increased, a special research ward containing ten or twelve beds will be made available, where particular diseases may be more thoroughly investigated and the effects of treatment more closely watched

LETHARGIC ENCEPHALITIS

EARLY in 1921 the Ministry of Health issued a memorandum on lethargic encephalitis, of which we gave an account in our issue of March 5th, 1921 (p 357) In view of the increase in the prevalence of the disease in this country during the past two months, as shown by the notification returns, the memorandum has been revised in the light of more recent experience, and copies are now on sale[1] An accompanying circular letter to medical officers of health (Circular 509) draws special attention to the value of local inquiry into the presence of mild, abortive, or unrecognized cases (whether contacts with known cases or not) in order to obtain all available facts bearing on the epidemiology of the disease The revised memorandum follows the lines of its predecessor It opens with a definition of encephalitis lethargica and some conjecture about possible appearances during previous centuries An outline is then given of the history of the disease since 1917, when von Economo and von Wiesner published the first definite record During the past five years its occurrence has been world wide In England and Wales 538 cases were notified in 1919 in 1920 there were 914, in 1921 1,470, in 1922, 953, and in 1923 1,025 During the first twenty weeks of the present year the provisional total was 2,468 Histologically the disease consists for the most part of a perivascular cellular infiltration of lymphocytes with occasional plasma cells, in scattered areas of the central nervous system No visible parasitic cause has as yet been found There is evidence that the disease has been experimentally transmitted, but various workers have expressed conflicting opinions upon the nature of the infecting agent Further experimental work is being actively conducted both in this country and abroad The clinical description given in the 1921 memorandum is now supplemented by a statement that the type of case seen during the present period of prevalence appears on the whole to be less severe Often the prodromal period exceeds the usual seven days The onset is commonly ascribed to "influenza," and a fortnight or more may elapse before the definite signs of encephalitis manifest themselves Patients do not remain for long periods in profound stupor or coma, and some have made an unusually rapid recovery, catalepsy is rare While lethargy and ocular paralyses remain prominent symptoms, many cases are chiefly characterized by myoclonic movements or by fibrillary twitchings of the abdominal muscles Cortical affections, with epileptiform convulsions or maniacal outbursts or insomnia, are now more frequently seen The mortality of cases recognized as lethargic encephalitis in 1919 was about 50 per cent Considered generally, and taking foreign experience into account, the case mortality during the past seven years is now estimated as between 20 and 50 per cent In the present epidemic the deaths indicate a mortality rate in different cities varying between 12 and 21 per cent of notified cases Fuller reference is made also to the mental sequelae of encephalitis and their neurological and medico-legal significance Recognition of these after-effects is particularly important to school medical officers and others engaged in medical work among the young They may appear quite early or be delayed for more than two years, and all grades of severity are seen The Parkinsonian syndrome, alike in children and adults, is regarded as one of the gravest sequelae Short practical notes on differential diagnosis and treatment are followed by brief discussions of infectivity and of the abortive, mild, or so-called "transient" cases Generally the degree of infectivity from person to person is considered to be low, seldom can association be traced between the cases which are notified, and one case in the household is rarely followed by a second On the other hand, non-recognition of mild but infective cases may often account for the spread of the disease, hence the importance of searching for them among contacts and elsewhere The memorandum concludes with a summary of the action which medical officers of health should take on receipt of notifications or on learning of suspected cases

[1] M [illegible] M L [illegible] 1 [illegible] To be purchased direct from H M Stationery Office or through any bookseller Price 1d net

THE OPEN AIR TREATMENT IN AMERICA

THE appearance of the thirty-ninth annual report of the Trudeau Sanatorium is a reminder of the steady growth in size and usefulness of this pioneer movement in the open-air treatment of tuberculosis When the founder of the institution died in 1915 he left an autobiography, which was reviewed in our columns of September 2nd, 1916 (p 328) Dr E L Trudeau, himself a victim of tuberculosis, started with two patients in one small cottage at Saranac Lake in the Adirondacks to introduce the new treatment for tuberculosis which contained a hope hitherto unassociated with what was then considered a hopeless disease It is, perhaps, not without significance that Robert Louis Stevenson spent the autumn and winter of 1887 to 1888 in the sanatorium, he may have derived something of his optimistic outlook on life from Trudeau and his work The humble cottage grew into a village community, with an infirmary for the bedridden and work-

shops for the convalescent, adding to itself year by year all that was discovered elsewhere of value in the treatment of the disease, whilst its residents themselves contributed incessantly to the increasing knowledge about tuberculosis This past year has seen the inauguration of a new laboratory, fireproof throughout In this building the most modern instruments of diagnosis, treatment, and research are housed in conveniently arranged rooms the whole of the first floor, with its twelve rooms, is devoted to x ray work, and eleven patients are employed in it Much attention is being given to the early diagnosis of intestinal tuberculosis by the x rays, and research is being actively carried on The clinical and research laboratory on the second floor is staffed entirely by former and recent patients of the sanatorium On the top floor of the building is a commodious medical library and a statistical department A noteworthy feature of the institution is a system of fellowships by means of which young medical practitioners suffering from tuberculosis may engage in laboratory or other research work adjusted to their physical capacities under careful observation, and thus both earn their living and remain professionally active, among those who have thus been helped are now numbered many medical superintendents of sanatoriums and specialists in the treatment of tuberculosis The annual medical report, which has also reached us, contains ten articles by the staff and some of these fellows, as well as the usual statistical records A new infirmary, to contain thirty-two beds, is in process of construction The training school for nurses is increasing in size and has been reorganized, the demand for nurses so trained still far exceeds the supply The session of the Trudeau School of Tuberculosis in 1923 was attended by students from Japan, China, Austria, Syria, and Canada, as well as from the United States

INCOME TAX SUBSCRIPTIONS TO MEDICAL ASSOCIATIONS

JUDGING from the number of inquiries received from time to time, it would seem that in the past there has been some difference of opinion among inspectors of taxes as to whether, and if so to what extent, subscriptions to medical associations and societies can properly be included by medical men among their expenses for income-tax purposes In some instances practitioners have been informed that before anything can be allowed on that account they must show what portion of the year's total subscriptions has been actually expended by the society or association concerned, and that only the proportion so ascertained can be deducted This method may perhaps be reasonable enough when applied to such a case as, for example, a limited number of employers paying annual levies into a fund to be used in the event of some special contingency, but it is quite unsuited to such a case as a practitioner paying a small annual subscription to a society or association of recognized standing The annoyance which is naturally felt at having such small and reasonable deductions refused is, of course, out of all proportion to the amount of tax involved It is with pleasure, therefore, that we learn that by recent Board's order the subscriptions to the British Medical Association and the London and Counties Medical Protection Society may be allowed as a business expense We may no doubt safely assume that subscriptions to associations similar to those specifically referred to in the inspector's letter would also be allowed, and that the terms of the "order" of the Board of Inland Revenue will be communicated to all inspectors of taxes to ensure uniformity of treatment of medical practitioners throughout the country

THE SUES

DR HENRY MEIGE, professor of artistic anatomy at the Fine Arts School in Paris, devoted his inaugural address at the opening of the last session to his predecessors in the chair From a note in *La Chronique Médicale* we learn that, though the chair has been in existence for nearly three centuries, there have been only thirteen occupants Two of them, J J Sue and J B Sue, father and son, held it for nearly eighty years, the elder from 1751 to 1791 and the younger from 1791 to 1830 The younger was called up as an army surgeon early in 1792, but was back again in Paris before the end of the year In 1800 he was appointed head of the Hospital of the Consular (afterwards the Imperial) Guard. In 1812 he was mobilized again for the Russian campaign, and did not resume his hospital duties in Paris until 1814 After the Restoration he became physician to the King's military household, and later physician in-ordinary A portrait of him with his wife and son, probably by Isabey, the favourite court painter, has recently been discovered in a dealer's shop in Paris, and is to be placed in the museum at Malmaison J B Sue indeed, seems to have known how to ingratiate himself at Court, for the Empress Josephine stood godmother to his only son, who was named Eugene after Josephine's son, Eugene de Beauharnais Eugene Sue (1804-1857) is still remembered as the author of *The Wandering Jew* and many romances chiefly tales of blood and mystery, which were very popular in their day his books were translated into English, and most boys read them Before commencing authorship he had been a marine painter and a naval surgeon.

MEDICAL WOMEN'S INTERNATIONAL ASSOCIATION

THE Medical Women's International Association will meet in conference in London from July 14th to 19th of this year This association was inaugurated in New York in 1919, and held a meeting in Geneva in 1922 at which the constitution was drawn up It is expected that some twenty-four nations will be represented at this London meeting—the first to be held under the fully constituted Representative Council There will be business meetings and a discussion on maternal morbidity, its causes and prevention, and there is a full and varied programme of entertainments and expeditions The date has been arranged to precede immediately the Annual Meeting of the British Medical Association as it is hoped that many of the delegates will go on to Bradford after the international meeting is concluded The honorary secretary of the Hospitality Committee is Dr Kathleen F Lander, 49, Albany Street, N W 1, from whom all particulars may be obtained

THE Rockefeller Foundation recently gave half a million dollars to McGill University Montreal, for the establishment of a medical clinic Dr J C Meakins who was born in Ontario and is a graduate of McGill University, but who for some years has been Christison Professor of Therapeutics in the University of Edinburgh has accepted the appointment of director of this new university medical clinic, which will be established in connexion with the Royal Victoria Hospital Montreal The Rockefeller Foundation has, it is announced given 650 000 dollars to the University of Toronto for a public health department—400,000 dollars for construction and equipment, and 250,000 dollars for endowment

DR J MCFARLANE W POLLARD senior medical officer has been appointed a member of the Executive Council and an official member of the Legislative Council of the colony of Gambia

Nova et Vetera.

EVENTRATIO DIAPHRAGMATICA

EVERYONE knows of diaphragmatic hernia, but there are those who are not well acquainted with Petit's eventratio diaphragmatica, and some there be who have never heard of it In diaphragmatic hernia abdominal viscera pass into the thoracic cavity through an aperture, congenital or acquired, in the diaphragm The congenital defects of the diaphragm which invite this accident were described and discussed by Sir Arthur Keith in our columns some years ago (1910, vol ii, p 1297) In eventriation there is a diffuse relaxation of the diaphragm on one side, always or almost always the left, so that it extends high up into the thorax, forming a sac which contains a portion of the stomach and sometimes a part of the colon and mesentery



During last year Dr J Woodburn Morison, a member of the staff of the radiological and electro-therapeutic department of the Manchester Royal Infirmary, contributed to the *Archives of Radiology and Electro-therapeutics* an essay on elevation of the diaphragm and unilateral paralysis of the phrenic nerve, which dragged its lengthy way through three numbers He has done well to collect the *disjecta membra*, for they make a whole which would have been a model of what such an essay should be if only the skiagrams, which are good, had been better described

Incidentally it may be said that during his investigation of the literature Dr Morison lighted on a curious example of the way in which authors copy from one another without being at the trouble to verify the reference The customary statement is to the effect that the condition has been known ever since J L Petit reported and named a case in 1790 as he was born in 1674 this would have made him a good deal more than a centenarian when the reporting and naming occurred The facts are that he died in 1750 and that his essay was not published during his life, but was printed in a posthumous collection of his works first published in 1770 A third edition 30 and probably writer to quote lition and quite date in a proper t was in his day lus surgeons in education seems rudimentary and when over 40 he n an incredibly d r to b able to r anatomy and law of anatomy n h was y m re he returned to attr rvin for e French Army t chool in the h h an demonstrator to the College of n 1731 Dir r of the Royal Academy of reduced r ms reforms and succeeded by his brother-in-law He became a member of the Academie des Sciences in 1715, and was also a Fellow of the Royal Society of London In 1705 he published a book on the treatment of diseases of the bones, which went through several editions and was translated into German He was a bold operator and successfully trephined the sternum for pus in the chest He introduced improvements in the treatment of hare-lip, lacrymal fistula, and strangulated hernia



Skiagram of the case of a man aged 39 who had had stomach symptoms for five years and came under treatment for an acut attack presenting a clinical picture of perforation The thinned-out diaphragm containing the air sac of the stomach is seen projecting into the chest The skiagram was taken shortly after a bismuth meal and the bismuth is seen pulling over into the lower part of the stomach

Petit's eventriatio is to be regarded as a congenital condition due usually to a fault in development but occasionally to injury to the phrenic nerve at birth As to the nature of the fault in development, Dr Morison has thought it necessary to quote the conflicting opinions of several German authors, some holding that the diaphragm is imperfectly developed, allowing the lung to be pushed up by the stomach, others that the lung is badly developed and so drags up the diaphragm and the stomach This difference recalls the famous controversy between the two German writers as to the primary cause of a slice of bread-and-butter Professor von Blobbs considered that the butter was the prime element, the bread being merely a framework on which the butter was supported Professor Plopps, on the other hand, maintained that the bread was the prime cause, the butter being no more than an epiphenomenon, as was clearly evident from the fact that some people ate dry bread This controversy, like a good many others with which German—and also, consequentially, English—medical literature is encumbered, has never, we believe, been resolved Eventriation does not produce any characteristic symptoms, though in most of the cases reported the patients have suffered from indigestion Before the advent of x rays the condition was not easily, if at all, to be diagnosed The characteristic radiological sign is that the diaphragm rises high as an air-filled dome into the chest, usually on the left side The contour of the dome is an even smooth bow line—a bow pulled by Ulysses into a semicircle—and the general effect in the skiagrams is of a big bubble seen in optical section floating on water If the colon also has gone up the contour is less even, the bow line less perfectly smooth The surface of the water, to pursue the bubble simile, is usually a sharply defined line of free fluid in which waves and ripples can be produced by palpation of the abdomen The obviousness of the horizontal base line, which, it is said, is always at the level of the cardiac orifice, depends on the amount of food in the stomach the bow line is the thinned diaphragm, the hollow dome the stomach filled with gas This "air cap," Dr Morison states, is "composed mainly of atmospheric air swallowed in taking food" He thus incidentally and dogmatically—but we believe, if he will add drink, quite correctly—disposes of another controversy which has filled the leisure and the pages of many German professors

That eventration may not be very uncommon seems to be indicated by the fact that Dr Morison has had the opportunity of examining six cases The symptoms, as has been said are not characteristic They suggested duodenal ulcer in two, pyloric obstruction in another, two patients had long suffered from indigestion, and the sixth, a girl of 12 had a cold and cough Usually, if not always, the stomach is deformed, presenting two sacs the upper, consisting of the greater curvature, containing the air cap and the basal line of liquid, is in the chest, the lower sac is in the abdomen, and the upper empties forward into it—the so-called cup and spill or cascade stomach The upper sac may undergo rotation, and the twist may be sufficient to produce volvulus and require operation

One of the actions of the diaphragm is to raise the lower ribs during respiration, and Sir Arthur Keith in the ectures on man's posture published in these pages last year (vol i, p 545) provided evidence that "for the proper aeration of the apical part of man's lungs diaphragmatic movements are essential" In eventration disturbance of respiration is not evident on clinical examination, but it can be shown to exist For this purpose the help of Dr McSwiney, of the Department of Physiology, was obtained By using his respiratory jacket greatly diminished movement over the ribs of the affected side was shown to exist A radiological sign of considerable interest is reversed movement of the diaphragm during respiration, the thinned diaphragm, having little or no muscular tissue in it, has no inherent power of contraction, and is therefore subject to the extraneous mechanical forces, during inspiration, when the normal right leaflet of the diaphragm is descending, the inert left leaflet moves upwards owing to the increased intra-abdominal pressure attending inspiration The movement may be very slight, but if it can be detected this sign appears to be characteristic Paralysis of one leaflet of the diaphragm on one side may be produced by intrathoracic lesions involving the phrenic nerve in the chest, nine such cases are reported—five due to malignant disease, three to tuberculosis, and one to aneurysm of the aorta Finally, it is to be said that temporary elevation of the diaphragm may occur owing to distension of the air sac of the stomach, it is not uncommon, we are told, to see the left side of the diaphragm in a child raised well up into the thorax, and to find on the following day that it is quite normal in position

ROYAL MEDICAL BENEVOLENT FUND

At the last meeting of the Case Committee fifty four cases were considered and £614 voted to forty three applicants The following is a summary of the new cases relieved

Daughter aged 55 of M.R.C.P.I. L.R.F.P.S.Glas who died in 1e65. She is a nurse but her health broke down five years ago The Nation's Fund for Nurses helped her for two years but cannot continue This case was brought to the notice of the Fund by The Gentlefolk's Help Voted £5.

Daughter aged 47 of M.B who died in 1879. Applicant's only income last year was £17 from miniature painting and £10 from Royal Academy Fund. Voted £15.

F.R.C.P.Edin 1873, aged 72, medical officer at Union until March this year when his health completely failed. Money received up to March £2-6 but this has now ceased. The applicant is not allowed to deal with correspondence or business. Voted £26 in twelve instalments

Daughter aged 48, of M.R.C.S.Eng who died in 1e0 She had to give up her post as governess to return home to help her mother An invalid sister who lived in Russia is now only able to earn a little by her needle. The mother is in receipt of a Fund annuity of £20 and a paying guest pays £50 for partial board but is leaving The total income this year for four people will be £80 and rent and rates amount to £42. Voted £15 in two instalments.

Daughter aged 31, of M.R.C.S.Eng who died in 1904 She is the eldest of four children When she left school she obtained a post as secretary but at the outbreak of war the society broke up In 1915 she obtained a clerkship in a bank, but contracted tuberculosis in 1920 and was in a sanatorium for six months. Influenza this year aggravated the old trouble and she is now confined to her bed and entirely dependent upon her mother whose only income is £.0 apart from the money received from letting which just covers rent and rates Voted £10.

M.R.C.S. aged 59 married one son aged e is incapacitated by heart disorder and is being maintained and nursed by his wife who is using her capital to pay all expenses and school ees. Voted £26 in two instalments.

Daughter aged 50 of M.R.C.S.Eng who died in 1911. She has supported herself by secretarial work but only received £25 from it supplemented by needlework and upholstery during the last twelve months. Voted £10.

Daughter aged 51 of M.D whose only income is £-0 supplemented by secretarial work which last year yielded only £39 She asks the Fund for a grant towards a typewriting machine. The Guild joined the Fund and a grant was made of £15.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, 11, Chandos Street, Cavendish Square, London, W 1

THE BORDEAUX CONGRESS OF THE ROYAL INSTITUTE OF PUBLIC HEALTH

THE annual congress of the Royal Institute of Public Health London, was held at Bordeaux from June 4th to 8th, under the presidency of VISCOUNT BURNHAM The number of British members attending was about one hundred, and there were many French, Belgian, and Italian representatives also After a service in the cathedral, to which the visitors went in procession in their academic robes the inaugural meeting was held at the Athenee Municipal, when the members were welcomed by the mayor of Bordeaux, the prefect of the Gironde, and the rector of the University

Lord BURNHAM then delivered his address from the chair—in part an historical review of the development of industrial hygiene in England and in part a survey of the international field which he has had to explore as president for two successive years of the International Labour Conference of the League of Nations He declared that the power of the State to fix periods of quarantine, to supervise the purity of water and milk supplies to regulate or prohibit the use of industrial poisons to promote housing schemes had its complement in the duty of the individual to order his own way of life so as to escape the evils caused by unsuitable food lack of air and exercise and neglect of cleanliness Those who were officially concerned with the public health expected and had a right to expect co-operation from all kinds of people Too long had the curious and perverted notion prevailed that the prevention and conditioning of disease was the proper and detached duty of local authorities acting through the medical officer of health and the sanitary inspector, whilst the treatment and cure of disease was left to the general practitioner and the consulting specialist at the call and at the cost of the individual patient He went on to outline the history of international activity in industrial hygiene At the inaugural conference of the International Labour Organization at Washington in 1919 a commission was appointed to consider the employment of women and children in unhealthy processes, but it made certain recommendations of wider range and since that time industrial hygiene had become a prominent feature of the work of the Labour Office at Geneva One of the latest developments was a safety service, the purpose of which was to study the reports of factory inspectors in various countries to prepare comparative tables and to compile information generally on industrial accidents for international publication The speaker instanced the manner in which international agreement had been arrived at or approached in various connexions—for example night work in bakeries which was down for discussion at the next International Labour Conference in November—but he reminded the gathering of the precise significance of such international agreement Its chief utility was in bringing public opinion up to a higher conception of national duty It was useless to attempt to enforce regulations which had not behind them a general acceptance The task before earnest men in all countries was to form such habits of mind among the people as would make almost instinctive the performance of the civic duties laid down Legislation was the beginning, not the end of voluntary concordance

Following the address from the chair brief speeches were delivered by Dr SIGALAS dean of the Faculty of Medicine of Bordeaux Professor RAYMOND PEARL of the Johns Hopkins University and Sir JOHN BLAND-SUTTON The medical degree of the University of Bordeaux was conferred upon Sir Humphry Rolleston Bt P.R.C.P., and Sir John Bland-Sutton P.R.C.S. who were stated to be the first Englishmen to receive this distinction The Gold Medal of Public Assistance was conferred on Lord Burnham Sir Thomas Oliver and Sir W P Smith

Later the Congress divided itself into six sections each with a British and French president as follows

State Medicine and Municipal Hygiene—Sir Humphry Rolleston and Professor Achard (general secretary of the Academie de Medicine Paris

Naval Military and Air—Surgeon Vice Admiral J Chambers (Director-General Royal Naval Medical Department) and Dr Girard (Director Central Service of Health Mercantile Marine)

Industrial Hygiene—Sir Thomas Oliver and Professor Dubreuilh (Bordeaux

Tropical Diseases—Sir Ronald Ross and Professor F Mesnil (Pasteur Institute

Pathology Bacteriology and Epidemiology—Sir John Bland Sutton and Professor G Mourgeon (Lyons

Women and Public Health—The Marchioness of Cr—ewith Lady Bland-Sutton (chairman) and Madame Wale—ne Parisy

The papers in the various sections numbered 120, and the subjects were of quite bewildering variety They ranged from the consideration of the health of the coal-miner to that of the Moslem pilgrim, from the eradication of the cockroach to the development of the public nursing service In the Section of State Medicine many papers were read on the campaign against tuberculosis, in particular as it is waged in certain French cities, notably Lyons The methods of combating venereal disease were discussed both here and in the Naval and Military Section In the latter section the health standards and medical examination of the airman were considered In the Section of Tropical Diseases Professor R T LEIPER dealt with the public health significance of recent researches in helminthology and Dr G C LOW with the modern treatment of trypanosomiasis Not the least interesting and diversified of the sections was the one devoted to women and the public health, in which the principal subjects were maternity nursing and infant welfare

In a paper on the international aspect of quarantine regulations, Dr E W HOPE (M O H Liverpool) suggested a periodical "spring cleaning" of such regulations with a view to preventing the tendency, which he saw at present, towards burdensome restrictions on trade He thought that the health section of the League of Nations should first of all lay down the broad outlines of quarantine legislation, and that all nations should adopt such a system as a minimum Bills of health appeared to him an unnecessary legacy from the past in these days of rapid transmission of news Many fumigations for rat destruction as commonly practised were useless and indeed farcical There were points in favour of the periodical fumigation of all ships at regular intervals, but this was rather drawing a bow at a venture, and the various factors on which the number of rats on board a ship depended, such as the type of cargo, the duration of the voyage, and the ports touched, should all be taken into consideration in prescribing the frequency with which a vessel should be fumigated

The health of the clerk was the subject of a paper by Dr C S THOMSON (M O H Deptford) Of the six groups of clerks, the commercial clerk was the unhealthiest, and the insurance clerk was at the other end of the scale, but the health of the combined clerk group was rather low—about half way down among the occupational groups on the Registrar General's list He held that the Factories and Workshops Act should be amended to empower inspection of offices by local authorities The chambers in which law clerks had to work were often badly ventilated and badly lighted Tuberculosis took a heavy toll of law and commercial clerks, and next to this was neurasthenia He advocated adequate summer holidays and a compulsory pension scheme, the latter to free the clerk's mind from its customary anxiety

Dr G CLARK TROTTER (M O H Islington), in discussing the relation of the municipal health department to industrial welfare drew attention to the difficult position in London as compared with the provinces In London there were very few factory firms employing more than 1 000 workers, so that town planning, amenities and facilities for recreation which were found in association with the great factory firms in the provinces were not available in London It was difficult to get combination between different firms for welfare supervision, but he hoped that much movement might come about The recent report [illegible] Home Office Departmental Committee on the medical [illegible] persons for factory employment made it [illegible] the medical staff at the Home Office was handi[illegible] [illegible] a beginning was made with fresh legislation [illegible] improved standard of factory life much could be [illegible] welfare workers were more generally [illegible] firms and of the co-operation and advice of the [illegible] department were more frequently sought

A paper on the [illegible] welfare of the future was read by [illegible] Commander [illegible] C HILL who went so far as to urge [illegible] the [illegible] breathing space between wars the people [illegible] taught [illegible] elementary facts with regard to defence [illegible] [illegible] that medical students and practitioners should [illegible] [illegible] and treatment of gas casualties, that anti-gas drill should take a place in school routine, and that municipal [illegible] should be established A useful [illegible] [illegible] as the cause of industrial [illegible] was [illegible] by Dr J R KERR (Pilkington Orthopædic Hospital) who spoke of the value of intensive [illegible] treatment of the [illegible] in the modern orthopædic [illegible] Professor [illegible] of Bordeaux University spoke of the health conditions among the wine workers in the districts around Bordeaux and rather surprised the Congress with his [illegible] regarding the infrequency of drunkenness among them The [illegible] side of public health work was not dis[illegible] and here was a notable paper by Professor SHARE JONES (Liverpool) on the inadequacy of the veterinary service of this country Professor Share Jones rather fell foul of work in pure science, and declared that to breed, rear, and preserve a healthy cow that would yield the maximum of human food at the minimum cost, in a country reeking with tuberculosis in man and animals, was a problem the solution of which would afford pleasurable exercise to the highest intellect

The formal business of the Congress concluded with a plenary session The Bordelais excelled in hospitality, and a number of brilliant receptions and entertainments were provided At the close many of the members joined an excursion to Biarritz and the Pyrenees, including the well known sulphurous baths of Luchon Next year the Congress will be held at Brighton

France.

[FROM OUR OWN CORRESPONDENT]

FRENCH SPAS

THE first days of June mark the opening of the "season" in our French spas There certainly is, since the war, a strong popular move towards this old form of treatment First of all people are only too prone to move The shortest holiday is an excuse for escaping from the cities Our ex-service men—practically all of us—have learnt to benefit by the open air and feel the necessity of breathing out of town Then thousands of our soldiers have been admitted for cure and rest in our health resorts during the war The extensive hotel accommodation had turned all our spas into hospital centres, where not only the men but the doctors had their attention attracted towards new therapeutic possibilities It also may be that our medical minds have been overfed with elaborate methods which did not often fulfil their promise, and that a natural reaction sends us back to nature—sun, air, and waters Economical reasons have also served our French spas, and, paradoxical as it may seem, the devaluation of the franc has brought water to our mills from all parts of the world

A curious consequence of these conditions is to be seen in the manufacturing of a new type of spa practitioner Whilst (with exceptions) in old times hydrology was in some ways the poor relative of medicine, this branch of specialized medicine has been taken up, not only by men holding our highest qualifications, but also by those who, devoting their life to research, seek and find in spa practice means to keep soul and body together During eight "winter months" they are to be found in their laboratories, and many are turning towards the solving of new problems brains highly trained in investigation Thus spas are not only specialized clinical centres, but are tending to become schools of medicine Every year our principal spas are visited by students selected from amongst the most proficient at the examinations in therapeutics, and classes and demonstrations are given on the spot The quality of work turned out from spas such as Evian, La Bourboule, Royat, Vichy, etc, is certainly increasing year after year, and amongst expert workers on purely theoretical questions concerning metabolism or physical chemistry we may find many names which appear on the summer lists of hydrologists This scientific reinforcement to the rank and file has certainly greatly helped the prosperity of our health resorts We shall undoubtedly have many opportunities to revert to the question this summer, but I wish to point out a curious fact—that amongst patients who seek the benefit of a water cure the doctors themselves show the highest percentage

THE NEEDS OF FRENCH MEDICAL LIBRARIES

In France everything points towards economy—a terrible necessity, and an absurd endeavour when economy is applied to the budget of hygiene or of public instruction Our medical libraries might flash the S O S signal now that the credits have been cut down to a level lower than they were before the war The old library of the Faculty of Medicine of Paris has no means of subscribing to foreign publications, no money for binding, no credit to modernize its organization We trust that our neighbours will help us through such a dire necessity As regards American

publications, we hope that the new American hospital which is to be added to the old one at Neuilly is going to provide a large library to be open to all workers, where the leading American publications may be found The only way out seems to amalgamate the very numerous small medical libraries of Paris Every scientific society, every hospital, has its little book corner, it is hoped that some organization may centralize these libraries Another consequence of the price of books and treatises is the publication of special numbers of our medical papers, reviewing once a month the position of some of the special branches of medical science These articles are generally written by the most competent of our workers, and the progress of medicine is so swift that the papers are the only means of keeping up to date These special issues are practically treatises in the making and very likely to mark the doom of our old "systems" of medicine

International Courtesies

At a special meeting of the Academie de Medecine to commemorate the tercentenary of the birth of Sydenham, "the founder of modern clinical medicine" Professor Chauffard's French audience was particularly interested by the parallel he drew between the master clinician and our great Trousseau Nowadays, coming too from a professor to whom we owe so many valuable biochemical observations, the comparison possesses a particular value, for we lay too much stress on the laboratory and are apt to forget what we owe to those who by pure observation laid the foundations of modern medicine Except for some vain theories, nothing of the work of Sydenham has faded The Academie de Medecine has proved once more that there are no frontiers where science and art are concerned, and that the elite of French medical men will not let the lamp of admiration and respect be extinguished in the shrine where the builders of our art are worshipped

Another international manifestation took place at the congress of the Society of Ophthalmology The society had invited Dr de Schweinitz from Philadelphia, and Professor Roger, the dean of the Paris faculty, expressed the deep sense of gratitude that moves us towards America Dr de Schweinitz read a paper—in English—on the etiological relations of ocular disorders and various infections of the intestine, prostate, and urethra His short lecture was listened to with deep interest, and it was proved once more that the war has brought very unexpected changes in our academical circles Who would have believed ten years ago that a lecture given in English in our Paris school would find an attentive and appreciative audience English is actually a sister language to all educated Frenchmen

G MONOD

England and Wales.

Institutional Treatment of Interstitial Keratitis

THE following report, which points out the advisability of providing for the treatment in country surroundings of children suffering from interstitial keratitis, has been issued by the Council of British Ophthalmologists

In the Report of the Departmental Committee on the Causes and Prevention of Blindness, 1922, under the heading Syphilis, it is stated that the Board of Education furnished a table concerning 1,036 blind children of whom 12.9 per cent had lost their sight from interstitial keratitis. In an analysis by Mr Bishop Harman of 1,855 blind children 329 (21 5 per cent) certain were classed as cases of interstitial keratitis, in 359 of which there was evidence of syphilis In Liverpool Mr Bickerton reported that out of 173 blind adults there were 11 cases of interstitial keratitis. In Bristol Dr Fells found amongst 84 blind adults 6 cases of loss of sight from that disease Mr Bishop Harman, in an analysis of the causes of blindness in 601 persons of all ages reported 28 cases of interstitial keratitis 24 of which were due to syphilis With regard to the incidence of interstitial keratitis among other eye patients, exact statistics are wanting but Mr Holmes Spicer, from such figures as he was able to gather estimated it at 0 6 per cent while Mr Sydney Stephenson put the number at not more than 1 per cent.

Interstitial keratitis is a disease which occurs usually in children the subjects of congenital syphilis It runs a definite course, the average duration of active inflammatory symptoms lasting four months, whilst the resolution of the disease may be postponed for months or even years In the course of the affection the vision becomes considerably impaired, owing to the cornea becoming like ground glass. Though up to the present it has been found impossible to cut short an attack, the severity of the symptoms and the amount of sight which is ultimately regained can be largely influenced by local and general treatment When permanent blindness results from the disease it is usually due to neglect in treatment or the impoverished state of the general health of the patient.

At the present time cases occurring in Poor Law institutions are transferred to infirmaries in London where there is not the possibility of that open air treatment which is so essential if the best results are to be obtained Cases occurring amongst London County Council school children are mostly treated at the voluntary hospitals The large majority receive only such treatment as can be given to out patients which means that the treatment prescribed for application to the eyes has to be carried out by the patients relations or friends and that during the course of the attack they remain in their own often overcrowded homes receiving inadequate or unsuitable nourishment for such a condition. A few may for a time be admitted as in patients but the accommodation available in these institutions does not permit their being kept in during the active stage of the disease

The great benefit which is derived from fresh air healthy surroundings and skilfully applied local treatment in corneal affections is seen at the Metropolitan Asylums Board White Oak Ophthalmia School Swanley Children admitted there with phlyctenular keratitis, who have been attending for months at an out patient department without any signs of improvement, rapidly recover in the altered environment From time to time medical officers at the Poor Law infirmaries send cases of interstitial keratitis for admission to the White Oak Ophthalmia School but as at the present time that school is reserved strictly for contagious ophthalmia they have to be refused admission

Since the establishment of the Metropolitan Asylums Board ophthalmia schools the amount of ophthalmia in the Poor Law schools has so greatly decreased that the Brentwood school has been entirely handed over for other purposes At Swanley school, though the main part of the accommodation is still used for ophthalmic cases one block of twelve cottages containing 72 beds is cut off from the rest of the establishment and utilized for convalescent children not suffering from any eye affection. This block of cottages at Swanley school situated in the grounds of the ophthalmia school but isolated from the rest of it, and originally constructed for the accommodation of children suffering from eye diseases would make an excellent department for the institutional treatment of Poor Law and other children suffering from interstitial keratitis It so employed there can be little doubt that the amount of impaired sight and blindness from this disease would be materially diminished.

Dr Corner and the East End Mothers Home

Dr M Cursham Corner, who has resigned the appointment of honorary visiting medical officer to the East End Mothers' Living in Home after over forty years' service, was at the annual meeting recently presented with an illuminated address accompanied by a silver fruit bowl The presentation was made by Dr Owen Lankester, who was in the chair, he spoke warmly of the value of the services Dr Corner had rendered during his long term of office Dr Corner in reply, said that he was glad to know that the home had reduced mortality in childbirth the staff at all times had been a great help carrying out his instructions with the utmost punctuality and attention He trusted that the word 'Home" would never be changed The Hon Mrs Lyttelton D B E in moving a resolution affirming that the home deserved the widest financial support, said that those who knew the condition under which mothers and families had to live in the East End rejoiced to know that such a home existed and added that the work of the district nurses was worthy of all praise Mr W McAdam Eccles in seconding said that as visitor from the King Edward's Hospital Fund he had watched the work of Dr Corner and could congratulate him on the soundness of the principle he had followed in the home He concluded by introducing Dr W H F Oxley of Poplar as Dr Corner's successor Dr Corner's report for the year stated that 1 020 mothers had been delivered in the home, 1,001 children had been born alive, and there

were 6 sets of twins, 25 infants were stillborn In the out-patient department 1,262 mothers had been delivered, 1,257 children had been born alive, and there were 16 sets of twins, 21 infants were stillborn The number of home visits had been 21,739 and of special emergency calls 104 The figures, Dr Comer observed, pointed to the satisfactory work accomplished under considerable difficulties in this area of London

London Tuberculosis Conference

The tenth annual conference of the National Association for the Prevention of Tuberculosis will be held in London on July 3rd and 4th The provisional programme includes a visit on the first day to the Burrow Hill Training Colony, Frimley, Surrey, and on the second day a conference at the Royal Society of Medicine The morning session of the conference will be devoted to the part played by training colonies in the treatment of tuberculosis An address will be given by the Minister of Health, and the discussion will be opened by Dr F N K Menzies In the afternoon the annual meeting of the association will be held, and a conference of care committees will follow Lieut.-Colonel J A Ellis, B Sc , will open a discussion on the organization of care committees, their work, the need of uniformity, and difficulties experienced in town and rural areas The Ministry of Health has sanctioned the expenses of three delegates each from the county councils, county borough councils, metropolitan borough councils, and joint committees on tuberculosis

South London Hospital for Women

The Duchess of York opened the new wing of the South London Hospital for Women, Clapham Common, last month This hospital was opened originally by the Queen in 1916, and since then over 8,000 patients have passed through the wards, and there have been nearly 300,000 out-patient attendances Since the hospital is staffed entirely by women physicians and surgeons, the guard of honour was furnished by students of the London School of Medicine for Women The new wing of the hospital has been furnished throughout by an anonymous benefactor, who has also provided modern theatre equipment It affords accommodation for thirty-six additional patients, and it is hoped that it will now be possible to reduce the waiting list of more than 600 Although generous financial support has been received, several thousands of pounds are still required to pay off the cost of the new building

Scotland.

Salaries of Junior Staff at Edinburgh University

Considerable interest has been taken during the recent visit of the University Grants Committee to Edinburgh University respecting the rates of salary of the junior staff in the University A largely attended meeting of the junior staff was held in the Senate Hall of the University on May 16th at which delegates were elected to meet the Grants Committee, Principal Sir Alfred Ewing also attended this meeting and made a financial statement with regard to the position of the University At the present time there are 52 professorial and more than 250 non-professorial members of the teaching staff It would appear that 37 full-time professors receive salaries amounting in the aggregate to £44,600, or an average of £1,206, while 15 part-time professors receive £12,200, or an average of £812 For comparison it may be mentioned that 264 non-professorial teachers receive a total of about £77,800, which would show an average of nearly £300 Some of the latter are, however part-time teachers whose services are rewarded by a small honorarium instead of a salary, and a better idea of the salaries for full-time non-professorial teachers is conveyed by the following statement Some 40 assistants receive £250 a year, rising by increments of £10 to £280 24 lecturers of grade "A" receive £300, rising by £20 increments to £400 27 lecturers in grade "B" receive £450 rising by similar increments to £550, 19 lecturers in grade "C" and 11 readers receive salaries of £600, rising by £20 to £700 It would appear that the salaries of the 40 assistants and 24 lecturers in grade "A" are distinctly below the minimum remuneration adopted by the policy of the British Medical Association Annual Representative Meeting, 1920, Minute 65, and 1921, Minute 206 Since the year 1919 professors have been paid increments upon their salaries, and these amount collectively to £10,000 annually As the result partly of this, and in consequence of the diminishing number of students which has followed the post-war increase, the University is confronted by an annual working deficit of approximately £5,000, which is likely to be greater in future years It is now proposed by the University Court to meet this deficit by prospective reductions in the salaries paid to the lowest grade of lecturers, and this has excited a considerable amount of comment

The sixteen delegates elected by the meeting on May 16th met the Treasury Grants Committee on May 26th, and presented a printed statement setting forth their intentions They propose that no whole-time member of the teaching staff should receive a salary of less than £300, that after two years' satisfactory service his salary should not be less than £400, and that at the end of ten years it should be not less than £600, they also propose higher rates of pay for the "B" and "C" grade lecturers Another point upon which they lay great stress is security of tenure of office They point out that the University Grants Committee recognized in its report for 1921 that greater fixity of tenure is, in many cases, desirable, and that appointments which are tenable for two or three years only, or are terminable at a few months' notice, are not likely to attract the best candidates, and tend to embarrass those who hold them It is proposed, therefore, that an assistant should be appointed for a probationary period of two years, that at the end of this period, if satisfactory, he should be appointed for five years, and that if during this period his work has been of the required standard his appointment should become permanent, that in any case, if it is decided not to reappoint him, he should be entitled to twelve months' notice, in writing, of this decision These contentions are pointed by a statement which was made to the Grants Committee, that the appointment of one lecturer had recently been terminated after thirty-six years' service, and that of another after eighteen years' service, without reason, save on grounds of economy, and on a few months' notice

A largely attended meeting of the junior staff was again held on June 3rd, when a statement submitted by the delegates to the University Grants Committee was approved and further action determined upon

Health of Edinburgh

In his annual report for the year 1923 Dr William Robertson, M O H , states that the death rate for the city of Edinburgh was the lowest on record The death rate for the original city was 13 4 per 1,000 of the population, for Leith it was 15 1, and in the suburban area 10 6, for the combined area of Greater Edinburgh the rate was 13 8 The report draws attention to the influence of climatic changes upon deaths, during the first quarter of the year, under trying weather conditions, the death rate averaged 16 6, in the second quarter 14 3, and in July, August, and September it fell to 11 0, whereas during the last quarter of the year the figure again rose to 13 4 In localities where the population was dense, more especially where houses were dense, the health statistics had been unfavourable In St Giles Ward, which year after year shows a bad health record, the death rate was 16 8, as compared with 13 8 for the whole city This is specially noticeable as regards tuberculosis and infantile mortality In St Giles Ward the tuberculosis death rate was 1 8, which was higher than in any other ward, the infantile mortality figure was 109 deaths per 1,000 births, which was 27 higher than the rate for the whole city The Medical Officer of Health draws attention to the importance of paying regard not only to housing, but to the liberal provision of recreation facilities for both children and parents Under new housing reforms and town-planning schemes the worker would be able to command relatively as good environment as the dweller in suburbs A report was presented to the

Public Health Committee on the question of providing a hostel for men as well as one for women These were likely to be revenue-producing schemes, and it was recommended that they should be proceeded with Good progress had been made in the treatment of venereal diseases As a preventive department it was being hampered by the lack of statutory powers to deal with those patients who did not complete their course of treatment Notification which was practised by number not by name, ensured secrecy, and placed the local authority in possession of desirable information regarding the prevalence of the diseases involved The cost of dealing with tuberculosis during the past year had been £35,160, whereas for treating all other infectious diseases it amounted only to £41,578 A new departure in the treatment of surgical tuberculosis was about to be made by the provision of opportunities for the use of electric arc lamps, a method which had given good results in Norway, Sweden, and Denmark, also northern countries where sunlight was somewhat inconstant Arrangements for a better milk supply are being built up on a firm basis of supervisory and critical work and by repeated visitation of premises and bacteriological examination of milk supplies The four grades of milk suggested by the Scottish Board of Health were being purveyed It was found that the enhanced prices charged for milk of tuberculin tested cows did not stand in the way of its sale, and that there was a steadily growing demand for clean pure milk During the year a Voluntary Adoption Committee had been started, which was working in close association with the Child Welfare Department one of the rules of this committee was that no monetary transaction was permitted in the case of any infant with which it dealt

Elsie Inglis Memorial Hospital, Edinburgh

The corner stone of the new hospice, which is to be opened at the end of this year as a maternity hospital of fifty beds at Spring Gardens, Abbeyhill, overlooking the King's Park, Edinburgh, was laid last October The work is now so far advanced that a bazaar was held last week in aid of the fund for equipping the new institute Lord Provost Sir William Sleigh presided at the opening ceremony on June 3rd, and Lord Kinross opened the bazaar on the following day The aim was to raise a sum of £2,000 for the purpose in view, and this has been fully achieved

Edinburgh Foot Clinic

A foot clinic in Edinburgh was formally opened at 11 Hill Place, on June 2nd, by the Rev A W Oxford M D Chairman of the Society of Chiropodists in London The honorary secretary of the clinic stated that when it was opened last March upwards of 100 persons immediately presented themselves for treatment and up to date 1 186 names of patients were recorded in the books The waiting list now extended up to September 16th, 1924, the committee had fixed the nominal fee of 1s a treatment except in necessitous cases, which were treated free The committee had formulated plans for starting a school for the training of chiropodists, under the directorship of Mr C W Cathcart, C.B.E., M.B., F.R.C.S The course would consist of (1) practical training at the clinic, (2) the course of study laid down by the Incorporated Society of Chiropodists, London, and (3) a course of surgical lectures A number of students had indicated their intention of joining the school

Ireland.

Ulster Medical Society

The annual meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on June 3rd The reports of council, of the honorary treasurer, and of the honorary librarian were received, discussed, and passed, and were considered very satisfactory Reference was made to the large number of distinguished visitors who had addressed meetings of the society during the session, and to the very satisfactory attendances of members and large amount of clinical material contributed A satisfactory credit balance of £216 was reported by the treasurer The following officers were elected for next year President, *Dr Singleton Darling* (Lurgan) vice-presidents, Dr Cahill (Belfast) and Dr Boucher (Donaghcloney, co Armagh), council, Drs Foster Coates, G G Lyttle, A Dempsey, H P Malcolm, Professor W W D Thomson, and Professor R J Johnstone honorary treasurer, Dr J T Lewis, honorary librarian, Dr W L Storey, honorary secretary, Dr R Marshall, honorary editing secretary, Mr G R B Purce

The Free State Medical Service

At a recent meeting of the South-Eastern of Ireland Branch of the British Medical Association the following resolution was proposed by Dr Joseph Power, seconded by Dr R R O'Brien, and passed

> That we the members of the South Eastern (Ireland) Branch of the British Medical Association, consider that the clause in the Local Government Bill to repeal the compulsory provisions of the Local Government (1919) Act for Pensions for Poor Law medical officers is iniquitous and a breach of existing agreements that such unwarrantable interferences with statutes which guaranteed as a right certain conditions of service to Poor Law medical officers must react unfavourably on the efficiency of the professional services rendered to the people dependent on the Medical Charities Acts for their treatment

At a recent meeting of the Tipperary County Health Board (N R) a resolution was unanimously adopted to the effect that all medical appointments of the County Health Board be made by competitive examination or selection that the applicant who has been reported as possessing the highest professional qualifications and experience shall in all cases be appointed, that the Board of Health request the assistance of the Ministry for Local Government in giving effect to this resolution

Births and Deaths in Dublin

In the Dublin registration area the total number of births registered during the week ended May 31st, 1924, was 226 (101 boys and 125 girls), and the deaths 118 (57 males and 61 females) The deaths registered omitting 20 deaths of persons admitted into public institutions from localities outside the area represented an annual rate of mortality of 11 7 per 1,000 of the population During the twenty-two weeks ending May 31st the death rate averaged 19 5 and was 2 8 below the mean rate for the corresponding portion of the ten years 1914-23 The rate for all deaths registered during the twenty two weeks was 21 2, and during the corresponding periods of the preceding ten years 24

Medical Notes in Parliament.

[From our Parliamentary Correspondent]

Factory Inspection and Regulation

Comprehensive Government Bill

The Factories Bill introduced by Mr Arthur Henderson the second reading of which will be taken soon after the Whitsun recess has been printed. *It is intended to consolidate and* enlarge the present law, and except where otherwise stated, is to apply to all factories as defined in the measure Broadly, the expression includes any premises or place in which any person is employed in manual labour for trade or gain or any work place in which with the permission of owner or occupier, two or more persons carry on any work which would make the workshop a factory if they were in the employment of the owner or occupier The bill contains 143 clauses divided into 14 parts and with schedules fills 99 pages Its price is 4s

General Provisions

Part I sets forth general provisions as to health covering such matters as cleanliness prohibition of overcrowding the maintenance of a reasonable temperature the prevention of escape of injurious or noxious fumes in workrooms care as to ventilation the supply of fresh air and adequate and suitable lighting and the provision of sufficient sanitary conveniences Enforcement of these provisions where a factory is part of or adjacent to a dwelling house or shop will appertain to the district council and the Home Secretary may arrange with the district council to enforce all or any of the provisions as regards other factories Power is reserved to the Home Secretary if satisfied that the provisions are not being enforced by a district council himself to act through an inspector The twelfth section gives the Home Secretary authority to make orders for special medical supervision of workers in factories when this seems to be required on account of sickness or for some other reason.

Part II concerns general provisions for safety with reference

chiefly to machinery, and also enumerates precautions to be adopted in places where dangerous fumes are liable to accumulate, against such contingency suitable breathing apparatus and an oxygen reviving apparatus are to be maintained, readily accessible and periodically inspected, a sufficient number of employees are to be trained in their use

Part III covers general provisions as to welfare, such as the supply of drinking water, washing facilities, boxes or cupboards, first aid (where mechanical power is used), and a weekly rest day, subject to very limited exceptions

Special Provisions for Health, Safety, and Welfare

Part IV embodies special provisions for health, safety, and welfare, and authorizes the Home Secretary to frame special regulations It is enjoined that in factories in which dust or fumes injurious or offensive, are given off all practicable steps, including the supply of exhaust appliances, shall be provided to protect workers Later sections prohibit the use of white phosphorus in the manufacture of matches and the employment of young persons in certain processes and prescribes regulations for the employment of women and young persons in processes involving the use of lead compounds Special precautions are also included as to work in humid factories a "humid factory" is defined as one in which atmospheric humidity is artificially produced by steaming or other mechanical appliance Another section proposes to prohibit night work (between 11 p m and 5 a m) in bake houses This restriction is to apply from January 1st, 1927, or earlier by special order for certain districts if the Home Secretary so decides on application by employers and workers

Notification and Investigation of Accidents and Industrial Diseases

Part V gives the Home Secretary power to direct a formal investigation of any accident or disease occurring or contracted in a factory as such action may appear expedient to him Section 67 requires a medical practitioner to notify the chief inspector of factories of any patient he believes to be suffering from lead phosphorus, arsenical, or mercurial poisoning, or anthrax contracted in a factory The fee for such notification is 2s 6d and the penalty for failure 40s The occupier of the factory is required to send notice of any such case to the inspector of the district

It will be the duty of the appointed doctor to investigate and report (Section 70)—

(*a*) Upon cases of death or injury caused by exposure to fumes or other noxious substances, or due to any other special cause specified in instructions of the Secretary of State as requiring investigation, and

(*b*) Upon any case of death or injury which the inspector for the district in pursuance of any general or special instructions of the Secretary of State may refer to him for that purpose, and

(*c*) Upon any case of disease of which notice is sent under this Act

The appointed doctor for the purpose of an investigation under this section is to have the same powers as an inspector and also have power to enter any room in a building to which the person killed, injured, or affected has been removed

Employment of Women Young Persons, and Children

Part VI lays down general conditions as to hours of employment of women and young persons There are certain exceptions to these rules and these are indicated

Regarding the fitness of young persons for employment Section 91 lays down that subject to its provisions a young person shall not be taken into any employment in a factory unless he has been examined by the appointed doctor within the prescribed period and certified by him to be fit for that employment A 'young person' is defined as one who has attained the age of 14 but has not attained the age of 18 The certificate by the appointed doctor may be given

(*a*) In respect of employment—(i) In a particular factory, (ii) In any group class, or description of factories (iii) In a particular process of class or description of work and

(*b*) Upon condition that the person concerned shall not enter on the employment unless and until any physical defects specified in the certificate have ceased to exist or that he shall be subject to re-examination after an interval specified in the certificate, or on both those conditions

The Home Secretary may by order transfer to the local authority the duty of arranging for the medical examination and certification This is the qualification referred to above in the use of the word 'subject'

Rules may be made by the Home Secretary for prescribing—

(*a*) The manner in which and the place at which examinations under this section shall be conducted

(*b*) The form of certificates under this section,

(*c*) The facilities to be afforded by occupiers of factories for the purpose of examinations under this section,

(*d*) Any other matter which the Secretary of State may consider desirable for the purpose of giving effect to this section

It will be the duty (sub-section (5)) of every local education authority under the Education Act 1921 to arrange for the production to an appointed doctor for his confidential information of so much of the school medical record of a young person as may be necessary to enable the former to carry out effectively the examination under this section and the Minister of Health may, in consultation with the Home Secretary, make rules for the purpose of securing the observance of the provisions of this sub-section, or may arrange that the Board of Education may make such rules on his behalf The Home Secretary may exempt from the operation of this section any factory or class or description of factories in which mechanical power is not used

Where an inspector is of opinion that the employment of any young person in a factory or in any particular process or kind of work in a factory is prejudicial to his health or to the health of other persons, he may (Section 92) serve written notice on the occupier requiring that the employment of that young person shall be discontinued, and the occupier shall not continue to employ that young person (notwithstanding the certificate of fitness had previously been obtained) unless the appointed doctor has, after the service of the notice personally examined the young person and certified that he is fit for the employment It is expressly stated that the provisions of this part of the bill are in addition to and not in derogation of the Provisions of Employment of Women, Young Persons, and Children Act, 1920, and of any other enactments dealing with the same subject

Special Applications and Extensions

The principle for charitable or reformatory institutions is (Part VII, Section 96) that where they are doing work for profit the section shall operate, but not where the work is for self maintenance, education, training or reformation For the circumstances last named modifications are made, amongst them being that the medical officer of the institution may, on the application of the managers, be the appointed doctor for the institution.

Home and Piece Work

Part VIII affects homework, and here the chief consideration is that the premises shall not be unwholesome Part IX covers piece-work

Administration

In Part XI it is laid down that the fees to be paid to appointed doctors for carrying out their duties shall be determined by the Home Secretary, and such fees shall in the case of any examination or certificate with respect to the fitness of a young person for employment in a factory, and in the case of any examination in pursuance of regulations of a person employed in a factory, be paid by the occupier of that factory, and in any other case shall be defrayed as an expense of carrying the measure into effect

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Lunacy Laws—Mr A T Davies asked, on June 5th, whether many aged persons under the care of asylum boards and boards of guardians were certified as lunatics when suffering only from senile decay, whether attention had been directed to the unnecessary stigma cast on descendants of such persons by such certification, and whether inquiry might be made with a view to prevent persons of very advanced years from being certified and treated as lunatics The Minister of Health said it was true that many persons whose mental breakdown was attributable to senile decay had been certified under the Lunacy Acts, because only in this way could their detention be legalized It had been the policy of the Board of Control however, not to press for the certification of such cases No doubt the subject would be considered by the proposed Royal Commission

Advanced Tuberculosis—Mr Black asked, on June 4th how many sanatoriums for the reception of incurable and dying cases of tuberculosis there were in Great Britain, and what proportion of such cases died away from public institutions of this kind Mr Wheatley said that of the institutions approved for the treatment of tuberculosis in England and Wales 89 were available wholly or mainly for the reception of advanced cases of the disease The majority of remaining institutions, other than children's, also admitted a proportion of advanced cases He could not say what proportion of deaths from tuberculosis occurred elsewhere than in approved sanatoriums, but in 1922 approximately two thirds of the total deaths from tuberculosis in England and Wales occurred elsewhere Information as to Scotland must be obtained separately

Answers in Brief

In 1923 twelve persons were found by coroners' inquests in England to have died from starvation or exposure Of these, ten were males and two females Three were tramps or homeless persons and one apparently so the remainder were not Three other cases were under review by the coroner, but were not the subjects of an inquest Two of these were males

The report of the Departmental Committee on the nursing service in mental hospitals is nearing completion, and will be published as early as practicable

The Home Secretary has received from the Transport and General Workers' Union a communication on the injury to health suffered by men using pneumatic tools He has promised to make inquiry and asks for actual instances of workmen who had suffered injury to health from this cause

The Minister of Health has stated that the General Nursing Council submitted proposals for the amendment of the election scheme, but had been asked to give further consideration to certain points He hoped to be able to lay the amended rules on the table of the House before the end of the session

The Government is considering the Blind Persons Act, 1920 Amendment Bill and procedure on it in relation to the rules of the House

In all 8 184 awards have been made in respect of epilepsy by the Ministry of Pensions

Correspondence.

THE HINDU AND PLAGUE

SIR,—In the Milroy Lecture embodied in your issue of May 24th, Lieut Colonel Liston, I M S refers (p 901) to the influence of the tenets of the *Bhagavata Purana* on acceptance in India of modern plague measures Of the salutary effect of these tenets there can be no doubt, but, so far as prolonged search kindly undertaken for me by several experts in Sanskrit enables me to judge the source of these is not yet determined The opinions afforded were to the effect that not *Bhagavata Purana* is quoted in the original professed extract but *Bhagavathi Purana*—a work not traced, and if in existence presumed to be either spurious or decidedly modern In the [Devi] *Bhagavata Purana* (whence a quotation would be of peculiar value to Hindus) I was assured that after careful search throughout the work no such reference to plague could be found

There is, however, no reason to doubt that the ritual is not a Western interpolation but is of Hindu origin I made personal inquiry in the Deccan Districts of the Madras Presidency, and was provided with copies by Brahmin householders, of which they had been in possession many years previous to the 1896 outbreak of plague in Bombay Possibly, experience gathered during the epidemics of plague in the Bombay Presidency in 1815 and 1836 was not wasted on Hindu observers of those periods

In the original copies of the supposed extracts which came into my possession the specific statement quoted by Lieut -Colonel Liston—"be sure that plague is at hand"—does not occur, but as an inference from the context this can justly be claimed It may be added that where rats die not only is early evacuation enjoined but sanitary utility is further subserved by the nature of the surroundings of the camping ground being prescribed, and priestcraft with its attendant subtle wisdom is displayed by the ordering of prayers and ceremonies of such prolixity that it has been calculated for me that a return to the vacated dwelling cannot be effected under three months, and even then the period may be prolonged by the requirement that an auspicious day and adjuvant omens must be awaited During my inquiry other cognate quotations were offered me—the most direct being from a modern Hindu work entitled *Dharma Sindhuru*, printed at the Nirnava Sagra Press, Bombay, in 1888 I was informed that at page 243 of this work the following occurs "The plague will subside by deserting the habitations, by prayer, and by burning"—I am, etc.,

W G KING,
Colonel I M S (ret.).

Hendon, N W June 9th.

THE CAUSATION OF CANCER

SIR,—If Dr Brand will reflect for a moment on the characteristics of such tumours as rodent ulcer melanotic sarcoma, glioma of the eyeball, chorion-epithelioma, myeloid sarcoma, parotid tumour, and cancer of the cervix uteri—to mention a few forms at random—he will have reason to change his views of malignant disease as expressed in his sentence, "Its nature, onset, course, and termination are so invariably identical in every case that they can only be due to the action of a single specific agent"

What we have ventured to call the proximate causes of certain cancers, mainly on the strength of our experimental results, are, according to him, "mechanical irritants" which act as predisponents merely And in order that there may be no doubt as to what he means by 'predisponents' he cites the case of tuberculosis, in which exposure to cold, wet, or even trauma can be so considered "No amount of these can produce the disease" But if by these means we did produce tuberculosis he could no longer relegate them to the lower category of predisponents It follows that, as we have experimentally produced epithelioma, adenocarcinoma, and sarcoma frequently by special irritants (and on the contrary have failed with other irritants) the agents successfully employed cannot be dismissed as predisponents, but are to be regarded, even on Dr Brand's own showing as primary causes—I am etc,

ARCHIBALD LEITCH.

The Cancer Hospital Research Institute, S.W.3 June 7th.

GOITRE

SIR,—Many of your readers must have read with great interest and profit Colonel McCarrison's informing lecture on the subject of goitre The manner in which he studies any focal condition from the standpoint of general nutrition, and the manner in which he looks at any medical subject from the broad standpoint of biology rather than from the narrow standpoint of medicine make his writings of more than usual interest and value His readers are familiar with his views as to the importance of gastro-intestinal infection in the etiology of disease of the thyroid and other tissues and an increasing number probably share his views One point raised by him is a question of special interest—namely, the value of so-called intestinal antiseptics

Colonel McCarrison speaks of the curative value of intestinal antiseptics in goitre as being beyond dispute It would be of interest to hear from Colonel McCarrison on what facts this conclusion is based I have on several occasions made a special study of this subject attention being directed to the effect of these drugs—salol, thymol, dimol, beta-naphthol—in modifying the degree of unhealthy putrefaction so frequently present in the bowel I directed attention to the influence of the drug on the general appearance of the stools, on their fetor, and any quantitative or qualitative change in the flora as determined by the application of Gram's stain to the excretion obtained by careful lavage I was forced to the conclusion that there was no evidence that the drugs exercised any antiseptic action on the bowel I would be interested to hear from Colonel McCarrison what evidence he obtained which suggested that the favourable results were obtained from intestinal antiseptic drugs, and the manner in which he eliminated the indirect antiseptic benefit from the associated use of aperients or from the dietetic treatment carried out at the same time The subject is one which, in view of its interest and importance, might well engage the attention of the Medical Research Council Colonel McCarrison's reference to his experience of vaccines is one of many stimulating suggestions found in his valuable lecture—I am, etc

CHALMERS WATSON, M D

Edinburgh June 9th.

PUERPERAL MORBIDITY AND MORTALITY

SIR,—The recent reports of the Ministry of Health and the Departmental Committee of the Scottish Board of Health, upon puerperal mortality and morbidity raise many points of profound significance so far as the future of midwifery practice is concerned

One reads definitely in the Scottish report and the conclusion is clearly to be drawn from the Ministry of Health report, that the avoidable disasters of midwifery practice are the result of bad midwifery upon the part of the attendant—that is, labours where, as a result of the want of ante-natal investigation, ignorance on the part of the attendant to realize the reasons for and consequences of the action which he carries out the hurry of an overworked practitioner, and so on, operative means, manual instrumental, or otherwise, are used and the results in the form of lacerations and other injuries to the patient go either improperly treated or actually untreated

It is not stated in either report but cognizance of the fact might well have been noted that prime responsibility for the present state of affairs falls upon the General Medical Council that body having been shown upon every page of both reports to have absolutely failed in the prime function for which it was created—namely the efficient education of the medical student for his future work Composed, as that body is of men of high academic distinction, but with a majority of members who know nothing about the details of general practice they have in the past stressed what is unimportant and overloaded the future general practitioner with a burden of special subjects, leaving small space in his crowded time table and overtaxed brain for the study of what is to be his life work —namely, the practice of midwifery diseases of children and women, general medicine and minor surgery Twenty years ago we were taught little or the practical side of midwifery, less about diseases of children and still less

about diseases of women To-day, as the result of an overcrowded curriculum, the plight of the new graduate is even worse If, in my own limited sphere, I am conscious of errors, due to lack of efficient preparation for my life work, which make me shudder, what must be the toll for which those in authority are responsible, when one contemplates our total population? How many women are ruined for life, children destroyed, or, if spared, with their usefulness in life blasted? How many homes ruined? Surely the failure of the General Medical Council in carrying out the main purpose of its existence must in view of the nature of the reports before us raise the question acutely whether it is not time to inquire whether it would not be to the advantage of the medical profession and the general public to have the whole plan upon which the Council is elected put upon a more democratic basis, with the general practitioner represented in proportion to his numbers and his experience

There is one point emphasized in the Scottish report which might well cause anxiety It is suggested that the midwife might have her period of training lengthened so that in future she might be given sole charge of so-called normal labours, the function of the medical practitioner being limited to ante-natal examination and the treatment of emergencies

Should this recommendation come to fruition, how are you to train medical practitioners to know abnormal labour when you have deprived them of the opportunity of really being upon familiar terms with normal labour? What were abnormal cases to me some years ago are quite normal to-day! Why? Because increased practice and experience has, year by year, impressed me more and more with the fact that abnormal cases are rare Many cases in which ante-natal examination, and even the early course of labour, make one apprehend abnormality, with patience and guidance work out normal Is there not a danger that in future the "inexperienced" medical man called to so-called emergency by the experienced (?) midwife, might be induced to operate with that sense of irresponsibility which, had he the necessary experience, and were he primarily responsible, would be replaced by such confidence and knowledge as would compel him to leave the case to Nature? The midwife can never take the place of the doctor, too many factors, which even the most careful ante-natal examination cannot foresee, are involved, which in the emergency bring into the foreground the necessity for a thorough knowledge of general medicine, and a knowledge of the patient which is only in the possession of her own medical attendant

Neither report has satisfied me that the driving of all future maternity cases into hospital is to work miracles I have vivid memories of the Rotunda, where I saw suffering inflicted which we would rightly not inflict in private practice either for purposes of examination or the carrying out of actual labour, nor does my memory of the results make me feel that they cannot be bettered, and much more humanely, in efficiently conducted general practice Nor can I think that recent discussions in the medical press between eminent specialists were such as to inspire confidence in hospital practice so far as the large bulk of midwifery practice is concerned

After all, only three factors require to be taken to heart to remove the slur upon the profession which these reports have created

1 The efficient training of the student
2 Efficient ante-natal examination
3 The realization of the fact that no medical man has any right to accept service as attendant upon a maternity case unless he does so upon the understanding that before, during, and after labour he must give his full attention, time, and knowledge to what to his patient means the happiness, not of her own future life alone, but that of her whole household If a medical man is so overburdened with work that he cannot give the necessary time to his cases, he has no more right to accept service than the surgeon who opens an abdomen has the right to leave the abdominal wall open —I am, etc,

Tain, May 31st ENEAS K MACKENZIE

INDIVIDUAL MEDICAL DEFENCE

SIR,—In your correspondence columns of June 7th, 1924, Dr J S Manson pleads for the taking over of individual medical defence by the British Medical Association, "either by itself or through the defence societies" I will admit that when I am personally convinced that such a step would be for the benefit of the profession and its members I will support any well considered scheme to promote it, perhaps Dr Manson will admit, in return, that as both the defence societies are at present opposed to it, any scheme which will reconcile them will have to be exceptionally well considered

I pass on to the arguments by which Dr Manson supports his proposal, and here I join issue with him entirely He says, "It may be that the defence societies are not popular with the profession because the councils have absolute discretion to defend or decline to defend any member" This is nothing less than a *suggestio falsi* Both the societies have never been so popular as now, have never before admitted such shoals of new members as during the past three years, have seldom if ever been so immune from criticism or dissatisfaction on the part of their members Further, if the British Medical Association took over the work, the committee to which the Council would be obliged to depute the management would necessarily be armed with precisely the same powers as the councils of the defence societies now have The reason for this is that there must be discretionary power of the kind Dr Manson mentions to prevent the none too ample funds being dissipated on hopeless cases on behalf of the undeserving

Dr Manson goes on to say that in this sort of case "the council of the defence society may decide in an arbitrary and unjust fashion" Here again is an innuendo which needs prompt exposure I have been a member of council of the Medical Defence Union for some years, and it would ill become me to claim that the council is infallible Nevertheless, I say deliberately that never have I known the council to decide on a claim for help in an "arbitrary and unjust fashion" On the contrary, I have over and over again seen the benefit of a doubt given to the member I can recall but two or three instances in which a case has been refused on its own flagrant demerits, however palpable carelessness or negligence may have been, the Union stands by its member unless it is obvious that his conduct has been purposely and deliberately indefensible (and I do not doubt that the practice of the London and Counties Medical Protection Society is similar) It happens not uncommonly that members seek assistance in "law" disputes which seem to the council not to involve any professional principle, and assistance has then to be refused, here again the member is invariably given the benefit of any doubt I cannot see that such cases could be any differently treated if the body responsible for the decision were nominated by the Council of the British Medical Association

The Medical Defence Union sometimes has to deal with cases in which the member's reputation will suffer if litigation reaches open court In such cases a settlement out of court, at no expense whatever to the member, is often the wise course Occasionally it happens that the member concerned cannot be got to appreciate the weakness of his case and wishes to fight it out to the bitter end, here again there must always be some body of men—the more disinterested, experienced, and level-headed the better—in whom absolute discretion is vested Is it better that this managing body should be elected *ad hoc* by the members (as in the defence societies) or chosen by a council elected on quite different issues (as would be the case if the British Medical Association undertook the work)?

Dr Manson's "solution" of the difficulty presented by the very rare utterly indefensible case is that if the "defence department" of the British Medical Association "had a rule that no case would be rejected until the Division to which the claimant belonged had been consulted in the matter, then a safeguard would be provided against hasty, arbitrary, and unjust decisions" Note the reiteration of a suggestion which I maintain to be unfounded and therefore improper Note also that no provision is made for what is to happen if the "defence department" and

the Division disagree presumably the latter is to have the deciding voice, or there is not much point in referring the matter to it The great majority of the members of each Division habitually abstain from attending the meetings, they have no experience of medico-legal problems as seen in medical defence work, they have no expert adviser to put the case before them succinctly and impartially, those who do vote on such a reference will almost certainly do so on personal grounds rather than on principles What utter chaos such a fantastic proposal involves' The procedure, in addition, would involve a delay of anything up to three months before a decision could be arrived at whether a member should be assisted or not whereas it is a common experience of the defence societies to make such decisions at short notice if they are to be of any use at all

I am by no means sure that a better case than this for British Medical Association intervention cannot be made out, all that Dr Manson has done is to strengthen very greatly my not absolutely fixed belief that the British Medical Association will do well to let this matter quite alone —I am, etc ,

London S.W.5 June 8th. HENRY ROBINSON

GAS LEAKS AND CARBON MONOXIDE POISONING

SIR,—Two letters under this heading, in the JOURNAL of December 8th, 1923 (p 1119), one from Dr Leonard Hill, the other from ' M A , M D , D P H ," form an interesting contrast The latter states that " the symptom-complex described by Dr Hazleton as due to carbon monoxide poisoning is common," and that ' the effects of gas leaks and oral sepsis run a very close race for pre-eminence as primary causes of general malaise, and later of serious disease "

Dr Hill speaks of testing the " *smellable limit* " of coal gas, and gives 1 in 2,000 as the figure Certain assumptions are necessary here There must be a standard sense of smell This, however, does not exist as smell perception varies in different individuals while in the same individual it is the most easily fatigued of all the senses and may be abolished by colds, influenza etc It must also be taken for granted that the odoriferous qualities of illuminating gas are standardized Therefore I do not attach great value to the figure given and submit that reliance on the nose may give a false sense of security

Dr Hill states that carbon monoxide can only accumulate in the blood up to the saturation corresponding to its partial pressure in the air, and no further This, as a physico-chemical fact, is true, but more is required in this discussion than facts applicable to isolated blood The body contains other tissues than blood, and facts ascertained *in vitro* must be correlated with other facts that exist *in vivo*

The effect of carbon monoxide on blood is equivalent to cutting down its carrying power for oxygen, depending for its extent on the partial pressure of the carbon monoxide in the atmosphere to which the blood is exposed, and while this condition can disappear on removal of the carbon monoxide, other tissues may suffer Cases of carbon monoxide poisoning have been observed where delirium has persisted after every trace of carbon monoxide has disappeared from the blood, owing to the damage to the nervous system which presumably arose during the oxygen want caused by the carbon monoxide-haemoglobin combination

Let me quote some remarks of Drs Haldane Henderson and Schneider, and Mr Douglas from the Royal Society Report (*Philosophical Transactions*, Series B, 203 1913 p 194), " Physiological Observations made on Pike's Peak, Colorado "

The similarity ' of want of oxygen on high mountains to the symptoms of carbon monoxide poisoning are specially striking When only slight and temporary lack of oxygen is produced by carbon monoxide the headache and nausea often come on after the carbon monoxide has mostly disappeared from the blood—*i e* after a practically normal supply of oxygen to the tissues has been re-established

In carbon monoxide poisoning the psychical disturbances produced by want of oxygen are often almost as prominent as in alcoholic poisoning '

Page 195 When the symptoms of oxygen want are on the verge of appearing any slight cause may precipitate their actual appearance

These experiments were carried out with pure carbon monoxide There are often other substances in coal gas—for example, sulphur compounds—the poisonous nature of which has been but little investigated

There is a subtle meaning in the word " cumulative " which may easily mislead the uninitiated. While the carbon monoxide combination with haemoglobin is reversible, yet the damage that occurs—for example, to the nervous system —from a partial oxygen want may be progressive and so the total physiological effect may be spoken of as cumulative The meaning attached to the term depends on whether it is applied to the isolated physico-chemical phenomenon we have referred to, or to the physiological conditions in the living body To confine our observations to the former simply means the broadcasting of half-truths

A statement, purporting to come from Dr Hill, was recently widely circulated by the local press here It is as follows The belief that health can be damaged by the continued inhalation of very small leaks of coal gas is then wholly an unfounded one ' If this is Dr Hill's opinion I suggest that he explain it in your columns Many medical men hold the opposite view

Dr Hill speaks of smoke doing incomparably more harm to health and happiness than is caused by the few accidental and suicidal deaths resulting from inhalation of coal gas This is true as far as it goes but it takes no account of harm done when death does not occur All will agree that smoke in the atmosphere is undesirable but the matter is not going to be remedied by distributing carbon monoxide into the atmosphere of the homes of the people which is what the various gas companies are doing at present, whenever a leakage occurs in the interior of a house — I am, etc ,

Macclesfield May 14th. JOHN N LAIRD, M.D.

ANTE-NATAL USE OF GLAND EXTRACTS

SIR,—Dr Alice White's paper (February 2nd, p 190) is interesting but I am somewhat sceptical as to whether the good results she describes have only been due to the administration of thyroid extract (1 8 to 1,4 grain) combined with ovarian extract (5 grains) Dr White says that mothers are given dried milk and a malt preparation as well in order to enable them to suckle their babies Why not to enable them to bear living children as obviously the preparations are only given in cases of want or malnutrition? Apart from food and drugs if the expectant mother has confidence in her doctor this in itself is a factor in the bearing of healthy children after previous disappointment Many of the weakly war babies were the result undoubtedly of the mother's mental condition or dread when their husbands were fighting quite apart form any specific trouble one often heard the mothers describe how either a miscarriage or a premature birth was caused by shock of one sort or another during the war

In the case of a mother who has had a history of stillbirths, miscarriages and weakly babies, the baby if seen early enough is often found below the normal birth length and weight, or has widely open sutures with a large sagittal fontanelle where normally no fontanelle is felt and also a large posterior fontanelle such a child may have small red pimples (followed by circular desquamation) and a mop of long usually black hair, and is difficult to rear At one time I inquired into the case of any infant who died who had been entered at one or our clinics Out of eleven cases only one had not been put down by me as bad luck (and it was a 7 months child not seen early enough to judge), having one or more of the above characteristics

Take for example the case of a child where both parents were tuberculous and spent their lives in and out of sanatoriums Two previous weakly babies had died and I had warned them to have no more (Phthisis and pneumonia are very common in syphilitic patients and in the relatives of the bad stock baby) A typical example of what I call a bad stock baby was brought to me by the father who asked me if I thought the baby healthy I said Certainly no He and I had seen the baby to three doctors who said there was nothing wrong with it I explained there was nothing right it was only I'm sorry was under weight and had a very badly cured bad and from my experience might be carried off by any illness that it contracted They were offended and did not bring it back and heard of its death shortly after

Many of these bad stock babies are premature, and the parents of those dying of pneumonia or meningitis may have at one time had syphilis, either congenital or acquired, but they may only have been on the borders of starvation for long periods

There are instances in which stillbirths and miscarriages occur, and yet sometimes by a second husband the mother is able to have healthy children, or they may seem perfect stock with the first husband and with the second a succession of bad stock In many of these parents of bad stock children the father or mother dies quite young, the husband frequently of pneumonia, the mother after childbirth For years I have taken the family history of every baby registered at my infant clinics, and find the more unhealthy the stock the more quickly it is propagated Healthy families are usually well spaced The fact that the mother who bears these children gives a negative Wassermann reaction is no proof that the congenital defect is not specific At one time too many cases were credited with syphilis, to-day we are apt to think too lightly of the specific element If histories be followed carefully many children are found to be of bad stock, no definite syphilis is present, yet it transpires that either or both parents have at one time been treated for it I believe too that when the grandparents have been infected a degenerate stock results One element would appear sometimes to be malformation of the pelvis, which may cause stillbirth, and certainly the worst forms of rickets are often associated with congenital syphilis Undoubtedly there is still much to learn about stillbirths and miscarriage If many cases, apart from those numerous cases of athyroidism in the mother, with dry skin, constipation, scanty eyebrows, puffiness, etc, should prove to be due to defective secretion of the ovarian or thyroid glands, we shall have advanced a step We claim to get good results with mercury in our ante-natal clinics, it may be that we are both wrong and the results are due to good feeding and advice on general hygiene, such as attention to dental caries Dr White administers liquid petroleum, that alone might prevent a toxic absorption which is deleterious to the baby —I am, etc,

Leeds, May 31st. MARION E MACKENZIE

THE LEFT-HANDED CHILD

SIR,—Over twenty-five years ago I made some observations on this subject, which I published in my book on *Aphasia and the Cerebral Speech Mechanism*, and in an article on mirror-writing in the *Encyclopaedia Medica* It would take too much space to go into the explanation there suggested of how mirror-writing is produced, but I may shortly say that I believe that the movements which produce mirror-writing by the left hand are initiated, influenced, and guided by the cortical neuron groupings of the left cerebral hemisphere—that is, the same cortical neuron groupings that guide the right hand in writing Mirror-writing is a well recognized peculiarity, but is not so uncommon as is supposed From my investigations of a large number of individuals of different ages I found a certain percentage were mirror-writers, some quite expert, others showing a tendency to it more or less I found that it was more common in those over 15 years of age and in expert writers than in those under 15 and those who were only learning to write

It is sometimes shown by hemiplegics, and Ireland found t exhibited by a proportion of weak-minded children ills of Philadelphia records that "the left-handed show a physiological tendency to mirror-writing" It is interesting to record that one of Leonardo da Vinci's manuscripts is an example of mirror-writing—some suppose to preserve the work from superficial readers, but another explanation may be that, according to a priest who visited Leonardo during the last years of his life, Leonardo had paralysis of the right hand and so may have been an example of a mirror-writer after cerebral disease

An interesting fact is that, in those who can write with both hands and exhibit true mirror-writing with the left hand the writing with the left hand is exactly like that with the right hand when the one is looked at in the mirror Both are seen to be the same handwritings By true mirror-writers I do not mean anyone who has simply trained himself to write mirror fashion with the left hand Such a one has simply trained his left hand to do certain expert movements Such writing may or may not be like the right-hand writing But true or natural mirror-writing has a singular resemblance to the usual handwriting An example will be found illustrated in my book above referred to, in a hospital patient who was not an expert writer

The patients of your two recent correspondents are somewhat unusual, in that they seem both to show the left-handed tendency to an extreme extent, just as some people are abnormally right-handed and can hardly do anything requiring precision with the left hand It is a congenital or inherited pre-eminence of the whole or part of the right cerebral hemisphere instead of the left, as in the majority of persons Education can do much in developing the use of the hand which from birth has taken the second place in all special or expert movements A child showing sinistral pre-eminence can by training become ambidextrous, but it is much more difficult, if at all possible, to develop it in a child showing dextral pre-eminence The reason of this is probably to be found in the congenital structural associations of the neurons Unless there has been some disease or congenital defect of the nervous system, patient persistence in training the right hand will ultimately succeed Allowing the child to write mirror fashion with the left hand whilst the right is being trained will not, I think, prevent success, because a considerable number of people, if a pencil is put into each hand, are able to write in the usual way with the right hand whilst the left hand writes at the same time in the mirror fashion

In answer to the question of Dr Clowes (April 19th, p 729), I cannot see that there can be any danger to the nervous system in patiently training the child to write with her right hand She may find it irksome at first, just as some of us did when we first mounted a bicycle, but with patience and perseverance we gradually became expert, and what was at first irksome became a pleasure —I am, etc,

Leith, May 25th. WILLIAM ELDER, M D, F R C P E

PERINEAL PROSTATECTOMY

SIR,—In the JOURNAL of May 31st (p 955) Mr MacLeod describes a proceeding which has given satisfaction It is an improvement on the old operation of blind intraurethral enucleation, the improvement consisting chiefly in making the opening smaller and further back With the exception of not using a scissors and gorget—which is a good idea—I did this operation four times in the past My only object in writing, however, is to draw Mr MacLeod's attention to a peculiarly curved staff described in the *Lancet* (May 11th, 1912) by the use of which the prostate can be brought nearer to the surface The operation done by Mr MacLeod is not there described

I often wonder at the scant respect surgeons have for the external sphincter, not only in cutting it, but in dilating it at the onset by index fingers It is also to be wondered at why Professor Young does not make the opening further back, as described by Mr MacLeod, but it must be remembered Professor Young's chief aim is the preservation of the ejaculatory ducts, almost impossible in any intraurethral enucleation But in many cases—especially where the middle lobe is not notably enlarged—it is possible and desirable to enucleate without opening the urethra at all, and I think best by means of the staff to which I allude and which I humbly submit should be used in many cases instead of the Young retractor —I am, etc,

London, June 2nd. JAMES MACMUNN

THE ADMINISTRATION OF OXYGEN

SIR,—It is well known that oxygen is of great value in many diseases, especially of the lungs and heart Many methods have been devised for its administration, but none that I have read about or seen is entirely satisfactory

The funnel so commonly used is expensive and not efficacious The various masks are cumbersome, uncomfortable, and distressing to the patient and require constant attention, and in my experience are not a success, particularly in nervous patients and children The catheter in the nose is, to put it mildly, uncomfortable, and is disliked by all patients and not tolerated by some, especially children, though it is most effective

The method which I advocate is very simple and I think efficacious—namely, put the catheter in the mouth Patients do not close their teeth firmly when resting, never tightly enough to stop the flow of oxygen, and they do not in the least mind holding something in the mouth if they are semiconscious the catheter can easily be fixed to the cheek or chin by a piece of plaster Children are quite pleased to suck, for as long as you want them to, a rubber tube, especially if dipped beforehand in sugar and water, flavoured with peppermint

I think that oxygen given early in pneumonia is a great help It appears to soothe the distressing cough and lowers the rate of respiration, but if it is given by a mask or nasal catheter the worry and distress which these means cause the patient do almost as much harm as the oxygen does good, especially in the nervous, restless patients Given by the mouth it does nothing but good, even in the most excitable patient

I venture to write this letter on such a simple subject because I have never seen or heard of this method of giving oxygen (though I feel sure that many men must have practised it), and I hope that those who, like myself up to a short time ago, have not tried it will do so and will thereby help and comfort their patients —I am, etc

Limpsfield Surrey June 6th. G D LAING, M D

MILLSTONE FLOUR AND NATIONAL NUTRITION

SIR,—Dr L Grant points out (May 24th, p 936) that breads, such as Hovis, are obtainable which contain the wheaten germ, sometimes in excess of the proportion present in the natural grain, sometimes with other admixtures, such as malt sugars and bran I have not previously alluded to these for the reason that they are all beyond the reach of those millions whose dietary we want especially to see made properly nutritious And to spend time at this stage in cataloguing such comparative luxuries seems to me as though we should allow the town to go on burning while we carry on an academic discussion concerning the various projects which have been advanced for rendering buildings fireproof and providing fire escapes

I am quite in accord with my old friend Dr Ewart as regards the importance of propaganda by practice example and persuasion to the best of our ability, but at the best it would be a very prolonged and tedious business On the other hand, a very slight modification of the existing sanitary regulations would ensure a pure form of flour and the absence of the vitamin-destroying chlorine and other harmful additions, for everybody The support which this proposal is receiving from all quarters affords some ground for hoping that such a result may soon be within measurable distance of achievement —I am etc

Hertford June 2nd. CHARLES EDWARD SHELLY

Medico-Legal

A FRACTURE ACTION

A special jury in the King's Bench Division on June 5th awarded £440 damages against Dr R W Merrick of West Kensington in a case in which Mr G G Flinn a commercial traveller and his wife sued for damages for alleged unskilful treatment of Mrs Flinn

The plaintiff's case was that while Mrs Flinn was taking riding lessons on March 15th 1922 she was thrown from her horse and sustained a Colles's fracture of the right wrist Treatment by the defendant resulted it was alleged in a considerable deformity of the wrist and eventually on the advice of a specialist an operation was performed

The defendant denied negligence and counter-claimed for £6 10s his fees In his evidence he said as the plaintiff Mrs Flinn said she could not afford an x ray photograph to be taken of the fracture he sent her to the West London Hospital She went once and he received a report from the hospital but it was incomplete because it did not state whether there was any displacement backward or forward of the lower fragments He impressed upon Mrs Flinn the necessity of going to the hospital again but she said she would not go He massaged her wrist then and on several later occasions He considered he had handed over the case to the hospital and he treated the wrist out of kindness when she persisted in returning to him All the while he urged her to go to the hospital asking her to let him know the result of the hospital visit Then he rang up Mr Howell Evans about the case but Mrs Flinn never came again

The Lord Chief Justice in the course of his summing up commented upon the fact that after the defendant had sent Mrs Flinn to the hospital he continued to treat her out of kindness The reiterated question of the defendant to Mrs Flinn Have you been to the hospital on each of the several occasions that she came to him subsequently must have been almost an incantation There was a conflict of evidence as the plaintiff's story was that she always did what Dr Merrick told her to do she went and had an x-ray photograph taken and she went and fetched the report for him and she showed him her wrist from time to time carrying out his instructions faithfully yet the result was useless and worse than useless It was quite clear that a surgeon could not guarantee a cure even with the best attention there might be deformity One thing was pretty clear however—that although there might be a deformity notwithstanding the use of great skill there was pretty certain to be a deformity if one refrained from doing what one ought to do

The jury found a verdict for the plaintiffs awarding £190 special damages and £250 general damages they also found for the plaintiffs on the counter-claim. Judgement was entered accordingly for £440 with costs Counsel for Dr Merrick asked for a stay of execution while the question of appeal was considered The matter was of the greatest gravity to Dr Merrick whose professional skill had been called in question The Lord Chief Justice refused a stay saying that the question had been purely one of fact Messrs Le Brasseur and Oakley acting for the London and Counties Medical Protection Society were the solicitors for the defendant

The Services

SURGEON REAR ADMIRAL SIR A R BANKART K C V O M B D P H K H P whose relief as medical officer of the Royal yacht *Victoria and Albert* was referred to in our issue of May 24th has now retired at his own request to facilitate the promotion of junior officers The senior surgeon captain is David Walker Hewitt C B C M G M B F R C S who has been serving at Haslar Hospital since January last year and during the war was one of the assistants to the Medical Director General of the Navy at the Admiralty He was awarded the C M G in June 1918 and the C B in December 1919

INDIAN MEDICAL SERVICE DINNER

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant London on Wednesday June 18th when Colonel J J Pratt will be in the chair Tickets and all particulars may be obtained from the honorary secretaries 63 Addison Road Kensington W 14

DEATHS IN THE SERVICES

Lieut Colonel Rucha Lall Dutt Bengal Medical Service (ret) died in Calcutta on April 3rd He was a native of the Hughli district in Bengal where he was born on August 26th 1845 and was educated at Calcutta University After graduating there in Arts he came to England and studied at Aberdeen taking the L S A in 1869 and the M R C S in 1870 and graduating M D Aberd in 1871 Competition for the I M S was closed for two years—from April 1870 to March 1872—but as soon as the service was thrown open again to competition he went up for the examination and passed sixteenth in a very large batch of forty of whom only five appear to be alive now half a century later Entering as assistant surgeon in March 1872, he became surgeon lieutenant-colonel after twenty years and retired in October 1899 His whole service was spent in civil employment in the province of Lower Bengal where he was civil surgeon of the districts of Bankura Bardwan Midnapur and Twenty four Parganas and Hughli successively and also for some time acted as professor of materia medica and therapeutics in the Calcutta Medical College and second physician to the Medical College Hospital. After his retirement he practised in Calcutta

Surgeon Lieut-Colonel Hugh Rayner late Royal Horse Guards died suddenly of heart failure on April 26th He was born at Lancaster on November 7th 1860 was educated at St Bartholomew's Hospital and took the M R C S in 1881 in 1884 he graduated M B Durham with honours and B S After filling the posts of house-surgeon at St Bartholomew's and at the Liverpool Royal Infirmary he entered the army as surgeon on January 30th 1886 Three months later he joined the Grenadier Guards a medical officer and on February 13th 1887 was transferred to the Royal Horse Guards (the Blues) He became surgeon major on June 19th 1900 and surgeon lieutenant-colonel in January 1903 and retired immediately afterwards Practically his whole service was spent in the Royal Horse Guards except that he served as medical officer to the Anglo-Portuguese Delimitation Commissions in East Africa in 1892 and 1893 He rejoined for service during the late war and was employed as medical officer of the reserve regiment of the 1st Life Guards.

Obituary.

ROBERT KENNEDY, M A, M D, D Sc,

St Mungo Professor of Surgery and Surgeon, Royal Infirmary, Glasgow

THE medical profession and the public of Glasgow and the West of Scotland have viewed with concern and distress the recent and unlooked for losses by death of so many of their leading surgeons Within a few months Sir T K Dalziel, still hoping for years of fruitful work and leisurely life, Sir William Macewen, in fullness of age and honoured as the greatest surgical genius of his generation, Dr Newman, in retirement, voyaging abroad in pleasant travel, and now Professor Robert Kennedy, in age only a little way beyond "the middle time of this our mortal life," have all crossed the border into the unknown Professor Kennedy was present at the Annual Meeting of the Association of Surgeons in Liverpool in the beginning of May, apparently in excellent health He was unable, however, to undertake any teaching in the summer term as he was acutely ill with Bright's disease and pericarditis, and died at his residence on June 3rd

Born in Glasgow, educated at the High School of Glasgow, Robert Kennedy went up to the University with no great school reputation In the University he soon showed himself to be a man of outstanding capabilities He had to carve his own fortunes, establishing himself as a "lad o' pairts" dear to the Scottish independent mind, maintaining himself and paying his way through college largely on bursaries and scholarships He won many class prizes and in addition two of the best prizes open to competition in the University—the George A Clark and the John Clark Scholarships in Mathematics and Natural Philosophy, whose combined value was £225 per annum, tenable for four years During the last two years of his medical course he was assistant to the late Professor John Young—the well known "Cocky Young" of a generation ago—in the Department of Natural History, and lectured on biology in the Glasgow Technical College He graduated B Sc in 1887, and M A with honours in natural science in 1888 he completed his medical course two years later, graduating M B and B Ch with commendation, he took the M D with honours in 1896, and in 1899 he obtained the D Sc He continued post-graduate study in Edinburgh and in Berlin, and returned to Glasgow to practise surgery He held junior surgical posts in the Victoria Infirmary, the Lock Hospital, and the Western Infirmary, and for five years was University Lecturer on Applied Anatomy

In 1910 a special Board of Curators was commissioned to deal with the arrangements for the establishment of four university chairs in the Royal Infirmary with the object of broadening the teaching basis and of expanding the opportunities for clinical study open to university students The Chair of Clinical Surgery, founded in 1874 and held in the Western Infirmary successively by Professor George Buchanan and Sir Hector Cameron, now became the St Mungo Chair of Surgery at the Royal Infirmary for the teaching of systematic, operative, and clinical surgery In 1911 Kennedy was appointed to the new chair By that time he had a well founded scientific surgical reputation resting mainly on his work in the surgery of nerves Papers on "Regeneration of nerves" published in the *Proceedings* of the Royal Society in 1897 were regarded as a noteworthy contribution and attracted much attention These experimental studies were continued, and from 1911 to 1915 he published a good deal of work on experiments on restoration of paralysed muscles by means of nerve anastomosis His operations for "Suture of the brachial plexus in birth paralysis of the upper extremity" (BRITISH MEDICAL JOURNAL 1903) and "Section of the posterior primary division of upper cervical nerves in spasmodic torticollis" (Ibid 1908) and for "Section of the facial nerve with suture to the spinal accessory" (Ibid, 1900) are now described in all the advanced textbooks of operative surgery The descriptive anatomy of these procedures displays an intimate and familiar knowledge with an intricate anatomical region During the war he had further opportunities of nerve work, and his researches were published in the *British Journal of Surgery* in 1918 There can be no doubt that the success of Kennedy's nerve surgery was due to meticulously accurate anatomical knowledge In teaching he made a feature of anatomy, and of late years at least, when anatomical subjects were almost unobtainable, his share of the final examination in operative surgery was conducted rather along the lines of applied anatomy than in manipulative exercises on the cadaver

Professor Kennedy played a non-obtrusive part in the public life of the city of Glasgow He was sometimes seen on the platform at political meetings held in the Conservative interest He was a justice of the peace and a Deputy Lieutenant of the city During the war he did much work as consulting surgeon in charge of the Orthopaedic Department of the Scottish National Red Cross Hospital at Bellahouston, and when this hospital was taken over by the Ministry of Pensions he was appointed surgeon-in-chief, holding the office till over a year ago

A FRIEND AND COLLEAGUE writes The Scots have the reputation abroad—the Scots themselves think it a libel—of being a people of "dour" disposition, harsh manner, obstinate temper, possessing to a less degree than their neighbours those graces and humours that help to make life easier for themselves and other folk To others than his intimates and those in frequent working touch with him, Kennedy was a Scot of that type But there were soft bits in his nature, which indeed he was at times at great pains to hide, often too successfully We fear that Robert Kennedy—"Rab" was his hospital nickname—would have had little use for the motto of the good William of Wykeham, "Manners makyth man" He had much sorrow in the past two years in the death of his son and of his wife His daughter is now the only member of her family, and very general and sincere sympathy is felt for her in her triple bereavement

WILLIAM CAMPBELL, M D,

Springburn, Glasgow

THE death took place on May 26th, at Kilmacolm, Renfrewshire, of Dr William Campbell, late of Springburn, Glasgow Dr Campbell was born in Islay 58 years ago He graduated M B, C M at Glasgow University in 1893, and M D in 1911 After graduation he acted as an assistant in Sunderland, and afterwards began practice in Springburn, Glasgow, where for twenty-five years he never spared himself in the service of his patients About three years ago, on account of failing health, he retired from practice

He was a man of great charm His appearance was but an outward mark of a nobly sensitive nature Showing exceptional courtesy to rich and poor alike, he was at once quick in sympathy, abhorring cruelty, hypocrisy, and disloyalty above all things To those most intimate with him, it was not the successful practitioner who appealed most, but the man Big in every sense, full of the milk of human kindness, given to liberality, he was a delightful friend One of Nature's gentlemen, extremely sociable and a perfect host, he seldom left his happy domestic circle His home life and his work were his sole thoughts

During his twenty-five years' work in Springburn he became, as a result of his broad outlook and his interest in all the numerous specialties, a practitioner of enviable wisdom and reputation He had a high moral standard, though only to a few would he unburden his mind He was a man of deep but simple belief, to which he clung like a true Scot with unswerving devotion He was indeed a man who lived and died in the exercise of humble Christian faith Dr Campbell was unmarried He leaves behind him a record of good work well done and the affectionate remembrance of a large number of friends F W M

Professor LUDWIG WAELSCH, a well known dermatologist of Prague, has recently died at the age of 57

Dr RICHARD PALTAUF, director of the Institute of General and Experimental Pathology in Vienna, and a well known writer on the pathology of the blood, diseases of metabolism, and intoxications, has recently died at the age of 67

Universities and Colleges.

UNIVERSITY OF OXFORD

THE following candidates have been approved at the examination indicated

D P H—*Part I* T O Thompson *Part II* J G Johnstone, T O Thompson

UNIVERSITY OF CAMBRIDGE

AT a congregation held on June 7th the following medical degrees were conferred

M.D.—C. S. Dodson, H. B. Bolus.
M.B., B.Ch.—T. K. Maclachlan, W. E. F. Davidson.

UNIVERSITY OF LONDON

A MEETING of the Senate was held on May 21st.

It was resolved to institute a University Chair of Medicine tenable at the London Hospital Medical College with a salary of £2,000 a year; applications to be received by June 23rd.

The following footnote was appended to Regulation 4 of the regulations for the examination for the diploma in psychological medicine:

A candidate who enters for both parts A and B on the same occasion (March–April or October–November) but fails to satisfy the examiners in Part A, is ineligible to proceed to Part B and the fee which has been paid in respect of Part B is returned to him.

Mr Raymond Johnson having resigned his membership of the Senate as one of the representatives of the Royal College of Surgeons of England has been succeeded by Mr James Sherren for the remainder of the period 1921–25.

The annual report for 1923 of the Superintendent of the Brown Animal Sanatory Institution was presented. It recorded that during the year 5,652 animals were brought to the institution. Five lectures on the influence of environment on the life of bacteria were, as required under the will of the late Mr Brown, given by the superintendent in December, 1923. A considerable number of experiments on filter passing viruses had been carried out by the superintendent for the Medical Research Council, but so far it had been found impossible to determine with any certainty the exact nature of this most important group of viruses. The acid fast group of bacilli had been investigated and work also done on symbiosis. The appointment of Mr. Twort as superintendent of the Institution had been continued for one year from June 1st, 1924.

ROYAL COLLEGE OF SURGEONS IN IRELAND

THE following officers were elected on June 2nd: *President*, Mr Robert C. B. Maunsell; *Vice President*, Mr Andrew Fullerton; *Secretary*, Sir Frederick C. Dwyer.

Medical News.

THE Savill (Memorial) Lecture in connexion with the West End Hospital for Nervous Diseases will be delivered by Dr Arthur Hurst at the house of the Royal Society of Medicine, 1, Wimpole Street, W., on July 3rd, when Sir William Hale White will take the chair at 5 p.m. The subject of the lecture is migraine. The lecture is open to all members of the medical profession.

THE third English-speaking Conference on Infant Welfare will be held at Caxton Hall, Westminster, on Tuesday, July 1st, and three following days. At 10.30 on the first day the Minister of Health will give an address, and there will be a discussion on education in relation to maternity and child welfare. In the afternoon there will be a conference arranged by the National Council for the Unmarried Mother and Her Child. This will be followed by a meeting of the Council of the Association of Infant Welfare and Maternity Centres when playgrounds for young children and the reorganization of health visiting schemes will be considered. On the morning of July 2nd child adoption and overseas settlement of children are the subjects for discussion, and in the afternoon there will be a debate on day nursery work, this will be followed by a special meeting of the members of Poor Law authorities to discuss the relation of maternal and infant mortality to out-relief. On July 3rd the Eugenics Education Society has arranged a meeting to consider heredity as the basis of child welfare work, and in the morning and afternoon there will be debates on prematernity and maternity administration and on propaganda. The maternity and child welfare group of the Society of Medical Officers of Health will meet in the afternoon to consider infant malnutrition. In the evening Sir Maurice Craig will give a lecture on mental hygiene in relation to child training. Friday will be devoted to a series of visits to child welfare institutions. Full particulars can be obtained from the honorary secretary of the National Association for the Prevention of Infant Mortality, Carnegie House, 117, Piccadilly, where, during the conference, a mothercraft exhibition will be open.

THE annual dinner of the Federation of Medical and Allied Services on June 20th will take place at the Connaught Rooms, Great Queen Street, W.C.2, and not, as originally arranged, at the Langham Hotel.

THE Fellowship of Medicine and Post-Graduate Medical Association announces the following courses of instruction for practitioners. A four weeks' course in urology at St. Peter's Hospital for Stone, from June 16th to July 12th. A course in children's diseases, arranged at the Children's Clinic (Western General Dispensary), from June 16th to July 4th. Beginning on June 16th, a two weeks' intensive course at the Royal Northern Hospital and Royal Chest Hospital. A two weeks' course in ophthalmology will begin on July 7th at the Royal Eye Hospital, Southwark. A two weeks' intensive course in medicine and surgery will begin on July 21st at the North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham). There will be the following courses in August: diseases of children, at the Queen's Hospital for Children; diseases of the chest at the Brompton Hospital; neurology, at the West End Hospital for Nervous Diseases. A syllabus of the above courses, with particulars regarding fees, etc., can be had from the Secretary, Fellowship of Medicine, 1, Wimpole Street, W.1.

THE Master and Wardens of the Society of Apothecaries will entertain the representatives of the medical profession from the Dominions at dinner in the Apothecaries' Hall, *Blackfriars, E.C., on Tuesday, July 8th, at 7 p.m.*

THE annual clinical meeting of the Subsection of Proctology of the Royal Society of Medicine will be held in connexion with the visit of the American Proctologic Society to London on July 9th, 10th, and 11th.

MR H. D. GILLIES, C.B.E., F.R.C.S., has been granted permission to wear the insignia of Commander (Second Class) of the Order of the Dannebrog conferred upon him by the King of Denmark in recognition of valuable services.

THE Chairman, Dr Charles Wilson, and Dr Sloane Medical Superintendent of Wrenbury Hall, will receive visitors on Wednesday, June 18th, at 3.15 p.m., tea will be served at 4.30. *The institution* is the war memorial gift of the Cheshire British Red Cross Society and Order of St. John to the Cheshire County Council, and is intended to be used for the re-establishment of the health of tuberculous men by work in healthy conditions. The hall, farm, garden, orchards, workshops, and range of open air huts to house fifty men will be open for inspection.

THE twelfth annual report, issued by the *Journal of the American Medical Association* on typhoid fever in the sixty-nine cities in the United States with a population of more than 100,000 shows that every one of the twelve larges cities—that is those with a *population exceeding 500,000*—had a typhoid death rate in 1923 under 5 per 100,000, the lowest figure *hitherto recorded* for the cities in this group. In fifty-seven cities the records extend back to 1910; the typhoid death rate in them was somewhat higher in 1923 than in 1922 but with that exception the rate was the lowest on record—namely 3.45 per 100,000. Taking the whole sixty-nine cities the typhoid records for the last four years show a slight *reduction* in 1923 as compared with 1922. The opinion is expressed that though the *actual reduction* in typhoid is less rapid than before, probably owing to the fact that the new group of *young men* reaching the age of typhoid susceptibility is no longer protected by inoculation, improvement in the typhoid situation is still progressing in many cities. It is hoped that a further diminution will occur within the next few years, especially if rural typhoid can be eradicated.

THE Cambridge University Press announces for early publication the *Proceedings of the Seventh International Congress of Psychology*, edited by Dr C. S. Myers. The volume includes articles by leading psychologists in England, America, France, Germany, Austria, Holland and Sweden.

A CONGRESS for logopaedics and phoniatrics will be held at the physiological institute of Vienna University from July 3rd to 5th, when the following subjects will be discussed: (1) aphasia, (2) stuttering, (3) disturbances of speech and intelligence, (4) measures adopted in schools for dealing with children with speech defects, (5) affections of the speaking and singing voice. Further information can be obtained from Dr E. Fröschels, Felsteraase 6, Vienna.

THE University of London Press has arranged for the early publication of a series of pamphlets on The London County Council and what it does for London.

AT the invitation of the Dutch Government Professor Frosch and Dr Dahmen will give a lecture and demonstration on the cause of foot and mouth disease in the large hall of the Jaarbeursgebouw at Utrecht on Tuesday, June 17th, at 1.30 p.m. All Dutch veterinarians have been cordially invited to attend by the Director of the Veterinary Service.

THE annual general meeting of the University of Durham Medical Graduates' Association will be held on Thursday, June 26th, at 4 30 p m , at the house of the Medical Society of London, 11, Chandos Street, W 1 Following the ordinary business of the meeting, Dr G de B Turtle will read a short paper entitled "An attempt to classify certain types of pyrexia" An informal dinner will be held the same evening at the Criterion Restaurant at 7 45 (10s 6d , exclusive of wine) Any member wishing to attend is asked to apply to the Secretary, Dr F W M Pratt, 15, Clarges Street, Mayfair, W 1

A MEDICAL tour to the main spas of Italy is being organized by the Italian State Tourist Department (E N I T) from September 18th to October 3rd The following spas will be visited under the guidance of Professor Guido Ruata, M D , general secretary of the E N I T Acqui, S Pellegrino, Levico, Vetriolo, Roncegno, Salsomaggiore, Bagni di Montecatini, Monsummano, Chianciano, Fiuggi, Agnano First-class train and hotel accommodation will be provided throughout At each spa visited lectures will be given by a local physician, and medical interpreters in English, French, and German will accompany the tour The complete charge is fixed at 1,600 lire, including all railway and hotel expenses from the beginning of the "Nord Sud" at Milan to its end at Naples Reduced fares will also be obtainable from the Italian frontier to Milan and from Naples back to the frontier The application list will close when the number 200 has been reached, and in any case not later than July 31st Programmes and further information may be obtained from the Italian State Railways Tourist Office, Waterloo Place, London, S W 1

THE Ministry of Health has issued a revised list of clinics for venereal diseases in England, Wales, Scotland, and Northern Ireland

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W C 2, on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W C Attention to this request will avoid delay Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429 Strand W C 2.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand London*

MEDICAL SECRETARY *Mediocria Westrand London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 4737, Dublin), and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone 4361 Central)

QUERIES AND ANSWERS.

PULMONARY TUBERCULOSIS IN LATER LIFE

"B" asks for help in advising a patient in the following circumstances He is a man, aged 57 who down to four years ago was capable of hard work He has had a cough for about eighteen months and has lost about 2 st in weight The tubercle bacillus is present in the sputum He has spent most of his life in Western Canada where he lived a rough, out-of door life as trapper and farmer He served with the Canadian contingent during the Boer war and believes that the Karoo would suit him He wants a dry sunny climate, where living is inexpensive, and does not want to see any more snow "B" would be glad to know whether the Karoo would be likely to suit his patient, and, if so how he could go about settling there His means are limited and he has a wife and daughter

METHYLATED SPIRIT AND ZINC

"H M "—We are advised that the addition of zinc sulphate to methylated spirit would interfere with its utility for burning (it would clog the wick and pollute the atmosphere) as well as for a number of other applications The revenue department concerned with regulations relating to methylated spirit has had before it numerous suggestions embodying a great variety of ideas It would willingly adopt a new preventive if it had any advantage over those now in use and introduced no graver objection

DIAGNOSIS IN SORE THROAT

"PERPLEXED" writes May I be permitted to bring forward a question which undoubtedly has presented itself and caused anxiety at one time or other to every general practitioner—that is, the question of the differential diagnosis between tonsillitis and diphtheria? On being called to a doubtful case of "sore throat," with doubtful origin, showing an inflamed condition of the tonsils, without spots or membrane, what course is to be followed by the practitioner if he wishes to protect himself against charges of professional negligence, carelessness, and unskilled treatment, and yet at the same time give justice to his patient? Some suggest giving antidiphtherial serum and taking a swab for examination, but should the case really be one of simple tonsillitis and not diphtheria, is it fair to inconvenience the patient with antitoxin? Then, again should this patient get over this attack and later develop true diphtheria, say, after an interval of ten or twelve days, what about the question of anaphylaxis when a second dose of serum is given on admission to hospital? Others suggest the swab only, postponing the serum until a result necessitating it is obtained, but does not each moment of delay before the pathological examination is complete tend to lessen the chances of recovery should the result give a positive diagnosis of diphtheria? One other course open to the medical man in a case of "sore throat" is to send the patient to hospital as "diphtheria," without injecting or swabbing, but, on the face of it, this is surely wrong unless a definite and correct diagnosis has been given

INCOME TAX

"H E B" explains that he is a bachelor and employs a working housekeeper and one maid He has been refused a deduction on account of the housekeeper

*** The refusal seems justified except for the, presumably, short period of the maid's absence on holiday "H E B" is entitled to deduct as a professional expense only that portion of his wage, etc , expenditure which is incurred in respect of the professional portion of the premises or in waiting on clients

Cash Basis

"INQUIRER" explains that when he purchased a share in a practice some years ago the receipts which came to hand after the change took place were included in his firm's income tax returns, whether they were handed on to the retired partner or not The same procedure is being followed now that the other partner has been succeeded by a newcomer Is this correct?

*** "Inquirer" may usefully refer to a reply published in our last issue (p 1036) The procedure is correct, but it should not be regarded as payment by one man of tax on another's income, with a probable *quid pro quo* to follow when the position is reversed When 'Inquirer" included the fees handed on to the outgoing partner in the computation of his firm's liability he did not pay tax strictly in respect of those fees, he included them to obtain a true measure of the earnings of the firm (whether then received in cash or not) for the year of assessment

LETTERS NOTES, ETC

HERPES AND VARICELLA.

DR G DEERY (Plymouth) writes I am attending a case very similar to that recorded by Dr Stansfield (BRITISH MEDICAL JOURNAL May 24th, p 944) A man, aged 67, suffering from a severe attack of infraorbital shingles, developed, on the fifth day of his complaint, a well marked chicken pox rash This is the first case of this nature which I have seen

"POST MORTEM CRYING"

DR DOUGLAS KERR (Assistant, Forensic Medicine Department, Edinburgh University) writes With reference to Dr Veitch's note under the above heading (May 31st, p 956) he is surely under a misapprehension, there is no such thing as *post mortem* crying, and his own account proves that in this case the child was living when it uttered the cries It is not an unusual occurrence as obstetricians know, for an infant to live for a few minutes after even such a severe injury as that described In regard to the suggested medico-legal aspect, it is surely evident that if the body of a newly born infant was found the lungs of which were fully expanded with air, and which had severe injuries to the head of such a nature as could not have been produced during birth, the medico-legal examiner would be entitled to conclude that the child had survived its birth and had been "born alive" A mother could not produce such injuries unless the child was outside the maternal passages If, on the other hand, the injuries were caused by a third party, then the circumstances would show whether they were caused with criminal intent or by a medical man in the legitimate conduct of the case

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 34, 35, 38, and 39 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 36, 37, and 38

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *283*

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

471 Reflexes in Tuberculosis.

F. M. POTTENGER (*Med Journ and Record*, February 20th, 1924, p 181) points out that there are many reflexes originating in the lung which become manifest when the pulmonary tissue is inflamed, and are of importance in the diagnosis of pulmonary tuberculosis. The motor reflex from the lung causes spasm of the muscles innervated by the cervical segments of the cord, and spasm of the sterno-mastoids scaleni, pectorals, trapezius, levator anguli scapulae rhomboidei, and the crura and central tendon of the diaphragm have great diagnostic significance. While the process involved is similar to the rigidity of the abdominal muscles in appendicitis, cholecystitis and gastric ulcer the impulses in lung reflexes are carried upward by intercalated neurons and mediate with the motor neurons arising in the cervical segments of the cord, and not, as in abdominal cases in the segments which receive the afferent impulse from the inflamed organ. In order to detect this increased muscle tension the patient must be erect the spasm can be detected on palpation either by comparison with the healthy side when one lung only is affected, or, when both lungs are affected by experience of normal muscle tension. The spasm also causes limitation of movement of the chest wall and although such limitation may be caused by other factors —for example, pleural adhesions loss of pulmonary elasticity etc.—the sign is of diagnostic value in early lesions where such conditions do not obtain. While acute pain is rare as a sensory lung reflex, yet irritability discomfort, and changes in tactile and temperature perception are transmitted to the surface of the neck and chest above the second rib anteriorly, and to the region between the occiput and the spine of the scapula posteriorly, with deeper altered sensations in the muscles showing the motor reflex. Sensory pleural reflexes may vary from a mild sensation to an excruciating pain, and trophic reflexes are manifested by a thinning out of the skin and subcutaneous tissue between the second rib and the angle of the jaw anteriorly and the spinous process of the scapulae and the base of the skull posteriorly. The muscles which show the atrophy best are the sterno-mastoids pectorals, trapezius, and the levator anguli scapulae all the tissues presenting a loss of elasticity on palpation. The combination of these trophic and motor reflexes afford accurate signs of past and present pulmonary disease.

472. Herpes Zoster and Varicella.

H. W. BERINSOHN (*Nederl Tydschr v Geneesk.*, May 10th, 1924, p 2097) remarks that of recent years the simultaneous existence or occurrence in close succession to one another of herpes zoster and varicella has been so frequently observed that some are inclined to think that there is a causal connexion between the two diseases, although the evidence is by no means conclusive. During the last fifteen years Berinsohn has seen 250 cases of varicella, as compared with only 71 of non symptomatic herpes zoster. A study of the age distribution of these cases showed that varicella was commonest in the age period 0 to 3 years (40 3 per cent.) and then gradually became less frequent (32 per cent between 3 and 6 20 4 per cent between 6 and 9 4 4 per cent between 9 and 12, and 1 6 per cent between 12 and 15) after the age of 15 only sporadic cases occurred (0 4 per cent.) On the other hand, herpes zoster was least frequent before the age period 6 to 15 the figures being as follows 0 to 3 years 4 2 per cent., 3 to 6, 7 per cent 6 to 9 19 7 per cent 9 to 12, 18.3 per cent 12 to 15 18.3 per cent 21 and over 17 1 per cent. The difference in the age periods of herpes zoster and varicella is, in Berinsohn's opinion a strong argument against the identity of the two diseases. Other important differences are that after an attack of varicella the patient is immune to varicella but not to herpes zoster. Relapses of varicella are rare—only one example occurred in Berinsohn's series—whereas herpes zoster does not confer immunity, and second attacks were frequently seen.

473. Treatment of Chorea by Lumbar Puncture.

A. SALOMON (*Deut med Woch* February 8th 1924 p 166) has found that in most cases of chorea minor the well established treatment with arsenic is effective but its action is slow, whereas that of lumbar puncture may, in some cases be dramatically rapid. As long ago as 1914 it was pointed out by Passini that the cerebro-spinal fluid in chorea is under an abnormally high pressure and that 30 to 40 c.cm. of cerebro-spinal fluid can be easily withdrawn on lumbar puncture. He assumed that in the cases deriving benefit from lumbar puncture the manifestations of chorea minor were due in part at any rate, to the mechanical pressure or the toxic content of the cerebro-spinal fluid. The author confirms some of Passini's views and records in detail several cases of chorea minor in which lumbar puncture was undertaken. In some of these cases it revealed an abnormally high fluid pressure, which in one case was as high as 3.0 mm. of water. In two cases rapid improvement and in three other cases more slow improvement followed this procedure which was most successful in the cases of short duration—that is only ten to twelve days. Probably even better results would have been obtained had more of the cerebro-spinal fluid been withdrawn than was the case in some instances. Thus the results were best when 25 c.cm. were withdrawn. When only 5 to 10 c.cm. were withdrawn the benefits accruing were not so prompt.

474. Causes of Persistent High Blood Pressure.

A. FABER (*Uges'rift for Laeger*, February 21st 1924 p 151) publishes an account of blood pressure investigations carried out at Silkeborg Hydro in Denmark. A comparison of the pressures with the ages of the patients showed that in the case of the men a marked rise was not to be observed till the forties had been reached whereas women showed an appreciable rise of pressure in the thirties. The author sees in this rise one of the earliest signs of the impending climacterium. Among 100 women between the ages of 45 and 55, without gross organic disease he found 47 with a blood pressure above the normal (exceeding 170 Sahli). Disease of the kidneys and heart, and more or less localized arterio-sclerosis, seemed to play a more important part in men than in women these lesions were demonstrable in about 60 per cent. of the men and only 17 per cent of the women whose weight was below and whose blood pressure was above, normal. The author is very sceptical about the part which arterio-sclerosis *per se* is supposed to play in producing a high blood pressure. In the March number of the same journal (p 219) he defines two main groups of high arterial pressure in the first group it is associated with renal disease and is possibly due to it. In the second group the high blood pressure is essential —that is it is independent of renal disease. Of 100 cases in which the blood pressure exceeded 165 mm. of mercury there were signs of renal disease in 34 and in 51 there were no such signs there were also 11 cases in which the hypertension was associated with valvular disease of the heart, and 4 in which it was associated with polycythaemia. With regard to the influence of excessive weight on the blood pressure it was found that among the 9 women found to be suffering from hypertension in 1923 the excess of the body weight above normal averaged 16 kilos. As regards prognosis the author expresses considerable optimism in the case of those patients whose hypertension is essential and who are willing to submit to appropriate treatment. Even with a pressure exceeding 200 mm. they may live happily for decades, provided they cease to poison themselves with tobacco give up work entailing much or violent psychic strain reduce their alcohol consumption and adopt a mainly lacto-vegetarian diet. Coffee and tea need not however be interdicted, as is usually the case and their diuretic action may even be beneficial. Venesection is of little value for the relief of chronic hypertension but it may have a life-saving value in the acute stages of hypertension, with sudden attacks of cardiac asthma and pulmonary oedema.

475. Cerebral Syphilis and Aortitis.

K. LÖWENBERG (*Klin Woch* March 25th 1924 p 531) gives the statistics of necropsies performed by him in the period 1919–23 at the Hamburg Friedrichsberg City Hospital and the University Mental Klinik on cases of cerebral syphilis. There were 341 cases of general paralysis of the insane and 9 of cerebral syphilis. Syphilitic aortitis was found in 33 1 per cent. of the former and in 33 per cent of the latter. Aneurysm was found in 9 cases. Löwenberg gives details of three autopsies on patients who had received malaria therapy for general paralysis, and states that the presence of syphilitic aortitis or of heart disease obviously increases the danger of this treatment. In every case (in spite of quinine treatment) the spleen was much enlarged. The author emphasizes the importance of the general recognition of the fact that in syphilis of the central nervous system there is a high percentage of syphilitic lesions of the circulatory system.

Surgery.

476 Spontaneous Haematoma of Abdominal Wall

S VON RENNER (*Zentralbl f Chir*, March 8th, 1924, p 380), who records an illustrative case, states that in addition to traumatic rupture of the normal rectus abdominis spontaneous rupture may occur in a diseased or atrophic muscle. These spontaneous ruptures are found in the course of, or in convalescence from, severe infectious diseases such as typhoid fever or tetanus, in pregnancy, labour, or the puerperium, and lastly in advanced age. While rupture of the rectus in severe infectious diseases and during or after pregnancy is almost always due to external causes, such as coughing, retching, or attempting to sit up in bed, in advanced age no obvious cause can be found. Von Renner's case was in a woman, aged 63, an arterio sclerotic subject, who had had a transient apoplectic attack two years previously. One night, without obvious cause, she had severe pain in the abdomen and was sent to hospital with the diagnosis of intra-abdominal disease. On examination an obliquely situated longitudinal tumour, the size of the palm of the hand, was seen to the right of the mid line between the umbilicus and the pubis. The skin below the umbilicus showed a slight bluish discoloration. As intra abdominal disease was suspected an operation was immediately performed. On separation of the fascia the whole of the right rectus was found to be infiltrated with blood, and beneath the muscle was a large clot. No bleeding vessel was seen. On opening the abdomen the intestines and genital organs were found to be normal. The clot was removed and recovery took place. As in almost all cases on record the right side only was affected. The patient had never been pregnant. Why spontaneous rupture of the abdominal muscles, apart from infectious and obstetrical conditions, has been confined to elderly women has not been determined. Possibly the absence of ovulation following the climacteric is responsible.

477 Thrombosis of the Superior Mesenteric Artery

L LAPEYRE (*Bull et Mem Soc Nat de Chir*, April 5th, 1924, p 435), in recording a case of thrombosis of the superior mesenteric artery, reminds us that this condition is rare. The patient, a female, had been operated upon eighteen months previously for a left pyosalpinx and had also had hysterectomy performed at the same time. When seen the second time she had been suffering from acute abdominal pain for three days, vomiting of a faecal character was also present, with complete obstruction and no passage of flatus. The abdomen was distended and free fluid was found in the flanks. On rectal examination the finger was stained with blood. At the operation a coil of bowel was found in a practically gangrenous condition, a short distance from the ileo caecal junction. Nearly 3 feet of bowel were resected and a lateral anastomosis was performed. The patient, however, died a few days later, the vomiting and obstruction persisting and being apparently due to paralysis of the bowel. The author considers that the condition probably resulted from infection at the previous operation, the inflammation leading to the thrombosis of the mesenteric artery. An important point in the treatment is to resect as far as possible from the lesion without considering the length of bowel removed. In this case probably too little was excised, and it might be necessary to remove as much as 6 feet.

478 Post-operative Tetany

R SYRING (*Zentralbl f Chir*, March 15th, 1924, No 11a, p 474) has performed 600 operations for goitre within the last four years at the Elizabeth Hospital at Ulm, with only one death, or a mortality of 0 17 per cent. Seventeen patients developed tetany all but one of whom were females. Six cases occurred in the second decennium, seven in the third, two in the fourth, and two in the sixth. The attack was severe in five, moderate in seven, and mild in seven. Syring's conclusions are as follows: (1) Ligature of all four thyroid arteries in most cases has no bad effects, and is recommended to prevent haemorrhages and as a safeguard against relapses. (2) In patients with parathyroid insufficiency ligature of all four arteries is apparently liable to produce acute parathyroid insufficiency and thereby give rise to acute tetany. (3) Tetany, which in the great majority of cases affects the female sex only, has a relatively favourable prognosis, and can be suitably treated by administration of large doses of parathyroid tablets and calcium lactate. (4) Careful examination should be made before the operation to determine if the patient is predisposed to tetany. (5) If signs of predisposition are present it is advisable to ligature only three thyroid arteries and to treat the patient prophylactically with a diet rich in calcium, such as milk, and parathyroid tablets during the critical stage of insufficiency.

479 Dislocation of a Cervical Vertebra

A MOUCHET (*Bull et Mém Soc Nat de Chir*, April 12th, 1924, p 485) records a case of anterior dislocation of the fifth cervical vertebra, reported to him by C Cornioley of Geneva, which was accompanied by a paralysis of the nerve roots, the dislocation was easily reduced and a rapid recovery followed. The patient, a female, 36 years of age, had been injured in a motor accident. Owing to the number of other injuries the damage done to the spine was not recognized for six days. Local examination did not reveal any deformity of the neck or any fixed position of the head or tenderness on pressure over the spine, the diagnosis of dislocation was, therefore, difficult. There was, however, paralysis of the muscles supplied by the fifth cervical nerve and paresis of the muscles supplied by the sixth pair of nerves. A lesion of the spinal column was therefore suspected, and a radiogram showed an incomplete bilateral anterior dislocation of the fifth over the sixth cervical vertebra. There was also a fracture of the process of the fifth vertebra. Under general anaesthesia extension was applied to the spinal column and reduction successfully accomplished. The paralysis disappeared a few days later.

480. Fibular Transplantation to Replace the Tibia

D FEISCHI (*La Chir degli Organ di Movimento*, March, 1924, p 213), after a review of the literature of this surgical proceeding first described by Hahn and Codivilla, gives details of five cases operated on by him, they were mostly cases of osteomyelitis, but one was a severe compound fracture which ordinarily might have involved amputation above the knee, this was successfully avoided by transplanting the fibula in the place of the tibia, the shaft of which was excised. The result was excellent. This case is fully illustrated by radiograms at various stages, showing the progressive hypertrophy of the transplanted fibula. In the ordinary treatment of osteomyelitis relapses may occur even after apparent cure. The author gives details of the substitution operation and results in regard to the age of the patient. He thinks the operation should not be confined to orthopaedic surgeons, but might be used more regularly by general surgeons. The subsequent growth of the fibula varies according to the age of the patient, and although it may be irregular at times, the ultimate issue is favourable. The paper is freely illustrated and a short bibliography is appended.

Laryngology and Otology.

481 Surgical Treatment of the Labyrinth.

SIR W MILLIGAN (*Journ of Laryngol and Otol*, May, 1924, p 245), discussing suppurative and certain non suppurative affections of the labyrinth, points out that the symptoms vary according to the particular portion of the internal ear involved, implication of the cochlear segment being accompanied by nerve deafness and tinnitus, that of the vestibulo canalicular system by vertigo, disturbed equilibrium, nystagmus, and nausea and sickness. Involvement of both segments presents a combination of symptoms relating to the area more particularly affected. Although septic processes may spread from the base of the brain through the internal auditory meatus, or into the superior semicircular canal from erosion of the eminentia arcuata, or from a fractured base, the most frequent route is through the middle ear as the result of chronic infective disease with defective drainage, erosion of the external semicircular canal taking place in circumscribed labyrinthitis, and of the fenestra ovalis in diffuse purulent labyrinthitis. Circumscribed, diffuse purulent, and diffuse serous labyrinthitis are the clinical types. If there is good drainage surgical treatment is contraindicated in circumscribed labyrinthitis because of the danger of converting the condition into a diffuse one, but diffuse purulent labyrinthitis with deafness, nystagmus, nausea, fever, etc., requires prompt and efficient surgical action. The cochlear segment should be interfered with as little as possible, provided that thorough drainage is secured, since some amount of hearing may thereby be retained. When hearing is destroyed, and the infection is severe and diffuse, free drainage should be obtained by a complete labyrinthectomy with preservation of the facial nerve. In non suppurative labyrinthitis—the pseudo Ménière syndrome—in which apparently healthy individuals are liable to recurring and incapacitating attacks of vertigo, sickness, tinnitus, and deafness, partial or complete destruction of the labyrinth is indicated. The severity of the operation, and the risk to the facial nerve, and of septic meningeal infection, render it applicable only in carefully selected cases, in twenty cases operated upon eight obtained complete relief, four considerable relief, the remaining eight being unrelieved.

482. Operative Treatment of Cancer of the Larynx

J E MACKENTY of New York (*Journ of Laryng and Otol*, February, 1924, p 67) gives statistics of cases of laryngeal carcinoma under his care during the last twenty years Before 1917 he performed many extensive block dissections of the larynx for extrinsic cancer, and in all cases recurrence took place with ultimate death Since 1917, in the only case of extrinsic growth in which an operation was performed the patient died from recurrence Among the intrinsic cases after many partial laryngectomies, ranging from window resection to hemilaryngectomy, about half the number of patients escaped recurrence, total laryngectomy for recurrence failed to save the patient Since 1917, of 143 cases 46 were intrinsic Thirty-one complete laryngectomies and 2 thyrotomies were performed without operative mortality of these, 5 have died of recurrence, 2 of other diseases and the remainder are well 14 having remained free now for more than four years In one apparently localized case there was found to be perforation of the thyroid cartilage and glandular infection, in others, with freely movable vocal cords there was shown by subsequent microscopical section to be such involvement as to make any incomplete operation useless The author points out that the incomplete operation aims at no more than 5 mm of healthy tissue as a margin he draws attention to the fact that only one third of the growth, or even less is visible to the eye during life He considers that all patients, however early the disease should be treated by the most radical operation—for example, complete laryngectomy—that preliminary laryngotomy should never be performed, and bioscopy avoided if possible Mackenty combines local and general anaesthesia under local he exposes and strips the larynx and trachea of muscles, etc , a general anaesthetic is then administered and, after injection of cocaine into the trachea that structure is divided just below the cricoid A wide rubber tube is fitted into the lumen of the trachea and the anaesthetic administered thereby The larynx is dissected from below upwards, and finally the thyro-hyoid membrane incised and the larynx separated from the hypopharynx which has been stuffed with gauze Great care is taken to prevent even the smallest amount of blood reaching the trachea and bronchi The author has ceased to expect primary union in these cases, and provides very adequate drainage by means of rubber tubing wrapped round with gauze A feeding tube is placed through the nose to six or seven inches down the oesophagus and is left in for two or three weeks all nourishment being given by this means Very careful attention is given to the dressings and to the cleaning of the buccal cavity and hypopharynx Finally the author states that incipient cancer of the larynx is a curable condition, but requires a complete laryngectomy to produce that result

483. Cerebellar Haematoma communicating with the Sigmoid Sinus.

CITELLI (*Arch Internat de Laryngol, d Otol et de Rhinol*, February, 1924, p 139) reports the case of a young man of 17 who, after an attack of influenza, suffered from a mastoid osteomyelitis which supervened on chronic suppurating otitis media. A complete mastoidectomy was performed exposing a length of sigmoid sinus which appeared healthy and was consequently not explored The mastoid wound progressed well and the patient did well for four weeks but on the twenty-eighth day after the operation the skin flap was found to be very swollen and there was much discharge from the wound There was horizontal nystagmus equal in either direction, and disturbance of equilibrium the voice had almost disappeared After twenty four more days of careful treatment the condition was very much better as regards the operation area, but the disturbance of equilibrium and the nystagmus persisted. The patient complained of headache and slept badly Facial paresis was noticed and passed into complete paralysis a few days later the headache increased and depression became very marked There was spontaneous past pointing to the affected side, and Romberg's test gave a swaying of the trunk that was not affected by changes in the position of the head. There was no rise of temperature The optic fundus was unaltered except for slight congestion of the disc Reviewing these signs and symptoms, and especially the facial paralysis, the author diagnosed cerebellar abscess On exploring the posterior fossa he found a bluish looking dura mater below the transverse sinus, from which when incised, came a gush of venous blood The wound was immediately packed with gauze and the operation stopped. The facial paralysis was much relieved at once and entirely disappeared in a few days as did all the other symptoms, the patient being completely cured The author lays stress on the appearance of the paralysis of the facial nerve at some interval after the performance of a radical mastoid operation, and considers that this is a sign of pressure in the region of the internal auditory meatus He has found this condition three times—due once to haematoma and twice to abscess of the cerebellum In these cases facial paralysis came on some time after a radical mastoid operation and was associated with nystagmus and disturbance of equilibrium.

484 Finsen Light Treatment of Rhino-laryngeal Tuberculosis.

O STRANDBERG (*Journ of Laryngol and Otol*, January 1924, p 9) describes in detail his method of administering light baths Carbon arc lamps are suspended from the ceiling over the couches upon which the patients lie the lamps must be capable of elevation and depression, and the positive pole be vertically over the negative A crater is formed in the end of the positive pole and the therapeutic rays are evolved from this A constant current must necessarily be used since an alternating one would produce but little effect The lamps are made in two sizes—of 20 amperes and 55 volts and of 75 amperes and 55 volts, respectively As a rule two large or three small lamps are used at distances apart of 600 mm No glass or other substance is allowed to intervene between the arc and the patient, who must be completely naked save for a shade over the eyes With seriously ill patients the first baths only last for ten or fifteen minutes gradually increasing to two and a half hours on alternate days or every day Patients in better state of health can start with thirty five to forty minutes baths The bath is followed by a tepid shower bath, and the majority of the patients can return to work immediately Erythema and blistering may occur at first followed by pigmentation but there is no other inconvenience and patients do not appear to be more liable to catch colds in the winter The author gives a list of results of treatment showing marked amelioration of symptoms in cases of lupus of the upper air passages and tuberculosis of the larynx and cure in a good proportion A series of histological preparations from the turbinal mucosa of a case of nasal lupus made during the course of treatment showed the gradual disappearance of tubercles and confirmed the clinical findings Symptoms such as hoarseness, pain and difficulty of swallowing were rapidly and thoroughly relieved.

Obstetrics and Gynaecology

485. Treatment of Adnexal Disease.

W DUWE (*Zentralbl f Gynecol*, April 5th, 1924, p 737) agrees with the views expressed by Henkel in 1905 that 80 or 90 per cent of women with adnexal disease can be cured by conservative measures, but admits that the treatment of working women, who must get back to work as soon as possible differs from that of those in easier circumstances Some patients moreover, do not improve in spite of careful treatment and complications such as chronic pelvic inflammation and uterine malpositions have to be treated surgically Treatment is thus conservative at first, but if unsuccessful, gives place to surgery The anatomical cure of thickening is impossible, but clinical cures are frequent The author has seen patients with adnexal swellings as large as a fist on each side which disappeared and allowed pregnancy to occur on opening the abdomen at a later date for some other reason apparently normal tubes were found. He describes a case of pyosalpinx with perforation into the rectum which was nevertheless cured by conservative treatment When operative treatment is required the abdominal route is preferred giving better access and also a clearer view of the field of operation except perhaps in tuberculous disease

486. Placenta Accreta.

ACCORDING to J O POLAK and G W PHELAN (*Surg Gynecol, and Obstet* February 1924, p 181) placenta accreta besides being a definite pathological entity is of considerable clinical importance It is defined as being the implantation of the ovum and the development of the placenta on a uterine wall in which there is very little or no decidua basalis so that the myometrium is eroded by the trophoblast and penetrated by chorionic villi. Such a condition occurs in association with submucous myoma as a sequel to vigorous curettings or after manual removal of the placenta in a previous labour It is to be distinguished from retention of the separated placenta in which the clinical signs of (1) uterine haemorrhage (2) descent of the cord and (3) a characteristic ball like shape of the fundus uteri, are always present The distinction from simple placental adhesion is that in placenta accreta a complete manual removal of the afterbirth shows that there is no line of cleavage between the placenta and uterine wall Such attempts if made are nearly always followed by death from haemorrhage sepsis perforation of the uterus or from a combination of these It is recommended that in all

cases of delayed placental delivery without haemorrhage the possibility of placenta accreta should be borne in mind No attempts at Crede's expression should be made, and if exploration under general anaesthesia shows a line of cleavage to be absent hysterectomy should be done The history is related of a patient, aged 26, who had been subjected to four curettings—one for sterility and three for menorrhagia After spontaneous delivery of a dead seven months foetus the placenta was retained above a large submucous fibroid Manual removal was found impossible on account of placenta accreta the patient recovered after supravaginal hysterectomy Microscopical examination showed absence of decidua, and syncytial cells were found in the greatly thinned uterine wall The frequency of true placenta accreta is estimated as about 1 in 6,000

487 Pregnancy after Myomectomy

GOULLIOUD (*Gynécol et Obstét*, 1924 ix, 3, p 268) gives details of fifteen cases of abdominal myomectomy followed by pregnancy Reviewing his own cases and those mentioned in the literature, he states that about 25 per cent of married patients aged less than 40 become pregnant after myomectomy, and the percentage is probably much larger in women operated on about the age of 30 who desire maternity Single sessile myomata of the fundus are those most favourable to post operative fecundity a patient of the author's who had a tumour of this description had five healthy children in the thirteen years subsequent to myomectomy Myomectomy, it is said, does not predispose to abnormal conditions of pregnancy, four out of five pregnancies continue to term Dystocia due to abnormal presentations is in no way favoured by antecedent myomectomy Rupture of the uterus has been recorded in three cases, in one of which a previous post-operative pregnancy had terminated normally It is to be remembered that patients subjected to myomectomy are as a rule elderly nulliparae (or primiparae), subsequent labour is likely to be somewhat prolonged and its supervision in an institution is desirable Occasionally a small myomatous nodule in the cervix may be overlooked at the time when myomectomy is done, such a myoma, increasing (as in one of Goulliloud's cases) in size during pregnancy, may render natural delivery impossible and necessitate Caesarean section or hysterectomy The author does not deny that in a certain number of cases recurrences of myomata many years after myomectomy may necessitate a second operation, or preferably irradiation In the meantime, however, the patients have enjoyed a mean period of ten years of normal functioning of the reproductive organs

Pathology.

488. Antirabic Virus

P REMLINGER (*Arch de l'Institut Pasteur de Tunis*, April, 1924 p 114) draws attention to the fact that the original virus of Pasteur has now passed through some 2,000 rabbit reinoculations and has become inoffensive to man, to the dog, and to tissues other than the nervous the further removed a virus is from the original the harder it is to produce experimental rabies by injecting it hypodermically Furthermore, the virus is now less resistant to desiccation and to the action of glycerin It has been found in the Pasteur Institute of Tangier that, whereas the medulla of a rabbit succumbing to the laboratory virus loses its virulence by the fourth day, the medulla of a rabbit which has died of ordinary rabies does not do so till the sixth In 15 cases injecting the preparations of four day medulla gave 7 positive and 8 negative results whilst with the two-day variety all results were positive From this the author concludes that the four day and even the three day type correspond with the six day preparation of Pasteur As regards glycerin extracts, the potency of which persisted formerly for almost a month, it is now found that seven or eight days immersion renders fatal three or two day specimens It is possible, therefore, to administer hypodermically to man large amounts of infected nervous substance without unpleasant reaction of any sort Treatment was commenced originally by desiccated medulla of the fourteen and thirteen day type, rising to the three day type For several years now most institutes have commenced with a six day and finished with a two day medulla The virulence which was once present at six days is now represented at four or even three days, and the author advocates commencing treatment with a four day variety rapidly pushed to a one day or even to fresh substance The course of treatment in most institutes occupies from fifteen to thirty days one or two injections of 3 c cm being given daily according to the severity of the bites—a procedure which the author regards as now out of date He suggests injections two or three times as large and given much more frequently To patients coming under treatment only a few days after being bitten it is recommended that four 1 c cm injections of desiccated four day medulla be given the first day—two in the morning and two in the afternoon—and these should be repeated similarly on following days, rising progressively to injections of two day strength Such a method, involving eighteen to twenty inoculations, would shorten the duration of a course of treatment from fifteen to five days Two supplementary injections are advocated in order to guard against idiosyncrasies of natural immunity In graver cases six daily injections are recommended over a similar period of five days, and in the worst cases the last series of inoculations—which in such instances have been pushed to one day and, finally, to fresh medulla—should be repeated for several more days The advantages are stated to be early establishment of immunity, shortness of period of incapacity from work, and shorter stay in hospital, all of which should compensate for the more severe nature of the treatment It is, however, remarked that such a rapid course may not be suitable for the subjects of arterio sclerosis, nephritis, and nervous disease The author adds a still more radical modification If, in place of the four, three, or two day medulla, fresh material be immersed in glycerin, virulence is found to persist, not for seven or eight, but for twenty five days Treatment would be commenced with non virulent injections—that is to say, those subjected to immersion for over twenty four days, and worked up to the more virulent strengths The simplification and economy of equipment, time, and money attained by such a method are emphasized

489 Red Cell Production after Transfusion.

R ISAACS (*Arch Intern Med*, February 15th, 1924, p 193) reports experimental work on the blood of man and the dog He finds that the property of non agglutinability by serum affecting other corpuscles is possessed in common by reticulated normocytes, normoblasts, stippled cells, cells with refractive granules in their substance, and is, in fact, characteristic of immature red cells Immediately after transfusion the total count of reticulated cells fell, but within two to four days the number of young cells equalled the number of non agglutinated cells Agglutination, therefore, as a means of recognizing the cells of a donor in a transfused subject is of negative value beyond that period The first response to a "call," either after transfusion or after haemorrhage, takes the form of an increase in cells with large intracellular refractive granules, next reticulated cells appear in increased numbers, finally the nucleated red cells increase During recovery the reduction in these types is in the reverse order The temporary effect of transfusion would appear to be that of assisting immature cells to advance a stage in development towards maturity In the view of the author, transfused cells, while lasting only a short time, enable the marrow, in virtue of the artificial rest obtained, to respond to a stimulus which was inadequate previously Cells with refractive granules only are stated to be the final stage in the production of mature red cells, and their increase, with a decrease in reticulated cells and normoblasts after haemorrhage or haemolysis, indicates a return to normal conditions—the converse implying a continuation of the morbid process and that immature cells are still having to be utilized Resistance to agglutination is, in the opinion of the author, due, not to the absence of agglutinogens, but to a demonstrable membrane which exists round the immature cell In granular cells, owing to the adhesive nature of the granules, when peripheral, the cells frequently present pear shaped or spindle shaped forms It is noted that reticulated macrocytes and megaloblasts are not similar to reticulated normocytes in their behaviour toward agglutinating serums

490 Flocculation Test for Syphilis

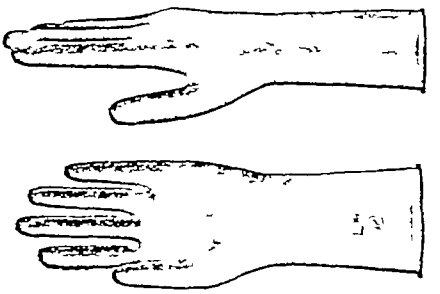
A D VOLTA and P BENEDETTI (*Il Policlinico*, April 1st, 1924, p 189) give an account of further work, based on about a thousand cases, in relation to the flocculation test for syphilis, previously described by them With very few exceptions this test was positive in all the cases where the Wassermann test was positive, and it never gave a positive result in non syphilitic cases except in one of leprosy where the Wassermann reaction was strongly positive The reaction is induced when 0 2 c cm of serum heated for a quarter of an hour at 56°C is mixed with 0 8 c cm of an alcoholic extract of guinea pig's heart prepared according to the authors' formula If the reaction is positive flocculi appear after three to six hours in a thermostat The authors discuss the recent serological tests for syphilis based on precipitation of the lipoid substances in the extract in the form of flocculi A bibliography of 147 references is appended

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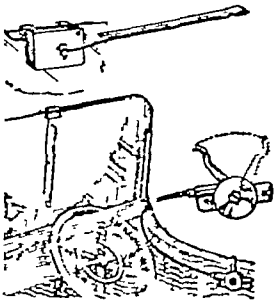
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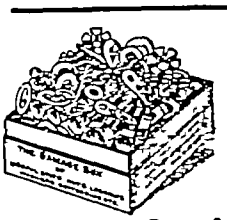
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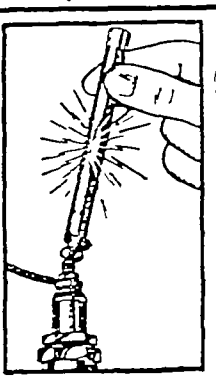
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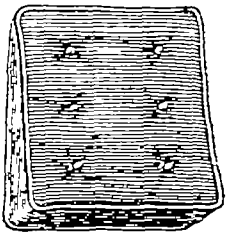
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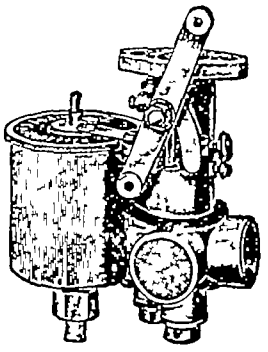
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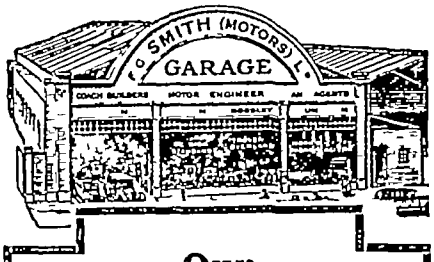
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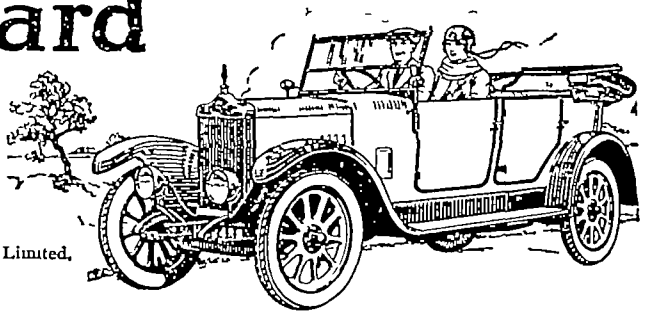
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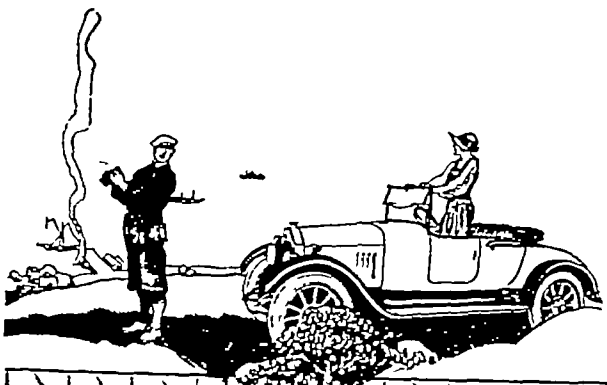
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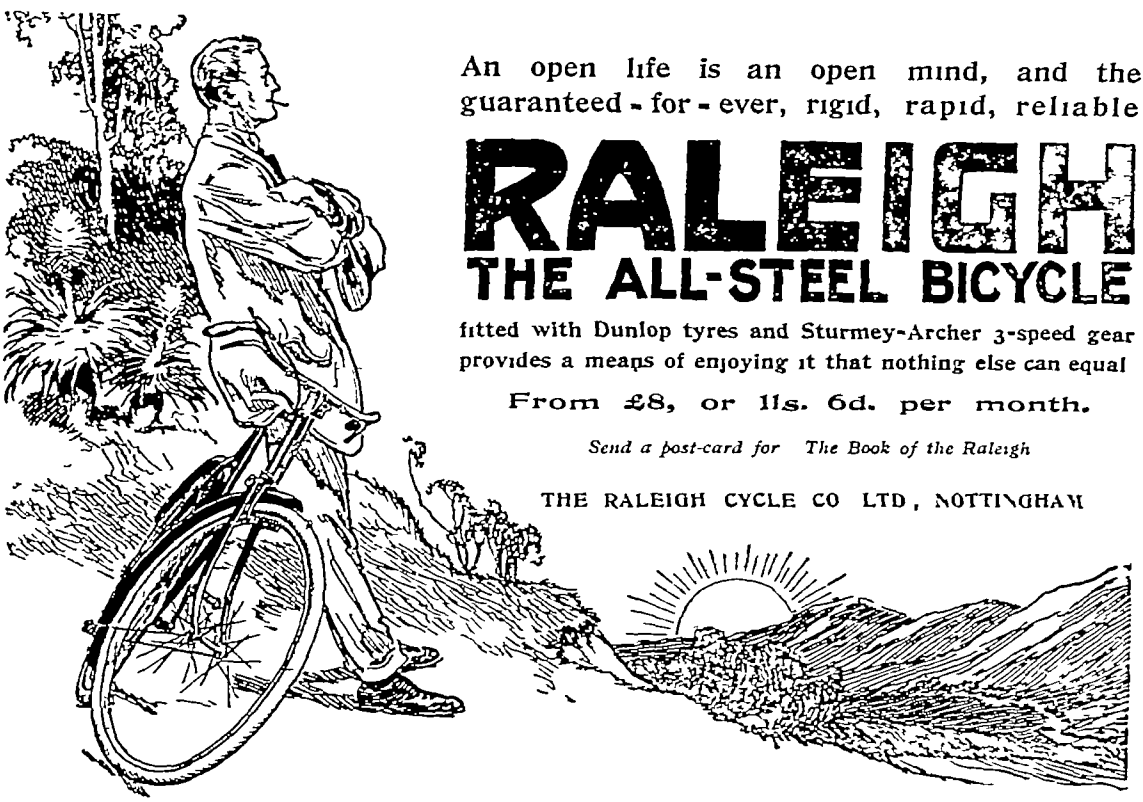
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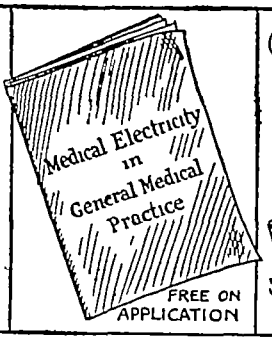
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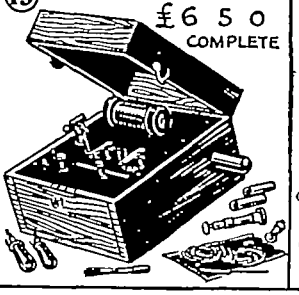
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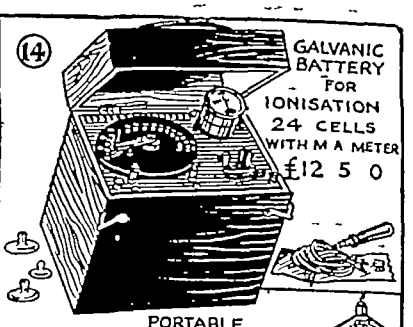


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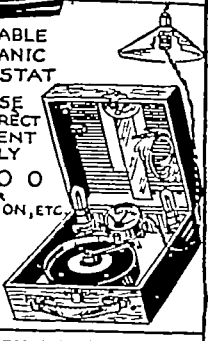
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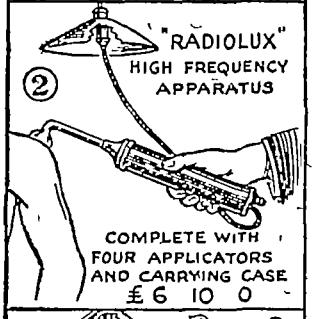
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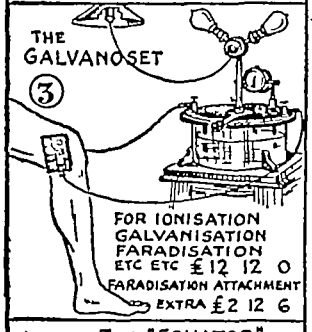
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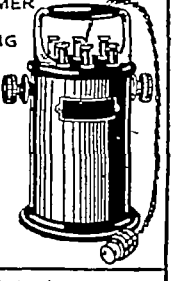
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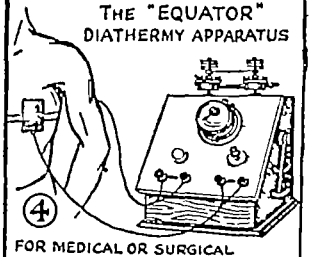
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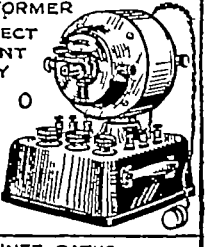


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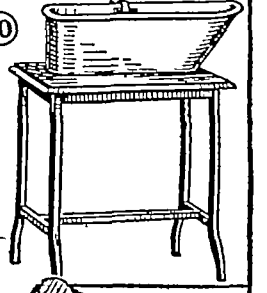


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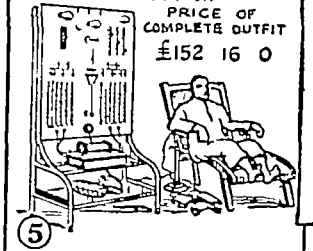
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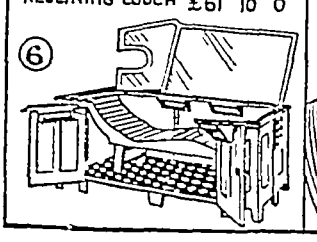
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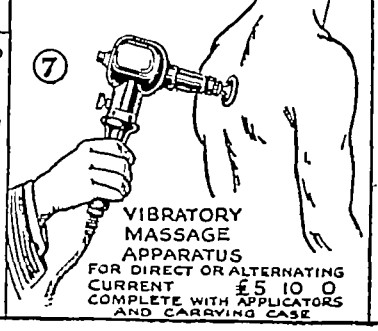
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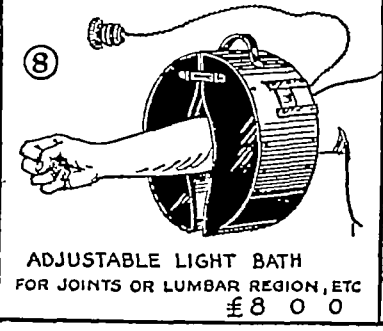


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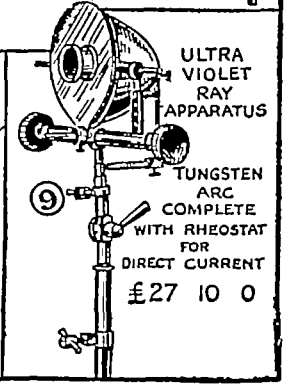
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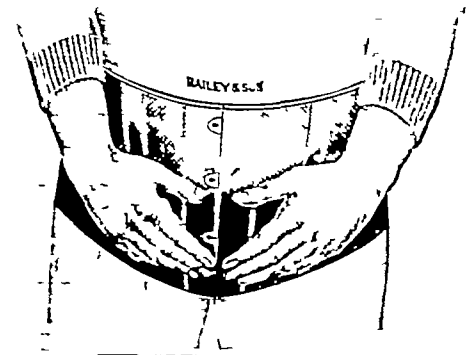
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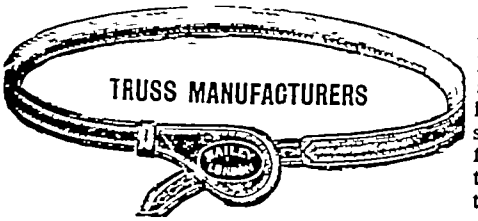
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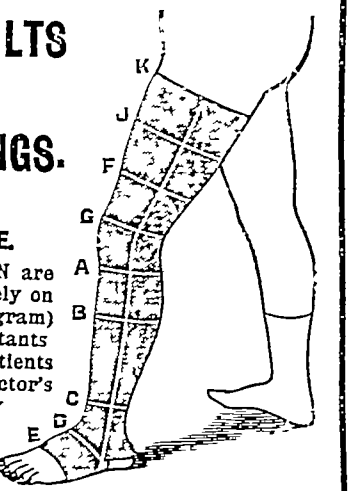


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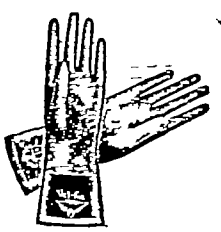


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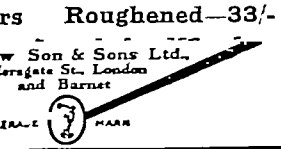
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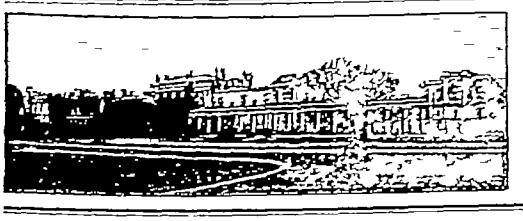
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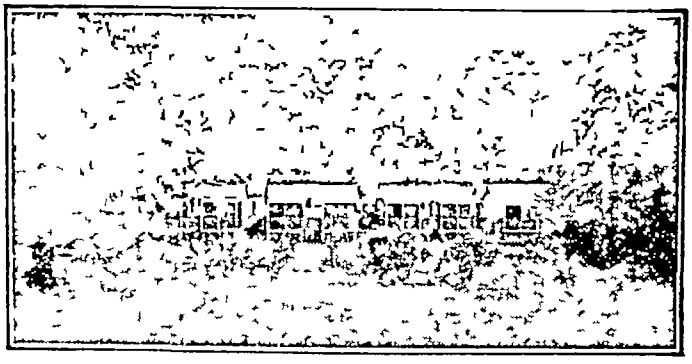
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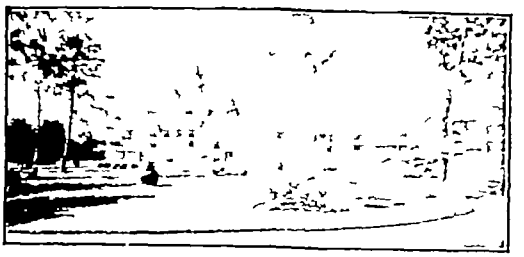
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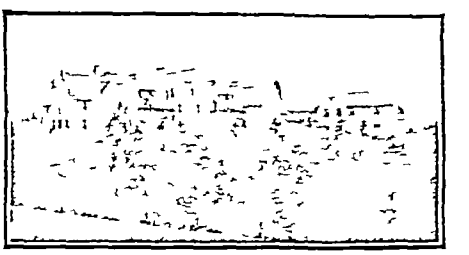
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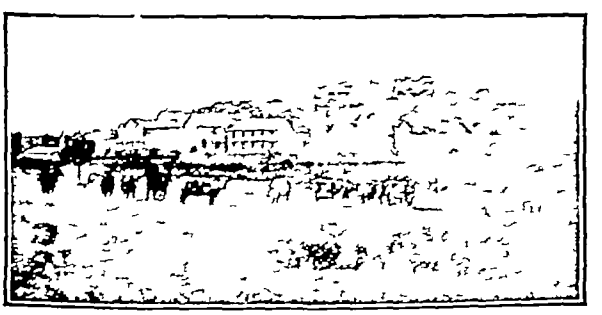
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Mental case —Elderly gentleman now living at home but suffering from melancholia requires to spend the summer in open air Doctor's house suitable near London Reasonable terms needed —Write M S, c/o W H SMITH Craven Road Hyde Park London

R.A.M.C.

JULY 30th ENTRANCE EXAMINATION
(For 20 Commissions)

THE UNIVERSITY EXAMINATION POSTAL INSTITUTION offers special postal preparation at moderate fees For full particulars and Medical Prospectus (32 pp.) apply to the Principal of the Institution Mr E S WEYMOUTH M A 17 Red Lion Square W C 1

During 1905-13 the Institution prepared 18 Candidates successfully for the R A.M C Entrance Examination two of whom won first and second places respectively It also prepared 22 successfully for the PROMOTION TO MAJOR Examination

REALLY GOOD GIRLS SCHOOL
AT REASONABLE INCLUSIVE FEES

MARLBOROUGH COLLEGE

Tytherington Hall, Cheshire, nr Macclesfield

Sound Education Upper and Lower Schools Preparation when desired for all University Entrance Exams The Staff includes M A B A. Higher Local (Cam.) Inter B A. Mus Bac L.R A.M L.T C M B I E &c Games Coached by Varsity Man Splendid Health Record Prospectus from Secretary

NORTH-EAST LONDON POST-GRADUATE COLLEGE,
PRINCE OF WALES'S GENERAL HOSPITAL, N 15

The Practice of the Hospital is limited to Medical Practitioners Particulars and Prospectus from J BRIGHT BANISTER M D Dean

POST-GRADUATE TEACHING

WEST LONDON HOSPITAL.

Continuous Clinical Work in all Departments—
CLINICAL ASSISTANTSHIPS—
F R C S (FINAL) COURSE.

For further particulars apply to Mr H J SIMSON Dean, West London Hospital Hammersmith W 6

Shropshire Orthopædic HOSPITAL Gobowen near Oswestry

COUNTRY OPEN AIR WARDS 300 BEDS

GIRL STUDENTS WANTED to learn Orthopædic Work and prepare for the Conjoint Examination of the C S M M G Three years training Salary first year £16 second year £20 all found, uniform.—Apply Miss HUNT, R R C

NATIONAL HOSPITAL FOR DISEASES OF THE HEART

WESTMORELAND STREET, MARYLEBONE, W.1.

Telephone: Langham 1810 Telegrams: Heartsease Wesdo London

Special Two Weeks' Intensive Course in Cardiology—JULY 7th to 18th, 1924

FIRST WEEK. MORNING

Date.	10 0—11 0 a.m.	11 15—12.30 p m
Mon 7th July	The Anatomy of the Heart: Lr B. T PARSONS-SMITH.	Aortic Disease: Sir S. RUSSELL-WELLS M.P M.D
Tues. 8th July	The Physiology of the Circulation: Dr J STRICKLAND GOODALL.	Prognosis in Heart Disease: Dr R O MOON
Wed. 9th July	The Electro Cardiograph: Dr J STRICKLAND GOODALL.	Cardiac Arrhythmias: Dr P W PRICE.
Thur 10th July	The Electro-Cardiograph: Dr J STRICKLAND GOODALL.	The Mechanism of Cardiac Failure: Sir S RUSSELL WELLS M P M D
Fri 11th July	Syphilis of the Cardio-Vascular System: Dr R. O MOON	X-ray Examination of the Heart Dr P W PRICE.

FIRST WEEK. AFTERNOON

Date.	2.0—3.0 p.m	3.0—4.30 p m.
Mon. 7th July	Ward Demonstration: Dr R. MOON	Out patients: Dr J STRICKLAND GOODALL.
Tues. 8th July	Ward Demonstration Dr P W PRICE.	Out patients: Sir S RUSSELL WELLS M.P M D
Wed 9th July	Pathological Demonstration: Dr H. B WEIR.	Out patients: Dr R. O MOON
Thur 10th July	Ward Demonstration Dr B T PARSONS-SMITH.	Out patients: Dr P W PRICE.
Fri 11th July	Ward Demonstration: Sir S RUSSELL WELLS, M.P M.D	Syncope Dr B T PARSONS SMITH.

SECOND WEEK. MORNING

Date	10 0—11 0 a.m.	11 15—12.30 p.m
Mon 14th July	Functional Heart Diseases: Dr B T PARSONS-SMITH.	Rheumatic Carditis Dr JOHN PARKINSON
Tues 15th July	The Uses of the Polygraph Dr JOHN PARKINSON	Mitral Stenosis: Dr. J STRICKLAND GOODALL.
Wed 16th July	The Uses of the Polygraph Dr JOHN PARKINSON	Angina Pectoris Sir S RUSSELL WELL M.P., M.D
Thur 17th July	Diseases of the Arteries Dr P W PRICE.	Digitalis and Quinidine: Dr JOHN PARKINSON.
Fri 18th July	A Review of Modern Cardiology Dr B T PARSONS-SMITH.	Treatment in Heart Disease Dr J STRICKLAND GOODALL.

SECOND WEEK. AFTERNOON

Date.	2.0—3.0 p m.	3.0—4.30 p m
Mon 14th July	Ward Demonstration: Dr R. O MOON	Out patients: Dr J STRICKLAND GOODALL.
Tues. 15th July	Ward Demonstration: Dr P W PRICE.	Out patients: Sir S RUSSELL WELL M.P M.D
Wed 16th July	Pathological Demonstration: Dr H. B. WEIR.	Out-patients: Dr R. O MOON
Thur 17th July	Ward Demonstration: Dr J STRICKLAND GOODALL.	Out-patients Dr P W PRICE.
Fri 18th July	Ward Demonstration: Dr JOHN PARKINSON	Out patients: Dr JOHN PARKINSON

A selection of Museum Specimens Slides etc will be arranged in the Laboratory and changed daily throughout the Course.

Fees **The Fee for the Course is £7 7 0 Admission thereto will be by special Ticket only**

As the Course will be limited to 10 early application should be made to the Secretary at the Hospital.

OAKLANDS SCHOOL,

Jersey, Channel Islands.

PREPARATORY SCHOOL FOR BOYS

Founders

SIR JESSE BOOT Bart LADY BOOT
Lieut.-Gen. SIR ERNEST DE BRATH K.C.B.
M. V BLACKER DOUGLAS Esq
P J BOIS Esq
SIR GEORGE MACARTNEY K.C I.E
The Rev G O MORGAN-SMITH.

Headmaster:

The Rev G O MORGAN SMITH M.A., Ph.D., F C.S. (St. Catharine's College, Cambridge Lille University France.)

GRADUATE STAFF

The School stands in its own magnificent grounds of 18 acres Own farm Beautiful climate healthy situation Every modern convenience Electric light

BOYS TAKEN AS WHOLE TIME BOARDERS.

Apply for Prospectus, &c., to the Headmaster Dr MORGAN SMITH

SCHOOLS for BOYS and GIRLS, TUTORS for ARMY, and ALL EXAMS.

Messrs. J & J PATON having an intimate, unique, and up-to-date knowledge of the BEST SCHOOLS and TUTORS in this country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUST WORTHY INFORMATION

The age of the pupil district preferred, and rough idea of fees should be given

J & J PATON Educational Agents, 143, Cannon Street London E.C.4. Telephone 5053 Central.

Liverpool School of Tropical MEDICINE.

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology commence about SEPTEMBER 15th and JANUARY 7th.—Prospectus from the Hon. DEAN School of Tropical Medicine, University of Liverpool.

Seamen's Hospital Society.

LONDON SCHOOL of TROPICAL MEDICINE

Endsleigh Gardens, N W.1.

Next Session will commence 22nd September 1924.

For Prospectus and further particulars apply to The Secretary London School of Tropical Medicine, Endsleigh Gardens N W or to the Head Office Seamen's Hospital Greenwich, London, S E.

SCHOOL FOR THE DEAF

Also for cure of speech defects in hearing children

KINGSFIELD HOUSE Oxhey Herts

Principal: Miss BULLOCK (Qualified Teacher of the Deaf) Large House and garden. Outdoor life, games. Close Bushey & Oxhey Stations, L.M.S R & Bakerloo

Glasgow Post-Graduate MEDICAL ASSOCIATION

The following arrangements have been made for Post Graduate Teaching in Glasgow during the Summer of 1924:—

(a) A GENERAL MEDICAL AND SURGICAL COURSE from 11th August to 13th September Fee £10 10s or £6 6s for first or second fortnight.
(b) SPECIAL COURSES IN VARIOUS SUBJECTS
( ) CLINICAL ASSISTANTSHIPS

Syllabuses and any other information may be had on application to the Secretary Post-Graduate Medical Association The University Glasgow

Small Private Residential

SCHOOL, established 21 yrs. for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS Special Department Pupils over school age Under Medical supervision.—Prospectus Mrs MEIKLEJOHN Principal. St Paul's House Upper Maze Hill, St Leonards-on Sea.

Home School for Backward

and DELICATE CHILDREN (Estab 1904) Specialists Patients received. Modern educational methods and handicraft training Horticulture, garden games and occupations. Entire charge if desired Elder girls admitted Terms moderate.—Apply Principal Hatherley Brake Cheltenham.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD Estab 1.. Cases non-resident treated at 29 Earl's Court Square, S W.5 and, in residence, in the Summer holidays at Miss BEHNKE'S house on the Chilterns

Pre-eminent success in the education and treatment of stammering and other speech defects. —*The Times*

Thoroughly physiological principles. —*The Lancet*

The method is scientifically correct and perfectly effective. —*Guy's Hospital Gazette*

STAMMERING, CLEFT PALATE SPEECH, LISPING, &c of Miss BEHNKE, 29 Earl's Court Sq., S W 5

Royal College of Physicians

Sir LEONARD ROGERS C.I.E. M.D., will deliver the CROONIAN LECTURES on June 17th 19th, 24th, and 26th, at 5 o'clock, at the College Pall Mall East, S W Subject "Researches on Leprosy and their bearing on the Treatment of Tuberculosis."

Any member of the Medical Profession admitted on presentation of card.

By order of the President,
H. M. BALLOW Beadle & Secretary

The Welsh National School OF MEDICINE.

APPOINTMENT OF LECTURER IN SPECIAL SENSE PHYSIOLOGY

The Board of Medicine invites applications for this post, the salary of which will not exceed £700 per annum.

Candidates are requested to state their age and qualifications, and furnish proof of a training in Physics and of ability to prosecute original research and to submit the names of three persons of recognised authority whom it is willing to act as referees Text books and other aids

The new Lecturer will be expected to take up his duties in October 1924 and as a member of the staff will be required to join the Federated Superannuation Scheme of Universities.

Further particulars may be obtained from the undersigned to whom applications should be sent on or before June 21st Intending candidates are requested to notify their intention of applying

University College D J A. BROWN
Cardiff. May 21st 1924. Secretary

University of London.

NOTICE IS HEREBY GIVEN that the Senate will proceed to elect EXTERNAL EXAMINERS for the calendar year 1925 for the Examinations above Matriculation as follows:—Except when otherwise stated, Examiners will act in all Examinations in which the subject is included. Where Examiners are to be appointed for (a) Intermediate Examinations only and (b) Final and Higher Examinations only the fact is indicated after the name of the subject below, in these cases the same Examiner cannot hold both appointments

FOR THE CALENDAR YEAR 1925

For the First Examination for Medical Degrees:
Biology Physics.

For the Second Examination for Medical Degrees:
Chemistry (2) Physiology

Higher Examinations for Medical Degrees:
Medicine (2) Obstetric Medicine
Mental Diseases. State Medicine.
Neurology Surgery
Tropical Medicine

N B—Attention is drawn to the provision of Statute 124, whereby the Senate is required, if practicable to appoint at least one Examiner who is not a Teacher of the University

Application form (or forms if more than one Examinership is applied for) and particulars of the remuneration and duties can be obtained from the External Registrar

Candidates must send in their names to the External Registrar GEO F GOODCHILD M.A., B Sc with any attestation of their qualifications they may think desirable on or before Monday July 7th 1924 (Envelopes should be marked "Examinership")

The Senate desire that no application of any kind be made to individual Members

If testimonials are submitted one copy only of each is required In no case should original testimonials be submitted If more than one Examinership is applied for, a separate and complete application must be forwarded in respect of each Examinership The appointments will be made by the Senate in November Applicants who desire that the result should be communicated to them are requested to enclose a stamped and addressed envelope with their applications.

E C PERRY,
Principal Officer

University of London,
South Kensington
S W 7 June, 1924.

University of Leeds

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY

The Council will shortly proceed to the appointment of a Lecturer in Chemical Pathology at a salary of £600 a year Candidates must be fully qualified and registered medical practitioners.

Further particulars may be obtained from the Registrar The University Leeds, who will receive applications up to the 30th June, 1924.

University of London.

The Senate invite applications for the University Chair of Medicine tenable at the London Hospital Medical College Salary £2 000 a year

Applications (12 copies) must be received not later than first post on June 23rd 1924 by the Academic Registrar University of London South Kensington, S W 7 from whom further particulars may be obtained

West London Hospital,

Hammersmith Road, W 6

Required one HOUSE PHYSICIAN one HOUSE SURGEON and one AURAL HOUSE SURGEON and RESIDENT CASUALTY OFFICER (males). The three appointments are tenable for six months from 1st July next subject to one month's notice on either side. Salary £100 per annum, with board lodging and washing allowance.

Candidates are required to be registered under the Medical Act to send four copies of their letters of application and four copies of each testimonial submitted so as to reach me not later than Tuesday 17th June.

Selected candidates will be required to call upon such members of the Medical Staff as directed to be in attendance at a Meeting of the Medical Council on Friday 27th June at 4 p m and the House Committee Meeting at 4 45 p m the same day when the appointments will be made.

H A. MADGE Secretary

Beckett Hospital and

DISPENSARY Barnsley —(120 Beds.)

Applications are invited from fully qualified male practitioners for the post of SENIOR HOUSE SURGEON Salary £220 per annum with board residence and laundry

Application stating age, qualifications and experience accompanied by testimonials to reach the undersigned not later than June 20th.

ARTHUR L BOURNE Secretary

The Barbados General

HOSPITAL.

Wanted a duly qualified Medical Practitioner (Male) as RESIDENT SURGEON of the Barbados General Hospital A man who has had experience in administering anæsthetics preferred

Salary £300 per annum with unfurnished quarters and there is also at present a temporary war bonus of 10% in addition to the salary The appointment will be for three years, and first-class passage (direct) will be paid by the Hospital for the full term of service

Applications accompanied by professional and other testimonials, stating age and date of graduation will be received by the Steward and Secretary of the General Hospital up to 12 o clock noon, on Wednesday, August 13th 1924

Canadian Graduates must be registered in a Province registration in which will entitle them to be registered in the United States Diploma Candidates holding a United States Diploma must be registered in the State of New York

By order of the Court of Trustees and Directors.

J WARD, Steward & Secretary

General Hospital Jemmott's Lane,
Bridgetown Barbados, B W I
May 8th, 1924.

Two Medical Officers and one

ASSISTANT PORT HEALTH OFFICER are required by the Government of HONG KONG Salary £600 per annum rising by annual increments of £25 to £1,000 per annum, payable in dollars at a fixed rate of 2/- to the dollar together with a temporary exchange allowance which is at present 20% of salary Appointment is for three years in the first instance If after the expiration of this period the officer's work and conduct are satisfactory he will be placed on the pensionable establishment and will then be required to contribute 4% of salary towards pensions for widows and orphans of Government Officers Government quarters may be provided for which a small rent is charged if not, a rent allowance in lieu is granted Candidates may be married but unmarried men preferred Free passages granted

It is desirable that candidates should have held the appointment of House Physician or House Surgeon and have some knowledge of Eye Diseases, and in the case of the Assistant Port Health Officer a Public Health qualification

Applications should be addressed to the Private Secretary (Appointments), Colonial Office, London S W 1.

Applications are invited for

the post of BACTERIOLOGIST and ASSISTANT MEDICAL OFFICER of HEALTH in the Bahamas

Candidates should be registered medical practitioners with special experience of bacteriology and administration of specifics for venereal disease. The appointment, in the first instance will be for three years salary £600 per annum Private practice is not allowed. A free passage to the Colony is provided for the Officer but if married he will be required to pay the passage expenses of his wife and family

Further particulars, and the necessary forms of application can be obtained from the Private Secretary (Appointments) Colonial Office, Downing Street, London

Assistant Medical Officer

required by the GOVERNMENT of SARAWAK Applicants should be not over 30 years of age. Unmarried man preferred. Initial salary £650 to £700 per annum Appointment is for 3 years in the first instance renewable by arrangement. Free quarters provided and first class passage out and home

Applications accompanied by testimonials and particulars of previous and present employment, should be addressed to the Secretary Sarawak Government Offices Millbank House, Westminster, S W 1

Devonshire Hospital, Buxton,

Derbyshire (300 Beds)

ASSISTANT HOUSE PHYSICIAN

The Committee invite applications for this post. To commence duties about June 30th 1924

The successful candidate will be engaged for a period of not less than six months The appointment is not open to ladies. Salary commencing £150 per annum rising to £175 after three months' service with furnished apartments board (exceptional stimulants) and laundry

Applications with copies of three recent testimonials, endorsed Assistant House Physician, to be sent in at once

The Medical Staff consists of eight Honorary Physicians an Honorary Surgeon a Bacteriologist, a Radiologist a Biochemist and two Resident House Physicians. The Hospital contains a Pathological Laboratory and A ray Department.

Canvassing will disqualify

By order TOM B HARRISON
General Superintendent & Secretary.

City of Leeds.

CHIEF CLINICAL TUBERCULOSIS OFFICER.

Applications are invited from qualified and registered medical practitioners for the post of Chief Clinical Tuberculosis Officer The person selected will have the status of Assistant Medical Officer of Health and will be required to devote his whole time to the office. It will be necessary for him to enter an agreement of service with the Corporation, terminable by three months notice on either side, and to undergo a medical examination, and contribute to the Superannuation Fund established under the Local Government and other Officers Superannuation Act 1922

Applicants should be under 45 years of age must have had experience in the treatment and care (dispensary and sanatorium) of persons suffering from tuberculosis, had experience of medical and surgical practice in a general hospital and be acquainted with modern methods of diagnosis and treatment including X ray, tuberculin, pneumothorax etc

The possession of a D P H is not essential though it would be considered an extra qualification

Salary £900 per annum Statement of duties and form of application can be obtained from the Medical Officer of Health, 12 Market Buildings, Vicar Lane, Leeds

Applications together with copies of three recent testimonials, endorsed "Tuberculosis Officer" must be delivered at my office, 26, Great George Street, not later than June 30th

Canvassing any member of the Council directly or indirectly is prohibited

ROBERT E FOX, Town Clerk

June, 1924

Dundee Town Council

PUBLIC HEALTH DEPARTMENT

KING'S CROSS INFECTIOUS DISEASES HOSPITAL.

RESIDENT MEDICAL OFFICER (SENIOR) is required at an early date for the above Institution.

The salary will be at the rate of £350 per annum rising by annual increments of £25 to £400 per annum with board and lodging

Previous experience as resident medical officer in an infectious diseases hospital is essential

Application form and schedule giving further information regarding the appointment, may be obtained from the undersigned to whom applications must be sent on or before Wednesday, June 18th, next W L BURGESS,
Medical Officer of Health.

Public Health Dept.
West Bell Street,
Dundee. June 3rd, 1924.

Stockport Infirmary

Applications are invited for the positions of SENIOR and JUNIOR HOUSE SURGEONS

Salary of Senior, £250; salary of Junior, £175, with board residence, and laundry in each case.

Applicants for the senior post must have had at least one year's hospital experience since qualifying

Written applications stating age, qualifications and positions held with copies of three recent testimonials to be delivered on or before Friday, 27th instant, addressed to the undersigned

EDWIN J PEARCE, Secretary Supt.

Putney Hospital

(Chester Bequest) Lower Common, Putney, S W 15

Wanted at end of June a RESIDENT MEDICAL OFFICER. Salary £150 a year, with rooms, board and lodging

Applications stating age, with copies of testimonials to the Hon. Secretary at the Hospital, from whom further information may be obtained

East London Hospital for

CHILDREN AND DISPENSARY FOR WOMEN Shadwell E 1

Applications are invited for the post of HOUSE SURGEON (male) The appointment is for six months from July 1st, 1924 Board, residence and laundry are provided Salary at the rate of £125 per annum Applications, with testimonials to be sent to the undersigned not later than Wednesday, June 25th.

W M WILCOX, Secretary

Hulme Dispensary,

Dale Street, Stratford Road Manchester

Wanted a RESIDENT MEDICAL OFFICER, single (male or female), duly registered and fully qualified

Applications with testimonials, at once to Hon Honorary Medical Secretary, stating essential particulars. Apartments, attendance, coal, and light provided.

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

CONTRACT PRACTICE.

ENGLAND.

MIDDLESBOROUGH
(Medical Aid Associations or Workmen's Clubs.)

SOUTH BANK & ESTON
(Medical Aid Associations or Workmen's Clubs.)

WALES

ABERTRIDWR, GLAMORGAN
Windsor Colliery (Medical Scheme.)

EBBW VALE MON
(Workmen's Medical Society.)

GILFACH GOCH GLAMORGAN
(Workmen's Medical Scheme.)

LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN
(Workmen's Medical Scheme.)

MARDY GLAMORGAN
(Workmen's Medical Scheme)

WALES *(continued)*

OAKDALE MON
(Medical Officer for Medical Aid Association.)

OGMORE VALLEY GLAMORGAN
(Wyndham Colliery Medical Aid Society.)
(Workmen's Medical Scheme.)

TONDU & ABERKENFIG GLAMORGAN
(Workmen's Medical Scheme.)

PUBLIC HEALTH.

ARGYLLSHIRE EDUCATION AUTHORITY
(Executive Officer Medical Officer)

BARNSLEY COUNTY BOROUGH
(Assistant Medical Officer of Health and Assistant School Medical Officer.)

DUNDEE EDUCATION AUTHORITY
(Senior Assistant Medical Officer)

PUBLIC HEALTH *(continued)*

EAST SUFFOLK ADMINISTRATIVE COUNTY
(Assistant Tuberculosis Officer)

GELLYGAER URBAN DISTRICT COUNCIL
(Medical Officer of Health.)

HUNTINGDON ADMINISTRATIVE COUNTY
(Assistant County Medical Officer and Assistant School Medical Officer)

LINCOLN CITY AND COUNTY BOROUGH.
(Medical Officer of Health.)

NORFOLK EDUCATION COMMITTEE.
(Assistant School Medical Officer)

NOTTINGHAMSHIRE
(County Medical Officer of Health.)

SOUTHWARK METROPOLITAN BOROUGH.
(Tuberculosis Officer.)

STOKE ON TRENT EDUCATION COMMITTEE.
(Assistant School Medical Officer)

YORKSHIRE NORTH RIDING COUNTY COUNCIL.
(Assistant School Medical Officer)

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE
(Grenada with Carriacou, St. Vincent and St. Lucia)

(c) Overseas Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch) B. M. A. Building 30-34, Elizabeth Street, Sydney N.S.W.	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr. R. MARSHALL ALLAN (Hon. Sec., Queensland Branch) Adelaide Street Brisbane.	VICTORIA. *(All Institutional or Medical Dispensaries)*	Dr. FRANK DAVIES (Hon. Sec., Victorian Branch) Medical Society Hall, Melbourne, Victoria.
				WESTERN AUSTRALIA. *(Country and Local Practices.)*	Hon. Sec., Western Australian Branch, c/o Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address, 429 Strand, W.C. 2.
June 11th, 1924.

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary.

National Hospital for the PARALYSED AND EPILEPTIC
Queen Square, W.C.

An ASSISTANT PATHOLOGIST who shall be medically qualified with special training and experience in Biochemistry is required for part time work at the National Hospital. He will be expected to attend six half-days a week and to work under the Director of the Pathological Laboratory of the Hospital. Salary £250 per annum.

The appointment will be for one year and the holder will be eligible for re-election.

Applications should be sent to the undersigned on or before Monday, June 23rd.

GODFREY H. HAMILTON, Secretary.

Royal Chest Hospital,
City Road, E.C.
(Royal Northern Group of Hospitals.)

A vacancy occurs for a PHYSICIAN with charge of Out-patients. Candidates must possess the degree of M.D. or M.B. obtained by examination at a British University and be Fellows or Members of the Royal College of Physicians of London.

Applications should be sent to the undersigned from whom full particulars of the office can be had with regard to the submission of copies of testimonials, etc., may be obtained.

GILBERT G. PANTER, Secretary.
Royal Northern Hospital, Holloway, N.

National Hospital for the PARALYSED AND EPILEPTIC
Queen Square, W.C.

RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Resident Medical Officer and should be sent to the undersigned, accompanied by copies of three recent testimonials not later than Monday, June 23rd. The salary is £200 per annum, with board and lodging.

Applicants should state if they are willing to accept either the post of Senior House Physician or that of Junior House Physician. Salary in each case £150.

GODFREY H. HAMILTON, Secretary.

Manchester Northern HOSPITAL FOR WOMEN & CHILDREN
Park Place, Cheetham Hill Road, Manchester.

The Committee of Management require the services of a SENIOR HOUSE SURGEON and JUNIOR HOUSE SURGEON both duly qualified who are to commence duties early in July. Senior House Surgeon salary £130 per annum with board and residence. Junior House Surgeon salary £100 with board only.

Applications stating age and experience with copies of recent testimonials to be sent to the Secretary, Mr. HUBERT TRACEY, 2 Barton Arcade, Manchester not later than June 21st.

West Bromwich and District HOSPITAL
(General Hospital, 165 Beds.)

Wanted, a RESIDENT HOUSE SURGEON. Male. He must be duly qualified and unmarried. Salary £220 per annum with board, residence, and laundry.

In the event of the Assistant House Surgeon who has applied for the position, being elected, candidates are asked to state whether they are prepared to accept the post of Assistant House Surgeon. Salary £180.

Applications, stating age, and if possessing a knowledge of Ophthalmic Surgery and accompanied by copies of recent testimonials, should be sent to me not later than 1st July.

By Order,
FRANK I. HANCOCK,
Secretary & Superintendent.

Lord Mayor Treloar Cripples' HOSPITAL AND COLLEGE
Alton, Hampshire.

Applications are invited for the post of JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER. The Appointment, which is for six months, will date from 1st July. Salary at the rate of £250 per annum with board, residence and laundry.

Applications, with copies of recent testimonials, should be addressed to Medical Superintendent, Cripples Hospital, Alton, Hants.

Wanted — Assistant with view to Partnership with previous Locum if possible in Aug or Sept. North of England town Good-class practice no panel Pleasant surroundings Easily worked Good scope Ex H S or H P with some private experience desirable Some capital necessary Aged about 30 Full details required from and given to suitable applicants.—Address No 2917 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted, an indoor junior male ASSISTANT, for panel and colliery practice in Glamorgan to commence duty on 1st August Must be British motor-cyclist abstainer, and willing to sign usual bond Salary £360 — Address age references, and all particulars to No 2922 BRIT MED JOUR Office, 429 Strand W C 2

Wanted — Assistant, for large private and panel practice near Manchester Young and energetic worker essential Dispenser and book keeper kept —Address applications with particulars to No 2810 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Wanted — Outdoor Assistant, married for private and panel practice in Midland town Salary according to experience, and unfurnished house. — Address stating age nationality and other essential particulars No 2822 BRIT MED JOUR Office 429 Strand W C 2

Wanted — Assistantship by M B B Ch (Honours Graduate N U Irel) Single 25 experience G P, anæsthetics and dispensing Well received Highest testimonials. Permanent post preferred, with view Partnership later —Add No 2916 B M J Office 429 Strand.

Wanted by M B, Ch B, D P H ASSISTANTSHIP Managership of Branch or Part time Work 16 years qualified varied experience of general practice public health work Special training in Bacteriology —Address No 2920 BRIT MED JOURN Office 429 Strand W C

Wanted — Gentleman as Indoor ASSISTANT (Irish) Panel and private Dispenser kept Usual bond —Address stating essential particulars No 2903, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Medical Radiologist with experience young, unmarried for South Africa Assist with view to partnership Sail July 17th —Radio, c/o YOUNG & SON 61 Forrest Road Edinburgh

Assistantship in general Practice wanted by Christian M B Ch B (Commencation) aged 25 Single keen energetic splendid testimonials and record Free now — Address No 2925 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship, or post in any capacity req by Indian Registered in Gen Med Council Ex Capt I M S Keen worker Good in surg and bacteriology Excel testim tee-totaler and well received by patients Willing to go anywhere -Add No 2908 B M J 429 Strand

Assistantship wanted by Glasgow woman graduate Some experience in eye work Willing to do midwifery Can drive car — Address No 2902 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship or Locum wanted by M B B Ch aged 31 Well experienced in private and panel Practice Ex H S Excellent references — MEDICO 27 Vernon Terrace Manchester Road Sheffield

Medical Assistant required — Experienced in X Rays and Electro-Therapeutics D R M S applicants preferred Good prospects —Address X 2802 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

M B desires Assistantship Abstainer young energetic Free immediately Salary £200 (indoors) — Address No 2905 BRITISH MEDICAL JOURNAL Office 429, Strand W C 2.

M R C S, L D S, L R C P (London Hospitals) R M O R S O etc (London and Provinces Ex G P English young married desires POST preferably but not essentially in London — Address No 2906 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Male Graduate desires post as ASSISTANT or in any other professional capacity Aged 26 English, two years hospital and one year general practice experience Free now Excellent references and testimonials.—Address, No 2913, BRIT MED JOURN Office 429 Strand

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Midlands —Middle class and panel PRACTICE for sale returns £2,400 N ce house on lease good garden. Price £3,600 cash. Ful est investig tion courted. Evidence of n ces ary capital mu t be sent to obtain details.—Address No 2928, B M J Office 429 Strand W C

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Derbyshire —A General PRACTICE situated in an industrial district Receipts about £800 Panel 600 Good fees Nice house containing 8 bedrooms &c at rental. Premium £1,000 —Folio 653 ATKINS Medical Agency 43 Bedford Street Strand W C.2

Glam —General Practice in thickly popu ated district on Coast. Receipts £1,700 Fees 3/ upwards. Panel 600 Considerable scope House, containing 4 bedroom etc rent £50 p.a. Premium £1,500 Folio 887 ATKINS Medical Agency 43 Bedford Street Strand W C.2

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Notts —A middle and working class PRACTICE Receip s £1,200 Panel 700. Fees 3.6 upwards. Ample scope. N ce corn r house, containing 3 bedrooms etc Rent £60 p.a. Premium 1½ years purchase.—Folio 662, ATKIN Me lical Agency 43 Bedfor l Street Strand

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South Devon —Country PRACTICE, in good residential distri t near the sea. Average cash receipts £1,300 Comfor-able h use rent £70 on lease Pre mium £2,000 —Address No 2910 BRITISH MEDICAL JOURNAL Office 429 Strand, W C.2.

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West Riding University city busy thoroughfare, good recently estab non panel PRACTICE and house in good position for sale. Mod fees 12 months receip s about £950 increasing. Splendi l opening for panel Bona fide only —Ad l No 2919 B M J 42 S ran l.

Yorks Seaside Resort.—Good PRACTICE near front. Nice hou e £60 Average receip s over £1,100 Panel 810 Cot a e hospital. Price 1½ years purchase or near offer for quick sale.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION Ltd 83 King Street.

South Africa —Practice for Sale at Westminster 60 miles from Bloem fontein. Estal lished 1903 Income about £1,200 p.a. including Railway Appo nt ment, carrying privileges and concessions 5,200 feet above sea level. Excellent climate particularly suited to sufferers from bronchial and pulmo ary troub es. No opposition within 20 miles. A.so house contain ing 4 reception, 6 bedrooms bathroom &c. and separate su gery consulting room Garages for 2 cars laundry 50 acres gardens paddock and plantation Abundant water electric light phone One mi e from station, stores, and excellent Govern ment school £7,000 —For furti er particu ars apply JOHNSON JECKS & COLCLOUGH, Solicitors 31, Austin Friars, E.C.2.

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MEDICAL OFFICER IN CHARGE OF X RAY & ELECTRO THERAPEUTIC DEPARTMENT

Applications are invited for the appointment The successful candidate will be required to confine his practice to Radiology and Electro Therapeutics. Preference will be given to candidate holding the Cambridge Diploma in Radiology The Board will be prepared to grant the candidate appointed an adequate honorarium
Applications should be addressed to the Secretary from whom further particulars may be obtained.
W WYNNE Secretary

Infirmary Office, Rochdale.

The Samaritan Hospital for WOMEN, Upper Parliament Street, Liverpool

The Committee invite applications for the appointment of HONORARY ASSISTANT SURGEON
Candidates must hold the Fellowship of the Royal College of Surgeons, England Edinburgh or Ireland or a Master in Surgery degree of a recognized University of the United Kingdom
Candidates should submit this application on or before Tuesday July 1st 1924
5 Cook Street F J KIRBY Hon Secretary Liverpool

West Suffolk General HOSPITAL, Bury St Edmunds

Wanted a lady as RESIDENT MEDICAL OFFICER to commence duties at end of June Must be fully qualified Salary £180 per annum, board residence and laundry
Applications giving full particulars as to age qualifications etc and enclosing testimonials to be sent to the Secretary by June 14th
EVA E. HARDWICKE Secretary

Derby Borough Mental HOSPITAL.

LOCUM TENENS

Locum Tenens wanted from July 4th to Sept 4th Remuneration 8 guineas per week, with board and lodging
Applications with testimonials to be sent to the Medical Superintendent

Royal Surrey County HOSPITAL, Guildford (110 Beds)

Wanted early in July HOUSE SURGEON Salary £150 with board residence and laundry
Applications, stating essential particulars with copies of testimonials to the Secretary by June 2 at State when free to take up the appointment

City of Norwich Mental HOSPITAL

LOCUM TENENS wanted for 9 weeks from July 10th 7 guineas per week.—Address the Medical Superintendent Hellesdon Hospital, Norwich

Medical Officer required for Holiday Camp on CALDEY ISLAND of Boys of Besford Court Mental Welfare Hospital for Children Worcestershire Duties nominal Return travelling expenses and hospitality Would suit a young single practitioner desiring a pleasant holiday—Apply Rt. Rev MONSIGNOR NEWSOME Besford Court Worcestershire.

Borough of Llanelly EDUCATION COMMITTEE.

Applications are invited from Licentiates in Dental Surgery for the post of WHOLE-TIME DENTAL SURGEON who will be in charge of the dental arrangements under the supervision and control of the School Medical Officer
Salary £500 rising by £25 per annum to £600.
In addition to the inspection re-inspection and treatment of children attending the Elementary Schools in the Borough the person appointed will be required to do dental work under the Maternity and Child Welfare Scheme of the Town Council
A knowledge of Welsh will be considered an advantage
Three months' notice on either side will be required before terminating the appointment.
Applications, stating age qualifications, and experience, together with copies of three testimonials and endorsed 'Dental Surgeon," should be received by the undersigned on or before 19th June, 1924
Education Offices, IFOR W WATKINS
Llanelly Clerk to the Education Committee.
June 5th 1924

Queen Charlotte's Maternity HOSPITAL
(formerly Queen Charlotte's Lying in Hospital), Marylebone Road N W 1.

TWO ASSISTANT RESIDENT MEDICAL OFFICERS male or female required to commence their duties on 1st August 1924 Applicants must be registered Appointment for four months. The selected candidates will take alternate duty in the in patient department and on the district. The post of SENIOR RESIDENT MEDICAL OFFICER will also become vacant on the 1st August, 1924 The salary of the Assistant Resident Medical Officer is at the rate of £80 per annum and of the Senior Resident Medical Officer £100 per annum, with board, residence and washing allowance (4/ weekly) The present Assistant Resident Medical Officers are candidates for the Senior post.
Applications with copies (not originals) of not more than three testimonials will be received by the Secretary up to June 30th.
ARTHUR WATTS, Secretary

Paddington Board of GUARDIANS

RESIDENT ASSISTANT MEDICAL OFFICER (Male)

The Guardians invite applications for the above appointment at their Infirmary Candidates should have had resident Infirmary experience
Remuneration at the rate of £327 12s. per annum together with board lodging and washing
Forms of application and further details of the appointment may be obtained from the Medical Superintendent 285 Harrow Road Paddington W 9 to whom such forms must be returned duly completed not later than Saturday June, 21st 1924
By Order
P BIDDULPH HANCOCK,
Guardians Offices Clerk to the Guardians.
313/319 Harrow Road
Paddington W 9 June 7th 1924

Royal Victoria and West HANTS HOSPITAL Bournemouth (Locale Road Branch 55 Beds.)

Required to commence duty end of June Male RESIDENT HOUSE SURGEON (registered) Salary £150 per annum with board lodging and washing The appointment is tenable for six months Applications stating nationality with copies of not less than three testimonials to be sent to the undersigned immediately
GORDON M SAUL Secretary
June 3rd, 1924

University College Hospital.

Applications are invited for the Resident post of REGISTRAR at the ROYAL EAR HOSPITAL, Dean Street Soho The duties are framed to combine those of Registrar and House Surgeon The successful Candidate will be elected for six months and will receive an honorarium at the rate of £50 per annum
Applications accompanied by not more than three testimonials must reach the Secretary, University College Hospital, Gower Street, W C 1, by noon on Tuesday 24th June 1924

University College Hospital

A vacancy occurs for an HONORARY ANÆSTHETIST who shall be required to attend the Hospital on three half-days per week at times to be arranged later
Applications accompanied by not more than three testimonials must reach the Secretary University College Hospital Gower Street W C 1 by noon on Tuesday June 24th 1924

Seamen's Hospital Society,
Greenwich S E.

The Committee invite candidates for the appointments of HOUSE SURGEON and HOUSE PHYSICIAN at the "Dreadnought" Hospital Greenwich. Candidates must be male doubly qualified and registered The elected candidates will be required to take up duty on the 1st July 1924.

Salary at the rate of £150 per annum and a proportion of fees with board residence and washing. The appointment will be for six months Applications, stating age, together with copies of not more than three recent testimonials to be sent in on or before the 19th of June to the undersigned from whom further particulars can be obtained

By order
Greenwich P J MICHELLI
May 31st, 1924 Secretary

St Mary's Hospitals,
Manchester

TWO HOUSE SURGEONS for the Whitworth Street West Hospital (Maternity) and One for the High Street Hospital (Gynæcological and Children) each for a period of six months from the 1st July next. Salaries at the rate of £50 per annum with board and residence

Applications, with copies of three testimonials to be sent to the undersigned, on or before the 24th inst.

R. RATCLIFFE Secretary

St Peter's Hospital for
STONE &c.
Henrietta Street, Covent Garden W C.2.

The Committee are desirous of appointing qualified Medical Practitioners as CLINICAL ASSISTANTS in the out patient department, at the following times viz:—

Mr Joly Monday 2—3.
Mr Morson, Saturday 2—7
Mr Barrington Tuesday 2—3, and Thursday 3—7
Mr Ward Wednesday 2—7 and Friday 2—3.
Mr Andrews, Monday 5—7 and Friday 5—7

The appointments are for six months from 1st July and applications, stating qualifications will be received by the Secretary not later than 10 a.m., on Monday June 23rd

On appointment, a fee of 5 guineas will be due to the hospital

BEECHEY ROGERS Secretary

South Devon & East Cornwall
HOSPITAL, Plymouth

QUINQUENNIAL ELECTION OF HONORARY MEDICAL AND SURGICAL STAFF

Applications are invited for the undermentioned posts.

The Senior Staff will be elected on June 24th and the Junior Staff on June 25th.

TWO PHYSICIANS
THREE SURGEONS
ONE CONSULTING OPHTHALMIC SURGEON
ONE ASSISTANT PHYSICIAN
THREE ASSISTANT SURGEONS
ONE PATHOLOGIST
ONE PHYSICIAN in charge of the X ray Department
ONE RADIOLOGIST
ONE ELECTRO-THERAPEUTIST
THREE IN PATIENT ANÆSTHETISTS
ONE MEDICAL REGISTRAR.
ONE SURGICAL REGISTRAR.
ONE SURGEON DENTIST

The retiring Staff are eligible for election.

One Anæsthetist will not seek re-election

Applications to reach the undersigned not later than Monday June 16th, 1924

H. KINGSLEY PEARCE,
June 6th, 1924. Secretary

Queen Mary's Hospital for
THE EAST END Stratford E.15
Telephone: Maryland 2616.

Applications are invited from fully qualified and registered Medical men for the following posts:—

1 HOUSE PHYSICIAN
2 HOUSE SURGEONS
1 OBSTETRIC HOUSE SURGEON
1 HOUSE PHYSICIAN AND CASUALTY OFFICER

The Hospital contains 160 beds, including 44 Maternity and other Special Departments.

Candidates who should have previously held a Hospital appointment, must send copies of testimonials to the undersigned, from whom all particulars can be obtained, not later than Wednesday the 18th June 1924.

RAPHAEL JACKSON Major Secretary

Pathologist (male or female)
part time, wanted for ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN Leicester Square W C.2. Honorarium £100 per annum, and proportion of teaching fee Apply enclosing copies of three recent testimonials, on or before June 25th, to the Secretary Superintendent.

Royal London Ophthalmic
HOSPITAL (Moorfields Eye Hospital)
City Road, E.C 1

HOUSE SURGEON

Applications are invited from gentlemen for the office of Senior House Surgeon.

Candidates must be registered medical practitioners and must be prepared to begin the duties on August 1st, 1924. Salary at the rate of £150 a year with board and residence in the hospital. In the event of the second and third house surgeons being promoted other candidates are requested to state whether they would accept the office of third house surgeon at the rate of £100 a year The appointments are for a period of eight months.

Applications stating age and qualifications, must be received not later than June 20th 1924.

ROBERT J BLAND Sec. Superintendent

Royal London Ophthalmic
HOSPITAL (Moorfields Eye Hospital)
City Road E.C.1

TWO REFRACTION ASSISTANTS

Applications are invited for the office of Refraction Assistant one on Monday and Thursday and one on Tuesday and Friday mornings Candidates must be registered medical practitioners. Salary at the rate of £100 per annum for two mornings work a week. Hours of attendance from 9 a.m. until 1 p.m. The refraction assistants will be appointed for a period of one year and will be eligible for re-appointment.

The present refraction assistants are applying for re appointment.

Applications stating age and qualifications must be received not later than June 20th 1924, by

ROBERT J BLAND Sec. Superintendent.

Royal Waterloo Hospital for
CHILDREN AND WOMEN
Waterloo Road S E 1

Applications are invited from qualified male practitioners for the following post vacant on July 1st 1924. Non Resident CASUALTY OFFICER to work in the out patient department on week-days at £150 per annum lunch and tea provided. Applications with copies of testimonials should be forwarded by Tuesday June 17th to the Secretary at the Hospital, from whom further particulars can be obtained

Royal Waterloo Hospital for
CHILDREN AND WOMEN
Waterloo Road S.E.1

There is a vacancy for an HONORARY PHYSICIAN in charge of out patients. Candidates must be graduates in medicine of a University recognized by the General Medical Council and members of the Royal College of Physicians Applications must be sent to the Secretary at the Hospital on or before June 17th with copies of not more than three recent testimonials.

Royal Southern Hospital,
Liverpool.

Applications are invited for the posts of HONORARY ASSISTANT PHYSICIAN and HONORARY ASSISTANT SURGEON to the above Hospital.

Honorary Assistant Physician: Applicants must be registered graduates of a British University and, if not members of the Royal College of Physicians of London, must undertake to obtain that qualification within four years of appointment

Honorary Assistant Surgeon: Applicants must possess the Fellowship of the Royal College of Surgeons of England Edinburgh, or Ireland but if not already possessing the Fellowship of the Royal College of Surgeons of England, the appointed candidate must undertake to obtain that qualification within four years of his appointment, failing which the appointment will *ipso facto* become terminated.

Applications and testimonials to be sent addressed to the Chairman of the Honorary Medical Officers Election Committee not later than Saturday 28th June, 1924.

Extract Rule 17 Any candidate shall be disqualified who advertises in the public papers or personally canvasses the Members of the Election Committee but candidates are to be at liberty to send to the members copies of their applications and accompanying documents as delivered to the Chairman of the Committee.

ALLEN NALDRETT
Superintendent and Secretary

York Road (General Lying-
IN HOSPITAL) Lambeth, S.E.—Established 1 65. Patrons H.M. THE QUEEN and H.M. QUEEN ALEXANDRA. Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Telephone 94 Central. For rules fees, etc. apply ROSE E. WHITE, Secretary

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(Mrs.) MILLICENT HICKS *Superintendent*
W J HICKS *Secretary*

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(Mr A. HADLEY)
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FOR SALE.

1 LANCS.—Country Town PRACTICE, no resident opposition. Receipts average £1.000 p.a. easily increased. Panel 8/9 Commodious house. Rent £42. Premium £1.200
2. LANCS.—Manufacturing Town. Long established General PRACTICE, non-panel. Receipts £1.250 Small house £36 p.a. Premium £1.650
3. JUNIOR PARTNER wanted for good middle-class Practice in pleasant country town about 15 miles from London. Share worth £1.100 a year
4. CHESHIRE.—Half share of medical and panel PRACTICE. Receipts £4.000 a year Panel 1 in 9. Good house available. Rent £34. Premium 18 years' purchase.
5 SOUTH WALES.—Coast town General PRACTICE yielding £1.700 a year Small but convenient house Rent £50 Premium £1.500
6 SOUTHERN COUNTY.—PARTNER wanted for town and country Practice Receipts about £2.000 p.a. Panel and appointments about £850 House or rooms to be selected Premium for half or third share 2 years purchase
7 NORTH WALES.—Town and Country PRACTICE. Receipts £530 p.a. Small panel. Commodious residence large garden etc. Rent £50 Premium £850
8. WEST LONDON.—General and Panel PRACTICE yielding £1.000 a year Panel 1 in 7. Plenty of scope. House on lease. Premium £1.800
9 LONDON N.—Long up Surgery Cash and panel PRACTICE recently started yielding over £400 a year Rent of Surgery £0 per week. Whole house would be let or sold if desired. Premium £800

No charge to purchasers or assistants

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Yorkshire—About £1,700 a year Panel 1 125 Visits 2/6 to 10/6, medicine extra. About 30 midwifery cases up to £5/5 0 Appointments £60 Good house, with garden and garage for sale or would let on lease—Apply No 7556

London, W—Over £2,000 a year—Special PRACTICE ear nose and throat mainly, including valuable transferable appointment Good fees easily worked Excellent consulting rooms e c moderate rent. Excel e nt opportunity Premium for prompt purchase only £1,000—Apply No 7555

Home County—Old-estab Country PRACTICE of nearly £1,600 a year Panel 740 Otherappointments £130 Fees 5/6 to 10 6 Excellent house with half an acre of ground tennis lawn e c—Apply No 7554.

Lancs—University Town About £700 p a Panel over 700 No mid wifery ample scope Good house and garden Moderate price for Practice and house—Apply, No 7553

New Zealand—About £1 800 a year Country Town in N Island near sea. Agricultural district Premium £1 500 including furniture of house etc—Apply No 7551

Notts—Nearly £1,300 Panel 700 increasing Opposition less than u sual Corner house to let on lease—Apply, No 7549

London, W—About £2,000 a year Established 13 years Non panel, non-dispensing Fees from £1 1s 0d upwards. General PRACTICE Electrical Treatment, Vaccine work etc Good hou e in excellent position Low premium for quick sale—Apply No 7546

London Suburb—About £750 p.a. Old-established non panel non-dispensing PRACTICE Vendor retiring Fees 3 6 to 21/ Detached house Rent £55—Apply No 7545

Cheshire—Nearly £4,000 a year Old-established Practice. HALF SHARE for Sale at 1½ years purchase. Panel about 1 400 Appointments £45 Good fees Good house and garden to rent.—Apply No 7536

South County—Over £1,000 p a Panel 640 other appointments £120 Practically unopposed Excellent house elec. light etc Good garden. All sport.—Apply No 7535

Midland Town—About £1,100 a year Old established PRACTICE Panel 750 Appointment £40 Very little midwifery Large house and garden. Prem £1 600 including drugs etc.—Apply No 7534

Norfolk Coast—Nucleus for disposal in favourite Seaside Resort. Visiting fees 3 6 to 5 - Good house 3 reception 4 bed rooms, consulting room and dispensary lawn etc On lease rent £70 Small panel—Apply No 7524

Near Birmingham—£2,250 p.a. Old established Opposition light Good fee Panel 1 850 Appointments worth £500 (about) Good family house with garden tennis etc For sale with PRACTICE—Apply No. 7501

Open Air Sanatorium, £6,000 a year Old established Splendid premises on lease Every investigation Net profits over £1 500 Premium very moderate Personally known—Apply No 7426.

Lancashire—Old-established PRACTICE Nearly £1 200 plus £280 appointments Panel over 800 Good detached house with a re sground tennis etc Apply No 7449

Cheshire—£3,500 a year, PARTNER wanted Good Suburb of large Town with Hospital Good fees Panel £1 000 a year Good house available Half share for sale—Apply No 7444

Near Manchester—Nearly £2 000 p a. Panel worth about £600 p.a. Mixed ratio house with separate surgery to rent Premium 1½ years purchase easy terms Good centre near—Apply No 7366.

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YORKS—Old-established G P Panel 1,290 Two appts. Average income £1,297 p a. Nice detached house (freehold) Scope for surgery Premium: Practice, £1,400 House, £2 500 Part can remain.

GLAMORGAN—Well-established G P Income over £1,400 p a. Panel 2appointments Fees 3 6 to 1 guinea Midwifery 2½ to 10 guineas Nice house 4 bedrooms, 3 reception rooms Practice consists mostly of Cardiff business people resident in district Premium £2 000

EAST COAST—DEATH VACANCY—High class non panel PRACTICE, situated in busy town Income for past four years £12,282 (exclud ng consulting and appointment fees) Staff appointment Fees 7/6 upwards Nice house ex cellently situated, to let or for sale Practice only suitable to one with good degrees and professional standing

LONDON, N E—Old-established G P Panel nearly 400 Average cash receipts £950 p a. No midwifery scope Premium £3 000 to include freehold house, or would let

MIDDLESEX—PARTNER (after preliminary assistantship) in very old-es ablished G P Income over £4,500 p a. Panel 4 000 Several appointments House available. Premium for one third share, two years purchase.

LONDON S W—PARTNERSHIP in old established G P Panel about 1 000 Income over £3 000 3 appointments. Premium two years purchase, £2,500 down.

MIDLANDS (North)—Industrial PRACTICE Panel nearly 1 200 Income over £2 000 p a Hospital appointment Premium one and a half years purchase.

CHESHIRE—PARTNERSHIP in o d established G P Income nearly £4,000 p a. Panel 1 500 Fees 5/ to £1/3/6 Mids £3/3/0 to £10/10/0 Nice house with garden rent £56 p a. Premium for half share 1½ years purchase, £3,000 down Suit married man about 30

Purchasers, stating their requirements, will be sent particulars of other suitable Practices and Partnerships for sale free of charge

Please address all communications to the Manager, Mr W H. GRANT, Medical Transfer and Insurance Department.

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Ear, Nose, and Throat PRACTICE of £2 000 Fees 1 to 3 gns. Transferable appointment Low rent.

Midlands—Town and country PRACTICE of £1,200 including 700 panel Good corner hou e with garage Rent £60

Home County—Partnership with succession to middle-class Practice of £1 850 in residential d st ict The place is growing and has a cottage hospital. Panel 1 210 Appointments £180 Very few mid wifery Rent £70

Home County—Unopposed PRACTICE of £1,600 Panel and appointments £500 Beautiful district Station Well built house with very nice garden and tennis court. Can be bought.

Yorkshire—Practice of £1 500 in prosperous town Panel 1 500 Rent £80 Premium 1½ years purchase.

East Coast—Practice of £1 700 in beautiful seaside resort Panel 850 Appointment £80 Good schools. Excellent house with fine garden Rent £140

South Coast—Partnership Half share of £2 300 in pleasant town Panel 1 000 Appointments £500 Good house with large garden Rent £90 Premium £2,200

Within 25 miles—Middle and working-class PRACTICE of £1 700 Panel 1 700 Vendor retiring Oppositionslight. Rent £42

X-Rays Practice of £1,550, increasing Vendor is on the hospital staff Large town in S of England

London, S E—Middle and working-class PRACTICE of £1,300 Panel 940 House with nice garden and garage can be bought for £1 200

Liverpool—Practice of £1,400 in residential suburb Appointments £90 Panel 1 100. The Practice is non-dispensing Rent £50

North London—Middle and working class PRACTICE of £1,600 Appointments £420 Panel 1 100 No midwifery has been done and there is great scope Rent £65

Birmingham—Middle and working class PRACTICE of £815 Panel over 700 No midwifery Great scope Double-fronted house with large garden Low rent

North Wales—Practice in beautiful seaside place Receipts £550 Small panel Cottage hospital Good house and garden rent £50 on long lease Garage. Premium £650

New Zealand—Unopposed PRACTICE of £1 800 Beautiful district in North Island Convenient House. Good roads. Scope for surgery Good introduction. Premium £1,500

Death Vacancy—Partnership Third share of £4,500 Middle and working class Practice 10 miles out. Appointments £800 Panel 4,000 Rent £75 including rates and taxes

West End—Partnership Share worth over £2,000 in first-class Practice Partner should be English and used to good class society Very good fees. Reasonable premium.

East Coast—Practice of £1 150 in favourite seaside place Panel 850 Appointment £40 Cottage hospital Rent £60 Premium £1 400

Cheshire—Partnership. Half share of £3 900 in residential place Panel 1 450 Compact house rent £55 Prem. 1½ years purchase £2 000 down

Purchasers stating their requirements can have Particulars of other Practices not advertised.

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Established by Bovril, Limited, to provide an efficient and reliable transfer service for the Profession at minimum charges

Under the personal direction of Dr J FIELD HALL, and Mr J C NEEDES

An Accountant's certified report is required in respect of every practice or partnership the disposal of which is undertaken by the Agency

The commission chargeable in respect of any practice in Great Britain placed exclusively in the hands of the Agency for transfer has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being £50 In the case of Foreign and Colonial practices similarly placed the maximum is £75

NO CHARGE IS MADE TO PRINCIPALS FOR THE INTRODUCTION OF LOCUM TENENS OR ASSISTANTS

Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges.

PRACTICES AND PARTNERSHIPS FOR SALE.

1 DORSETSHIRE —Old-established PRACTICE, situated in a very pretty district worth about £800 per annum in lu ling Union and Vaccination and panel of about 130 Nearest resident opposition 4½ miles distant Nice house (3 reception 5 bedrooms bathroom, etc) with 2 acres of garden rent £60 a year lease with 14 years to run. Premium £800 Good scope.

2. YORKSHIRE.—Large clean town Well-established middle and working-class PRACTICE. Income £1,300 including £580 from panel, and £350 from appointments Advice and medicine from 2/6, visit and medicine 3/6 upwards. Very little midwifery lowest fee 2 guineas. Good detached freehold house with small garden Electric light Garage Price £2,500 of which £1,500 could remain on mortgage. Premium £1,400 cash

3. PARTNERSHIP —EAST COAST.—In a thriving Seaport Town (population over 100 000) the fifth share (to commence with) producing over £1,000 per annum in a leading and old-established *non-panel Practice is for disposal, owing to the retirement of the* junior partner Visits 5/ upwards Midwifery from 2 guineas 120 cases yearly Excellent house available in good position with 3 reception rooms, 5 bedrooms bathroom, etc. and garden. Rent £60 p.a. on lease. Premium 4 years purchase. Remaining partner is on the Hospital Staff Incoming partner should be married under 35 years of age, and have held a Hospital appointment

4. PARTNERSHIP —SURREY Residential Town (population over 25 000) in a beautiful district, a two-fifths share, producing nearly £850 a year in an old-established practically non-dispensing Practice, held by Vendor 20 years, is for disposal Receipts average £2,110 per annum including appointments £93, and panel of about 1 00 Visits 4/ to 10/6 Midwifery 3 guineas upwards 30 cases yearly Premium 2 years' purchase Ingoing partner should be well qualified, under 35 years of age and, if possible, a Gynæcologist Good society golf tennis, etc.

5. GLOUCESTERSHIRE — Very sound Country PRACTICE held by Vendor nearly 20 years Steady average income of £1,450 including a panel list of 1 1 Practice is situated in extremely beautiful country Good freehold house with garden. Price £1,200 but all the money can remain on mortgage, and be paid by instalments. Premium £2,000 £1,000 down and balance as arranged

6. SEASIDE RESORT NORTH WEST COAST —Old-established good-class PRACTICE (held 25 years by present Incumbent) averaging £1,310 per annum for the past three years. No panel, and practically no midwifery or night work. Visits 7/6 to £1 1s Car not kept. Good house (facing sea) Rent £150 Premium 1½ years purchase. Vendor selling on account of ill-health

7 BRISTOL.—Very sound middle and working-class PRACTICE, held nearly 25 years by present Incumbent, who is relinquishing on account of ill health Average cash receipts over £1,200 a year including several small appointments and a panel of over 1,400 Visits 3/6 to 10/6 Midwifery from 3 guineas, about 30 cases. Very good house specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance, 5 bedrooms etc. Garden Premium £1,800

8. DERBYSHIRE.—HOSPITAL TOWN —Old-established PRACTICE held 13 years by present Incumbent who is relinquishing on account of ill health. Cash receipts for the past 3 years average £3 372 per annum, including about £1,500 from panel Fees 3/6 to £1/1/0 About 50 cases of midwifery a year at 2 to 5 guineas Centrally situated house (2 reception rooms, consulting and waiting rooms, 4 bedrooms bathroom etc) on lease at £100 a year Premium £3,000 Good scope for surgery and Vendor is on the Staff of the Hospital

9 SOUTH WEST OF ENGLAND —COUNTY TOWN —A ONE THIRD SHARE, producing £800 is offered in a good-class non-panel and non-dispensing Practice, with a considerable amount of surgical work. There is a good Hospital in the town and the incoming partner (who must hold the F R C S) will eventually be elected to the Staff Premium £1,600

10 PARTNERSHIP LANCS LARGE TOWN The third share of an old-established lucrative and money-making Practice worth, for the last financial year £3,722, can be acquired by a young unmarried man. Panel list of over 1 800 and patients operative class. Visits 2/ to 5/ Midwifery 2 to 3 guinea Ingoing partner could reside with Vendor or unfurnished rooms are available. Golf to be had Premium 1½ years purchase.

11. CHESHIRE —Twelve months' PARTNERSHIP Introduction will be given to an old established middle-class and panel Practice (1 600 patients on list) worth last year £2,100 Situated in a large town (population nearly 100,000) close to seaside resort Visits 2/6 to 5/ Midwifery 2 to 3 guineas about 100 cases yearly Car not required Good house, with garage available at end of introduction Premium 1½ years purchase.

12 CROYDON —Old-established middle and working class PRACTICE. Steady average income of nearly £2,400 Panel of 1,200 Fees chiefly 3/6 and 5/ About 40 midwifery a year Excellent house with 3 reception rooms 6 bedrooms, etc Garden, garage *Held on lease.* Rent £95 pa Premium 1½ years purchase.

13. LONDON WEST END —PARTNERSHIP —A quarter-share (to commence with) and up to one-third in 2 years and one half in 4 or 5 years with ultimate succession if desired, is for disposal in a first-class general Practice. Income for the immediate past year £3,020 Fees mostly 1 guinea upwards and a few at 10/6. Purchaser should be a Graduate, or hold some higher qualification Premium for the quarter share £1,500

14. WEST CENTRAL.—Sound, easily worked PRACTICE of about £770 Very good scope as the Vendor has suffered from ill health since the war Fees mostly 10/6 Very convenient flat. Rent £58. Premium £1,100

15. LONDON EAST.—Well-established middle and working-class PRACTICE Income over £1,150 Panel of 1,200 Surgery fees 2/6, visits 3/6 upwards. No midwifery Well situated house will be sold or let Premium £1,750

16 NEW ZEALAND (NORTH ISLAND) —Unopposed and increasing *PRACTICE, in a very beautiful district on main line, about 6 miles* from a large city and worth nearly £1,300 a year including *easily worked appointment at £100* Visits into Township 10 mileage 6 midwifery 5 gns. Good and up-to-date house (built by Vendor's predecessor) containing surgery 2 reception rooms, 3 bedrooms and sleeping porch, bathroom, etc., with an acre of ground, tennis court, etc. Rent £120 on lease Premium *£1,000*

17 CANADIAN COAST TOWN —Old-established middle class PRACTICE, held by Vendor 35 years. Income for the last 12 months £1,650 *Average for the last ten years £1,350* No appointments Nearest opposition 10 miles Fees consultations 1 dollar mileage 1 dollar extra. *Visits 2 to 6 dollars* Not much midwifery fees 15 to 35 dollars House is Vendor's own property and contains 2 reception rooms professional rooms 5 bedrooms, bathroom etc Central heating Electric light. Small garden. Trout and salmon fishing Premises for house and practice £3,500 payable £2,000 down

18 SOUTH SEA ISLANDS —In a Capital City a well-established lucrative and increasing PRACTICE averaging over £1,200 per annum Good climate *malaria* and sunstroke unknown. Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards Midwifery from 5 guineas. Dispensing optional Practice can be worked on foot. Good bungalow residence in excellent position, with ½ of an acre of garden. Electric light, etc Rent £10 a month, on lease. Premium £800 Income Tax 1/- in the pound over £500

19 NORFOLK COAST TOWN —Old established PRACTICE, held by Vendor many years The average income is only about £600 but there is large scope for increase Small panel of about 100 Fees 3/6 to 1 guinea. Very little midwifery Well-situated house, with small garden Rent £180 on lease Premium £900

20 NEW SOUTH WALES —Old-established unopposed non-dispensing PRACTICE situated in a small town (containing Public School, Post Office Stores Shops and Churches of all denominations) in a very pretty district Cash receipts for the past 3 years average £1,200 per annum including small Lodge worth £80 Visits 7/6 to 10/6 (mileage 7/6 to 10/6 per mile Midwifery 5 guineas Attractive Bungalow Residence with wide verandah round 3 sides and containing consulting room, surgery (separate entrance) laboratory reception room (12 × 8 ft) 3 very large bedrooms maid's room bathroom, etc. Garden. Acetylene gas plant Rent £104 on lease Premium £1,000 half down, and balance in 1 or 2 years

21 FAR EAST.—MEDICAL OFFICER required for Railways Salary about £600 a year increasing annually Three years engagement. First-class passage out and home Age 25-30 Scotsman preferred Personal application, if possible, to Bovril Medical Agency

22. FAR EAST APPOINTMENT —ASSISTANTSHIP with view to Partnership and ultimate succession in two years to an extensive Practice. salary £800—£1,000 with furnished quarters Passage paid. Knowledge of tropical medicine essential. Age 25 to 30 Single. Sport, etc Personal application if possible to Bovril Medical Agency

Profits accruing to Bovril, Limited, from the Agency will be allocated amongst recognized Medical Charities

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SOUTH OF ENGLAND.—(1) PARTNERSHIP in well-established good-class Country Town Practice, over £4 000 p r annum in delightful district. Panel 1 400 Choice of houses Premium one-fourth share two years purchase Good Cottage Hospital

SOUTH OF ENGLAND.—(2) Unopposed Country PRACTICE about £500 per annum Panel 420 House (3 bedrooms, 3 attics) with well stocked garden. Rent £25 Premium £650

SOUTH OF ENGLAND.—(3) Old established unopposed Country PRACTICE about £1 350 in Manufacturing Village Panel 1 030 Nice detached house (5 bedrooms) with good garden Price £1,200 Premium one and a half years purchase

MIDLANDS.—(4) Lucrative PRACTICE averaging over £2 200 in Country Town near Birmingham Panel 1 800 Charming house (6 beds) large garden. Rent £100 Prem. one and a half yrs purchase

LONDON, WEST.—(5) PARTNERSHIP in working-class PRACTICE £3 750 in Paddington area Panel 4 500 Premium one-third share one and a half years purchase

SOUTH WALES.—(6) Old established working class PRACTICE over £2 200 in good Town Panel 1 400 Detached house with 4 bedrooms to rent on lease Premium £2 500

HOME COUNTY.—(7) PARTNERSHIP in first-rate Practice £7,000/£8 000 p a in one of the best Residential Districts House (7 bedrooms) to rent Premium one sixth share two years purchase Partner should be aged over 30 and have held hospital appointments

HOME COUNTY.—(8) PARTNERSHIP in well established and increasing Practice over £2 200 in delightful Residential Country Town within 30 miles of London. Panel 800 Cottage Hospital. Premium on third share £1 425. Great scope.

HOME COUNTY.—(9) O'd established Country PRACTICE £1,600 p a. in beautiful part, under 45 miles from London Very good house (5 bed and dressing rooms) with nice garden Price £2,350 Premium for Practice £2 400

YORKSHIRE (WEST RIDING).—(10) Well-established PRACTICE £1 650 p a. in Industrial District, easy reach of Sheffield Panel 600 Convenient 8-roomed house. Rent £48. Premium one and a half years purchase

SOUTH OF ENGLAND.—(11) PARTNERSHIP in old-established PRACTICE £1,500 p.a. in town of nearly 30 000 inhabitants Panel 1 400 No midwifery House contains 5 bedrooms. Premium one half share one and a half years purchase.

YORKSHIRE (WEST RIDING).—(12) PRACTICE over £1,500 p.a. in thriving Industrial Town. Panel 1 550. Good house (5 bedrooms) Rent £80 Premium £2 250

HOME COUNTIES.—(13) PARTNERSHIP in good-class Practice (chiefly X ray and Electrical) £2 200 p a. in first rate Residential Town One-third share at first with ultimate succession Partner must be experienced in X ray work Excellent Hospital and chance of appointment

DEATH VACANCY SOUTH COAST.—(14) NUCLEUS of Practice in popular Watering Place offering enormous scope for young energetic man. Panel about 300 Two rooms available for practice

DEATH VACANCY, LONDON, N W.—(15) Good middle class PRACTICE about £2 000 p a In Residential District No panel Non basement corner residence (5 bed and dressing rooms) to rent

MANCHESTER.—(16) PARTNERSHIP in old-established good-class Practice over £4 500 in Residential District. Small panel One fourth share would be sold for £2,115, with option to increase up to one-half Partner should be about 30 and preferably M D or F R C S

WEST MIDLANDS.—(17) PARTNERSHIP in old-established Country Town Practice over £3 600 p.a. Panel 2 183. Rent £60 Partner should be aged 35 to 40 with some Surgical experience. Well equipped Cottage Hospital Premium one-third share two years purchase.

WEST END OF LONDON.—(18) PARTNERSHIP in high-class non dispensing Practice Fees chiefly £11s Not much midwifery Income one-third share (about £2 000 p.a. net) £4,000 Ample scope for increase

MIDLANDS.—(19) PARTNERSHIP in very old-established Practice over £4 300 in good Country Town Panel 2 000 House contains 8 bedrooms &c Price £1 750 Prem one-third share two yrs. purchase

YORKSHIRE (EAST RIDING).—(20) PARTNERSHIP in well established Practice nearly £2.500 p.a. in pleasant Country Town Panel about 1 000 Good house (5 or 6 bedrooms) in acre of ground Rent £40 Premium one-half share two years purchase. Partner aged about 30 preferably with experience in Major Surgery Fine Hospital in Town.

KENT.—(21) PARTNERSHIP in well-established good better middle-class Practice over £2 000 in delightful Residential District Panel 800 Very good society Golf Premium one-third (or one half) share two years purchase. Partner must be gentleman, Public School or University man preference.

NOTTINGHAMSHIRE.—(22) PRACTICE averaging £1,200 p.a. in Residential Town Panel 700 Corner house (5 bedrooms &c Rent £60 Premium one and a half years purchase.

FAR EAST.—(23) Excellent opportunity for well-qualified man to acquire a PRACTICE in one of the principal Cities Varsity man (Blue) and commercial top-class practice preferred Prem. required £800

EAST COAST.—(24) Popular Resort Old-established middle and working-class PRACTICE of £1,184 Panel 847 Rent of house (5 bedrooms) £60 Premium £1 400

SOUTH OF ENGLAND.—(25) PARTNERSHIP in high-class Practice about £2 500 p.a. in beautifully situated Watering Place No panel or midwifery Patients include many County families Share up to one-half at two years' purchase

SOUTH COAST.—(26) PARTNERSHIP (with view to succession) in well-established non-dispensing Practice over £3 000 p.a. in Health Resort. No panel. Visits mainly 3 for 2/ Not much midwifery One-third share at first at two years purchase.

LONDON, S W.—(27) PARTNER required (after short preliminary assistantship) in middle and working class Practice well over £2,000 p.a. in well populated Suburb Panel 1 450 Rent of house £50 One-third share would be sold for £1,200

SOUTH COAST.—(28) PARTNERSHIP in Panel and Private Practice over £4 000 p.a. in popular Seaside Resort Panel 1 100 Premium one-third share two years purchase. Partner must be energetic and not over 35

EASTERN COUNTIES.—(29) Old-established PRACTICE £1,855 p.a. in pleasant Market Town Panel 1 100 No midwifery Excellent detached house (7-8 bedrooms) Very good garden. Cottage Hospital. Premium one and half years purchase.

SOUTH COAST.—(30) Good class PRACTICE of £1,350 per annum Excellent house Premium £1,250

SOUTH MIDLANDS.—(31) Well-established unopposed PRACTICE averaging £1,181 per annum in good agricultural district. Panel 800 Detached house (5 bedrooms) Rent £65 on lease Prem £1,700

SEASIDE TOWN AND HEALTH RESORT.—(32) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old established practice Share worth £1,000 p.a., at two years purchase.

WEST OF ENGLAND.—(33) Well-established good class panel and private PRACTICE, over £1,080 per annum in favourite Town. Panel 935 rapidly increasing Good house Premium £1,650

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LONDON, N.—(37) PARTNERSHIP in Cash and Panel Practice of £1,800, in Residential District. Panel 2,450 House contains 5 bedrooms &c. One-third share at first. Premium £1 200 Incoming Partner must be married

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SOUTH OF ENGLAND.—(41) PARTNERSHIP in an old-established PRACTICE of £2 000 in beautifully situated Country Town. Panel 1 100 Very good educational advantages Cottage Hospital One-third or one-half share at 2 years purchase

MANCHESTER.—(42) Old-established and increasing middle-class PRACTICE, averaging £1,550 per annum in Suburb with Hospital and opportunities for Surgery Small panel Good house (8 bed rooms) in excellent position. Rent £90 Premium one and a half years purchase.

SCOTLAND NORTHERN HIGHLANDS.—(43) PRACTICE averaging over £1,600 per annum in a Town. No panel. House (5 bedrooms, &c.) In best residential part Ample scope for midwifery and panel Premium £1,200

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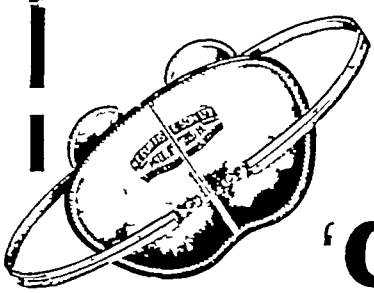
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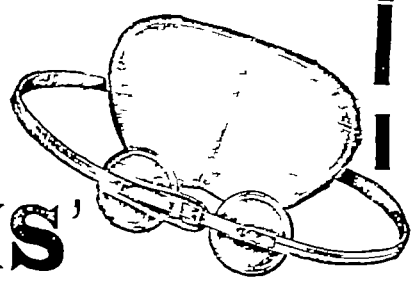
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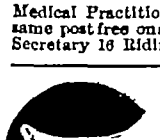
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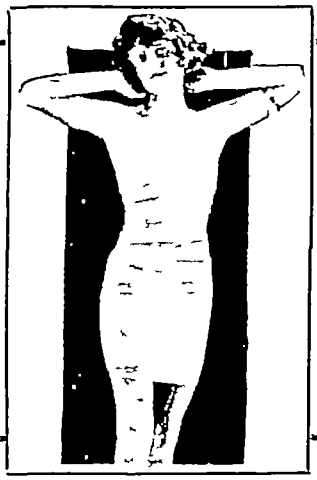
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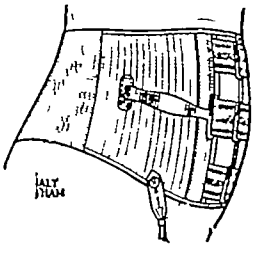
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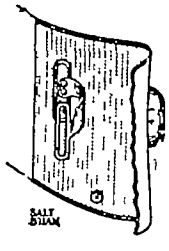
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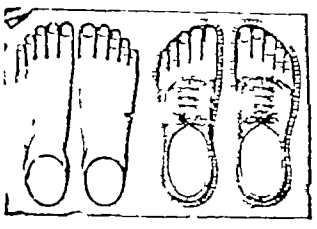


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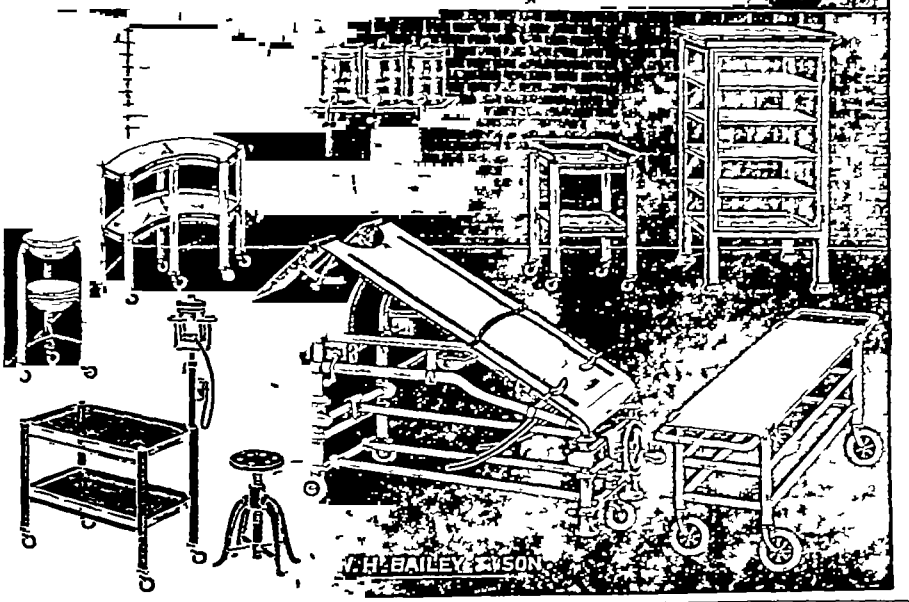
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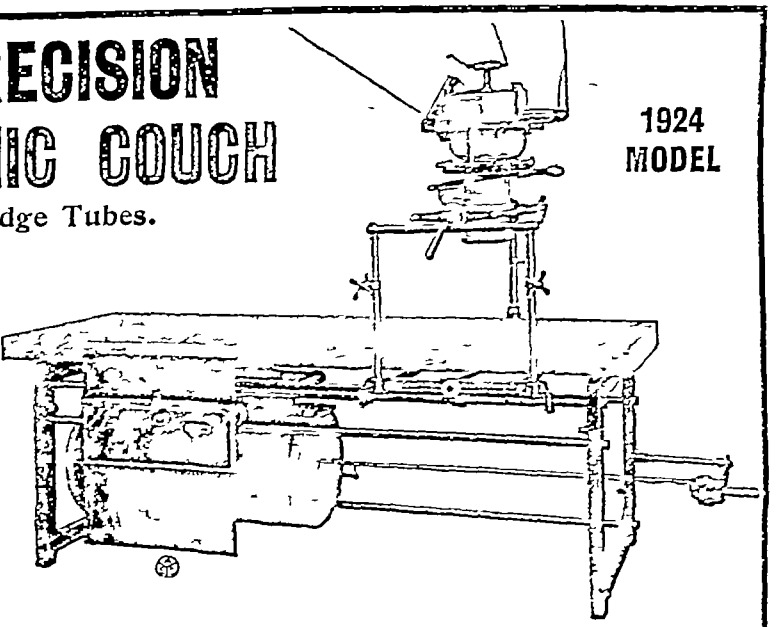
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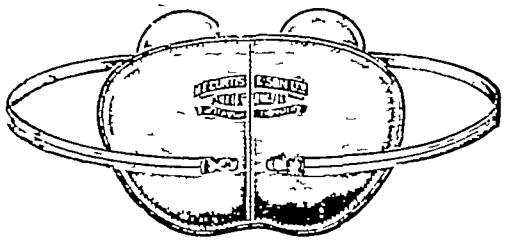
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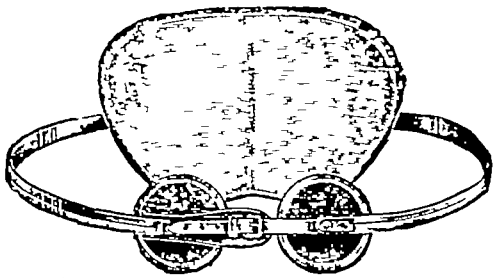
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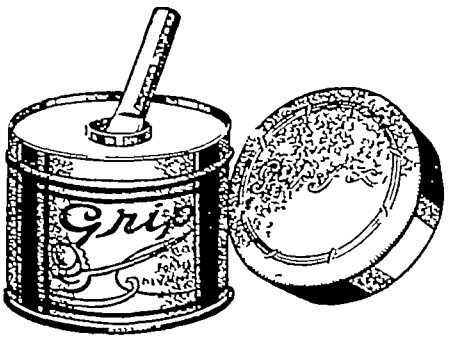


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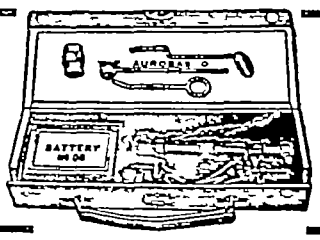
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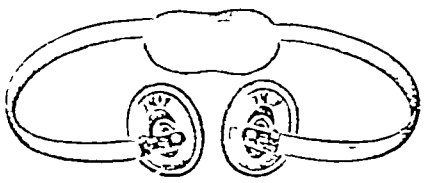
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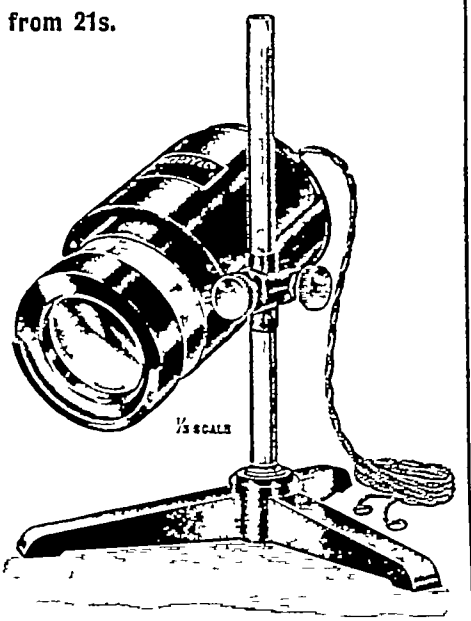
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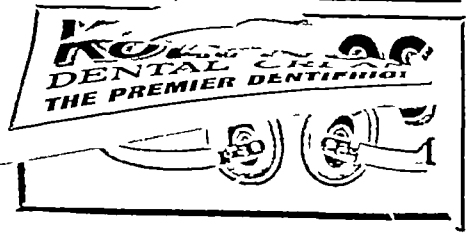
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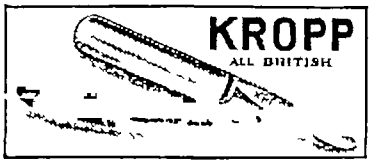
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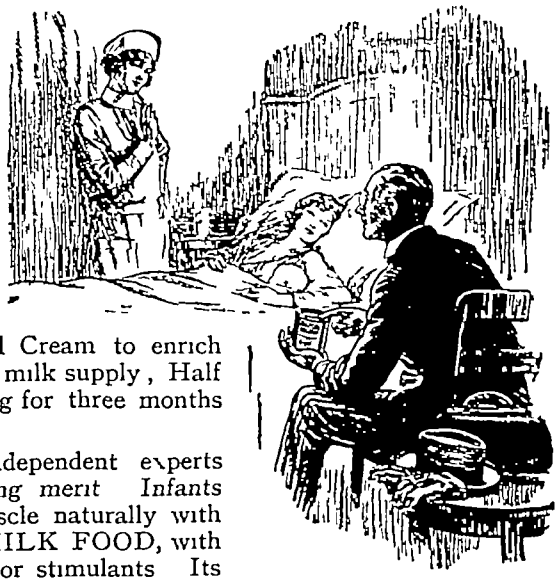
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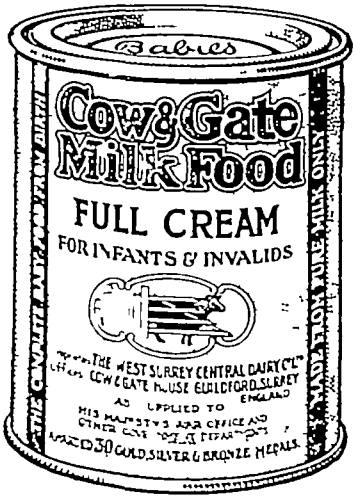
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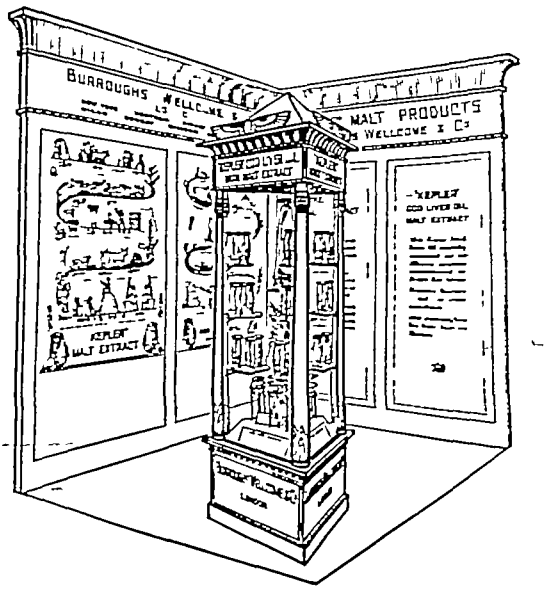
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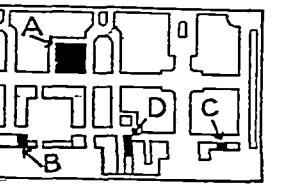
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A British Medical Association Lecture
ON

THE NUTRITIONAL DISTURBANCES OF INFANCY *

BY

BERNARD MYERS, C.M.G., M.D.,

PHYSICIAN TO THE ROYAL WATERLOO HOSPITAL AND TO THE CHILDREN'S CLINIC

We have all frequently seen infants suffering from constipation or vomiting, or both, yet still not very ill, and we have been equally familiar, on the other hand, with children with the same symptoms or with diarrhœa and vomiting who are gravely ill. We have seen infants who failed to thrive on any food and simply wasted and died. It is these conditions into which we will inquire to-day and see if there be now light where not so long since there was only too much darkness.

Because neither the pathologist nor the bacteriologist in the past was able to demonstrate pathological states or bacteriological causes commensurate with the symptoms of these infantile affections, it was ultimately left to the clinician to enunciate, after very careful observation, certain types of disturbances which appeared to be entities occurring in some infants which corresponded to symptoms and signs which were known quite well in the old gastro-enteritis days, but never properly understood as to actual causation. Still more so the relation of the symptoms of one type of case to another was certainly not clear. It was an immense step forward when Czerny and Finkelstein, after patient and laborious clinical observations and accurate deductions, demonstrated certain states in these sick infants, and Finkelstein finally formulated the nutritional or food disturbances of infancy under the four headings (1) Disturbance of balance, (2) Dyspepsia, (3) Decomposition, and (4) Intestinal intoxication. It now became obvious why at necropsy only slight or no pathological changes were found after the very precise symptoms from which these infants had suffered, and opinion is gradually veering round, in the case of bacteriology also, to the point of view that, although doubtless of importance in the nutritional disturbances of infancy, it probably plays only a secondary and not a primary part.

Before we can properly enter upon the subject of nutritional disturbances of infancy, as described by Finkelstein, it is necessary that we pause and remind ourselves of certain physiological and biochemical facts in order that we can more fully appreciate how errors in the digestion, absorption, and metabolism of food and the cell activity of the various tissues can cause certain symptoms and affect the infant as a whole.

Milk is an ideal food and contains the percentages of protein, carbohydrate, fat, salts, and water best suited to the young of the particular species. Human and cow's milk show the following average analysis:

	Protein.	Lactose	Fat.	Mineral Matter
Human milk ...	1.25%	6.75%	3.23%	0.25%
Cow's milk ...	3.4%	4.6%	3.65%	0.7%

Recent chemical analyses which I have had conducted rather suggest a larger percentage of protein in human milk and a variability of the fat content often showing a higher percentage. Milk also contains ferments and vitamins. The analysis of the mineral matter is given further on.

Food is necessary for the purpose of the maintenance of tissues and repair of waste, for the production of heat and energy, and for growth. Food should be administered to each infant in such quantity that corresponds to the optimum tolerance. If we exceed the maximum the infant will lose weight, while below the minimum it cannot gain yet, if done cautiously for a very short period it often increases the tolerance. Protein is the great body builder, and the amino-acids, formed from it during the process of digestion, have been described as the building bricks of the body. We know that protein acts best in the tissues in the presence of carbohydrate. The child will not thrive long without carbohydrate, and therefore, in its absence from the diet, protein can provide a certain amount of carbohydrate if the former be present in sufficient quantity.

The carbohydrate helps to some extent in the growth and repair of the tissues, but chiefly in the production of heat and energy. If there be no fat in the food carbohydrate is capable of forming fat, but if this process be continued for too long a period the child is apt to suffer.

Fat should be present in the food of all infants as it is very important for the production of heat and energy and is a saver of nitrogenous waste. The calorific values of protein, carbohydrate and fat are 4.1, 4.1, and 9.3 calories per gram respectively.

Another important constituent of food for the growing child is mineral matter, which is necessary for the proper metabolism of the tissues, as well as for the formation of bones and teeth. We must remember that the mineral matter of human milk and cow's milk consists of:

	Human.	Cow.
K_2O ..	31.4 per cent	22.14 per cent
Na_2O	11.9	13.91
CaO	16.4	20.65
MgO ..	2.6	2.63
Fe_2O_3	0.6	0.04
P_2O_5	13.5	21.75
Cl ..	20.0	21.27

(Mackenzie Wallis.)

Potassium and iron salts are thus present in larger amounts in human than in cow's milk, while calcium and phosphates exist in greater quantities in cow's milk. The human milk, however, must be the standard for the infant. Water is necessary as a means of introducing these various foodstuffs into the body and for purposes of metabolism and nutrition.

It is now known that vitamins are required for certain vital purposes, the fat-soluble A being necessary chiefly for growth and maintenance, it plays an important part in the prevention of rickets. Vitamin B seems to be associated with the metabolism of carbohydrates and with the chemical reactions and functional perfecting of all cells—particularly nerve cells. According to McCarrison, vitamin C appears to be associated with the metabolism of calcium and the chemical reaction of growing tissues. Its absence leads to scurvy.

In digestion the proteins are acted on by the pepsine of the gastric juice, then by the trypsin of the pancreatic juice, and lastly by the erepsin of the intestinal secretion, amino-acids being ultimately formed. These are rapidly absorbed through the intestinal mucous membrane and passed by the portal circulation to the liver. It is interesting to note what the liver does with the amino-acid. Definite normal percentages of each of the various amino-acids would appear to be present in the blood, and it is not improbable that if further amino-acids be offered the liver simply breaks down what is really the excess amino-acids into urea which is passed out by the kidneys. Should there be a tendency in the blood towards the acid side the liver will neutralize it by forming ammonium salts, and therefore when in excess in the urine, these salts indicate acidity. The amino-acids in the blood provide the necessary building bricks for the cells of the various tissues and are at their disposal as required. In a normal state more of the amino-acid is provided than is requisite, and we may presume that the individual cells of the tissues are capable of taking up the nourishment provided by the amino-acids for the purpose of elaborating from them the various tissues. Bayliss has stated that there are three classes of enzymes known to be present in cells capable of effecting the processes of oxidation, hydrolysis, and reduction respectively. Should the cell through any reason be incapable of elaborating the necessary substances growth is obviously interfered with. This I suggest is important to remember in connexion with the state known as decomposition.

* Delivered to the Dudley Division on March 12th, 1924.

Carbohydrates occur in various forms thus disaccharides ($C_{12}H_{22}O_{11}$) as cane sugar, lactose, and maltose, monosaccharides ($C_6H_{12}O_6$) as glucose, mannose, galactose, fructose, polysaccharides ($C_6H_{10}O_5$)n as starch, dextrin, glycogen When carbohydrate is swallowed the ptyalin of the saliva (which, although found in much larger amounts in a child 9 months old, is yet present in a young infant) commences the change of the carbohydrates into maltose, the process, however, is soon stopped by the acid reaction of the gastric juice When the food reaches the duodenum the amylase of the pancreatic juice and the maltase of the succus enterieus complete the change of carbohydrate into glucose, thus $C_{12}H_{22}O_{11} + H_2O = 2C_6H_{12}O_6$ Bayliss states that the only carbohydrates utilized by the living cell protoplasm are the hexoses, glucose, galactose, fructose, and mannose Glucose is conveyed to the liver by the portal vein, there to be stored up as glycogen until it is required to replenish the glucose in the blood, the normal amount of which is 0 09 to 0 11 per cent The latter is thus available for the action of the cells in the tissues Everybody is aware that insulin is necessary for the storing up of glycogen in the liver, and for the combustion of the glucose in the tissues into CO_2 and H_2O

Normally no sugar should be passed out into the urine, but in certain of the nutritional disturbances lactose has been found This possibly results from injury to the intestinal mucous membrane

When fat reaches the duodenum the steapsin splits it into fatty acids and glycerin The latter is readily absorbed, but bile salts are required to dissolve the fatty acids so that they can be absorbed by the intestinal mucous membrane, in which recombination takes place, neutral fats resulting again which pass into the thoracic duct Should there be absence of bile salts, the fat absorption is therefore likely to be seriously interfered with

Mineral matter is absorbed by the small intestine and so carried to the different tissues of the body, the excess being got rid of by means of the kidneys and the large intestine In some cases of diarrhoea the mineral loss by the bowel may be comparatively so large as to be distinctly severe, and if not checked is likely to lead to fatal consequences In some conditions there is a larger nitrogen and mineral loss than the amount absorbed into the tissues

The belief has already been stated that strong wheys have a deleterious effect upon the mucous membrane of the small intestine, so that imperfectly digested and toxic substances may pass direct into the blood Lactose is sometimes found in the urine At the same time the interference with the intestinal secretion and bactericidal action of the mucous membrane of the small intestine would appear to lead to an invasion of the small bowel by bacteria from the large bowel These bacteria, further, do not tend to disappear in the ordinary way after a meal, but, on the other hand, remain and come early into contact with the carbohydrate particularly, which it ferments, with the formation of irritating acids such as acetic, butyric, lactic, and formic, these are liable to cause diarrhoea through increased peristaltic action of the bowel

Water is chiefly absorbed by the large bowel It is obviously a very serious matter if the loss of water by the kidneys, bowel, and skin, or by one or more of these, is of such extent as to be greater than the intake

Having now discussed the digestion of food and noted some of the abnormalities which may occur, with the deleterious effects upon the body likely to ensue, where the processes of digestion and metabolism do not proceed upon normal lines we are in a better position to deal with Finkelstein's classification This consists of four states (1) Disturbance of balance (failure to gain weight), (2) Dyspepsia (3) Decomposition (malnutrition, atrophy, marasmus) (4) Intestinal intoxication (summer diarrhoea, cholera infantum) In breast-fed babies dyspepsia is not at all infrequent failure to gain weight occurs occasionally, while decomposition and intestinal intoxication are exceedingly rare On the other hand failure to gain weight and dyspepsia are fairly frequent in artificially fed infants, decomposition is not infrequently met with, while intestinal intoxication can become very serious in hot weather and take heavy toll if not efficiently dealt with The enormous advantage of breast-feeding is thus apparent. Failure to gain weight and decomposition are, generally speaking, more frequent during the winter months, and dyspepsia and intestinal intoxication during the warmer weather Failure to gain weight is more usually found among children of the well-to-do classes, while decomposition and intestinal intoxication are most often seen among the poorer or hospital classes, and especially in slumland

It is necessary for all children to have the best possible nursery conditions day and night, and adequate attention to cleanliness, light, fresh air, sufficient but not too prolonged outings, especially in unsuitable weather, and vice versa Very important is the necessity for the intelligent warmer clothing in the cold than hot weather, and making of the milk-mixture, the scrupulous cleanliness of the bottles, teats, etc, and giving the milk-mixture at the required temperature The mother or nurse in charge of the baby should not be excitable or careless, but quiet, reliable, of sufficiently cheerful manner, sensible, with a full knowledge of her responsibilities, and imbued with the delight of doing things well

Failure to Gain Weight

The infant suffering from weight disturbance (disturbance of balance) shows less change from normal than in any of the other food states Still it is most important that it be recognized as soon as possible in order that efficient treatment be carried out without delay, to prevent the appearance not only of dyspepsia but also of the serious food conditions such as decomposition and intestinal intoxication A neglected case of the simpler condition can very easily drift into a serious condition in which death only too readily occurs

Causes.—The administration of food beyond the infant's limit of tolerance A disturbance of the balance in an otherwise well made milk mixture, but with relatively too much fat and protein and too little carbohydrate There is also the infant who experiences a natural difficulty in digesting milk, possibly of an anaphylactic nature

Symptoms.—The child has probably done well up to a point, and possibly gained a little extra weight just prior to failing to gain weight This is the most important of the symptoms, and it is wise in any of the food states to make daily charts of the weight For this purpose the infant should be weighed at a certain time each day, and at a definite period after a certain meal, to make true comparisons. The infant is fat but looks pale, with an inelastic skin, and the muscles are soft and flabby The nutrition, in short, is beginning to suffer a little The child is often peevish, apt to be restless at night, and sleep is disturbed There is marked constipation, and the motions are greyish, hard, and dry, easily broken apart, and not adherent to the napkins Occasionally a particle of blood may be apparent on the motion, and the smell is sometimes unpleasant The temperature is not usually affected, but at times it is half a degree either above or below normal A rise of temperature, however, should always be closely watched in case there be a more serious food state developing Eructations of gas may occur, and not infrequently regurgitation of food and sometimes vomiting The abdomen is to some extent tympanitic The urine is strong smelling, irritating, and shows a real excess of ammonia in well defined cases Indican is often found Immunity to disease is decreased, and middle ear disease, naso pharyngeal, pulmonary, or urinary trouble, or, again, gastro intestinal infections, may result There is a tendency to the exudative diathesis, erythema of the cheek and inguinal region and eczema, are not infrequent

Diagnosis.—The diagnosis is, as a rule, rather easy There is the failure to gain weight, which becomes stationary in a child which has previously been gaining regularly, the pallor of the skin, the fretfulness, and the constipated soapy stools On investigation it is found that the infant has had sufficient food, but not a well balanced one It is well to make sure that inanition is not present, a thorough inquiry into the case will usually exclude this When a child who is suffering from failure to gain weight becomes affected with otitis media, intestinal intoxication may easily be diagnosed in error, but if the nutrition of the infant, respiration, and the content of the urine, etc, be fully weighed, together with the local condition of the ear, the error is hardly likely to occur

Prognosis.—This is generally good If cases are properly treated they do well, but the danger of complications such as otitis media, respiratory infections, skin trouble, etc, have always to be kept in mind It is a good sign when there is an increase in weight, as then the constipation and other symptoms disappear The danger is the development of the

more serious food states Sometimes a condition of constipation follows after the child has become better There is also a liability to rickets in some cases unless care be exercised

Treatment

There is no doubt that the best food is breast milk. The child should be put to the breast for five minutes every three hours, or six times in the twenty four hours, for a few days until there be a gradual increase in the weight curve. It may then remain at the breast a minute longer each day until, all going well, it finally takes its full feed of about fifteen minutes. It will be remembered that the first portion of mother s milk contains less fat This, together with the high sugar content is an advantage in these cases If the mother cannot feed her baby, and an efficient and suitable wet nurse whose baby is about the same age be obtainable, it is often a wise plan to obtain her services

Where human milk is not available a cow s milk mixture is used, and if made up carefully the result is excellent One part of milk is mixed with two parts of water, the sugar is made up to about 5 per cent and gradually increased to 6 or 7 per cent. A careful eye should be kept on the weight chart, as, should too much sugar be given, there will be a distinct loss of weight, with green loose stools (see under Dyspepsia) For the first twenty four hours skimmed milk is usually preferable to whole milk, after that period whole milk can be gradually introduced ounce for ounce in place of it. Ordinarily the infant requires about 1½ oz. of cow s milk and one teaspoonful of sugar or 45 calories to the lb weight this would of course be diluted with the suitable amount of water What is desired is to cure the constipated state on the one hand, and prevent the onset of dyspepsia with its frequent motions on the other The strength of the milk mixture is gradually increased as the tolerance for food becomes established until at last the child is placed on a food with a sufficient number of calories for its weight, and in a few weeks ordinary milk mixtures can be given again.

The necessity for efficient nursing hygienic conditions, and cleanliness has already been dealt with.

Dyspepsia

Although not by any means in itself a serious condition, dyspepsia should always receive efficient treatment without delay, lest it give rise to decomposition or intestinal intoxication Dyspepsia may occur primarily, or secondarily to disturbance of balance, etc It occurs very frequently in breast-fed infants as well as those artificially fed

Etiology —Too frequent or too large feeds, the use of impure milk, relative or absolute excess of sugar in the food, more especially if cane sugar be used, or too high a percentage of fat. The effects of hot weather, faulty hygienic conditions, a low tolerance for cow s milk must be borne in mind, also the fact that some children have naturally weak digestions during the first few months of life The liability to this state is greater with children under three months of age Where there is too much mineral matter in the milk mixture in addition to the excess of sugar, this condition is specially liable to develop causing fermentation with resulting acid products, as already mentioned It is perhaps well to remember that lactose ferments more easily than cane sugar, and that dextri maltose is the least fermentable of the three Sodium, potassium, and calcium salts are excreted in increased quantities by the bowel

Symptoms —Weight is lost during the first few days—as a rule from about 4 to 8 oz. The child has a pale drawn face, and is fretful and restless The appetite is diminished There are some eructations of gas and vomiting, the vomited matter has a fatty acid smell. The abdomen is distended, and the infant suffers from colic. The temperature is elevated by one half to one degree Consciousness is not interfered with, and sleep is usually normal. Four to eight thin, greenish and watery motions are passed in the twenty four hours There may be curds present. The motions are apt to be acid and sour smelling, and often contain mucus, and are frothy The stools contain neutral fats and fatty acids and perhaps starch, and upon further investigation acetic and butyric acids are found to be present. The skin around the anus may be red The urine does not contain albumin or sugar but it shows an increased amount of ammonia There may be nasopharyngeal complications

Diagnosis —Diagnosis has to be made from intestinal intoxication, also from pneumonia, otitis media naso pharyngitis, miliary tuberculosis, and congenital syphilis

Prognosis —The younger the child the greater necessity for care but with efficient treatment the condition should readily be cured It is essential to prevent the condition going on to decomposition or intoxication, and to prevent infection.

Treatment

During the first twelve to twenty four hours starvation should obtain, but the child must be given plenty of water to drink. The stomach and bowels become cleaned out Then if mother s milk be available, this should be given, the child being nursed for five minutes every four hours until the weight curve remains steady, when a slight increase of one minute is made in the time the infant remains at the breast for each feed If the weight chart shows an increase a minute is added daily or every second day to each feed until the normal time obtains for a full meal.

Where there is no human milk it is best to use a one in three cow s milk and water mixture after the twelve to twenty four hours starvation period. Plenty of water or weak tea water, sweetened with one grain of saccharine to the quart should be given to the child to drink. For the first twenty four hours skimmed milk is used but then, if all goes well it is replaced ounce for ounce by whole milk The carbohydrate must not be allowed to exceed 3 per cent. Dextri maltose is the most suitable sugar Six 1 to 1½ oz. feeds are given in the twenty four hours, and in addition a sufficiency of water to drink. After the weight curve has become steady in a few days ½ oz. is added every day or second day to the amount of each feed until the normal amount for the child s weight is reached Dextri maltose is very cautiously increased by ½ per cent up to 5 per cent., but should it be expedient the amount would be immediately reduced.

It is not necessary to give any medicine, although some physicians are in favour of tannigen 1 to 3 grains thrice daily The importance of good nursing cleanliness etc., is obvious and infection must be kept away from the infant.

If the infant does not respond to treatment there will be reason to suspect the onset of decomposition, intoxication, or perhaps of an infection.

Decomposition (Atrophy, Malnutrition, Marasmus)

Decomposition is a very serious condition It may result from the state of dyspepsia, disturbance of balance, or intoxication The malnutrition has become chronic, resistance to disease is lowered In this state there would appear to be some degree of defective metabolism Also it seems as if the cells have defective power of assimilating pabulum The conditions likely to cause this state have probably been present in the infant before it was three months old There is intolerance for all food elements, with a distinct loss of mineral salts and nitrogen from the tissues, so that cell starvation is present Although there is intolerance of all the food elements this is less marked towards the protein The giving of condensed milk is one of the causes Excess of carbohydrates in a badly balanced diet, and insufficient food, are predisposing causes Weakly and premature infants are liable to this condition, also children living in poverty and under distinctly unhygienic conditions Interference with function is so serious that unless the state be efficiently treated it is likely to be followed by death. Quite a number of cases occur in the winter

There are various parenteral affections liable to give rise to this condition such as infectious diseases, congenital syphilis, tuberculosis, respiratory complaints, pyelitis, otitis media, etc

The younger the infant the longer reparation takes still if efficient treatment be maintained there is likely to be ultimately a steady, though slow gain in weight, gradually increasing to normal. There is always the possibility of collapse occurring suddenly, in which the rectal temperature falls to about 96° F and the pulse is 60 or 70 The skin looks cyanosed, dyspnoea is present, and there may be convulsions. Eight ounces can be quickly lost in weight In marasmic cases which go on for some time the infant becomes very weak, apathetic, and seems to be almost incapable of movement Death may be ushered in with purpura and oedema, or with convulsions or pneumonia.

Symptoms —If the case be a mild one the loss of weight may not be very great and little change may be evident for some weeks although small daily variations are likely to be seen. In a distinctly serious case the loss of weight is more or less continuous until death finally occurs Emaciation becomes marked and a paradoxical reaction to food sometimes occurs The child may be vomiting The child is very anxious for its food and obviously hungry The fingers are thrust into the mouth which appears large The temperature is subnormal often 97° F in the morning The pulse is slow and easily

weak Respiration also becomes slow and irregular The infant looks anxious, cries much, and is sleepless There is very obvious wasting of the subcutaneous fat, so that the child may present a picture of wrinkled skin on bone The sucking pads in some cases appear prominent. The skin is greyish white or brownish The lips and fingers are cyanosed, the cheeks hollow, and the tissues flabby, the muscles being in a hypo or hyper tonic state The abdomen may be distended As a rule there is a tendency to constipation, although in the more severe cases there may be a certain degree of diarrhoea with the passage of mucus and perhaps blood The urine shows nothing of importance

Diagnosis.—This is usually easy the history, the great wasting, the weight chart, the subnormal temperature, etc., with paradoxic reaction to food, leave little doubt, but hypertrophic stenosis of the pylorus, congenital syphilis, tuberculosis congenital heart disease, and pyelitis would have to be excluded

Prognosis.—This is always grave, but there is quite a good chance of recovery providing the case has not gone too far and that suitable treatment be adopted without delay and intelligently carried out If collapse occur, or, again, should there be continued loss of weight or diarrhoea, the outlook is very bad

Treatment

As this disease is such a grave one everything possible should be done to prevent its occurrence by correct feeding, good nursing, and sanitary conditions, also efficient treatment should be given to all ailments of infancy, even minor ones

In treating decomposition the best hygienic conditions are essential Infections must be absolutely kept away from these children If there is no diarrhoea, six hours' starvation is allowed, in which the child is given plenty of water to drink, but if there be any diarrhoea there should be no starvation period Three ounces of half strength normal saline solution should be given by mouth, in small quantities at a time, during the twenty four hours If the child is very weak, camphor in sterile olive oil should be injected immediately and continued in ¼ grain doses every four hours for as long as may be necessary If the child is very dehydrated, fluid in the form of normal solution must be immediately given, either subcutaneously, per rectum, intravenously, into the superior longitudinal sinus, or intraperitoneally The last mentioned is the easiest method for quickly introducing two or three hundred cubic centimetres of fluid The solution must be absolutely sterile and carefully introduced (at blood heat) into the peritoneal cavity at a point about one inch below the umbilicus This can be repeated once or twice daily for as long as may be necessary

If breast feeding be available the infant should be so fed, but the first part of the milk only ought to be used on account of its smaller fat content The infant is given the breast first of all only for two minutes every two hours, or ten times in twenty four hours If necessary the milk would be drawn off and given by a medicine dropper, a spoon, or a feeding bottle The breast can then be emptied by a healthy child or the milk drawn off The infant is given one minute longer at the breast in a day or two and provided no further loss of weight occurs As soon as the weight chart has definitely straightened out, the infant is fed for five minutes and then for gradually longer periods until the full feed is taken again

Where breast milk is not available, ten ½ oz to 1 oz feeds of albumin milk (or Mead's powdered protein milk) are given in the twenty four hours Obviously the infant must drink a sufficient amount of water between the feeds There is a gradual increase by ¼ oz at a time until 1½ oz of the food are taken per lb of body weight If the curve has straightened out or there be a slight gain of weight, further ¼ oz additions may be made every few days up to 3 oz per lb weight of infant, which is the maximum Finally, when there has been obvious improvement, dextri maltose is gradually increased from 3 to 5 per cent In the end an ordinary milk mixture is given such as to the infant As larger amounts are taken the interval between the feeds is lengthened from two to two and a half and then to three hours

With improvement, which may take some weeks, the general appearance and the nutrition of the child become more satisfactory the pulse increases, and the temperature rises to normal Should the child after progressing well have a relapse the treatment has to be commenced all over again If the vomiting be very severe lavage is most useful Where collapse occurs the application of heat to the extremities is called for, and camphor should be injected

INTOXICATION

This may develop from disturbance of balance, dyspepsia, or decomposition It is a secondary nutritional disturbance Infectious and weakening diseases are predisposing causes as well as inefficient artificial feeding Hot weather especially and unhygienic conditions often play a part in causation Cases may occur during the first or second summer Badly made and infected food, too high percentage of carbohydrate or fat, and strong whey salts are only too liable to cause this complaint in certain individuals

Symptoms.—With a sudden onset, a temperature of 103° to 106°, often with vomiting and a watery diarrhoea, the infant shows a quick loss of weight of ½ lb to 1 lb or more There may be further loss or the weight may become stationary The loss of weight is accounted for by the quantity of water and salts depleted from the body The skin is hot, pale, wrinkled, dry, and inelastic The respirations are frequent, pauseless, and deep, the pulse is also frequent The infant looks very ill, the mouth is open, the lips are dry, the nose pinched, the eyes are sunken and have a distant stare, and there is a fixed expression The child is apathetic to its surroundings, semi comatose, occasionally quite comatose Looking completely worn out, it moves slowly and with apparent effort Not infrequently there is noticed what is called the "prize fighter's attitude" of the arms Twitching may be seen at the angles of the mouth The infant may appear as if about to cry yet does not do so There may be strabismus or even convulsions There are likely to be from ten to forty watery, greenish or yellowish motions in twenty four hours Meteorism is present There is a leucocytosis of 20,000 to 30,000 The liver is slightly enlarged The urine is decreased in amount and contains albumin, glycosuria frequently occurs in the form of lactose, casts are often found, and acetone frequently

Diagnosis.—The history, onset, mental state, diarrhoea, together with the other chief symptoms, and the great improvement of the condition if proper treatment be immediately employed, make the diagnosis fairly easy Dyspepsia, decomposition, otitis media, typhoid fever, pneumonia, tuberculosis, and meningitis have to be excluded Bronchopneumonia and pyelitis may occur as complications

Prognosis.—Although a distinctly serious state, the prognosis is likely to be favourable with efficient treatment, more especially, of course, if the child is not less than 3 months old, nor unduly weakened, and the condition be not a particularly severe one, also if complications are absent, and the temperature falls to normal and remains so after the first twenty four hours' treatment A case, however hopeless it may look, should be persevered with

Treatment

The great thing is to prevent this condition arising by encouraging mothers to breast feed their children and seeing that hygienic conditions are maintained in the nursery In the actual treatment of a case the child is only allowed food after twelve to twenty four hours, but during the first twenty four hours it is given plenty of water to drink or weak tea, as already described, also 1 to 3 oz of the half strength normal saline previously referred to The stomach and bowel are thus emptied Normal saline injections will be used as may be necessary, the same remark applies to subcutaneous injections of camphor

The best food is breast milk The child should be allowed to remain at the breast for two minutes every two hours at first, but in some cases it would be wise to make the intervals three or four hourly The time allowed at the breast is cautiously increased by a minute until, if all goes well, and the weight curve has straightened out, five minute feeds are allowable, the time is gradually increased up to ten minutes Where breast feeding is not available, protein milk is used in the form of ten ½ oz feedings daily, at first every two hours The amount of the feeds is gradually increased by ½ oz daily until it reaches 1½ oz Then if the curve has straightened out the increase can be cautiously made to 3 oz per lb of body weight The infant is given as much water to drink between feeds as it will take With a definite improvement in the nutrition and general state of the child the carbohydrate is increased little by little from 3 to 5 per cent, and in favourable cases in three to four weeks the ordinary milk mixture may be used again

Should stimulation be required, camphor can be administered, or 3 minims of 1 in 1,000 adrenaline solution subcutaneously every three or four hours for a time, or 8 to 12 drops of brandy in water given every four hours by the mouth Where there is collapse a mustard bath is useful For acidosis 2 per cent sodium bicarbonate solution in normal saline can be injected in the superior longitudinal sinus or else administered per rectum A 5 per cent glucose solution may be required For convulsions an ice cap may be applied to the head and bromide and chloral solution injected into the rectum For the diarrhoea pulv creta aromat in 5 to 10 grain doses every four hours is sometimes used, occasionally 1/12 minim of tincture of opium is added to it The injection of warm water into the rectum is very valuable for the relief of meteorism.

PARENTERAL AND ENTERAL INFECTIONS

In addition to the enteral causes of the nutritional disturbances of infancy there are parenteral ones, such as bronchitis, otitis media, pyelitis, etc., in which the intestinal mucous membrane and the secretions are probably so affected that nutritional states develop

The treatment for parenteral affection consists, generally speaking, in treating the parenteral state, such as a catarrh of the lungs, after the disappearance of which the nutritional disturbance subsides If in doubt as to whether the enteral nutritional state or the parenteral infection is the more important, it is essential to be guided chiefly by the weight curve, and treat the case accordingly as already explained Of enteral infections which have to be distinguished from the nutritional disturbances are typhoid fever, dysentery, etc The infectious diarrhoeas will not react to food as do the nutritional disturbances

CONCLUSION

Reviewing the nutritional disturbances from the first conception of clinical entities to the present well defined states, we are impressed by the necessity for the closest possible observations of clinical facts, the dovetailing of which into their suitable pigeon-holes needs infinite care, patience, and accurate deduction In the future as in the past much will be learned from scientific investigation as to the importance of metabolic processes with regard to a single substance (like urea) in one or the food states, but it would appear as if, generally speaking, more inductive information is likely to ensue from careful clinical and biochemical methods applied to all four states in the same investigation This would make a valuable comparison between the four states themselves and normality Slight or marked differences between these states are likely to suggest new lines of investigation on a broader scale, which may lead to a clearer conception of the processes involved than the one substance investigated Ultimately we may find the necessity for increasing the number of states of nutritional disturbances

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The Harveian Lecture

ON

THE HEART BEFORE HARVEY

DELIVERED BEFORE THE HARVEIAN SOCIETY ON MARCH 20TH, 1924,

BY

J ERNEST FRAZER, F R C S

PROFESSOR OF ANATOMY IN THE UNIVERSITY OF LONDON

les opinions de son siecle parce que ce sont les prejugés qu on oublie le moins. —*Sénac*

WHEN I had the honour of receiving your invitation to give this lecture it seemed to me that Harvey, apart altogether from the nature of that work which made his name immortal, provides some good examples of human limitations It is a common defect in observation that we do not see or appreciate things for which we are not looking, in other words, we are the slaves of preconception, or of prejudice, if we use the word in its true sense The preconception may be fundamental so deep down under our actions that it does not appear on the surface but it is there all the same, and it has sometimes seemed to me that part, at any rate, of genius, when applied to research is the power of seeing things as they are, more or less and not as they might be expected to be A preconception leads, among other things, to lessened appreciation or even complete want of appreciation, of points which tell against itself, and in the course of time it becomes almost part of ourselves, a sort of natural law or fact, about which there is no doubt whatever and no question possible

It was a preconception of such a nature that had to be overcome by Harvey He found the old belief to be incomplete, in discordance with facts, and opposed to reason whereas the system proposed by him was complete and in absolute accord with fact and theory But he was striving against a most ingenious and coherent—though false—belief concerning the functions of the heart and the vascular system in general, and this belief had held the field unchallenged for fifteen hundred years I fancy that there are many medical men who, if they were suddenly faced with the necessity of giving grounds for their belief in Harvey, would find it difficult to answer convincingly It is enough for them that it is the accepted view that it fits in with all they know of physiology and medicine and that it serves its purpose very well In the same way the pre-Harveian physicians had found that the prevailing beliefs on the vascular system met all their requirements, in medicine and in biological science, and they found it very hard to admit that they were unreasonable Moreover they had the sanction of at least fifteen hundred years of medical experience—a respectable period of time which completely eclipses any claim to consideration on the same score that might be made by the modern man. The modern and the ancient are alike prejudiced in favour of the current view of their period, and unable to see any need for change we, to-day, hold of course that fundamental change in the matter is unthinkable, because we now have the proper conception of the circulation, but let us not forget that that standpoint was also the one occupied by the men who were Harvey's antagonists Their honesty of purpose was shown by their later whole-hearted acceptance of his views but their obstinacy of opposition was only due to their strong preconceptions It is with the nature of their belief that I want to deal and at the same time I will try to show how it was that this wrong belief held its ground for so many centuries before it was overthrown by Harvey

Modern physiology and medicine are boundless subjects but they had their origin in the science and philosophy of ancient Greece, and it is not necessary for us to go further back or further afield than to Greece if we wish to see this origin, nor is it necessary to say anything about Hippocrates as the views of his time were expanded later by Galen, but something may be said about Aristotle's teaching which was seemingly not in accord with the general belief He looked on the heart as the source of "vital heat" which, though not the soul, was an absolutely necessary concomitant or agent of the soul and the aorta and vena cava served similar functions in that they carried this "vital heat" in the blood to the left and right sides of the body respectively Aristotle's view of the structure of the heart is well known he describes it as having three cavities, and much argument has centred round this description in the laudable endeavour to understand what he meant by it we need not go into the matter but every now and then, during the succeeding centuries the idea cropped up in one form or another

When Alexander the Great died some three hundred years before the Christian era his generals seized his several possessions Egypt fell to the share of Ptolemy, who seems to have been a man of foresight and discrimination He conceived the idea of making Alexandria the leading city of the world in learning and in commerce His immediate successors carried on this policy and the city became a centre to which the leading minds naturally gravitated and in which all that was best in philosophic thought was undoubtedly represented The medical sciences were fostered like the other branches of learning and it was in Alexandria in the reign of Ptolemy Soter that Erasistratus enunciated his theory of the carriage of vital spirits by the arteries throughout the body This idea of the arteries containing air has been wrongly attributed to Aristotle it is purely Erasistratean and according to Galen seems to have resulted from his difficulty in accepting Aristotle's teaching in which two main veins were supposed to do work which might be done by one only Whatever we may think about it it must not be forgotten that the idea itself was not unreasonable from the anatomical point of the vascular physiology of the day as we will shortly We depend on Galen for what we know of Erasistratus work for his writings have not been preserved but he certainly described with accuracy the valves of the heart indicating the directions in which they opened with had no notion of a circulation and like his fellows he seemed to be more concerned in making the facts he described conform to the philosophical conceptions of his time than with altering his theories to bring them into line with the facts

The facilities which evidently existed in Alexandria must have made it one of the first, if not absolutely the first, of the centres of Greek medical thought Not much information is obtainable about this side of life in Alexandria, but it seems probable that these facilities were not increased as time went on—in fact, it is probable that they got less The later Ptolemies were a race of feeble men and diabolical women, and the country was degenerating under their rule Rome, at first benevolent, became threatening, at last her hand closed down on Egypt, which became a Roman province about thirty years before the birth of Christ

The Roman genius differed widely from that of the Greeks, but at least tolerated the arts and sciences Hence the learned men of Alexandria and of other Greek schools might be expected to have more opportunity for study under Roman rule than in the turbulent times preceding it The study of human anatomy, however, was not possible under Roman law, and this most important avenue of advance was therefore closed to them Nevertheless, within the first century of the Christian era the great figure of Galen arose in the medical world, and it was essentially the vascular physiology of this ancient master which was overthrown by Harvey fifteen hundred years later

It must not be thought that the views advanced by Galen were the products of his own brain They were, like almost all other creeds in medicine, reflections and restatements of the philosophical views of the day, accumulated during centuries of research and thought, but Galen summed them up, made them into a compact and coherent whole, gave them a foundation of observation and seeming fact of experiment, and applied them to his system of medicine and physiological anatomy, with the result that they seemed to satisfy clinical wants and to meet all demands—except those of the real facts of the case We must see, then, what was taught by Galen concerning this side of vital physiology

The body was held to possess four humours blood, phlegm, yellow bile, and black bile, these were tempered by combinations of the four qualities—heat, cold, moisture, and dryness The body, containing such matters in its composition, was informed by three intangible essences or "spirits," with two of which we are particularly concerned The spirits were natural, vital, and animal The natural spirits were derived from the products of digestion, were elaborated by the liver, and distributed from it by the veins throughout the body, the blood in the veins therefore moved in a peripheral direction from the liver The vital spirits, the most subtle and important, were, as their name implies, concerned with the maintenance of life itself and of its properties in the body They were elaborated in the left ventricle, by its peculiar and innate power, from blood and air, and were distributed by the arteries throughout the body It can be understood that, except for the question of fact, it would be of little moment whether the passage of these spirits through the arteries were simple, as Erasistratus believed, or joined with blood, as Galen taught, for the two authorities the spirits were produced in the left ventricle and transmitted by the arteries, and the other point was of secondary importance Galen disposed of the Erasistratean belief by a simple experiment on the living animal

The animal spirits were elaborated in the brain from the vital spirits, and manifested themselves in the functions of the nervous system, they need not be considered further here

The anatomical necessities of this system of spirits were met very well The vena cava passed up from the liver to reach the upper parts, opening into the right ventricle on the way, hence there was no "auricle" as we understand the term, the tricuspid valve guarding the direct opening from the vein into the ventricle, and the appendix being a lateral pouch of the wall of the vein The blood in the vein carried natural spirits which were wanted for three reasons—to supply the necessary crude material on which the air could act to produce vital spirits, to be sent by the pulmonary artery to the lung for its nourishment, and to nourish the actual substance of the heart itself, through the coronary sinus, which would be described as arising from the vena cava before it opened into the heart The passage of blood from the right ventricle to the left, where it would be charged with vital spirits, was considered to be effected through small pores in the interventricular septum The difficulty in finding these was explained by the assumption that they collapse after death, it is of interest to recall the fact that many anatomists after Harvey's time, including the famous Morgagni, have described the occasional occurrence of such channels, other than the well known opening sometimes seen at the top of the interventricular septum Galen also certainly suggested the possibility of blood finding its way to the left side by the pulmonary circuit, but his remarks on this point are not very clear

The elaboration of vital spirits in the left ventricle necessitated the passage of air to this part, and this was effected by the pulmonary veins, the common stem of these veins constituted what we now consider the greater part of the left auricle, but this was called the "venous artery," and considered to open directly into the left ventricle through the mitral orifice The pulmonary veins were held to have a double current in them, for they not only brought air to the heart, but transmitted from this organ the fuliginous vapours which arose like smoke from the activities of the left ventricle This backward passage of vapours from the ventricle caused some trouble to the followers of Galen, as well as to the physiologist himself, and led to varied accounts being given of the valves, some maintaining that they did not close completely, and others holding that they were permeable to vapours, and so on, but the general belief was nevertheless that such vapours were eliminated from the lungs, to which they had been brought by the pulmonary veins This passage in two directions in the same vessel was also illustrated in the divisions of the portal vein the products of digestion were not only brought to the liver by these vessels for elaboration, but the natural spirits required for the nutrition of the alimentary tract were compelled to use the same channels to reach their objective, and a certain amount of discrimination—referred by Galen to his useful properties of attraction and repulsion—was exhibited in some of the vessels, as, for instance, in the passage of black bile by the splenic vein, etc

It can be seen, then, that the structure of the heart was neatly, if artificially, fitted in with the physiological theories, and it remained to account for the conditions before birth Galen was not a man to shirk a difficulty of this sort, and he triumphantly turned it into another link in his chain of physiological vascular functions by means of the assumption of the absence of motion of the heart before birth The assumption was not difficult in itself Remembering that Galen was conversant with the views of Aristotle, one might be tempted to think that he had purposely put on one side that biologist's observations on the beating heart of the embryo chick, but it seems more probable that the difference between the chick in the egg and the foetus *in utero* was looked on as too great to allow direct argument from one to the other If the heart is the source of vital spirits, requiring air for its action, and if the lungs are not used, so that no air is available, it would seem to be only right that the heart should be quiescent, and the necessary spirits, natural and vital, be supplied from the mother through the direct connexion which was believed to exist between her vascular system and that of the foetus It was held that the umbilical vessels were in direct continuity with vessels in the uterus, artery with artery and vein with vein, the placenta being a supporting structure for these anastomoses, and in this way both natural spirits and vital were transferred through vein and artery respectively The foramen ovale and ductus arteriosus were thus brought in as necessary physiological structures, the foetal heart being quiescent the foramen, opening from the vena cava, brought (maternal) natural spirits to the lung for its nutrition, taking the place of the non-acting pulmonary artery, and the ductus arteriosus carried (maternal) vital spirits to the same organ, which, though functionless, had to be kept in a state of high "vitality" ready for the time of functioning

It is interesting to note that the belief in the quiescence of the foetal heart persisted for a long time, and the direct

continuity of maternal and foetal vessels was taught for many years after Harvey's death Arantius, in the sixteenth century, seems to have been the first to discredit this continuity, being followed by several other anatomists Harvey, of course knew that the foetal heart was not quiescent, and followed Arantius in his views on the placental vessels Many well known names, however, appeared in support of the older belief in continuity It was completely upset by Hunter, but I find it again in the 1795 edition of Cheselden's *Anatomy*, I cannot say when it made its last public appearance

Returning now to the vascular system, it must be admitted, I think, that Galen left behind him a very ingenious and wonderfully—though not exactly—complete account of its physiological working including the foetal conditions It was vitiated by assumptions which we now know to be false, but which are perhaps excusable in the then circumstances of anatomico-physiological information The whole theoretical mass fitted in very well with the pathological views and clinical practice of the day, and made a structure, more or less complete, which could only be overthrown by the destruction of the fundamental falsities on which it was built, this was, in essence, the accomplishment of Harvey

We must now, having gained some idea of the vascular physiology of the Greek schools, pass on to the question of the delay of fifteen centuries before it suffered correction The answer has to do with the rise and fall of empires of peoples, and of faiths The Roman Empire, which had perhaps passed its zenith when it took Egypt under its sway, was certainly declining when Galen died It is a common saying that the Greek genius was exhausted at this time, and there is no doubt truth in the saying if we remember that exhaustion is not the same thing as death; but it seems likely that the absence of any originality in the men who lived immediately after Galen is to be referred at least as much to the conditions under which they must have lived Rome was unable to preserve order in the outlying dependencies, and even at home it showed the beginnings of inward decay As for the Alexandrian and other Greek schools, they were in the middle of the maelstrom of disorder

In the fourth century the empire was divided into the Eastern Empire, with Byzantium as its seat of government, and the Western Empire, where Rome remained as nominal mistress of the Western world But Rome was tottering to her fall, and in the fifth century she passed out of history as mistress of the world, being overpowered and taken by Goths, Franks, and Burgundians, and other "barbarians" Thus, in the sixth century we find the eastern end of the Mediterranean surrounded by countries nominally under the rule of Byzantium but in a state of general unrest, towards the west the "barbaric" peoples were plunged in that semi-darkness from which they were to emerge as the nations of Western Europe of to-day

Byzantium itself, then, seems to have been the place most suitable for the furtherance of the arts and sciences but the mixture of Latin and Greek and Oriental would not appear to be the best from this point of view at any rate, nothing was done there in the way of originality in medical science, and no doubt the Christianity which was the official religion looked with disfavour on certain forms of investigation, and hindered progress along these lines Alexandria was still a great seat of learning but no advances in medicine were made there, and Galen was taken as the master who provided a standard for those that followed after him

In the seventh century the followers of Mahomet subdued Persia, and then turned their attention to the West They flooded Palestine and Syria, submerged Egypt, ran along the north of Africa, and overflowed into Italy and Spain, their efforts in Italy were temporary and unsuccessful, but in Spain they gained a firm footing and even crossed the Pyrenees into France, they were thrown out however, and did not repeat the effort at extension This great invasion was the precursor of Arabian dominance in medicine The Greek-Latin civilization of Byzantium, gorgeous but decaying, was hardly able to do more than hold its own on and around the Bosphorus, the Western peoples were still in their strong and lusty childhood, and the victorious Arabians were thus the dominant power In medicine, the Greek storehouses of information opened to them by their conquests were antechambers of a new world to their learned men and they adopted Greek medicine with enthusiasm But they got little further than this The Oriental mind seems to tend towards occultism and mystic learning, and the chief gains in the science due to the Arabs were in the regions of chemistry and botany, which were given their full mystical value astrology and magical charms seem to have been added to the therapeutical armamentarium of the practitioner also by Arab influence

In anatomy and physiology they did nothing Their faith forbade them even to portray a part of the human body, and in these matters they were content to accept in its entirety the teaching of their Greek masters, and hand it on as they received it Thus the Arabian physicians, who represented medicine after the seventh century, taught and practised Greek medicine, but it was debased Greek science, for it can be understood that translations made by men totally ignorant of the subject with which they were dealing, and carried on and transmitted by others who had no means of verifying or even of wholly comprehending the matters concerned, were not calculated to give a clear idea of Greek thought or to enable others to realize it The vital character of the original was lost and the result was certainly only a debased copy of it

The Arabian mastery in medicine was fairly complete In Byzantium, and probably to some extent in the southern parts of Italy, the original Greek was still the main influence, but elsewhere the Arabs were paramount They might be looked on as the trustees of the Greek heritage holding it during the growth of the Western nations who alone would be able to take it over from them in the future

The possibilities that had been dormant in the old 'barbaric" peoples showed themselves first in the splendour of the Renaissance in Italy, the other Western nations followed more slowly in the same path They were like growing children, curious and inquiring but still yielding to authority not questioning in any important matter the sayings of those who stood to them as teachers Thus the Arab-Greek physiology passed without question It is impossible to lay down a fixed date and say that at this time the Italian Renaissance began but we can in a general way say that it was vivifying Italy while our Norman kings were on the throne of England and in the thirteenth century we find Mundinus (1270-1318) making human dissections and teaching anatomy with great distinction at Bologna Among the books* I have here is a beautiful edition of his *Anathomia* from his diction it may be perceived that his anatomy is Arabian in origin I need not quote the account of the heart given by him but can say that he opens and exposes both ventricles taking care not to injure the middle ventricle which he takes to be represented by the spaces which pass through the septum from right to left more widely open on the right side He mentions the valves in their proper positions and directions but considers that the tricuspid valve does not shut completely because it is necessary for some of the blood which has reached the heart from the liver to be propelled out for further circulation Perhaps he may be credited with perceiving the necessity for propulsive power behind the blood conveying the natural spirit, but otherwise so far as can be judged from his scattered remarks and crude descriptions he had no shadow of doubt about the truth of the accepted physiological views it was on account of the purity of strength of the Greek conception that it did not depend on any minor detail for its acceptance but was like a broad-based edifice on which the individual could erect his own little turrets and make his own small windows for looking through without affecting the building Mundinus had held the heart in his hand and on can see his rude description is of the actual heart but he forced in a plan he thought he ought to see the result of the preconceptions of his training

The childhood of the Western nations passed we know that a time comes when our children also once leaned on

* Several old books were brought and shown by the author.

us as the final authority on every possible point, begin to question our wisdom and belittle our judgement, and frequently push their information to a point beyond that reached by us In like manner the growing nations were approaching a time when they would no longer take things for granted, nor blindly follow authority Two events in the fifteenth century—the fall of Byzantium or Constantinople and the invention of printing—are credited with great influence on the progress of medicine and the sciences So far as printing is concerned, its effects are so incalculable and evident that we need not say more about them The fall of Constantinople brought to Italy much of the old Greek treasures which had been stored in that city, and thus opened to Western scholars a direct avenue to the learning of Greece and the ebullitions of the Greek genius It became quite "the thing" for scholars to journey to Italy to study and translate these manuscripts, and it is interesting to note that our own Linacre was among the most famous of these travellers It is generally held that the advent of the supply of the pure undefiled Greek writings had much to do with increasing the vital energy of medicine and its sciences, leading to advances and new discoveries, and no doubt there is truth in the belief But I confess that I find myself a little sceptical, at any rate in anatomy the Arabian influence seems to have persisted for a century after the fall of Constantinople, nor is there much reason to suppose that the Greek resurrection would set doubting a world of men who had accepted the Arabian statements without question It seems to me a natural and inevitable result of the growth of the proper mentality of the Western nations they were reaching the adolescent stage and wanted to inquire into things for themselves, and under those conditions advances were bound to come, the truth was bound to be slowly sifted from the false, and our special subject, vascular physiology, was as certain to be put on a proper foundation as anything could be in this world of uncertainty

Thus we find in the sixteenth century tentative efforts being made toward the solution At first, at the beginning of the century, we have the old belief This copy of Magnus Hund's book, one of the rarest anatomical books, was published in 1501 it was once supposed to be the first anatomical work with cuts, but that is not the truth Woodcuts as illustrations were introduced about 1461, but they only found their way into anatomical or medical books toward the end of the century Not considering de Ketham's "fasciculus," we have Jacques Peylig's work which appeared in 1499 I have compared the cuts in this with those in Hund, and they are undoubtedly copied from the same originals, but what these were I cannot say In a couple of the drawings from Hund, the heart, in the pericardium, shows the outer form of the two ventricles, it is placed obliquely, has two structures above the ventricles which may be meant to represent appendices and possesses certain vessels leaving or going to it which I have not yet been able to place with any satisfaction Like the other early writers on the subject Magnus Hund seemed to look on his illustrations as in themselves sufficient, and did not take the least notice of them in his text Such a picture of the heart is, of course merely formal, almost like that on a playing card, and the description of the organ shows the usual conception of structure and function which had been current for so many centuries

As the sixteenth century goes on, however, we begin to find evident signs of the growth of the spirit of inquiry We can pass over the obscure crudity of Berengarius's description and the evident influence of Mundinus on Mirfot Massa talks of three ventricles, and his account of the heart, fuller than that of Mundinus, is not much of an improvement on it In this century, however, we find an outburst of anatomical activity, and greater freedom in expression of individual views The actual investigation of anatomical structure was not confined to professional anatomists but was largely undertaken by artists, who might, indeed, be looked on as leaders in the revival, particularly in the study of skeletal and muscular anatomy, since the great names of Leonardo, Michelangelo, and Raffaelo are found at the end of the fifteenth and early part of the sixteenth centuries These men were not concerned with physiological ideas, but in this century, however, we find Servetus, Columbus, Cesalpinus, and the greatest of all, Vesalius In one of Vesalius's early illustrations of a heart, from one of his "fugitive sheets," there is no appearance of auricles as we know them, though the appendages are well shown I have found this to be a common deficiency, probably due to the teaching that the heart only has ventricles, and that those parts which we term the atria of the auricles are parts of the vena cava and pulmonary vein (arteria venalis) respectively, in the case of Vesalius the explanation might hold, for this great anatomist and accurate describer failed altogether to get any true conception of the circulatory process Others, however, pushed the matter further Michael Servetus was the first to describe clearly the pulmonary circulation, he was followed on the same lines, and almost in the same words, by Realdus Columbus, then by Arantius and Cesalpinus All these anatomists have been credited, at one time or another, with knowledge of the circulation, but if we turn to their accounts of the veins and liver—a very good test of their views—it is found that they were all quite innocent of any conception of the circulation The same test disposes at once of Nemesius, Bishop of Emesa in the fourth century, who has also been said to have known it In all these cases the passage through the lungs, which had been postulated by Galen, was simply adopted to supply the left heart with the material for its manufacture of "vital spirits," the perforations in the septum having lost caste with most writers

Thus, then, was the state of knowledge of the heart and vascular physiology when Harvey made his onslaught on the belief Riolan still taught a way through the septum, but with many, if not most, the pulmonary route was accepted on this subject Harvey credits Columbus with the description, being apparently ignorant of Servetus The vital spirits were still elaborated in the left ventricle and discharged in small quantities by the aorta, and some thought they ebbed back again at times, especially during sleep The natural spirits were elaborated in the liver and transmitted by the veins The structure of the heart was quite well known, but did not seem incompatible with the theories, and it was really these theories of the double flow of blood, with its double origin, that had to be destroyed by Harvey, for it was the fundamental idea on which the whole superstructure rested

THE LARVA OF THE WARBLE-FLY AS A HUMAN PARASITE

BY

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OWING to its rare occurrence, the following account of a case of myiasis due to a warble-fly may be of interest

On February 19th last I was called to an outlying farm to see a boy, aged 4 years His mother told me that he had not suffered from any previous illness In November and December last he lost flesh, colour and appetite, but did not complain of any pain During the whole of January, 1924 he had recurrent attacks of urticaria on the front and sides of the neck

Early in February he complained of severe pain in the left ear which lasted a few hours Next day the left cheek was red and swollen This swelling subsided in an hour or two and was immediately followed by extreme swelling of the left eyelids so that the eye could not be opened The swelling was not red or painful and it entirely disappeared in about three days The day following its disappearance the boy was suddenly seized with severe vertical headache and vomited The pain lasted several hours but in twenty four hours he appeared to be quite well and continued so for about four days when the swelling in the left eye returned with vomiting and pain in the left side of the forehead The eyelids were red and there was some thin purulent discharge

When I saw him the next day I found the left eyelids slightly swollen and red, the conjunctiva somewhat injected and the tongue dirty Temperature and pulse were normal The boy was well nourished and did not appear to be ill

In a day or two all swelling and redness had disappeared, and nothing further occurred until February 29th, when he vomited, and the left eye became swollen Next day I found him in bed and was told that he had passed a sleepless night, owing to very severe pain in the left side of the head

The left eyelids and conjunctiva were very oedematous The left cheek over the parotid region was red and swollen All the affected parts were somewhat tender Temperature and pulse were normal the tongue was very coated the pupils were equal and active All other reflexes were normal On the chest and abdomen there was a rash which had been present about twenty four hours The clinical features of this rash throughout its duration were those of varicella but in the light of subsequent events the question arises whether the rash was due to varicella or to larval infection Within forty-eight hours the swelling of eye and cheek had completely subsided the tongue was clean and the child was asking for food

He remained quite well until March 14th when the right eyelids and cheek became swollen and red There were also several circumscribed swellings—one the size of a chestnut on the right side of the forehead just above the outer canthus one the size of a hazel nut behind the left ear one the size of a walnut over the right parietal region of the scalp and two small ones over the left parietal region The swelling on the right side of the scalp was *semifluctuating* the others were moderately firm None of the swellings was red or painful In a few days, with the exception of the scalp swellings the parts returned to their normal condition and the child again seemed to be quite well

On March 24th after severe pain in the head the oedema and redness returned this time in both eyes and cheeks Next day from the right parietal swelling which was now discharging pus came a maggot about half an inch long Within a few hours the swelling of eyes and cheeks had completely disappeared

On March 27th a maggot was discharged from one of the two swellings on the left side of the scalp and from the other swelling a maggot was removed on April 1st both of these maggots were about a quarter of an inch long There have been no further developments.

Curious features of the case are

(*a*) The regular intervals between the appearance of the swellings There were five distinct attacks with about ten days between each

(*b*) Their symmetrical situation The first swelling was in the left eye, the second in the left eye the third in the right eye and cheek, the fourth in the left eye, the fifth in both eyes and cheeks One maggot came from the right side of the scalp and two from the left side of the scalp

(*c*) The rapidity with which the oedema subsided

The swellings noticed on March 14th, one above the outer canthus of the right eye and the other behind the left ear are suggestive of halts in the progress of the maggots either to or from the scalp

Can the periodic swellings be accounted for by assuming that eggs were deposited and hatched in the scalp and that the larvae migrated, at intervals, to the orbital tissues remaining there a few days only? The remarkably rapid onset and subsidence of the oedema seem to point to some such transient exciting cause

I have ascertained that warble-flies are prevalent on the farm where the child lives, so that the source of infection is obvious

Report by Major Austen

The first maggot was sent to Major E E Austen Natural History Section of the British Museum who very kindly furnishes the attached report, which he permits me to use

The specimen is a penultimate stage larva of *Hypoderma lineatum* Vill which is one of the two British cattle warble-flies the other being *Hypoderma bovis* De G

This is the first British case of myiasis in man due to a warble-fly larva that has come to my personal knowledge but a number of instances which have occurred on the continent of Europe and in the United States of America where *Hypoderma lineatum* is also found are on record

The preponderance of cases in which the victims of the fly's attack have been young children is noteworthy but is perhaps to be correlated with the fact that in cattle young animals are usually most severely warbled

Another interesting point in your case arises in connexion with the way in which the patient became infected The egg from which the larva developed must have been laid last summer probably between July and September and if not actually deposited on a hair of the child's head or body was in all probability laid in the ordinary way on a cow's hair and then swallowed in milk

Under normal conditions the eggs of both *Hypoderma lineatum* and *H bovis* are attached by the parent fly to hairs on the legs and flanks of cattle and the minute larvae which hatch out a few days later crawl down the hairs and enter the body burrowing through the skin by way of the hair follicle A period of many months of wandering follows during which the larvae travel about the body through the connective tissue and, before taking up their final position in warbles beneath the skin of the back are met with in situations so diverse as the wall of the oesophagus and the spinal canal

The full grown larva is a grub of considerable size and is many times larger than the specimen forwarded.

The following references to other published cases of this condition have been provided by Major Austen

Riley C V A grub supposed to have travelled in the human body *Insect Life* Washington U S A vol ii p 283 (1890)

Condorelli, Mario Caso di myiasis nell uomo per larva cuticolare di *Hypoderma bovis* (De Geer) *Boll Soc Zool Ital* Anno xiii pp 171 181 (1904)

Topsent, E Sur un cas de myase hypodermique chez l'homme *Archives de Parasitologie* T iv p 609 (1901) Larva of *H lineatum* beneath skin of upper part of thorax of girl of 8 years

Topsent E Second cas de myase hypodermique dans le Morbihan Op cit T xiii, pp 433-439 (August 25th 1909) Larva of *Hypoderma* beneath skin of face of girl of 6½ year

Miller Larvae of *Hypoderma lineatum* in the human subject in U S A *Journal of the American Medical Association* December 3rd 1910 (abstract in the *Journal of Tropical Medicine and Hygiene* January 2nd 1911 p 13)

ETIOLOGY AND TREATMENT OF RHEUMATOID ARTHRITIS AND ALLIED DISEASES

BY

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WITH ELECTRO THERAPEUTIC NOTES

BY

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THE term "rheumatism" is very casually applied to the signs and symptoms of inflammation of joint nerve muscle or fibrous tissue The first essential step is to determine the cause of the inflammation

The causes of the so-called rheumatic conditions fall into line with the usual causes of inflammation—physical (mechanical or traumatic), chemical (metabolic gouty diabetic alcohol, etc), thermal (heat or cold) specific (syphilitic neuropathic haemophilic, and the specific bacterial such as typhoid, gonococcal, etc) and non specific bacterial

The remarks here made will be confined to the non-specific bacterial group though the others must be mentioned from the point of view of differential diagnosis

Articular rheumatism which is probably the most common variety and certainly the most important from the point of view of disability caused can be divided into two great groups

1 *Rheumatic Arthritis*.—Usually polyarticular and associated with pyrexia often accompanied by an endocardial lesion and generally controlled by salicylates The joint lesions are characterized by painful and tender synovial and periarticular swelling which may appear and disappear comparatively rapidly

2 *The Rheumatoid Group* (and in this I include the various types of rheumatoid arthritis and osteo-arthritis) — This variety may be polyarticular or monarticular and acute subacute or chronic The acute arthritis may develop as a primary disease or follow an acute febrile condition such as influenza or result from a sudden exacerbation of the chronic The chronic form may develop as such or supervene upon the acute

The rheumatic affections of nerves muscles and fibrous tissue closely correspond except that the acute varieties are less common if we exclude the nerves In our experience the underlying cause are the same which tissue is involved depends largely upon personal or regional susceptibility and various contributory causes

A very high percentage of rheumatic affections may for practical purposes be regarded as metastatic manifestations of focal bacterial absorption In a small proportion of cases exciting causes such as nervous shock worry trauma etc appear to play an important part In another small proportion the disease appears to run a rebrile attack though frequently in these cases a local septic focus has been lighted up

The pathological varieties cannot be considered in this communication, but the fact may be emphasized that

disease represents a definite sequence of events, and that the treatment usually required is composite, illustrating well the advantages of team work

Three stages of rheumatoid arthritis can be recognized (1) early, with slight or recently developed joint lesions, (2) active arthritis with definite arthritic changes, (3) old-standing arthritis, with or without the presence of the active disease, but with post-arthritic deformities, contractures, muscular atony, and wasting

The treatment of the disease may be considered under the following headings

A Removal of the infective focus
B Neutralization of bacterial toxaemia in blood stream and affected tissue
C Orthopaedic treatment of the results of the disease
D Psychological treatment also would be advantageous in many cases
E The general treatment of the patient by tonics, endocrine preparations etc, must also be kept in mind

In Stage 1 removal of the infective focus is usually all that is necessary, and the disease rapidly subsides when this has been done In Stage 2 the toxaemia must be neutralized in the affected tissues after removal of the infective focus In Stage 3 the treatment is more complex and falls under the headings of

(1) Removal of the infective focus if present
(2) The treatment of active arthritis if present
(3) The treatment of post arthritic sequelae by electricity, massage manipulation exercises or operation
(4) The use of a vaccine as a prophylactic against lighting up the disease by the above orthopaedic procedures
(5) General and psychological attention to the patient

Differential Diagnosis

The first essential in treatment is correct diagnosis, both as to the type of arthritis and as to the stage of the disease In about 25 per cent of the cases referred for antibacterial treatment the diseases have been non-bacterial in origin, the conditions ranging from flat-foot to congenital syphilitic synovitis

The diagnosis must be made from diseases of metabolic or chemical origin, such as gout, diabetes, and alcoholism, from mechanical conditions resulting from trauma, occupation, pressure of new growth, etc, and *from* displacements, such as flat-foot and coxa vara Syphilitic, neuropathic, and the specific bacterial affections require separate consideration

The diagnosis between active arthritis and post-arthritic sequelae is most important, the stage of the disease being often imperfectly realized Patients have been subjected to courses of vaccines when the entire disability consisted of ankylosed joints with contractures, there having been no signs or symptoms of active arthritis for a number of years The most difficult post-arthritic condition to distinguish is traumatic arthritis or synovitis resulting from apposition of roughened or cartilage-denuded joint surfaces The distinction is that the pain and swelling in the mechanical forms occur during and after movement, and become more pronounced the more the joint is used, whereas within limits the pain and stiffness of active arthritis diminish with moderate use

The three most important evidences of active arthritis are pain apart from movement, the night pain being most characteristic local tenderness, and general debility with often a toxaemic facial aspect

Treatment

In the *first stage* all that is required is to search for and remove the focus of origin The commonest focus is undoubtedly dental, and if there is no obvious sepsis the teeth should be *x* rayed to exclude the presence of apical sepsis The *x* ray is not infallible and several cases have been seen secondary to thickening of the periodontal membrane but except in root-filled or extensively filled teeth the *x* ray is very reliable

After the teeth the commonest sites of infection are the tonsils and accessory nasal sinuses The gall bladder is a much commoner focus of infection in rheumatoid arthritis and similar diseases than is generally supposed The genito-urinary system may contain the focus, the uterus in the female and the prostate in the male probably being the commonest sites

In a small percentage of cases of rheumatoid arthritis no focus can be found and the physician is forced to consider the indefinite intestinal source of origin The appendix is a probable focus in some cases As intestinal antiseptics dimol or salol and kaolin have been used, and endocrines when intestinal atony is definite

In the *second stage* also the focus must be sought for and dealt with The systemic bacterial toxins must then be neutralized by specific or non-specific remedies Many drugs are alleged to exert some beneficial effect, such as guaiacol carbonate, iodides, collosol manganese, and alternating collosol iodine and collosol sulphur In some cases drugs unquestionably do exert a beneficial effect, but their action is uncertain, it would appear to be due to their ability to neutralize the toxins of some bacteria in some individuals, while in blood or tissue fluids of slightly different composition the toxins of other bacteria are not neutralized

Peptone or other foreign proteins may be used, and may produce very striking improvement Generally speaking, however, foreign proteins are efficient only when given in sufficient amounts to produce severe febrile reactions, they make the treatment very unpleasant, and necessitate a good deal of incapacity and bed during its course

The most reliable antibacterial agent is an autogenous vaccine, and if sensitized it can be pushed without producing any reaction or incapacitating the patient in any way For over four years vaccines made from the blood have been used, either the auto-haemo-vaccines,[1] or vaccines made from definite bacteria grown from the blood in ammonium carbonate, citrated glucose broth,[2] from those sources the correct antidote for the causal organism can more or less be guaranteed

The antibacterial action of the vaccine can be greatly aided by electrical measures, which are used (1) to produce vaso-dilatation, in order to increase the antibody supply to the affected joint and hasten the absorption of effusion and oedema, (2) to exert direct antibacterial action, and (3) to help restoration of function by softening and aiding absorption of adhesions, and stimulating atonic muscles

To produce surface vaso-dilatation the high candle-power lamp (1,000 c.p.) is the best, to promote deep hyperaemia, diathermy and the static brush effluve are the most suitable To remove oedema and fluids the static wave is the best It causes intermittent contraction of the arterial musculature and thus produces capillary massage Diathermy and the galvanic current also aid the removal of effusions

The tungsten arc lamp develops antiseptic rays, while high frequency, administered either with the glass vacuum tube or through the hand with a cotton glove on while giving massage, is useful

For ankylosis and contractures the galvanic current, which has sclerolytic properties, is the most useful aid to massage and exercises The static wave will contract the wasted and atonic muscles while the patient sits in a chair Rhythmically broken galvanic current is a useful stimulant but liable to irritate the skin

The operative measures that may be adopted are wrenching under an anaesthetic, or open operation for removal of osteophytic outgrowths and hypertrophied synovial membrane, or excision of the joint may be practised

The psychological aspect in the third stage of rheumatoid arthritis is often very difficult to treat, and frequently patients are bedridden with perfectly quiescent arthritis They think that they are unable to get out of bed, and they never will unless they can be persuaded that nothing but their own efforts will get them out, and that those efforts will be successful if sufficiently determined At such a stage a vicious circle is apt to be established, the increasing incapacity leading to more pronounced metabolic and intestinal stasis, with consequent aggravation of the rheumatic disease Deficiency of endocrine output and achlorhydria frequently accompany rheumatoid arthritis, probably representing other manifestations of the general toxaemia, and being aggravated by the continual pain I have found pluriglandular preparations most useful

adjuncts in treatment I think that the future will demonstrate that the essential chemical basis of the disease is a derangement of calcium metabolism

In conclusion, I would emphasize that, from the practical standpoint, in rheumatoid arthritis (1) the etiological basis is a septic focus, and (2) the most important factors in treatment are the removal of the focus and the correct diagnosis of the stage of the disease

REFERENCES
[1] Billington Auto-haemo-therapy *Lancet* March 1st 1924. [2] BRITISH MEDICAL JOURNAL, December 15th 1923 p 1157

TREATMENT OF MIGRAINE

BY

JANET LINDSAY GREIG, M B , B S MELB

RECENT authorities agree in stating that migraine is increasing in frequency and in accepting the nervous theory of its origin The gastric theory that migraine is due to recurrent attacks of dilatation of the stomach has been ignored for many years, mainly because it does not seem to explain the many diverse symptoms

It is possible that our knowledge of the stomach may not yet be complete With the exception of the work done by Mr Jefferson of Manchester, and reported at the Edinburgh meeting of the Anatomical Society of Great Britain 1922, there has been no recent research work on stomach muscle Its muscular mechanism is still more or less taken for granted

What constitutes dilatation of the stomach and what is its clinical significance? We do not yet know the degree of dilatation which is the physiological normal of the stomach, it must vary with each individual Radiography is only helpful when there are already gross pathological changes

It is possible that in some individuals—the migrainous for example—owing to muscular weakness, either inherited or acquired, the borderland between the two conditions may be a very narrow one, and the physiological may easily become the pathological Accepting this as a possibility, the following scheme was drawn up for patients suffering from migraine, the endeavour being to maintain the stomach so far as possible in its normal physiological condition The results have been most satisfactory While patients are willing to submit to this routine they get no attacks of migraine and no sick headaches The scheme is as follows

I. *Diet*—1. Exclude rigidly
(1) Cakes scones biscuits pastry
(2) Steamed puddings sponge puddings trifles
(3) Green vegetables including peas and beans
(4) Aerated drinks including whisky and soda and champagne also fruit salts sal hepatica etc

2. Allow any of the following
Breakfast Porridge fish eggs bacon chops bread and butter or toast marmalade jam tea or coffee
Luncheon Soup fish meat (of all kinds) potatoes marrow pumpkin tomatoes, milk puddings custards junket stewed fruits, baked apples fresh fruit
Afternoon Tea Bread and butter toast and butter sandwiches tea or coffee
Dinner Soup fish meat poultry potatoes marrow pumpkin tomatoes, custards jellies fruit salads ice-cream fresh fruit coffee

II. *Medicine*—During the first two weeks of treatment the following mixture is to be given three times a day half an hour after meals, and then discontinued altogether

℞ Acid hydrochlor dil	♏v to ♏x
Glycerin	♏x
Aqua	ad 3ss

As an aperient cascara evacuant (P D and Co) 1/2 to 1 drachm, water to 1/2 oz. should be given at night time when required but not as a routine

III. *Posture*—The patient must sleep without a pillow so that the head neck, shoulders trunk and limbs are all on one level Patients very quickly become accustomed to this position

IV *Exercise* in the open air and gradually increasing in amount Walking is probably one of the best exercises and is available for all, whatever the condition or circumstances of the patient

This method at least has this advantage that it makes it possible to eliminate those cases of migraine which are due to dilatation of the stomach It leaves in my experience very few cases for any other form of treatment How long it will be necessary for those subject to migraine to continue this routine I cannot say While continuing the routine every effort should be made by means of tonics, good food, fresh air, but above all by exercise, to build the patient up physically

It is probable that, with increased knowledge of the mechanism of the stomach muscle, we will understand more clearly the pathology of migraine, and understand better also how to maintain the stomach muscle in that stage of contraction which is its physiological normal

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

OPIUM POISONING AND PONTINE LESIONS

THE record of Dr Sydney Smith's interesting case of simulation of opium poisoning by an aneurysm of the basilar artery (BRITISH MEDICAL JOURNAL, June 7th, p 994) may perhaps allow as a footnote a somewhat similar story

An elderly woman who lived alone was found in bed and apparently unconscious by the charwoman who called in the morning by daily custom. The medical practitioner who was immediately summoned recognized a condition of profound coma with extremely contracted pupils laboured respiration and normal temperature In addition on a table at the side of the bed stood a phial of some two ounces capacity it was empty and was labelled laudanum In these circumstances the practitioner now unnaturally decided to wash out the stomach for the evidence both clinical and circumstantial clearly carried a suggestion of opium poisoning The stomach contents, however yielded no smell of laudanum and later in the day an aggravation of the general condition and a temperature of 105° F were judged to throw doubt on the original diagnosis In the evening the patient died and a *post mortem* examination revealed a haemorrhage in the pons and fourth ventricle Apart from the empty and labelled bottle there was no proof that the woman had taken laudanum and certain other facts rendered this course unlikely

Such an experience illustrates the ease with which a diagnosis may sometimes be handicapped, not helped, by external circumstances, and it emphasizes Dr Smith's two points—namely (1) that the clinical picture of pontine haemorrhage may closely imitate that of opium poisoning, and (2) that a high temperature as indicating a pontine lesion is of much value in the differential diagnosis But as the present record shows, and as seems also to have been the case in Dr Smith's patient, the high temperature cannot be expected at the outset, and therefore there may well be a stage when a confident distinction between the two conditions may be difficult or even impossible Add to this possibility an empty bottle labelled laudanum standing at the bedside, and most voices would surely be for the stomach pump Yet, as now appears even here the majority might be wrong—perhaps not in practice but certainly in opinion

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SURGICAL EMPHYSEMA DUE TO PARTURITION

'SPONTANEOUS emphysema from rupture [illegible] even from rupture of the healthy lung in violent efforts such as those of parturition, is a rare accident' These words, from a footnote in the [illegible] Holmes's *Surgery*, are my excuse for [illegible] case

On May 20th I was called to attend a young primipara who was having frequent strong pains By 9 p.m. the cervix being fully dilated but progress very slow I applied forceps Chloroform was administered by my partner and a large child delivered without undue difficulty It was 9.15 p.m. and was strong and healthy At 7.30 p.m. the husband came and asked if I could give him a lotion as his wife's breasts and nipples were sore and painful The following morning I found the neck and adjacent parts over the clavicles gave the characteristic crackling feeling of emphysema By the end of a week the air had largely absorbed with no bad symptoms The patient could not remember feeling any pain in the chest during the labour

As the quotation that heads this note is the only reference I can find in the literature at my disposal I conclude that the condition is rare

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CLINICAL AND SCIENTIFIC PROCEEDINGS

OXFORD DIVISION

AT a meeting of the Oxford Division held at the Radcliffe Infirmary on May 28th, DR B T PARSONS-SMITH read a paper entitled "A review of modern cardiology"

THE NEW OUTLOOK IN CARDIOLOGY

DR PARSONS-SMITH attributed much of the great advance in the outlook on cardiological problems in recent years to the application and development of graphic records, which enabled a clear differentiation of the hitherto confused groups of cardiac arrhythmia, and afforded valuable aid in the diagnosis of myocardial disorders and their significance. He limited his remarks to the consideration of two questions—the significance of murmurs, and the etiology of cardiac failure.

Significance of Heart Murmurs

Excluding congenital disease, murmurs might be divided into two groups: (1) diastolic (almost invariably indicating severe disease), and (2) systolic, which, with an occasional exception, might be regarded as trivial and neglected entirely.

In patients with aortic reflux a diastolic murmur might be expected at the base of the heart, in early cases this would be heard only in the third left space at the costal margin, and immediately following the second heart sound. As the disease progressed the murmur would be heard over a wider area, not only to the right of the sternum, but also at the apical region. The murmur of aortic regurgitation was invariably in continuity with the second heart sound, with this in mind there should be no difficulty in distinguishing it from the murmur of mitral stenosis. In certain cases the murmur of aortic reflux presented difficulties, the second heart sound might be accentuated and serve to mask its presence entirely. Here the diagnosis was simplified by examining in the left lateral position with the patient in full expiration or with the trunk bent well forward at the hips. In doubtful aortic murmurs careful search should be made for other signs of aortic regurgitation.

The first indication of mitral stenosis was a short presystolic murmur at the apex region, audible only at high rates of beat, this undeveloped stage might be expected three to four years after the primary infection. About the fifth year the typically localized pre-systolic murmur and thrill became appreciable at all times and in all circumstances at the region of the apex impulse. As stenosis progressed a second murmur appeared in diastole—a rumble of varying length separated by a brief interval from the second heart sound. The great majority of patients with mitral stenosis might be expected to develop auricular fibrillation sooner or later, the transition being usually associated with definite changes in the murmurs previously existing.

Systolic murmurs as a general rule called for little more than passing comment, the soft systolic murmurs at the apex and base without other localizing signs definitely incriminating the heart, might be regarded as insignificant. There might be suspicion that in certain cases a systolic apical murmur indicated mitral regurgitation, but the diagnosis of this lesion was by no means simple, and its definite recognition as such was of little value or consequence for mitral regurgitation *per se* was by no means incompatible with long life, its progress being uncertain and lacking the moderately uniform sequence shown by the more serious types of valvular lesion. Exceptions to the above were the systolic murmurs of congenital malformations, also the systolic murmur of aortic stenosis, in which there was always confirmatory evidence of the lesion in the shape of an upward [illegible] ejected systolic thrill, a diastolic murmur, cardiac enlargement, a slow flat-topped pulse, and left ventricular preponderance.

Etiology of Cardiac Failure

Discussing the essential mechanism underlying cardiac failure DR PARSONS-SMITH spoke first of the relative significance of back pressure in heart disease, taking as an example the sequence of events in mitral regurgitation. He then considered the various theoretical factors underlying the evolution of the back-pressure theory. Two questions arose with important bearing on the principles of back pressure in their application to the development of cardiac failure: (1) Was there definite evidence that back pressure existed at all in cardiac failure? (2) Was there definite evidence of etiological relationship between the back-pressure state and subsequent cardiac failure? The first question might be answered in the negative with certain reservations. In regard to the second question there was ample evidence to support a negative reply. It seemed reasonable to assume that back pressure and cardiac failure depended in all probability upon a common etiological factor rather than possessing the relationship of cause and effect. DR PARSONS-SMITH then discussed the modern theory of cardiac failure and its etiology, in contradistinction to the alternative mechanism of back pressure. In the course of this he pointed out that circulatory failure might be associated with pathological changes of widely differing types, the intrinsic lesions including all the defects to which the heart structure, myocardial and valvular, was liable. In degenerative myocarditis a compensatory mechanism came into play in the initial stages of the failure process, thus maintaining a moderately efficient functional value. Three of these compensatory factors were of chief importance: (1) a rise in the rate of the heart beat, (2) a generalized vaso-constriction, and (3) an increase in the contractile energy of the ventricles, promoting restoration of the normal systolic output. This mechanism sufficed for varying periods to stave off the onset of gross failure. Sooner or later, however, the efficiency of the protective processes became disturbed, symptoms indicative of circulatory incompetence began to show themselves, and physical examination revealed the onset of significant signs, representing collectively an altered relationship between the venous and arterial systems, the former being surcharged at the expense of the latter. In such cases cardiac failure had no connexion with back-pressure phenomena, the failure, as such, was the outcome of inability on the part of the heart itself, through its diminished contractile power, to dispose adequately of the volume of blood it contained. The failure syndrome of myocardial disease depended primarily on depressed muscle function, revealing the heart's inability to deal efficiently with the blood volume of the venous return. With valvular disease the case was somewhat different, though here again the trend of modern opinion was definitely opposed to the production of cardiac failure by back pressure.

DR PARSONS-SMITH concluded his paper as follows:

In general terms we shall find that accurate assessment of the degree of the failure will involve a comprehensive survey of the heart itself and the entire peripheral mechanism of the circulation, in regard to the heart itself we shall particularly watch for evidence of enlargement (confirming by *x* rays the cases in which doubt may arise), and note its rate of increase, remembering always that cardiac enlargement is *per se* a source of handicap to cardiac efficiency, in direct proportion, moreover, to the degree of the enlargement obtaining, the quality of the apex impulse (feeble, forcible, heaving, punctate, or diffuse) will repay careful investigation, as will also an attentive study of the heart sounds, their spacing, quality, and relative intensity at apex and base, the rhythm will frequently present abnormalities in the various stages of failure, those more commonly observed including premature contractions, intermissions (frequently the result of sinus or auriculo ventricular heart block), and the gross irregularity of auricular fibrillation, an arrhythmia of considerable importance largely in view of the recent work with regard to its drug treatment, and one, moreover, that has definitely clear cut diagnostic signs, briefly as follows: (1) Gross irregularity of rhythm, exaggerated at the high rates of beat (the reverse to premature contractions, which will disappear with tachycardia). (2) Gross irregularity in the size and intensity of the beats and absence of relation between the size of the beats and the length of the preceding pause, a long diastolic interval being frequently followed by a beat of small excursion, possibly insufficiently strong to reach the radial pulse, and vice versa. (3) Variable apex counts from minute to minute. (4) Radial pulse deficit (except in the most favourable cases). (5) Jugular venous pulsation synchronous with the apex beat. (6) Blood pressure deficit.

In further reference to the abdominal rhythm it will be necessary to remember the more important variations of technique including those peculiar to the individual type which invariably present a serious menace to the failing heart and convert the latent cardiac tendency which previously may have been seriously obstructive to the full development of a normal activity of life. Here and there in the very important question of the heart's power to overcome physical limitations, the alterations in physical environment (position, heat, etc.), the diameter of the air passages with their varying requirements will be curtailed according to the extension and the rapidity of the operative procedure. The latter being in part dependent upon the rapidity of response of the circulatory system to the capacity and variable work of the heart itself. [illegible] in the execution of the [illegible] operation [illegible] arrangement [illegible] variable [illegible] rather precordial pain [illegible] are entirely [illegible] from the [illegible]

In the [illegible] the [illegible] circulation [illegible] the [illegible] effect [illegible] will require [illegible] the [illegible] pendent [illegible] premature contractions [illegible] to an [illegible] the [illegible] abolition of [illegible] pain, its variations [illegible] pallor of the [illegible] pulse alternans [illegible] valuation and the [illegible] frequent examinations [illegible] to-day. Finally we shall have to ascertain [illegible] what extent the cardiac failure as [illegible] complicated any obvious evidence of [illegible] in the venous circulation, as a general principle that the further the failure proceeds the greater will be the tendency to [illegible] transference we may expect to find [illegible] the process including [illegible] of various [illegible] jugular engorgement [illegible] serious [illegible] with impairment of function in the affected organs together with [illegible] into the [illegible] cavities, subcutaneous tissues [illegible] in consequence of the lowered peripheral stream and the raised intracapillary pressure.

Diagnosis in Acute Abdominal Condition

Mr W. W. Wagstaffe gave notes on two cases of acute abdominal disease which illustrated the difficulty in diagnosing between appendicitis and recent or subacute obstruction.

The first case was a man aged 50 years who had thirty-six hours' history of abdominal pain and vomiting. These attacks had become more frequent of late. They started six years ago with an acute onset which while he was in the army was diagnosed as appendicitis. He was admitted into hospital, but was discharged without operation as the symptoms rapidly subsided. Since then attacks have continued becoming more frequent—three in the last month—and more severe. The present attack was the worst to date. On examination there was some rather vague lower abdominal pain, tenderness and slight resistance. Temperature 99.4° F., pulse 84. The patient looked toxic and his tongue was dirty. Operation was performed immediately and on examining the abdominal viscera the appendix was found to be chronically inflamed and was removed. Further examination showed a band about 8 inches long attached near to the mesenteric border of the ileum about 4 inches from the ileo-caecal junction. This band, which was about 1/8 inch in diameter, passed upwards and inwards, then downwards and outwards to encircle the mesentery of the small intestine, finally being attached to the abdominal wall about 2 inches below and to the right of the umbilicus. There did not appear to be any constriction of the gut near the duodeno-jejunal junction, but at the level where the band was attached there was a marked constriction which was firmly adherent to the posterior abdominal wall. On careful examination it was decided that the constriction could safely be left and the abdomen was closed. Convalescence was marked by extreme post-operative ileus which gave rise to much anxiety but was eventually relieved by injection of eserine gr. 1/100 and pituitrin 1/2 c.cm. two doses at four hour intervals.

The second case was a woman aged 50 years with twelve hours' history of abdominal pain becoming more intense, absolute constipation, and vomiting. She gave a history of having had an operation twelve years ago for appendicitis at which operation she stated her appendix was removed. On examination her general condition was seen to be good, tongue furred, temperature 99.6° F., pulse 68. There was some median subumbilical swelling and slight tenderness in the right iliac fossa. In view of the indefiniteness of the symptoms the patient was kept under observation for twenty-four hours. Her condition did not change much, but the abdomen became more distended and visible peristalsis could be seen. Temperature remained [illegible] and her appearance became worse—facies Hippocratic. Operation was performed and on examining the ileo-caecal region was found to be enormously dilated—size about 12 in by 6 in—and lying laterally and behind the caecum the appendix was found apparently inflamed and measuring [illegible] about 3 in. by 5 in. The appendix was removed, the caecum was not touched, and the abdomen closed. Convalescence was only interrupted by obstinate constipation which was overcome by the injection of pituitrin [illegible].

Mr Wagstaffe added that both cases were now six months after operation practically well. The two cases raised certain points which were discussed: (1) The difficulty of diagnosis between inflammatory and obstructive abdominal conditions, the confusion in these cases often due to the existence of the two conditions in each case. (2) Treatment of inflammation of the caecum, no attempt was made in this case to plicate or otherwise reduce the caecum and the result was excellent. (3) Causation of band, ? congenital, ? consequent on trauma in the first case. (4) Use of time until peristalsis in combination with pituitrin [illegible].

Dr Collier [illegible] showed an early case of general paralysis of the insane in which the blood Sigma reaction had been negative on three occasions, while the cerebro-spinal fluid gave a Sigma reaction of 7 units with an increased globulin but with a cell count of only 10 per cubic millimetre.

Dr A. C. Cameron described the termination of a case of pleurisy for pleurisy and anaemia—a man aged 50 who had been under his care for pleurisy and anaemia by Mr J. C. Bevers. The patient had done well except for a slight temperature and some jaundice for six weeks after the operation. For three years he had been able to work, but had been extremely nervous. In February 1924 he had an acute attack of lobar pneumonia with intense jaundice which deepened towards death which occurred in four days. No post-mortem examination was obtained. In view of the hypothesis of a streptothrix infection in these cases, the presence of jaundice after the operation and the cirrhosis of the liver in the later stages (Bantu's disease) it was a possibility that the jaundice was the result of liver changes remaining after the splenectomy.

Reports of Societies.

METHODS OF ANAESTHESIA

At the annual meeting of the Scottish Society of Anaesthetists held in the Royal College of Surgeons, Edinburgh, on May 17th, Dr. H. P. Fairlie (Glasgow) read his presidential address entitled "Anaesthesia: its present position."

Dr. Fairlie began with a consideration of the position and status of the anaesthetist. While in London the administration of anaesthetics had been more or less in the hands of the specialist since soon after the discovery of the anaesthetic properties of ether and chloroform, in Scotland the specialist was of more recent origin. Up to very near the end of last century few if any turned their attention in any special way in that direction. The surgeon depended to a considerable extent for the anaesthesia of his patient on an assistant house-surgeon or the general practitioner in charge of the patient on whom he was operating. With the amazing developments which had taken place in surgery during the past twenty-five or thirty years the demands on the administrator of anaesthetics had grown and as a result the need for the expert had become more and more urgent until now he (or she) had a very definite place in every surgical centre. Established then as a definite entity in medicine the anaesthetist in Scotland could regard with satisfaction the improvement which had gradually taken place in his lot. Coming to the consideration of anaesthetics Dr. Fairlie confined his remarks to these in general use, glancing at the newer methods of administering them. The old controversy on the respective merits of ether and chloroform, judging from recent contributions to medical literature was as lively in its old age as it had been when it was in infancy. While not one who considered chloroform

a back number, he did not look upon it as the routine anaesthetic, nor did he adopt ether as a matter of course His choice of anaesthetic depended on the exigencies of the particular case In his opinion chloroform should be used with very great circumspection, and by some form of dosimetric apparatus for controlling the vapour strength, so that it might be given evenly, and not in widely and rapidly changing percentages It should not be given at all in acute sepsis, particularly of the abdomen, because of the risk of acidosis Lastly, it should only be used by the expert Adequate anaesthesia could be maintained, and anaesthetic mortality considerably reduced, by a more general employment of open ether in the hands of house-surgeons and those who only occasionally gave anaesthetics In his experience the most valuable innovation in giving "open" ether was the perhalation method described by Dr Ogston to the society two years ago It combined in a marked degree simplicity and efficiency A useful modification was to combine it with the "bomb" method of Wilson and Pinson, leading the tube from the bomb between the layers of gauze in Ogston's mask, and thus introducing warmed vapour instead of dropping liquid ether on to the gauze He had found Shipway's apparatus for warmed chloroform and ether vapours invaluable in face, mouth, and nose operations, where a mask was inconvenient to the surgeon He used it mostly as an ether inhaler, with chloroform at hand to deepen the anaesthesia when necessary Rectal anaesthesia, using Gwathmey's ether-oil mixture was of great service in laryngoscopic and bronchoscopic examinations But the greatest advance in the science of anaesthesia was the intratracheal method, either with ether or chloroform The confidence which it inspired, both in surgeon and anaesthetist, in four classes of operations was of a nature that no other method achieved These four classes were (1) extensive face and intraoral operations, (2) removal of goitres or other tumours about the neck, (3) lung surgery, (4) any operation entailing awkward positions for the patient Although gas and oxygen had been used for anaesthesia for over fifty years its vogue had greatly increased lately With the introduction of sight-feed appliances, and accessory ether or chloroform bottles, it was possible to administer it much more successfully than by the older methods Like many other anaesthetics hailed from time to time as the introducers of a new era, it had suffered an eclipse lately, and the pendulum had swung over to the other extreme Probably opinion would eventually take up a midway position Gas and oxygen anaesthesia had very definite limitations, but having strict regard to those it made an almost ideal anaesthetic in its own field Administered after preliminary narcotics, with rebreathing, and with the minimum of ether or chloroform, it possessed very pronounced advantages in operations where a great degree of muscular relaxation was not demanded Even in the latter class of case more use might well be made of it provided the surgeon was prepared to use novocain locally in the tissues of the abdominal wall He did not, however, restrict oxygen to its use with nitrous oxide, but used it more and more with ether and especially chloroform The underlying idea was the same in each case Any mixture of anaesthetic vapour and atmospheric air suffered from the high proportion of nitrogen If the need for deep anaesthesia arose this acted as a handicap In other words, anaesthesia might be pushed further with a greater degree of safety in presence of a higher proportion of oxygen than the atmosphere contained So in abdominal operations, particularly those of the upper abdomen a stream of oxygen led into the mask was often of great assistance by preventing the onset of cyanosis and rigidity It was useful in any operation where the patient had a tendency to cyanosis

In the discussion of the President's address Dr J S Ross (Edinburgh) thought it important that the administration of chloroform should not become a lost art it should be adequately taught to students He was glad to hear Dr Emslie's remarks on the use of oxygen apart from nitrous oxide and oxygen He considered no theatre properly equipped if it did not contain an oxygen cylinder with oxygen in it With nitrous oxide and oxygen the danger, he thought lay in attempting to handle with it patients of too powerful a type, and in being ashamed to use adjuvants such as ether and possibly a little chloroform Dr Ross MACKENZIE (Aberdeen) agreed that students should be adequately instructed in the administration of chloroform At the Sick Children's Hospital, Aberdeen, the majority of cases were conducted under nitrous oxide and oxygen combined, with very careful local infiltration of novocain With this help nitrous oxide and oxygen covered the largest field in children An unusually high proportion of oxygen was required for a child, and a mere trace of ether vapour during the induction period There was very little after-sickness and a very rapid recovery Dr A OGSTON (Aberdeen) believed that very good results could be got with gas-oxygen if combined with infiltration with novocain The very best relaxation could be obtained if in addition to the local infiltration at the seat of operation, the intercostal nerves were blocked as they emerged from the lower spaces Dr J JOHNSTON (Aberdeen) agreed as to the importance of adding oxygen to open ether, particularly was this of value when induction was expedited by preliminary use of open ethyl chloride, which was apt to lead to a little cyanosis unless oxygen was added Dr A MILLS (Dundee) did not agree as to the teaching of chloroform to students, considering it much more important to teach them open ether well and to impress on them the added dangers of chloroform He thought intratracheal anaesthesia was often unnecessary, if the surgeon were careful to mop out blood most of these cases could be met by pumping ether vapour with oxygen through the nose into the pharynx Dr R S FREW (Glasgow) confirmed the value of oxygen with open ether or chloroform Dr F L NAPIER (Glasgow) had come to rely very largely upon the Shipway apparatus for ether with a little chloroform added He believed in adding oxygen to the combination, bubbling it through the apparatus instead of air Dr BURNS (Glasgow) agreed with Dr Napier, he, however, had a side tube direct from the oxygen cylinder to the patient for use in emergencies Dr TORRANCE THOMSON (Edinburgh) considered it certain that when out in the world young practitioners would use chloroform very freely, and therefore in their student days they should be taught it He used oxygen both with open and closed ether, and had found Pinson's oxygen valve of great value He was a warm advocate of the use of the intratracheal method for abdominal sections, particularly for a high operation such as gall bladder He had had very good results with ethanesal, but doubted on the whole whether it was really any better than a good brand of ether

Anaesthesia for Oral Operations

Dr J H GIBBS (Edinburgh), in opening a discussion on methods of anaesthesia in nasal, dental, and other oral operations, remarked that in mouth and nose operations the interests of the surgeon and the anaesthetist often seemed to clash each wanted to get at the patient at the same time If ether was to be given he insisted upon a preliminary dose of atropine 1/100 grain was usually adequate If haemorrhage was not likely he added heroin or morphine His stock method for longer cases, such as antrum operations was to induce with ethyl chloride and ether given with the Clover instrument, and then change over to a Shipway, passing the vapour, where possible, along a catheter through the nose into the pharynx For tonsils or adenoids in subjects up to 12 or 14 years of age he habitually used ethyl chloride, regarding 4 c.cm as the maximum dose latterly he had been adding 1 c.cm of ether For enucleation of tonsils, for which ethyl chloride alone would be inadequate, he used the Clover method of ether, getting a forecast from the surgeon as to the length of time which it would be desired the patient should remain under the anaesthesia Here it was very necessary that the patient should have atropine, but morphine was undesirable For paracentesis of the antrum nitrous oxide often sufficed For mastoid operations he induced with ethyl chloride and ether in the Clover instrument, and followed up with open ether For dental work he found that nitrous oxide or nitrous oxide and oxygen as a single dose anaesthetic sufficed for anything up to three teeth, as a rule For cases taking a little longer than this he added 1 c.cm of ethyl chloride at the last moment the patient need only take about five breaths of this, and some

10 seconds or more were thus added to the available anaesthetic. For cases demanding even longer time he used up to 2 or 3 c.cm. of ethyl chloride. He had used nasal gas and nasal gas and oxygen extensively, but found that the ordinary nasal inhaler interfered a good deal with the work of the dentist. He therefore preferred his own appliance in which the gas was led by tubes into each side of the nose, the anterior nares being plugged by his instrument around the catheter tube. In working with nasal methods he had found great advantage from the use of a large sponge pushed on to the floor of the tongue (even with simple) methods he used this pomp, believing that it prolonged the anaesthetic without producing any serious embarrassment of respiration. Small pomps as used by some dentists were dangerous. He emphasized the danger of anything but a straight sitting up position for extraction of teeth. He had had extensive experience of intratracheal anaesthesia, but even now he thought the best results were obtained in malignant diseases of the mouth by packing the upper orifice of the larynx after a preliminary tracheotomy.

Dr. LOGAN TURNER (Edinburgh) said that he personally accepted the position that the anaesthetist as a specialist was entitled to choose the drug and method which should be used, but by law it was the surgeon who was responsible if anything happened. Team work in the class of case under discussion was quite essential. The surgeon and anaesthetist must be accustomed to work together and must have mutual confidence in each other's skill. He was a warm advocate of ethyl chloride given by vapour method for tonsils and adenoids in children (having had over 17,000 cases at the Royal Infirmary with only one fatality in fifteen years), but not adults. He did not consider that by it sufficient relaxation of the muscles of the palate could be obtained to give the operation by the reverse guillotine a fair chance. Even for ethyl chloride he considered full preparation as for a major anaesthetic was essential.

The PRESIDENT said he had entirely abandoned the old Junker and used the Shipway instrument instead, using mostly pure ether, and in this particular class of case delivering the stream through a No. 10 catheter along the nose into the pharynx. He often used oxygen with the apparatus instead of air. He thought, however, that intra-pharyngeal anaesthesia by this method was inadequate in many cases as compared with true intratracheal as one missed the return flow of air. He agreed that ethyl chloride was inadequate for tonsil and adenoid in adult. He used open ether, followed if necessary by the Shipway by nasal tube. For longer dental cases his own practice differed evidently from that in use in Edinburgh as he made extensive use of nasal gas with air. He admitted that the counsel of perfection was to give it with oxygen, but the weight of the cylinders made nasal gas and oxygen hardly practicable. He found no difficulty in fitting almost any size or shape of nose with this appliance and did not find that it interfered materially with the work of the surgeon. For children under 12, even for dental cases, he found gas, certainly nasal gas unsuitable and preferred to rely upon ethyl chloride alone. He regarded 3 c.cm. as the outside dose for a child, and with it had only had one serious fright; the child however recovered. If 3 c.cm. of ethyl chloride was insufficient he preferred closed ether.

Dr. J. S. ROSS referred to O'Malley's technique for nasal operations particularly for submucous resection of the septum. Its essentials were the tilting of the head or the table to an angle of 45 degrees, a pillow placed behind head and neck just down to the upper portion of the shoulders producing a slight reflexion of the neck, the use of Phillip's artificial airway to produce strict oral respiration, and a combination of local anaesthesia by packing the nose beforehand and continuing with a very light chloroform anaesthesia. Having worked with O'Malley for a short period during the war he had been struck with the smoothness of events if every one of these details was strictly adhered to. Another point in O'Malley's methods was the use of a very deep nitrous oxide anaesthesia for the enucleation of tonsils and adenoids even in young strong adults. With regard to dental work he adhered to the method devised by Dr. Guy and himself, which was only an elaboration of the original gas-oxygen method devised by Guy. He agreed that in using any of these methods it was better to produce a deep anaesthesia with gas or gas and oxygen in the first instance, and to use a small dose of ethyl chloride in the last few seconds of the anaesthesia only. With regard to nasal methods the addition of oxygen enormously simplified the actual administration, but the question of the bulk and weight of the apparatus was so important that he had been specially interested in listening to Dr. Fairlie's experience of nasal gas without special provision for oxygen.

Dr. DREW said he had removed a good many tonsils and adenoids under Kelly's ethyl bromide method and found it most successful. Dr. BARRAS thought the Shipway apparatus overcame most of the difficulties of nose and mouth operations which could not be covered by single-dose anaesthetics. He used ethyl chloride extensively among children and did not consider that there was in its use any very material after sickness. Dr. TORRANCE THOMSON, speaking of anaesthesia for tonsils and adenoids in adults, described Rood's method of saturating the patient with ether given from the open mask much overlaid with towels and blankets. In Rood's own hands the results seemed to be excellent. Dr. GIBBS in replying to the discussion expressed the opinion that chloroform should not be given after adrenaline. With regard to sickness after ethyl chloride he believed that there was a good deal but that it often came on later when the patient had left the dentist's house. Even apart from sickness there was undoubtedly a good deal of malaise and feeling of depression. He therefore gave the smallest dose possible.

UTERINE SCARS

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on June 5th, with the President Dr. CUTHBERT LOCKYER, in the chair, Professor J. Munro Kerr, Dr. McIntyre, and Dr. James Hendry contributed a conjoint paper on wounds of the gravid and non-gravid uterus—a study in uterine scars.

The subject was introduced by Professor MUNRO KERR who said that as gynaecological surgery had advanced the possibility of conservative procedure in dealing with the uterus had become much more widely appreciated. One outstanding example of this would be found in myomectomy, and he referred to Mr. Victor Bonney's paper at a previous meeting. He pointed out that even now the possibilities of this operation did not appear to be realized by general surgeons, still less by x-ray enthusiasts. He stated that he was a great believer in the operation. He further went on to describe bicornuate uteri and referred to two cases in which he had bisected the body of the uterus and in this way had joined the two surfaces so as to make one cavity. One of the patients became pregnant afterwards on two occasions, the first delivery being by forceps, the second by Caesarean section. After this a hysterectomy was performed. A drawing of this uterus was shown on the screen, and later the histology of the scar in the anterior and posterior walls was described by Dr. McIntyre. Three other cases were quoted in which the rudimentary horn had been removed, and in one of these patients pregnancy had occurred on two occasions, ending in easy confinements.

Professor Munro Kerr then went on to discuss the question of scars following Caesarean section, and quoted the fact that, of patients who went into labour subsequent to this operation, the uterus ruptured in 4 per cent., and that the vast majority of scars following the classical operation were far from satisfactory. All this was well shown in the paper by Mr. Eardley Holland which was now recognized as being a standard piece of work on this subject. He then went on to show why in his opinion, this unsatisfactory state of affairs existed when the operation was carried out through the contractile portion of the uterus. The chief points he brought forward were (1) the difficulty in securing complete asepsis, (2) the rapid degenerative changes occurring in the uterine muscle, (3) the irregular disposition of the sheets of muscle making it impossible for the individual fibres to be accurately opposed, (4) the necessity imposed on the surgeon of using a ligature for haemostasis as well as to keep the

surfaces in apposition, (5) the frequent situation of the placenta on the anterior wall (in some 40 per cent of cases), causing an unsatisfactory condition for the healing of the scar, (6) the liability of the ligatures to go through the decidua, and by pressure to cut through that layer, causing a fibrotic scar on the inner aspect of the uterus. He therefore advocated the use of the incision through the lower uterine segment. Some of the chief points in favour of this operation were that the wall of the uterus in this region was quite thin, the tissue much less vascular, and the surface of the wound could be brought more accurately together, thus preventing the formation of "blood pockets." This area was more passive, and less disturbed, than in the upper segment. The wound was completely covered with the bladder wall and the peritoneum, thus preventing any infection spreading to the abdomen. The likelihood of adhesions forming was, however, much less. The wound was not put on a stretch in a subsequent pregnancy, and the strain, even in a subsequent labour, was considerably less than if the scar were in the upper part of the uterus. He had never met a case of rupture of the scar when the operation was performed in this way, although some such cases had been reported from France. He believed that the operation was coming more and more into favour, and had been performed thousands of times in America and Germany, but that in this country the gynaecological surgeons were somewhat conservative.

Dr. McINTYRE next read his paper on the histological studies of various uterine scars, and showed a wonderful series of microphotographs illustrating the histology of different uterine scars. The first of these was a wound produced by a cervical dilator. The remaining slides were chiefly devoted to demonstrating the histology of scars resulting from Caesarean section. All but one of these were taken from scars following the classical operation. Speaking generally, they showed that the scar consisted of a considerable proportion of fibrous tissue, but muscular continuity could be demonstrated in most cases, right across the line of incision. The thickness of the wall in the line of the scar was diminished in nearly every case, but was increased in the immediate vicinity. This diminution in thickness varied considerably. In some cases the scar was dangerously thin. Another interesting point was shown in some cases—namely, isolated portions of the mucous membranes had been caught between the two surfaces of the incision or possibly had migrated there. In some of the slides the cavity made by non-absorbable sutures was visible, and this fact had led Dr. McIntyre to invent a catgut having strands of silk embedded in it. He, however, considered that it was too soon to make any statement as to the value of this new suture material. Finally, a diagram was shown indicating the relative amount of fibrous tissue and its distribution in sections taken from the uterus during the second stage of labour. Unfortunately, Dr. McIntyre was only able to show sections of one case of a scar from the lower uterine segment, and therefore could not make a very definite comparison of the histology in the two types. This particular section showed some thinning in the region of the scar.

Dr. HENDRY followed with a paper on his observations on the uterine scar after conservative Caesarean section, (1) when the incision was made in the active contractile portion of the uterus, (2) when the incision was made in the lower uterine segment. He dealt with the macroscopic findings in a number of repeat Caesarean operations. In detailing these cases it was remarkable how often dense adhesions occurred in cases where the classical operation had been performed whereas in the incision through the lower uterine segment there was not a single case in which adhesions occurred in the region of the scar. Dr. Hendry stated that it was a great advantage for the patient to be in labour if this technique was undertaken, as the lower uterine segment was then well formed. He considered that this method was a solution of the problem of unsatisfactory uterine scars due to Caesarean section.

Discussion

In the discussion that followed the PRESIDENT expressed thanks to the lecturers and his great admiration for the microphotographs that had been shown. He himself did not find that adhesions were any drawback in "repeat" operations, as they had on more than one occasion enabled him to perform practically an extraperitoneal operation.

Dr. T. W. EDEN said that the time had passed when discussions on Caesarean section were concerned with its indications, those points had been finally settled. The discussions in the future would range around the technique. This was all-important now that this treatment was being undertaken by general surgeons, general practitioners, and others. He did not feel that it was possible to settle the matter by reasoning, it was only by results found by such work as had been brought before the Section that evening that a final decision could be arrived at. He sometimes doubted whether it would ever be possible to get a really perfect Caesarean scar. He felt that one of the great drawbacks of the lower uterine segment incision was the fact that it was necessary that the patient should be in labour before the operation was undertaken. He did not agree with Professor Munro Kerr that this was only detrimental to the busy surgeon, he felt that it was a real drawback from the point of view of the patient.

Mr. RUSSELL ANDREWS expressed the same views as Dr. Eden. He said he sometimes felt that, to be on the safe side, one should accept the dictum, "Once a Caesarean, always a Caesarean."

Mr. EARDLEY HOLLAND agreed that in his experience it was very seldom that a perfect scar was obtained following a classical operation. Although they might appear perfect on the outside, yet a careful examination would nearly always reveal some pits and depressions which could be palpated by the finger. He stated that he had done the lower uterine segment operation on twelve occasions, and rather thought that on the whole it curved transverse than the usual transverse. He quite agreed with Professor Munro Kerr that it was useless to employ a longitudinal incision.

LETHARGIC ENCEPHALITIS

At a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland held in the Royal College of Physicians on May 30th, with the President, Dr. T. G. MOORHEAD, in the chair, Dr. L. ABRAHAMSON read a paper on three cases of epidemic encephalitis with painful myoclonus.

The first case was in a boy aged 11, who was admitted to hospital on March 13th unconscious, with his pupils sluggish and his eyeballs oscillating slowly from side to side. Examination of the abdomen showed sharp spasms of the upper recti at a rate of about sixty a minute; the spasms were not completely rhythmical. Tendon reflexes and abdominal reflexes were absent. Lumbar puncture yielded a clear fluid with lymphocytosis. On the day of admission the patient had an epileptiform attack. Two days later there was slight strabismus on the right side; consciousness returned and complaint was made of abdominal pain; this subsided after two days and intense pruritus appeared, which lasted for a fortnight. The abdominal spasms continued without remission. Pyrexia was slight and remittent. The patient was discharged from hospital on May 15th, spasms were still present in the recti and external oblique muscles.

The second patient, aged 19, was admitted on March 23rd, complaining of severe abdominal pain. Examination of the abdomen showed sharp but not completely rhythmical contractions of the recti and right external oblique muscles at the rate of about seventy a minute. The contractions were very forcible and associated with intense pain. The temperature was 99° F., pulse 102, respirations 26. The pain increased and the abdominal contractions were so forcible that the bedclothes were lifted with each spasm. Lumbar puncture yielded a clear fluid under increased pressure. Later the pain became agonizing, the contractions spread to other groups of muscles and were so violent that they shook the bed. After some days the spasms and the pain subsided and delirium set in. The delirium was one of "occupational" type. The patient was noisy, restless and at times difficult to control. Severe pruritus occurred and it was found necessary to bandage the hands. Transient ptosis was observed on April 2nd. Delirium gave way to unconsciousness and coma. The patient died seventeen days after admission. A *post mortem* examination was performed by Dr. E. C. Smith. The naked-eye appearances consisted of small haemorrhages into the meninges. The vessels of both the brain and cord were injected and some of them were thrombosed. In sections minute haemorrhages were seen in the cortex, the pons, medulla, cerebellum and cervical region of the cord. Perivascular infiltrations were found which consisted of lymphocytes with occasional plasma cells, arranged in a halo-like manner round the vessels. The changes were most marked in the region of the optic thalamus, pons, floor of 4th, and the cervical region of the

cord Hæmorrhages were found in the heart, spleen kidney and liver Numerous groups of plasma cells were found in the spleen

The third case was that of a male aged 57 who was admitted to a nursing home on April 18th complaining of pain in the back of the neck and of insomnia which had lasted for three days Examination showed spasms of the right upper rectus right trapezius and right erector spinæ muscle The spasms occurred at a rate of sixteen to twenty a minute and were irregular both in strength and in time Spasms continued and spread to other groups of muscles Pain was intense and insomnia complete until April 20th when the patient slept for some hours After this spasms and pain were absent for some days but delirium of the occupational type set in At times control was necessary On April 25th spasms reappeared in various groups of muscles Delirium became continuous and severe pruritus was noted There of the right eyelid was noted Some days later unconsciousness set in the breathing became stertorous the sphincters relaxed Picking at the bed clothes was continuous On May 9th the patient died The temperature chart showed a remittent form, reaching 102° F on the day of death

Dr Abrahamson added that of twelve cases of encephalitis seen by him recently seven had belonged to the above type He dealt, in conclusion, with the question of nomenclature and suggested that 'encephalitis multiformis' would be a more appropriate title than any of the names suggested hitherto

Dr R J ROWLETTE said that at Mercer's Hospital during the last two months there had been five cases of encephalitis and the difference in symptomatology between these cases and those seen in 1918 and 1919 was very striking At that time lethargy had been the most striking feature but now there was myoclonus alternating with lethargy and delirium The lethargy varied very much sometimes it was very slight and the patient could be roused but in others the patients went from a lethargic state into a state of coma from which they could not be aroused When the patients were aroused they were quite alert and could answer questions intelligently but they only remained like that for a very short time and were soon delirious again The muscle most commonly affected with myoclonus was the rectus abdominis and the left rectus was usually more affected than the right, it was of course, noticeable in other muscles too The encephalitis now seen was an active type whereas in 1918 and 1919 it had been more passive He thought the difference in the symptomatology of the disease could be regarded as being due to the different parts of the central nervous system affected It had to be remembered that one was dealing with an infection which might attack any part of the nervous system and therefore the symptoms would vary according to the part of that system attacked He could not agree with the suggestion that the disease was a manifestation of influenza There had been cases of encephalitis in other countries before the influenza epidemic occurred, but it was, of course possible that these were forerunners of the epidemic It had also been suggested that the disease might be due to Pfeiffer's bacillus, but if this were so it was curious that this bacillus was not separated readily from the lesions in the central nervous system He was of opinion that so far there was no established connexion between any bacillus and this disease

Dr J O DONNELL mentioned three typical cases of the disease which had come under his notice The first was a girl, who at first was choreic in type, but gradually passed into a lethargic state, with loss of vision The second was a man who had been lethargic from the beginning and had had visual disturbance, accompanied by myoclonus and now greatly resembled a case of peripheral neuritis The third was a male student, who at the beginning complained of generalized pains and defective vision acute mania set in, followed by delirium, and the patient got violent and had to be removed to an asylum, where he died after three days

Dr W C MACFETRIDGE remarked that while none of Dr Abrahamson's patients had complained of eye symptoms all Dr O'Donnell's patients had suffered from defective vision, and that while some of the patients were lethargic others suffered from insomnia He agreed that the word "lethargica" should be given up as it was misleading Dr W G HARVEY noted the difference in type of cases—some went through an irritative stage at the beginning and gradually passed into a lethargic state but most cases he had seen seemed to be lethargic from the beginning Dr A R PARSONS said that the cases seen by him had had abdominal pain, but no myoclonus One patient had catalepsy, and after being unconscious for several days recovered The cases he had seen in 1918 were Parkinsonian in type, but all his cases lately had been delirious Drs BEWLEY and PRESTON BALL also spoke

The PRESIDENT said that the discussion had mainly centred on the great variety of symptoms presented by the disease, and on the apparent change of type since the disease had first become prevalent He himself had only seen three myoclonic cases, but he had seen a fair number of cases of the choreic type and many with lethargic symptoms Regarding the ultimate prognosis, he was inclined to think that on the whole children were more likely to make a complete recovery than adults At any rate he knew of some children who had suffered from the disease in 1919 and who had remained in every way normal since then while in most adult cases nervous disorders of one sort or another usually supervened Concerning treatment, he thought all were agreed that symptomatic methods were alone of any use He had given up lumbar puncture except as an aid to diagnosis The relationship of encephalitis to influenza was still *sub judice*, and he knew of no well confirmed evidence that influenza vaccines had had the least effect on the course of the disease

Dr ABRAHAMSON in reply, stated that of the five cases referred to by him four had died Treatment had been mainly symptomatic Vaccine treatment was in his opinion empirical and useless Four cases seen by him in consultation had been treated by a vaccine (antigen) of Pfeiffer's bacillus Of these two cases had succumbed. In one of his cases the patient developed hæmaturia attributed by him to the use of large doses of hexamine He referred to the occurrence of abortive cases Lumbar puncture had not yielded much help He agreed that the prognosis was better in children

EARLY ACTIVE MOVEMENT FOR FRACTURES

At a special meeting of the Aberdeen Medico-Chirurgical Society, held on May 22nd, with the President, Dr G M DUNCAN, in the chair, Mr J W DOWDEN of Edinburgh gave a lecture on the principle of early active movement in relation to fractures of the upper extremity

After referring to the frequent occurrence of these fractures the anxiety experienced by both practitioner and patient for a good result, and the possibility, always present of an action against the practitioner for malpraxis in the event of a bad result Mr Dowden emphasized especially the importance of a method of treatment which would lead to early recovery of function—a point of the utmost importance to the wage-earning patient, the insurance societies and in the long run to the State It was obvious from a study of anatomy that a limb was designed for active use muscles tendons and their sheaths, joint and bones all showed this In a fracture, displacement occurred either from direct or indirect violence, the displacement being due to the force applied, and not to the pull of muscles There was also damage to the soft parts with effusion and subsequent coagulation of blood. Repair then began and went on ceaselessly day and night so that the longer the limb was kept in absolute immobility—for example, by splints—the longer would restoration of function take as the repair had proceeded on restricted lines

As regards treatment Mr Dowden pointed out that while massage and passive movements were of great value it was still better to make the patient use his own brain and employ active movement Briefly expressed, Mr Dowden's treatment consisted in first making an effort to get the bones into good alignment, putting the arm into a sling, and giving heroin for the first few nights As soon as possible, preferably in twenty four hours, active movements should be begun, and, later, passive movements carried out by the patient, all joints of the limb being moved, and the movements always stopping short of pain The arm should be allowed out of the sling for frequent periods during the day In certain cases a splint might be used at night The treatment should always be directed towards a good functional result rather than a perfect anatomical result, the chief consideration being paid to the muscles and joints so solely to the fractured bones Consequently in children even marked bony

deformity could be ignored, as in time superfluous bone tissue and callus would be absorbed, and alignment of the limb restored Mr Dowden detailed the precise methods used in the individual fractures at the common sites of the upper limb, illustrating his methods and results by numerous lantern slides of radiograms and photographs of patients He then summarized the points of his treatment, of which he had had over twenty years' experience The great principle was active movement, and the chief advantages were its simplicity, economy, and rapidity and excellence of results

An animated discussion followed, in which there took part Mr ALEX MITCHELL, Mr W ANDERSON, Mr G H COLT, Mr F K SMITH, Dr SMITH of Peterhead, and Dr SKINNER of Skene Many questions were asked, and Mr DOWDEN replied

Reviews.

EPIDEMIC ENCEPHALITIS

PROFESSOR ARTHUR HALL of Sheffield has been well advised to publish with additions the Lumleian Lectures he gave last year before the Royal College of Physicians of London on *Epidemic Encephalitis*[1] Such lectures at the Royal Colleges provide an opportunity and the stimulus for broad summaries of knowledge on particular subjects, and form a basis for monographs which serve as most valuable books of reference When the disease first appeared during the latter half of the war Professor Hall was one of the first in this country to draw attention to it by two papers in 1918, the second of which appeared in our issue of October 26th (p 461) In his classical description of the first cases recognized in Vienna in 1917 von Economo called the disease encephalitis lethargica, and Professor Arthur Hall, though evidently loath to give up this title, has been led by the protean manifestation of the disease to adopt a title which does not insist so prominently on an inconstant feature

In the historical section the author shows reason for the belief that the disease was by no means new in 1917, and that in the past morbid conditions such as the Tubingen Schlafsucht in 1712-13, the Italian noma of 1889-90, and Dubini's electric chorea were probably manifestations of it, though the outbreaks were very small as compared with its recent prevalence Indeed, looking back with his present experience he now recognizes the true nature of a case seen in 1903 and quotes from literature others bearing a similar interpretation The epidemiological relation of epidemic encephalitis and epidemic hiccup (the latter appears to have been less frequent in this country than elsewhere) is discussed in an interesting manner, but no dogmatic decision is reached

The morbid changes are fully described and illustrated by a number of successful plates The unexpected connexion between the virus of herpes labialis and of epidemic encephalitis is considered, with many references to recent work This protean character of the clinical manifestations is graphically indicated in the sentence, "It thus became almost necessary to create a new type for each case, and even then a single case in its course went through so many types that its classification became almost impossible After quoting various classifications and describing stages in the course of the disease, Professor Hall says that from a review of his own cases and their great variations it seems impossible to recognize any regular stages beyond the broad divisions of acute and chronic

The account of the symptoms is full, illustrated both by many cases from his own practice and literature and by plates In the interval between the initial attack (acute stage) and the later manifestations or residua (chronic stage) there may be apparent recovery This interval may last for four years and possibly longer, thus resembling the course of syphilis Prognosis is extremely difficult, and, indeed it might reasonably be thought that sufficient time to arrive at a safe conclusion has not yet elapsed, after summarizing some statistics, Professor Hall estimates that 25 per cent of the patients die, 25 per cent show practically complete recovery, and the remainder survive but with residua, and perhaps half of these present some degree of Parkinsonism But with regard to the use of terms such as "Parkinsonian syndrome" or "Parkinsonism" for post-encephalitic residua which in greater or less degree present the symptoms found in pre-senile paralysis agitans, it is pointed out that the clinical picture contains little if anything of James Parkinson's original description in his "Essay on the shaking palsy" (1817) Professor Hall discussed this aspect of the subject fully in an interesting article he contributed to our columns on July 7th, 1923 (p 25) To this readers curious in the matter are referred, but, briefly stated, the result of his inquiries is that the mask and the rigidity were not mentioned by Parkinson, and were little if at all recognized before Charcot's time While mentioning that Dr Farquhar Buzzard in 1918 was the first to point out the occurrence in epidemic encephalitis of symptoms in some respects resembling those of paralysis agitans, Professor Hall devotes a special section to the differences between this post-encephalitic Parkinsonian syndrome and paralysis agitans Most observers agree that if a patient with Parkinsonism is to recover, symptoms of this nature must have come on early in the course of the disease The general consensus of opinion seems to be that the prognosis is very bad in those cases in which it develops late, and unfortunately this is the more usual sequence of events

This monograph is excellently concise, though not without light touches to relieve the necessarily serious picture of such a dread disease, and is impartial and admirable in the use of references Thus the workers at the Ministry of Health receive their due meed of recognition, and the compliment has been paid to Dr A C Parsons of gaining his permission to append his 1,243 bibliographical references up to June, 1921 For the remaining 800 references Professor Hall is responsible In addition to this complete bibliography at the end of the volume, which occupies rather more than seventy pages, each chapter has a list of the works mentioned in the text

That this volume is the outcome of honest hard work is obvious, but it provides both attractive and instructive reading, and the author may rest assured that his labour has not been in vain

[1] *Epidemic Encephalitis (Encephalitis Lethargica)* By Arthur J Hall M A M D Cantab F R C P Lond Bristol John Wright and Sons Ltd London Simpkin Marshall Hamilton Kent and Co Ltd 1924 (Demy 8vo pp xii + —), 17 plates (one fully coloured) 14 charts. 12s)

INSECT CONTROL

IN the preface to *The Principles of Insect Control*[2] the authors, Messrs WARDLE and BUCKLE, say that "an accessible resume of recent literature concerning insect control methods has been urgently needed for some time past," and a cordial welcome may therefore be extended to the present volume, which succeeds in a great measure in filling this need The material is presented in four parts the first is devoted to biological control, the second to chemical control, the third to mechanical control, and the fourth a single chapter, to legislative control Medical and veterinary entomology receive attention in connexion with the destruction of mosquitos, lice, ticks, and other external parasites, but a larger share of the book is occupied with the methods in use in controlling the insects and acarines injurious to plants The predominance of agricultural matter may render the work of less value to the medical man in England, but, on the other hand, should recommend it to many abroad, who are called upon to deal not only with human ailments, but also to assist in tackling the ills of both animals and plants Considering the great range of information provided the work is singularly free from errors, but here and there will be found statements which may prove misleading, while others are more dogmatic than is warrantable For instance, dealing with immunity of plants to insect attack the statement (p 14) that "hybridization between varieties depends for success upon immunity behaving as a dominant" appears only

[2] *The Principles of Insect Control* By Robert A Wardle M Sc and Philip Buckle M Sc Manchester The University Press London Longmans Green and Co 1923 (5½ by 9¼ pp xvi + 280 32 figures. 20s. net)

to be true in so far as the commercial utilization of first crosses is concerned Again in discussing the parasites of insect pests (p 50) it is said that 'indiscriminate host selection seems to be even at the present day the commonest phase" Here the term "indiscriminate" is not very happy, for, although a parasite may attack many species of host, the relation between host and parasite is usually very close and the choice of the latter, even if wide, anything but indiscriminate In tances of small ships are on page 99 dealing with alkaloid, commercial nicotine is said to be too costly for use except in greenhouses, whereas in the British Isles it is perhaps more generally employed than any insecticide except lead arsenate Again, on page 93 derris root is stated to be effective against aphides, when as a matter of fact it often fails against these insects, though very toxic to the larvae of sawflies and moths Errors in proof reading are infrequent but a few occur, such as 'carbrinoides" for "scabrinoides" on page 73, and "anthomylid" for "anthomyid" on page 176 These are, however minor points which detract little from the value of the work as a whole and they are mentioned in order that they may be considered in a cond edition, which the output of entomological research should render necessary before long In this connexion it may be suggested that considerable improvement in detail might be achieved if the various chapters were read in proof by entomologists specially conversant with the subjects dealt with The book is provided with a good bibliography (25 pages) and a sufficient index

It is greatly to be lamented that one of the authors (Mr Buckle) has recently died

Medical and Veterinary Entomology by W B Herms was first published in 1915, and was reviewed in the issue of this JOURNAL for June 10th, 1916 (p 822) A second edition[3] of this useful book has now been received and as it retains the general character of the previous edition a brief notice here will prove sufficient The book has been considerably extended, chiefly by the addition of information obtained in the course of the war There is, for instance, a full account of the body louse and methods of dealing with it under war conditions together with a discussion of the connexion between lice and trench fever a summary of the findings of the British Trench Fever Commission is given In other respects the work has been brought up to date by the inclusion of the results obtained from recent research Quite naturally the author views his subject from the American standpoint but American conditions are not unduly emphasized, and readers of the book will find most of the contents applicable in any country Full justice is done to the work of British investigators the only serious omission noted being the absence of any reference to Carpenter's research on ox warble-flies In this connexion it may also be pointed out that the treatment recommended against these pests is the removal of the larvae by hand, experience in Britain shows this to be impracticable except on the smallest scale, the destruction of the larvae by chemical means, which recent experiments indicate as most likely to be successful, is definitely discouraged

Certain omissions, however, must necessarily occur in a book with so wide a scope as that under review, and the second edition can be recommended with every confidence

J C F F

THE UNSTABLE CHILD

"AN interpretation of psychopathy as a source of unbalanced behaviour in abnormal and troublesome children" is the subtitle of *The Unstable Child*,[4] by FLORENCE MATEER, A M, Ph D The author gives her ideas of diagnosis and prognosis in children who are not quite normal and who, as they advance in years, tend to become delinquents Explanations also are given as to why the maladjusted child, not necessarily insane nor mentally inferior, continues to make an excessive demand on the home, school, and community for extra cost and supervision Miss Mateer, we are told, is specialist in corrective education at the Mental Hygiene School, Columbus, Ohio formerly she was psycho-clinician to the Ohio Bureau of Juvenile Research, where juvenile delinquents are very thoroughly and scientifically studied, not only while under the direction of the Bureau, but also, as far as proves practicable, in subsequent years

Miss Mateer says "that there is no such thing as a bad child Either he does not know any better or he cannot help it," and it is from this point of view that she approaches her work The methods of examination and diagnosis at present in use in Ohio are described at great length and we have a critical comparison of the various tests by which the "intelligence-quotient" and mental ability are estimated The author thinks this lengthy description of methods is of essential practical importance, because it is useless to pronounce the judgement of feeble-minded, or normal, or psychopathic upon a child unless the statement of the condition is going to help him Such help is, she says, a social problem

> To be of any use it involves an educated understanding among parents and guardians It means the provision by city county and State of methods in corrective institutions which will really deal with the condition It means intelligent legislation which must find support in a more understanding public

"Mental age testing" is described as being

> a cross sectioning of the ability of the individual that gives us a statement of the amount of intelligence with which he is equipped at that particular moment The psychopathy of an individual is a statement of the extent to which that intelligence with which he is equipped works normally or abnormally

Miss Mateer emphasizes the fact that the significance of symptoms can only be measured by studying them as deviations from the behaviour of children in general and not by comparing them with adult behaviour Many of the children diagnosed by the author as psychopathic were above the normal in mental age testing Such children present greater difficulties in treatment than the definitely backward

Miss Mateer gives in detail the history and results of many cases she has studied and provides thereby data which will be helpful to doctors doing similar work She urges that instead of resting content with generalized applications of disciplinary institutions the observer should analyse delinquency back to its causes for only then will there be hope of gaining control of the problems involved

To the inevitable objection of expense civic and national, for the purpose of social biology Miss Mateer replies that 'An individual is expensive material Salvaging him has a right to be proportionately expensive

A HANDBOOK FOR HOSPITAL RESIDENTS

THE manual entitled *Methods in Medicine*[5] by Dr GEORGE R HERRMANN represents a system which has proved successful in the medical service of Professor George Dock at the Robert Abbott Barnes Hospital, St Louis The work originated as Professor Dock tells us in the introduction in a series of rules drawn up by him early in his hospital service for the guidance of the house staff The rules were revised by subsequent generations of resident physicians according to their own experience or on suggestions from Professor Dock, but it remained for Dr Herrmann to make many additions and improvements so that by 1920 it was almost as complete as in its present form The book is divided into five parts In Part I a description of the duties of the various members of the house staff is followed by notes and suggestions for history taking and physical examination and an account of laboratory routine and the methods and procedures to be taken in commoner types of cases Part II is devoted to a description of special laboratory methods in gastro-intestinal cases, hepatic and renal function tests haematological studies, physiological chemistry methods and bacteriological and serological routine Reference to recent literature are appended to the descriptions of the various methods Part III contains an outline of diets in

[3] *Medical and Veterinary Entomology* By William W B Herms New York The Macmillan Co 1923. (Med 8vo pp xiv + 462 229 figures 23s net.)

[4] *The Unstable Child* By Florence Mateer A M Ph D New York and London D Appleton and Company 1924. (Demy 8vo pp xii + 471 10s 6d net.)

[5] *Methods in Medicine* The Manual of the Medical Service of George Dock M D Sc D By George R Herrmann M D Ph D Lond a Henry Kimpton 1924 (Med 8vo pp xi 261 6s net.)

different diseases, such as acute infections, especially typhoid fever, gastro-intestinal diseases, gout, nephritis, and diabetes mellitus Part IV deals with various therapeutic methods, such as the treatment of poisoning, emergency measures in other conditions, and the various forms of hydrotherapy A valuable chapter, which we would specially recommend to the senior student and young practitioner, is entitled "Dock's twenty drugs" In Part V typical charts, history sheets, and certificates as used at the Barnes Hospital are reproduced

The book, which contains a vast amount of valuable information not readily accessible elsewhere, should form part of the library of every hospital We fear that the high price, for which the reproduction of many unnecessary charts is probably responsible, will deter many from its purchase

CLOUDS, FOGS, AND SMOKE

IN Messrs Churchill's series of textbooks of chemical research and engineering is now included a volume on *Clouds and Smokes*,[4] with the sub-title "The properties of disperse systems in gases and their practical applications" The author is Dr WILLIAM E GIBBS, chief chemist to the Salt Union, and, to quote his own words, the volume is concerned with "disperse systems—for example, fog, smoke, flame, the atmosphere itself—in which a liquid or a solid substance exists in a highly disperse condition in a gas" These disperse systems he calls "aerosols" In the first part of the work he describes the formation of aerosols and their general properties, including their stability and their chemical and physical properties In the second part the question is considered from the point of view of meteorology, and one chapter deals with smoke in warfare Of the highest practical importance are the two chapters concerned with the industrial treatment of fumes and dusty gases and with dust explosions After reference to various forms of industrial aerosols an account is given of purification methods that may be adopted, including electrostatic precipitation, which the author considers "provides the most satisfactory method of air purification, for it not only precipitates bacteria but actually kills them" Until the introduction of this method the industrial treatment of fumes and dusty gases was restricted, he maintains, to purely empirical methods, and he suggests that the knowledge and experience from the many systematic investigations conducted during the war concerning the gases employed in chemical warfare might usefully be applied to the study of those industrial smokes and fumes the successful treatment of which is a matter of such wide industrial importance Although a very appreciative foreword is contributed by Sir OLIVER LODGE to this volume, which he aptly describes as "a textbook, or work of reference on a rather out-of the way subject, which, nevertheless, is of considerable practical importance," those whose interests are concerned with its subject-matter, while giving due weight to so high an authority, will value the work for its intrinsic worth and will acknowledge their indebtedness to Dr Gibbs for the painstaking manner in which he has performed a task of considerable difficulty Many illustrations of apparatus add to the value of the work, which is also enhanced by exhaustive references to the literature of the subject to be found for the most part in monographs or in contributions to learned societies

It is fifty years since Parliament decreed that "any chimney (not being the chimney of a private dwelling house) sending forth black smoke in such a quantity as to be a nuisance should be a nuisance liable to be dealt with summarily" but for the most part this enactment has proved to be of little avail in securing a purer atmosphere One of the reasons for this unsatisfactory position is no doubt the fact that the duty of setting the law in motion is cast upon officials who have had no special training for the work and that the work forms only a small part of what they have to do A step in the right direction has been taken by the Royal Sanitary Institute in establishing an examination for smoke inspectors, candidates could not have a better textbook than *The Smoke Inspector's Handbook*,[7] by Mr HERBERT G CLINCH, who is the chief smoke inspector for the county borough of Halifax It ought, however, to have a far wider circle of readers It contains so much valuable material that it should appeal to medical officers of health, manufacturers, works managers, and, above all, to the men employed in stoking, for over and over again the author emphasizes the importance of skilled and scientific stoking, as well as the provision of furnaces and properly devised apparatus, which, while increasing the amount of heat produced, will lessen the quantity of smoke at present belched forth from the chimney stacks We cordially agree that the successful smoke inspector should be a diligent teacher of stokers, and that he should be in a position to convince manufacturers that smoke means waste The chapters on the boilers in common use and on various types of mechanical stokers are written in an exceptionally lucid manner, and the lessons taught in the text are made clear by many well executed illustrations In a foreword to the volume Dr CYRIL BANKS, medical officer of health for Halifax, refers to the public health aspect of the smoke abatement problem, and, in anticipation of the critics who point to the adoption of electric power as a factor in lessening the smoke nuisance, reminds us that electricity has to be generated, and that furnaces will still be used in the process

NOTES ON BOOKS

OF the nine original contributions to the first quarterly instalment of this year's *Guy's Hospital Reports*[8] five are devoted to the abdomen The longest paper is that of Dr J M H Campbell, Mr H M Baird, and Mr J R B Hern on the importance of estimating chlorides in the fractional test-meal samples and some experiments with the duodenal tube, from which it appears that the curve of the total chlorides is the best means of measuring the amount of gastric juice secreted and enables a distinction to be drawn between diminished secretion on the one hand and normal secretion with excessive neutralization on the other hand Colospasm or chronic spasm of the large intestine is distinguished from the more acute and localized spasm of the colon by Mr Philip Turner, who states that belladonna and hyoscyamus are the most efficient remedies Mr R P Rowlands, a most faithful contributor to this publication, describes the two cases of myoma of the stomach he has seen during seventeen years' work as surgeon to the hospital, both the patients nearly bled to death before operation, but the success that may follow the removal of a gastric myoma shows that exploratory operation is sometimes justified even when the outlook appears hopeless Mr Grant Massie reports a case in which two ulcers—an acute jejunal ulcer and a chronic ulcer at a gastro-jejunostomy stoma—perforated simultaneously eighteen months after the gastro jejunostomy He distinguishes jejunal ulcers, which tend to perforate acutely, from ulcers at the anastomotic stoma, which run a chronic course with little liability to perforate The general belief that the anterior operation is more prone to be followed by jejunal ulcer and perforation is not supported by his collection of cases Dr J A Ryle records two cases in adults and one in a girl of 15 years of fatty stools from obstruction of the lacteals, and discusses the clinical relation of such cases to pancreatic disease and the coeliac affection In a paper on anisocytosis, with special reference to pernicious anaemia, Dr C Price Jones reports a number of observations tending to show that pernicious anaemia is a megalocytic anaemia, the diameters of the red cells varying from 3 75 to 13 μ, the latter being the "*pernicious element*" and the former the "*anaemic element*", the large mean diameter of the red cells is independent of the anaemia and persists throughout the course of the disease, whereas the high degree of anisocytosis varies directly with the anaemia.

The handbook, *Blood Chemistry Colorimetric Methods*,[9] by Dr W J STONE, is addressed to the general practitioner It deals with methods for estimating uric acid, creatinin, blood sugar, blood chlorides, blood cholesterol, and the

[4] *Clouds and Smokes* By William E Gibbs D Sc With a foreword by Sir Oliver Lodge F R S London J and A Churchill 1924 (Demy 8vo pp xi + 240 31 figures 16s 6d net)

[7] *The Smoke Inspector's Handbook on Economic Smoke Abatement* By Herbert G Clinch M R San Inst M I H With foreword by Cyril Banks M D B S Lond D P H Sheff London H K Lewis and Co, Ltd 1923 (Demy 8vo pp xvi + 136 60 figures 7s 6d net)

[8] *Guy's Hospital Reports* vol lxxiv (vol iv, Fourth Series) No 1 January 1924 Edited by A F Hurst M D London Wakley and Sons (1912), Ltd 1924 (Roy 8vo pp 115 80 figures Great Britain subscriptions £2 2s. for volume of four numbers single numbers 12s 6d each)

[9] *Blood Chemistry Colorimetric Methods* By W J Stone M D New York P B Hoeber, Inc 1923 (Med. 8vo, pp ix + 75 5 figures 2.25 dols.)

nitrogen of the urine Clinical comments and dietary suggestions follow each section, and there are chapters on diagnosis of impaired kidney function and the dietary control of disturbances of metabolism The last chapter is on diabetes, and includes insulin treatment The methods described are all standard ones though some have been slightly modified to meet the demands of the clinical laboratory using relatively small quantities of blood It is questionable whether those to whom this book is dedicated will have either the time or the inclination to perform these tests, but those who are disposed to undertake such work will find it convenient to have the methods collected into one handy book of small compass

Marriage and Syphilis (Practical Suggestions)[1] by Dr G M KAISANOS of Boston, U S A has been written from the point of view of the propagandist rather than that of the syphilologist The author believes that syphilis in spite of the work of public health departments voluntary societies and individual workers has not yet received the attention that it merits and in his book he makes a forcible if somewhat sentimental appeal to his readers The sentence printed on the fly leaf sums up his object "If by this work of mine the procreation of even one syphilitic child is prevented my time, efforts, and expenses have not been in vain

The *Weekly Telegraph Guide to Holiday Resorts*[2] a deservedly popular annual which has now reached its twenty ninth year contains a brief description in alphabetical order of holiday resorts in England the Channel Islands Isle of Wight and Isle of Man Wales Scotland and Ireland with lists of hotels boarding houses and lodgings A few pages are appended on holiday tours in Belgium

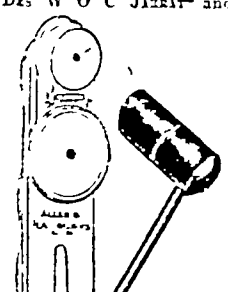
[1] *Marriage and Syphilis* (Practical Suggestions) By G M Kaisanos M.D Boston Mass U.S.A. [1924] [Pp 132 with figures 3 text.]

[2] *The Weekly Telegraph Guide to Holiday Resorts and How to Reach Them* Containing the most Reliable and Exhaustive Information Obtainable London Hodgson & Co [for the Weekly Telegraph Co Ltd] [1924] [Pp 128 illustrated with maps (1 col.)]

MEDICAL AND SURGICAL APPLIANCES

An Ophthalmoscope Attachment

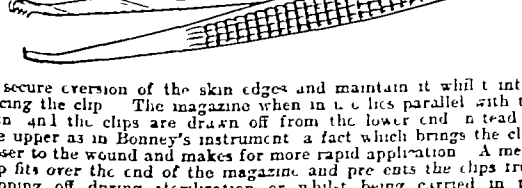
DRS W O C JARRATT and LLOYD L LOCKHART have devised an ophthalmoscope attachment which they describe as follows Owing to the difficulties which many students and practitioners experience in performing ophthalmoscopic examination by the direct method with a Morton ophthalmoscope and to the expense entailed by the purchase of an electric instrument we have devised a simple attachment for the ordinary ophthalmoscope by means of which it is possible to obtain the advantage of the electrical instrument at a comparatively small cost It consists of a collar and an adjustable arm which is fitted to the ophthalmoscope at the junction of the handle and the body The electrical part is of the simplest being merely a pocket battery flexible wire and a flash lamp bulb At a slight additional cost a variable resistance may be obtained



The apparatus is made by Messrs Allen and Hanburys Ltd 45 Wigmore Street London W 1

Magazine for Michel's Clips

Messrs. Down Bros have recently made for Mr BERNARD WARD F.R.C.S (Birmingham) a magazine for Michel's clip which has proved satisfactory in use It is a combination of Childe forceps with a fixed magazine The main advantage claimed for it is that the serrations at the end of Childe's forceps make it easy



to secure eversion of the skin edges and maintain it whilst introducing the clip The magazine when in use lies parallel with the skin and the clips are drawn off from the lower end instead of the upper as in Bonney's instrument a fact which brings the clips closer to the wound and makes for more rapid application A metal cap fits over the end of the magazine and prevents the clips from slipping off during sterilization or whilst being carried in the surgeon's bag

The British Medical Association
ITS CONSTITUTION AND GOVERNMENT
AN HISTORICAL SURVEY

BY

JOHN C McVAIL M D, LL D, F P.I P S

(Continued from page 1038.)

III—THE CONSTITUTION COMMITTEE

THE Annual Congress at Ipswich in 1900 was under the presidentship of Dr W A Elliston At the second General Meeting on August 1st Mr Victor Horsley brought forward a resolution of which notice had been given

That a Committee be appointed to consider and report upon the best means of reorganizing the constitution of the British Medical Association such Committee to furnish a provisional report to the Branches by March 1st 1901. (BRITISH MEDICAL JOURNAL 1900 vol ii pp 234-321.)

The resolution was carried unanimously and Mr Horsley proceeded to submit a list of twenty-three names for membership This was objected to and Dr Ward Cousins moved that half the number be appointed by the Council After discussion Mr Horsley accepted the amendment the number of members being fixed at twenty four As regards the attitude which the Committee was to adopt on the crucial question of an annual conference or delegates elected by members from limited areas—a question raised by Dr Cox—it was agreed by a majority to adopt an amendment by Dr Radcliffe Crocker

That the Committee be invited to consider and report upon the question of delegation in their deliberations but that they be not instructed that they must evolve such a principle

At the third General Meeting on the following day (August 2nd) the President of Council intimated the names of the Council's quota of the Committee They consisted of Surgeon General Hamilton as representing South Africa Mr Cantlie as representing East India and the Archipelago Sir John Moore as representing Ireland Dr J C McVail as representing Scotland* and Mr Jenner Verrall (Brighton) Dr S Woodcock (Manchester) Dr R Saundby (Birmingham) Mr Andrew Clark (London) Dr Ward Cousins (Portsmouth) Dr Radcliffe Crocker (London) Mr H Butlin (London) and Dr Roberts Thomson (Bournemouth) as representing England

Mr Victor Horsley submitted a list of twelve names to complete the twenty-four Dr R C Buist of Dundee for Scotland Professor Byers for Ireland Dr C C Gooding for the West Indies Dr Mercier for Australasia and for England Dr Bateman (London) Dr Cox (Gateshead) Dr William Gordon (Exeter) Dr Milburn (Hull) Dr A Brown Ritchie (Manchester) Dr J S Whitaker (Yarmouth) and himself In regard to Canada he named Professor T H Cameron who was present at the meeting Professor Cameron however, suggested Mr Edmund Owen (London), who would be at Ottawa delivering an address in the following month and would be able to ascertain the local view This was agreed to and was a most fortunate appointment as the Committee being left to elect its own chairman chose Mr Owen who turned out to be a most successful guide and arbiter in very difficult discussion In addition to the twenty four members thus appointed the Committee included *ex officio* Dr W A Elliston (Ipswich) and Dr G B Ferguson (Cheltenham) respectively the President and President-elect of the Association

When members of the British Medical Association have occasion to visit its rooms they see on the walls photographs engravings or cartoons of many of those who in past years have taken their part in carrying on the great organization which has done so much for the science and

* It may be of interest to recall from all two meetings I took a somewhat little part in the work of the Committee

medicine and for the interests of the profession since Dr Charles Hastings called together that memorable gathering at Worcester in 1832 Many of the names are of men who attained a high position in medicine as hospital physicians or surgeons, as teachers, and as scientists who have advanced the knowledge on which the art of medicine is based In fact there can be comparatively few of the leaders in medicine who have not given time and talent to the Association Others in their day and generation have done essentially important service in practice in their own localities without attempting to make any extensive contributions to literature or research Many such men who have a natural capacity for organizing and administrative work have found an outlet for their surplus energies in management of the business of their own profession, to the great benefit of all concerned Their names also are to be found in what may be called the Association's portrait gallery, but, as generation succeeds generation in the Council and Representative Body and standing committees, individuals are forgotten, and in looking through old numbers of the JOURNAL the names of the forgotten are far more numerous than those of the remembered The length of time through which a doctor continues to occupy himself in the Association's affairs greatly differs Some become veterans in the work, others give it up after a few years and are absorbed in practice

The Constitution Committee of 1901-2 has always seemed to me a very notable body, composed of outstanding men of both the classes just indicated, and a few words, partly from recollection, partly from material freely adopted from the JOURNAL, may be said about those who have already crossed the bourne

Mr Edmund Owen, LL D, D Sc, F R C S, made a most excellent chairman He was a handsome man, in his intellectual prime, of impartial judgement and genial temperament, witty and good-humoured His speech at the General Meeting at Cheltenham, in moving the adoption of the new regulations, was marked by a persuasive eloquence which had a great effect in carrying the resolution Indeed, had the task been in less skilful hands, the vote might have been lost Outside of his work for the Association he had a high position He was surgeon, afterwards consulting surgeon, to St Mary's Hospital, was twice Vice-President of the Royal College of Surgeons, gave the Lettsomian lectures in 1890, and the Hunterian Oration in 1911 He had a period of presidentship of the Medical Society (London) and also of the Harveian Society As a surgeon he specialized in operations for deformities, such as cleft palate, hare-lip, and club-foot He died in 1915

Dr W A Elliston of Ipswich, the President of the Association, was also a handsome man, and of charming personality I had the pleasure of being his host at the celebrations of the ninth jubilee of Glasgow University in 1901, and we afterwards enjoyed a brief holiday together in the West Highlands Dr Elliston was a delightful companion He came of a good medical stock and did honour to it Born in 1840 and educated in the days of medical apprenticeships he was keenly interested in the science and art of surgery—as is indicated by his spending, whilst a young man, a holiday in attendance at Lister's wards in Glasgow He was surgeon to the East Suffolk Hospital for thirty years, and took a large part in local affairs as a magistrate and public health reformer He lectured on sanitation chemistry, physics, milk, alcohol, and other such topic Of keen intellect and strict integrity he was quick to condemn but generous to offenders For the Association's Annual Meeting in Ipswich he was as a matter of course, selected as President, and his good lady and he made the meeting a great success To the work of the Constitution Committee he brought all his valuable gifts of character, tact, and breadth of view, and was very helpful in smoothing over difficulties

Dr John Ward Cousins of Portsmouth was as long and honourably connected with the work of the Association in his own day as for example, Dr J A Macdonald of Taunton has been during the past quarter of a century Dr Ward Cousins was President of the Association in 1899, and took a paternal interest in all its affairs He was practically the founder and builder of the Southern Counties Branch, and had been a successful advocate of the policy of making the Council predominantly a representative body, through election by the Branches Having achieved this, he regarded representative government as an accomplished fact, the Council being a medical parliament, with the Branches for constituencies And just as Parliament, once it is elected, does not require to obey from time to time instructions from the constituencies—does not in fact receive such instructions, though representations may be made to it and it will give them respectful attention as well as noting the current of opinion in the country—so the Council was itself to manage the affairs of the Association, according to its own considered judgement It does not seem to have occurred to Dr Ward Cousins that the meetings of the Branches, owing to the wide area of country which many of them covered, could not properly represent the views of the practitioners within their bounds, and he can have had no sympathy with the conception of the Council as chiefly an executive for carrying out the decisions of Annual Meetings of delegates from Divisional areas within the Branches Yet he was, in his own time and way, a real leader of the Association, and it was all to the good that he became a member of the Constitution Committee and fought there for what he considered a sound policy of government When the Association met in Glasgow in 1888, I spent a day with him in an excursion to the Falls of Clyde Besides being of strong and vigorous individuality he had cheery social qualities On being told that an old gentleman in front of the party that day was the Provost of Lanark he hurried forward to be introduced to him, and amusingly remarked to me afterwards on the honour which he felt in having had an interview with so great a dignitary In his own part of the country Dr Ward Cousins had a worthily high position as surgeon to the Portsmouth Hospital for nearly half a century—from 1860 to 1908 He died so recently as 1921 at the good old age of 87

Dr John Roberts Thomson of Bournemouth was President of the Association at its Annual Meeting there in 1891 and was Chairman of Council 1899-1901 Born near Edinburgh and graduating in that university, he went south and settled in Bournemouth when it was little more than a village, with the nearest railway station several miles away He became, like Ward Cousins in Portsmouth and Elliston in Ipswich, the leading man in his profession in his part of the country As a member of the first county council, a magistrate, and chairman of the governors of Bournemouth School, he took a full part in the life of his community and received the freedom of the borough in 1913 He did much good work for the British Medical Association in various capacities As Chairman of Council he had the duty of stating and supporting the Council's views before the Constitution Committee, but showed no rancour, and accepted adverse decisions as a gentleman should In the latter part of the Committee's labours he was mainly responsible for the referendum, which did a great deal to reconcile divergent views and allay fears of revolution which after all turned out to be reform Great credit is due to Dr Roberts Thomson for the avoidance of a minority report which would almost certainly have prevented the new scheme being carried by the three-fourths majority necessary at the first of the two extraordinary meetings required in such circumstances

Dr Robert Saundby, Professor of Medicine in the University of Birmingham, was Chairman of the Association's Council when I became a member of it He impressed me as a first-rate chairman—competent, clear-headed, forceful, allowing reasonable freedom in discussion, though with a certain temperamental irritability which made it difficult for him to suffer fools gladly He was an authority on medical ethics and wrote a very good book on that subject The Constitution Committee appointed him to be deputy chairman, but illness pre-

vented his attendance at the meeting, and we had not the benefit of his sound business acumen. Later on I came into touch with him as a colleague on the General Medical Council, in whose deliberations he took an active and independent part. His health, unfortunately, was not good and he retired in 1917, dying in the following year when somewhat under 70 years of age.

Sir Victor Horsley, it is no exaggeration to say, was by far the most distinguished, and perhaps also the most influential, member of the Constitution Committee. Indeed, he and Dr. Smith Whitaker can be regarded as having much more responsibility for the fashioning of the new scheme than all the other members jointly. His world-wide fame as a pioneer in pathology and surgery needs no mention here. It was a feature of his character that he put his whole heart into every project which appealed to him. His zeal as a reformer was unbounded whether the field for reform was the Royal College of Surgeons, the General Medical Council, the British Medical Association, the registration of nurses, or the suppression of quackery. The very intensity of his conviction led to an intolerance of contradiction and to a difficulty of believing that those who differed from him could possibly be right or even sincere. For these defects allowance was made where the essential greatness and dynamic force of the man were recognized. But in the Constitution Committee there was little need for any such consideration, and his obvious conviction of the soundness of the principles which he advocated carried great weight. He was the first Chairman of the Representative Body, and for three years he piloted the meetings with great skill through the shoals of a previously uncharted sea of difficulties. His tragic death on war service in Mesopotamia in 1916 was deplored wherever he was known—and he was known throughout the whole world of medicine. Osler said of him: "Better than any man of his generation Victor Horsley upheld a great British tradition, for he combined the experimental physiologist and the practical surgeon in a degree unequalled since John Hunter." There will however, I think, be general agreement that Osler's generous dictum of "unequalled" should be qualified in respect of the late Sir William Macewen, the distinguished President of the Association in 1922-23, who throughout his life displayed in a remarkable degree the great qualities of John Hunter.

Sir Henry T. Butlin, Bt., D.C.L., LL.D., F.R.C.S., was another man who lent weight and distinction to the Constitution Committee. He took a high position as pathologist and microscopist on the staff of St. Bartholomew's Hospital, and was a good clinical teacher and operator. He was President of the Royal College of Surgeons in 1909-11, and Hunterian lecturer in 1912, the year before his death. He did much good work for the Association, was Treasurer from 1891 to 1895, and was President at the London meeting in 1910. On the Constitution Committee he was by no means a die-hard, and was especially impressed with the need for freeing the Association from the dangers of the Annual General Meeting.

Dr. H. Radcliffe Crocker, the distinguished dermatologist of University College Hospital, who had been a member of Council and was appointed Treasurer of the Association in 1905, had a place on the Committee, but was not present at many of the meetings and did not take a prominent part in the deliberations.

Mr. Andrew Clark, F.R.C.S., Honorary Surgeon to the King and Surgeon to Middlesex Hospital, was out and out a British Medical Association man. It was, indeed, the main interest of his life, and he devoted himself to its service with single-minded sincerity. At one time he was Chairman of the Council, at another time Treasurer, and he was a member of innumerable committees, so that after the new constitution had fairly established itself he was presented with the Gold Medal of the Association. He was a conscientious, upright, and worthy gentleman. While upholding generally the Council point of view on the Constitution Committee, he was ready to appreciate also what could be urged on the other side. He was one of a small subcommittee to which, at the conclusion of the Committee's first series of meetings, the drafting of the Provisional Report for submission to the Association was entrusted, though it is right to say that the actual preparation of that important document was mainly in the hands of Dr. Smith Whitaker. Mr. Andrew Clark was the first to have the honour of being appointed to the Council by co-option under the new constitution.

Dr. Samuel Woodcock of Manchester was to me personally the most lovable member of the Committee. I had known him on the Council to which he had been sent by the Lancashire and Cheshire Branch after some kind of revolution in its government. I had heard of him as a youth who, before my day, had been a centre of students' activities and socialities in the extramural section of the Glasgow Medical School. He was a man of ready humour and anecdotal celebrity, and a persuasive speaker, lucid and pointed. Withal he was sincerely religious, and in his own district of Manchester he shared in chapel mission work, lay preaching, and Bible teaching. On the school board he paid great attention to sanitation of school buildings. Had he been willing, he might have been in Parliament. For the British Medical Association he did much work, as a member of Council, Chairman of the Parliamentary Bill Committee, and of the Medico-Political Committee. His services were so much valued that the new power of co-option to the Council was exercised on his behalf in 1903, but that, alas! was the year of his death. Until his own generation dies out Sam Woodcock will not be forgotten. On the Constitution Committee he did excellent work in mediating between opposing views.

Dr. George B. Ferguson, F.R.C.S., Surgeon to the Cheltenham Hospital, was President-elect of the Association, and in that capacity was a member of the Constitution Committee. His membership was formal and was not expected to be otherwise, but at the General Meeting at Cheltenham in 1901 his tact and urbanity as chairman did much to get the new constitution through one of the most difficult stages in its career towards adoption. He died with tragic suddenness in 1906.

Dr. A. G. Bateman will be best remembered as General Secretary to the Medical Defence Union. He was an extraordinarily hard worker, a keen judge of character, a safe and sure guide of the Defence Union in its difficult work, had an unsurpassed knowledge of black sheep and quacks, and a capacity for patiently following up offenders and bringing them to justice in the end. On the Constitution Committee he was a very useful member.

Sir John W. Byers, Professor of Midwifery in Queen's University, Belfast, was a representative of Ireland on the Committee. He would certainly have been a good member, but was not present at many of the meetings, no doubt owing to the time and inconvenience involved in the double journey between Belfast and London. Fortunately that difficulty, substantial as it must be, has never deterred the veteran Sir John W. Moore of Dublin from maintaining the close connexion of Irish with British medicine in the Association and now for many years in the General Medical Council. But he happily is still with us, and long may it be before anyone has an opportunity or writing an obituary notice of the genial Sir John.

Surgeon-General John B. Hamilton of the Army Medical Service did good service alike in the army and in the interests of the profession of medicine in its army relationships, as in the matter of the Brodrick report. It is recorded of him that he was of "a brave, resolute, and generous spirit, and one who probably did more than any other to set forth the grievances and plead the cause of his army medical brethren." He did his due share of work on the Constitution Committee.

About the members of the Committee who are still living I must say nothing individually, but from different points of view we all did our best in one direction or another to frame a good constitution, and we have had the pleasure of living to witness the fruits of our labours as did, indeed, in some degree those who have departed. For notwithstanding early difficulties the constitution has been a success since the beginning.

(To be concluded.)

British Medical Journal.

SATURDAY, JUNE 21ST, 1924

TULARAEMIA.

TULARAEMIA is an acute infectious disease accompanied by prolonged fever and followed by tedious convalescence It is a disease with which doctors are unfamiliar in this country, and, as far as we know, no cases of infection (other than of laboratory workers) have been reported in the British Isles But it is likely that cases have occurred in the past and been mistaken for typhoid, or some long continued fever which tularaemia closely resembles

The word "tularaemia" is based on the name of the causative microbe, *B tularense*, and has reference to the presence of the bacterium in the patient's blood This bacillus was discovered in 1912 by McCoy and Chapin,[1] and identified by them as the cause of a plague like disease of ground squirrels in California A similar disease was found to exist amongst rabbits

During the ten years following the discovery of the germ the suggestion was frequently made that this disease of rodents could be passed on to man, but the credit for having proved the mode of infection, of having accurately described the symptoms and established this as a definite human disease, belongs to Edward Francis, and dates from the publication of his paper in the *Journal of the American Medical Association* in April, 1922 (p 1015) Therein he gave proof that this disease may be spread to man either by the bite of an infected blood sucking insect or by the handling and dissection of infected rodents by market men and laboratory workers He referred to it as a disease of the rural population, attacking chiefly persons who work in the fields He noted that human cases occur in Utah during the seasonal prevalence of the fly *Chrysops discalis*, in a community where jack rabbits are dying from an epizootic of a plague like disease due to *B tularense* Sick and dying rabbits are the reservoir of the infection, and in Utah the disease has been prevalent in man unrecognized for more than fifteen years He found the disease amongst other varieties of rabbits and squirrels, and showed that it could be spread also by lice, bed-bugs, and fleas He based his description of the human disease on seven cases of tularaemia in Millard County, Utah and six cases occurring in laboratory workers In the naturally occurring disease infection began with an insect bite and was followed by enlargement and suppuration of neighbouring lymphatic glands After the third day the site of the bite presented a black necrosing centre, which sloughed out, leaving a punched out ulcer One patient was confined to bed throughout the illness, which ended fatally on the twenty sixth day, with symptoms of pneumonia at the right apex Two patients spent the first month in bed the second about the house and the third month doing light work The four other cases were less severe, each patient losing about a month's work The fever was characterized by daily remissions, and the temperature curve resembled that of a septic condition The symptoms and signs of the disease were chiefly local, but the systemic effect was pronounced, as evidenced by fever prostration weakness, and slow convalescence Of the six cases of tularaemia occurring in laboratory workers, two of the men contracted the disease in the field laboratory in Utah, where they had to work under primitive conditions, the other four contracted the infection in the Hygienic Laboratory at Washington Two of the men were physicians with years of experience in working with infectious disease and materials, one was a highly trained scientist, and the other three investigators were experienced laboratory assistants Illness began suddenly with high fever, remitting about the third day almost to normal, immediately to rise again, and then fall gradually to normal at the end of about three weeks A slow convalescence extended over more than two months, but recovery took place without complications There were no local lesions to indicate the portal of entry, and no suppuration of lymphatic glands Complement fixation and agglutination tests, using antigens composed of *B tularense*, were positive on several occasions

A culture on egg yolk medium of *B tularense* was sent from the Washington health laboratories to the National Collection of Type Cultures at the Lister Institute in the late spring of 1922, and the virus was maintained by passage through guinea pigs and mice A study of the pathology of this disease was begun at the Lister Institute, and it was found that in infected mice the spleen showed enormous numbers of the minute cocco bacillary organisms, and that in infected guinea-pigs sections of the spleens showed characteristic necrotic foci and diffuse infiltration with polymorphonuclear cells The livers of infected mice showed no isolated necrotic foci, but large numbers of liver cells throughout every section were found to be invaded by the tularaemia microbe, the entire cytoplasm being in many cases replaced by minute coccoid bodies [2]

The extremely infectious nature of the virus was confirmed by the unfortunate experience of workers at the Lister Institute As had happened at Washington, the study and maintenance of the virus was interrupted by the occurrence of human cases, the victims being the curator, the assistant curator, and a member of the bacteriological staff Happily all these patients have now recovered, but only after a tedious period of invalidity The nature of the infection in these laboratory workers was proved unequivocally The patients' serums agglutinated the microbe in dilutions up to 1 in 800, and complement fixation tests were also successfully carried out Commenting on this experience the report of the Medical Research Council for the year 1921-22 observed (p 44) "It has been deemed inadvisable to continue the propagation of this dangerous organism in the National Collection"

Tularaemia must be reckoned with as a disease that may possibly be met with in the ordinary course of practice, as shown by a puzzling case recently reported by Dr Verbrycke [3] A woman patient, aged 67, suffering from jaundice with high fever, was operated on after many consultations and much deliberation No abdominal disease was found at the operation, but a septic spot was afterwards noticed on her finger, and, when the necrotic tissue was removed with a swab, a small ulcer remained The patient recovered from the operation, but remained acutely ill Many laboratory investigations were carried out, but they threw no light on the nature of the disease Remembering the possibility of tularaemia, Dr Verbrycke sent a specimen of her blood to Dr Francis, but before the report could be obtained the patient died, on the

[1] *Journ Infect Dis* 10 61-72, and *Pub Health Rep* 53, January 1912

[2] *Journ of Path and Bact* vol 25 No 1 p 12

[3] *Journ Amer Med Assoc*, vol 82 May 17th 1924

seventh day after operation and the eighteenth day of illness. Death seemed to occur from increasing toxæmia and gradually failing circulation. At the autopsy the only marked abnormalities were a number of nodules in the lungs, firm, greyish, and slightly caseous, but not resembling tuberculous lesions. The spleen was enlarged and soft, under the capsule were innumerable small yellowish white spots, and on section the whole spleen was seen to be filled with these bodies, which were like millet seeds and easily rubbed off. Dr. Francis stated that the appearance was that of tularæmia, and that the serum had given a positive agglutination test, but that proof positive would be forthcoming if the diseased spleen rubbed on the skin of guinea pigs caused death from the disease. Several guinea pigs and a couple of rabbits were inoculated, and in four days they were dead. The lesions in these animals were characteristic, and *B. tularense* was recovered from the infected animals.

The question now remained, How did this patient become infected? The history given by her had allowed suspicions of tularæmia, but—as often happens when patients tell their own story—the history had not been complete. Further investigation brought to light the fact that five days before she was taken ill her son had bought two rabbits in the market, and that the woman had dressed, dismembered, and fried them. Two days later she got a splinter in the index finger of the right hand while handling some boxes in the basement of the house. There seems little doubt that the infection was derived from a tularæmic rabbit, and that the microbe was inoculated by the splinter.

In reviewing the incidence of this disease Dr. Verbrycke mentions some fifty cases previously reported, and is informed that two physicians in the infected area about Great Salt Lake have each had a series of 100 cases. It is possible, if not probable, that many unrecognized cases have occurred in different parts of the world, and have been wrongly diagnosed as septicæmia or typhoid fever. Any case presenting a continuous fever, especially with a remission to normal on the third or fourth day, which cannot be proved to be due to any other of the known infections, should call tularæmia to mind. A history of recent handling of rabbits, and signs of some local lesion, are suggestive features. A correct diagnosis can be made by the agglutination test.

Information about this curious disease should be given to those who handle rabbits for human food. Up to the present no infection has been known to occur in tame rabbits.

QUESTIONS RAISED BY THE FACTORIES BILL

THE Factories Bill (of which our Parliamentary correspondent gave an account last week, at page 1069) is a measure designed mainly to consolidate existing factory and workshop legislation, but also to amend and to extend it. Some of the amendments and enlargements of the present law which the bill proposes are far reaching. They are based upon the report of the recent Home Office Committee, and raise very important questions, some of which have up till now received very inadequate consideration. The findings of the Committee do not, perhaps, carry the weight which in other circumstances they would have done. The personnel of the Committee was scarcely wide enough in its experience to bring out fully all the points that deserved consideration. The witnesses were selected in a somewhat haphazard fashion. They were not representative, and were called upon to give their evidence at short notice and without much opportunity for consideration, and the report itself, as well as the bill based upon it, bears marks of the unsatisfactory haste which has characterized the whole proceedings.

The bill contains 143 clauses and, with its schedules, fills 99 pages. There is difficulty in discovering which of its provisions are consolidating only and which are new, though the belated issue of an official memorandum purports to set out the new ones. It will probably receive the full discussion which it certainly needs and, though the Government is reported to be anxious to get the bill passed, it seems rather unlikely that it can become law during the present session. It will be useful therefore to indicate, without attempting to discuss at the moment, some of the more important questions which it raises.

The first of these is one on which the British Medical Association some years ago made a definite pronouncement of policy. Ought not this branch of public health work to be transferred at once from the Home Office to the Ministry of Health? When the latter Ministry was established provision was made whereby certain of its powers not very closely connected with health matters might be transferred to other departments, and for the health functions of certain other departments—particularly those of the Board of Education and of the Home Office—to be taken over by the Health Ministry. It is becoming a matter of some urgency that these transfers should be made in the interests alike of efficient administration and of the public health. The complete unification of public health administration, both centrally and locally, has obvious advantages. The desirability of this has been recognized by Parliament and a resolute attempt to bring it about should present no real difficulty, though it would of course give rise to stubborn opposition in certain quarters. Advantage might well be taken of the present opportunity to advance unification a further stage.

One of the most important, and perhaps unexpected, proposals of the bill is in a wholly contrary direction. Many of the most useful sanitary provisions of the existing Acts are at present enforced by the local sanitary authorities and not by the factory inspectors. Under the bill almost all the corresponding provisions are to be enforced by the inspectors. Thus certain powers of public health authorities, responsible to the Ministry of Health, are to be taken from them and placed in the hands of officers appointed by and responsible to the Home Office. It is to be supposed that neither the local authorities nor the profession will silently acquiesce in this arrangement. It is in several respects a retrograde proposal. One question thus raised is whether it is better for the factory health service to be developed as a separate national service, tending to afford a further whole-time career for medical men and women with its medical officers of various grades—the superior grades supervising and inspecting the work of the junior officers over wider and wider areas under one central departmental head—or as a localized service under the local health authority, employing largely part-time private practitioners under the administrative supervision of the medical officer of health. There will no doubt be differences of opinion within the profession as well as outside it on this point. Each method of development presents certain obvious advantages, and the need for preserving by some means a relatively uniform national standard of requirement must never be forgotten. The importance of this question is abundantly

evident, and the mind of the profession should be directed to it with some urgency

The question of securing continuity of health records formed part of the reference to the Home Office Committee, and the bill imposes on the local education authority the duty of arranging for the production to an appointed doctor of so much of the school record as may be necessary to enable him to carry out effectively his examination for the purposes of certifying suitability for employment This will be so far useful, but the further and equally important matter of securing that this record, with any additional observations of the certifying doctor, shall be available for other medical practitioners into whose care the individual subsequently passes, is still left untouched

There will be approval by the profession of the proposal to extend to 18 years the age before which no young person may be employed in a factory without a certificate of physical fitness for that employment But, somewhat indirectly, the bill raises once more the question as to the health provision which should be made for young persons between the ages of 14 and 16 For the majority of such persons there is no public provision, and this hiatus will certainly by some means have to be closed Many favour the extension of the compulsory school age to 15 or 16 years, and in that event the school medical service would be available Others would seem to prefer the lowering of the age for admission to National Health Insurance from 16 to 14 years, and, of course, similar health provision would be brought about by bringing all the dependants of insured persons within the scope of the health insurance scheme These are serious questions, becoming ripe for discussion The solution is perhaps not to be arrived at on medical grounds only but the profession should be alive, not merely to the importance, but to the imminence of decision In all these matters, as well as in others raised by the bill, medical opinion should carry great weight It may in some cases, if properly formed and applied, be the determining factor, and there is no time to lose if his opinion is to be thoughtfully formulated and then pressed forward effectively

HOME AMBULANCE SERVICE

The fifth annual report of the Home Ambulance Service Committee of the Joint Council of the Order of St John and the British Red Cross Society deals with the year ending March 31st, 1924 As is implied in the course of the report, it is difficult to understand how we got on before the war, in rural districts in particular, without such an organization It is certain that were the committee to come to an end other arrangements would have to be made to carry on the work it is doing Happily there is no reason to fear any interruption, on the contrary, the organization is being extended and strengthened Although the details of a local ambulance service are matters for arrangement in counties, there are many ways in which the co-ordinating influence of a central body is of great value It was only possible to begin the work through the substantial support in money and in kind given by the Order and the Society, and, though the system is now in part self-supporting, it would not be possible to carry it on without their financial aid A great deal of information as to the best type of chassis and body has been accumulated, and the committee is fortunate in commanding the services as liaison officer of Major Paget, who had a large experience in a somewhat similar capacity in France during the war In another way the assistance of the central ambulance committee and its status as a part of the general organization of the Order and the Society is of value The help an ambulance can render, particularly in emergency cases, whether due to an accident or disease, is greatly enhanced if the ambulance car is accompanied by trained ambulance workers The report observes that the object of the committee has been from the first, not merely to distribute ambulances, but to establish an ambulance service In the constitution of such a service, the report points out, "it is essential that the ambulances should be attended by men and women whose qualifications are such as to ensure the complete confidence of the doctor and patient Without such aid the vehicle remains an ambulance wagon It is the co-operation of qualified ambulance workers with the doctor that converts it into the 'hôpital ambulant' from which it derives its name It is to this point that the committee has specially devoted its attention during the past year With the cordial help of the governing bodies of the Order of St John and the British Red Cross Society, it has pressed forward the campaign for bringing the ambulances into closer relationship with the organization of trained voluntary workers of both bodies It is satisfactory to note that in the past two years, and especially in the last twelve months, the proportion of ambulance stations making full use of the services of members of the Order and Society skilled in first aid has greatly increased" While the service is primarily intended for private patients for whom no other practical means of transport are available, it has been found possible to undertake many public duties The Home Office Orders require the provision in large works of an ambulance for the removal of serious cases of sickness or injury to a hospital or the patient's home The provision of a motor ambulance would often involve expenditure out of proportion to the requirements of each individual factory, and as an alternative the Orders permit arrangements to be made for obtaining a home service ambulance by telephone In the same way the regulations made by the Mines Department as to the provision of ambulances for coal mines are carried out to a great extent by home service ambulances, which, with personnel, also attend football matches, race meetings, and similar public gatherings, thus fulfilling the recommendation of the Home Office Departmental Committee, "that in grounds with a capacity exceeding 10,000, adequate arrangements should always be made for the provision of trained ambulance staff to deal with any casualties which may occur among spectators" The committee was represented at a series of conferences held at the Ministry of Health on the question of ambulance transport for the metropolitan police district outside the area served by the ambulances of the London County Council The majority of the ambulances in this outer area are provided by the committee, and a considerable number of police cases are dealt with every year It is hoped that an arrangement may be made under which the local authorities will pay a mileage fee for ambulances sent for by the metropolitan police The War Office has also claimed the assistance of the home ambulance service for the transport of military cases to hospitals when War Department vehicles are not available During the omnibus and tram strike in March the committee, at the request of the Minister of Transport, undertook to convey out-patients to the various hospitals in London, and with the assistance of a limited number of Government vehicles, and with the co-operation of voluntary workers, it was found possible to respond to this request The Minister has expressed to the committee his appreciation of the manner in which the task so suddenly thrust upon it was handled Recently the committee has taken over from the College of Ambulance an x-ray car, which can be driven to the patient's own house, the Institute of Radiology has consented to assist in this work The committee has also been able to arrange for the supply of motor attachments

to pensioners, in order that very seriously disabled men may be able to get further afield, either for work or pleasure, than is possible when they are dependent solely on their arms for the propulsion of their chairs. The statistics show a steady increase in the number of cases carried by the home service ambulances, from just under 14,000 in 1920-21 to 64,453 in 1923-24. The committee has 333 ambulances, and during the last quarter they were carrying on an average over 200 cases a day.

RESEARCH IN MENTAL DISEASE AT BIRMINGHAM

A REPORT has been issued describing the work undertaken at the Laboratory of Research for Mental Disease established by the City and University of Birmingham just a year ago. The line of research initiated by the honorary director, Sir F. W. Mott, F.R.S., and Dr. T. C. Graves, medical superintendent of Birmingham Mental Hospitals, has been prosecuted both in the laboratory at Hollymoor by Dr. Pickworth (pathologist) and in the hospitals by the medical officers of the staff. The special grant of £400 by the Board of Control was reserved for the investigation of basal metabolism in mental disorder, and part of it has been expended in the construction of a respiratory chamber of a type similar to that used by Dr. J. S. Haldane, F.R.S., and Mr. J. I. Graham, M.Sc., at the University of Birmingham Mines Department. They have assisted in advising certain improvements in the apparatus used for the determination of minute changes in the atmosphere of the chamber. About 161 gas analyses each requiring two hours (some experimental analyses several hours) had been made down to May 19th, when the apparatus was seen and approved by Drs. Haldane and Graham. The Research Board has founded a scholarship of the annual value of £250 for the investigation of the pathology of mental disease, and has appointed Mr. *Dennis L. Woodhouse*, M.Sc. Birm., who was formerly engaged in research work under Dr. Astley Cooper in the Chemical Department of the University, to be the first scholar. He will make an experimental investigation into the effects of hypnotic drugs upon animals more especially in relation to their growth and basal metabolism. Mr. Blunden, formerly of the Lister Institute, was appointed laboratory attendant at a salary of £250 and began work in January last. He is now engaged in carrying out all the bacteriological and serological routine of the laboratory under the direction of Dr. Pickworth. The bacteriological, biochemical, and morbid anatomy sections of the laboratory have been equipped and associated with the clinical work of the hospitals. Over 600 bacteriological examinations have been made from material supplied by clinical departments of the hospitals. Agglutination reactions have been carried out, and the Bordet-Wassermann complement fixation tests are now made in the laboratory. The charges made for these routine investigations are low, and other hospitals, should they join the Board and desire to avail themselves of the facilities of the laboratory at Hollymoor, will be charged at the same rate. Under the supervision of the honorary director an investigation into the action of tryparsamide in early general paralysis is being made. The drug has been supplied to Sir Frederick Mott from the Rockefeller Institute through the Medical Research Council, and has so far been used in six patients. The utility of bismoxyl, supplied by Professor Levaditi of the Pasteur Institute, Paris, is also being tested. Similar inquiries are being carried out at the Maudsley Hospital, and a report will be furnished to the Medical Research Council. Investigations have been instituted to ascertain along clinical and pathological lines the extent of the existence of chronic septic foci in cases of mental disorder. Considerable assistance has been obtained on the clinical side by the special radiographic, dental, gynæcological, and ear nose and throat departments which have been recently established by the Asylums Committee, and much work has been done in the Research Department laboratories in determining the character of the infections and their relation to morbid processes in other tissues. A preliminary communication on the results of the radiography of the bony structures of the head, revealing evidence in some cases of deep bony infections associated with the jaws and nasal passages, was submitted to the Medico-Psychological Association in July, 1923, and was published in the *Journal of Mental Science*. This line of research is being continued. Recently the Birmingham Board of Guardians has become associated with the City and University of Birmingham in supporting the Research Board, and on behalf of its Monyhull Colony for Mental Defectives has made a contribution to the funds of the Board on which the guardians are represented.

A CANCER SERUM

A *Reuter's* telegram from Philadelphia, published in several newspapers last week, stated that the *North American* had printed an article, which it had withheld *for fifteen months* "*in the interests of science*," indicating that Dr. T. J. Glover, formerly of Toronto, had satisfied himself that cancer is due to a micro-organism, had isolated this organism, and had produced cancer in animals by its inoculation. It was further stated that during the past two years Dr. Glover had produced a serum, had used it in over 200 cases of cancer in every stage, and that in the majority favourable results were obtained, patients in some instances having been discharged free from all symptoms of disease. A little over three years ago (February 5th, 1921, p. 206) we published an annotation upon the claims then recently made by Dr. Glover to the effect that he had prepared a serum capable of curing or checking cancer. The Toronto Academy of Medicine appointed a committee in October, 1920, which reported on January 13th, 1921. It stated that Dr. Glover had refused to permit its representatives to visit his laboratories or to allow the committee to examine his cultures and experimental material. He did not accede to a request to demonstrate his ability to cultivate cancer cells and organisms, to produce cancer by inoculation, or to immunize animals. The committee therefore could obtain no evidence on the experimental side to substantiate Dr. Glover's claims. The committee examined a number of cases treated by Dr. Glover's methods including twelve of fifteen selected by him. It failed to find evidence to warrant the hope that a specific cure for cancer had been discovered, or that a cure had been produced by the serum in any case definitely established as cancer. We are indebted to Mr. R. J. Willan, surgeon to the Royal Victoria Infirmary, Newcastle-on-Tyne, for some additional facts gathered during his recent visit to the United States. Mr. Willan was given information by a friend who had been a member of the staff of the Mayo Clinic about the case of a doctor (an *x* ray specialist) who developed an ulcer on the hand with enlargement of the axillary glands. Dr. W. J. Mayo advised cauterization of the ulcer and excision of the glands, but the patient submitted himself to Dr. Glover. Injections were given, the ulcer healed and the glands disappeared. The patient (Dr. Scott) went into partnership with Dr. Glover, and in October last they decided that the time had come when official trials should be made, and Mr. Willan's informant undertook to treat a number of cases, subject to the provisions that the Wassermann reaction must be negative and that a portion of the growth was examined microscopically and proved to be carcinoma. The information given to Mr. Willan was to the effect that it had been tried in 100 cases of surgically inoperable carcinoma, but that the

majority had died, the serum, however, was only given when the patient was more or less moribund In one case of inoperable carcinoma of the pinna with extension to the scalp, the pinna had sloughed off, but under treatment the ulcer healed In another case, a man with oesophageal obstruction and extreme emaciation, the ragged ulcer was seen with the oesophagoscope, but the patient became restive and a specimen could not be obtained for microscopic examination The constriction had produced absolute stenosis, and gastrostomy was performed The injection of Dr Glover's serum was begun some time later, and after a few weeks the patient asked if he might try to eat, for on the previous day he had vomited the contents of the stomach Examination with a fluoroscope after a bismuth meal satisfied the surgeon that all trace of oesophageal stricture had disappeared The patient gained 3 st in weight and the gastrostomy was allowed to heal up A third patient, aged 21 (sex not mentioned), was suffering from intestinal obstruction Just inside the anus was a hard fixed mass filling the pelvis A piece removed for microscopical examination proved to be carcinoma After treatment the mass and the stricture disappeared, and soft elastic tissue replaced the former site of growth It would appear that Mr Willan's informant was told that the treatment had been effective also in animals in whom carcinoma had been artificially produced No public demonstration of the organism alleged to be found has been made, but it has been stated that the curative serum is obtained from an inoculated horse We are indebted to Mr Willan for providing this information, but agree with what we understand to be his view—namely, that the claims made by Dr Glover and his colleague, Dr Scott, must be received with caution until a full disclosure is made

INTESTINAL STASIS

The subject of intestinal stasis in its clinical aspect was discussed in a clinical lecture by Sir Arbuthnot Lane in January last (p 142 of this JOURNAL), and its relation to cancer in an address published in the preceding October (p 745) The author returned to the subject in his Bolingbroke Lecture, dealing in this instance with the relation of intestinal stasis to disease in general He expounded the view that practically all chronic diseases are merely symptoms or manifestations of this condition The progressive mechanical obstruction which characterizes stasis leads to infection of the mucous lining of the colon and appendix, to distension of the duodenum and consequent ulceration, to spasm of the pylorus, pyloric gastric ulcer and carcinoma, to spasm of the lower end of the oesophagus, ulceration about the cardia, and carcinoma of the lower end of the oesophagus and cardiac portion of the stomach He expressed the opinion that ulceration and cancer may occur at the several seats of obstruction of the large bowel or "kinks," as he designates them In addition to these mechanical results, the effects of intestinal auto-intoxication are, he considers, of far-reaching importance, since the fouling of the blood supply necessarily results so that every tissue in the body must suffer and degenerate The thyroid gland, at first enlarging in the attempt to stimulate the several processes over which it has control usually succumbs under the influence of the poison, degenerates and wastes, or becomes affected by cysts and other monstrous formations The adrenal gland also, he holds, undergoes somewhat similar degenerative changes, indicated by a staining of the skin due to imperfect nutrition of this organ which produces a striking disfigurement of the person affected especially in those with dark hair Sir Arbuthnot Lane finds reason to believe that the sexual apparatus of the female is conspicuously affected, on account of the relatively short active life of these organs All the troubles of the breast, uterus, and ovaries are, in his opinion, consequent upon this defective nutrition The kidneys also suffer severely, since upon them falls the function of eliminating the toxins and organisms, leading to the development of Bright's disease in its various forms The most distressing results, however, of the poisoning which follows intestinal stasis are, it is said, those to be observed in the cerebro-spinal nervous system Among these mention is made of various forms of neuritis, and of mental depression of such intensity as to lead at times to suicide Epilepsy, the author considers, is practically always the result of auto-intoxication, and no cases react more satisfactorily to operation, especially in early life A considerable proportion of the cases of mania are also considered to be undoubtedly due to stasis Sir Arbuthnot Lane has had several very remarkable cases of the cure of mania when this has been clearly due to intestinal auto-intoxication, and reports have reached him from Dr Cotton of the New Jersey State Hospital to the effect that after appropriate operations on the intestine a large number of lunatics have been restored to health Dr Cotton has suggested to the managers of the hospital that the surgical ward should be named the Lane Ward

THE NEW D P H REGULATIONS

We find from inquiries which reach us that the new D P H regulations are not always being clearly understood It appears to have been suggested that an interval of not less than two years must elapse between the two parts of the examination That is not the case The whole of Part I must be passed before a candidate is admitted to Part II, but—subject, of course, to the arrangements of the diploma-granting body as to dates of examinations, and subject to the full curriculum of study having been completed—a candidate can sit for Part II so soon as he has passed Part I The two years' interval required is between admission to the *Medical Register* and to Part II of the D P H examination This is, in fact, the re-enactment of an obligation imposed by the University of Cambridge for its certificates in sanitary science before ever diplomas in public health were recognized by the General Medical Council Until the present year, when the new regulations came into force, no such rule existed for the registrable diploma, but in raising the whole standard of training for that purpose the Council adopted the old Cambridge requirement Its object, as explained in issuing the resolutions and rules, is "to provide opportunity for candidates for the Diploma or Degree in Sanitary Science, Public Health, or State Medicine, to pass from the state of pupilage to that of responsible practitioners, to give mature consideration to the obligations and duties involved in the work of the Public Health Service, and to acquire direct experience of medical work in a responsible capacity either in practice or in hospital or laboratory appointments The Council believe that, in the public interest, the time has arrived to adapt the Diploma to candidates who are seriously intending to take up public health work as a career" As regards the curriculum, it should perhaps be made clear that the Council does not require the whole of it to be taken before Part I of the examination The rule on that point is that "candidates may not be admitted to examination for Part I until after they have completed the prescribed courses of instruction in the subjects thereof" An identical rule applies to Part II Also, as already indicated, "a candidate must pass in all the subjects of Part I before being admitted to examination for Part II" Other questions which have been asked relate to possible candidates from the Dominions A candidate would be eligible for the final examination for the D P H two years after obtaining in a Dominion a qualification registrable here, but an unregistrable qualification would be of no avail Finally, an important point is

whether a duly qualified man could take the D P H curriculum elsewhere than in this country The answer would appear to depend on the facts of the individual case The Diploma in Public Health is intended to qualify for the work of a medical officer of health in this country If the training elsewhere were such as to meet this requirement it seems reasonable to believe that the curriculum would be accepted, but in application would have to be submitted to the General Medical Council Importance would attach to the practicability of obtaining training in the infectious diseases which prevail here It would suppose, for example, that public health work in Toronto or Montreal or Melbourne or Sydney would sufficiently resemble that of Britain to meet the Council's standard, but the safe course would be to make sure by inquiry before beginning the curriculum

THE SYMBOLISM OF THE GOLD HEADED CANE

In the current number of the *Annals of Medical History* Dr Isador H Coriat of Boston Mass discourses learnedly and pleasantly on the significance of the physician gold-headed cane The cane is historically linked up with the wig and the ring as a symbol of profound learning wisdom and power, and even further back with the caduceus of Mercury, the staff of Aesculapius and the mystic wands of magicians In our issue of May 3rd last (p 794) the confusion between the caduceus of Mercury and the Aesculapian staff was discussed and the distinction was pointed out Reference was made also to the question of symbolism As Dr Coriat remarks it is probable that few readers of William Macmichael's classic *The Gold-Headed Cane* are aware of the underlying symbolism of the gold headed cane, being content with the gossipy accounts of the medical and social life of the eighteenth and nineteenth centuries In the first place the cane was a charm and a potent instrument like a king's sceptre, with power over evil, in this case power over infection Before the time of Radcliffe, who struck out a new line in physicians canes, the head of the cane often of gold sometimes of silver, and in later times usually of ivory was hollowed out to contain ammonia or Marseilles vinegar—*le vinaigre des quatre voleurs*—which on entering the sick room the physician sniffed, through the perforations in the knob, as a sovereign remedy against all pestilences Thus the cane becomes linked up historically on the one hand with the elixir of life of the alchemists and symbolically on the other with the caduceus According to the tenets of alchemy, male activity is derived from gold female activity from silver, further gold was the symbol of the sun the all fertilizing divinity synonymous with Apollo and significantly Apollo was Aesculapius's father It has also been slyly suggested that the gold head of the cane had some reference to the bearer's reputed love of that metal Some believe that the Aesculapian staff denoted the perambulatory calling of the physician others that it had a phallic significance In course of time the magic wand of the sorcerer became the gold headed cane of the physician and as it passed from one bearer of it to his successor was a symbolic carrier of power over disease thus the gold-headed cane had as one of its purposes the encouragement of respect for the power of the doctor

OXFORD OPHTHALMOLOGICAL CONGRESS

THE fifteenth Oxford Ophthalmological Congress will be held, under the mastership of Sir Anderson Critchett Bt K C V O in the Department of Human Anatomy in the University Museum on Thursday Friday and Saturday July 3rd, 4th, and 5th Members will meet informally at dinner on the evening of July 2nd in the hall of Keble College, where the annual dinner of the congress will be held on the following evening The congress will be opened with a short address of welcome by the Master on the morning of July 3rd and this will be followed by a discussion to be opened by Dr F Landolt (Paris) and Dr F Thomson (Stirling), on the general principles of the treatment of divergent concomitant strabismus The annual general meeting will be held at the conclusion of the discussion In the afternoon there will be demonstrations in the Scientific and Commercial Museums, followed by tea in the gardens of University College On the morning of July 4th papers will be read by Dr Howard F Hansell (Philadelphia) and Dr Harry Friedenwald (Baltimore) The Doyne Memorial Lecture will be given by Dr T Harrison Butler (Birmingham) on "Focal illumination of the eye, with special reference to the clinical use of the Gullstrand slit-lamp" The address on the practical value of the slit lamp by Dr Butler published in our issue of May 31st with some striking illustrations,[1] will be fresh in the memory of readers, and we may recall that there will be a discussion on the microscopy of the living eye in the Section of Ophthalmology at the Annual Meeting of the British Medical Association at Bradford It will be opened by Dr Basil Graves and Dr Harrison Butler, the first named will deal with the physiological aspect the second with the pathological The Doyne Lecture at Oxford will be followed by a paper on preventive ophthalmology as an organized movement by Dr F Park Lewis (Buffalo) In the afternoon Dr Harrison Butler, assisted by Mr R J Coulter and Mr B Cridland, will give demonstrations with corneal microscopes and Gullstrand slit-lamps On the morning of July 5th Mr H H Joy, K C, will read a paper on ophthalmology from a legal aspect, dealing with the position of ophthalmic industrial diseases under the Workmen's Compensation Act, medical evidence in arbitration cases, and the duties of specialist medical referees in reference to the recent modifications of the Act Mr Joy will conclude by raising the question whether one attack of coal miners' nystagmus confers on the miner an increased susceptibility to the disease

VOLUNTARY HOSPITALS COMMISSION

A CONFERENCE between the Voluntary Hospitals Commission and the Local Voluntary Hospital Committees was held on June 18th in the conference chamber of the Ministry of Health, and lasted the whole day The question of hospital accommodation and other matters affecting the voluntary hospital system were discussed. The conference was fixed for that date in view of the presence in London of many persons interested in hospital management in connexion with the fourteenth conference of the British Hospitals Association which opened on the following day A report of both conferences will appear in our next issue

PUBLIC HEALTH ADMINISTRATION IN KENYA.

KENYA Colony and Protectorate has an area of some 245,000 square miles north and south of the equator It is bounded on the east by the Indian Ocean and Italian Somaliland, on the north by Abyssinia on the west by the Victoria Nyanza and the Uganda Protectorate, and on the south by the Tanganyika Territory The country presents the greatest variations in climate and altitude, its name is taken from the highest peak, Mount Kenya (17,040 feet) The inhabitants belong to three main groups (1) native Africans of Bantu or Nilotic origin, (2) tribes of Hamitic origin—Somalis, Gallas, and Masai, (3) members of trading or invading races—Europeans, Arabs and Indians The estimated total population is about 2 500,000 the non-native census on April 1st, 1921 gave a total of 40 633 inhabitants, including 22,822 Indians, 10,102 Arabs and 9 651 Europeans A growing urban population lives in numerous townships, of which Nairobi and Mombasa are

[1] BRITISH MEDICAL JOURNAL, May 31st, 1924, p 965.

the largest Much of the vast area of Kenya is pasture land or barren waste, relieved by large tracts of great natural fertility on the coast as well as in the interior

The Public Health Ordinance

The Public Health Ordinance, 1921, was a landmark in the development of public health administration in East Africa This ordinance was largely founded on the Public Health Act of the Union of South Africa, 1919, so modified as to be adapted to the different conditions pertaining in a part of Africa where the population is preponderantly native and where local self-government is still in an early stage of development The ordinance set up a medical department under the control of the principal medical officer, with the following functions

"To prevent and guard against the introduction of infectious diseases into the Colony and Protectorate from outside, to promote the public health and the prevention, limitation, or suppression of infectious, communicable, or preventable diseases within the Colony and Protectorate, to advise and direct local authorities in regard to matters affecting the public health, to promote or carry out researches and investigations in connexion with the prevention or treatment of human diseases, to prepare and publish reports and statistical or other information relative to the public health, and generally to carry out in accordance with directions the powers and duties in relation to the public health conferred or imposed by this ordinance'

Under this ordinance a Central Board of Health was set up, with the principal medical officer as chairman, the function of this board is to advise the Government on any matter affecting the public health Further, the ordinance established a network of local organizations for safeguarding the health of the population

The spirit underlying the Kenya Public Health Ordinance has been clearly indicated by the principal medical officer, Dr J L Gilks, in his annual medical report for 1921 The intention was that the medical department as a whole should be "no longer considered merely as an organization maintained by Government to facilitate administration by maintaining the personnel of the executive in health, but as a department of Government responsible for the carrying out of one of the most important functions for which Government itself is established—namely, the maintenance in health of the general population of the country and the improvement of the conditions under which that population lives' The medical department has become, in fact, a department of health

We have before us also, Dr Gilks's report for 1922 Both documents contain a great deal of information, partly in narrative form and partly in tables, with each is bound up the annual report of the Government Bacteriological Laboratory prepared by Dr W H Kauntze, the senior bacteriologist The two annual reports give a comprehensive account of the work of the medical department, and of the problems under investigation Within their pages are to be found detailed records of research in many directions much comment on health policy, fully documented accounts of such matters as antiplague measures with special reference to rat distribution and destruction, and a summary of new work in connexion with the health of the native reserves In the section on yaws, which forms one of the features of the 1922 report we observe, that sodium potassium bismuth tartrate, the cost of which works out at about one tenth of a penny a dose, has been found at least as efficacious as novarsenobillon costing three shillings a dose and thus the problem of financing a treatment campaign on an extensive scale appears largely to have disappeared The dose of the bismuth preparation is 0·2 gram given intramuscularly in 2 c.cm of sterile water

Work of the Government Laboratory

Dr Kauntze gives a detailed account of the arrangements adopted for the preparation of calf lymph which is now carried out in a building separate from the main laboratory and devoted entirely to that purpose The lymph from all calves is now used for general issue, the former plan of reserving the best calves as stock for the vaccination of calves having been discarded, and the maintenance of activity by the strains is ensured by the passage through rabbits, usually after every third or fourth calf passage Sterilization of the lymph is effected by the chloroform process, which is found to give satisfaction, without appreciably affecting the activity of the lymph Lanolinated, in addition to glycerinated, lymph has been employed to a limited extent, but has not given such good results, its disadvantages are that the pulp cannot be sterilized before the lanoline is added, that instead of extraneous organisms dying out, as in glycerinated lymph, some species rapidly increase, and that the lymph has to be put up in bulk, necessitating the objectionable practice of vaccination from lymph squeezed from a collapsible tube One case of generalized vaccinia is recorded in an Indian girl of 16 months The eruption, which appeared on the fourteenth day (about a week later than is usually the case), consisted of fourteen pocks situated on various parts of the body and closely resembling those of ordinary vaccination, they disappeared on the twenty-fifth day without leaving scars The lymph used in the case was sterile and other vaccinations from it were normal, the child was, however, recovering from a serious illness

A routine differential leucocyte count has been instituted at the laboratory in all cases of pyrexia, in the hope of obtaining data which will be of value in diagnosis A great increase in the percentage of large mononuclears was found in all undoubted cases of malaria—that is, in cases in which the parasite was detected, but the number of these was too small to justify deductions as to the value of the blood counts Towards the close of 1922 dysentery of the bacillary type broke out at Nairobi in almost epidemic form A polyvalent vaccine, prepared according to the method adopted in the laboratory during the war, proved very effective, and the disease was well in hand at the close of the year It is interesting to note that bacillary dysentery seems to be particularly amenable to vaccine treatment in the colony, contrary to the observations recorded in other parts of the world

The success attending the substitution of sodium potassium bismuth tartrate for neosalvarsan in the treatment of yaws has been referred to already Attention was first drawn to this drug from its employment by the medical department in Tanganyika, and the method of preparation in use there has been modified by workers in the Chemical Research Department of the Kenya Colony The main difficulty involved in the process is to obtain a sufficient proportion of bismuth in the product, this should amount to at least 50 per cent, and the method by which Dr V H Kirkham, the director of the department, has overcome this difficulty is explained, and full directions are given for the preparation of the salt

Much attention has been devoted to the study of agglutination reactions in patients suffering from coli-typhoid group infections, and a number of cases are recorded showing the results of vaccination In discussing the question of titre, Dr Kauntze states that the highest titre met with was 1 in 800, but that agglutination at a dilution of 1 in 320 was fairly common, and organisms with different titres were not infrequently present together, so that the possibility of a multiple infection had to be considered He expresses doubt whether it is justifiable to reject low titre agglutinins and has adopted that of 1 in 80 as being significant and calling for vaccine therapy A record of 30 cases, with 16 complete recoveries, and 10 cases showing great improvement, is given as evidence of the value of the vaccine used, other measures having failed in every case The conclusion is drawn that where organisms of the coli-typhoid group, agglutinating with the patient's serum in high dilution, can be isolated from the faeces, a vaccine containing such organisms will probably benefit the disease for which the patient seeks relief It would appear, however, that the primary intestinal lesion rarely disappears, for further courses of vaccine often have to be administered, and in several instances the organisms isolated have been found to differ from those originally present

The report concludes with a record of experiments relating to rat poisons and rat fleas Doubt is thrown on the value of rat viruses, and of the various poisons in use barium carbonate alone is considered to be effective

England and Wales.

FOOD POISONING AT WEMBLEY

A severe outbreak of food poisoning occurred at Wembley Exhibition on June 5th. Between 1 and 8 p.m. on that day 87 persons were admitted to the main ambulance station with vomiting, diarrhœa, abdominal pain and constitutional symptoms varying in severity. The first symptom supervened from one to three hours after partaking of a midday meal. Inquiries were at once made by Major General S. Cuce Moores, C.B., A.M.S., Director of Medical Services of the Exhibition, and his staff. It was ascertained that all the patients without exception had eaten veal and ham pie. The pies were at once withdrawn from the restaurants and samples were sent for bacterial investigation and report. Separate examinations are being carried out by the Exhibition authorities, the Ministry of Health and the caterers. The outbreak has also been investigated by Dr. Hancock of the Ministry of Health in consultation with the Director of Medical Services of the Exhibition. It is considered that local conditions played no part in causing the outbreak, the source of which must be sought for elsewhere. The clinical evidence points to a constitutional disorder due to the absorption of toxins or toxins present in the food before it was consumed and not to a bacterial infection of the intestine. The majority of the cases admitted to the main ambulance station were sent to their homes by car the same evening. Those who lived at a distance (nine in number) were sent by motor ambulance to the Willesden General Hospital that night and were discharged the next day.

EPIDEMIC TRACHOMA IN LONDON

There is an outbreak of trachoma in Poplar affecting not only school children but also infants below school age and some parents. The cases are severe and already some 120 children have been sent to the residential school at Swanley; thirty-five more are awaiting admission, and more cases are coming in. A rather disquieting aspect of the matter is that there has in some instances only just been time to stop affected children being taken to the fruit-picking areas. A notice has been published in the *London County Council Gazette* stating that the disease is thought to be of foreign origin, and that any child suffering from red or gummy eyes should be immediately taken to a doctor. It is pointed out that special care should be taken to prevent children using each other's towels or handkerchiefs or washing in the same basin. Suspected children are to be notified on Form 84, and should not attend school until a doctor's certificate has been obtained.

SIDMOUTH BRINE BATHS

The Sidmouth sea-water baths, lately modernized and re-equipped, were opened formally on June 11th. The ceremony was presided over by Colonel J. L. H. Balfour, and among those present were Sir Humphry Rolleston (*President of the Royal College of Physicians*), Sir Charles Ballance, Dr. Leonard Williams and other medical men from London and a large proportion of the local profession. The Sidmouth baths were established in 1895 and during the war they were largely used by military patients but after 1919 they were closed for financial reasons. Under the guidance of a committee formed last year funds were raised for the purpose of refitting the establishment and introducing new forms of treatment. The water for the baths is drawn from the English Channel on the incoming tide; it is used hot or cold and mixed with fresh water or undiluted. Most of the patients are suffering from one or other of the rheumatic and gouty group of diseases, and for these there are installed salt immersion baths of various kinds and the usual massage douches. The electrical outfit has been reorganized and enlarged and mechanical exercisers have been installed. *Plombieres* treatment is also given, and it is proposed to fit out a room where bronchitic patients may receive steam inhalations. After Colonel Balfour had welcomed the visiting members of the medical profession and Mrs. Balfour had declared the baths open Sir Humphry Rolleston in a brief speech congratulated Sidmouth on having undertaken the national duty of helping to make the spas of England worthy of their potential possibilities.

INQUESTS IN THE CITY OF LONDON

Dr. F. J. Waldo, coroner for the City of London, in his annual report for 1923 states that during the year he held inquests on eleven cases in which death was accelerated by the administration of anæsthetics—notably chloroform—in surgical operation. In two of these cases, both of children, death was caused by "delayed chloroform poisoning." Dr. Waldo states that certain suggestions which he made in a medical journal sixteen years ago and others made by a Home Office Departmental Committee two years later, with the object of lessening the number of these lamentable deaths, have not been carried out, save in the respect that practical and theoretical instruction in the administration of anæsthetics is now made an essential part of the medical curriculum. He believes that research work in connexion with anæsthetics is urgently needed to supplement the inquiries carried out in coroners' courts, and he pleads for the setting up by the Home Office of a small standing scientific committee for this purpose. Dr. Waldo's practice is to empanel a jury in all cases except those of natural death and out of his 493 inquests in 1923 a jury was dispensed with only in 56. The City coroner's court is singular in that it has authority, conferred by a private Act of Parliament passed in 1875, to inquire into cases of loss or injury by fire if the coroner is of opinion that some ground for inquiry exists, or if he is ordered to make such inquiry by the Lord Mayor, the Lord Chief Justice, or a Secretary of State. Dr. Waldo investigated the causes of 173 fires in the City during the year. It is satisfactory that not one of the verdicts recorded arson or incendiarism as the cause. He urges the need for a model set of regulations bearing upon defective electrical installations, and some of his practical directions with regard to fires and fire prevention are now being circulated by the City Corporation in the form of posters.

ROYAL SANITARY INSTITUTE CONGRESS AT LIVERPOOL

The thirty-fifth congress of the Royal Sanitary Institute will be held at Liverpool from July 14th to 19th. Already 500 delegates from 275 foreign and colonial Governments, home Government departments, county councils, boroughs, urban and rural district councils, port sanitary authorities, etc., have been appointed. The Marquess of Salisbury, K.G., P.C., G.C.V.O., C.B., president of the congress, will deliver his inaugural address on July 14th at 8.30 p.m. The local committee, under the chairmanship of the Lord Mayor, has in hand the arrangements for receiving and entertaining the delegates and members, who are expected to number over 1,000. The meetings of the congress will be held in the University and the Town Hall. The congress will have five sections: sanitary science, engineering and architecture, maternity and child welfare, personal and domestic hygiene, and industrial hygiene. There will be seven conferences of representatives of sanitary and of port sanitary authorities, of medical officers of health, of engineers and surveyors to sanitary authorities, of veterinary inspectors, of sanitary inspectors and of health visitors. Among the subjects to be discussed are cancer, diphtheria, ante-natal clinics, child welfare, dental and school medical work, clean milk, handling of food, meat inspection and training of inspectors, housing, regional surveys, arterial roads, town planning and water supply, industrial welfare, lighting of factories, and ship sanitation. The health exhibition will be on a larger scale than usual; exhibits representing all phases of municipal sanitation and domestic comfort will be shown. Visits have been arranged to works and institutions illustrative of the sanitary administration of Liverpool and district, to Widnes, Port Sunlight, Chester, and the Isle of Man.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL

The 107th annual report of the Royal Westminster Ophthalmic Hospital includes a reference to the granting to the institution of a royal charter of incorporation; the hospital thus becomes a legal entity and trustees and others are relieved of personal liability. As a result of generous

response to constant appeals for help the income received—although showing a slight decrease on that for 1922, being £8,691 in 1923, as compared with £8,823 in the previous year—was inadequate for the hospital's requirements No legacies were received during 1923 The total expenditure of the past year amounted to £8,315, an increase of over £600 on that of 1922, largely due to increased outlay on repairs, domestic charges, and on the expenses of the charter A considerable increase in the number of out-patients was recorded, there being 37,523 attendances in 1923 as compared with 35,479 in 1922 A slight decrease occurred in the number of patients admitted for operation or treatment owing to a longer period being required for the painting and cleaning of the wards Donations by patients, together with payments on behalf of patients by public authorities and approved societies, continue to be a very valuable asset to the hospital, amounting to £1,923 in 1923, as compared with £1,678 in 1922 The hospital has now acquired a corneal microscope and attachments, enabling greater precision in diagnosis to be obtained and facilitating investigation into ophthalmic disease Ophthalmological instruction of students and practitioners was continued during the year as in previous years

Scotland.

The History of Medicine Glasgow

Some time ago the Students' Representative Council urged the appointment of a lecturer in the history of medicine at Glasgow and suggested that he should give a short course of, say, twelve lectures during each winter session This suggestion was approved by the senatus of the University and forwarded to the University Court, which has now agreed to consider the proposal The University of Edinburgh instituted a lectureship on the history of medicine in 1907 Twenty lectures are delivered during the winter session The attendance is voluntary and free to students, of whom from 70 to 100 have attended the course each winter The lectures at Glasgow also would be voluntary and would be open to medical students and members of the medical profession The present lecturer at Edinburgh, Dr John D Comrie, during a recent visit to Canada and the United States, delivered an address to the Medical Historical Society of the Medical School of the Western University, on four generations of anatomy in Edinburgh He also gave two addresses before the Academy of Medicine in London, Ontario—one on nephritis, with special reference to a workable clinical classification and indications for treatment, and the other, illustrated by lantern slides, on scurvy

Edinburgh Hospital for Sick Children

The annual report of the Royal Edinburgh Hospital for Sick Children shows that during the year 1923 there were treated in the wards 2,547 patients (1,393 medical and 1,154 surgical as compared with 1,281 and 1,037 respectively in the previous year) The average daily number of patients in the hospital was 113, and the average duration of residence 17 days There had been 24 793 attendances by patients in the out-patient department, to whom 12,291 prescriptions had been dispensed, and on whom 1,896 minor surgical operations had been performed In the ear and throat department there were 926 new cases, and 875 attendances of old patients The managers had adopted a scheme to provide an anaesthetizing room and sterilizing room with access to the surgical theatre and had received the sanction of the Committee of the Red Cross Society to apply for this purpose a special sum of £3,000 given by that society for additions to the hospital As at other hospitals there is a considerable list of patients awaiting admission to the wards and the directors consider that, seeing the available accommodation in the wards is taxed to the utmost, it may be necessary in the future to consider an extension of the hospital Another proposed development is the establishment of a dental clinic which has been recommended by the medical staff The convalescent home at Gullane had continued to be a valuable auxiliary to the work of the hospital During the year 158 patients were admitted to it.

Treatment of Leprosy

An address entitled "Ridding the British Empire of Leprosy" was delivered by Sir Leonard Rogers, C I E, F R S, F R C S, F R C P, to the class of clinical medicine in the University of Edinburgh on June 13th, and was repeated the same afternoon at the City Chambers, Edinburgh, at a meeting held under the chairmanship of the Lord Provost The lecturer traced the history of the disease from the thirteenth century B C He stated that stringent and effective measures of segregation had at that time been practised in Egypt, India, and other places where the disease was rife It had been introduced into Greece by the armies of Darius, and early in the Christian era, with the increased intercourse that took place then between different races, it spread all over Europe An extraordinary diminution in the incidence of the disease occurred in the thirteenth and fourteenth centuries of the Christian era, due to the extremely strict segregation of lepers, who were at that time isolated in leper colonies, prevented from trade with healthy people, and from entering churches and bakehouses The internal or maculo-anaesthetic form was practically non-infectious, and it had been recognized recently in several centres that segregation of people suffering from this form of nerve leprosy was unnecessary The nodular form of leprosy, on the contrary was highly infectious, especially to children A careful study of the places where leprosy at present chiefly occurred suggested that there was a close connexion between its prevalence and the height of the rainfall Efficient segregation was of the greatest possible importance, but treatment with preparations of chaulmoogra oil was being gradually used more extensively and with success The oil itself was unpleasant to take and irritating, but either sodium chaulmoograte or esters of the fatty acids could be used for intravenous or hypodermic injection

Insured Persons in Edinburgh

A review of the work of the Insurance Committee for Edinburgh for the past three and a half years was given by Mr T J Addly, the chairman, at a meeting held last week The period covered the time since January 1st, 1921, when the boundaries of the city had been extended and the Insurance Committee for Leith had been absorbed The number of insured persons on the register of the Committee is 196,000, the number of doctors on the list 156, and of chemists 116 During the period a sum of over £245,965 had been paid to these doctors for attendance on the insured population Following on the principle that insured persons were entitled to all drugs or medicines required for their treatment, irrespective of cost, the Committee had recently removed the ban on proprietary preparations The practitioner was now permitted to prescribe these if he considered them necessary for treatment, although this did not extend to the prescribing of expensive proprietary preparations of which the composition was not disclosed, their only recommendation being extensive advertising Insulin had been provided since July, 1923, for twenty-two persons, the expenditure involved amounting to over £380 The expenditure on insulin throughout Scotland for insured persons from July, 1923, to February, 1924, had been £1,559 During the Committee's term of office fourteen complaints had been investigated by the Medical Service Subcommittee Of these eleven were made by insured persons and three by approved societies, and while nine had been held to be substantiated five were not upheld

Home Relief for Incurables

The Scottish Society for Home Relief for Incurables has been in existence for close on 120 years At the annual general meeting, held recently in Edinburgh, under the chairmanship of Lord Provost Sleigh, it was stated that relief was given to persons hopelessly disqualified for the affairs of life by disease or deformity The usual grant was £10, though this was very small, it meant a great deal to persons struggling with adverse conditions, and the Rev Dr Harry Millar, who seconded the adoption of the report, said that it might be sufficient to maintain a home which would otherwise break up The report showed that £4,000 had been distributed during last year, and that a further sum of £1,362 had been paid in grants of £16 each to persons suffering from cancer

EDINBURGH ROYAL INFIRMARY PAGEANT

At a meeting of the Edinburgh Royal Infirmary Board of Managers on June 2nd it was intimated that, as the result of the pageant held recently in aid of the institution a sum of £4 660 had been collected It was expected that certain auxiliary efforts would bring in £300 the exhibition of a cinematograph film £150, and that with the sum of £750 from outlying country districts the total raised by this effort would amount to about £5 800 this year, an advance on the last year's revenue from this source, which amounted to £4,694 The number of patients in hospital at the last return was 936, and the number of cases awaiting admission to the institution on June 1st was 1,735

Ireland.

MEDICO-PSYCHOLOGICAL ASSOCIATION

THE annual meeting of the Medico-Psychological Association of Great Britain and Ireland will be held at Belfast under the presidency of Dr M J Nolan in the first week of July On the afternoon of July 1st a paper will be read by Dr F R Martin on the reaction of the blood to the ingestion of protein in the psychoses On the following day after the transaction of the annual business Dr Calwell will read papers on the uncon cious and on a case of cerebral sanguineous cyst with mental symptoms following surgical relief The Lord Mayor will entertain the members attending the meeting at luncheon and afterwards Dr M J Nolan will deliver his presidential address Later a visit will be paid to the Purdysburn Villa Colony and in the evening the Vice-Chancellor and Medical Faculty of the Queen's University will hold a reception in the Examination Hall On Thursday July 3rd a paper will be read by Dr A T Hobbs of Toronto entitled A survey of American and Canadian opinion as to focal infections as causative factors in functional psychoses" Papers will also be read by Dr R Marshall (Ministry of Pensions Ulster Region) on encephalitis lethargica and by Professor C M Robertson on the question whether dementia praecox is a definite clinical entity The Ministry of Home Affairs Northern Ireland, will entertain the members of the Association at luncheon and in the afternoon Dr Chalmers Watson (Edinburgh) will read a paper on auto-infection in the etiology of acute and chronic mental disorders The annual dinner will be held in the evening On Friday July 4th, Sir Frederick Mott will speak on the thyroid gland in bodily and mental disease and Dr W R Dawson will describe the work of the Belfast War Hospital 1917 19 A visit will be paid to the Downpatrick Asylum in the afternoon On Saturday an excursion will be made to the mountains of Mourne

THE BELFAST MUNICIPAL SANATORIUM

Dr S H Stewart medical superintendent, has recently submitted his annual report on the Belfast Municipal Sanatorium to the Tuberculosis Committee of the Corporation Extensive alterations have been carried out and accommodation is now provided for 265 patients Of the 446 patients admitted during the year 58 died and 386 were discharged Of those who died 71 5 per cent had a negative family history Dr Stewart mentions his lung splint and its employment in cases that had not done well in the sanatorium before its use The report which gives evidence of much careful discrimination, states that of the patients treated during the year 80 pulmonary and 10 non pulmonary cases were apparently cured and many of them would probably be able to undertake work He is also very emphatic as to the necessity of separating the advanced cases and of reserving the sanatorium for the early cases Many will not agree with his suggestion that the advanced cases should be nursed at home, and allowed to die quietly among their friends no one will find fault with the truly humanitarian spirit of the latter part of this recommendation, but everyone knows the utterly lax way in which sputum disinfection and general isolation are carried out when the nurse's back is turned He advocates the erection of houses with a special room for the dying cases, but it is questionable whether this will prove practicable

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Factories Bill (1924)

A MEMORANDUM has been issued by the Home Office showing in detail the extent to which the bill differs from the existing law This tabulated statement is preceded by the following summary statement

The bill abolishes the distinction which exists in the present law between factories and workshops and between textile and non textile factories and employs only the one term factories , and except where otherwise expressly provided, the provisions of the bill apply indifferently to factories of all descriptions

Under the existing Acts the provisions relating to the sanitary condition of workshops cleanliness overcrowding ventilation, and the drainage of floors are enforced in the first instance by the local sanitary authorities and not by the factory inspectors (as in factories) and the provisions as to sanitary conveniences both in factories and in workshops, are, in London and in any place where s. 22 of the Public Health Acts (Amendment) Act, 1890, is in force, also enforced by the sanitary authorities

Under the bill all the corresponding provisions are enforceable by the factory inspectors, except that in any factory in which mechanical power is not used and which forms part of a dwelling house or shop, or is adjacent to a dwelling house or shop under the same occupation, the provisions are to be enforced by the sanitary authority and in the case of any other factory in which mechanical power is not used the Secretary of State may make arrangements for the enforcement of the provisions by the sanitary authority instead of by the factory inspector

These alterations are of general application The other alterations are alterations of particular provisions, and are indicated in a table [appended], in which, however, only alterations of substance are noted A number of the provisions in the bill which are indicated in the table as new correspond to or are based on provisions which are already in force in particular industries under statutory regulations or orders made in pursuance of powers given by the existing Acts, references to such provisions have been inserted in the table as far as possible

Therapeutic Substances Bill

The Therapeutic Substances Bill which has passed all it stages in the House of Lords, is now before the House of Commons When the measure is taken in Committee Dr Spero will propose that a representative of the British Medical Association shall be included on the Advisory Committee which, as the bill left the Upper House will consist of one member appointed by the Minister of Health, one by the Scottish Board of Health, one by the Minister of Home Affairs for Northern Ireland, one by the Medical Research Council one by the General Medical Council one by the Pharmaceutical Society of Great Britain and one by the Council of the Institute of Chemistry of Great Britain and Ireland It is felt that there is a strong case for obtaining also the aid of a representative of practical medicine in the work of setting up suitable standards and in supervising the testing of substances

Indian Medical Service.—Sir Charles Yate on June 16th asked whether considering the disastrous effects in Mesopotamia of the retrenchment in hospital establishment in the Indian Army carried out during pre-war days the India Office was prepared to sanction the proposed reduction of 1 957 beds in British and 2 041 beds in Indian station hospitals of fifteen officers of the Indian Medical Service and sixty assistant surgeons Mr Richards said that these reductions had been or were in process of being carried ut with the sanction of the Secretary for India They were partly due to *reductions of combatant strength* and *in any case would not* seriously affect the improvement introduced since the experience of Mesopotamia Sir Charles Yate asked whether it was considered safe to effect these reductions at the present time Mr Richards replied that it was In reply to Mr Hope Simpson the Minister said that a reduction of ninety two assistant surgeons had been sanctioned including thirty two who were in excess of the establishment but it was not known how many were demobilized in the year 1923-24 Certain representations on this and other matters relating to the Anglo-Indian community had been received and transmitted to the Government of India As in the case of other services retirements were being carried out on favourable terms but he could not hold out hope of any exceptional measures in the case of this department to mitigate the hardship involved in the reductions Mr Simpson inquired whether an official inquiry into the whole matter had been asked for Mr Richards said that certain representations had been received The Secretary for India awaited the views of the Government of India before deciding on the request for an inquiry Sir Henry Craik asked whether the Minister was aware that recruiting would become almost impossible. Mr Richards said that it would be very difficult

Correspondence.

LACK OF EXERCISE AS A DETERMINING FACTOR IN BERI-BERI

SIR,—I wonder if Dr Blacklock's interesting observation (June 14th, p 1046), that exercise is to some extent preventive of beri-beri, can be related to the observation by Braddon and Cooper that the amount of vitamin B necessary to protect birds from polyneuritis is proportional to their ration of carbohydrate starved birds do not develop the disease, as Funk pointed out, and the more rice they have the more vitamin they need Exercise is in one sense equivalent to a reduction in diet, and the implication is that it is that part of the carbohydrate metabolism which is not immediately concerned with the production of external work which needs regulating by vitamin B

Lind held that confinement in close restricted quarters was an important contributory cause of scurvy, and there is a good deal of rather indefinite evidence that muscular activity is antagonistic to the development of rickets, which, as Mellanby points out, is promoted by an excess of some cereal foods Are these merely examples of the partial prevention of the obvious visible signs of the diseases in question by keeping general metabolism and growth at a low level, or do they give some of the explanation of the value of exercise in human experience by showing that the body gets along best and needs least vitamin if the food is used up straight away in the production of work?—I am, etc,

A E BOYCOTT

University College Hospital,
June 16th

DERMATITIS PRODUCED BY CHINESE LACQUER

SIR,—Living as I do in one of the centres of the Chinese lacquer industry, your note on Mah Jongg (March 15th, p 506) is of considerable interest The famous Ningpo varnish—the sap of *Rhus vernicifera*, used in lacquering boxes, tea pots, and various ornaments—is a potent source of trouble to foreigners here It is also frequently used as an extra fine varnish for the floors, windows, and woodwork of our houses and as a rule we view it with considerable distrust in its damp condition, as even a small smear of the varnish on the skin causes within twenty-four hours an intense erythema, itching, and finally oedema and vesiculation Until a considerable time has elapsed after its application it is unsafe to use it, or to come in close contact with the varnished object My latest patient—a foreigner—is a good example of this His desk had been revarnished, and after some days, when the surface was apparently dry, he began to use it again It was not long before his right wrist where it rested against the surface of the desk, became red and itching The erythema spread and the affected area became intensely oedematous, and then vesiculated finally bullæ appeared There was intense itching and some pain Of all the various remedies sodium hypophosphite 1 in 8 and black wash seemed to give most relief The bullæ gradually dried up, the erythema and oedema healed and itching stopped and now, about three weeks later there is only a large patch of desquamation to remind the sufferer of his discomfort

Immunity is acquired The apprentices when first introduced to the varnish practically all react in a fashion similar to that above described, though usually to a lesser degree, as the days pass the irritation diminishes If, however, they cease to work with it for, say a month, and then resume work there is a slight reaction of the skin, passing off in a few days A few people are naturally immune, but I rather think it is a question of living in an atmosphere of varnish for the wife of one of our chief lacquer workers tells me that the lacquer varnish has no effect on her or her children

To appreciate the degree of immunity acquired one has only to watch the varnishers at work The lacquer is applied with a silk rag rolled up in the hand after being squeezed out of the sticky mass The local treatment here for lacquer dermatitis is "tea oil"—the oil expressed from the seed of *Thea sasanqua* it certainly relieves the irritation The lacquer workers also use it every evening when their work is done to remove every trace of the varnish from their hands and arms

Except to those very highly susceptible, exposure of the lacquer boxes to the air for a week or two removes danger of dermatitis The exported boxes have probably been packed as soon as the surface was dry and had not been sufficiently exposed to the air to allow of the slow absorption of oxygen to take place, which, by the best authorities, is attributed to an obscure chemical reaction depending on the presence of a compound of manganese with a protein-like substance—I am, etc,

CAROLINE LITTLE, M B, B Ch

Wesleyan Mission Liu Yang Hsien,
Hunan China April 30th.

INFANT DIETETICS

SIR,—A letter published in the JOURNAL on June 7th (p 1028) gives me the opportunity of correcting a mistake in the report of my British Medical Association Lecture on deficiency diseases, with special reference to rickets, which appeared in the BRITISH MEDICAL JOURNAL of May 24th Only one egg daily is included in the diet of the child of 5 months, and the infant of 3 months gets half an egg daily In both cases the egg is uncooked and mixed with the milk The diets given daily ought to be written

Child 3 Months Old	*Child 5 Months Old*
Milk 16 oz diluted with water 8 oz	Milk 25 oz.
Egg ½	Egg 1
Cod liver oil ½ drachm *bis in die*	Marmite 1 drachm
Orange juice ½ drachm *bis in die*	Cod liver oil 1 drachm *bis in die*
3 hourly feeds	Orange juice 1 drachm *bis in die*
	4 feeds during daytime
	1 feed early morning

—I am, etc,

EDWARD MELLANBY

The University Sheffield, June 11th

SIR,—Dr H C Cameron's criticism of Professor Mellanby's lecture is so interesting that it has driven me to re-read that lecture with even closer interest than I gave to its first perusal Reading it at first in my somewhat casual way I had not realized that Professor Mellanby prescribed five eggs a day for an infant aged 5 months I see now that his dietary, as drafted, might bear this interpretation, and it is conceivable that some person destitute of common sense might fail to make the necessary, and I think obvious, correction

Dr Cameron's letter, however, raises certain issues of much wider and deeper interest He twits Professor Mellanby with having only recently become a clinician, 'so recently that the disappointments of practice have not yet deprived him of that self-confidence which the successful control of experimental work rightly engenders' I do not know how long Professor Mellanby has been a clinician, nor do I care to know But if, as I quite agree with Dr Cameron, the successful control of experimental work, with its definite and measurable results, "rightly engenders" self-confidence, why should clinical experience lead to nothing but "disappointment"? Is it because the one is conducted on methods of accurate observation and inductive reasoning, and the other is too often mainly empiric? I do not, of course, refer to Dr Cameron's own work, and as a mere "administrator" I would ask this question with some diffidence, were it not that I have a hideous past as a very humble clinician In both capacities I have frequently witnessed a divorce between physiological theory and actual practice I have witnessed, for instance, the introduction of an emulsion of linseed oil as a food for babies by a medical man who commands the attention of multitudes I have learned that on questions of diet, whether for infants or adults, the public has frequently been subjected to the merest whims of individuals

The work of Mellanby and his colleagues in this research is almost the first sincere effort in my experience to put this business of diet on a safe foundation of *a priori* reasoning He has shown us how to control rickets, and how to avoid extravagant fads in that connexion He has given us the experimental proof that justifies the development of our ante-natal clinics, and demonstrated that the prevention of so-called "marasmus" is a matter of

providing the proper intrauterine environment by means of diet

The importance of this work is not fully recognized yet, mainly because it is being done without any display of bricks and mortar Mellanby's work is trickling through health visitors, medical officers, and other humble people, into back streets and courts in all our towns and cities, and in spite of overcrowding and deterioration in environmental condition, our death rates and infantile mortality rates continue to decrease

Dr Cameron rightly points out that the diets suggested by Professor Mellanby would require modification in the cases of infants suffering from epidemic diarrhoea or other acute disorders I quite agree, and I hope that when Professor Mellanby has finally cleared up the rickets business he will find time to guide us to a rational, as opposed to an empirical, treatment of infantile diarrhoea —I am, etc,

FRED P WYNNE
Medical Officer of Health Sheffield
June 13th. Professor of Public Health Sheffield University

HUMAN SPEECH

SIR —Sir Richard Paget's interesting lecture at the Royal Society (referred to in your issue of June 7th, p 1018) induces me to become reminiscent In the early sixties there lived in the north west district of London a patient of my father's of the name of Bell who had then arrived at conclusions very similar to those propounded at the lecture Mr Bell wrote a book entitled *Visible Speech* and proved therein that each consonant was the result of a separate and distinct gesture on the part of the oral and lingual muscles This led him to the study of 'lip-reading' in which he was a pioneer His son and he used to converse in the presence of certain friends through a glass panel let into the partition between two rooms

This same son, developing phthisical tendencies was by my father's advice sent to Canada and later on became known as Graham Bell of telephone fame It is interesting to note how the father's studies led to an epoch making discovery on the part of the son, the credit for which in my opinion, should be shared between them both —I am, etc,

London N W June 12th. W COODE ADAMS

THE LEFT-HANDED CHILD

SIR —At birth children are essentially ambidextrous indeed they are bilaterally synergic both arms are moved simultaneously for some days or even weeks after birth, and the same is true of the legs An infant generally kicks with both legs at once It can support itself in the standing position long before it can walk and before it has acquired that independent separate control of the two legs which is essential for walking I have often noticed that the child who is just beginning to learn to walk tries to jump—that is, it tries to move both legs simultaneously as it has been used to do when sitting or lying Moreover however perfectly the special movements of the limbs may be developed, some synergia remains throughout life in other words there are certain muscles or groups of muscles which continue to act bilaterally, this is especially true of the muscles of the thorax and abdomen, and to a less degree those of the face.

At the last London meeting of the International Medical Congress I exhibited a young man who showed synergia of the upper limbs He was quite unable to perform any movement, either active or passive of either hand without at the same time making a perfectly symmetrical movement of the other hand If flexion or extension of one finger were performed voluntarily and movement of the corresponding finger in the other hand were passively resisted it caused considerable pain in the muscle of the forearm The condition in this youth I termed "obligatory bimanual synergia" It was hereditary and was also associated with allochiria—a stimulus applied to any part of one upper limb being felt immediately and equally in the same spot in the contralateral limb Mirror writing was perfect He is gradually acquiring independent control of the arms and hands, but a vigorous movement of either hand is still accompanied with some amount of movement of the other hand This is an extreme instance of the persistence of the condition present at birth in all children

One of your correspondents refers to the association between left handedness and mental development Amongst about two thousand school children I have examined in order to estimate their mental development, I have met with many cases of left-handedness, and some few who are ambidextrous An individual is "left-handed" who prefers and tries to do with the left hand everything which the ordinary right-handed person does with the right hand An "ambidextrous" child prefers to do some manual acts (for example, writing) with the right hand, and others (for example, sewing, cutting, throwing) with the left hand In my experience there is a marked difference between the two types in their mental capacity

The truly left-handed child without exception, showed some degree of retardation in mental development, in some cases it amounted to actual feeble-mindedness On the other hand, the ambidextrous children were above the average in mental capacity, one girl being at the head of her class of about fifty Some of our eminent anatomists and surgeons are ambidextrous

It certainly seems easier for a left-handed child to learn to do expert acts with the right hand, than for a right-handed child to acquire manual dexterity with the left hand —I am, etc,

H DRINKWATER

Wrexham June 14th.

SIR —Dr Elder (June 14th p 1074) has made a valuable contribution to this discussion from the point of view of neurology I will with your permission offer a few comments from the modern psychological standpoint Incidentally it may be remarked that there should be no conflict between neurology and psychology, which are complementary branches of scientific study, both of which are necessary

My interest in the left handed problem has arisen from my inquiries into what I have called the "Inman hypothesis," which I described shortly in my contribution to the discussion following Dr Hector Cameron's paper on the nervous child, at Portsmouth which was published in the JOURNAL of November 24th, 1923 I have more recently published a further contribution entitled 'Squint and the child mind," which was a paper read at a conference of school medical officers of the Herts County Council (*The Child*, January 1924) In these it is clear that we regard squint, left-handedness, and stammering as habits associated with some disorder of mentality, and that these are related to similar phenomena in members of the same family

Those who will take the trouble to follow up the clue which Inman has given us, which I have supported, and will first make themselves acquainted with the contributions which we have each made on this subject, will be able to satisfy themselves as to the value of this hypothesis

If, then, it is found that left-handedness, in common with squint and stammering is due to a temperamental difficulty, as scientific workers we must set ourselves to deal with the cause rather than the effect

How important this may be is illustrated from the following extract from a daily paper which was recently sent to me

> There are 239 left handed children in Hornsey elementary schools and because the condition of left handedness is found to be prejudicial in after life the teachers are to make a serious attempt to train the children affected to use the right hand

I wonder how they will set about this task Many cases are known in which the compelling of left-handed children to use the right hand has led to stammering It would be interesting to know the result of this experiment

The remedying of these defects is a difficult matter, but caution is needed and the subject should be considered in the light of all possible branches of child study —I am, etc,

London E.C June 14th. CHARLES F HARFORD

THE CAUSATION OF CANCER

SIR —A considerable correspondence in your columns shows the renewed interest which is being taken in the possible parasitic nature of cancer

The strongest argument against the existence of a multiplicity of immediate excitant causes of this disease (tar soot, irritation, etc), the view which Dr Archibald Leitch

seems to advocate, would be the discovery of a specific organism obtainable from all classes of cancerous growths Dr James Young of Edinburgh claims to have isolated such an organism with considerable constancy

Working along the lines indicated by him we have succeeded in obtaining from cancerous growths, removed at operation, an organism similar to that which he has described That there is a relationship between this organism and carcinoma is suggested by the definite focal and general reactions we have now noted in a large number of cases treated with vaccines prepared from it In those cases, mainly inoperable, or where surgical removal of the tumour had been incomplete, the focal reaction in the form of increased pain, redness, swelling, and increased discharge is pronounced, and has been followed by varying degrees of diminution of the tumour mass The general reaction, as evidenced by improvement of appetite, and increase in weight in particular, has been a constant and noted feature of the treatment

Vaccines of the ordinary pyogenic organisms in control cases have not produced similar reactions

Although our results do not yet allow a final decision on the question of ultimate cure, they are so consistent as to furnish a clinical argument of considerable weight in favour of the specificity of this organism —We are, etc ,

ARTHUR B SMITH, M B , Ch B Edin ,
SYDNEY M SMITH, M B , Ch B Edin ,
June 11th *Addenbrooke's Hospital Cambridge*

SIR,—I can assure Dr Leitch that I have reflected carefully on the characteristics of the various malignant tumours enumerated by him, and still maintain that they all can be due only to a single specific agent Their onset and termination are identical In each case the disease begins imperceptibly at one definite point The termination in each is fatal The course in each, although varying in duration and influenced by environment, is the same The nature, or essential quality, of the disease is identical in them all

It is impossible for a specific disease such as cancer is, whose specificity is proved by its transmissibility, to be produced by any mechanical means, and tuberculosis was never produced by any amount of exposure to wet and cold or to trauma Such alleged "proximate causes" are only predisponents inasmuch as they produce the *status antecedens* of vulnerability to their specific disease-causing agents the *x* agent of cancer and the tubercle bacillus Nor do I for a moment admit the possibility of epithelioma, adenocarcinoma and sarcoma having been ever produced *propter* experimental irritation, although they may well have occurred *post* such irritation They can only have arisen from direct attack by the *x* agent of cancer, such attack being rendered possible by the vulnerability induced by the irritation With regard to vaccination, no amount of irritation of the skin can produce cow-pox unless the lymph containing the specific agent is applied, and without inoculation the application of vaccine lymph would prove nugatory

It is a favourite argument with the opponents of the specific origin of cancer that because there are so many different kinds of malignant growths, therefore they must all be caused by a single specific agent There is indeed a great variety of neoplasms but this is solely and entirely due to the anatomical diversity of the tissues in which they occur The nature of the disease is the same in all There is therefore no reason for supposing that a different agent is necessary for each variety of malignant growth Electricity for example, is used for a great variety of purposes but it does not differ in each case, it is always the same element and as little is known as to what it is as is known of the *x* agent responsible for cancer

I am no admirer of the attitude of the "open mind" since it savours too much of Gallionesque indifference, but if ever strict impartiality was desirable it is specially called for in the case of those who are engaged in cancer research work to whom the eyes of all are turned No prejudice should be exhibited The exogenesis of cancer ought not to be repudiated nor its specific nature and origin denied, as they are They have never been disproved since they cannot be They are facts which will sooner or later be vindicated —I am, etc ,

A T BRAND, M D , C M, V D
Driffield, E Yorks, June 14th.

MEMORIAL TO THE LATE PROFESSOR PETER THOMPSON

SIR,—A movement has recently been initiated among the students of the late Professor Peter Thompson to provide some memorial in the University of Birmingham of his work as Professor of Anatomy from 1909 to 1921 It has naturally been suggested that his many friends and old pupils in Manchester and London would be glad of an opportunity of helping in this movement to keep his memory green

A General Committee has been formed to forward the scheme and it is proposed to raise a fund to be called the "Peter Thompson Memorial Fund" The ultimate decision as to the form the memorial should take will no doubt depend on the amount which is subscribed, but the general feeling appears to be that the foundation of an annual prize in anatomy would be appropriate

A circular letter has been sent out, but we feel that many who would like to contribute to this fund may have been overlooked Subscriptions should be sent to either of the secretaries of the fund, and cheques made payable to the "Peter Thompson Memorial Fund" and crossed Lloyds Bank —We are, etc ,

JAMES C BRASH, *Chairman*
LEONARD G PARSONS,
52, Newhall Street Birmingham.
HILDA N SHUFFLEBOTHAM,
41, Newhall Street, Birmingham
June 13th. *Honorary Secretaries and Treasurers*

TREATMENT OF FIBROIDS OF THE UTERUS

SIR,—In Mr Cuthbert Lockyer's paper (June 14th, p 1037) there is one error I should like to correct He says that the Birmingham school advocates "routine castration during hysterectomy for fibroid"

Speaking for myself and my colleagues at the Women's Hospital, Sparkhill, Birmingham, I may say that we neither advocate nor practise such castration Whenever possible one or both ovaries are conserved —I am, etc ,

Birmingham, June 16th. J FURNEAUX JORDAN

LYMPHATICOSTOMY IN PERITONITIS

SIR,—Mr Arthur Cooke's short article on "Lymphaticostomy in peritonitis" (June 14th, p 1048) has interested me very much, as I have twice performed that operation since Costain's article appeared in *Surgery, Gynecology, and Obstetrics*

I can corroborate Mr Cooke's comment that the duct is difficult to find, at any rate the first time one performed this operation In my first case I took a long time to find it, for though in a few minutes it was duly exposed to my view, owing to the duct being "more delicate and thinner than one expects" I rejected it, believing it to be a vein, and only opening it when further dissection had failed to demonstrate the duct

In both my cases I have had difficulty in inserting and retaining in position in the duct the strip of rubber tissue which Costain recommends Messrs Down Bros have made for me a silver cannula, three inches long, and of six millimetres gauge The end for insertion into the duct is slightly expanded, and is acorn-shaped, while the other end is much more expanded and is barrel-shaped to enable a fine rubber tube to be attached Since receiving this cannula I have not had occasion to perform this operation, but I have tested it, and find that by cutting a small tongue-shaped flap in the wall of the duct with a fine pair of sharp-pointed scissors it is easy to introduce the acorn shaped tip into the duct and retain it in position by a fine catgut ligature passed round the duct The cannula is made of silver to permit its being bent as required to bring it out at the angle of the wound without distortion of the underlying structures —I am, etc ,

Bradford, June 14th. COLIN MACKENZIE

SIMMINS APPEAL FUND

SIR,—Herewith we have pleasure in enclosing the final list of donations to this fund, which has reached the very gratifying total of £1,315 0s 4d and is now closed.

The Committee which was formed to raise the appeal held several meetings and carefully discussed how best the money subscribed could be utilized. It was unanimously resolved that the interests of the children would be best served by spending the money entirely upon their education. A capital sum of £1,250 was accordingly paid to the Commercial Union Assurance Co. in return for which a series of policies for each of the two children has been issued, whereby for a period of ten years each child will receive a sum of £85 12s 6d per annum from the time it reaches the age of 9 years. After negotiations with the Royal Medical Benevolent Fund and with the kind co-operation of the Honorary Secretary, Dr. Newton Pitt, who has keenly interested himself in the matter, the Committee is happy to report that the Royal Medical Benevolent Fund has agreed to administer, in conjunction with Dr. Nabarro, the moneys payable under the said policies and to apply the same as and when received, for the education of the children. It is fortunate for the children that the Royal Medical Benevolent Fund is thus interested in them, because the members of the Ladies' Guild will no doubt also help the relatives to look after their well being. Of the balance of the money collected—namely, £65 6s 4d—the sum of £3 3s has been paid in connexion with the legal expenses incurred by the Royal Medical Benevolent Fund, leaving a sum of £62 3s 4d., which has been handed over to the relatives.

In conclusion we should like to add that we are very grateful to all those ladies and gentlemen both in and out of the profession, who have so kindly interested themselves in the case, either by contributing to the fund or by their offers of adoption. In particular we would thank Mr. Herbert Semon and Mr. James Stobart who were able to secure for the fund no less a sum than £106 14s and £31 15s from members of the Stock Exchange and Lloyd's respectively. Mention should also be made of the generous donations received from the past and present members of Dr. Simmins's old schools at Guy's and Westminster. Our thanks are also due to you, Sir, for the generous manner in which you have given your valuable space to our correspondence, for without your co-operation the necessary publicity could not have been given to this deserving case.

Finally, we are of opinion that the case illustrates forcibly the importance of young practitioners making some provision for their dependants in the event of death by joining some society such as the Royal Medical Benevolent Fund or the Society for the Relief of Widows and Orphans of Medical Men. A reminder to this effect in your JOURNAL perhaps in the Educational Number each year, might be opportune.—We are, etc.,

W. HALE WHITE, *Chairman*,
H. C. SEMON, *Treasurer*,
DAVID NABARRO, *Secretary*,
of the Appeal Committee.

London, W.1, June 16th.

Final List of Subscriptions to the Simmins Appeal Fund

	£	s.	d.
Anon. (Amara, Mesopotamia)	10	0	0
H. R. Leach	10	0	0
J. B. Smith	3	3	0
Dr. Petrie	2	12	6
Cash	2	2	0
J. B. Russell	1	1	0

The Services

INDIAN MEDICAL SERVICE.

THE following have been appointed honorary physicians to the King: Colonel H. J. K. Bamfield, D.S.O., vice Major-General Sir Courtenay C. Manifold, K.C.B., C.M.G. (ret.); Colonel J. H. McDonald, vice Major-General C. H. Bowle Evans, C.M.G., C.B.E. (ret.); Lieut.-Colonel A. Hooton, C.I.E., vice Major-General W. E. Jennings (ret.).

The following have been appointed honorary surgeons to the King: Colonel F. Wall, C.M.G., vice Colonel W. G. Pridmore, C.M.G. (ret.); Colonel P. Dee, vice Colonel H. A. Smith, C.I.E. (ret.); Major-General T. H. Symons, C.B.E., vice Major-General Sir Gerald G. Giffard, K.C.I.E., C.S.I. (ret.).

KURDISTAN OPERATIONS

MENTIONS IN DISPATCHES.

THE names of the following officers of the Royal Army Medical Corps have been brought to notice for distinguished service rendered during the operations in Kurdistan February 15th to June 19th, 1923, by Air Marshal Sir John Maitland Salmond, commanding British Forces in Iraq, in a dispatch dated June 21st, 1923: Lieut.-Colonel H. S. Roch, C.M.G., C.B.E., D.S.O., and Captain E. H. W. Elkington.

DEATHS IN THE SERVICES

Deputy Inspector-General Archibald Mckinlay, R.N. (ret.), died suddenly at Southsea on May 17th. He was educated in the School of the Royal College of Surgeons in Ireland and took the L.R.C.S.I. in 1872 and the L.K.Q.C.P. in 1873. He entered the navy as surgeon in March 1874 and in the following January was appointed to H.M.S. *Nymphe* on the Australian station. In 1880 he joined the gunboat *Mosquito* then in China and in this vessel served in the Egyptian war of 1882, receiving the medal and the Khedive's bronze star. He became staff surgeon in 1886 and fleet surgeon in 1891, retiring in November 1905 with an honorary step as D.I.G. His latest post was that of senior medical officer at Sheerness Depot and Dockyard. During the late war he was engaged on prisoner-of-war work at Portsmouth.

Major Harry Stewart Hutchison, I.M.S. (ret.), died on March 24th, aged 40. He was born on May 8th, 1883, and was educated at Glasgow University, where he graduated B.Sc. in 1904, M.B. and Ch.B. in 1905, and M.D. with honours and a gold medal for his thesis in 1919. After serving as house-physician and house-surgeon in the Glasgow Western Infirmary he entered the I.M.S. in 1906, became major in 1917, and retired last July. He had held the post of professor of physiology and hygiene in the Grant Medical College, Bombay.

Universities and Colleges

UNIVERSITY OF OXFORD

CONVOCATION on June 3rd approved the reappointment of Dr. E. W. Ainley Walker, *Fellow of University College*, as Dean of the Medical School. On the motion of Sir Archibald Garrod, Regius professor of medicine, Congregation approved a proposal to lend £4,000 from the special reserve fund for the extension of the Department of Human Anatomy in order to house the Rolleston osteological collection and to provide laboratories for the instruction of students in physical anthropology.

UNIVERSITY OF CAMBRIDGE

AT a congregation held on June 13th the following medical degrees were conferred:

M.D.—A. G. G. Thompson, T. Brushfield, M.B., B. Swann, M.B., B.Ch.—J. C. Davies, N. Garrard.

Sir Jeremiah Colman's gift of £2,000 (announced at the opening ceremony on May 9th, 1924) for a library for the School of Biochemistry was gratefully accepted, and the Vice-Chancellor was asked to convey to the donor the thanks of the University. It was decided that of this amount £500 should be expended on the purchase of the existing library books, the balance being invested in trustee securities and kept intact, the income therefrom being devoted to the maintenance of the library and the provision of scientific journals and their binding, also that the gift be known as The Colman Library.

UNIVERSITY OF LONDON

Final Examination for M.B., B.S.

IN the list of successful candidates published on June 7th (p. 1034) the fact that the University medal was awarded to Dorothy Gibson, a student of the London Hospital, was accidentally omitted.

UNIVERSITY OF DUBLIN

DR. JOSEPH THEODORE WIGHAM, for many years assistant to the professor of pathology in the University of Dublin, has been appointed to succeed the late Professor O'Sullivan as professor of pathology in the University.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

AN ordinary Council meeting was held on June 12th, when the President, Sir John Bland-Sutton, was in the chair.

Professor Arthur Robinson, of Edinburgh, was introduced and admitted a Fellow of the College.

The late Professor Shattock.

The death of Professor S. G. Shattock at the age of 71 was reported, and a vote of condolence was passed in the following terms:

"The Council hereby express their regret at the death of Professor S. G. Shattock, and their sincere sympathy with Mrs. Shattock and the members of her family in their bereavement. In so doing the Council desire to place on record their high appreciation of Professor Shattock's services to the College as Pathological Curator of the Museum during twenty-seven years, and they believe that the great collection of pathological specimens to which he devoted such care and attention will stand as a lasting memorial of his skill and knowledge. His wide experience, sound judgement, and accuracy of observation made him pre-eminent as a surgical pathologist in this country, and his loss will be greatly felt, not only at this College, but also by many members of the profession who sought his advice and opinion.

Diploma of Fellowship

At the recent Final Fellowship Examination ninety six candidates presented themselves, of whom twenty four were approved Four of the successful candidates (Messrs A J Gardham, J P Hosford, L F O'Shaughnessy, and F H Scotson), not having yet attained the requisite age will receive the diploma at a later date The diploma was conferred upon the following twenty candidates

W S. Adams (Birmingham and London) E P Brockman (Cambridge and St Thomas's) D Chamberlain (Leeds) C A Horder (St Bartholomew's) P J Jory (St. Bartholomew's) C A King (Otago) R C B Ledlie (Guy's) R C D Macrae (Edinburgh and London) Ida C Mann (Royal Free and St Mary's) A E Park (Otago and London) V L Parmar (Bombay and Guy's) C V Patrick (Cambridge and St Thomas's) G H Pfeiffer (Sydney Middlesex and Guy's) Esther Rickards (St. Mary's) A Seddon (Liverpool and London) H G Taylor (Cambridge and St George's) A H C Vislick (St Bartholomew's) W R Williams (Liverpool), D F Wilson (Guy's)

Board of Examiners

The following were elected members of the Board of Examiners for the ensuing year for the Fellowship

Anatomy—W F Haslam W Wright F G Parsons W E Le Gros Clark *Physiology*—J Mellanby D de Souza Ffrangcon Roberts J B Leathes

The following were elected examiners under the Conjoint Examining Board in England for the ensuing year

Elementary Biology—T W Shore J P Hill *Anatomy*—D Hepburn H A Harris O S Hilliman *Physiology*—C A Lovatt Evans G A Buckmaster *Midwifery*—C H Roberts Lardley L Holland D W Roy H B Whitehouse *Diploma in Public Health*—R T Hewlett F J Stevens. *Diploma in Tropical Medicine and Hygiene (Bacteriology)*—H B G Newham (*Diseases and Hygiene of Tropics*)—G C Low *Diploma in Ophthalmic Medicine and Surgery*—Sir J H Parsons H W Lyle Malcolm L Hepburn *Diploma in Psychological Medicine*—Sir F Mott *Diploma in Laryngology and Otology*—H Tilley A H Cheatle H J Marriage

Appointment of Representatives

Sir Berkeley Moynihan was re elected to represent the College on the Court of Governors of the University of Sheffield

Sir D'Arcy Power was nominated as representative of the College on the Council of the Queen Victoria Jubilee Institute for Nurses

Presentation

The President reported that Miss Marshall had presented to the College a silver tea tray of the date 1798 in memory of her father, the late Mr John Marshall, President of the College in 1883

Obituary

RICHARD EMMETT, M D,

Portsmouth

We regret to announce the sudden death, on June 8th, of Dr Richard Emmett, a very well known and highly respected general practitioner of Portsmouth He had seen several patients on the morning of his death, and sat as a magistrate at the Portsmouth Police Court on the previous day

Richard Emmett was born at Plymouth in 1857, and, although he became part of the public life of Portsmouth, always kept a warm corner in his heart for his native county of Devon He studied medicine at St George's Hospital and obtained the M R C S, L R C P, and L S A diplomas in 1885, and soon afterwards began practice in North End, Portsmouth In 1901 he obtained the M D degree of Durham University Amidst his claims of a large practice Dr Emmett found time for public work in many directions For many years he was a member of Portsmouth Town Council and for five years a member of the board of guardians, he was made a justice of the peace for the borough in 1915 For over twenty years he held the office of medical officer to the local post office staff and was medical referee to the Portsmouth Corporation under the Workmen's Compensation Act In 1906 the Portsmouth Division of the British Medical Association elected him its chairman and he took an active part in the Annual Meetings of 1899 and 1923 When the war broke out he was a major in the Hants Fortress, R E, but shortly afterwards he was transferred to the R A M C (T F), with the rank of lieutenant-colonel and acted as senior medical officer in the Portsmouth district from 1914 to 1919 He was awarded the Territorial Decoration and retired with a disability pension For more than thirty years Dr Emmett was a leading figure in the political life of Portsmouth He had been president of the local Liberal Unionist Association, and on its amalgamation with the Conservative party he became deputy chairman of the new association

His elder son, Dr Roger Emmett who served with the rank of captain in the Territorial R E joined him in practice three years ago His younger son, Flight Sub-lieutenant C W Emmett, R N A S, was killed on active service in 1917 The funeral service, on June 12th, at St Stephen's Church, Buckland, was attended by a very large congregation, including the mayor and most of Dr Emmett's fellow magistrates, many of his professional colleagues, and representatives of public bodies Among the leading medical men present were Mr Charles P Childe, President of the British Medical Association, Dr Lockhart Stephens, honorary secretary and treasurer of the Southern Branch, the chairman (Dr Montague Way) and the honorary secretary (Dr Davis Taylor) of the Portsmouth Division

MR HAROLD BURROWS, C B E, F R C S, writes By the death of Richard Emmett Portsmouth has lost one of its representative medical practitioners Commencing practice there in 1885, Dr Emmett speedily found professional success and held numerous appointments But he never allowed his mind to be shut in by the daily routine of professional duty His was a wide and restless vision, an unobtrusive but sustained energy He was a part of the stream of life—not mere flotsam upon its surface His interests were numerous, and he neglected none with which his name might be connected As a committee man he was seldom an absentee and never a sheep Of necessity one of his nature cannot expect a long life Dr Emmett's death was the breakdown of a fine piece of machinery worn out by overmuch use, and the years that he has lost will show a debt which is owed to him by his fellow citizens As an example of Emmett's interest in local affairs may be mentioned an action of his in connexion with the Poor Law infirmary At one time there were no trained nurses in that institution, which suffered from other drawbacks Emmett resolved to make a start with some improvements He contested an election, was successful, and as a member of the board of guardians had the satisfaction of helping through several important reforms, including the provision of trained nurses, which have gone far to make a fine up-to-date hospital out of an old-fashioned workhouse infirmary For twenty years Emmett was a member of the Portsmouth Town Council, for a still longer period he was on the committee of management of the Royal Portsmouth Hospital He was a keen Territorial, and never missed a camp attendance Of all his external and non-professional interests, politics probably came first Latterly, in spite of repeated surgical attacks, which he bore with perfect philosophical resignation, Emmett continued his professional work, though much of the labour had been taken off his shoulders by his son, another St George's man, who had recently joined him in practice The sympathy of a large circle of friends will be extended to the widow, to "young doctor Emmett," and to the three daughters of the deceased

DR M ASTON KEY (Southsea) sends the following appreciation Dr Emmett's sudden death has removed one who will be much missed in many circles in Portsmouth and its neighbourhood I first met him some twenty-five years ago, and during the last two years of the war we worked together at a military hospital As a senior member of our profession, a magistrate, a councillor, a guardian, and a leading Conservative in Portsmouth, his career had given him a wide outlook in life, which, combined with a keen sense of humour, made him delightful to work with No one would have guessed from his cheery manner that he was enduring a long martyrdom of aural tinnitus, varying in degree but ever present A kindlier or more genial colleague one could never meet

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The death is announced, after a long illness, of Dr MATTHEW B SMITH of Stroud, at the early age of 37 He was educated at the University of Edinburgh, where he graduated B Sc in 1907 and M B, Ch B in 1909 Prior to the war he practised in Birmingham, where he held the post of medical officer to the Birmingham Union Infirmary, he removed to Stroud about five years ago, succeeding to the practice of the late Dr H M Crosby, which he greatly developed He was assistant honorary surgeon to the Stroud General Hospital Overwork and mental strain during the last epidemic of influenza in Stroud led to a breakdown in his health Dr Smith, who was a member of the Gloucestershire Branch of the British Medical Association, is survived by his widow and two young children

DR PATRICK BLACK who died in St Mary's Hospital, London on May 25th aged 43, was a grandson of Dr Patrick Black physician to St Bartholomew's Hospital, who succeeded Sir James Paget as warden of the College in 1851 From Rugby he went to Caius College Cambridge, and graduated B A in the Natural Sciences Tripos 1901 After studying medicine at St Bartholomew's Hospital he obtained the M R C S and L R C P diplomas in 1906, and became house-physician to Sir Norman Moore He held other junior posts at St Bartholomew's, and practised for a time near Surbiton Soon after the outbreak of the war he took a temporary commission in the R A M C and saw much active service on various fronts In 1920 the King of Serbia conferred on him the Order of St Sava fourth class Patrick Black was a man of unusual ability who for one reason or another never did himself justice, either in the examination room or in his profession As Sir Norman Moore wrote of his grandfather and namesake

He had considerable ability and power of observation, but in medicine and in other subjects found scepticism the best toolsome way out of difficult problems' A keen insight into character and a witty turn of phrase made him a most entertaining companion so much so that Patrick Black's sayings became household words in the mouths of his contemporaries He is remembered by many friends in many parts of the world as one of the outstanding personalities of their time

We note, with great regret the announcement of the death, on June 15th, of MISS RAY LANKESTER, at the age of 78 She was the eldest child of the late Dr Edwin Lankester F R S, coroner for Central Middlesex and the sister of Sir E Ray Lankester F R S She was the moving spirit in the National Health Society, of which she had been secretary for many year

Medical News.

H R H THE DUKE OF CONNAUGHT will distribute the prizes at St Thomas's Hospital Medical School on Friday next, June 27th, at 3 30 p m

A DINNER of the Cambridge Graduates Medical Club will be held on Friday, June 27th at 7 45 p m at Cambridge in the hall of Trinity College Last summer a most successful gathering was held at Caius College with the Master Sir H H Anderson, in the chair This year it is hoped that Sir Clifford Allbutt, Regius Professor of Physic, will take the chair The honorary secretaries of the club are Mr W H C Romanis 31, Harley Street, and Mr R M Vick 152 Harley Street, W 1 to whom communications should be sent Members are asked to arrange accommodation for the night for themselves in their own colleges

THE Fellowship of Medicine and Post Graduate Medical Association, while it has no fresh work to announce for the coming week draws the attention of post graduates to several courses arranged for July and August of which brief particulars were given in this column last week (p 1077) Copies of the syllabus of these courses and particulars regarding fees etc can be obtained from the secretary to the Fellowship of Medicine 1 Wimpole Street W 1

THE annual meeting of the Poor Law Medical Officers Association will be held at the house of the British Medical Association, 429 Strand on Thursday June 26th, at 3 p m, when Sir Arthur Newsholme, K C B, M D, will deliver his presidential address

THE Right Hon Edward Wood M P (sometime President of the Board of Education) will receive the new Fellows and the scholars, medallists and prizemen of University College, London, at an assembly of the College faculties on July 3rd, at 3 p m He will deliver an address and afterwards the students will give a concert in the botanical theatre The new anatomy and physiology buildings the engineering extension, the school of architecture the libraries museums, and laboratories, and Professor Petrie's exhibition of recent discoveries of the British School of Archaeology in Egypt will be open for inspection during the afternoon

THE Executive Committee of the Invalid Children's Aid Association has issued invitations to a garden party, to be held to-day (Saturday, June 21st), at 4 p m at its new Convalescent Home for Children suffering from rheumatic affections of the heart at Kurandal, Hartfield, Sussex Short speeches explaining the objects of the home will be given by Sir John Broadbent, Bt, M D, and Dr F J Poynton

AN annual prize of £50 and a medal given by Sir Robert Jones is offered by the British Orthopaedic Association for the best essay on a selected subject in orthopaedic surgery The prize is open to all members of the Orthopaedic Association The subject for 1924 is the diagnosis, treatment, and end results of tuberculous disease of the hip joint Essays must reach the honorary secretary, Mr R C Elmslie, 14, Portland Place, London, W 1 by December 31st 1924 The subject of the essay for 1925 is the classification and differential diagnosis of the different forms of arthritis Essays in competition for this must be received by December 31st, 1925

THE Minister of Health has suggested to the Home Secretary that midwives should be exempted from jury service and the Home Secretary has issued a letter to under sheriffs suggesting that as an administrative measure no woman should be summoned to serve on a jury who supplies evidence that she is a certified midwife and has given notice to the local supervising authority—namely, the county or county borough council—of her intention to practise as such The Home Secretary considers that the nature of the work done by certified midwives gives them a claim for special consideration higher than that of any other section of the community not already exempted by law from liability to jury service Legislation on the subject will be introduced as soon as a suitable opportunity presents itself

THE Anti Prohibition League will hold a congress in London on Tuesday and Wednesday next The Earl of Birkenhead will take the chair at the opening meeting at the Aeolian Hall, New Bond Street, at 11 a m on Tuesday, June 24th, and meetings of the sections—clerical, medical, and general—will be held in the afternoon Further particulars can be obtained from the secretary of the league, 35 Piccadilly, London, W 1

AT a largely attended conference of representatives from the various hospitals in Liverpool, held at the Town Hall on June 13th, a discussion took place on the question of establishing a scheme for public voluntary subscriptions to the hospitals of the city The Sheffield scheme was discussed, and a resolution was adopted unanimously expressing the opinion that some contributory scheme, with all necessary safeguards as regards the admission of those who are necessitous and require medical treatment would be of advantage to the voluntary hospitals The Lord Mayor was requested to take such steps as he considers desirable to carry out this resolution

THE Corporation of Harrogate has issued two pamphlets—one describing the various springs and baths the other illustrated by pencil sketches setting out the advantages of Harrogate as a residential and educational centre, and giving some account of excursions which may be made from it to various places of interest, including Fountains, Bolton, Byland and Rievaulx Abbeys During the Annual Meeting at Bradford members of the British Medical Association will have opportunities of visiting Harrogate and the surrounding country, and arrangements have been made for the accommodation of considerable numbers in hotels and boarding houses at Harrogate

ON the occasion of the seventh centenary of the University of Naples the leading Italian medical journal, *La Riforma Medica* devoted its issues of May 12th and 19th to the history of the University and medical school of Naples

THE first centenary of the medico-physical academy of Florence was celebrated on May 15th

A SPECIAL post graduate course in ophthalmology will be held at the Bristol Eye Hospital under the auspices of the University of Bristol, from Monday, June 23rd to Friday, June 27th, inclusive Lectures will be given at 10 a m. on each day and demonstrations of cases will commence at 2 30 p m The fee for the course is one guinea Applications should be addressed to the Director of Post Graduate Medical Studies Pathological Department, Bristol University

The University of Chicago has conferred the Rosenberg medal upon Dr Frederick G Banting of Toronto This medal is awarded annually by the university to the person conferring the greatest benefit upon humanity

THE fourth conference of the International Union against Tuberculosis will be held at Lausanne next August On August 5th Professor Calmette of Paris will introduce a discussion on the question whether there are saprophytic varieties of koch's bacillus which can become virulent tubercle bacilli on August 6th Professor Léon Bernard of Paris will speak on prophylaxis in childhood against tuberculosis, on August 7th a discussion will be opened by Sir Robert Philip of Edinburgh on the effects of the anti tuberculosis campaign in reducing the mortality from tuberculosis in different countries A tour occupying about eight days will be made to the principal antituberculosis centres in Switzerland Full particulars can be obtained from the Secretary, National Association for the Prevention of Tuberculosis, 20, Hanover Square, London, W 1

DR E W G MASTERMAN, who was in the chair at the annual meeting of the Lebanon Mental Hospital, at Caxton Hall, Westminster, said that much advantage had been derived from the recent visit to this country of the director, Dr Watson Smith The hospital had been in existence at Asfuriyeh, Beyrout, Syria, for twenty five years, and Dr Watson Smith had worked there with extraordinary zeal and devotion for fifteen He was anxious that teaching and the pathological side should be developed and that the opportunities the hospital afforded should be used for research He was already giving instructions to students of the American University at Beyrout A satisfactory feature of the year's work was that the boring for water had been successful, it was hoped in consequence to establish a home farm, which would render the hospital in part self supporting Mr Herbert Catford said that Beyrout was developing rapidly as the starting point for the overland route to Bagdad, and was within eleven hours from Jerusalem by motor car It had now quite a large number of students from Mesopotamia, the School of Medicine had about 100 The director's report was adopted on the motion of Dr R Percy Smith, and Mr Peter Bartleman, head attendant at Asfuriyeh, said that there was no longer any difficulty in obtaining male and female nurses from the country around Copies of the report can be obtained from the secretary, Lebanon Hospital Office, 35, Queen Victoria Street, E C 4

AN extensive epidemic of small pox is now prevalent in Copenhagen

A FREE post graduate course on tuberculosis, organized by the Davos Medical Club, will be held at Davos from August 17th to 24th Names and addresses of those desiring to attend the course should be sent to the Kommission des Aerztlichen Ferienkurses Davos before August 1st

THE late Mr Emil Teichman, of Chislehurst, has bequeathed, among other charitable gifts, £2,000 to St Bartholomew's Hospital, in remembrance of his son Oskar's (Dr O Teichman, D S O , M C) student days

Letters, Notes, and Answers.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Attiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand London*

MEDICAL SECRETARY *Mediocra Westrand London*

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QUERIES AND ANSWERS

INCOME TAX

Cost of Locumtenent

"D M M" inquires what is allowable as a deduction (*a*) where the locumtenent's charge is £7 7s a week and keep of himself and wife and (*b*) where the charge is £40 a month and keep

The amount allowable is the actual out of pocket expenditure that is the amount of the cash payment *plus* the additional expenses of housekeeping etc caused by the maintenance in the house of the locumtenent and his wife if her maintenance was part of the bargain

Housekeeper

"A" and his wife are working a practice together as the wife is fully occupied in professional work they have to employ a resident cook housekeeper He asks if he can claim to deduct as a professional expense any portion of the wages and keep of the housekeeper

We fear there is no legal ground for the deduction The expense is not incurred in carrying on the practice but in order to set the wife free to carry it on There is an old case (Bowers v Harding) where a similar expense was claimed and refused, the persons concerned were employed as schoolmaster and schoolmistress and were assessed under Schedule E That case is not strictly in point where liability is under Schedule D but the same principle would probably be applied by the courts to an analogous case

Cash Receipts Basis

"Querens" started practice in August 1919 and has been assessed on the cash receipt basis The inspector of taxes now proposes to add to the profits of the last completed year the amount of the uncollected book debts

It is impossible to affirm that the cash receipt basis is suitable during the early years of a new practice, when the receipts do not indicate the full earnings of the year, it is only when the amount of the outstanding book debts remains more or less constant that the cash receipts can fairly be taken to be equivalent to the gross "income"—received or due—liable to assessment "Querens" is in this difficulty, therefore, that the assessments for 1920-21 and the following years were apparently below his full liability The inspector is not technically correct in adding the accumulated debts to a single year, they should, strictly, be spread over the whole period from August, 1919, onward, but "Querens" might very likely be more seriously affected if this were done We advise him, therefore, to make as reasonable a settlement as he can with the inspector, admitting that in the special circumstances some adjustment may be justified, but claiming (*a*) that the probable *value* and not the actual amount of the uncollected debts be added, and (*b*) that the adjustment having been made and the practice fully started the cash receipt basis will be suitable in future years

LETTERS NOTES ETC

PATHOLOGY OF CANCER

DR A S MCNEIL (Liverpool) writes to suggest that cancer may be an undisciplined growth of cells free from the guiding influence of trophic neurons which have become destroyed by chronic irritation or possibly bacterial agencies (or both), and, further, that something might be done in cancer cases by removing as far as possible the diseased cells (as is done now), and also transplanting or grafting portions of nerves from other spinal segments or cranial centres (as the case may be) into the nerves going to the diseased area, with the idea of bringing the cells of the area under control again by means of new trophic fibres Many tumour tissues are very similar to those of foetal tissues, and pieces of foetal tissue live indefinitely and proliferate enormously if kept in suitable saline fluids at body temperature and free from micro organisms Dr McNeil suggests that a growing cancer is almost analogous to this extracorporeal growth *in vitro*, as the control of the trophic neurons has been lost and that a cancer might go on also indefinitely if the tumour did not either interfere with other organs and stop vital processes and so its own maintenance, or get infected by micro-organisms and cause death indirectly

THE MEDICAL GOLFING SOCIETY

THE annual summer meeting of the Medical Golfing Society was held, by kind permission, at the Sunningdale Golf Club on June 12th In spite of the bad weather 77 members, out of 89 who had entered, took part in the tournament All play was on the old course The arrangements for the accommodation of the society were excellent, and competitors were very grateful to Sunningdale for a most enjoyable day Results were as follows

Lancet Cup—H Gardiner Hill (scratch)—1 up (score 78)

Henry Morris Cup—W R Bristow (4)—2 up

Class I—First E Ravensworth Hart (9)—all square Second C E Finny (7)—1 down Best last nine holes Sir R Cruise (2), W H Lamplough (1)—1 up

Class II—First Murray Thomson (10)—all square Second G Norman (10), C Gregory (15)—2 down Best last nine holes L Pack (13), J Bright Banister (18)—all square

Foursomes—The following three couples tied for first place at 3 down E R Hart (9) and H W Carson (15), G Sutherland (8) and B Hamilton (12), M Page (5) and W R Bristow (4)

A WARNING

DR P MANSON BAHR (London, W) writes On Saturday June 7th, a man representing himself to be a doctor called at my house shortly before 1 p m about one hour after I had left it for the country, and demanded one of my microscopes out of my laboratory He appeared to be familiar with the instruments I had and the location of my laboratory He appeared also to be conversant with my movements and said I had promised to lend him the instrument over the week end Luckily the maid did not give it up

DISCLAIMERS

MR H L HARDY GREER (Belfast) wishes to disassociate himself from a biographical sketch which appeared in a recent issue of a Belfast newspaper without his authority or consent

DR C G LOWRY, professor of midwifery, Queen's University, Belfast also writes to disclaim all responsibility for a photograph and biographical sketch of himself which recently appeared in a local paper It was published without his knowledge or consent

DR J A SMYTH (Belfast) desires to dissociate himself entirely from a biographical sketch published in a recent issue of a Belfast paper and wishes it to be known that it appeared without either his knowledge or consent

VACANCIES

NOTIFICATIONS of offices vacant in universities medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 27 28 29 32 and 33 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 31, and 32

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 290

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

491 Acute Veronal Poisoning

A TARDIEU and S CAMPS (*Bull Soc de Ther*, February 13th, 1924 p 63) record a case of acute suicidal poisoning by veronal in a Russian ex airman, aged 30, who had taken 24 grams in a single dose, which he had obtained by buying forty eight cachets, each containing 50 grams, from various druggists After taking them he sent himself to sleep by ether When first seen by the authors, on the fourth day after ingestion of the veronal, he was still in a state of profound coma, the limbs were inert, perspiration was profuse, the face cyanosed, and the pulse barely perceptible There were incontinence of urine and faeces, loss of the tendon and corneal reflexes dulling of general sensibility, mydriasis, and profuse secretion of saliva After the coma had lasted five and a half days the patient slowly regained consciousness The temperature was of a continued type, sometimes being as high as 102° F On the seventh day, after an apyrexial interval of forty eight hours, there was a transient rise of the evening temperature to 100 2° Examination of the lungs did not reveal any evidence of tuberculosis, pulmonary oedema, or even hypostatic congestion, which is so frequent in acute intoxications As soon as the patient recovered consciousness he complained of seeing double On examination he was found to have crossed diplopia which was very marked for thirty six hours and then progressively diminished completely disappearing on the ninth day There was also slight bilateral ptosis On examination of the heart signs of old mitral disease were found In spite of repeated examination of the urine no albumin or sugar was detected Examination of the urine for veronal on the seventh day was also negative A psychiatric study of the patient showed the association of two psychopathic conditions—namely manic depressive psychosis and paranoia For the last three years he had been addicted to drug taking especially hashish and ether According to Mantelin Martin and Milhaud the toxic dose of veronal ranges between 1 and 11 grams The fact that so large a dose as 24 grams was not fatal in the present case in spite of old mitral disease, is explained by the circumstance that according to Bachem after consumption of large doses of veronal 45 per cent of the drug is destroyed without acting on the organism The presence of ether also probably interfered with the assimilation of veronal

492. Lymphatic Glands in Congenital Syphilis.

ACCORDING to E WEILL and M BER HEIM (*Journ Méd de Lyon*, February 20th 1924, p 75) in congenital syphilis in infancy the lymphatic gland involvement takes the form of micropolyadenopathy, which occurs also in other infections, and has no specific significance In later life commonly a local gland group enlarges occasionally in the axilla or groin, but more usually the neck The swelling may extend from ear to clavicle and, becoming bilateral, may surround the lower jaw, giving a highly characteristic appearance The glands, small at first, fuse and may reach considerable dimensions, they remain hard and the overlying skin is unaffected for some months Occasionally the process becomes arrested, more often softening sets in and leads to fluctuation, simulating a cold abscess Aspiration is, however, useless, since the pus rapidly reforms, and finally the whole collection is discharged on the surface either through numerous fistulae, closely resembling the tuberculous condition for which it is generally mistaken, or the whole thickness of the skin is invaded and necroses, exposing a sloughing purulent mass, which exudes a yellowish fluid The ulcer edges are clean, little undermined and punched out, this characteristic appearance indicates the diagnosis If untreated, the neighbouring skin becomes ulcerated, the ulcers deepen and may lay bare the muscles, especially the sternomastoid, and horrible disfigurements may result These local adenopathies coexist with relatively good health until ulceration occurs, when the effects common to any prolonged suppuration supervene The glandular involvement may be the sole indication of the syphilitic process, and, in the absence of other stigmata of congenital syphilis the condition is commonly regarded as tuberculous, but there are several points of difference Tuberculous glands usually improve after repeated aspiration and exposure to sun and sea air, whereas syphilitic glands are unaffected or become worse The Wassermann test or guinea pig inoculation gives valuable help, and the former, if positive, should be corroborated by the effects of antisyphilitic treatment, under which the glands rapidly diminish in size, suppuration disappears, any gummatous ulcerations fill up, leaving mutilating scars Histological examination of the glands is of little value, as the appearances resemble those of tuberculosis There is some evidence of mixed cases occurring such as a tuberculous adenitis superimposed upon a previously syphilitic lesion but this is rare Another definite clinical type occurs in children of 13 to 14 years, in which the onset is insidious and localized at first The infection spreads rapidly to other groups of glands, and finally involves all the superficial glands, the mesenteric and the mediastinal. The glands may remain discrete or become fused into masses attaining in one recorded case the size of a full term foetal head There is no compression of neighbouring organs and no pain the glands feel hard and there is never any sign of softening The spleen is moderately enlarged to just below the costal margin and the blood shows very little change In diagnosis Hodgkin s disease, lympho-granulosis, and tubercle have to be considered

493. Is it Safe to Suppress Tuberculous Foci?

G THERASSE (*Le Scalpel*, February 23rd 1924, p 256) refers to various statistics which seem to indicate that after the radical treatment of a tuberculous focus, tuberculous manifestations elsewhere are rather more likely to occur subsequently than in other patients in which the foci have not been suppressed In view of the frequency of tuberculosis he finds it difficult to determine the point in question but in some instances it seems as though there is a direct relationship—for example, after the Forlanini treatment of phthisis by artificial pneumothorax it is not uncommon to find tuberculous enteritis following, and the author has seen this so often that he is careful to ensure the absence of intestinal tuberculosis before recommending the pneumothorax treatment He suggests that an active tuberculous focus may serve as a stimulus for the production of defensive bodies and that the suppression of such a focus may ultimately weaken the patient s resistance to the disease and so make him more liable to other manifestations The same question has often been raised with regard to the radical treatment of a tuberculous fistula in ano, and the author adds that after the operative treatment of tuberculous adenitis there is a 22 per cent mortality from later extensions of tuberculosis.

494. Carbon Tetrachloride Treatment of Hookworm.

AN extensive experience of carbon tetrachloride as an anthelmintic against hookworm has convinced C N LEACH, F G HAUGHWOUT and J E ASH (*Philippine Journ of Science*, November, 1923, p 455) that the drug possesses virtues which can be claimed for no other They find it safer than other substances used for the same purpose, and employ it with confidence In a long series of cases no deaths could be attributed to its effects, and in no single case did symptoms of intoxication develop that called for treatment or gave any anxiety The authors attribute this immunity to their observance of the following precautions (1) the use of a chemically pure preparation, (2) the exclusion of all persons with disease of the liver, heart, or urinary system They emphasize the necessity of competent medical supervision during administration Absolute contraindications are constituted by toxaemic conditions of the heart and liver, especially in acute intestinal infections and in acute abdominal conditions such as peritonitis Coincident infection with *Entamoeba histolytica*, in the absence of active dysentery or a previous infection of the intestine is not considered a contraindication nor is moderate alcoholism provided liquor is withheld for a few days before and after treatment In protozoal infections carbon tetrachloride is without action. Where a patient with hookworm is to be operated upon the authors consider that the former condition should be treated several days before administering an anaesthetic (especially chloroform), in order to allow the liver to recover from the effects of the drug, which is stimulating and acts as a cholagogue They do not favour the method of divided doses and they disapprove of the prior administration of saline purgatives, for the reason that the latter increase the irritative effects of the drug on the intestinal mucosa They think that a safe computation of the dose is 1 c cm of carbon tetrachloride to each 5.5 kilograms of body weight and have on these lines given doses as high as 15 c cm They point out the need for further investigation of the danger in cases

awaiting surgical operations, including the tendency to the development of ileus, the possibility of racial idiosyncrasies, the process of elimination of the drug and its effect on the cardio vascular system, liver, and kidneys

Surgery.

495 Echinococcus Disease of the Spleen

H BERGER (*Zentralbl f Chir*, March 29th, 1924, p 686) records a case, in a Bulgarian, aged 32, who had suffered from pain in the splenic region for the last two years The attacks occurred every six weeks, and lasted for three or four days On one occasion he had slight jaundice, and once constipation which lasted for a fortnight The patient did not keep dogs nor did he allow dogs to lick his hands On examination a large nodular tumour was found in the region of the spleen extending down to the iliac spine There was slight fremitus but no tenderness Blood examination showed an eosinophilia of 10 per cent A diagnosis of echinococcus disease of the spleen was made and operation performed On opening the peritoneum a large whitish tumour was seen arising from the inner surface of the spleen, which was not enlarged and was in its normal situation The tumour, which was adherent to the diaphragm, posterior abdominal wall, and intestines, was sutured to the parietal peritoneum, and was opened by the thermo cautery two days later, when a yellowish serous fluid was evacuated containing a large number of hydatid cysts The spleen was not removed owing to the extensive adhesions Recovery was uneventful Infection had probably taken place by drinking water which had been contaminated by the faeces of dogs or sheep

496 Removal of the Bone Marrow in Pernicious Anaemia

WALTERHÖFER and SCHRAMM (*Acta Med Scand*, March 19th, 1924, p 196) argue that as splenectomy may be beneficial in pernicious anaemia, removing the diseased bone marrow from the long bones may have a similar effect During the past two years and a quarter they have practised this treatment in 23 cases, with good results in 48 per cent Working in Berlin, they at first scraped the marrow out of one or more bones at a time Later, at the suggestion of Professor Bier, they washed the marrow out of the bones by means of a solution injected into holes bored through the bones at various places When they found that even almost moribund patients stood this operation well, several bones were deprived of their marrow at one operation At first, only those cases were selected for this treatment in which the established methods had failed Later the indications for it were extended, and it was supplemented by other methods, the changes being rung on arsenic medication, transfusion of blood or serum, and bone marrow evacuation Probably this operation is effective by virtue of the stimulus it gives to the regenerative processes

497 Congenital Radio-ulnar Synostosis

D GIORGIO SCOLLO (*La Chirurgia degli Organi di Movimento*, March 1924, p 342) records a case of congenital synostosis of the upper end of the radius and ulna in a child aged 5, referring fully to the literature of the subject The cause of the deformity is not known, and the author suggests it may be some defect in the germinal plasm Treatment is not very satisfactory as relapses frequently occur The synostosis may be excised or a pseudo-radial arthrosis formed, which method should be employed depends mainly on the individual case In making the false joint periosteum should be interposed between the ends

498 Non tuberculous Pulmonary Abscess.

W WHITTEMORE (*Surg Gynecol, and Obstet*, April, 1924, p 501) considers that the etiology of non tuberculous pulmonary abscess is important for a large percentage of these cases could be avoided by more careful technique in operations on the upper respiratory tract under general anaesthesia In 66 cases out of 100 the lung infection was directly preceded by an operation on the upper air passages under general anaesthesia Infection was probably due to aspiration of infected material during the operation Expectant treatment will cure from 10 to 20 per cent of cases Artificial pneumothorax will cure a small percentage of cases and may be used in conjunction with postural drainage, it should be used only when the lung and pleura are non adherent, and is an excellent means of determining whether adhesions are present or no Aspiration of the abscess with the aid of the bronchoscope may improve the condition, this treatment combined with surgical drainage is of value in those cases which do not progress satisfactorily following operation Surgery offers the best chance in those cases in which other methods of treatment have failed or are unsuitable Local or paravertebral anaesthesia should be used and sections of one or two ribs removed The presence of adhesions or a hard area will show the situation of the abscess The abscess is opened, and is drained at a second operation, after the lung has been brought to the chest wall Drainage may be necessary for six months in chronic cases, or even longer

499. The Relation of Pes Valgus to Congenital Pes Calcaneus

H TIMMER (*Nederl Tydschr v Geneesk*, March 15th, 1924, p 1134), as the result of the examination of the feet of eighty newborn children in the obstetrical clinic at Amsterdam, has come to the following conclusions (1) Congenital pes calcaneus or calcaneo valgus occurs much more frequently than is generally supposed Hitherto attention has been paid only to the severest forms in which the foot lies on the anterior aspect of the leg (2) Pes valgus in the older child in many cases arises from a congenital pes calcaneus (3) As pes valgus in the child often develops later into a pes valgo planus the conclusion may be drawn that many an adult suffering from flat-foot was born with pes calcaneus or calcaneo valgus.

Diseases of Children.

500 Infantile Splenic Anaemia.

GRENVILLE W STC RAMSAY (*Brit Journ Child Dis*, January–March, 1924, p 48) reviews the literature and records his observations on 45 cases under 4 years of age in Leonard Findlay's wards at the Royal Hospital for Sick Children, Glasgow The cases were classified in three groups The first group, which consisted of 27 children, showed all the features which are generally considered essential to justify a diagnosis of infantile splenic anaemia—namely, anaemia, degenerating and regenerating forms of red cells, myelocytes in the peripheral blood, and enlargement of the spleen In the second group, which consisted of 12 cases, the blood picture supposed to be characteristic of infantile splenic anaemia was complete except for the presence of myelocytes The spleen was enlarged in all In the third group, which consisted of 6 cases, the blood picture was typical, but there was no enlargement of the spleen The author comes to the conclusion that infantile splenic anaemia is not a disease *sui generis*, but is a form of simple secondary anaemia

501 Genito-suprarenal Syndrome

COLLETT (*Amer Journ Dis Child*, vol 27, March, 1924, p 204) reviews the literature on this subject and describes a case Apert in 1910 distinguished five types of hyperepinephry (1) of the embryonal period (hermaphrodism), (2) of the later foetal period (large clitoris, uterus, ovaries atrophied, etc), (3) of the pre puberty period (abnormal body development, pubertas praecox, etc), (4) of maturity (amenorrhoea), (5) of the menopause (adipositas, indistinct clinical picture) The earlier the condition develops the more marked are the changes The most constant symptom is hypertrichosis Nearly all the cases occur in females, there is no recorded case in an adult man Boehm found 12 cases of pineal tumour, all in boys Collett found 21 cases in children, 4 of these were in boys in whom premature development of body and external genitalia without premature potency occurred, but no sex changes In girls menstruation as a rule is not early the development of the body may be manifested either as obesity or as great muscular development (*l'enfant Hercule*) Abnormal hair growth in girls is generally of the masculine type The tumours involve the suprarenal cortex only, but the condition may also occur in hypernephroma of the ovary and in accessory suprarenal glands in the broad ligament The suprarenal cortex and sex glands both arise in the coelomic epithelium, where they are early so closely associated as to be indistinguishable from each other (Soulle) The syndrome is thought to be due to hyperactivity of the cortex, but Krabbe holds that the tumour develops from sex cells of masculine type which in early embryonic life have been involved in the suprarenal gland cortex, which explains the occurrence of a masculine puberty in girls Investigations have shown that while the testis is developed from the original undifferentiated germ of the sex glands, the ovary passes through a stage in which the cortex is feminine while the medulla is testicular, and it is the medullary part of the ovary which is closely associated with the suprarenal cortex Collett's case was a girl of normal weight at birth, whose

teeth began to appear at 5 to 6 months Genital hair appeared at 6 to 8 months At 11 months the hair became thicker and extended over the trunk and extremities the voice became deep and rough and the body heavy and fat Mentally she was lively At 1½ years she could neither stand nor walk, height weight, and size of head were well above the average The skin, normal elsewhere, was red and sore on the cheeks with a few short hairs, subcutaneous fat was well marked, and there was no abnormal pigmentation The hair on the vulva had a horizontal boundary above axillary hair was absent, but there was a dark growth of hair on the thighs shoulders, and back The external genitalia were well developed the clitoris was penis like 1½ cm long, with anterior prepuce and urethral furrow The urethral orifice was normal, as were the internal genitalia Mammæ were absent Ossification was advanced (3 years) The right kidney was palpable but normal and a tumour was felt above and connected with the left kidney The patient was treated with thymus gland for seven months and improved At 2 years the tumour was removed and proved to be a typical long standing hypernephroma, showing degeneration A year or two later all abnormal hair had disappeared except scanty short hair on the labia the face was less bulging its skin childlike The 'peniculus' was smaller, the body thinner the voice deep but no longer hoarse This is the first recorded case of a child surviving this operation

502. Tuberculous Gummata in Infants

APTER referring to recent articles on this subject M PETIT (*Journ Méd de Lyon*, February 20th 1924 p 87) gives the following description of the condition which is commoner than is usually supposed The tuberculoma occurs between the ages of 3 months and 3 years, rarely later, and usually in a close contact with an actively phthisical person It is discovered fortuitously and develops insidiously as a painless deeply seated mobile nodule which can be rolled under the finger The skin is usually unaffected at first but later a rosy circumscribed patch appears immediately over the nodule The colour deepens and becomes bluish and, if no breaking down occurs a fine to flaky desquamation appears and lasts for a considerable time The 'gumma' may remain indolent circumscribed and hard or may spread into subcutaneous tissues and take on a doughy consistency (pseudo-lipoma) according as the centre becomes caseous or purulent It rarely discharges on the surface The site of election is almost invariably the buttock region especially round the anus, and often on the thighs and backs of the legs although other regions may be affected in addition The 'gummata' are usually multiple and remarkably symmetrical in distribution There is absence of lymph gland involvement and the whole process is often afebrile but it may be accompanied by months of irregular fever in which case the prognosis is grave There may be no other manifestation of tuberculosis, or these nodules may accompany tuberculides of the skin or lesions of mediastinum lungs spleen, bones, etc, the nature of which then becomes apparent The primary focus is in the hilar mediastinal region, whence the Koch bacillus travels via the blood stream The diagnosis from syphilis, sporotrichosis or chiefly subacute multiple pyogenic abscesses is made by remembering that in these latter the infection commences superficially and spreads inwards Surgical action is not recommended, but rather general treatment, cod liver oil, sun, and sea air

503. Precocious Puberty

R HUTCHISON and G M WAUHOPE (*Brit Journ Child. Dis*, January–March, 1924, p 57) report a case in a girl aged 3½ years, in whom menstruation began at the age of 17 months There was no family history of precocity Nothing unusual was noticed until between the tenth and eleventh months when she had a whitish vaginal discharge which recurred on several occasions till she began to menstruate The period lasted for two or three days, and returned at regular intervals of twenty eight days, except on three occasions, when the interval was exactly two months. After her third birthday the intervals became irregular and of longer duration Pubic hair was noticed at the time of the first period The breasts were well formed, but no definite date could be given for their enlargement. On abdominal and bimanual examination under an anæsthetic both ovaries were palpable and of normal size X ray examination of the skull showed no sign of tumour or other abnormality, but skiagrams of the skeleton showed a bony development usually present about the normal age of puberty Mentally she was bright but exceedingly obstinate The voice was harsh and strident. She had no control over her bladder The cerebro-spinal fluid was normal and the Wassermann reaction was negative The authors discuss the causes of precocious puberty—namely, hypernephroma of the suprarenal cortex, tumours of the pineal gland, and tumours or hyperplasia of the gonads—and come to the conclusion that the precocity in their patient was due to ovarian hypersecretion Excision of one ovary was advised, but the parents refused their consent

Obstetrics and Gynaecology.

504. Ablatio Placentæ.

J O POLAK (*Amer Journ of Gynecol and Obstet*, April, 1924, p 384) shows that all cases of accidental haemorrhage are concealed to begin with, and only become apparent when the membranes allow of escape of blood or the presenting part is not engaged and thus does not block the exit of the blood through the cervix Thus the difference between the concealed and apparent varieties is only relative or one of degree With regard to diagnosis sudden cramp-like abdominal pain, shock, blanching, and rise of pulse rate are given as the principal symptoms whereas the prominent localizing signs are an extremely tender, spastic, and tense uterus Bleeding may or may not be present, according to the type, but by displacing the presenting part blood and accumulated clots are often discharged The severity of the case is shown by the rapidly increasing size of the uterus, fall of blood pressure, rise of pulse rate, and progressive fall in the haemoglobin percentage In these cases abdominal section with transfusion is the only right treatment If the child be dead, as is usually the case if many ecchymotic areas are found in the uterine wall, the author advises clamping of the broad ligament before incising the uterus, thus preventing excessive bleeding, the child is then delivered and hysterectomy performed If the child is alive however, there are no ecchymotic areas, and the uterus contracts intermittently hysterotomy is employed and an intrauterine pack left *in situ* In less severe cases when the cervix is effaced, rupture of the membranes morphine gr 1/4, and a tight abdominal binder applied from above downwards are often sufficient if the pelvis is normal the treatment is aided by small doses of pituitary extract every twenty minutes In these cases the pulse should be taken every fifteen minutes, the blood pressure every half hour, and the uterus measured both as regards height of fundus and breadth every hour a haemoglobin and red count being taken frequently as well If all is well the pulse improves the haemoglobin index remains stationary, and the blood pressure rises but otherwise abdominal section with blood transfusion is indicated

505. Corpus Luteum Haemorrhage simulating Appendicitis.

E EICK (*Zentralbl f Chir*, March 8th 1924 p 374) records a case in a woman, aged 22 in whom violent pain in the right iliac region and retching occurred a few days after menstruation There were marked muscular resistance and tenderness at McBurney's point On laparotomy the appendix was found to be normal, but blood was seen escaping from a collapsed follicle in the right ovary, half of which was resected Complete recovery took place Several writers such as Gross, Barony, and Cersuny, have drawn attention to the frequency with which haemorrhages from the corpus luteum may give rise to a mistaken diagnosis of appendicitis. The situation where the tenderness is most marked is no a distinguishing point. Rapid pulse fever, and leucocytosis may occur in both conditions. Even signs of peritoneal irritation, such as retching and distension of the abdomen, may be caused by either factor Apart from cases in which there is a distinctly encapsulated abscess or Fallopian tube swollen by the ovum which it contains, gynaecological examination is also of no assistance, as a recently inflamed appendix or a collection of blood of moderate size cannot be felt The presence of anæmia, determined by estimation of the haemoglobin, and a history of recent menstruation suggest intraperitoneal haemorrhage, but whether the haemorrhage is extrauterine or is of ovarian origin can rarely be determined before laparotomy In the case of a virgin the diagnosis should be in favour of ovarian haemorrhage In all cases however, laparotomy is necessary whether for removal of the appendix or stopping the haemorrhage

506. Weight Deficiency in the Newly Born.

K BRANDT (*Forhandlinger ved Nordisk Kirurgisk Forenings* 14de Möte i Stockholm, 1924, p 111) quotes and stamps as misleading the following sentence often to be found in modern German works on obstetrics 'Not viable because under 2 000 grams (4½ lb.)' In support of his claim that a large proportion of infants under this weight at birth survive and develop normally the author gives the following statistics from his hospital in Christiania for the eleven year period

1912-22 Of 348 infants born alive and weighing 4½ lb or less at birth, 117, or 33 6 per cent, died within fourteen days The remaining 66 4 per cent were discharged from hospital in a satisfactory state, the deficiency of weight having been more than made good, the gain of weight having been uniform, and the infant showing no sign of disease The author anticipates that, provided the surroundings of these infants prove satisfactory, there is no reason why they should not have as good a chance to attain to maturity as other children For the past thirty years the treatment of infants, under normal weight at birth, in an incubator has been abandoned in Christiania, and the author considers this device not only superfluous, but mischievous He has also nothing good to say of cutting down the dietary of young infants to four hourly feeds, which he regards as tantamount to semi starvation

507 Papillomata of the Female Urethra.

H A KREUZMANN (*Surg, Gynecol, and Obstet*, April, 1924, p 475) states that papilloma of the urethra is much commoner in females than is generally supposed, without involvement of other parts of the urinary tract He describes a series of 40 cases in which urethral papillomata were discovered by use of the cystoscope or urethroscope, in all patients save 5 chronic infection of the urinary tract, due to urethral or ureteral stricture, cystitis, renal calculus, etc, was present Chronic gonorrhœa was demonstrated in 3 cases The most common situation was on the anterior and lateral walls of the urethra, just outside the vesical sphincter, the growths were multiple, small, and villous rather than sessile In themselves the papillomata caused few symptoms, their importance is held to be chiefly diagnostic, for their presence may be taken as pointing to existence of other long standing morbid conditions of the urinary system

Pathology.

508. Staphylococcal Classification.

S YOSHIOKA (*Japan Med World*, February 15th, 1924, p 32) suggests that carbohydrate splitting action is a very suitable means of distinguishing pathogenic and non pathogenic staphylococcus strains From a study of the sugar splitting actions in large varieties of sugar pathogenic and non pathogenic strains can be separated by their actions on four kinds of sugar—namely, arabinose, raffinose, mannose, and trehalose Examinations with 180 strains (160 from diseased foci and 20 from non diseased foci) with seventeen varieties of sugar showed that they do not split dulcite and dextrine, while they split levulose and glucose Pathogenic strains are regarded as those having typical action on the sugar, while those which have no such typical action are regarded as non pathogenic Strains having distinct pathogenicity were isolated from fresh incisions of closed abscesses, or from open wounds in which the organisms were in pure culture, and of such strains the typical characteristics on sugar splitting action were that arabinose and raffinose were negative and mannose and trehalose were positive

509 The Multiplication of the Bacteriophage.

T MATSUMOTO (*Zentralbl f Bakt*, March 25th, 1924, p 413) has carried out some experimental work on the multiplication of the bacteriophage, particularly with relation to the effect on its growth of incubation with resistant strains The general technique consisted in preparing a dilution of a given bacteriophage in a flask of broth, heating it to 56° C, and determining the number present The flask was then inoculated with the organism to be tested, incubated at 37° C, and count performed at different intervals to ascertain the extent of multiplication of the bacteriophage, this was calculated from the number of holes in the culture planted out on agar plates If the bacteriophage had increased considerably there were a very large number of pitted colonies, or there was absolutely no growth whatever, whereas if no multiplication had occurred the culture grew normally The resistant strains were obtained by inoculating a broth dilution of the bacteriophage with the organism, incubating for twenty four hours at 37° C, plating out on agar, and selecting the colonies which showed no lysis these were then cultured for at least five generations from single colonies in order to ensure that they were completely freed from the bacteriophage Working first of all with eight strains of bacteriophage isolated from human or from chicken faeces it was found possible to classify them into two distinct types—the *g* type and the *γ* type The *g* type with the Shiga bacillus causes the production of large holes in an agar culture, the *γ* type is similar to it on agar but can be easily differentiated from it in other ways, for instance, with the *γ* type it is comparatively easy to obtain resistant strains, while with the *g* type all attempts to obtain resistant strains have failed Experiments were then conducted with strains of bacteriophage active against Flexner and Y dysentery bacilli Resistant strains for the different bacteriophages were selected and grown with four strains of these It was found that it was quite possible to obtain a strain of bacilli which was resistant to two of the bacteriophage strains It was also found that no multiplication of the bacteriophage took place when incubated with a resistant strain of bacillus—that is to say, a given resistant strain of a bacillus is not only insusceptible to the action of the bacteriophage, but affords it no opportunity for multiplication It seems clear from these experiments that the resistant strains of bacteria are mutants, they have lost some group in the bacterial cellular material, which is possessed by the normal bacterium, and which is apparently necessary for the development of the bacteriophage which is to act upon it

510 Estimation of Sugar in the Blood.

R V STANFORD and A H M WHEATLEY (*Biochem Journ*, 1924, vol 18, No 1, p 22) call attention to certain fallacies inherent in Folin and Wu's modified method of estimating sugar in the blood It was noticed that duplicate standards made at the same time often differed considerably from one another, and on investigating this point they found that the depth of colour depended upon the temperature of the liquid at the moment that Folin's reagent was added—the lower the temperature the darker the colour If the reagent is added to the cuprous oxide just after this has been boiled, the resulting value for the sugar will be lower than it should be To avoid this error they immerse their tubes, as soon as they have been taken from the water bath, in a beaker of water at room temperature for three and a half minutes, Folin's reagent is then added, and the subsequent estimation of the colour proceeded with after another pause of two minutes Another error into which certain observers appear to have fallen is that of employing too weak a solution of alkaline copper tartrate Experiments showed that, in the neighbourhood of the standard, results could not be relied upon unless a large excess of this substance was present If the quantities originally recommended by Folin and Wu are used the results are quite satisfactory, but if a weaker solution is used a considerable error is introduced Stress is also laid upon the advantages of using a dilution colorimeter for carrying out the colour estimations

511 Experimental Study of Genital Herpes

G BLANC and J CAMINOPETROS (*Ann de l'Inst Pasteur*, February, 1924, p 153) have carried out a large number of experiments with a virus derived from a case of genital herpes, which suggest that there is a considerable difference between this virus and the virus derived from buccal herpes The authors showed previously that the inoculation of the buccal virus beneath the dura mater of a rabbit provoked an encephalitis which was constantly fatal in four to six days This constancy has been noted by several other workers, and appears to be quite definite When, however, they directed their attention to a study of the genital virus they perceived a marked divergence The contents of some herpetic vesicles from the genito crural fold of a girl of 18 were inoculated on to the scarified cornea of a rabbit Conjunctivitis and keratitis developed, and the animal died of encephalitis in fourteen days The brain was then used to pass on the virus to a series of rabbits, comprising 26 in all Of these, 16 were injected via the brain, 6 survived, while 10 died in periods varying from five to seventeen days These results are in distinct contrast to the buccal virus, which produced fatal encephalitis in five days When the genital virus was inoculated on to the scarified cornea of a number of rabbits it was found to give rise to a conjunctivitis of moderate intensity and to a keratitis of still less intensity, recalling the comparatively mild kerato-conjunctivitis set up by Lovaditi's salivary virus Now this again is quite distinct from the ocular lesions caused by the buccal virus of herpes This virus causes intense kerato-conjunctivitis, often with ulceration of the cornea and hypopyon Eight rabbits were inoculated on the cornea and beneath the dura at the same time, of these, 5 died from the eighth to the thirteenth day, while the remaining 3 survived The ocular reaction varied considerably in the different animals, and its intensity was no criterion of the ultimate fate of the animal Further experiments made with different strains of the virus showed that one strain produced immunity by cerebral inoculation, another strain by ocular inoculation These experiments serve to show the great diversity which exists between the different viruses which give rise to herpes, and to draw attention to the variability which is encountered in the reactions of different rabbits to inoculation



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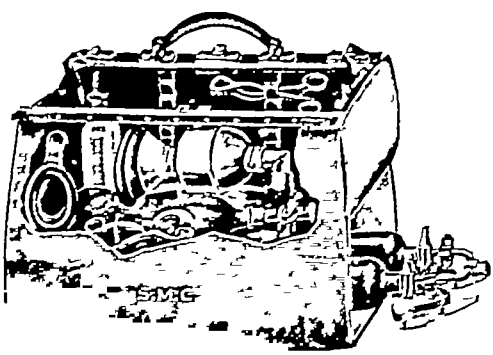
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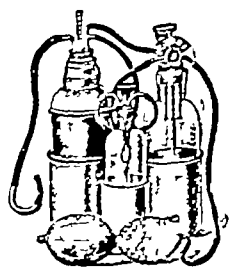
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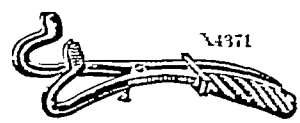
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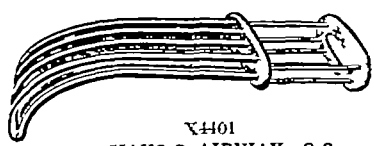
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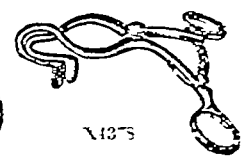
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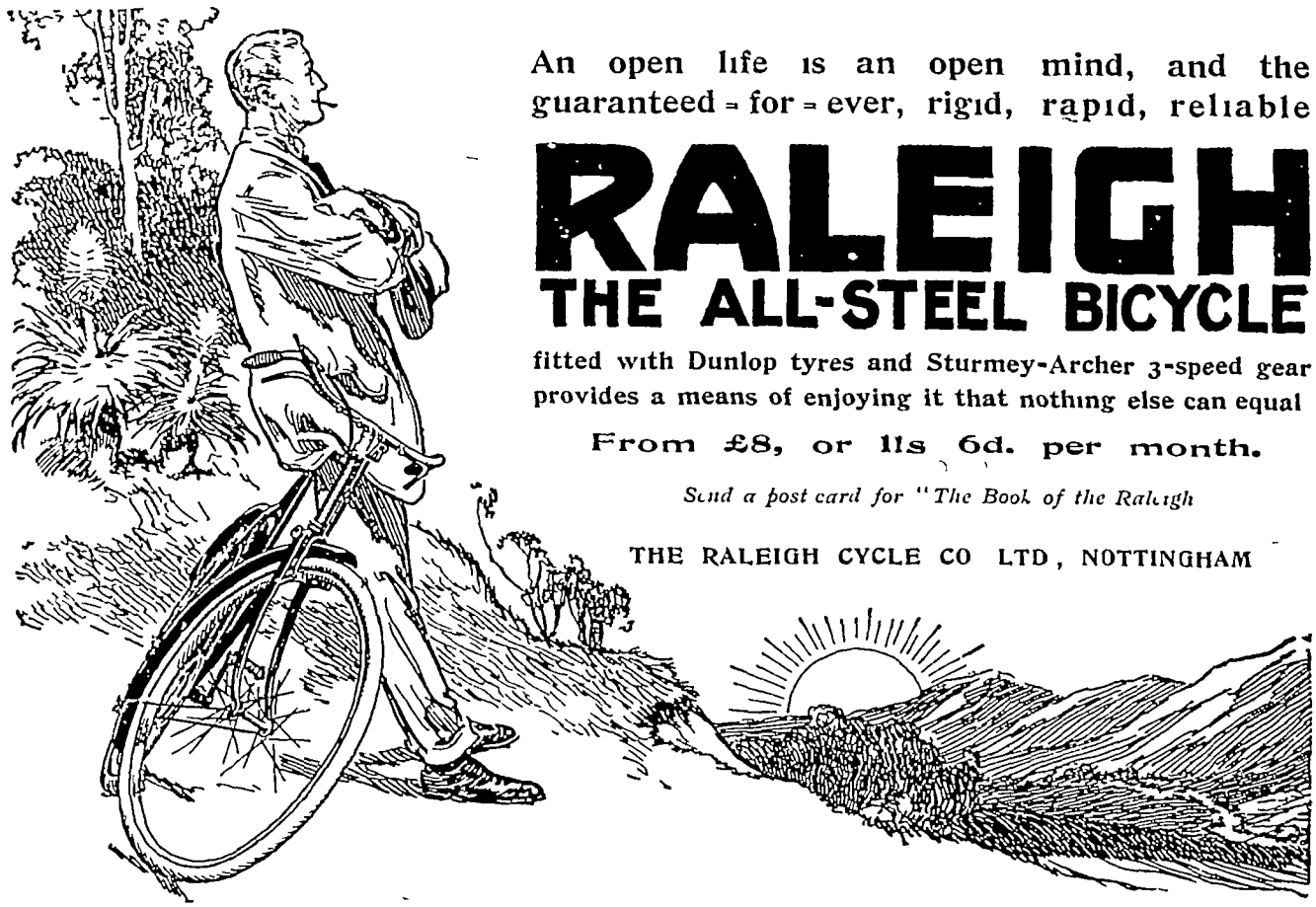
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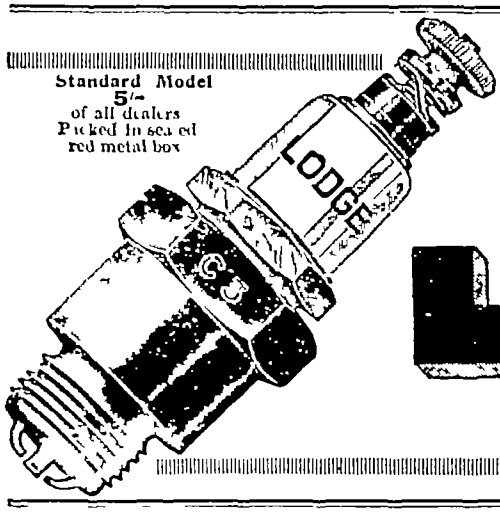
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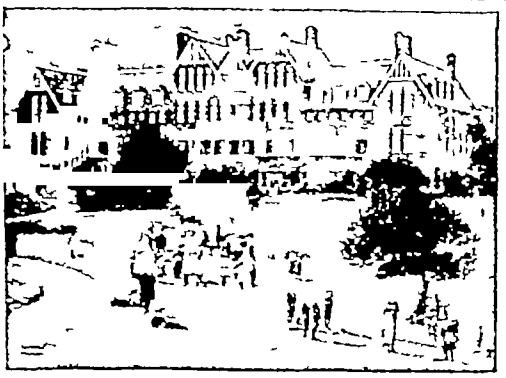
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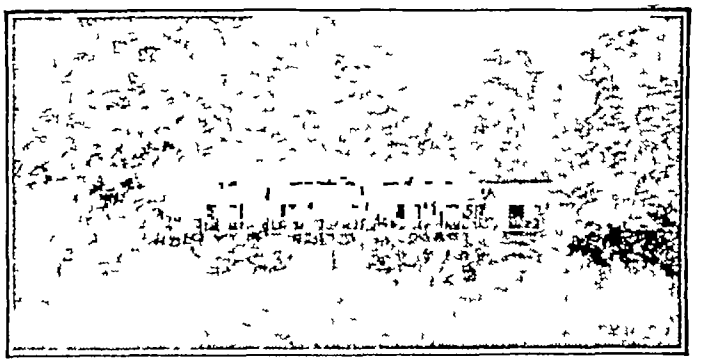
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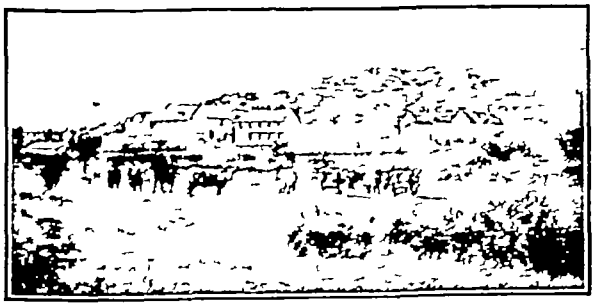
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An Examination for not less than 30 Commissions in the Royal Army Medical Corps will be held on 30th July 1924.

Applications to compete should be made to THE UNDER SECRETARY OF STATE the War Office, not later than 30th July 1924 The presence of Candidates will be required in London from 28th July

Students who have entered for their Final Profession Examination in July may submit applications the acceptance of which will be subject to the Candidate qualifying and being registered before 30th July 1924

Intending Candidates can obtain a full statement of the duties and emoluments of the Service on written application to THE UNDER SECRETARY OF STATE, the War Office, Whitehall S W 1

University of London

NOTICE IS HEREBY GIVEN that the Senate will proceed to elect EXTERNAL EXAMINERS for the calendar year 1925 for the Examinations above Matriculation as follows:—Except when otherwise stated Examiners will act in all Examinations in which the subject is included. Where Examiners are to be appointed for (a) Intermediate Examinations only and (b) Final and Higher Examinations only the fact is indicated after the name of the subject below in these cases the same Examiner cannot hold both appointments

FOR THE CALENDAR YEAR 1925

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Biology Physics.

For the Second Examination for Medical Degrees

Chemistry (2) Physiology

Higher Examinations for Medical Degrees

Medicine (2) Obstetric Medicine.
Mental Diseases. State Medicine.
Neurology Surgery
Tropical Medicine.

N.B.—Attention is drawn to the provision of Statute 121 whereby the Senate is required if practicable to appoint at least one Examiner who is not a Teacher of the University

Application form (or forms if more than one Examinership is applied for) and particulars of the remuneration and duties can be obtained from the External Registrar

Candidates must send in their names to the External Registrar GEO F GOODCHILD M.A. B.Sc. with any attestation of their qualifications they may think desirable on or before Monday July 7th, 1924. (Envelopes should be marked "Examinership")

The Senate desire that no application of any kind be made to individual Members

If testimonials are submitted one copy only of each is required In no case should original testimonials be submitted If more than one Examinership is applied for a separate and complete application must be forwarded in respect of each Examinership. The appointments will be made by the Senate in November Applicants who desire that the result should be communicated to them are requested to enclose a stamped and addressed envelope with their applications.

University of London E C PERRY
South Kensington Principal Officer
S W 7 June 1924

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Royal College of Physicians
OF LONDON

The next PROFESSIONAL EXAMINATION for the MEMBERSHIP will commence on Tuesday July 22nd.

Candidates are required to give fourteen days notice in writing to the Registrar of the College, with whom all certificates and testimonials required by the By laws are to be left at the same time.

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Small Private Residential
SCHOOL, established 21 yrs. for the Physical and Mental Development of ABNORMAL and BACKWARD PUPILS Special Department Pupils over school age. Under Medical supervision.—Prospectus Mrs. MEIKLEJOHN Principal, St Paul's House, Upper Maze Hill St. Leonards-on-Sea.

Wilts County Council

APPOINTMENT OF ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL INSPECTOR.

The Wilts County Council invite applications for the appointment of an Assistant County Medical Officer of Health and Assistant School Medical Inspector Applicants must be fully qualified medical practitioners hold a Diploma in Public Health or an equivalent qualification, and have had some special experience in tuberculosis The salary will be £800 per annum, and will be subject to a deduction of 5% for superannuation under the Local Government and other Officers Superannuation Act 1922 and the candidate selected will be required to pass a medical examination The officer appointed will be required to devote his whole time to the duties of the office and to act under the direction and control of the County Medical Officer of Health who is also School Medical Officer The duties of the post will be chiefly concerned with the School Medical Service but a proportion of the officer's time will be devoted to the Public Health work of the county The appointment will be determinable by three months notice on either side

Applications on forms to be obtained from the undersigned together with copies of not more than three recent testimonials, and enclosed in envelopes marked Assistant Medical Officer" to be forwarded with the undersigned not later than Thursday the 3rd day of July 1924

Canvassing, either directly or indirectly is strictly prohibited, and will be regarded as a disqualification.

W. L. BOWN
Clerk of the County Council.
County Offices, Trowbridge June, 1924.

West London Hospital,
Hammersmith Road, W 6. (1/0 Beds.)

Applications are invited for the post of ASSISTANT ANÆSTHETIST Candidates are required to be registered under the Medical Act to send applications with copies of testimonials so as to reach me by Wednesday July 16th to attend the Medical Council on Friday July 18th at 4.30 p.m. and prior to that date to call upon and send copies of their applications and testimonials to the members thereof to obtain from canvassing but nevertheless to send copies of their applications and testimonials to the members of the Board of Management, who will elect on Tuesday July 22nd at 5 p.m when candidates must be in attendance. H. A. MADGE Secretary

arities

Two Medical Officers and one

ASSISTANT PORT HEALTH OFFICER are required by the Government of HONG KONG Salary £800 per annum rising by annual increments of £25 to £1,000 per annum, payable in dollars at a fixed rate of 2/- to the dollar, together with a temporary exchange allowance which is at present 20% of salary Appointment is for three years in the first instance. If after the expiration of this period the officer's work and conduct are satisfactory he will be placed on the pensionable establishment, and will then be required to contribute 4% of salary towards pensions for widows and orphans of Government Officers. Government quarters may be provided for which a small rent is charged If not, a rent allowance in lieu is granted Candidates may be married, but unmarried men preferred Free passages granted.

It is desirable that candidates should have held the appointment of House Physician or House Surgeon and have some knowledge of Eye Diseases and in the case of the Assistant Port Health Officer a Public Health qualification.

Applications should be addressed to the Private Secretary (Appointments), Colonial Office London S W 1

Indian Medical Service

The Secretary of State for India announces that Vacancies in the Indian Medical Service continue to be filled by direct appointment.

For EUROPEAN OFFICERS of British Nationality to be appointed in the immediate future special terms are offered including gratuities of £1 000 after 5 years service, together with free return passages for those who no longer desire to remain in the service

Candidates must be under 32 years of age at the time of application and must possess qualifications registrable in Great Britain and Ireland under the Medical Acts now in force

Further particulars can be obtained on application to the Secretary Military Department, India Office, Whitehall London S W 1 Letters should be marked "Recruitment for I M S"

Applications are invited for

the post of BACTERIOLOGIST and ASSISTANT MEDICAL OFFICER of HEALTH in the Bahamas

Candidates should be registered medical practitioners with special experience of bacteriology and administration of specifics for venereal disease The appointment in the first instance will be for three years salary £600 per annum. Private practice is not allowed A free passage to the Colony is provided for the Officer but if married he will be required to pay the passage expenses of his wife and family

Further particulars and the necessary forms of application can be obtained from the Private Secretary (Appointments) Colonial Office Downing Street London.

Senior Medical Officer

required for GILBERT and ELLICE ISLANDS COLONY Salary £650 per annum rising by annual increments of £25, to £750 per annum

Free quarters partly furnished provided and free passages for officer wife and children not exceeding five passages in all Post is pensionable

Candidates should be between 25 and 35 with good medical qualifications and some operating experience There are opportunities for original work and data to forward research is desirable

Intending applicants should write to the Private Secretary (Appointments) Colonial Office S W 1 who will furnish them with application forms and further particulars

Bloomsbury Dispensary

for the PHYSICIAN to the Charity having many vacant gentlemen willing to become Candidates for the appointment are requested to send their application with testimonials to the Secretary to the Dispensary not later than Friday July 4th An honorarium of 100 guineas is usually voted annually to the Physician

Candidates must be either Fellows or Members of the Royal College of Physicians of London and registered Pharmacy or Midwifery

Canvassing prohibited

Further particulars may be obtained of the Secretary Bloomsbury Dispensary 12 Bloomsbury Street, W C 1

Birmingham and Midland

HOSPITAL FOR SKIN AND URINARY DISEASES

DEEP X RAY THERAPY DEPARTMENT.

NURSE REQUIRED fully trained and experienced with view to promotion to Sister at early date Good salary according to experience.—Apply Matron John Bright Street Birmingham

East Suffolk and Ipswich

HOSPITAL.

MATRON FOR CONVALESCENT HOME

Applications are invited for the appointment of Matron for the Hospital's new Convalescent Home at Felixstowe (50 Beds—men, women and children)

Appointment is open to candidates unmarried or widows under 40 years of age who are fully qualified and hospital trained Nurses and have had previous similar administrative experience Commencing salary £135, rising by two annual increments of £15 each, to £165, with board residence, laundry etc

Full particulars and forms of application will be supplied by the undersigned

Applications (on official forms only) addressed to the Chairman, House Committee East Suffolk and Ipswich Hospital, Ipswich, and accompanied by copies of three recent testimonials, to be delivered on or before 8th July, 1924.

The Hospital, ARTHUR GRIFFITHS
Ipswich. Secretary
June 14th 1924.

Wolverhampton and

STAFFORDSHIRE HOSPITAL.
(Incorporated by Royal Charter)

A RESIDENT SURGICAL OFFICER wanted Duties to commence July 6th, 1924 Candidates must have held previous post as House Surgeon in a large Hospital. The Hospital contains 210 beds and there are four Resident Officers Salary £250 per annum with board, furnished rooms, and laundry The appointment is for one year with eligibility for re-election Details of duties may be obtained on application

Applications together with copies of testimonials, to be forwarded to the undersigned forthwith

Wolverhampton. W H HARPER
June 16th 1924 House Governor & Secretary

National Hospital for the

PARALYSED AND EPILEPTIC,
Queen Square, W C

An ASSISTANT PATHOLOGIST who shall be medically qualified, with special training and experience in Biochemistry, is required for part time work at the National Hospital He will be expected to attend six half days a week and to work under the Director of the Pathological Laboratory of the Hospital Salary £250 per annum

The appointment will be for one year and the holder will be eligible for re-election

Applications should be sent to the undersigned on or before Monday June 23rd

GODFREY H HAMILTON Secretary

National Hospital for the

PARALYSED AND EPILEPTIC,
Queen Square W C

RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Resident Medical Officer, and should be sent to the undersigned accompanied by copies of three recent testimonials not later than Monday June 23rd The salary is £200 per annum, with board and lodging

Applicants should state if they are willing to accept either the post of Senior House Physician or that of Junior House Physician Salary in each case £150

GODFREY H HAMILTON, Secretary

King Edward VII Hospital,

Windsor

The following vacancies occur on the Honorary Staff of this Hospital:—

ASSISTANT PHYSICIAN
ASSISTANT SURGEON
CLINICAL ASSISTANT TO THE EAR NOSE, & THROAT DEPARTMENT

Duties to attend, respectively one afternoon every week in the Out patients Department, also to take In patient duty for Senior when latter is absent.

ANÆSTHETIST To administer anæsthetics on one afternoon in each week

Applications stating qualifications and experience to reach the Secretary at the above Hospital, by June 28th.

London Temperance Hospital,

Hampstead Road N W 1

Applications are invited for the post of HOUSE PHYSICIAN which will be vacant on the 14th July next. Honorarium £120 per annum with residence board etc The appointment is for a period of six months, renewable

Applications should reach the Secretary on or before July 4th.

Derbyshire Education

COMMITTEE

SCHOOL MEDICAL OFFICER (SPECIALIST)

Applications are invited for the above position at a salary of £600 per annum, rising by annual increments of £25 to £800 per annum together with travelling and maintenance expenses

Special knowledge in diseases of the ear and throat are essential and skill and experience in the enucleation of diseased tonsils and removal of adenoids. Experience in Ionic treatment of ear disease is also desirable

Particulars of duties, and forms of application may be obtained from the undersigned, to whom they should be returned filled up, together with copies of not more than three recent testimonials, on or before July 5th

SIDNEY BARWISE M D,
New County Offices, School Medical Officer
St. Mary's Gate, Derby

G.W.R. Medical Fund

SOCIETY, Swindon.

The Committee invite applications for the post of ASSISTANT MEDICAL OFFICER Candidates must be fully qualified and registered Medical Practitioners

Applications should be accompanied by three recent testimonials and should state age qualifications and nationality

The salary paid is £700, rising by two annual increments of £50, to a maximum of £800 per annum

Applications should reach the undersigned on or before Wednesday, June 25th

Milton Road S E. WALTERS,
Swindon. Secretary

Rochdale Infirmary.

MEDICAL OFFICER IN CHARGE OF X RAY & ELECTRO THERAPEUTIC DEPARTMENT

Applications are invited for the above appointment. The successful candidate will be required to confine his practice to Radiology and Electro Therapeutics. Preference will be given to candidate holding the Cambridge Diploma in Radiology

The Board will be prepared to grant the candidate appointed an adequate honorarium

Applications should be addressed to the Secretary from whom further particulars may be obtained.

W WINNE, Secretary

Infirmary Office, Rochdale

Central London Throat, Nose,

& EAR HOSPITAL, Gray's Inn Road W C 1

RESIDENT HOUSE SURGEON (Male.)

There will be a vacancy for a Second Resident House Surgeon to enter on duty about the middle of August. Remuneration at the rate of £75 per annum

The appointment offers good opportunity of acquiring extended knowledge of the diseases treated

Applications with copies of not more than three testimonials should be sent to the undersigned not later than July 5th.

RICHARD KERSHAW, Secretary

The King Edward VII Welsh

NATIONAL MEMORIAL ASSOCIATION

Applications are invited from duly registered medical practitioners (male) for the position of JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER at the SOUTH WALES SANATORIUM, near Talgarth Breconshire.

Salary £200 per annum, with maintenance Appointment limited to one year

Application, with testimonials, giving qualifications and previous experience, should reach the undersigned by June 30th, 1924

Memorial Offices, WM MILES
Westgate Street, Cardiff Secretary

St Thomas's Hospital.

VACANCY

The appointment of a VISITING ANÆSTHETIST will be made by election

Applications, with testimonials should be forwarded to G Q ROBERTS, Secretary, not later than July 28th 1924.

Pathologist (male or female)

part time, wanted for ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester Square, W C 2. Honorarium £100 per annum, and proportion of teaching fees Apply, enclosing copies of three recent testimonials, on or before June 30th, to the Secretary Superintendent

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W C 2.

CONTRACT PRACTICE.

Town or District.	Town or District.	Town or District.
ENGLAND	**WALES** *(continued)*	**PUBLIC HEALTH** *(continued)*
MIDDLESBOROUGH *(Medical Aid Associations or Workmen's Clubs.)*	OGMORE VALLEY GLAMORGAN *(Llynfhant Colliery Medical Aid Society.)*	FIFE EDUCATION AUTHORITY *(Tests and School Medical Officer.)*
SOUTH BANK & ESTON *(Medical Aid Association or Workmen's Clubs.)*	TONDU & ABERKENFIG GLAMORGAN *(Workmen's Medical Scheme.)*	GELLYGAER URBAN DISTRICT COUNCIL *(Medical Officer of Health.)*
WALES	**PUBLIC HEALTH**	HUDDERSFIELD COUNTY BOROUGH *(Woman Assistant Medical Officer of Health.)*
ABERTRIDWR GLAMORGAN *Windsor Colliery (Medical Scheme.)*	ABERDEENSHIRE EDUCATION AUTHORITY *(Assistant School Medical Officer.)*	HUNTINGDON ADMINISTRATIVE COUNTY *(Asst. and County Medical Officer and Assistant School Medical Officer.)*
EBBW VALE MON *(Workmen's Medical Society.)*	ARGYLLSHIRE EDUCATION AUTHORITY *(Executive School Medical Officer.)*	LINCOLN CITY AND COUNTY BOROUGH. *(Medical Officer of Health.)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme.)*	BARNSLEY COUNTY BOROUGH *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	NORFOLK EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme.)*	DUNDEE EDUCATION AUTHORITY *(Senior Assistant Medical Officer.)*	NOTTINGHAMSHIRE *(County Medical Officer of Health)*
MARDY GLAMORGAN *(Workmen's Medical Scheme.)*	EAST SUFFOLK ADMINISTRATIVE COUNTY *(Assistant Tuberculosis Officer.)*	SOUTHWARK METROPOLITAN BOROUGH. *(Tuberculosis Officer.)*
OAKDALE MON *(Medical Officer for Medical Aid Association.)*		STOKE ON TRENT EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
		YORKSHIRE NORTH RIDING COUNTY COUNCIL. *(Assistant School Medical Officer.)*

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE (Grenada with Carriacou St. Vincent and St. Lucia)

(c) Overseas Appointments.

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association 429, Strand, London, W C 2.

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec. New South Wales Branch) B.M.A. Building, 30-34 Elizabeth Street, Sydney N.S.W.	QUEENSLAND *(Brisbane Associated Friendly Societies' Institute.)*	Dr. R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street Brisbane	VICTORIA *(All Institute or Medical Dispensaries.)*	Dr. FRANK DAVIES (Hon. Sec., Victorian Branch), Medical Society Hall, Melbourne, Victoria.
				WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch No. 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address 429 Strand, W C 2.
June 18th 1924.

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

Queen Charlotte's Maternity HOSPITAL
(formerly Queen Charlotte's Lying-in Hospital)
Mary'ebone Road N W.1

TWO ASSISTANT RESIDENT MEDICAL OFFICERS male or female, required to commence their duties on 1st August 1924. Applicants must be registered. Appointment for four months. The selected candidates will take alternate duty in the in patient department and on the district. The post of SENIOR RESIDENT MEDICAL OFFICER will also become vacant on the 1st August 1924. The vacancy of the Assistant Resident Medical Officer is at the rate of £80 per annum and of the Senior Resident Medical Officer £100 per annum with board residence and washing allowance (4, weekly). The present Assistant Resident Medical Officers are candidates for the Senior post.

Applications with copies (not originals) of not more than three testimonials will be received by the Secretary up to June 25th

ARTHUR WATTS Secretary

Medical Officer required for Holiday Camp on CALDEY ISLAND of Boys of Beaford Court Mental Welfare Hospital for Children Worcestershire. Duties nominal. Return travelling expenses and hospitality. Would suit a young single practitioner desiring a pleasant holiday.—Apply Rt. Rev. MONSIGNOR NEWSOME, Beaford Court Worcestershire.

St Peter's Hospital for STONE &c.
Henrietta Street, Covent Garden, W C.2.

The Committee are desirous of appointing qualified Medical Practitioners as CLINICAL ASSISTANTS in the out patient department, at the following times, viz:—

Mr Joly Monday 2—3.
Mr Morson Saturday 2—7
Mr Barrington Tuesday 2—3, and Thursday 3—7
Mr Ward Wednesday 1.30—7 and Friday 2—3.
Mr Andrews Monday 3—7 and Friday 5—7

The appointments are for six months from 1st July and applications, stating qualifications will be received by the Secretary not later than 10 a.m. on Monday June 23rd

On appointment, a fee of 5 guineas will be due to the hospital

BEECHEY ROGERS Secretary

East London Hospital for CHILDREN AND DISPENSARY FOR WOMEN Shadwell, E.1

Applications are invited for the post of HOUSE SURGEON (male). The appointment is for six months from July 1st, 1924. Board residence, and laundry are provided. Salary at the rate of £125 per annum. Applications, with testimonials, to be sent to the undersigned not later than Wednesday June 6th

W. M. WILCOX, Secretary

Royal Devon and Exeter HOSPITAL Exeter (300 Beds.)

ASSISTANT HOUSE SURGEON

Applications are invited for the post of Male Assistant House Surgeon at this Hospital, vacant on July 31st next. The appointment is for six months but candidates are eligible for re-election.

Salary at the rate of £150 per annum, with board, apartments, and washing.

Applications, giving full particulars as to age qualifications, together with certificate of registration and copies of recent testimonials should be sent to the undersigned on or before Thursday June 5th, 1924.

S. S. COLE Secretary

Royal Chest Hospital, City Road E C
(Royal Northern Group of Hospitals.)

A vacancy occurs for a PHYSICIAN with charge of Out-patients. Candidates must possess the degree of M.D. or M.B. obtained by examination as a British University and be Fellows or Members of the Royal College of Physicians of London.

Applications should be sent to the undersigned from whom full particulars of the office and with regard to the submission of copies of testimonials, etc., may be obtained

GILBERT G. PAYTER, Secretary
Royal Northern Hospital Holloway N 7

Wanted for a large Industrial Corporation in BURMA an ASSISTANT CHIEF MEDICAL OFFICER Applicants should not be over 36 years of age Experienced physician with special knowledge of Bacteriology and Tropical Diseases D P H , an essential qualification Climate sub-tropical and healthy Prospects good for a keen man —Apply by letter, ' D c/o WILLINGS, 20 Copthall Avenue, London, E C 2

Wanted Assistant, about July 1st by Doctor near Glasgow Scots Graduate (single) aged 25–30 Ex H S and H P , with preferably experience in General Practice Motor cyclist Drive car Good partnership offer —No 3105 B M J Office 429 Strand, W C 2

Wanted at once, Doctor, experienced in Malaria, for Refugees in Macedonian Villages for three months Also ASSISTANT for two years — Particulars from Dr HILDA CLARK, Friends Council for International Service 168 Bishopsgate, E C 2

Wanted, an indoor junior male ASSISTANT, for panel and colliery practice in Glamorgan to commence duty on 1st August Must be British, motor-cyclist abstainer, and willing to sign usual bond Salary £360 — Address age references and all particulars to No 2922 BRIT MED JOUR Office, 429 Strand W C 2

Wanted—An Indoor ASSISTANT Please state age experience qualifications and other essential particulars R C for preference. Sign usual bond —Address No 3003 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted, about middle of July ASSISTANT Indian or West Indian preferably married Permanent with view to partnership Large Industrial Town in the North Address No 3001 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

Wanted—Assistant, with view to partnership, South Coast Town (Sussex) Must be capable Surgeon preferably F R C S —Address full details to No 3010 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted soon, married ASSISTANT Live at surgery unfurnished rooms. Non panel practice State age and full particulars to M. F STANILAND 205 Stapleton Road Bristol

Wanted—July next, Assistant indoor at first cyclist. Usual bond Address stating essential particulars, No 3024 BRITISH MEDICAL JOURNAL Office 429 Strand, W C

Wanted—Part-time ASSISTANTSHIP in London by experienced M B age 27 male 3 years qualified Past H S H P R M O Good anæsthetist Free after noons evenings or week ends —Address No 3017, BRITISH MEDICAL JOURNAL Office, 429 Strand W C

Assistantship—Assistantship [illegible] LOCUM wanted by woman M.B [illegible] or Country Excellent refer [illegible] Free within week if required [illegible] No 3019 BRITISH MEDICAL JOURNAL [illegible] Strand W C

Assistantship (outdoor), [illegible] M B Ch B 2 English married [illegible] in panel and private practice Hospital trained Good anæsthetist and minor [illegible] Excellent testimonial and refs —Address 3025 BRIT MED JOUR 429 Strand W C

Assistantship wanted by Edinburgh woman graduate D P H Two years district Experience in Specials—Address No 3021 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Assistantship or Locum, wanted by M B B.Ch Single aged 27 One three years experience in panel and private practice Excellent references Free at once — Address No 3010 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Medical Woman would escort Girl or lad etc Lady to Switzerland in return for expenses Free in July and August —M L D [illegible] Frognal N W —

Gentleman, M R C S., L R C P., Lond , æt 26 desires ASSISTANTSHIP view to early Partnership with middle-aged Practitioner in good-class Practice (preferably non Univ town) Capable abstainer keen Brit Exams , 18 months gen prac Excel testimonials Well received Has own car —No 3019, B M J , 429, Strand W C 2

M.B., B Ch., 3½ years' experience Hospital and G P , excel London testimonials at present holding morning Hospital post and Clinical Assistantship is free to do EVENING SURGERIES at £1 1s. per sitting Monday Tuesday, Friday — Phone, HARRIS Ealing 495

Outdoor Assistantship or LOCUM work wanted by Doctor æt. 36 Capable experienced trustworthy popular, and accustomed to taking sole charge. Abstainer Good anæsthetist and accoucheur Excellent refs Mod terms —Add , No 3035 B M J , 429, Strand, W C

Pathological and Bacteriological LABORATORY ASSISTANTS ASSOCIATION —Pathologists and Bacteriologists requiring SKILLED CERTIFICATED LABORATORY ASSISTANTS are invited to communicate with H P HUDSON Hon. Secretary, Panama Villa, Trumpington Cambs —No fees

Urgent—Wanted Assistantship view to Partnership by M B D P H , aged 36 married abstainer Good general experience T B anæsthetic and mental Excel to testimonials keen healthy Well recd Irish, C of E Free now —Address, No 3013 B M J 429 Strand.

Woman Graduate with some experience desires ASSISTANTSHIP in general practice —Address No 3023 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

SCALE OF CHARGES FOR ADVERTISEMENTS

SIX LINES AND UNDER	9/-
EACH ADDITIONAL LINE	1/6

An average line contains six words

All remittances by Post Office Orders must be made payable at the General Post Office, London No responsibility will be accepted for any such remittance not being so safeguarded

Advertisements should be delivered addressed to the Manager 429 Strand, London W C 2 not later than first post on Tuesday preceding publication

Note—It is against the Rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Wanted—Lady Dispenser, experienced, for country practice, in July Able to do books and records Write, stating experience, salary etc. enclosing testimonials —Address No 3012 *BRITISH MEDICAL JOURNAL* Office, 429 Strand W C 2

Wanted—Lady Dispenser, on or about June 30th Easy book keeping Apply stating age experience and salary to Drs. ROBERTSON & MARTIN 4, Knowle Road Bristol.

Wanted—Lady Dispenser (Hall) desires LOCUMS for the next four months —L c/o SMITH & SON, South Street Farnham

Dispenser (40) unqualified, 15 years experience wants SITUATION *Anywhere* — *Dispenser* 121 *York Road* S E 1

Dispenser (lady) requires LOST Doctor Hospital or Institution Experienced (Hall qualification) bacteriology book keeping, typing —Address No 3026, BRITISH MEDICAL JOURNAL Office 429, Strand W C .

Doctors requiring Lady DISPENSERS should write to Mr J L WALDEN Westminster College 113 St. George's Road S E 1 (only address) No fees to Doctors 25 years experience Daughters and other relatives of medical men always in training

Lady Dispenser required for Country Practice in a Southern County Out-door Medium panel Please state age, experience and salary required.—Address No 3011. BRITISH MEDICAL JOURNAL Office, 429 Strand W C

Lady desires post as Dispenser to Doctor (Hall Cert) Nine years' experience private and panel practice Secretarial duties etc , or would undertake Locum work Excellent references.—Address No 3015, BRITISH MEDICAL JOURNAL Office, 429 Strand, W C 2.

Lady is desirous of obtaining post as SECRETARY DISPENSER in Doctor's family in the Country; also willing to teach children languages—French, Dutch German—good pianist aged 25 Salary not first consideration —Box 529 SCHIPPER'S South Molton Street, W 1

Trained Book-keeper- DISPENSER Nurse Steward (or any position of trust) Ex Q M S R A M C (Regular) Last four years in charge hospital of large school. Free end July on school closing Excellent references — W COOPER R H M School, Shornecliffe, Kent

FOR LOCUM TENENS APPLY TO Mr. PERCIVAL TURNER.

The Oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals.

4, ADAM STREET, STRAND, LONDON, W C 2

Teleg : 'Epsomian, London " Phone: Gerrard 399
After 5 p m.— Phone: Epsom 335

Wanted, for three months, a LOCUM TENENS Must be reliable Address, giving references and other essential particulars *also date when available*, to No 3101, BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted, Locum or ASSISTANTSHIP with view Preferably Eye Ear Nose and Throat work by an M B D O, etc Twelve years of Ophthalmic experience thoroughly competent Has also 20 months experience as H S to the Ear and Nose Dept Excellent testimonials. Willing and hard worker Free by July 20th —Address, No 3033 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted — Post as Locum for summer months by man highly experienced in Tuberculosis and Mental work Sanatorium or Asylum preferred Ex H S life long abstainer £6 6s. per week —Address No 3006 BRITISH MEDICAL JOURNAL Office 429 Strand, W C

Wanted, post as Locum for July and August by energetic London man who has recently sold his Practice Town or Country Usual terms. Now free — Address No. 3018, BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted a reliable Locum for private and panel practice, from the middle of July to the middle or end of August Work easy no night work Terms £5 5s.—Address, No 3002 BRITISH MEDICAL JOURNAL Office, 429, Strand W C 2

Woman Graduate, long experience, panel private, institutional work requires a FEW HOLIDAY LOCUMS No cycling —Address No. 3041, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Well-qualified, experienced middle-aged practitioner, sold own practice, free to do LOCUM last week June to middle August References given —Address No 3034, BRITISH MED JOURNAL Office 429 Strand, W C 2

An experienced Locum open for ENGAGEMENTS in July and August (£6 6s. a week) Good references —Address, A.C c/o Capt. THOM 32, Warwick Road, Earls Court S W

LOCUM TENENS
PROVIDED
Without fee to Principals
Apply to
Mr. W. S. ATKINS
(Late of ARNOLD & SONS, London)
43, BEDFORD STREET, STRAND, W.C.2.
Telegraphic Address:
"Positions, Westrand, London."
Telephone Regent —

Experienced Locum is again at liberty to take sole charge of Practice Is steady loyal and well received Would accept post as Assistant in country place —Address, No. 3036, BRITISH MEDICAL JOURNAL Office 429 Strand W.C.2.

Locum Tenens required in an easily worked Country Practice (Derbyshire) for four weeks from July 26th Hospitality arrangement might be made Usual private and panel work.—Address No 3030 BRITISH MED JOURNAL Office 429 Strand, W.C.2.

Locum Tenens wanted, general practice or hospital. Woman M.D. 1923 free till September —Address No 3022, BRITISH MEDICAL JOURNAL Office 429 Strand W.C.

Medical Man will act as LOCUM free for August. Country practices Devon, Cornwall or south county preferred Hospitality for self and wife with moderate fee — Address No 3100 BRITISH MEDICAL JOURNAL Office 429 Strand W.C.2.

Middle-aged Medical Man, having recently disposed of his Practice desires LOCUM or ASSISTANTSHIP at Health Resort, with a view to partnership later —Address, No 3037 BRITISH MEDICAL JOURNAL Office 429 Strand W.C.2

Wanted —Partner in industrial area, rural district. Appointments and panel over £1,200 One-third share about £1,000 1½ years purchase House on lease good garden golf cricket, tennis.—Address, No 3038, BRIT MED JOUR Office 429 Strand W.C.2

Wanted — Wales (English speaking district) PARTNER with view to purchase. General Country Practice established 40 years) Panel 500 All appointments. No works or collieries —Address No. 3039 BRITISH MEDICAL JOURNAL Office 429 Strand W.C.2

Lancs Town —Partnership Old established Practice. Senior retiring Good house garage &c ; £85 Receipts £2,400 Panel 2,100 Population 13,000 Opposition poor Price half share £1,800 part deferred —MANCHESTER MEDICAL AND SCHOLASTIC ASSOCIATION 88 King Street.

North Wales —Partner wanted for middle and working-class Practice Country district. Total receipts £3,300 p.a. mainly from panel and appointments Good house and garden Rent £40 Opposition slight. Premium for a third share £1,700 —Apply PEACOCK & HADLEY 19 Craven Street, Strand W.C.2

Midland City —Partnership (possibly with preliminary Assistantship) in rapidly growing Industrial Practice Partner leaving State age, experience, if married Freehold house will be available later —Address No 3031 BRITISH MED JOURNAL Office 429 Strand W.C.2.

Partnership in old established practice Industrial district of Lancashire Panel over 3,000 Half share held by retiring partner to be sold Total receipts from £3,000 to £3,500 per annum To a suitable man, preferably one holding Public Health Diploma and with some experience of school medical work easy terms of payment might be arranged.—Premium one year's purchase.—Address No 3008 BRITISH MEDICAL JOURNAL Office, 429 Strand W.C.2.

Junior Partner wanted for good middle class Practice in pleasant country town about 15 miles from London Share worth £1,100 a year —Apply PEACOCK & HADLEY 19 Craven Street Strand, W.C.2.

Partnership wanted, by experienced M.A. M.B. Ch.B., æt. 28 married Private and panel share about £1,000 Capital available. Free now, in confidence.—Address No 3016, BRITISH MEDICAL JOURNAL Office, 429 Strand W.C.2.

Partnership wanted in Provincial Town, by experienced English man Good testimonials. Capital available Will travel for interview —Address details in confidence No 3020 BRITISH MEDICAL JOURNAL Office 429 Strand W.C.2.

Partnership wanted in Sussex, town or country by gentleman who has recently relinquished a Government appointment Previous considerable experience of country practice. Value of share required about £800 —Address No. 3027 BRIT MED JOURN 429 Strand W.C.2

Partnership — Hants Coast, large town. Partner leaving old-estab. over £2,000 half panel and appts. half private H.S. experience necessary Good class residential growing district ¼—⅓ share about 2 years purchase — Address No. 3103 B.M.J. Office 429 Strand W.C.

Wanted, Private and Panel PRACTICE or PARTNERSHIP yielding £1,000 to £3,000 a year in or near London or large Provincial Town Necessary capital available —Apply PEACOCK & HADLEY 19 Craven Street, Strand W.C.2. (No charge unless sale effected.)

Wanted —Practice or about £1,000 per annum, South of London Country or Seaside Must have very good house with large garden either belonging to practice or to be bought in the neighbourhood. —Address, No 3014, BRIT MED JOUR. 429 Strand, W.C.—

Wanted by M.R.C.S.— PRACTICE in Southern Counties with income of about £1,500 and panel 1,000 —Apply P. & O. BLUNDELL & Co., 22 Craven St., Strand.

Death Vacancy —London Suburb Excellent panel PRACTICE. Established 36 years with leasehold house (70 years unexpired) £1,700 —Address No. 3005 BRITISH MEDICAL JOURNAL Office 429 Strand W.C.2.

Dorsetshire — Old-established PRACTICE. Partnership with preliminary Assistantship and ultimate Succession. Receipts £1,112. Panel 1,400. Scope.—Further particulars from LEE & MARTIN Ltd., 71 Temple Row Birmingham

Lancashire —Large City Old-established private and panel PRACTICE. Receipts over £2,100. Panel over 1,900 Expenses small Freehold house excellent position. Premium payable part down and remainder by instalments —LEE & MARTIN Ltd.

Liverpool —Partnership worth £500 per annum preliminary Assistantship. Old-established good middle-class Practice Large panel Single young Englishman or Scotsman essential.—LEE & MARTIN Ltd.

North of England —Old- established Country Town PRACTICE. Average receipts £1,460 Good panel. Expenses small Good house garden, tennis lawn, and orchard. Large mortgage arranged. — LEE & MARTIN Ltd

West Midlands —Old-estab Town and Country PRACTICE in a County Town Receipts £1,574. Appointments. Panel nearly 400 Minimum fee 5/. Expenses small Hospital (90 beds) Purchaser would be appointed Physician or Surgeon Good house and garden Premium for practice £2,250 —LEE & MARTIN Ltd.

South Staffordshire —Well- established country PRACTICE Receipts about £600 per annum. Panel nearly 500 Scope. Freehold house; good accommodation and garden. Introduction. Premium for practice and house £1,400 for quick sale.—LEE & MARTIN Ltd.

Staffordshire — Old-estab Town and Country PRACTICE.—Receipts £1,190 Panel over 500 Appointments. Scope. Freehold house on lease ample accommodation good garden.—LEE & MARTIN Ltd. 71 Temple Row Birmingham.

Derbyshire —A General PRACTICE situated in an industrial district Receipts about £800 Panel 600 Good fees. Nice house containing 8 bedrooms &c at rental. Premium £1,000 —Folio 653 ATKINS Medical Agency 43 Bedford Street Strand W.C.2.

Glam —General Practice in thickly populated district on Coast. Receipts £1,700 Fees 3/ upwards. Panel 900 Considerable scope House, containing 4 bedrooms etc. rent £50 p.a. Premium £1,500 Folio 887 ATKINS Medical Agency 43 Bedford Street Strand W.C.2

London, W —A general PRACTICE producing nearly £1,000 Panel 1,400 Fees 5s. upwards no midwifery. Nice house containing 4 bedrooms &c. rent £110 Premium £1,800 —Folio 651, ATKINS Medical Agency 43, Bedford Street Strand W.C.2

Midlands —General Practice situated in small Country Town. Receipts £1,200 Panel 400 Fees 3/6 upwards Excellent house containing 6 bedroom &c. Premium 1½ years purchase.—Folio 617 ATKINS' Medical Agency

Notts —A middle and work- ing class PRACTICE. Receipts £1,200 Panel 700. Fees 3/6 upwards. Ample scope. Nice corner house, containing 3 bedrooms, etc Rent £60 p.a. Premium 1½ years purchase.—Folio 662. ATKINS Medical Agency 43 Bedford Street Strand.

Partnership in West Country Practice — Receipts £3,600 Good fees House available at rental Premium two years purchase for one-third share —Folio 888, ATKINS Medical Agency 43, Bedford Street, Strand W.C.2

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Yorks —A General Practice situated in an industrial district with pretty country around. Receipts over £2,000 Panel 1,100. Fees 3/ upwards. Nice house containing 4 bedrooms etc. Rent £60 p.a. Premium 1½ years purchase Payable half down and balance by arrangement.—Folio 659 ATKINS Medical Agency

Staffs —Partner required for a General PRACTICE Receipts £2,500 Panel 1,370 Fees 3/6 upwards. Ample scope House available at rental. Premium for one third share 1½ years purchase —Folio 889 ATKINS Medical Agency 43, Bedford Street, Strand W.C.—

Death Vacancy — £1,000 a year Favourite Riverside Resort Very old-established Same hands over 50 years. Small and select panel Night work mostly refused Good house, with garage and garden on lease Excellent opportunity for prompt purchaser Personally known and recommended — Apply No 7556, PERCIVAL TURNER, 4 Adam St., Adelphi, W.C.

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Newfoundland — Unopposed Town and County PRACTICE Receipts £1,650 a year could be much more. Good family residence. Practice to be sold on easy terms. House to be let or sold.—Apply PEACOCK & HADLEY 19 Craven Street Strand, W.C.2.

London, W or N W —Wanted land and Cash PRACTICE—or Share producing £800 to £1,000 per annum—Paddington Harrow Road Kilburn or Brondesbury districts preferred but not essential Advertiser is experienced and well qualified with capital available Full particulars treated with strict confidence.—No 3028 B M J Office 429 Strand W C 2

Lancs Town —Old-established PRACTICE Good house Receipts £3 000 Panel - 180 Population 18 000: Opposition 1. Price Practice £3 000 (including good debts £3,000) House (freehold) £1 050 large part deferred —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 88 King Street

Lancs —Manufacturing Town. Long-established General PRACTICE Receipts £1,250 Small house £36 p.a. Premium £1 650 —Apply PEACOCK & HADLEY, 10, Craven Street Strand W C 2

Liverpool —General Practice recently established in growing suburb Good scope for increase. Freehold residence in good position, with garden Premium for house and practice £1 500 —Address No 3007 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Manchester Suburb.—Old- established Pleasantly situated corner house specially built garage &c. £90 on lease. Receipts £1 400 Small panel with great scope for increase 1½ years purchase part deferred —MANCHESTER MEDICAL AND SCHOLASTIC ASSOCIATION, 88 King Street.

South Yorkshire —Valuable NUCLEUS for Sale in a rapidly growing colliery district within 5 miles of a large town last 15 months. Number on panel 370 non-dispensing Chiefly club work private fees 3/6 up Annual income £180 Selling owing to appointment elsewhere Good house 3 bedrooms etc n ce surgery accommodation attached to house. Rent £44. Prem £600 or offer —Add No 2813 B M J 429 Strand

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Consulting Room to Let, in or without Residence in best part Wimpole Street —Write Box 161, at Mitchell's 50 Cheapside E C 2.

Harley Street (adjoining) — Modern built DOUBLE FRONTED HOUSE to be sold at a very low price Three rooms on each of the ground and first floor and adequate bedroom accommodation baths &c Rent £80 p.a. Immediately well appointed and with vacant possession ELLIOTT SON & BOYTON 6, Vere St., W 1

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Tennis —Splendid set stout ash posts fitted with brass racket winder solid iron ground sockets and screws 36 6 worth 75 stout 42 ft tarred and bound net 15/ both unused Approval post-dated cheque —MANSELL 139 Hither Green Lane Lewisham S E 13

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Guest Hospital, Dudley.
General Hospital (115 Beds)

Applications are invited for the post of HOUSE SURGEON (Male) Duties include Medical Surgical Eye, and Venereal Diseases work Salary £200 per annum with furnished apartments, board and laundry Candidates must be fully qualified and registered

Applications, stating age qualifications and experience and accompanied by copies of testimonials, to be sent to the Secretary of the Guest Hospital and Eye Infirmary, Dudley, not later than June 25th, 1924.

Croydon Mental Hospital,
Upper Warlingham, Surrey

Lady DISPENSER wanted Must be fully qualified and one with a knowledge of photography preferred Age not to exceed 30 years

Salary commencing at £120 per annum rising by annual increments of £20 to £180 together with board lodging and washing, which are at present valued £72 9s Od. for Superannuation purposes

Apply at once to the Medical Superintendent stating age qualifications and enclosing copies of two recent testimonials with photograph.

City of Bradford.

MEDICAL OFFICER required with some special knowledge and experience in Bacteriology to act under the City Bacteriologist as assistant at the Laboratory and in Hospital work

Salary £600 per annum

Forms of application may be obtained from the Medical Officer of Health, Town Hall Bradford and should be returned to him not later than July 2nd 1924

Town Hall, Bradford. July 14th, 1924

N L FLEMING Town Clerk

Wrexham Infirmary

Wanted at the Wrexham Infirmary, a HOUSE SURGEON (Male) The appointment is for six months, eligible for re-appointment duties commencing, August 1st 1924. Salary £150 per annum with board and laundry

Applications, stating qualifications and accompanied by three recent testimonials, to be sent to the undersigned not later than Friday, July 11th 1924

LESLIE SPENCER, Secretary

June 17th 1924

Putney Hospital
(Chester Bequest), Lower Common, Putney S W 15

Wanted at end of June a RESIDENT MEDICAL OFFICER Salary £150 a year with rooms board and lodging

Applications stating age with copies of testimonials to the Hon Secretary at the Hospital from whom further information may be obtained

Beckett Hospital and
DISPENSARY Barnsley —(120 Beds)

Applications are invited from fully qualified male practitioners for the post of SENIOR HOUSE SURGEON Salary £220 per annum with board residence and laundry

Applications stating age qualifications and experience accompanied by testimonials to reach the undersigned not later than June 30th

ARTHUR L BOURNE Secretary

Kidderminster Infirmary and CHILDREN'S HOSPITAL.

HOUSE SURGEON (male) required. Salary £150 per annum, with residence board and washing. The appointment is for twelve months renewable if mutually arranged. The duties are [illegible] must be unmarried [illegible] more than three [illegible] to the Secretary W. D. CHAMBERS Hall Street Kidderminster on or before Monday June 30th

Selected candidates will be required to attend before the Committee on Wednesday July 9th, and if unsuccessful return 3rd class railway fare will be paid. Duties to commence on July 22nd

Sussex Maternity & Women's HOSPITAL. Founded 1853.

The Committee of the above Hospital give notice that at a meeting to be held at the Hospital Buckingham Road Brighton on Friday July 11th 1924 at 12 noon they will elect an HONORARY SURGEON in Ordinary to the Institution for a period of 10 years. In the event of the present Assistant Surgeon being appointed Honorary Surgeon an Honorary Assistant Surgeon will be elected.

Candidates must be duly registered under the Medical Acts. Their applications, specifying which appointment they wish to apply for together with copies of testimonials, must be sent to the Clerk 80, Buckingham Road, Brighton, on or before Thursday July 3rd, 1924. During their term of office they will be precluded from holding any appointment to another Medical Charity unless such appointment has been sanctioned by the Committee

No canvassing allowed

Board Room, 10 Buckingham Street Brighton. A. F. CRAVES Clerk. June 16th, 1924.

Royal Edinburgh Hospital FOR SICK CHILDREN

Wanted for this Hospital, FOUR HONORARY RESIDENT MEDICAL OFFICERS to enter on October 15th next. Information as to duties, etc., can be obtained from the ordinary physicians and surgeon at the Hospital. Thirty copies of applications and re-active testimonials to be lodged on or before July 3rd with Messrs HENRY & SCOTT, W.S 20 St. Andrew Square, Edinburgh. No applications will be received after that date.

Royal Berkshire Hospital, Reading. (213 Beds.)

Wanted, a THIRD HOUSE SURGEON Salary £150 per annum with board residence and laundry. He must be fully qualified and registered. The appointment is for six months from July 9th. Applications, accompanied by copies of recent testimonials should be addressed to the undersigned

Reading HERMAN BURNEY
June 21st, 1924. Secretary

West Ham Mental Hospital, Goodmayes, Ilford.

THIRD JUNIOR ASSISTANT MEDICAL OFFICER (single man) wanted. Salary commencing £300 per annum, with furnished quarters, board, laundry and attendance. The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909. Applications, stating age, qualifications, with copies of three recent testimonials to be sent to the Medical Superintendent West Ham Mental Hospital Goodmayes, Ilford, Essex.

The Children's Hospital, Sunderland (70 Beds.)

Wanted, beginning of August, JUNIOR RESIDENT MEDICAL OFFICER (female) to act as House Physician.

Candidates must possess double qualifications (registered). Salary £100 per annum, with board, residence and laundry

Applications stating age with copies of three recent testimonials, to be received by the undersigned not later than June 30th 1924

S. C. FRYERS
Secretary Children's Hospital Sunderland in connection with The Royal Infirmary Sunderland.

June 16th, 1924

General Lying-in Hospital, York Road Lambeth, S.E.1

RESIDENT MEDICAL OFFICER required for July 1st, next. Appointment for three months, £100 per annum with board. Applications with three testimonials to be sent at once to the Secretary

Royal Southern Hospital, Liverpool.

Applications are invited for the posts of HONORARY ASSISTANT PHYSICIAN and HONORARY ASSISTANT SURGEON to the above Hospital.

Honorary Assistant Physician: Applicants must be registered graduates of a British University and if not members of the Royal College of Physicians of London, must undertake to obtain that qualification within four years of appointment

Honorary Assistant Surgeon: Applicants must possess the Fellowship of the Royal College of Surgeons of England Edinburgh or Ireland but if not already possessing the Fellowship of the Royal College of Surgeons of England the appointed candidate must undertake to obtain that qualification within four years of his appointment failing which the appointment will *ipso facto* become terminated

Applications and testimonials to be sent addressed to the Chairman of the Honorary Medical Officers Election Committee, not later than Saturday 28th June 1924.

Extract Rule 17. Any candidate shall be disqualified who advertises in the public papers or personally canvasses the Members of the Election Committee but candidates are to be at liberty to send to the members copies of their applications and accompanying documents as delivered to the Chairman of the Committee

ALLEN VALDRETT
Superintendent and Secretary

St Mary's Hospitals, Manchester

TWO HOUSE SURGEONS for the Whitworth Street West Hospital (Maternity), and One for the High Street Hospital (Gynæcological and Children) each for a period of six months from the 1st July next. Salaries at the rate of £50 per annum with board and residence

Applications, with copies of three testimonials to be sent to the undersigned, on or before the 24th inst.

R. RATCLIFFE, Secretary

St Mary's Hospital for WOMEN & CHILDREN Plaistow E.13.

Applications are invited for the post of CLINICAL ASSISTANT in the Medical Out-patient Department with access to the Wards. The appointment is for six months. Attendance Monday afternoons at 2 p.m. Tea provided

Applications with copies of three recent testimonials, to be sent to the undersigned as soon as possible

A. ERNEST WILKES Secretary

University College Hospital, Gower Street, W.C.1

Applications are invited for the post of ASSISTANT to the VENEREAL DISEASE DEPARTMENT at a salary of £250 per annum.

The duties require attendance at four Clinics per week (Monday Wednesday and Friday at 5.30 p.m., and Saturday at 1.30 p.m.)

Applications, accompanied by three testimonials, must reach the Secretary by noon on Monday June 30th, 1924 and London candidates should attend personally on that date at 5.15 p.m.

University College Hospital

Applications are invited for the Resident post of REGISTRAR at the ROYAL EAR HOSPITAL, Dean Street Soho. The duties are framed to combine those of Registrar and House Surgeon. The successful Candidate will be elected for six months, and will receive an honorarium at the rate of £50 per annum.

Applications, accompanied by not more than three testimonials must reach the Secretary University College Hospital, Gower Street W.C.1 by noon on Tuesday June 24th 1924

University College Hospital

A vacancy occurs for an HONORARY ANÆSTHETIST who shall be required to attend the Hospital on three half-days per week at times to be arranged later

Applications, accompanied by not more than three testimonials, must reach the Secretary University College Hospital, Gower Street W.C.1., by noon on Tuesday June 24th, 1924

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4. DEATH VACANCY — Good-class non-panel PRACTICE of over £2,500 a year in East Coast Town. Staff Appts. assured. Nice house on lease at moderate rental. LET in charge. Full details given.
5. CONFINES OF CITY—General PRACTICE over £1,250 a year including £550 from appts and small panel. No midwifery. Fine good Convenient residence on long lease at £125. Premium £1,500.
6. BIRMINGHAM—General PRACTICE over £800 a year with panel and great scope, as Vendor has held same 40 years and has refused all midwifery and night work. Convenient house and garden on lease at low rental
7. SEAPORT TOWN (N.W. Coast). Average Income £1,500. Panel and appt. £800. Good scope for active man. Vendor's health very indifferent. Well situated residence and garden on lease. Price £2,300
8. REQUIRED by mid-aged buyer PRACTICE in Worcester Warwick Oxon. Gloucester Wilts Berks, or Northants, of £700—£1,000 with good house and grounds. Ample capital for purchase of good-will or freehold.

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2 SOMERSET —Unopposed PRACTICE Old-established mixed class Practice Average income £1,283 including appointments, and panel of over 1 000 Very nice house with 2 reception rooms professional rooms 7 bedrooms garage garden. Rent £43 Sport of all kinds. Premium £2 250

3 NORTH EAST COAST —FAVOURITE RESORT Small old established non-dispensing PRACTICE Income £400, with very large scope for young energetic well-qualified man. Fees 5/ and 7/6 Prominent corner house 3 reception rooms, 6 bed rooms garden Vendor s own freehold Premium for House and Practice £2,500

4 SOUTH WEST OF ENGLAND —COUNTRY PRACTICE. Small, practically unopposed in very pretty country Income nearly £500 with considerable scope Fees 2/6 to 10/6 Nice house with good accommodation on long lease Rent £60 Excellent sport Premium for Practice and lease £800

5. SEASIDE RESORT NORTH WEST COAST —Old-established good-class PRACTICE (held 20 years by present Incumbent), averaging £1 310 per annum for the past three years No panel, and practically no midwifery or night work. Visits 7/6 to £1 1s. Car not kept. Good house (facing sea) Rent £150 Premium 1½ years purchase or reasonable offer and suitable terms would be arranged Vendor selling on account of ill health.

6 LONDON WEST END —PARTNERSHIP —A quarter share (to commence with), and up to one-third in 2 years and one-half in 4 or 5 years with ultimate succession if desired is for disposal in a first-class general Practice Income for the immediate past year £3 020 Fees mostly 1 guinea upwards and a few at 10/6 Purchaser should be a Graduate or hold some higher qualification. Premium for the quarter share £1 500

7 GLOUCESTERSHIRE —Very sound Country PRACTICE held by Vendor nearly 20 years. Steady average income of £1,450 including a panel list of 1,177 Practice is situated in extremely beautiful country Good freehold house, with garden Rent £65 Premium £1 800, £1 000 cash, and balance by instalments

8. LINCOLNSHIRE —Unopposed Country PRACTICE Very easily worked average income over £1,100 Fees 2/6 to 10/6 Very little midwifery Good detached house in its own grounds Rent £80 on lease Premium £1 600 part by instalments

9 PARTNERSHIP —SURREY Residential Town (population over 20 000) in a beautiful district, a two-fifths share, producing nearly £850 a year in an old-established practically non-dispensing Practice held by Vendor 20 years is for disposal. Receipts average £2,110 per annum including appointments £93 and panel of about 1 100 Visits 4/ to 10/6 Midwifery 3 guineas upwards 30 cases yearly Premium 2 years purchase Ingoing partner should be well qualified, under 35 years of age and if possible a Gynæcologist. Good society golf tennis, etc.

10 PARTNERSHIP —EAST COAST —In a thriving Seaport Town (population over 100 000) the fifth share (to commence with) producing over £1,000 per annum in a leading and old-established non panel Practice is for disposal owing to the retirement of the junior partner Visits 5/ upwards. Midwifery from 2 guineas 100 cases yearly Excellent house available in good position with 3 reception rooms 5 bedrooms, bathroom, etc. and garden Rent £60 p.a. on lease Premium 1½ years purchase Remaining partner is on the Hospital Staff Incoming partner should be married, under 35 years of age and have held a Hospital appointment

11 YORKSHIRE.—Large clean town Well-established middle and working-class PRACTICE Income £1,300 including £580 from panel and £350 from appointments Advice and medicine from 2/6, visits and medicine 3/6 upwards Very little midwifery lowest fee 2 guineas Good detached freehold house with small garden Electric light Garage Price £2 500 of which £1,500 could remain on mortgage. Premium £1,400 cash.

12. NORTH EAST MIDLANDS —Country PRACTICE within easy access to large town. Very old-established and held by the Vendor over 30 years Average income about £800 including appointment and panel of 450 Nearest opposition 5 miles Fees 3/6 to £2 Large freehold house with 3 acres of garden. Price £2 500 Premium for Practice £1,500

13 DERBYSHIRE -HOSPITAL TOWN -Old-established PRACTICE held 13 years by present Incumbent who is relinquishing on account of ill health. Cash receipts for the past 3 years average £3 372 per annum including about £1 500 from panel. Fees 3/6 to £1/1/0 About 50 cases of midwifery a year at 2 to 5 guineas Centrally situated house (2 reception rooms consulting and waiting rooms 4 bedrooms bathroom, etc.) on lease at £100 a year Premium £5 000 Good scope for surgery and Vendor is on the Staff of the Hospital

14 BRISTOL.—Very sound middle and working class PRACTICE held nearly 25 years by present Incumbent who is relinquishing on account of ill health Average cash receipts over £1 200 a year, including several small appointments and a panel of over 1 00 Visits 3/6 to 10/6 Midwifery from 3 guineas about 30 cases Very good house, specially built for a doctor contains 2 reception rooms waiting room, consulting room and surgery with separate entrance 5 bedrooms, etc. Garden Premium £1 800

15 PARTNERSHIP -LANOS LARGE TOWN The third share of an old-established lucrative and money making Practice worth for the last financial year £3 722 can be acquired by a young unmarried man. Panel list of over 1 800, and patients operative class Visits 2/ to 5/ Midwifery 2 to 3 guinea Ingoing partner could reside with Vendor, or unfurnished rooms are available Golf to be had Premium 1½ years purchase

16 SOUTH WEST OF ENGLAND -COUNTY TOWN -A ONE THIRD SHARE producing £800, is offered in a good-class non panel and non-dispensing Practice, with a considerable amount of surgical work There is a good Hospital in the town and the incoming partner (who must hold the F R C S) will eventually be elected to the Staff Premium £1,600

17 NEW ZEALAND (NORTH ISLAND) —Unopposed and increasing PRACTICE in a very beautiful district on main line, about 30 miles from a large city, and worth nearly £1 300 a year including easily worked appointment at £100 Visits into Township 10/ mileage 6/ midwifery 5 gns Good and up-to-date house (built by Vendor's predecessor) containing surgery 2 reception rooms 3 bedrooms and sleeping porch bathroom etc with an acre of ground tennis court etc. Rent £120 on lease Premium £1 000

18 CHESHIRE —Twelve months PARTNERSHIP introduction will be given to an old established middle-class and panel Practice (1 600 patients on list) worth last year £2 100 Situated in a large town (population nearly 100 000) close to seaside resort Visits 2/6 to 5/ Midwifery 2 to 3 guineas about 100 cases yearly Car not required Good house with garage available at end of introduction Premium 1½ years purchase

19 NORFOLK COAST TOWN —Old established PRACTICE held by Vendor many years The average income is only about £600 but there is large scope for increase Small panel of about 200 Fees 3/6 to 1 guinea. Very little midwifery Well-situated house, with small garden. Rent £180 on lease Premium £900

20 LONDON EAST —Well-established middle and working-class PRACTICE Income over £1,150 Panel of 1 300 Surgery fees 2/6 visits 3/6 upwards No midwifery Well situated house will be sold or let Premium £1,750

21 DERBYSHIRE —Old-estab. unopposed Country PRACTICE, within 6 miles of a large town Cash receipts for the past 3 years average £1 300 per annum including Union and Vaccination £100 and 700 panel patients Visits 2/6 to 7/6 Midwifery 2 to 10 guineas 20 cases yearly Attractive Georgian residence (recently decorated) containing surgery waiting room dispensary, 2 reception rooms 4 large bedrooms 3 attics bathroom very nice garden garage Gas laid on Rent £50 Premium £2 000 including drugs fittings Educational facilities for boys Excellent hunting fishing shooting, boating

22 SOUTH SEA ISLANDS —In a Capital City a well-established lucrative and increasing PRACTICE, averaging over £1 200 per annum Good climate malaria and sunstroke unknown Up-to-date shops and educational facilities Consultation fees 7/6 to 10/6 Visits 10/6 upwards Midwifery from 5 guineas Dispensing optional Practice can be worked on foot Good bungalow residence in excellent position with ¼ of an acre of garden. Electric light, etc. Rent £10 a month on lease Premium £800 Income Tax 1/ in the pound over £500

23. WEST CENTRAL.—Sound easily worked PRACTICE of about £770 Very good scope as the Vendor has suffered from ill health since the war Fees mostly 10/6 Very convenient flat Rent £58. Premium £1 100

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London, W —About £1,100 a year Non-dispensing Very small panel Fees 5/ upwards Very few midwifery cases Corner house to rent —Apply No. 7561

London, S W —Partnership and succession £2,000 a year Half share for disposal immediately Panel 1,500 Old established Good fees Excellent house and large garden Prem. 3yrs purchase —Apply No 7560

Yorkshire —About £1,700 a year Panel 1 1.5 Visits 2 6 to 10 6, medicine extra About 30 midwifery cases up to £5,5 0 Appointments £60 Good house with garden and garage for sale or would let on lease.—Apply No 7559

London, W —Over £2,000 a year—Special PRACTICE ear nose and throat mainly including valuable transferable appointment. Good fees easily worked. Excellent consulting rooms etc moderate rent Excellent opportunity Premium for prompt purchase only £1,000 —Apply No 7555

Home County — Old-estab Country PRACTICE of nearly £1 600 a year Panel 1,50. Other appointments £130 Fees 3,6 to 10 6. Excellent house with half an acre of ground, tennis lawn, etc.—Apply No. 7554.

Lancs —University Town About £700 p.a. Panel over 700 No midwifery ample scope Good house and garden Moderate price for Practice and house —Apply No 7553.

New Zealand — About £1,800 a year Country Town in N Island, near sea. Agricultural district Premium £1,500 including furniture of house etc.—Apply No 7551.

Notts —Nearly £1,300 Panel 1,00 increasing Opposition less than usual. Corner house to let on lease.—Apply No 7549

London Suburb —About £750 p.a. Old-established non panel non-dispensing PRACTICE. Vendor retiring Fees 3,6 to 21/ Detached house. Rent £55 —Apply No. 7545.

Cheshire —Nearly £4,000 a year Old-established Practice. HALF SHARE for Sale at 1½ years purchase. Panel about 1 400. Appointments £45 Good fees. Good house and garden to rent.—Apply No. 7538.

South County —Over £1,000 p.a. Panel 640 other appointments £120 Practically unopposed. Excellent house, elec. light etc. Good garden. All sport.—Apply No 7535.

Midland Town — About £1,100 a year Old-established PRACTICE Panel 750 Appointment £40 Very little midwifery Large house and garden. Prem £1,600 including drugs, etc.—Apply No. 7534.

Norfolk Coast —Nucleus for disposal, in favourite Seaside Resort. Visiting fees 3/6 to 5/- Good house 3 reception, 4 bed rooms, consulting room and dispensary lawn etc. On lease, rent £70 Small panel.—Apply No. 7524.

Near Birmingham —£2,250 p.a. Old-established Opposition light. Good fees Panel 1,850 Appointments worth £500 (about) Good family house with garden tennis, etc. to let.—Apply No. 7501.

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YORKS —Old-established country town. Panel 1 00 Income £2,500 3 appointments. Detached house with garden and garage to let on lease Premium £3,500

YORKS —Old-established G P Panel 1,500 Two appts. Average income £1,297 p.a. Nice detached house (freehold) Scope for surgery Premium: Practice £1,400 House, £2 500 Part can remain.

EAST COAST —DEATH VACANCY —High class non panel PRACTICE, situated in busy town Income for past four years, £12,282 (exclusive consulting and appointment fees) Staff appointment. Fees 7 6 upwards. Nice house excellently situated, to let or for sale. Practice only suitable to one with good degrees and professional standing

LONDON N E.—Old-established G P Panel nearly 400 Average cash receipts £850 p.a. No midwifery scope. Premium £3,000 to include freehold house or would let.

LONDON S W —PARTNERSHIP in old established G.P Panel about 1 000 Income over £3 000 3 appointments. Premium two years purchase, £2,500 down

CHESHIRE.—PARTNERSHIP in old-established G P Income nearly £4,000 p.a. Panel 1,500 Fees 5 to £1/3/6. Mids. £3 3,0 to £10/10 0 Nice house with garden rent £56 p.a. Premium for half share, 1½ years purchase, £2,000 down. Suit married man about 30

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West Coast —Nucleus of £550 including £90 from panel in wealthy seaside place. Premises in prominent position.

Home County —Partnership Half share of £2,000 in beautiful country town Panel 10 Appointments £260 House can be rented

Ear, Nose, and Throat PRACTICE of £2,000 Fees 1 to 3 gns Transferable appointment Low rent.

Midlands —Town and country PRACTICE of £1 200 including 0 panel Good corner house with garage. Rent £60

Home County —Partnership with succession to mi ble-class Practice of £1,850 in residential dist ict The place is growing and has a cottage hospital Panel 1,40 Appointments £180 Very few midwifery Rent £70

Home County —Unopposed PRACTICE of £1,600 Panel and appointments £500 Beautiful district o ation Well built house with very nice garden and tennis court. Can be bought

Yorkshire —Practice of £1,500 in prosperous town Panel 1 5,0 Rent £80 Premium 1½ years purchase.

East Coast —Practice of £1,700 in beautiful seaside resort Panel 850 Appointment £80 Good schools Excellent house with fine garden Rent £140

South Coast —Partnership Half share of £2,300 in pleasant town. Panel 1 000. Appointments £500. Good house with large garden Rent £90 Premium £2,200.

Within 25 miles —Middle and working class PRACTICE of £1,700 Panel 1,100. Vendor retiring Opposition slight. Rent £42.

X-Rays Practice of £1,550, increasing Vendor is on the hospital staff. Large town in S. of England.

London, S E — Middle and working-class PRACTICE of £1,300 Panel 940 House with nice garden and garage can be bought for £1,200

Liverpool —Practice of £1,400 in residential suburb Appointments £90 Panel 1 100. The Practice is non-dispensing Rent £50

North London —Middle and working-class PRACTICE of £1,600 Appointments £420 Panel 1 100 No midwifery has been done and there is great scope. Rent £65

Birmingham — Middle and working-class PRACTICE of £815. Panel over 00 No midwifery Great scope. Double-fronted house with large garden. Low rent

North Wales —Practice in beautiful seaside place Receipts £550 Small panel. Cottage hospital Good house and garden, rent £50 on long lease. Garage. Premium £650

New Zealand — Unopposed PRACTICE of £1,800 Beautiful district in North Island Convenient House. Good roads Scope for surgery Good introduction. Premium £1,500

Death Vacancy —Partnership Third share of £4,500 Middle and working class Practice, 10 miles out. Appointments £800 Panel 4,600 Rent £75 including rates and taxes

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HOME COUNTY.—(2) PARTNERSHIP in Practice over £2 100, in most desirable Country Town Panel about 1 700 Choice of houses to be purchased Hospital Premium two-fifths share two years purchase

EASTERN COUNTIES.—(3) Very old-established Country PRACTICE over £1 400 p a. Panel 676. Suitable house (5 bedrooms) Rent about £40 Mild climate. Premium one and a half years purchase

HOME COUNTY.—(4) ASSISTANT required (with view to Partnership) in old established Practice, in very desirable Residential District One fourth share (about £700 p a) at two years purchase. Incoming partner should be 30-35 have held Hospital Appointments, and preferably posses University degree

EASTERN COUNTIES.—(5) Old-established unopposed Country PRACTICE of £826 p a. Panel about 500 Very good house in 2 acres of garden also 18 acres of land attached, to rent or purchase Nearest opponent 5 miles. Premium £1,500

SURREY.—(6) PARTNERSHIP in middle and working-class Practice, over £2 000, in pleasant outlying Suburban District Panel 2 000 House contains 3 bedrooms, &c Rent £30 Premium one-third share £1 200

SOUTH WALES.—(7) Well-established PRACTICE nearly £1,250 p a in County Town Panel over 600 Fees 5/- to £2 2s. Well-situated double fronted house (6 bedrooms) with large garden. Rent £60 Educational facilities. Premium £1,800

SPECIAL OPHTHALMIC PRACTICE.—(8) About £1 400 in high-class inland Health Resort. Operative and acute cases refused of late years Considerable scope for increase. Premium £2 000

SOUTH OF ENGLAND.—(9) PARTNERSHIP in well-established good-class Country Town Practice over £4 000 per annum in delightful district Panel 1 400 Choice of houses Premium one-fourth share two years purchase *Good Cottage Hospital*

SOUTH OF ENGLAND.—(10) Old-established unopposed Country PRACTICE about £1,350 in Manufacturing Village Panel 1 130 Nice detached house (5 bedrooms) with good garden Price £1,200 *Premium one and a half years' purchase.*

MIDLANDS.—(11) Lucrative PRACTICE averaging over £2 200 in Country Town near Birmingham Panel 1,800 Charming house (7 beds) large garden Rent £100 Prem. one and a half yrs purchase

LONDON, WEST.—(12) PARTNERSHIP in working-class PRACTICE averaging over £4 000 p a, in Paddington area. Panel 4 500 House available Prem one-third share one and a half years purchase

SOUTH WALES.—(13) Old established working-class PRACTICE over £2 200 in good Town Panel 1 400 Detached house with 4 bedrooms to rent on lease Premium £2 500

HOME COUNTY.—(14) PARTNERSHIP in first-rate Practice £7 000/£8 000 p a in one of the best Residential Districts House (7 bedrooms) to rent Premium one sixth share two years purchase Partner should be aged over 30 and have held hospital appointments

HOME COUNTY.—(15) PARTNERSHIP in well established and increasing Practice over £2 200 in delightful Residential Country Town within 30 miles of London Panel 800 Cottage Hospital Premium on third share £1 425 Great scope

HOME COUNTY.—(16) Old-established Country PRACTICE £1,600 p a. in beautiful part, under 45 miles from London Very good house (4 bed and dressing rooms) with nice garden Price £2 350 Premium for Practice £2 400

YORKSHIRE (WEST RIDING).—(17) Well-established PRACTICE £1 650 p a in Industrial District easy reach of Sheffield Panel 2 Convenient 8 roomed house Rent £48 Premium one and a half year purchase

SOUTH OF ENGLAND.—(18) PARTNERSHIP in old-established PRACTICE £1,500 p.a. in town of nearly 30 000 inhabitants Panel 1 400 No midwifery House contains 5 bedrooms Premium one half one and a half years purchase

YORKSHIRE (WEST RIDING).—(19) PRACTICE over £1 500 p a in thriving Industrial Town. Panel 1 000 Good house Rent £80 Premium £2,250

HOME COUNTIES.—(20) PARTNERSHIP in good class Practice (chiefly X ray and Electrical) £2 200 p a. in first rate Residential Town One-third share at first with ultimate succession Partner must be experienced in X ray work Excellent Hospital and chance of appointment.

MANCHESTER.—(21) PARTNERSHIP in old-established good class Practice over £4 500 in Residential District Small panel One-fourth share would be sold for £2 115 with option to increase up to one-half Partner should be about 30 and preferably M D or F R C S

WEST MIDLANDS.—(22) PARTNERSHIP in old established Country Town Practice, over £3 600 p a. Panel 2 180. Rent £90 *Partner should be aged 35 to 40 with some Surgical experience.* Well equipped Cottage Hospital Premium one-third share two years purchase.

WEST END OF LONDON.—(23) PARTNERSHIP in high-class non dispensing Practice Fees chiefly £1 1s Not much midwifery Prem. one-third share (about £2,000 p a. *net*) £4,000 Ample scope for increase.

MIDLANDS.—(24) PARTNERSHIP in very old-established Practice over £4,300 in good Country Town Panel 2 000 House contains 5 bedrooms &c Price £1,750 Prem one-third share two yrs. purchase.

YORKSHIRE (EAST RIDING).—(25) PARTNERSHIP in well established Practice nearly £2 500 p.a., in pleasant Country Town Panel about 1 000 Good house (5 or 6 bedrooms) in acre of ground Rent £40 Premium one-half share two years purchase Partner aged about 40 preferably with experience in Major Surgery Fine Hospital in Town.

KENT.—(26) PARTNERSHIP in well-established good better middle-class Practice, over £2 000, in delightful Residential District Panel 900 Very good society Golf Premium one-third (or one-half) share two years purchase Partner must be gentleman, Public School or University man for preference.

NOTTINGHAMSHIRE.—(27) PRACTICE averaging £1 200 p.a in Residential Town Panel 700 Corner house (3 bedrooms, &c) Rent £60 Premium one and a half years purchase.

FAR EAST.—(28) Excellent opportunity for well-qualified man to acquire a PRACTICE in one of the principal Cities Varsity man (30-40) accustomed to good class practice preferred Prem. required £800

EAST COAST.—(29) Popular Resort Old-established middle and working-class PRACTICE of £1,184 Panel 847 Rent of house (5 bedrooms) £60 Premium £1 400

SOUTH OF ENGLAND.—(30) PARTNERSHIP in high-class Practice about £2,500 p a. in beautifully situated Watering Place No panel or midwifery Patients include many County families Share up to one-half at two years' purchase

SOUTH COAST.—(31) PARTNERSHIP (with view to succession) in well-established non-dispensing Practice over £3 000 p.a., in Health Resort. No panel Visits mainly 5 for 2/- Not much midwifery One-third share at first at two years purchase

SOUTH COAST.—(32) PARTNERSHIP in Panel and Private Practice over £4 000 p a. in popular Seaside Resort Panel 1 150. Premium one-third share two years purchase. Partner must be energetic and not over 35

EASTERN COUNTIES.—(33) Old-established PRACTICE £1,855 p.a. in pleasant Market Town Panel 1 100 *No midwifery* Excellent detached house (7-8 bedrooms) Very good garden. Cottage Hospital Premium one and half years purchase

SOUTH COAST.—(34) Good class PRACTICE of £1,350 per annum Excellent house Premium £1,250

SEASIDE TOWN AND HEALTH RESORT.—(35) JUNIOR PARTNER (Oxford or Cambridge graduate) required in good class old established practice Share worth £1,000 p a, at two years purchase

WEST OF ENGLAND.—(36) Well-established good class panel and private PRACTICE over £1,080 per annum in favourite Town Panel 935 rapidly increasing Good house Premium £1 650

INLAND HEALTH RESORT.—(37) Well-established PRACTICE in first-rate Residential Town Receipts 1923 £1,818 Panel 2 000 House contains 7 bedrooms &c Premium £2,400

YORKSHIRE (W RIDING).—(38) Old-established PRACTICE over £1 700 in clean Manufacturing Town Panel 1 1 5 House contains 3 bed and 2 dressing rooms Garden half an acre Pretty surrounding country Prem £2 000, to include book debts, tenant's fittings &c.

EAST ANGLIA.—(39) Well-established PRACTICE in important Town and Agricultural centre near the Coast. Receipts average £2 675 per annum Panel 2 100 Excellent house (6 bed and 2 *dressing rooms*) Premium one and a half years purchase

LONDON, N.—(40) PARTNERSHIP in Cash and Panel Practice of £1 800 in Residential District Panel 2 450 House contains 5 bedrooms &c One third share at first. Premium £1 200 Incoming Partner must be married

ESSEX.—(41) NUCLEUS of Practice in Industrial Village Panel and Midwifery refused Detached house (4 bedrooms and 3 attics) with garden. Premium Practice and House £1,000 Plenty of scope

SPECIAL OPHTHALMIC PRACTICE.—(42) About £600 in Seaside Town South of England Would suit elderly practitioner retiring and wanting quiet practice with small expenses in healthy place Premium £700

MIDDLESEX.—(43) PARTNER required in very old-established and lucrative practice over £4,500 per annum in industrial district. Panel 4 000 Small house (4 bedrooms) Rent £52. Premium one-third share two years purchase

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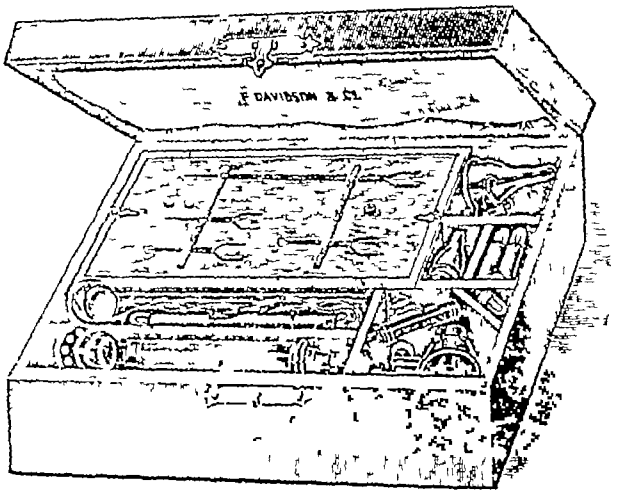
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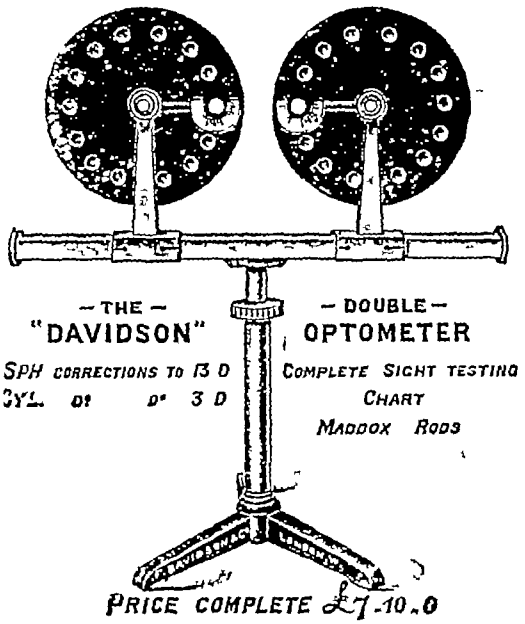
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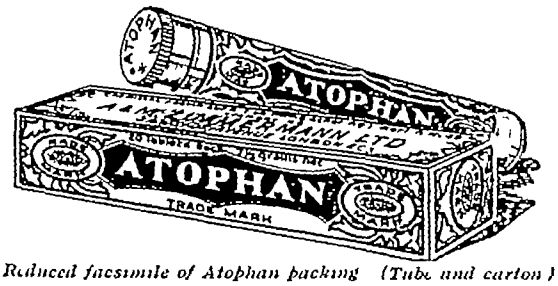
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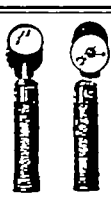
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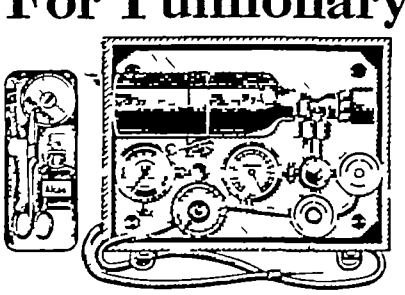
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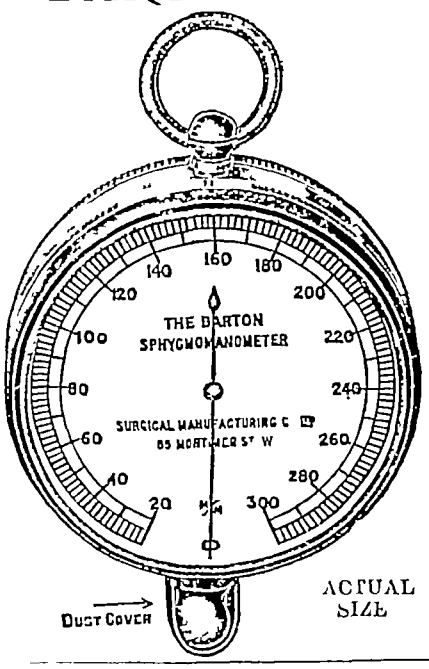
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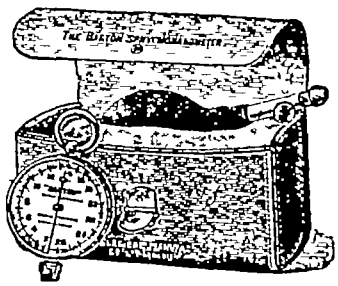
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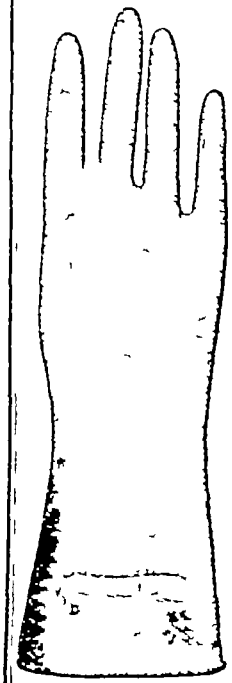


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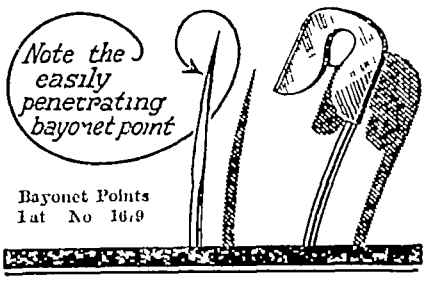
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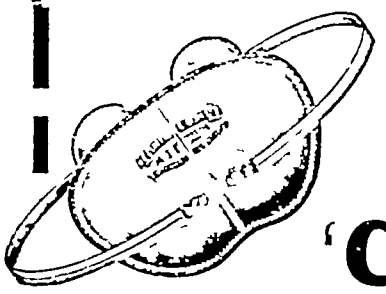
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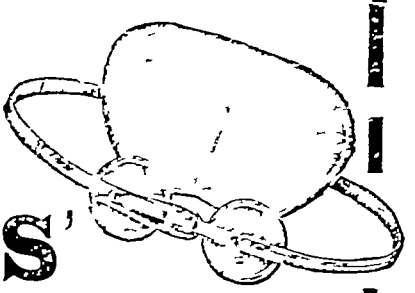
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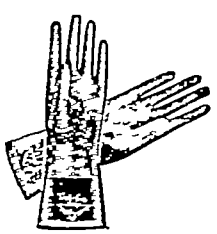
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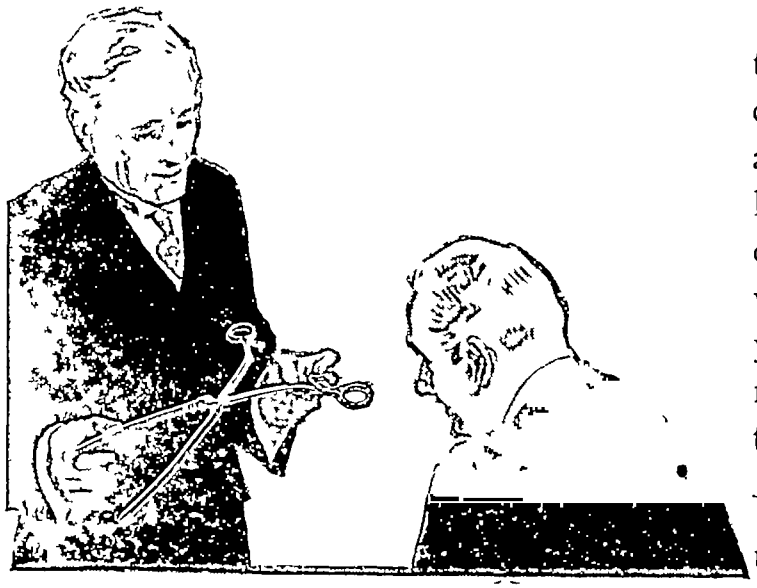
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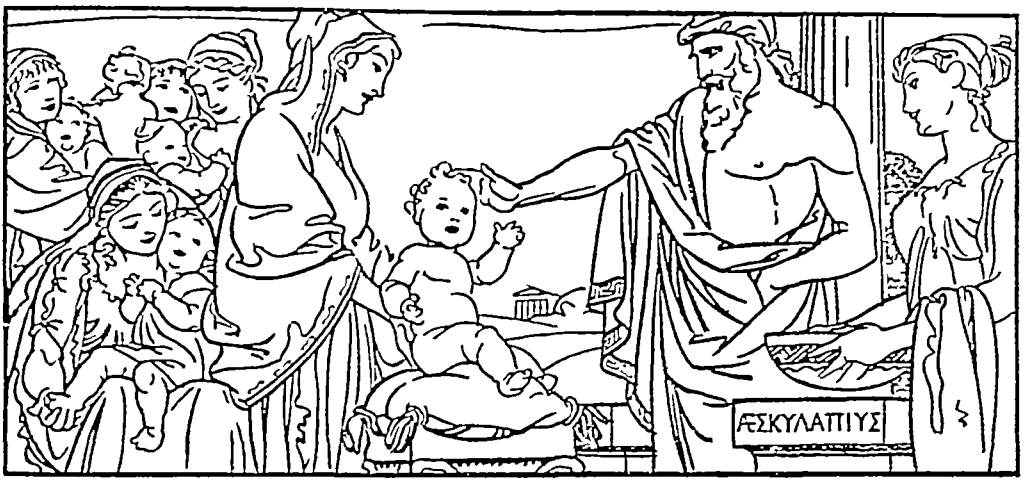
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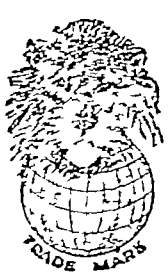
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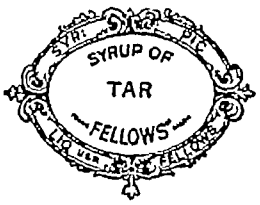
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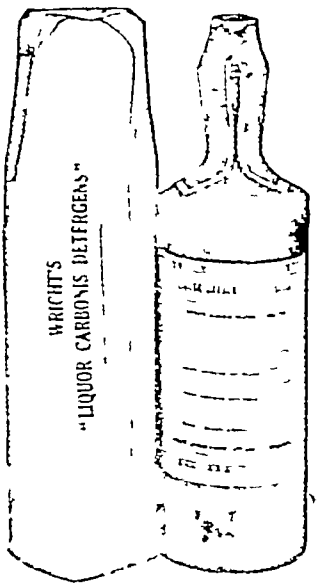
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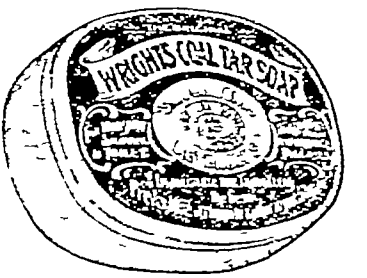
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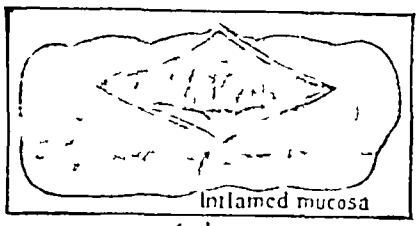
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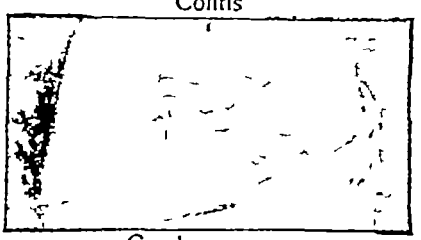
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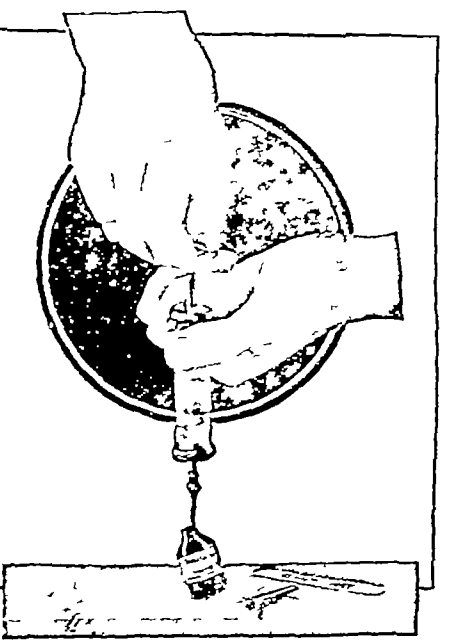
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KING ASHURBANIPAL, THE LAST OF ASSYRIA'S GREAT EMPIRE BUILDERS—The reign of Ashurbanipal is conspicuous in that it marked the greatest extension of power ever reached by Assyria the climax of her splendour and glory and the setting in of her tragically rapid decline. Ashurbanipal expanded his empire northwards and reached out in two new directions—towards Lydia which he seized and held for a time and south east to Elam, which he made a province of the empire. The scene here reproduced is from a series of bas reliefs illustrating his conquest of Elam. King Te umman and his son had defended their land in fierce battles but at last says Ashurbanipal With the help of the gods Ashur and Ishtar I seized them and I cut off their heads in the presence of each other Ashurbanipal is here depicted drinking wine with his wife in his garden after the conquest. At the height of her power the germs of dissolution were at work in Assyria. Built upon a military foundation, the resources of the empire were exhausted by its vast expansion. The policy of recruiting an ever increasing army from the ranks of agriculture and industry destroyed the wealth producing element, and even so the immense armies were insufficient to defend so far flung an empire. Twenty years after Ashurbanipal's death Nineveh had fallen before the Babylonians and the hordes pressing in from the north east.



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Ambulatory Treatment of Fractures of the Limbs;

Tuberculous and Arthritic Disease of Joints.

By CAREL A. HOEFFTCKE

7, HARLEY STREET, LONDON, W 1

Extract from the MEDICAL PRESS AND CIRCULAR, *April 9th, 1924, pages 293—296*

RHEUMATICS

BY AN EMINENT PHYSICIAN

"GENTLEMEN—The subject you have chosen for discussion is one which, though of the greatest importance, happens to be, at the moment, very obscure and difficult .

" Thus one finds as one blunders about in this swamp of 'Rheumatics' that each stone you try to step upon tilts you up and plays you false

" Lastly, there is one method upon which I would like to say a few words, though I must deal with it cautiously There are cases of severe arthritis in which the disease has become quiescent, but in which, either owing to the initial severity, or from lack of knowledge, or the character of the patient, severe contractures have resulted, one or both knees, for example, have become fixed at a right angle and the patient has been unable to walk, possibly for years These are sometimes dealt with by forcible extension and elaborate splints—a treatment associated with the name of Mr Hoefftcke No one, I think, is more afraid than I am of forcible wrenching of joints, or more cognisant of the amount of suffering that patients have to face in the course of this method of treatment I am, moreover, not a surgeon, and have not the requisite knowledge to appreciate how much value the element of traction possesses This, however, I must say, that in three out of four cases, all of the worst type, in which I followed through the results, they were eventually remarkable The fourth case, a hip-joint affected with osteo-arthritis, was a failure, but I am not prepared to alter my mental attitude because this was a failure, for the cases I am dealing with are most difficult, and there must be failures I can only repeat that I have seen three remarkable successes When I am faced by a patient with contractures of long standing, unable to walk or earn his living, I ask myself What method other than this is opento use? Gradual extension is out of the question, at least I have never seen a great success If, then, forcible extension has to be undertaken, is this splint the best, or is it unnecessary, complex, and expensive? Can we deal with these extreme cases any other way? Is the traction an important factor in eventually restoring function? I have had conflicting answers, and yet it seems to me that it is of importance, and, if so, any splint that can achieve this must, I imagine, be complicated and expensive"

Two of this Physician's cases are described and illustrated in my book, entitled "The Ambulatory Treatment of Fractures and Diseased Joints," published by Messrs Heinemann, Medical Books, Ltd, London price 10s

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Extract from the MEDICAL PRESS AND CIRCULAR, *May 14th, 1924, page 406*

RHEUMATICS

BY CAREL A HOEFFTCKE

" The danger of injury does no doubt exist if the wrenching is done without extension under such conditions the joint surfaces are pressed together by strong muscular tension, and as the surfaces are usually eroded there is serious danger of injury If, however, the joint surfaces are kept separated while the manipulation takes place this danger is avoided Such separation can only be obtained satisfactorily by an extension table or extension splint Further, the suffering which the patient has to face is in a large measure due to the contact of the diseased joint surfaces and is, accordingly, greatly reduced by suitable extension Cases treated by my ambulatory extension method in arthritic or tubercular disease need not be quiescent, in fact, the earlier the extension treatment is applied the sooner a good result can be expected . "

"The Lancet," *January 5th, 1924 review* —

And it should be stated clearly that he works only with the medical profession and not as one who offers a substitute for medical services . . . "

A Lecture
ON
CHANGING STANDPOINTS IN METABOLIC DISEASES
DIABETES, NEPHRITIS, JAUNDICE *

BY
W. LANGDON BROWN, M.A., M.D. CANTAB., F.R.C.P.,
PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

THE recent work on diabetes, nephritis, and jaundice reveals one trend common to the study of them all—a shifting of the main interest from the urine to the blood. Of three factors—the blood, the kidney, and the urine—if the state of two be known that of the third can be deduced. But it is only of late that resort has been made to routine examination of the blood for any other purposes than to count its corpuscles, to estimate its haemoglobin, and to search for microbes. Yet already biochemical examination of the blood has thrown much valuable light on obscure problems.

In the main the function of the kidney is to keep the composition of the blood constant, but in the past it was not realized that in part this was effected by changes in the renal threshold. This word has lost some of its significance for us by the fact that builders no longer make a threshold higher than the floor. Indeed, now we know that the so-called threshold may vary in its height, the metaphor of a sluice-gate is a more exact one. But the metaphor employed is not important if this point is clearly perceived—that for any substance in the blood which can be of use to the tissues the kidney interposes a barrier in the way of its excretion, and if the amount of this substance in the circulation does not exceed a certain level the kidney does not excrete it. This rule applies, at any rate, to sugar, salt, haemoglobin, biliary constituents, and water. On the other hand, there is no such barrier to purely waste products such as urea or uric acid. Their percentage in the urine is chiefly determined by the concentrating power of the kidney. The threshold of the kidney may be affected by disease of that organ, or may be altered to compensate for disease elsewhere, while disease of the kidney may also affect its power of concentration. The composition of the urine does not vary, therefore, with the composition of the blood, and the problem presents infinite complications unless the blood is directly examined.

I propose to illustrate this thesis by reference to the change in our views on diabetes, nephritis, and jaundice, that has followed biochemical examination of the blood.

DIABETES

The presence of sugar in the blood is essential to life, and a threshold to retain some is therefore necessary. As soon as it falls too low there is profuse sweating, faintness, and mental confusion, and if the fall is extreme there will be convulsions, coma, and death. It is really a condition of internal asphyxiation, since some sugar is necessary for the oxidative processes of the cell. An excess of sugar in the blood is not so dramatic in its consequences. It tends to impair the translucency of the crystalline lens, to excite neuritis, and to increase the liability to septic infections, but its most constant effect is to exhaust the cell islets of the pancreas. This sets up a vicious circle, since the failure of the cell islets results in still further hyperglycaemia, which in its turn exhausts the cell islets still more. In the attempt to prevent the loss of a valuable foodstuff the kidney raises its threshold for sugar, so that one can never assume from the fact that a diabetic becomes free from glycosuria as the result of treatment that his blood sugar is becoming more normal. On the contrary, it usually continues to rise, even despite the dietetic restrictions.

Where the renal threshold for sugar is low, as in so-called renal glycosuria, there are no serious consequences. Some two years before the discovery of insulin I posed the question in a discussion at the Medical Society, "Is not hyperglycaemia the enemy?" But no answer was forthcoming.

Since then I think a general agreement has been reached that hyperglycaemia is the enemy—particularly because of its disastrous effects on the cell islets. The resting blood sugar should normally be 0·1 per cent., rising in about twenty minutes after a meal to 0·15 per cent. and returning to normal in about one and a half hours. Within certain limits the body can function with a blood sugar that departs in either direction from these figures—but too great a fall is immediately dangerous, and too great a rise is ultimately serious. Anyone with a resting hyperglycaemia is a potential diabetic.

Now the level of normal blood sugar depends on two main factors: the endocrine balance and the threshold of the kidney. The endocrine balance is the resultant of the action of the sympathetic group of ductless glands—that is, the thyroid, pituitary, and adrenals—which mobilize sugar into the blood, and the reaction of the pancreas which stores it in the liver and muscles. Overaction of the former or underaction of the latter alike result in hyperglycaemia. It is clearly of no use to treat a case of glycosuria by insulin if there is no hyperglycaemia, and it may be positively dangerous. Fortunately we may lay it down as a general rule that when both sugar and diacetic acid are present in the urine of an undieted patient hyperglycaemia is practically certain to be found. But when as a result of treatment glycosuria vanishes while acetonuria persists, there are two possible explanations—one that the patient is being dieted too strictly, the other that the kidney has raised its threshold for the excretion of sugar the acetone bodies continuing to pass out by simple diffusion. In the first instance a slight relaxation in the diet by allowing more carbohydrate will diminish or even abolish the acetonuria, in the latter it will not, since the extra carbohydrate cannot be utilized.

It is in this matter of hyperglycaemia that insulin helps so much, it promotes the utilization of sugar by the liver and other tissues, and thus renders the rise of the kidney threshold unnecessary for the blood sugar automatically falls for six hours after its injection. But further insulin promotes the completer combustion of fat so that acetonuria is controlled. It might be thought that this was the direct consequence of better utilization of the sugar which burns up the fat, no doubt this is generally the case, but there are instances on record (*Widal and others*) where the acetonuria was abolished by insulin without the glycosuria being controlled at all.

In general it may be said that the more severe the diabetes the higher the blood sugar is likely to be. But this is not invariably the case. I have at present a typically severe instance in a young woman whose blood sugar has never been found above 0·153 per cent., and in whom 20 units of insulin a day are required to bring it down to 0·125 per cent. at which level she can still only tolerate very little carbohydrate. She does better, however, when her fats are reduced.

I should like here again to enter my protest against the statement that once insulin treatment is started it can never be discontinued. Many patients take this to mean that if they cease having it their last state will be worse than their first. There is no justification for this, but it has led, in my experience, to a number of patients declining the aid that insulin could undoubtedly bring. I would, on the contrary, positively assert that the sooner insulin is used after the onset of symptoms the more likely is permanent benefit to be derived. The most disappointing cases have been those of long standing who have become more or less adapted to a raised blood sugar, though even these have received some benefit. The most successful cases have been in young people who had early treatment. I have at the present time under my observation three girls, aged 5, 8, and 24 respectively, who have now had no insulin for several months, yet who have been persistently free from glycosuria with a normal blood sugar. They all had very high blood sugars at the beginning of treatment, in two of them it exceeded 0·4 per cent. I no longer regard diabetes as a necessarily progressive disease, but before the days of insulin the conditions were such that it almost inevitably progressively damaged the cell-islets by hyperglycaemia.

* Introductory to a post-graduate course at the Prince of Wales's Hospital, Tottenham.

In young and growing persons it is possible that if this is prevented by insulin the new cell-islets, as they form, can escape damage By combining alimentary rest, which quiets down the general metabolism, with insulin to combat hyperglycaemia, the outlook in diabetes has been enormously improved And I would add that slowing metabolism by rest in bed for a month at least at the beginning of treatment, and careful eradication of septic foci, which in themselves tend to produce hyperglycaemia, should be regarded as essential parts of the treatment Moreover, I believe that the question of the blood sugar in diseases other than diabetes will amply repay the study it is beginning to receive

Nephritis

From the point of view of function rather than structure nephritis may be hydraemic or azotaemic, though mixed types occur In the hydraemic type the renal threshold is raised for salt and water, both these substances being unduly retained in the blood and tissues Nitrogen retention, however, does not occur, so that the blood urea is normal The great drain of proteins into the urine leads to their diminution in the blood, while lipoids tend to increase there These are the facts we have learned from a study of the blood Ordinary parenchymatous nephritis is usually of this type In the azotaemic type the concentrating power of the kidney is damaged Therefore there is a failure to eliminate solids, both those for which the kidney interposes a threshold and those for which it does not Nitrogen retention therefore occurs, and instead of the normal 20 to 40 mg. of urea in the blood we may find 80, 90, or even more As it is the power of concentration which is impaired, the output of water is not involved, and indeed, since the blood pressure rises, it is actually increased Possibly this increased output of water is compensatory so as to enable the solids to escape in more dilute solution Chronic interstitial nephritis illustrates this type

Now it is clear that the treatment will materially differ according to whether there is hydraemia or azotaemia Since the blood proteins are low in the former we should not severely restrict the intake of protein in the food Meat extracts should of course be prohibited, since they have hardly any nutritive value and have to be excreted by the kidney The intake of salt should also be greatly reduced Since it has been shown that the lipoids increase the tendency to oedema, the fat in the diet should be cut down as much as possible On the other hand, as the kidney can eliminate urea quite well, we can take advantage of its diuretic effect by giving it in doses of 45 to 60 grains three times a day Its influence in getting rid of oedema is sometimes remarkable

When nitrogen is being retained, however, the restriction of protein is a wise procedure Let me say at once that even then it is not the urea which is toxic, but other non-protein amino bodies If the hypobromite method is used the creatinine is estimated as well as the urea, but if the urease method is employed only the urea is estimated By employing both and comparing the results I have been able to find that in uraemic conditions the amount of these unknown amino bodies is increased both relatively and absolutely in the blood and cerebro-spinal fluid The vomiting and diarrhoea are attempts to eliminate these toxic nitrogenous substances by other channels Von Noorden has shown that as much as 8 grams of nitrogen may be eliminated by the bowel, while not more than 3 grams can be got rid of by the skin In the vomit of a uraemic patient under my care Dr Canti found a higher percentage of urea than in the blood This points strongly to vicarious excretion and suggests the inadvisability of actively checking such methods of elimination But in such cases drastic nitrogen restriction is clearly called for, and I am accustomed to follow von Noorden's plan of giving nothing but fruit juices and sugar for a few days The same method is also applicable to acute nephritis where nitrogen retention is apt to be severe Here the benefit of fruit juices and sugar is often very striking, and in my opinion it is far better treatment than milk diet In the case of [illegible]'s son who developed acute nephritis [illegible] after tonsillitis After forty eight hours of stewed fruits, sugar, and lemon squash the blood disappeared altogether and the albumin fell to a trace, in a few days the urine was normal

The occurrence of mixed types, particularly in parenchymatous nephritis, undergoing secondary contraction of the kidney, raises difficulties Where facilities for repeated blood examinations exist we can adapt our treatment accordingly, but where they do not we may take the blood pressure and the excretion of water as a guide When the oedema has subsided there is no point in continuing the administration of urea, and when the blood pressure shows a tendency to rise we may infer a failure in the concentrating power of the kidney and prescribe a more restricted intake of proteins

Jaundice

The new work on jaundice centres round van den Bergh's test for bile pigment in the blood serum This depends on Ehrlich's diazo-reaction A freshly prepared mixture of diazotized sulphanilic acid and sodium nitrite is added to the serum, and if a pink colour appears at once it is called a direct reaction, if only after the addition of alcohol, an indirect reaction If there is a pink colour at once which deepens further on the addition of alcohol, it is called a biphasic reaction

In considering the formation of bile pigment it is convenient to modify slightly McNee's description of the structure of the liver A liver lobule may be compared to a number of test tubes packed in damp sawdust Each test tube represents an hepatic alveolus lined by secreting cells, blind at its central end, while its lumen represents the bile capillary The sawdust represents Kupffer cells which are bathed in the blood from the capillaries of the portal vein They form part of the reticulo-endothelial system, which is also largely represented in the spleen pulp They take up red corpuscles and any free haemoglobin from the blood stream and turn the blood pigment into bile pigment But the final stage of this process, which apparently involves the breaking off of a protein fraction, is carried out in the cells lining the test tube Bile pigment in this final form gives a direct reaction, but if it is still combined with protein it only gives an indirect reaction

1 *Obstructive Jaundice*

Now it will readily be understood that if there is an obstruction to the bile ducts some of the completely formed bile pigment will be reabsorbed into the blood stream This will give the direct reaction, and is the condition found in the jaundice of gall stones and new growth of the head of the pancreas, for instance In gall stones without jaundice the bile content of the serum is normal

2 *Toxic and Infective Jaundice*

Here, the polygonal cells being diseased, some of the bilirubin from the Kupffer cells is unable to enter them, and therefore passes direct into the blood stream, still in the combined form The blood serum will therefore yield at first an *indirect reaction*, but as disintegration of the cells proceeds the bile capillaries become obstructed also and the reaction becomes biphasic, the direct portion of the reaction becoming intenser as obstruction becomes more marked Such jaundice occurs in many general conditions of infection and toxaemia Here the jaundice does not appear to be merely due to catarrh of the smaller bile ducts as was formerly thought, for a series of changes in the liver cells can be demonstrated, ranging from simple cloudy swelling (as in pneumonia), through fatty degeneration (as in chloroform poisoning), partial necrosis and dislocation of the liver cells (as in spirochaetal jaundice), to almost complete necrosis (acute yellow atrophy) In salvarsan poisoning any one of these stages may be met with

3 *Haemolytic Jaundice*

When blood destruction is excessive more bile pigment is found than the polygonal cells can deal with, some will be excreted normally, while the rest goes into the blood in the combined form The serum will therefore only yield the *indirect reaction*, and bile pigment will usually be absent from the urine,' while constantly present in the faeces

That blood pigment can be turned into bile pigment without the aid of the liver was shown by Virchow The

haematoidin of old blood clots is chemically identical with bilirubin in its combined form, yielding the indirect reaction, as we now know. The experiments on geese which were formerly held to prove the contrary were done in ignorance of the fact that what corresponds to the spleen in higher animals is largely enclosed within the liver of birds. McNee suggests that haemolytic jaundice depends on blood destruction in excess of normal whereby the cells of the reticulo-endothelial system, especially in the spleen, are thrown into increased activity which may result in or be actually dependent on an increase in the size of the spleen. The blood serum comes to contain a greatly increased amount of bilirubin of the same type as that arising from the normal physiological destruction of effete red corpuscles in health.

This conception would explain much which has been hitherto obscure. It has been recognized that splenic anaemia" is a consequence of several different conditions producing splenic enlargement, and that it is often relieved by splenectomy. On removal the spleen may be found to be the seat of tuberculosis or endothelioma among other conditions. Apparently we may now conclude that any disease of the spleen stimulating the formation or activity of the reticulo-endothelial cells sufficiently may produce splenic anaemia. It would also explain why splenic anaemia may go on to Banti's disease, in which cirrhosis of the liver and jaundice supervene since the Kupffer cells of the liver are structurally and functionally an extension of the reticulo-endothelial system of the spleen. It explains why the spleen may enlarge in the crises of pernicious anaemia and throws light on the occasional jaundice (without necessarily bilinuria) in that disease.

Van den Bergh has also shown that in some apparently healthy sallow individuals the bilirubin in the serum may reach nearly three units. Since the threshold for its excretion in the urine is four units, such individuals show no bile in the urine, the unit=1 part of bilirubin in 200 000 parts of serum. The condition has been called 'simple familial cholaemia", usually the spleen is not enlarged nor the fragility of the red corpuscles increased. There would appear, however, to be all stages between this and the condition known as acholuric family jaundice. In this form the patient may be born jaundiced or become so soon after birth. The jaundice persists with little or no variation for many years, but bile pigment is present in the stools as in health, while it is absent from the urine in which any darkening present is due to excess of urobilin. Nevertheless bile pigment giving the indirect reaction is present in the serum. The spleen is always enlarged. There is considerable anaemia with a low colour index, poikilocytosis, nucleated red cells, and reduction in the number of leucocytes. Yet the patient has good or fair health, and shows a normal resistance to intercurrent diseases. This condition tends to appear in more than one member of the family and in successive generations. Some of the patients are liable to attacks during which the colour deepens, when pain may be experienced over the spleen or liver, or both, and there may be slight pyrexia. Neither alcohol nor syphilis appears to play any part in the etiology. Enlarged abdominal veins, ascites, oedema of the legs, and haematemesis have never been recorded, and the liver does not appear to be cirrhotic, although it is sometimes fatty.

Attacks of haemoglobinuria have been noted in this condition, which could be produced by exposure to cold, and in this connexion it is interesting to note that in one family a cold bath would intensify the jaundice. All this points to haemolysis as a cause of the jaundice. The serum from a patient agglutinates normal red corpuscles, but not his own red corpuscles or those from another individual suffering from the same disease. The most striking pathological feature of the condition is the undue fragility of the red corpuscles, for they are haemolysed by a dilute salt solution which has no effect on ordinary corpuscles. We may conclude that in acholuric family jaundice there is a chronic haemolysis of unduly fragile corpuscles as a primary event, but that the threshold for the excretion of bile is not reached while the enlargement of the spleen and liver is secondary, to deal with the increased haemolysis. What the cause of this undue fragility may be is still unknown.

Latent jaundice is a term applied to conditions where the bilirubin content of the serum does not reach four units, so that the usual symptoms are missing. The haemolytic type of this is seen in pernicious anaemia, anaemias due to worms, and in all the newly born. Its occurrence is of prognostic value when salvarsan is being given as it is evidence of the approach or poisoning by the drug. An obstructive type or latent jaundice occurs in cirrhosis. In this connexion it is interesting to note that in the ordinary jaundice so common in the newborn (icterus neonatorum) the blood serum gives an indirect van den Bergh's reaction, so that it is haemolytic in origin. Before birth the foetus has a polycythaemia of about 6½ million per cubic millimetre. On the second day after birth this excess has disappeared and probably there will not be more than 4½ million. In a sense this polycythaemia may be regarded as a protection against the risk of loss of blood at birth. Once this has passed haemolysis occurs and haemolytic jaundice follows. The fact that latent jaundice is always present for a time after birth supports this view. Severe jaundice in the newborn is generally due to suppurative pylephlebitis from septic infection through the umbilical cord or to congenital syphilis. Rarely it results from congenital atresia of the bile ducts.

Dissociated jaundice has been described by French observers—the bile pigments going one way the bile salts another. But as they did not take the condition of the blood into account judgement must be reserved on this. There may indeed be renal dissociation in obstructive jaundice both pigments and salts being found in the blood while only bile salts are filtered out by the kidney. I saw a case of catarrhal jaundice in which bile salts appeared in the urine before the pigment, and it is stated that this is common in the later stages of this condition. In my experience of jaundice as a whole the converse condition is commoner—that is for bile pigments to be present in and the bile salts to be absent from the urine.

General Conclusions

The biochemical examination of the blood has therefore cleared up many doubtful points as to different forms of glycosuria, has explained the progressive damage produced by hyperglycaemia, and has provided the best guide for regulating treatment by insulin. In nephritis it has brought out clearly the distinction between hydraemic and azotaemic forms of the disease which materially affects their rational treatment. It has re-established after many years the existence of haematogenous jaundice, and has enabled us to classify our cases on a rational basis. In the time that remains I should like to say something about the fresh light this method has thrown on the subject of so-called acid intoxications. For a time there was a tendency to apply wholesale to clinical conditions the results obtained by the experimental injection of acids into animals. Carnivorous animal can protect themselves against a certain amount of acid by the formation of ammonia from the tissues while herbivorous animals use their excess of alkaline salts for the same purpose. Where these measures are inadequate there is dyspnoea, acetonuria, and ultimately coma. It is not surprising that it was thought that herein lay the explanation of diabetic coma, associated as it is with the formation of diacetic acid which is largely excreted in combination with ammonium salts. Then it was found that in diabetic coma the reaction of the blood, or, to speak more exactly its hydrogen ion concentration, was not necessarily altered in the direction of acidity. It should be remembered that an acid may be toxic in its effects simply because it is an acid like hydrochloric acid, or because it contains a molecule which is poisonous to protoplasm like prussic acid. In the first instance the lethal dose is large in the second it may be so small that the reaction of the blood is not appreciably affected. Now diacetic acid contains a toxic enolic group which is equally deleterious in the form of a neutral diacetate. This stimulates the respiratory centre causing dyspnoea washing out CO_2 by overventilation of the lungs, and exhausting the alkaline reserve of the blood. The only benefit of intravenous infusion of sodium bicarbonate is to restore some of the alkaline reserve for a time. But it fails

to check the production of this poisonous enolic group, which ultimately overwhelms the body. Insulin, on the other hand, strikes at the root of the mischief.

But it remains true that any increase in the hydrogen-ion concentration of the blood produces dyspnœa. It is the lactic acid which is formed from the breaking down of glycogen which causes us to be "out of breath" after strenuous exertion. Ventilation of the lungs is thereby increased and more oxygen is taken in which rebuilds the lactic acid into glycogen, oxidizing one quarter of it in the process. Thus the blood is restored to normal and we are no longer breathless. Similarly the dyspnœa in cardiac asthma is due to the failure to excrete acid sodium phosphate and the resulting acidæmia may also be breathless at high altitude without any exertion and his blood will be found to be more alkaline than usual. Here the mere lack of oxygen due to its low tension in the atmosphere directly stimulates the respiratory centre, nervous tissues being the most sensitive to this lack. The resulting dyspnœa wishes out CO_2 from the lungs so that the blood actually becomes more alkaline, a condition which the kidney tries to rectify by excreting more alkali. This type is seen clinically in the dyspnœa of heart disease, which is due to oxygen lack, largely the result of capillary stasis, which allows of more complete reduction of haemoglobin. It is therefore usually associated with cyanosis, but there need be no increased production of acid. Indeed, the increased pulmonary ventilation may actually produce an alkalæmia. Clearly it is no use to give alkalis, therefore, in cardiac dyspnœa. If digitalis is not contraindicated on other grounds it should be tried, because a cardiac tonic will help to relieve capillary stasis and the consequent anoxæmia. With the same purpose in view oxygen should be given and it should be given through a rubber catheter introduced through the nose into the naso-pharynx. The catheter is attached to a Wolff bottle containing warm water through which oxygen is bubbled. Given in this way it can definitely increase the oxygen saturation of the blood, as has been proved by direct examination of the blood removed by puncture of an artery, given in the ordinary way it has no such effect.

The conclusion of the whole matter may be briefly stated thus: when acidæmia is associated with dyspnœa, the acidæmia is the cause of the breathlessness when alkalæmia and dyspnœa are associated the alkalæmia is the cause of the dyspnœa. Recognition of these facts is of great importance in selecting the appropriate measures of treatment.

A PLEA FOR A CLINICAL PHYSIOLOGY.

BY

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This question does not refer to academic physiology as a whole but only to that portion related to medicine. In discussing the matter it is necessary to deal with certain defects in knowledge, not to disparage experimental physiology, but to indicate how it can be rendered of greater value to medicine. The doubt as to the adequacy of physiology for medical progress arose from the following circumstance.

Physiology and the Reflex Arc.

At the St. Andrews Institute for Clinical Research we recognized that the knowledge of living processes at present available was not sufficient to enable us to understand the nature of the most common symptoms or the action of a single remedy. A great mass of symptoms had been accumulated, and, in place of merely adding to their number, we resolved to try and find the laws that governed their production. We recognized that all phenomena in nature are subject to certain laws, and that the symptoms of disease, being phenomena in nature, are therefore subject to such laws.

In the course of this inquiry we recognized that symptoms were, in the main, due to an increased or decreased activity of certain organs, which came about through an interference with those processes and structures which are concerned in regulating their activity. These processes are spoken of in physiology as "reflex," and we put forward the theory that symptoms were due to the disturbance of normal reflexes.

Shortly after this view was published I was informed by one or two physiologists that any physiologist could have told us that symptoms were produced in that way. But when the matter was looked into, it was found that no physiologist could possibly have given us this information, for the simple reason that physiology to-day cannot supply the knowledge of the processes and structures which regulate any single organ of the body, whether a simple structure like a capillary, or a voluntary muscle, or a hollow muscle, or a secreting organ.

Physiology and the End-result.

The academic physiologist is mainly concerned with end-results. An end-result is the outcome of a chain of events. The chain of events is represented by the activities of certain structures which are concerned in producing the reaction of the organ to a stimulus. When, for instance, in an experiment, the sympathetic nerve, or the vagus, is stimulated, the physiological instrument records only a movement of the heart or the output of blood from the heart. Such records may be interpreted as an augmentation of the heart beat, or a decrease. But no information is afforded which will explain the manner in which these reactions are brought about. We know now that there is interposed between these nerves and the heart muscle a series of structures which are involved in the production of the end-result. It is the modification of the activities of these structures which results in the manifestations of health and the symptoms of disease. A knowledge of them and the part they play in the movements of the heart in health and disease is essential for the practice of medicine. The physiologist has provided the knowledge up to a certain point, and it is necessary for progress that a form of physiological investigation should be employed that will give us a deeper insight into vital activities.

The Principle of the Reflex Arc.

In our attempts to get a better knowledge of the nature of ill health and of disease, we sought for some principle which would guide us in our work. We adopted as a guide what we call the "principle of the reflex arc." This is based on the fact that the functional activity of organs is dependent upon impulses which are brought to them by nerves, or structures having the same function as nerves. *The origin of every manifestation of activity is therefore to be found in some structure other than that which at last lits the manifestation.* The application of the reflex arc involves the search for the structures concerned in the production of the manifestation.

Physiology of the Heart

If the assertion were made that the explanation to-day of every cardiac reaction however carefully recorded, is inexact and in the majority of cases misleading it would certainly not be accepted Yet if the matter be carefully considered it will be found that it cannot but be true It is to be borne in mind that the structure which exhibits activity is regulated and controlled by impulses generated and conveyed to it by other structures it will be seen that to understand the activity of the heart those other structures must be recognized

A description of the movements of voluntary muscles without any reference to the part played by nerves would be defective, and the explanations given of these movements would be mere guesswork, and wrong guessing at that The muscle fibres of the heart whose movements are recognized are as definitely under control of the conducting system as the muscles are under the control of motor nerves Yet in the interpretation of the movement of the heart the conducting system is either ignored or imperfectly recognized Marey's observations on the frog's heart are quoted to-day in physiological textbooks as if they were beyond dispute The interpretation of the early experiments on the vagus nerve still holds the field As all these observations were made before the existence of the conducting system was known this interpretation is bound to be defective The fact that the vagus when it affects the heart's rate or rhythm, does so only through its influence upon the conducting system has not been appreciated What little is known to-day of the conducting system is merely the result of some crude experiment or a few clinical observations for the most part imperfectly understood

The Law of "All or Nothing"

Probably nothing illustrates so well the need for a clinical physiology as the profound belief in the law of all or nothing This law is accepted to-day as an article of faith As a matter of fact it is an experimental result, and while true for the manner in which the heart contracts in response to artificial stimulation, it is not true for the heart contracting *under normal conditions* This becomes evident if the manner of stimulation in experiment and in nature be considered An electrical stimulus is one which Nature never uses It spreads by any structure which is capable of conducting it and in its spread it is not guided or regulated but stimulates every susceptible cell which it meets By this method of stimulation the heart may contract according to the law of all or nothing

On the other hand, if we consider how the normal contraction is produced, it will be seen that the stimulus for contraction of the ventricle arises as impulses thrown out by the sino-auricular node These impulses are not electrical in their nature, but represent a form of energy which is only produced by living cells and capable of being conducted only by living cells From the sino-auricular node they pass by structures specially developed for the purpose of their conduction They reach the ventricle by the auriculo-ventricular bundle, and enter the ventricle at a particular part, and within the ventricle the bundle breaks up into a great number of branches which are distributed to every portion of it Manifestly this arrangement implies that the contraction of the heart normally starts at a particular place, and that each part of the ventricle is stimulated to contract in a sequence which results in an effective emptying of the chamber Moreover, there is evidence to show that the heart, like every other muscular organ of the body only uses as many fibres for each contraction as the circumstances require In other words the contraction of the ventricle is governed by the alternating activity of its fibres—that is by *the law of fluctuation and not by the law of* all or nothing"

The Law of Fluctuation

We find evidences that justify us in stating that all organs are governed by this law of fluctuation It is at present assumed that the reactions obtained by such forms of stimulation as electricity are normal reactions, whereas the stimulus, being artificial, can only give rise to artificial results

It is for this reason that the law of fluctuation has been missed, and such a law as that of *all or nothing*" has been adopted The former can never be recognized by artificial stimulation so that it can safely be predicted that the true physiology of an organ, as distinct from experimental physiology will never be understood until the law of fluctuation is applied to the interpretation of reactions

The Importance of the Conducting System

Although I have been an assiduous student of the heart as seen in physiology and in clinical medicine for over forty years I had but a confused idea of the heart's movements until in recent years we evolved the principle of the reflex arc and the law of fluctuation By the application of this principle and law to the interpretation of cardiac phenomena there has gradually been revealed a field of observation whose value it is impossible to overestimate, not for the interpretation of cardiac phenomena alone but also of those processes which are concerned in every form of vital activity The study in this manner of the sino-auricular node and the auriculo-ventricular node more especially the latter enables us to understand the processes of stimulation and inhibition The description of these processes in physiological textbooks is so confused and incomprehensible that it is impossible to obtain a clear understanding of their nature The observations on these two nodes as revealed by the disturbance found so frequently in clinical medicine provides an opportunity for investigating these processes in a manner afforded by no other structure in the body, nor by any experimental method In a like manner the action of the vagus and sympathetic can be studied with much greater precision Many movements of the heart which it is impossible to explain while our ideas are dominated by the law of all or nothing" are now explicable by the law of fluctuation The action of remedies such as digitalis may also be investigated with a particularity that opens up a new field in pharmacology

The line of investigation holds out the possibility of throwing light upon many of the functions of the brain Like the brain the conducting system not only discharges impulses which produce definite reactions but it does this, as does the brain so that the reaction is regulated and controlled to adapt it to a definite purpose Inasmuch as the constitution of the conducting system is so much simpler, the vital processes become easier of observation, and from these simpler effects we can interpret the more complex effects in the highly developed nervous system In fact, in one sense we might look upon the conducting system as a rudimentary brain of the heart

The Efferent Nervous System

The great bulk of symptoms are the results of impulses conveyed into the central nervous system by afferent nerves Experimental physiology has given us a great deal of information about the efferent autonomic system because, by its methods of stimulation, a demonstrable result is produced as in the contraction of a muscle or the secretion of a gland, but such methods usually fail to elicit a response when applied to an afferent nerve The reason for this is that the peculiar functional part of an afferent nerve is situated at its peripheral field in the different organs Section of the nerve and stimulation of either end fails to give its peculiar reactions The clinical evidence of the presence of the afferent nerves is abundant By the study of such a physiological event as the contraction of the parturient uterus we can recognize the stimulus which excites the afferent nerves and can detect the result in the pain flushing sweating increased pulse rate, nausea and vomiting which frequently accompany the uterine contraction Such opportunities for investigating the afferent system of nerves are afforded by almost every organ of the body, and the physician and surgeon have ample opportunities for such investigations, did they possess some definite principle to guide them To a great extent these opportunities have been lost since physiology was separated

from clinical medicine The expectation that the academic physiologist could provide this kind of knowledge has obscured the path which medicine should pursue, so that the magnificent opportunities of the clinician are imperfectly utilized The development of surgery, for instance, has opened up unrivalled fields for exploration However valuable a modern surgical textbook may be as a record of manual dexterity, it is in another sense a monument of wasted opportunity The inspiration of John Hunter and William Beaumont is sorely needed

Pain

The poverty of modern medicine in ideas or concepts is well illustrated by the attitude of the profession to pain —the most clamant, the most universal, and the most diagnostic of symptoms Though it has been a matter of discussion and investigation for ages, by physicians, surgeons and physiologists, yet to-day we are provided with nothing but a mass of guesses as to its nature and origin, while its diagnostic significance is barely appreciated A condition like angina pectoris is a perennial subject for discourses and discussions, and these consist mainly of futile speculations In the production of pain there are definite structures and processes involved, but what these are no one knows If the matter be considered it will be found that one might as well attempt to make bricks without straw as to solve the problem of pain without this kind of knowledge The sad part of the matter is that medicine has not advanced far enough to know how to set about the solution of a problem of this sort

The Evil of Specialism

One of the great hindrances to the progress of medicine is specialism The specialist is of necessity a man with a limited experience, and this leads to a limited outlook When his work is directed by others with a wider outlook he is invaluable When the direction of an enterprise is in the hands of a number of specialists, failure is bound to follow for there is no one with that wide outlook to recognize the kind and number of specialists required and apportion to them their appropriate tasks

Education in medicine is to-day dominated by a body of specialists and not one of them has had that wide experience of medicine which would enable the relative importance of the different subjects to be understood in order that the student be taught only that part of special subjects which is essential to him in his future work as a doctor The consequence is, he is to-day forced to learn a vast amount of stuff that will never be of use to him, while many essential matters are left out of his education Amongst many examples is the question whether a woman whose heart is in a dubious state will be able to undergo the strain of pregnancy This is a problem requiring a certain kind of physiological knowledge, but the physiologist cannot provide it The cardiologist never sees a woman in labour and the gynaecologist knows little or nothing, or, what is worse may have wrong information of the heart And yet our educational authorities are incapable of appreciating what this state of affairs portends

The Agent which Stimulates—the Cell Impulse

The experimental physiologist knows a good deal about the force he employs when he uses electricity, and physicists have given much study to electricity as a force It is important that more knowledge should be obtained of the form of stimulation which Nature employs as it is one with which the physician and the clinical physiologist deal Faraday elsewhere drawn attention to the fact that it is a matter not having properties as peculiar and as distinct as the forces of gravitation and of electricity There is no doubt in a measure been long recognized and has formed a subject of speculation for centuries Dr Gregory 130 years ago commented upon these speculations in his day "some considered the force a trembling motion of the substance of the nerve", others attributed to a subtile and very active fluid", while others have recourse to an universal aether" How far knowledge has progressed since then can be inferred from the description given by modern physiologists, who refer to it variously as a "propagated disturbance," an "excitation wave," "electricity," an "adequate stimulus," "motor and sensory impulses," "proprioceptive," "nociceptive impulses," etc

The employment of so many terms implies a confusion of mind, inasmuch as the terms are based upon the effect the agent produces and not upon the agent itself, so that a contraction of a muscle is described as indicating the presence of a "motor impulse", pain indicates the presence of a "nociceptive impulse", or a "sensory impulse" One might as well describe a "vomiting impulse" or a "sweating impulse" or a "nausea impulse," when other evidences of activity are produced

The matter is put in this way to show that the use of such terms indicates a failure to appreciate the distinctive peculiarities of the cell impulse This impulse, being a force in nature, is as invariable as electricity, consequently the character of the reaction does not depend upon the impulse but upon the cells which it stimulates

The Relation of Physiology to Pathology

There exists a good deal of confusion concerning what is physiological and what is pathological It is usually accepted that in ill health there is some pathological stimulus which is quite distinct from that which occurs in nature or in physiological conditions, and in consequence the academic physiologist is not concerned with the reactions of ill health as they are not supposed to be physiological

As a matter of fact, what are called pathological reactions are nothing more nor less than an increase or decrease of normal reactions no new agent is introduced When the process of stimulation is better understood this will be realized The agents of disease act only by increasing or decreasing the excitability of cells or by increasing or decreasing the number of impulses The impulse itself is the same in health and in disease, and it is the force or form of energy which produces a reaction

On the other hand, the force or energy which the physiologist employs in using electricity is an abnormal stimulus, one that Nature never employs, and in consequence the reactions are of a kind that Nature never gives Attention has already been directed to this fact in explaining that the law of "all or nothing" is an experimental result, and that Nature never employs this law in the regulation of the activity of organs When the physiologist employs other means, such as a chemical agent, or heat or cold, he is imitating exactly the methods of stimulation which occur in pathological states The symptoms of disease are often the same as physiological reactions

Speculation in Medicine

A clinical physiology of the kind that I have in mind would do a great deal in preventing that wild speculation which even at this day renders medicine a subject of ridicule If it be kept constantly in mind that no manifestation of the body, whether a movement, a secretion, or a sensation, can take place without the reaction of a cell to an impulse, it would stop a great deal of that use of vague terms which injures every department in medicine Medicine has descended in a constant stream through many centuries, and the characteristics of bygone ages are still reflected in present-day medicine In the past, when certain manifestations were observed, knowledge was so defective that explanations purely imaginary were employed When a reaction was obtained an explanation had to be given, and this old method or guessing is still dominant So firmly established is this method to-day that branches of medicine are based entirely upon it—such as psychology The result is that the greatest authorities are not men with scientific minds but those with the most exuberant fancy The term "centre" is in universal use, and it is not realized that a centre is but a figment of the imagination Such

terms as "cardio-inhibitory centre," "vasomotor centre" "vomiting centre," "respiratory centre" are in common use The term seems to connote something that many people believe to be a definite structure Such an idea having gained currency, it becomes the easiest matter to explain difficulties by evolving new centres, and even to divide them into numerous subdivisions Thus, there is not only a respiratory centre, but an inspiratory centre, an expiratory centre, an apneustic centre, and so forth We even find such expressions used as an increased "tone of the inhibitory centre," no one having the remotest idea what constitutes tone or inhibition or a centre Other difficulties are overcome by inventing a 'synaptic membrane" which gradually becomes endowed with remarkable attributes

Such terms should be eschewed by the clinical physiologist and his ignorance should be freely acknowledged, because in that way the defects of knowledge would be recognized and strenuous attempts made to remedy them, in place of making suggestions that hide the defects

The Science of Medicine

It is now time that it was recognized that medicine is a subject dealing with natural phenomena, with aims and objects peculiar to itself, and requiring methods as distinctive as any other science *The impression is generally held that the introduction of the methods used in physiology, in chemistry or in bacteriology tend to make of medicine a science* Nobody would imagine that the use of chemistry in botany tends to make of botany a science, nor can the chemist claim to belong to the scientific side of botany Yet laboratory subjects such as chemistry, physiology, and bacteriology are sometimes spoken of as belonging to the scientific" side of medicine, the implication being that the clinical side is not 'scientific" It cannot be too strongly insisted upon that the assistance rendered by these subjects is of an elementary kind, and, though necessary, they cannot provide that knowledge which is required for the solution of medical problems Medical science demands the carrying of investigation far beyond the reach of the laboratory worker When the medical investigator has obtained sufficient knowledge to enable him to recognize the vital processes and living structures which are concerned in the production of ill health, he has just rendered himself able to carry scientific medicine into a higher level The next step is to assess the value of the symptoms of disease It is only by this kind of knowledge that the relative importance of symptoms is recognized The doctor must be able to tell whether there is danger present, not only to life but to health, and clearly to recognize wherein the danger lies It is only when this information is obtained that steps can be taken to combat the danger This is also the first step to a scientific therapy, for without this kind of knowledge all forms of treatment, whether successful or not will remain empiric

Conclusion

If experimental physiology is to benefit suffering humanity a supplementary physiology dealing with the normal activities and those produced by disease must be employed, and experiment should be guided by the needs of the clinical observer To a physiologist who is also a clinical observer the kind of experiment that is required is bound to be much clearer than the somewhat blind endeavours that have characterized the attempts to solve clinical problems in the past

If the kind of physiology which clinical observation can reveal be not acquired, most of the enterprises which are concerned in the solution of the problems of disease will result in failure, or achieve a measure of success not in proportion to the time and energy spent

The knowledge of physiology obtained in this way is limited to explaining the derangements which result in ill health, and cannot of itself solve the problems of disease, but it is an essential adjunct Until it is acquired the work of the bacteriologist, of the pharmacologist, of the biochemist as well as of the clinician, will fall far short of attaining the objects of their endeavour

C

THE ACTION OF QUININE ON PROTEIN METABOLISM, RESPIRATORY EXCHANGE, AND HEAT FUNCTION

BY

S W HARDIKAR, M B

(From the Pharmacological Laboratory University of Edinburgh.)

[*Abstract*]

FEVER of some type and varying duration occurs during the course of many diseases and its treatment forms a considerable part of the work of the medical man, particularly in the tropics It may be met with as one of the specific fevers with a definite causative agent, or may occur merely as a symptom in the course of some other disease As we are able to overcome the causative agent in but few cases, we are reduced in the larger number to do what we can to conserve the strength of the patient and reduce if possible the waste of tissue and energy This we endeavour to attain through careful nursing and feeding especially in the long-continued fevers, so as to supply if possible the greater part if not the whole, of *the patient's daily expenditure of energy* and minimize the strain on his accumulated reserves But it is better to cut down the waste of energy if we can instead of trying to make up for it by increased supply In disease, apart from the direct injurious effects of the causative agent, the maintenance of a high body temperature for any length of time in itself involves a large expenditure of energy It is questionable whether the rise of temperature is beneficial in itself, and it is reasonable to suppose that if we could get the whole course of a disease to run at a lower temperature the patient would benefit, some energy would be saved, and his chances of recovery would improve correspondingly

A mere lowering of the temperature is not enough to attain our object however unless it is due to a lowered production of heat by the body, if the temperature falls from increased loss of heat only, there need be no corresponding economy of the energy reserve, although some saving doubtless occurs The antipyresis is attained through (*a*) the use of cold or tepid water baths, or (*b*) the antipyretic drugs like antipyrine, salicylates and quinine Water baths abstract heat from the body directly and as the heat-regulating mechanism is still active in fever, it responds by increasing the heat production so that although the temperature is reduced the energy expenditure of the patient is not reduced in a corresponding degree

The antipyretic drugs, with the exception of quinine, have also been shown to reduce the temperature by increasing heat loss, and the tissue destruction was not materially lessened and sometimes was increased by their use In the case of quinine on the other hand, no unanimity of opinion has been attained but the prevailing view is that it diminishes the protein metabolism and lowers the excretion of nitrogen, so that it effects a saving in the nitrogenous tissue waste Protein destruction is ordinarily understood to imply the oxidation of the non-nitrogenous moiety of the molecule and its reduction ought to show itself in a fall in the consumption of oxygen But quinine is said not to affect materially the oxygen intake In explanation of this conflicting behaviour of the nitrogen metabolism and gas exchange the suggestion is made that oxidation is not the only source of heat, but that heat may be liberated by such changes as the cleavage of protein molecules in the course of which urea is formed According to one view, *quinine hinders these changes and thus* reduces the temperature Its action moreover, is supposed to be exerted directly upon the tissues and not through the intermediary of the nervous centres

Quinine is used to a large extent in the treatment of fevers, even when not malarial in origin—in which it is recognized to act primarily against the causative agent—and if the above views could be firmly established by experimental results they would provide a strong argument in

favour of such use, on the other hand, if they were found to be groundless, it would follow that quinine does not differ essentially from the other antipyretics, has no advantage over them in non-malarial diseases, and is not capable of attaining the object aimed at—of reducing the energy expenditure of the patient The question was therefore taken up as being one of considerable practical interest and of sufficient importance to justify a re-examination of the available evidence and experimental study afresh where necessary

Protein Metabolism

The study of the effect of quinine on protein metabolism dates from Ranke[1] in 1858, and a large number of workers have since made observations upon it, their conclusions varying from "decrease" through "no change" to "increase" in the nitrogen elimination under quinine On a critical examination of the literature it was found that previous to 1888 the methods used in nitrogen estimation were subject to considerable error, so that the validity of the results is now open to question even if the work were beyond criticism in other respects, which is not always the case

Of the work done since 1888, I examined that of Kumagawa,[2] Venediger,[3] v Noorden and Zuntz,[4] Deucker,[5] Hirsch,[6] and Schroeder [7]

Kumagawa experimented on a normal dog and found a reduction in the nitrogen excretion, there is no obvious flaw in his work apart from the fact that it was limited to one animal

Venediger made observations on himself and came to the same conclusion, which is open to the objection that he did not observe the nitrogen excreted in the faeces, and it is possible that the observed reduction was due to a lessened absorption from the bowel V Noorden and Zuntz, working on one normal human subject, also found the nitrogen reduced, but in the experiment on man the data do not justify the conclusion drawn, while in the dog, although the nitrogen output was lowered at first, it soon rose to the previous value and then passed above it while quinine was still continued

Deucker in febrile human subjects similarly found a nitrogen retention which was only of short duration, the excretion soon rising above the previous level, on examining his cases, even this temporary gain is not obvious

Hirsch worked on dogs in normal condition and in fever, with the same results One finds, however, that the urine of the dog during the normal period was alkaline in reaction, this means that it was decomposing, and results obtained from its analyses have no value In the fever period the urine was acid, but on other grounds the reliability of the work as a whole is questionable and one therefore hesitates to accept the results in this instance as well

Schroeder whose work was done with great care, experimented on rats and found no influence on the protein metabolism even from toxic doses

I must refer to my complete paper (which will appear in the *Journal of Pharmacology*) for the details of these criticisms Let it suffice here to say that the literature on the subject did not seem to me to contain adequate evidence for the view that quinine reduces the nitrogen metabolism

I have therefore carried out a number of observations on the subject They were made on two rabbits, three dogs, the periods of observation varying from twenty-four to seventy-two hours, and on myself on two occasions, with unit periods of twenty-four and twelve hours respectively These gave a uniformly negative result as regards any effect on the nitrogen excretion, except in one observation on a dog in which a slight reduction possibly attributable to quinine was seen as even in this case, however, the dog had been subjected to heavy thyroid medication shortly before it is not possible to judge with accuracy Observations on the hourly excretion of nitrogen in the urine by four normal subjects likewise showed that it was unaffected by quinine The doses used were up to 1 2 grams of quinine hydrochloride in the human subjects and corresponding to twice that amount in the animals

This work has convinced me that therapeutic doses of quinine certainly do not affect the protein metabolism in health and very likely not even in febrile diseases This last point however has not yet been fully established except in all a dog infected with trypanosomiasis on which it is sought to observe this having died in a very short while attempts to raise the nitrogen metabolism with thyroid medication also did not give satisfactory results It was found by Professor Clark of University College, London, that quinine did not affect the accelerated metamorphosis of tadpoles caused by thyroid feeding, the same observation had been made previously by Lenhart [8]

Respiratory Exchange and Heat Function

The work on the action of quinine on these functions is very much larger in amount, and extends from the observations of Jurgensen[9] on human subjects in 1868 to the latest contribution by Barbour[10] in 1923 The methods used also present a much greater variety than in the observations on metabolism, ranging from observations on the surface or internal temperature alone, to indirect or direct calorimetry with the most up-to-date apparatus

It is not possible here to present even briefly a criticism of the work of the individual observers, it must suffice to say that a great deal of the controversy as regards the action is due to a failure to take into account the factors of (*a*) dosage, and (*b*) time of making the observations The principle appears to have been ignored by almost all the experimenters that the action of a drug is not an instantaneous phenomenon like a flash of lightning, but has its periods of development, maintenance, and decline, and that to obtain a true picture of the action observations must be made from before its administration till a return to the normal condition The work of only a few observers is mentioned here individually

Gottlieb[11] found by calorimetric observations on rabbits that the fall of temperature under quinine was due to a definite lowering of the heat production, the output of heat being also lowered, but to a smaller extent

Stuhlinger[12] found in similar experiments that if the heat loss by evaporation of water and heating of ventilating air were taken into account—which was not done in Gottlieb's experiments—the heat loss was always found increased The only criticism of the work of Gottlieb, with whom my results are in partial agreement, is that his observations were *not prolonged* till the period of recovery The temperature at which Stuhlinger worked was in *some experiments much* higher than in Gottlieb's, and the values for the excretion of water obtained by him are very high, I never obtained such high values in my experiments, which were made at temperatures intermediate between those of these two workers

Hirsch[6] found in both the normal and the fever dog a lowering of the heat production by direct and indirect calorimetry, but her conclusions do not appear to be entirely justified by her experimental results

Barbour,[10] in observations on human patients, found a considerable rise in heat loss and a smaller one in heat production "at the period of the most marked antipyretic action"

As regards the gas exchange, to show the divergence of the results obtained, I shall only mention Buss [13] who observed a fall in CO_2 output in human subjects with fever, Ed Muller,[14] who found no such fall in rabbits and Liepelt,[15] who observed a rise in both the O_2 intake and CO_2 output in normal human subjects.

In a large number of experiments with Haldane's apparatus on normal rabbits and on others in which fever was caused by injection of dead cultures of *B coli*, I found that quinine in doses corresponding to those used in therapeutics in man caused very little alteration in the gas exchange or heat production, and that not always in the same direction Larger amounts up to about five times the therapeutic dose brought about a definite fall in O_2 intake and CO_2 output, lasting for about an hour and a half, with a recovery to or above the initial level in about three hours

In ten observations on normal human subjects with doses up to 2 grams of quinine hydrochloride given by the mouth, the prevailing type of reaction was an augmentation of the respiratory volume, gas exchange, and heat production, coming on about the end of the first hour, well marked in the third, and declining in the fourth hour after intake of the dose, in one instance this response was absent and there was a trifling fall in these factors which did not, however, exceed the normal variations

In the observations on eleven human subjects with fever from different diseases (Hodgkin's disease, scarlet fever, and pulmonary tuberculosis), only three showed at any time a fall in gas exchange and heat production beyond the range of normal variation, and of these, both the cases in which observations were continued long enough showed a recovery to the normal level before the end of the third hour, in the remaining cases, the changes, positive or negative, were of very small magnitude The response of the individual with fever was therefore not essentially different from that of the healthy subject except that it was weaker

A lowering of the energy expenditure under quinine thus occurred in only a very small proportion of cases, and even in these the effects did not last for quite three hours To economize materially the energy expenditure would thus involve the repetition of the full pharmacopoeial doses (0 6 gram quinine hydrochloride for the adult) at intervals of about three hours Even this heroic treatment might well fail to maintain the effect and the other symptoms from such doses would certainly be undesirable, it is thus not practicable to attain any considerable saving of energy through quinine in a prolonged febrile illness I have not laid any stress upon the extent of temperature reduction, for it is not so important in itself and it is well recognized that quinine is not as good an antipyretic in non malarial as in malarial fevers

We have already a large mass of evidence to disprove the location of its action in the tissue It has according to Feri,[16] no effect preventive or curative upon the fever caused by tetrahydro-beta-naphthylamine which acts centrally Santa[17] found that while it is capable of reducing the oxygen used by muscular tissue *in vitro* the concentration required to effect this (1 in 5 000 or higher) is much higher than that attained by a therapeutic dose Lastly and most important of all, Barbour and Wing[18] have shown that direct application of quinine to the heat centres causes a certain amount of antipyrexia

Conclusions

1 Quinine does not differ in its mode of action from other antipyretic drugs

2 It has no action on the protein metabolism in health

3 It does not reduce the gaseous exchange and heat production except in a small proportion of fever cases and even in these the action lasts for less than three hours with the maximum pharmacopoeial doses

4 It is not possible in non malarial fevers to attain a saving of energy and tissue destruction through quinine

This work was rendered possible only through the kind help of many in the laboratories and clinic I must content myself here with expressing my deep obligation to them all

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TUBERCULOMA OF THE PITUITARY BODY

BY

T W LETCHWORTH, M B, B Ch, F R C S

SURGEON ROYAL EYE HOSPITAL OPHTHALMIC SURGEON HAMPSTEAD GENERAL AND NORTH WEST LONDON HOSPITAL

THE following case is remarkable, not only because the condition is uncommon but because, in spite of the mass surrounding the chiasma, the sight of the right eye was unaffected

A youth aged 16 was referred to me by Dr Goffe of Kington I saw him on March 11th 1924 He complained that during the last month he had had pain in the head chiefly over the left brow sufficiently severe to prevent sleep and of loss of sight of the left eye which had come on gradually

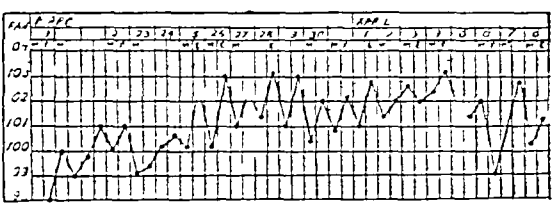
Vision Right eye 6/6 fields full, left eye no perception of light The right pupil reacted to light and accommodation The left pupil reacted to accommodation with consensual reaction to light only The fundi and media and all ocular movements were normal The left upper lid was a little fuller than the right with a slight tendency to droop and there was a suggestion of proptosis in this eye but not more than might be due to facial asymmetry

He was admitted to the Hampstead General Hospital for further investigation The Wassermann reaction was negative and the skiagram showed a normal sella turcica

On March 27th Mr Whale examined his nose and found that a left sided deviation of the septum precluded examination of deeper parts The temperature normal on admission rose this day to 103° A swab from the nose gave staphylococci pneumobacilli and a few streptococci. Leucocyte count 12 000 per c.mm

On March 29th Mr Whale removed the left middle turbinal and punctured the sphenoidal sinus No pus escaped The left antrum was also washed out with negative result Fluid obtained by lumbar puncture was blood-stained the cell count was 103 per c mm mostly leucocytes Cultures were sterile No tubercle bacilli were found

On April 2nd lumbar puncture was again performed The fluid contained more cells mostly small lymphocytes than could be accounted for by the blood present On April 4th the patient passed 192 oz of urine Temperature still 103°



During his stay in hospital he had not complained of much headache Nothing abnormal was found on physical examination The nervous system was normal Drs Sutherland, Scott Pinchin and Parkes Weber and Mr Waugh examined him, but could find no physical signs except the loss of vision of the left eye On April 6th the pain in the head was worse so that morphine had to be given He complained of singing in the ears The left eye was slightly more prominent He passed 230 oz. of urine

On April 8th there was deviation of the head and eyes to the right Extensor plantar reflex on left The patient was irritable and would not always answer questions

On April 10th he was only roused with difficulty Mr Waugh explored the left frontal lobe but found nothing The patient died shortly afterwards

The *post mortem* examination was made by Dr Perkins the only abnormality found was within the cranium There was a mass surrounding the pituitary body the optic chiasma, and adjoining portions of both nerves and tracts which extended right into the left orbit through the optic foramen accompanying the optic nerve The mass on section proved to be tuberculous The brain substance was not involved nor were tubercles found elsewhere

I have to thank Dr Levi the house-surgeon for his assistance with these notes

The optic nerve appeared to be especially compressed in the foramen The only localizing symptoms were the loss of sight and the extreme polyuria

THE TEMPERATURE AND SATURATION OF EXHALED AIR IN RELATION TO CATARRHAL INFECTIONS

BY

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With the co-operation of

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NATIONAL INSTITUTE OF MEDICAL RESEARCH

Introduction

OBSERVATIONS of various physiologists go to show that, whatever be the temperature of the atmosphere, the expired air issues at a temperature of about 35° C —that is closely approximating to body temperature—and almost saturated with moisture at this temperature the wet bulb temperature of the expired air being in fact about 35° C [1]

The following research was carried out in order to see how closely these figures hold good over wide variations of atmospheric temperature The matter is one of importance because as pointed out by Leonard Hill [2] the breathing of cool outside air entails a greater blood flow through the respiratory membrane and a greater evaporation of fluid from it The greater passage of blood and lymph through the membrane and secretion from it keeps up the health of the membrane and its defence against catarrhal infections On this depends in part the beneficial effect of open air treatment open air exercise, and sleeping in rooms with open windows or on verandas Comparing a day and night

spent in cool open air, with abundant exercise, with one spent in the humid moist atmosphere of a cotton mill and shut-up tenement dwelling, Hill calculates in the first case a several times greater flow of blood through, and evaporation of water from, the respiratory membrane, and insists on the importance of the cleansing effect of this flow

METHOD

After resting in a semi-recumbent position for at least half an hour, the axillary, cheek, and exhaled air temperatures were taken, together with wet and dry kata-thermometer readings and wet and dry bulb readings of the atmosphere, and the temperature of black fur placed horizontally to indicate radiant heat of sky and sun absorbed by the clothes

Several experiments were made to determine a suitable form of apparatus for taking the temperature of the ex-



haled air That finally chosen consists of two glass tubes, each 9 in long, one of 1/2 in and the other 3/4 in bore, the smaller being inside the latter and separated from it by a small air space The tubes were fastened in position by a wire passing through the inner tube, the two ends of which were twisted together outside so as to keep the inner tube pressed against two small pieces of rubber which were placed in position so as to separate it from the outer tube Inside the inner tube was inserted a clinical thermometer fastened on a lath of wood, the bulb being 1 in from the proximal end of the tube At the farther end of the outer tube was attached a flap-valve, preventing inspiration through the tubes A small cambric jacket was provided for the bulb of the thermometer, which could be moistened so that "wet" readings could be taken when required The proximal end of the outer glass tube was held between the lips and inspiration made through the nose and expiration through the mouth and tubes To secure still better insulation from atmospheric conditions the distal part of the outer glass tube was enclosed in a cardboard tube

The above precautions to shield the thermometer were found necessary to avoid variation caused by sun and wind out of doors, or the very hot air in the drying room of a laundry which was investigated The whole apparatus could readily be taken to pieces for cleaning Readings were also taken while holding the bulb of the thermometer in, but so as not to touch the walls of, the mouth, and with the lips open wide enough to allow expiration

All the experiments were carried out on Paul Jozer, and, except where it was cold enough to cause shivering, the clothes worn consisted of a shirt, cotton vest, a pair of shorts, and a straw hat to shield the face Wet and dry kata and wet and dry bulb readings, and cheek temperatures were usually taken every ten or fifteen minutes during the period of recumbence, the final readings put down being an average of these

The temperature of the exhaled air was taken at the end of each period of observation, first with dry bulb secondly with wet bulb, and thirdly with the thermometer taken out of the apparatus and held in the mouth Constant readings were obtained after one minute, but this limit was always exceeded

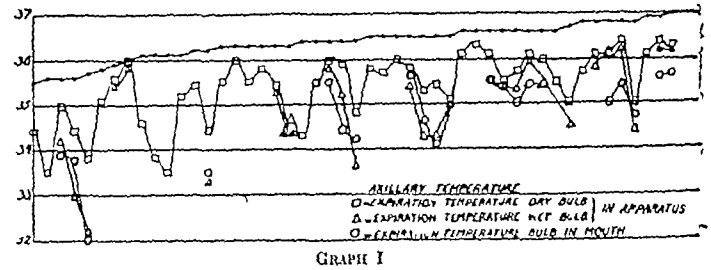
RESULTS

A number of experiments were made to determine the effect of shallow and deep respiration, and of holding the breath for half a minute before expiration, and as to the effect of exercise The following is typical of the results obtained

Table showing results obtained after a brisk walk from 7 to 7.30 a.m. on April 10th, 1924, subsequent recumbent position (Dry bulb = 5° C wet bulb = 3.9° C in the room)

	Immediately after	Half an hour later		Inspired Air held ½ min before Expiration
		Shallow	Deep	
Frequency of respiration	15	13	5.6	1
Expired air— Dry	35.0° C	35.3° C	35.3° C	35.5° C
Wet		34.6° C	34.9° C	35.4° C
Mouth	35.8° C	36.4° C	36.3° C	36.3° C
Rectum	37.7° C	36.6° C	36.6° C	36.5° C

The difference between the exercise and resting rectal temperatures is an index of the amount the metabolism is raised by exercise The mouth temperature is lowered by exercise through the cooling effect of the atmosphere and inspired air

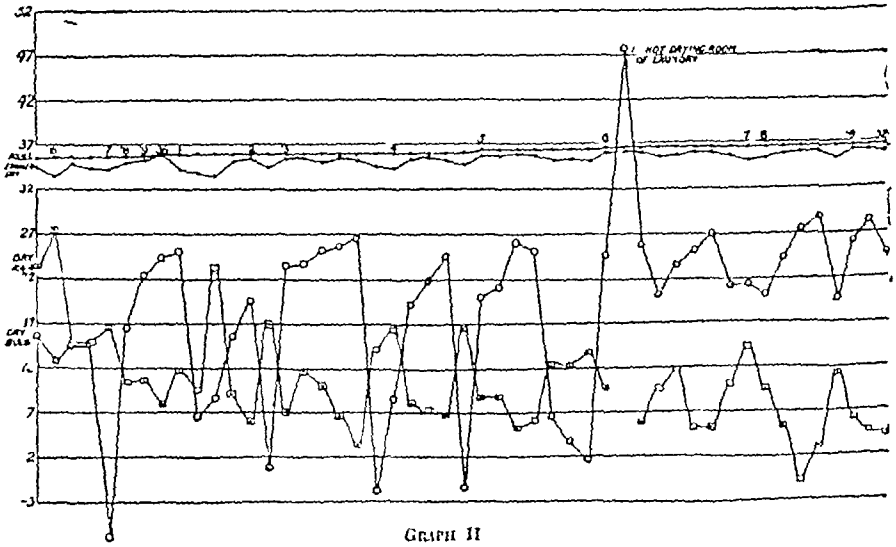


GRAPH I

Mouth and rectal temperatures in the recumbent resting position indoors approximated within 0.5° C Thus

						Mean
Mouth	36.2	36.0	36.0	36.8	36.3	36.3° C
Rectum	36.8	36.8	36.5	36.9	36.5	36.7° C

Saturation of the expired air is more nearly approached the deeper the breathing and the longer the breath is held



GRAPH II

Graph I shows how constant is the temperature of the exhaled air under all conditions On the whole the only factor which has any decided influence on it is the body temperature The wet bulb exhaled air temperature is lower than the dry bulb temperature, and the readings taken in the mouth more variable and generally lower than those taken in the apparatus In the mouth with open lips the thermometer is influenced by wind, which does not affect a cooling of the bulb in the insulated tube

Graph II shows that high wind velocities as shown by high dry kata readings, cause a slight lowering of exhaled air temperature especially when associated with a low dry bulb reading Low temperatures not associated with wind do not produce a significant fall

Neither high black tur readings—for example, at 56° C 60° C 56 9° C 44 7° C —nor even a dry bulb reading of 49 7° C (in the drying room of a laundry) have any significant effect on the exhaled air temperature The last reading shows how warm air when inhaled is cooled down and exhaled at approximately body temperature The inhaling of dry hot air must therefore enhance the flow of blood and evaporation of water from the respiratory membrane, just as does the inhalation of cool air Inhalation of warm moist air lessens both and thus lowers the resistance of the membrane to catarrhal infections

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Memoranda.

MEDICAL, SURGICAL, OBSTETRICAL

MYOCLONIC ENCEPHALITIS TREATED BY PATIENT'S SPINAL FLUID

DR ABRAHAMSON reports a most interesting case of encephalitis lethargica of the myoclonic type at a meeting of the Royal Academy of Medicine in Ireland (BRITISH MEDICAL JOURNAL, June 7th, p 1003) I met with a case of a similar nature about six weeks ago The patient, a woman aged 40, had myoclonic spasms of the abdominal muscles about seventy to the minute, as described by Dr Abrahamson It is a most pitiable and distressing sight to see patients in such a state they can neither rest nor sleep and rapidly become exhausted and delirious Morphine certainly relieves the pain associated with it but the spasms still prevent rest and sleep In the case here recorded lumbar puncture was performed every day without relief until finally he had to be anaesthetized to procure any rest at all When the spinal fluid was withdrawn on the fifth day 10 c.cm of it were injected intravenously this was followed by improvement for about twelve hours but the patient again relapsed Twenty-four hours later this was repeated with very gratifying results The spasms and pain disappeared, they have not recurred since and the patient has made a good recovery

This line of treatment is advocated by Pitricariu of Rumania (*Medical Annual*, 1924, p 157) who records similar cases

I am indebted to Dr Hebblethwaite for his permission to carry out this procedure and report the case

R WOOD POWER, M B, F R C S I

General Hospital Cheltenham

RECURRENT INTUSSUSCEPTION

THE following case is perhaps of sufficient interest to merit publication

A male child aged 3 months 27 days was admitted to the Deaconess Hospital Edinburgh on May 31st 1923 with a history and signs and symptoms of acute intussusception

First Operation

The patient was operated upon shortly after admission by Mr W J Stuart An ileo-caecal intussusception was found the invaginated bowel extending to midway between the hepatic and splenic flexures The condition was rectified and the abdominal wound closed

After the initial shock of the operation had passed the child was spoon fed with mother's milk diluted with water Rectal salines were also given On the morning of June 1st the patient seemed a little better the pulse 150 respirations 40 temperature 99° Feeds were taken well but the child vomited a little At 9 p m a little dark blood and flatus were passed pulse 153, respirations 36 temperature 99 4°

At 5 a m on June 2nd the patient took a breast feed well During the morning the bowels were open three times Dark brown faeces and a little mucus were passed the child seemed rather better than on the previous day In the afternoon the bowels were again open with a normal result

At 12 15 a m on June 3rd the patient became somewhat collapsed The foot of the bed was raised and rectal salines were continued during the early morning During the morning the bowel were open several times with only some mucus evacuated At 8 a m the appearance of the patient was improved pulse 160 respirations 38 temperature 98 4 During the forenoon all feeds were vomited In the afternoon however a feed was retained and the child slept from 5 to 6 p m when another feed was given, which was vomited immediately afterwards The patient seemed in great pain screaming aloud and being almost convulsed pulse 130 respirations 40 temperature 100 4° At 9 p m the abdomen was tense and distended the child screaming on palpation Mr Stuart saw the case immediately afterwards the patient having now become somewhat collapsed, pulse 200 respirations 34 temperature 103°

Second Operation

Immediate operation was considered necessary On opening the abdomen an enteric intussusception was found about the lower end of the jejunum The bowel was invaginated to the extent of about seven inches This intussusception was reduced fairly easily The bowel was slightly congested and movement passed on well after reduction

After the shock of this second operation had passed the patient made fairly good progress His breathing however became laboured on June 7th and bronchopneumonia set in The condition of the patient unfortunately gradually became worse and he died on June 21st

I wish to express my indebtedness to Mr Stuart for permission to publish this report

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Late Resident Medical Officer Deaconess Hospital Edinburgh

X RAYS IN LUPUS OF THE NASAL MUCOUS MEMBRANE

IN your issue of March 8th, 1924 (p 423) Dr Harrison describes the successful treatment by diathermy of a patient suffering from lupus of the soft palate and fauces Such, of course involves a certain amount of destruction of the surrounding healthy or at least unaffected, tissues as well as the patches of lupus That better results are obtainable by x ray treatment which must of course be sufficiently penetrating to reach the lesions affected, is illustrated by the following

V E aged 15 (in 1922) had been treated for lupus at an out patient department of a large hospital in 1919 The Wassermann reaction was negative on two occasions As the condition was progressing she was transferred to the Austin Hospital for Incurables When I first saw her in 1922 she had considerable deformity of the cartilage of the nose resulting from lupus also numerous small ulcers of the mucous membrane of the palate extending almost as far as the uvula causing much distress especially during mastication etc

Only one exposure of deep x rays (voltage 2-0 000) was given —namely on September 14th 1922—with the mouth closed Improvement was very rapid so that nothing remained of the ulceration except some scarring Owing to pyorrhoea all her teeth have since been extracted and she has been wearing a full set of artificial teeth without any discomfort Since her discharge she has been regularly employed for the past twelve months has gained at least a stone in weight and has not had a day's illness

Melbourne Victoria H FLECKER, F R C S

TREATMENT OF ANGINA PECTORIS

Two days before I read Professor Wenckebach's lecture (BRITISH MEDICAL JOURNAL May 10th p 809) a patient of mine died from a form of angina pectoris that was new to me

He was a farmer aged 71, who for some years had been treated for arterio-sclerosis Occasionally he suffered from slight attacks of syncope but he never had marked precordial pain On the morning of the day he died I was called to see him as he was feeling out of sorts Beyond the usual signs of his complaint I could find nothing abnormal I told him to stay in bed for a few days and carry out the usual treatment. The same evening I had an urgent summons to go and see him Apparently he had been seized with an agonizing pain over the heart on trying to get out of bed. I found him completely pulseless and only a few faint sounds could be heard over the heart the auricle apparently being in a state of fibrillation The pain was obviously still intense I immediately gave him injections of digitalin camphor ether and olive oil and inhalations of amyl nitrite wrapped him in a heated blanket and cupped the precordial region He revived slightly for a few minutes but after about a quarter of an hour he was seized with an intense exacerbation of the pain and became completely

collapsed I continued with the cupping and inhalations, and though he revived slightly he soon relapsed into unconscious ness and died two hours afterwards, the attack lasted about four hours

No *post-mortem* examination was performed, but I formed the opinion that death was due to coronary embolism The question which has exercised my mind is whether I was wrong in giving digitalin I think the exacerbation of the pain must have been due to it I cannot see what other treatment could have been adopted for the acute heart failure with a fibrillating auricle

CYRIL HELM

Great Horkesley Colchester

Reports of Societies.

ACTIVE MOVEMENT IN SURGERY

At a meeting of the Medico-Chirurgical Society of Edinburgh held on June 4th, with SIR DAVID WALLACE, President, in the chair, MR J W DOWDEN gave a communication on the principles of active movement in relation to injury and disease He regarded active movement as a new principle in surgery, and made reference to the anatomical adaptation of bones, muscles, tendons, etc, so that everything could be carried out in the easiest possible manner in performing work It was common knowledge that any interference with the use of a joint led to limitation of movement and adhesions which were difficult to remove once they had formed The nerve control of the parts was mentioned, and their useful function in this method of treatment was cited Active movement might be carried out till pain was just induced, and this was a ready indicator as to the amount of movement permissible in each case The method was of use in fractures, sprains, post-operative conditions, sutured tendons, infected joints, cellulitis, and other forms of suppuration To be thoroughly effective active movement must be started at the earliest possible moment—within twenty-four hours if possible The result of employing this principle of active movement was to prevent adhesions and to stimulate the healing process, gradually transforming a bad displacement into good position again through the healing process in the bone The muscle tone was improved and maintained

A series of lantern slides was shown to demonstrate the excellent functional results to be obtained by this method of treatment Not only were good functional results obtained but good anatomical effects developed, and were clearly demonstrated by *x*-ray photographs Several photographs were shown to illustrate the process of callus formation and the final effects obtained by a rounding-off process during union, giving wonderful results from the purely anatomical point of view Several series of *x*-ray photographs were shown to illustrate the process of healing in a bone from considerable malposition to the stage where no evidence of injury could be noted by *x* rays

In the discussion that followed SIR DAVID WALLACE referred to the fact that the Edinburgh surgical school had for many years treated fractures by early movement, and referred to a demonstration of the late MR JOHN DUNCAN'S in 1892 illustrating the difference between the Edinburgh and London methods He referred to a statement of Lucas-Championnière in 1905, who said, "immobilization is death"

MR CATHCART referred to the fact that Professor John Chiene was one of the first in Edinburgh to adopt massage and movement for sprains He considered that those surgeons who said a good physiological result after fracture entirely depended on a good anatomical result based then statement on theory, not observation They ignored the compensatory power of Nature, of which MR DOWDEN had supplied such excellent illustrations

Dietetics

DR MILLAR IRON in a short paper on dieting in medicine, summarized the primary objects of feeding, and referred to Mellanby's observation that too much attention had been paid to the calorie in the construction of diets and that other factors were of greater importance Certain diseases, such as diabetes, nephritis, and peptic ulcer, were discussed from the dietetic standpoint, and the well known facts in relation to diet restrictions were outlined In relation to diabetes, the work of Newburgh and March, also Shaffer and Woodyatt, on the ratio between the ketogenic and the antiketogenic substances was cited, and mention was made of intravin—a fatty substance which could be taken freely without risk of acidosis In dealing with nephritis less certainty was present in giving a suitable diet than in the case of diabetes Epstein's views as to the harmful action of protein-free diets were mentioned Shennan and Gettler had shown that certain foods, when burned outside the body, yielded an acid ash, and others an alkaline ash, and the foods which left an acid ash were those which had long been known to be deleterious to nephritis cases—for example, red meats and eggs In treating peptic ulcers DR LYON claimed to have had great success with Sippy's method The question of diet in hospital practice was briefly touched upon Many forms of special diet were complicated, requiring exact measuring and careful preparation The American plan of utilizing a special dietetic official, who translated a diet prescription in calories into appropriate meals, was commented on favourably

In the discussion that followed DR CHALMERS WATSON referred to his observations on excessive meat eating, with reference to the bacteriology of the alimentary tract Dr CLAUDE KER pointed out that in the treatment of typhoid fever his experience showed that patients would do equally well on a diet which would support a working man, or on a very moderate allowance of fluid foods, or on a starvation regime of water alone for a few days at a time He preferred the milk diet, however, in such cases He had satisfied himself of the value of eggs being added to the diet of cases with albuminuria lasting three weeks, the addition of this protein cleared up the majority of cases

MR PIRIE WATSON showed a remarkable specimen of a bilateral hydronephrosis due to blockage of each pelvis by a single calculus The condition was a long-standing one, and the stones were very firmly impacted in the tissues The amount of renal tissue present in the kidneys was so slight as to be almost unrecognizable

EMERGENCIES IN GENERAL PRACTICE

At a meeting of the London Association of the Medical Women's Federation, held at the Elizabeth Garrett Anderson Hospital on June 17th, with DR AMY SHEPPARD in the chair, a paper was read by DR CHRISTINE MURRELL on emergencies in general practice She said that in most cases the difficulties and embarrassments of emergencies in general practice were due to the facts that on those occasions the doctor was the central figure, that everyone was standing around waiting for the doctor to do something, and that the atmosphere was one of hurry and agitation If one remembered that in practically only two conditions—namely, foreign bodies in the air passages and haemorrhage—was excessive haste the one essential for success in treatment, it became clear that the usual emergency was really a matter for calmness and deliberation Most emergencies happened at night, and the doctor was usually summoned to them by a messenger It must never be forgotten that the messenger might be able to furnish most valuable information—for example, in cases of poisoning—and much time might be saved in the long run by questions at this stage DR MURRELL then dealt seriatim with various kinds of emergency, telling anecdotes illustrative of the dangers and difficulties that might beset the general practitioner Haemorrhage and foreign bodies in the air passages were dealt with as the most urgent conditions Oedema of the glottis was another, almost as urgent Fractures were considered to be emergencies which allowed of deliberation and indeed demanded it, the imperative need for care here, especially the taking of an *x*-ray plate for the protection of the practitioner, being stressed Infectious diseases might prove very troublesome, especially when the diagnosis was not quite certain, and the question of the advisability of waiting for the result of the examination of a throat swab before giving

antitoxin was discussed. Since no discussion of emergencies would be complete without mention of insanity Dr. Murrell emphasized the need for care in dealing with the certification of lunatics.

The discussion which followed centred mainly around two subjects: the treatment of lunatics and the difficulty of dealing with suspected diphtheria during the delay often involved in getting a swab examined.

At a meeting of the London Dermatological Society held at St. John's Hospital, Leicester Square, on June 11th, with Dr. J. L. Bedford, President, in the chair, the annual oration of the society was delivered by Professor Dr. M. Oppenheim of Vienna on "Affections of the skin caused by occupation and profession." The lecture was illustrated by a large number of beautiful lantern slides prepared by the Lumière process. Tribute was paid to the lecturer by the PRESIDENT, Dr. KNOWSLEY SIDEY, and Dr. LEESE at the Home Office. At the dinner following the meeting, Professor Oppenheim was the guest of the society.

Reviews.

CRIME AND INSANITY.

Dr. W. C. SULLIVAN, Medical Superintendent of Broadmoor Criminal Lunatic Asylum, has written a book on *Crime and Insanity*,[1] the aim of which is to consider, from the standpoint of clinical experience, the nature and extent of the influence of psycho-pathological condition in the causation of those disorders of social conduct which come within the purview of the criminal law. No writer in this country is more qualified to present the psychiatrist's position in regard to this question, and his book is particularly opportune because the attitude of the psychiatrist towards this important social problem is often misunderstood, and sometimes seriously misrepresented. There appears indeed, to be a vague impression amongst both jurists and the general public that the "medical theorist" holds views about criminal responsibility which might, if put into effect, undermine the stability of our social life. In this solid and practical contribution to criminology, the author defines very clearly the aims, limitations, methods, and functions of the psychiatrist, and his book should do much to correct any erroneous impressions which may exist as to the attitude of the medical profession towards the problem with which it deals.

There is a tendency to make the discussion of the problem of criminal responsibility much more obscure and complex than is necessary. As Dr. Sullivan observes in his preface, the majority of works dealing with this question approach it from the limited point of view determined by the artificial standards of the law, and are for the most part concerned more with metaphysical speculations and with the discussion of legal subtleties than with the examination of clinical facts. In a very general sense, to be responsible for an act simply means that the doer must render an account of the act and support its consequences. The term "responsibility" lacks precision, however, and its meaning varies as also does the authority to whom the individual is accountable according to whether it is used by philosopher, theologian, or jurist. As far as the psychiatrist is concerned, metaphysical discussions which circle round the problem of spontaneity or determinism are outside his sphere of professional interest; the ethical aspects of responsibility are also naturally excluded from the scientific consideration of crime, and, as the author points out, a study of morbid crime would obviously be very imperfect if it were to be rigidly confined to such anti-social acts as may happen to satisfy the conditions of any local and temporary standard established by legal practice. As he says, responsibility is briefly an arbitrary and fluctuating conception which cannot be usefully applied to delimiting a category of facts of conduct.

The medical criminologist is thus not primarily concerned with so intangible a concept as responsibility; rather is it his function to study the whole field of delinquency and to discover to what extent and in what cases it is associated with and determined by mental disease. Judged from the standpoint of natural science, a number of delinquents are abnormal, and it is the task of the psychiatrist to describe and delimit such cases irrespective of whether their psychical deviation is sufficiently akin to manifest insanity to absolve them from legal responsibility or not. The view that all crime is the expression of biological inferiority, that the criminal is born and not made, is as Dr. Sullivan shows untenable. In his introductory chapter he submits Lombroso's theory of a specific inborn criminal tendency to a critical discussion showing that any theory based on the assumption that phenomena of social conduct can be directly referred to conditions of organic constitution is fundamentally unsound. This leads him to a study of the influence of external social factors in the production and incidence of crime with special reference to fluctuations in the economic conditions of the community, the weakening of police control, and increases of alcoholism accompanying a relaxation of the liquor laws. The bulk of the book is occupied with a description of clinical cases, the manifestations of criminal tendencies being exhibited in patients suffering from general paralysis, senile insanity, alcoholism, manic-depressive insanity, dementia praecox, paranoia, epilepsy, transitory conditions of mental disorder, hysteria, congenital mental deficiency, and moral imbecility. The numerous clinical studies of the criminal insane included in this volume constitute a valuable addition to psychiatric literature, particularly as the author's position enables him to observe the development of his cases over a number of years following commitment.

In a concluding chapter, under the heading of moral crime and social security, Dr. Sullivan inquires how far the conception of legal theory regarding the criminal responsibility of the insane accords with the ascertained facts of clinical experience. He points out that criminal responsibility is a purely legal question. The law, which is the formal expression of the will of the community, is the sole authority in the definition of responsibility; it can impute full responsibility to all offenders, whether they be sane or insane, and if it does choose to recognize insanity as a condition excluding or diminishing responsibility it may fix whatever limits it thinks fit to the mode and extent of such recognition. The question whether, and under what conditions, insane offenders should be excused from punishment does not, as such, as the author feels, fall within the province of medical science; it is a question solely for the community to settle. Following, however, a closely reasoned discussion of the M'Naghten rules, Dr. Sullivan comes to the conclusion that, from the point of view of psychiatry, the existing state of the law regarding criminal responsibility corresponds neither to the interests nor the sentiments of the community, and contends that, as the existing tests fail of their purpose because they are based on a misconception of the nature of the phenomena they deal with, it becomes the business of psychiatry to point out their inadequacy. We cannot here summarize his criticisms of the existing law, but it is of interest to indicate briefly the directions in which he considers it might be improved.

First he suggests that the M'Naghten formula should be entirely abandoned and a simpler test of responsibility adopted, such, for instance, as that embodied in the French code which makes irresponsibility coextensive with insanity. Secondly, he advocates the admission of a qualified responsibility (*la responsibilité atténuée*) in cases where the offenders, though not certifiably insane, are abnormal to a pronounced degree. The principle of treating the *demi-fou* as *demi responsable* was, as the author states, advanced by Professor Grasset, but it was probably first enunciated by an eminent jurist, Muyart de Vouglans, who wrote in 1670:

> For the actual state of the accused at the time of the crime to occasion a moderation of the penalty this state must have been such that he was not in possession of the entire liberty of his mind nor of a perfect knowledge of the harm he was doing."

Thirdly, Dr. Sullivan lays much stress on the need of establishing a system for providing the court with full, impartial, and authoritative expert evidence as to the

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[1] *Crime and Insanity*. By W. C. Sullivan, M.D. London: E. Arnold and Co. 1924. (Demy 8vo, pp. vi + 252. 12s. 6d. net.)

mental state of the accused person He is of the opinion that with these modifications of the law the question of the *offender's responsibility* might be left to the decision of the jury, without serious risk of prejudice to the interests of the community or of the prisoner

In this last sentence Dr Sullivan gives explicit expression to a thought which seems to influence his whole attitude to the problem of criminal responsibility A careful study of his book makes it evident that he does not consider the question of responsibility a matter for the psychiatrist to settle, it concerns the community as a whole, while the function of the psychiatrist is to present the clinical facts from a biological and objective standpoint when he is called *upon* to give evidence in criminal cases His attitude appears similar to that taken by Professor Ballet, the famous French alienist, to which we referred some time ago Ballet, animated by the feeling that the psychiatrist should remain in his own territory, denied to the medical witness competence in the matter of responsibility According to this teacher responsibility is not a medical question, but a metaphysical one, on which the doctor (as such) ought not to express an opinion At the assizes at Douai *Ballet* formally refused to evaluate the responsibility of the assassin Favier, in spite of the insistence of the magistrates and that of Professor Lemoine, who brought forward evidence of a strong insane heredity on the maternal side *Ballet* replied that he had no more ability than the magistrates and the jurors to estimate responsibility, and that his *function* should be circumscribed to the declaration whether or not the accused was the subject of a mental disease As Favier did not present any mental syndrome known to psychiatry, he was condemned to death and executed at Lille

We can thoroughly recommend this book to both jurists and medical men

CANCER OF THE THYROID

WHETHER the reader be specially interested in diseases of the thyroid gland or not he will not fail to be fascinated by so masterly an exposition of surgical pathology as that presented in the volume on cancer of the thyroid gland by Professor BERARD and Dr DUNET.[2] It might seem at first sight that the authors could have said all that they have to say about a comparatively rare disease in a volume of more restricted dimensions, and that redundant and extraneous matter has been included, but there has been no such gross error The embryology and anatomy of the thyroid throw a flood of light on the remarkable variety of malignant tumours which arise in this gland, and a preliminary study of these subjects is absolutely necessary to elucidate its pathology The discussion of comparative pathology is illustrated by reference to cancer of the thyroid in fish and lower mammals The description of the histology and pathological anatomy is full and largely based on personal observation The second half of the book is devoted to the *clinical* study of the disease and its treatment The writers practise in the surgical centre of a goitrous district and have had a most remarkable experience of this disease, or rather of this group of diseases They are thus enabled to take a comprehensive view, both clinical and pathological, a view which few could have the opportunity to obtain, for in most districts cancer of the thyroid is so uncommon as to be almost a surgical curiosity The use to which this opportunity has been put can only be appreciated by a study of the book, the illustrations in themselves form a veritable museum One of the most interesting chapters in the clinical division is that on "cancer latent," which most skilfully welds the subject into a logical whole

Treatment is naturally discouraging, but all that can be done surgically for those afflicted with this terrible malady is here fully described Those who make a special study of thyroid surgery will welcome this volume as a brilliant contribution to its literature, but it is even more than this for it forms a model on which any monograph on surgical pathology might well be framed

[2] *Le Cancer Thyroidien.* Par Léon Bérard et Charles Dunet Université de Lyon Bibliothèque du Cancer publiée sous la direction des Professeurs H Hartmann et L Bérard. Paris Gaston Doin. 1924. (Roy 8vo pp 560 with 93 figures 2 plates. Fr 40)

UROLOGY

IN the five years which have elapsed since the appearance of the first edition of *Modern Urology*, edited by Dr HUGH CABOT, C M G, F A C S, genito-urinary surgery has continued to advance so that a second edition[3] has been deemed necessary However, the editor has done well to avoid the temptation of increasing the size of the new volumes, this he has achieved by omitting what, in spite of the ability with which it was written, must, after all, be considered a not indispensable part of the original edition—namely, the historical sketch of genito-urinary surgery in America

Numerous new illustrations and coloured plates appear in the second edition, and the text has been brought thoroughly up to date Notable features in the new volumes are an excellent description of the tabetic bladder, a new paragraph on that somewhat rare condition granuloma inguinale, and a revised section dealing with the pathology of new growths of the testicle The rewritten chapter on prostatic obstruction reveals the increasing popularity in America of the suprapubic as compared with the perineal route for prostatectomy, and the description of the after-treatment of this operation shows what a high standard of excellence has been attained Many surgeons would appear to employ Hagner's haemostatic bag as a routine method of treatment By paying great attention to the avoidance of haemorrhage the large suprapubic tube can be removed at the end of forty-eight hours and a de Pezzer catheter substituted The Irving box, so fashionable with English surgeons, is seldom used in America, and the convalescence would appear to be considerably shorter in consequence

In the second volume there is a notable expansion of the chapter on bladder diverticulum After discussing the various operations that may be undertaken for this condition the author summarizes his own method Under gas and oxygen with local infiltration of novocain, the bladder is exposed and opened through a vertical or transverse incision The diverticulum is then converted into a solid tumour by packing it with gauze, and is dissected away from surrounding tissue and removed *Great care* is observed in closing the gap left in the bladder, since, in the author's opinion, the chances of a recurrence depend on the manner in which this is done

The chapter on tests of renal function has been brought up to date by Dr J T Geraghty, and, as in most American books on the subject, great stress is laid on the value of phenolsulphonephthalein tests

Undoubtedly *Modern Urology* has established itself as the standard American reference work on the subject, and the second edition, enriched as it is by numerous additions to the text and to the illustrations, should be accorded as good a reception as the first

[3] *Modern Urology* Edited by Hugh Cabot M D C M G F A C S *In* two volumes. Philadelphia and New York Lea and Febiger 1924 (Roy 8vo Vol I pp 828 398 figures 11 plates Vol II, pp 744, 283 figures 8 coloured plates 13 dollars the two volumes.)

AN X-RAY MANUAL

THE *Manual of Practical X-Ray Work*,[4] written by Dr JOHN MUIR in collaboration with the late Sir ARCHIBALD REID and Mr F J HARLOW, is the third edition of the well known manual by Arthur and Muir The new edition is more than a revision, for, though arranged on the same lines as before, the book has been so expanded that it in reality becomes a new publication Essentially it consists of two parts—one on instrumentation, and the other on *x*-ray diagnosis Following a short introduction on electrical terms, the history of the evolution of the *x*-ray tube, and so on, we have an illustrated description of the apparatus used in *x*-ray work A chapter on photography includes, in addition to a description of the actual photographic processes, directions as regards the choice and condition of tube to be used, exposure, and position, it is well written and full of very practical information Some twenty-eight

[4] *A Manual of Practical X Ray Work* By John Muir B Sc M B Ch B, B Sc (Pub Health) in collaboration with Sir Archibald Reid K B E, C M G and F J Harlow B Sc being a third edition of the Manual by Arthur and Muir London W Heinemann. 1924 (Roy 8vo, pp x+524, 206 figures 31s. 6d net)

pages are given to localization of foreign bodies and all the most important methods and modifications of methods are alluded to, a description of the apparatus, etc., used for the exact localization of foreign bodies in the eye is included.

In its general arrangement the more important half of the book, that on diagnosis, is good. It consists of four chapters on the osseous, the respiratory and the circulatory systems, on orthodiagraphy, and on the alimentary and urinary systems, they are thoroughly up to date and cover the whole of the modern x ray field.

One criticism is perhaps justifiable: it is that one of the many illustrations are not up to the level of present-day work, and that others are not well reproduced. The publishers should take care that future editions which no doubt will be called for, are improved in these respects: fine and convincing illustrative radiographs are of great importance from the beginner's point of view, and those which do not come up to standard should be ruthlessly sacrificed. Another criticism is that the few remarks upon the teeth, chiefly on technique, require considerable expansion: we cannot accept the dictum that "the diagnosis of conditions revealed in radiographs of the teeth and jaws must be left mainly to the dentist." The radiographs of teeth is of very great importance not only in diagnostic, but also in preventive medicine, and the expert radiologist should certainly be able to furnish a reliable report on the reading of these radiographs.

By a regulation of the General Medical Council all medical students have now to attend a short course on radiology, and there is no doubt but that this manual is a valuable addition to other books on the same subject which are at their disposal.

HUMAN PROTOZOOLOGY

In the study of tropical diseases there is perhaps no more important subject than that which deals with the protozoal organisms pathogenic to man. Dr. ROBERT W. HEGNER and WILLIAM H. TALIAFERRO of the School of Hygiene and Public Health, Johns Hopkins University, in their *Human Protozoology*[1] have written a most useful handbook on the subject. It deals mainly with the protozoa which infect man, but the authors have not hesitated to illustrate various points with reference to protozoa in animals and to free living forms. Indeed there is a tendency to give rather too much prominence to this aspect of the subject, and certain pathogenic groups of direct importance to man might advantageously have been dealt with in greater detail. Thus in the British schools of tropical medicine it is usual to go very thoroughly into the question of human and animal trypanosomiasis in Africa, the life-cycle and mode of transmission of each species, and the morphological differences between the various groups, whereas the authors have treated this section somewhat briefly, and have omitted to give illustrations of trypanosomes from certain groups such as for example those which include *T. vivax* and *T. congolense*. The book is well illustrated with several coloured plates and numerous figures and diagrams in the text. In some figures the minutiae of the morphological structure have been given in great detail, and since some of the points—as for example, in the diagrams of *Chilomastix mesnili*—may be more or less problematical, this seems scarcely essential for the recognition of the commoner parasites by medical men. In the section on the haemogregarines they have retained the generic name *Haemogregarina* for all the organisms in this group. This seems to be unfortunate as the haemogregarines contain examples of organisms which at certain stages are morphologically not unlike yet have different life-cycles. It is a pity that in this work in which so much valuable detail is given, the authors did not indicate the life-cycle of one member of each genus in this group. The book would have been of greater value to medical men had a chapter been devoted to technique or had the methods of investigation appropriate to each group been indicated in detail. For example, alternative methods of preparing and staining permanent preparations might have been given.

[1] *Human Protozoology*. By Robert W. Hegner, Ph.D., and William H. Taliaferro, Ph.D. New York: The Macmillan Co. 1924. (Cr. 8vo, pp. xix + 597, 197 figures. 21s. net.)

The book may, however, be unhesitatingly recommended as an addition to the library of the practitioner in the tropics or as a textbook for the student whose intention it is to proceed abroad.

ORGANIC ARSENICAL COMPOUNDS

All substances having a molecular structure in which the element arsenic is directly united to carbon have a special interest for medicine. Their selective toxicity to parasitic organisms is giving them an important place in therapeutics. Much experimental work has already been done in the study of their properties and activities, but the results notable as they are, form only a tithe of the unexplored possibilities. Having this aspect of the subject in view RALPH and GAVRON have written a monograph on *Organic Arsenical Compounds*,[1] summarizing the compounds hitherto brought to notice. It is one of a series of monographs produced under the direction of the American Chemical Society in accordance with an undertaking arranged at the Inter-Allied Conference of Pure and Applied Chemistry which met in 1919. The main intention was that the knowledge available should be presented in a readable form and be intelligible to those who are not well versed in the subject. It can hardly be doubted that the authors have done the best possible with the literature available, yet the measure of success they have attained is only partial. Explanations of the kind likely to be needed by a certain class of readers, particularly those desirous of gaining a good acquaintance with the chemistry of the substances under review are scanty. The degree of perception afforded by a moderate education in general chemistry does not suffice to yield the requisite insight. Names and formulae, melting points and solubilities—how little do these convey to the inexperienced of the existence of acidic or basic properties, or pronounced or specific reactive tendencies, or the exhibition of colloidal habit. Such chemical appreciations are highly desirable and would gain general approbation, their need is obvious for they lie at the root of all theoretical considerations regarding the activities of the different types.

The second important aim of the book is stated to be to afford a survey of the progress already made for the assistance of persons who desire to conduct research on the subject. Viewed from this aspect the work is more satisfactory. The historical sketch gives a very thorough account of the sequence of experiment and discovery. The bulk of the matter consists of abstracts of published researches. These are well arranged and efficiently supply such details as are required for preliminary reference. A complete system is also furnished for finding the original publications. A special chapter is appended in which the chemotherapy of the compounds is discussed. In this is presented a review of the methods by which toxic activities are recognized and determined. The conditions which disturb correct inferences from experiment are indicated and theoretical considerations are presented which are helpful to a better grasp of the whole subject. This chapter is very well written; its brevity is the only feature to be regretted.

NOTES ON BOOKS

THE translation of the late Dr. ALFRED MARTINET's *Clinical Diagnosis* by Dr. LOUIS T. DE M. SAJOUS from the third French edition of which the first issue appeared some years ago (see JOURNAL, May 24th, 1919, p. 644) consists of two volumes. The first deals with general considerations on diagnosis, and contains a highly instructive and humorous chapter on mistakes in diagnosis followed by an account of procedures for the examination of the various systems. The chapters on the digestive tract, respiratory tract and genito-urinary tract have been written in collaboration with Drs. Meunier and Lutier, Laurens and Saint Cene respectively.

[1] *Organic Arsenical Compounds*. By George W. Raiziss, Ph.D., and Joseph L. Gavron, B.S. American Chemical Society Monograph Series. New York: The Chemical Catalog Co., Inc. 1923. (Med. 8vo, pp. 513, 2 figures. 7 dols.)

Clinical Diagnosis: Clinical Examination of the Digestive System, etc. By Alfred Martinet, M.D. Paris. Authorized English translation of the third revised and enlarged edition by Louis T. M. Sajous, B.S., M.D. Philadelphia. Two volumes. Philadelphia: F. A. Davis Company. 1923. (Med. 8vo, pp. xxxiii + 1,253, 352 figures. 14 dollars the two volumes.)

The first volume closes with a business like chapter on systematic medical examination, both in the patient's house and in the physician's consulting room, with or without the aid of special apparatus, and a few pages are given up to a discussion of the future of medical practice, in which "group medicine" is foreshadowed The second volume contains an analysis of symptoms, arranged in alphabetical order from "albuminuria" to "vomiting" An index of the principal clinical signs, classified according to the author's names, is appended Dr de Sajous deserves high praise for his excellent translation, in which the lively spirit of the original is retained The book is copiously illustrated and well indexed.

We have received a copy of the second edition of a monograph on the treatment of puerperal infections, *Die Therapie des Wochenbettfiebers*,[8] by Dr ROBERT KOHLER of Professor Halban's clinic in Vienna The first edition was not submitted to us, but this second one would appear to have succeeded it after a short interval The volume contains an excellent summary of the work published in various countries on this urgent problem The subject matter is separated under various headings, the first portion being devoted to prophylaxis, while much the greater part is given up to the multifarious methods of attempted cure The author avoids that vexed borderland where what may be strictly regarded as prophylactic technique becomes merged with general obstetric management, and confines himself to such matters as hand disinfection, gloves, rectal examination, the cleansing of the external genitals, and prophylactic immunization by vaccines and serum In the therapeutic section all methods of general and local treatment—good, bad, and indifferent—are considered and the claims of many of the newer chemical substances discussed The monograph concludes with a bibliography

EDEN and CEDAR PAUL are translators as competent as they are indefatigable it is therefore rather a pity that they do not always select their authors with more judgement Professor ALFRED BERTHOUD'S book, to their translation of which they have given the title *The New Theories of Matter and the Atom*,[9] is an excellent compilation, but the author has no special pretensions to write with authority on the subject He gives however, quite a good account of the position as it was a couple of years ago Two of the chapters deal respectively with Rutherford's atom and the transmutation of the elements, and with Bohr's atom and the theory of quanta

The Mothercraft Manual,[10] by Miss MABEL LIDDIARD, matron of the Mothercraft Training Society, is a summary of her lectures and talks to mothers and nurses based on the teaching of Dr Truby King the founder of the society The little work fulfils its object which is the exposition in simple language of the natural hygienic management of the mother and child

[8] *Die Therapie des Wochenbettfiebers* Von Privatdozent Dr Robert Kohler Leipzig und Wien Franz Deuticke Zweite Auflage 1924 (Subscription price 3s 6d net)

[9] *The New Theories of Matter and the Atom* By Alfred Berthoud Professor of Physical Chemistry at the University of Neuchatel Translated from the French by Eden and Cedar Paul London George Allen and Unwin Ltd 1924 (Med 8vo pp 209 illustrations 10s 6d net)

[10] *The Mothercraft Manual* By Mabel Liddiard Matron Mothercraft Training Society Introduction by J S Fairbairn M V B M B Ch Oxon F R C P F R C S London J and A Churchill 1924 (Cr 8vo pp xvi + 175 35 figures 3s 6d net)

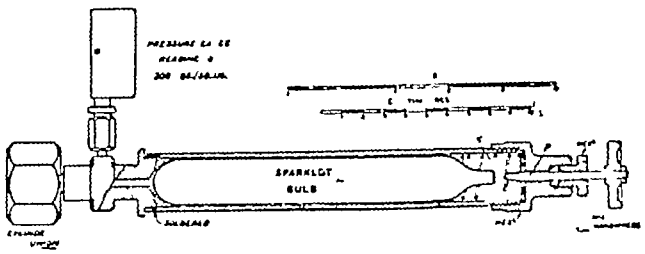
PREPARATIONS AND APPLIANCES

Apparatus to Facilitate Treatment of Carbon Monoxide Poisoning

In a paper read before the Royal Society of Edinburgh , who versity appar soning ulated where opera result noxide is con thodox ng the ing to m l s o t and d d Dr nature Nash are o

" carbogen," avoids the objection stated, and is found to reduce the chances of dangerous sequelae Averaging certain of their results, it is found that if a person suffering from CO poisoning be allowed to breathe ordinary fresh air for twenty minutes the reduction in CO saturation of the blood is only 2 2 per cent , if he breathes pure oxygen for the same period it is 5 5 per cent , while if he breathes the carbogen mixture it is about 19 per cent Dr Briggs finds that the lung ventilation of a healthy adult is increased on an average from 7 3 litres on oxygen to 17 1 litres a minute on carbogen The increase is, however, greater with a person affected by carbon monoxide, Henderson and Haggard recording rates of respiration with carbogen up to or even exceeding 30 litres a minute From these data the author was able to ascertain the size of gas cylinders suitable for use with the portable reviving outfits employed at mines and rescue stations Most of the existing reviver sets are equipped with cylinders which are much too small for either oxygen or carbogen A suitable arrangement consists of two ordinary rescue apparatus cylinders, coupled together, and fitted with the usual connexions, breathing bag, and face mask Such an appliance is not too heavy for convenience, and by supplying about 20 cubic feet of gas is able to effect a reduction of nearly 20 per cent in the CO saturation of the blood

Carbogen cannot yet be obtained commercially in this country To charge the cylinders of these reviving sets with 95 per cent oxygen *plus* 5 per cent CO_2 the apparatus illustrated in the accompanying figure has been designed, and is in use at the

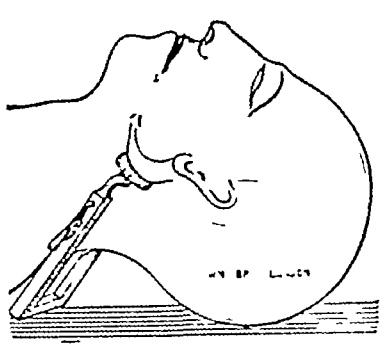


Edinburgh Mine Rescue Station It was found that the contents of the J size sparklet bulb (2 grams of liquid CO_2) are exactly sufficient to charge a 290 litre cylinder with the CO_2 required for making the 5 per cent mixture The apparatus being attached by the union to the cylinder, the sparklet bulb and the spring *S* are introduced in the positions shown The screw cap carrying the pin *P* is now attached, and, the cylinder valve being open, the handwheel is turned to cause *P* to advance and perforate the soft metal seal in the throat of the bulb The wheel now being slightly released, *P* acts as a control valve, regulating the escape of the carbon dioxide round the loose fitting sparklet bulb and into the cylinder The discharge, which should not be too rapid, can be watched on the pressure gauge It is found advisable that the period of discharge should be about ten minutes, after which time the pressure gauge reads 90 lb per square inch The cylinder valve being closed, the appliance is removed, and the cylinder charged with oxygen up to the standard pressure of 120 atmospheres by means of a 'booster' pump As stated, the resulting mixture contains 5 per cent of carbon dioxide

The additional cost is a negligible factor, since these cylinders containing carbogen are held in reserve for emergency purposes at a rescue station Ordinary training with revivers can be carried out with plain oxygen For the sake of distinction the carbogen cylinders are coated with aluminium paint

Apparatus for Supporting the Jaw during Anaesthesia

Mr E. H. P. CAVE M.R.C.S., L.R.C.P., King's College Hospital, has designed the instrument shown in the illustration to maintain an adequate airway by mechanically supporting the jaw thus freeing the anaesthetist's hands It will, it is thought, be found useful in operations on the eye when complete immobility of the head is essential When the instrument is in use the bottom bar which is extensible rests on the table The upright bars carrying the padded jaw supports are also adjustable and exert pressure in a proper direction—that is backwards and upwards The instrument may be regulated so that the height is just sufficient to keep the jaw in position and no more It can be adjusted in a few seconds and once adjusted needs no further attention Its use is limited to operations on patients in the dorsal position The makers are Messrs Down Bros Ltd , 21 and 23 St Thomas's Street, London, S.E.



THE VOLUNTARY HOSPITAL POSITION

CONFERENCE BETWEEN THE VOLUNTARY HOSPITALS COMMISSION AND REPRESENTATIVES OF LOCAL HOSPITAL COMMITTEES

A conference between the Voluntary Hospitals Commission and representatives of the Local Voluntary Hospital Committees was held at the Ministry of Health on June 18th when the question of hospital accommodation and other matters relating to the voluntary system were discussed. The EARL OF ONSLOW, Chairman of the Voluntary Hospitals Commission, presided and a few words of welcome and of acknowledgement of the services of the committee were spoken by Mr JOHN WHEATLEY, Minister of Health.

Lord ONSLOW made a statement with regard to the distribution completed at the end of the last financial year of the £500,000 which the Commission had undertaken in order to meet the deficit on maintenance of the voluntary hospitals. The distribution had taken place in three stages, and he gave particular of the amount allocated at each stage to London, to the rest of England and Wales, and to Scotland. Having discharged this immediate duty the Commission had to consider its own future. The Minister of Health had formulated certain new terms of reference in which he requested the Commission to inquire into and report upon the extent of additional voluntary hospital accommodation required in England and Wales and the best means of providing and maintaining it. Unlike the original terms of reference (Sir Alfred Mond's) these fresh terms excluded Scotland. The situation in Scotland was very different from what it was in England, and had Scotland been included it would have been necessary to have had a subcommission sitting in Edinburgh. A questionary had been circulated on the subject of additional accommodation, and so far 21 out of 45 committees functioning in England and Wales had completed the return. These 21 returns represented 216 hospitals of which 99 indicated a need for additional beds. Lord Onslow contrasted the present position of the hospitals with the position which obtained three years ago when the Commission began its work. The change which had taken place in those three years had been wholly in favour of the hospitals; there were now very few hospitals with closed wards, and many hospitals were making extensions, whereas three years ago no extensions were being made, except possibly for nursing accommodation. He read a memorandum by Sir Walter Kinnear, controller of the Insurance Department of the Ministry of Health, which stated that upwards of 900 approved societies and branches, with an aggregate membership of 7,500,000, had adopted hospital or convalescent benefit and under their schemes which covered five years up to July, 1926, rather over £200,000 a year had been made available as payments to English and Welsh hospitals out of the societies' surpluses.

Hospital Accommodation and Maintenance

In the course of a general discussion several suggestions were forthcoming, which, Lord Onslow promised, should be considered by the Commission. Mr F. G. HAZELL (Manchester) said that there was one class of patient for whom further provision on the part of the public authority was required—namely, sufferers from surgical tuberculosis. The State had accepted responsibility for the treatment of tuberculosis, and for pulmonary tuberculosis it had provided sanatoriums, but it had made no special provision for the treatment of surgical cases, which were admitted to the general voluntary hospitals. In densely populated districts the incidence of pulmonary tuberculosis was so great as to absorb most of the grant made through the Ministry for the treatment of tuberculosis in the district. Consequently it was only in those surgical cases which, in the opinion of the tuberculosis officer, were most urgent that an order covering the cost of maintenance was given; the remainder were admitted, treated, and maintained at the expense of the hospital. Dr F. N. KAY MENZIES said that the public authorities in this country had the statutory duty of providing for tuberculosis, whether pulmonary or non-pulmonary, and they should be stimulated to discharge that duty in a proper manner. Mr ARTHUR GRIFFITHS (Ipswich) also complained that the major portion of the allocation made by the local authorities for the treatment of tuberculosis was spent on phthisical cases in sanatoriums and only a small portion was left over for surgical tuberculosis, with the consequence that cases in this latter category came in an undue proportion upon the funds of the voluntary hospitals.

Sir EWEN MACLEAN, M.D. (Cardiff) asked what was the number of additional beds stated to be required by the twenty-nine hospitals which had so far indicated their need. Lord ONSLOW replied that the rough total was a little over 4,000, but not too much importance must be attached to this as yet unexamined figure. Sir EWEN MACLEAN went on to say that this rather emphasized his own view that the replies received to the questionary under this heading would not furnish an adequate guide to the number of hospital beds really required in the country as a whole. He noticed that an estimate had been made that the proportion of general hospital beds to the population should be 2½ per 1,000. The view of the Welsh Consultative Council in which he strongly concurred was that this figure was much too low and that it should be more nearly 4 per 1,000. At Cardiff Royal Infirmary, where the waiting list was never less than 1,400, the additional number of beds required in all departments was put down at 216—a wholly inadequate figure in his opinion. Touching on the question of the Poor Law infirmary as an auxiliary to the voluntary hospital he said that he did not agree with the strong animadversions which were made in some quarters upon the treatment meted out in Poor Law hospitals, though he was prepared to admit that there was a difference in atmosphere between these and voluntary institutions, and he thought the Ministry ought to remove the hospital service in these places right out of the Poor Law so as to help to dispel the unfavourable atmosphere. He believed that in the course of evolution the voluntary hospitals would ultimately come under State control, though personally he hoped that day would be far distant. When it did come he trusted that the best features of the voluntary hospitals would be carried over into the State system. He added that he did not think the extent to which the honorary staff contributed to the service rendered by the hospital to the community was fully recognized. Certain calculations which he had made in Cardiff led him to the conclusion that a large voluntary hospital in the centre of a great population returned to the community thirty-fold the capital value which it received, and this would not be possible without the services of the honorary staff. He reckoned the market value of the services of the honorary staff at Cardiff Royal Infirmary at £350,000 a year.

Dr C. E. S. FLEMMING (Bradford-on-Avon) thought that the mere returns of the waiting lists would not give the information necessary to form a just conclusion as to the need for additional accommodation. He urged that an inquiry should be made of medical practitioners themselves as to the community needs. This inquiry might extend over a reasonable period say six months and might appertain only to certain selected and representative areas. In these areas the general practitioners might be asked to make a note of all the cases which they considered should have been treated in hospital. Mr W. M. SLATER (Walsall) agreed that the waiting lists required careful analysis and must not be taken at their face value. The waiting lists could be thinned by 25 per cent. if there was a substantial development of convalescent treatment in outside institutions. Dr D. F. TODD (Sunderland) also dealt with the imperfections of the waiting list which gave a false idea of the position. With regard to Poor Law beds, he thought that these must be co-ordinated and brought into any calculation but before this could be done the disability attaching to the occupant of a bed under the Poor Law authority must be abolished. Lord ARMSTRONG (Newcastle) said that the use of a Poor Law infirmary as an auxiliary to the voluntary hospital had been suggested in his city, but owing to the atmosphere of which Sir Ewen Maclean had spoken the project had been turned

down If such institutions could be placed under the authority of the voluntary hospital it would help matters

SIR RICHARD LUCE, F R C S (Derby), said that if a hospital showed anything like 95 per cent of beds occupied it was a case of overcrowding No hospital which had to deal with emergency cases could keep anything like 90 to 95 per cent of its beds in occupation, there should be a margin of at least 15 per cent Dr ARNOLD LYNDON (Haslemere) argued that not only would paying wards be a source of income to the hospital, but it was good for the community that there should be paying accommodation for people who could not afford the fees of an expensive nursing home In his county contributory schemes had proved a fruitful source of income He thought that it would be a retrograde step if, as had been suggested, cottage hospitals and small hospitals were converted into convalescent homes In his area, at all events, such institutions, although small, were well equipped for general hospital work Mr J P BROWN (Plymouth) described the contributory scheme which obtained in his city The scheme had 20,000 contributors and brought in £8,000 a year To bring into the scheme any beds under the Poor Law authority would smash the scheme, because the existence of the scheme depended upon the preservation of the voluntary principle, free from any Poor Law taint He also referred to the existence in Plymouth, as in other towns of a similar character, of service hospitals which at present were almost empty No action could be taken locally with regard to the use of part of these hospitals for civil requirements, but some central action on the part of the Voluntary Hospitals Commission or the Ministry of Health was likely to be effective with the military or naval authorities who had control In his experience very many more beds were required, especially for orthopaedic cases

VISCOUNT CAVE said that if the Committee over which he had presided had any paternal responsibility for the local committees that responsibility was now discharged, seeing what effective bodies these had become He also expressed his pleasure that the change of Government had not displaced Lord Onslow from the chair He was glad that the system of mass contributions had prospered He was aware that it was better suited for some areas than for others, but wherever it had been adopted in a suitable area it had proved a great success The system of approved society contributions had also grown, and he was bound to say that the approved societies had met the position in an accommodating spirit The new inquiry which the committees were now being asked by the Minister to take up was really in accord with the original intention when the committees were founded He thought that the need for more beds would be found to exist most acutely in the case of the larger hospitals serving industrial populations, the small and cottage hospitals were generally well supported locally and had little or no difficulty in raising all the funds they required If the result of the proposed inquiry should be to give more help to the large institutions which served a considerable area it would perform a very useful duty He thought that the local committees ought to take a wide view and consider not only what the hospital wanted in the way of future beds, but what the county wanted in the way of future accommodation He felt that even if all the extra beds for which the individual hospitals were asking were provided, the provision might still not be commensurate with the real need from the point of view of public health With regard to Poor Law and municipal hospitals, it was a thousand pities that these institutions, admirable as they often were, were not used to their full capacity In many cases not more than 50 per cent of the beds were in use One of the problems was to discover in what way greater use could be made of these institutions without impairing the voluntary system He threw out the suggestion that a one-clause measure should be introduced into Parliament to get rid of any civil disability which attached to the occupation of a Poor Law bed

LORD ONSLOW, in summing up the discussion, said that it had yielded many suggestions which the Commission would carefully consider Among these were the proposals that the voluntary hospitals should be relieved of their responsibility for dealing as voluntary institutions with certain cases (surgical tuberculosis, for example) for which the public authorities were supposed to provide, that the provision of convalescent homes and a better distribution of patients as between the larger and the smaller hospitals would afford further relief to the situation, that waiting lists should be more closely analysed, that the disability attaching to those occupying Poor Law beds should be abolished, and, finally, that the evidence of local general practitioners as to hospital requirements should be obtained In this last respect, Lord Onslow said, turning to Dr Bolam, who was present as a member of the Commission, that no doubt the British Medical Association would assist

Future of the Local Committees

Mr H M CROUCH (Bath) discussed the future work of the Commission and the local committees, especially in the direction of co-ordinating hospital provision between the different areas He moved a resolution that the country be divided into effective hospital areas (which were not always coterminous with the counties), and that each local committee should include the local medical officers of health and an adequate representation of local general practitioners Lord ONSLOW said that the immediate business before the Commission and the committees was the inquiry into the necessary additional accommodation He felt that the local interrelation of hospitals was a matter which must be left entirely to the local committees, who necessarily were aware of the conditions and peculiarities of the area to a greater extent than any central body

After several representatives from different areas had given their experience, Lord ONSLOW, without putting the resolution, said that the Commission would take note of the suggestions made, and these, after consideration, would be placed before another conference when the question opened up by the Minister's reference would be more advanced

Contributions by Municipalities, Approved Societies, and Others

Mr S R LAMB (Sheffield) drew attention to the question of contributions to hospitals from insurance companies, municipal authorities, and approved societies In Sheffield, under the scheme of the local Joint Hospitals Council, practically all the employers made systematic contributions Hitherto the insurance companies had not contributed to the extent which might have been expected in view of the treatment afforded by the hospitals in casualty cases (40,000 a year), but he hoped for an enhanced contribution as the result of a forthcoming conference The municipal authorities also had refused to join in contributory schemes in their capacity as employers of labour, stating that they were legally precluded from so doing The contributions from approved societies were below the level at which they should stand, in view of the fact that 30 per cent of the in-patients at hospitals were insured persons, whose treatment involved the hospitals of the country in an annual expenditure of something like 2¼ million pounds In Sheffield the voluntary contributions made by the approved societies were little over 10 per cent of the average amount expended by the local hospitals upon insured persons Surely one of the contingencies for which the reserve funds of the approved societies were accumulated was the relief of hospitals from the expenditure incurred upon insured patients The medical research carried out at hospitals, and the training of doctors and nurses, also indirectly benefited approved societies' funds He moved that in view of the forthcoming quinquennial valuation the Minister be asked to receive a deputation on this subject

LORD ONSLOW said that under the Public Health Act, 1875, municipalities were empowered to enter into agreement with a hospital to pay a sum in support of the hospital in return for services rendered to a sick inhabitant The difficulty arose with regard to arrangements for the treatment of municipal employees, the opinion of the Law Officers was that direct contributions of this kind could not be sanctioned by the Ministry of Health Nevertheless, public bodies could legally subscribe to hospitals if it were arranged that the subscription was paid on behalf of their

employees and as part of their earnings. With regard to the approved societies, he suggested that those who had brought forward this resolution should themselves organize the deputation to the Minister.

This concluded the conference, which lasted all day, and was attended by about two hundred representatives.

BRITISH HOSPITALS ASSOCIATION

THE fourteenth conference of the British Hospitals Association was held in London on June 19th and 20th and was attended by about 260 representatives of voluntary hospitals from all parts of the kingdom. The Hon. Sir ARTHUR STANLEY presided over the three sessions. Sir HUMPHRY ROLLESTON, in an address of welcome, recounted recent hospital history, and affirmed that the voluntary system was characteristic of the British temperament. Among its other advantages it had resulted in raising the standard of clinical medicine to its universally recognized high position. He praised the British Hospitals Association for its service as a liaison link between the voluntary hospitals (which had formerly acted individually) and the Government departments and other bodies.

Survey of the Entire Hospital Provision

In the course of a paper on the relation of voluntary hospitals to municipal authorities, Dr. R. W. KAY MENZIES urged that the time had come for a review of the position with regard to the means available whether provided by voluntary effort or by the public authorities for the prevention and treatment of disease. Such a careful, comprehensive and detailed survey of the situation would show the exact provision available from every source—voluntary, Poor Law or public health. The needs of any area whether rural or urban or a mixture of both would be visualized. He could not see any reason why such a scheme should not provide for the preservation of the best features of the voluntary hospital system while at the same time ensuring adequate equipment and financing of hospitals generally, the better geographical distribution of hospitals so as to avoid overlapping, and a closer relationship between the voluntary hospitals themselves and the various classes of hospitals provided by local authorities, and between general practitioners and all the various institutions which treat the sick. He asked whether the association, as representing the voluntary hospitals, was prepared to follow the example of those two powerful bodies the British Medical Association and the Labour party, and set in motion machinery to enable it to play the part to which it was entitled in this vital question.

In the ensuing discussion Viscount HAMBLEDEN said that one of the things which should give the friends of voluntaryism great hope was the remarkable faith in the voluntary system exhibited by those who principally made use of the hospitals and who, through various contributory schemes which had grown up all over the country, were prepared to pay not only their health insurance contribution, but in addition another contribution which would entitle them, not necessarily to receive hospital treatment, but to be excused payment as patients should they receive such treatment. With regard to the effect upon voluntary subscriptions of payments by public authorities on behalf of patients, he thought that the effect would be small in the case of the teaching hospitals because the public would still be willing to subscribe large sums for medical education, but in the case of the non-teaching hospitals the effect might be considerable. Lord ARMSTRONG said that, of the total hospital expenditure in Newcastle (£100 000 a year) nearly half was now met by the contributions of the working people on Tyneside. Every big works had its hospital committee.

Mr. H. M. CROUCH (Bath) moved a resolution:

> That the time has come to make a careful comprehensive and detailed survey and study of the hospital situation in the country and to formulate an adequate and co-ordinated scheme for the prevention and treatment of disease.

Dr. C. E. S. FLEMMING, who seconded, said that if the voluntary hospital movement refused to co-operate with other units in the public health service, its independence, instead of being a strength, became a weakness. The association in the past had been too much afraid of outside interference. It would be well for the association to call to its help organizations like the British Medical Association and the British Red Cross Society. Mr. ARTHUR GRIFFITHS (Ipswich) moved an amendment asking the Voluntary Hospitals Commission to make the survey mentioned in the resolution. He said that the Commission had already undertaken at the instance of the Minister of Health to make an inquiry as to the additional accommodation which was needed, and he thought that the inquiry might well be extended to cover the accommodation available in Poor Law infirmaries, municipal hospitals, and other institutions, the use made of such accommodation, and the relationship between the various authorities. Mr. WADE DEACO (chairman of the council of the association) thought it quite impossible for the British Hospitals Association to undertake the survey as implied in the resolution. It could only be done by some authoritative body such as the Voluntary Hospitals Commission which had power to obtain evidence from public authorities. Sir ARTHUR STANLEY from the chair took a different view; he thought the British Hospitals Association was exactly the body to undertake the survey.

Eventually the motion was carried with an addendum that the council be instructed to consider how this survey could best be made and to give all the assistance in its power to any body undertaking it.

The Training of Nurses

Sir WILLIOT HERRINGHAM, chairman of the General Nursing Council, gave an address on the training of nurses. He said that Mrs. Sairey Gamp, that heroine of the nursing world, who burst upon the scene through the pages of *Martin Chuzzlewit*, was really no great caricature of nursing in her time, while her friend Mrs. Betsy Prig, was supposed to have been connected with his own hospital (St. Bartholomew's). The first serious training school of nursing in England was set up at St. Thomas's Hospital in 1860 in commemoration of Miss Nightingale's work in the Crimean war. In 1877—the year in which he entered the hospital as a medical student—St. Bartholomew's introduced the first regulations for the training of nurses. The period of training was for one year, the age of admission was between 20 and 35, two inspectors were employed, one on the surgical and the other on the medical side, an examination was instituted, and certificates were given. In 1882 the period of training was extended to three years, and the age was raised to 23. There was an examination at the end of the first year as well as at the end of the full period. In 1914 the age was lowered to 22 and in 1918 to 21, and in 1919 came the Registration Act. The speaker said that he recalled very well the old style of sister, a very capable and practical person, of en kind and compassionate, but quite unfitted to do the work required of the modern nurse. In one respect, however, nursing was worse off now than in his own early days. Formerly a good many educated ladies took up nursing, partly as a result of Miss Nightingale's example, but still more because of the fact that nursing was then the only means of earning a living which the educated woman could pursue. To-day there were innumerable business and professional openings for women, and it was not surprising that they did not in crowds enter the poorly paid and laborious profession of nursing, but nursing was the poorer for their absence. The General Nursing Council had taken the view that if the standard it required was lower than the best possible it would rightly be blamed by the public for whose security the Council was established, and it would lower the status and prestige of the nursing profession. The Council drew up a syllabus of training which was in essence the method in use at the most advanced schools. The Minister refused to sanction the syllabus, and that was very fortunate because had he sanctioned it, it would have become law and would have been not only compulsory on the schools but unchangeable. The essence of the syllabus was to furnish a method, and the very last thing which anybody wanted to do was to stereotype a method. It was fortunate it had not been sanctioned. But it was noteworthy that in the two cases in which the Council had submitted its syllabus to an outside body—in the one case the Ministry of Health and in the other a special conference—it was the outside body and not the Nursing Council which had urged additional subjects. He thought there was not much to quarrel with in the present methods of training nurses, seeing

that these had been developed slowly as the result of the best hospital experience, but it was necessary to pay some attention to the frequent objection that the amount of theoretical knowledge which nurses had to acquire was excessive, and that it was unnecessary to teach nurses a great deal of the anatomy, physiology, pathology, and bacteriology which under present conditions they had to acquire The problem of the education of the nurse was much the same in respect to theoretical knowledge as the training of the doctor or of anyone whose art was connected with or dependent on a science Miss Nightingale's book, *Notes on Nursing*, which was the best book ever written on nursing, and possibly the best ever to be written, contained certainly very little about pathology, and what it did contain was wrong, and it contained nothing at all about bacteriology Much of it consisted of exhortations to nurses on their humane duty, and especially were they told not to be despotic or tyrannical, although of all the despotic ladies before whom men ever shook in their shoes the most relentless was Miss Florence Nightingale! Nevertheless, one laid down her book with the feeling that here was a person of ideal excellence in nursing The question was, how much of the present theoretical training was really necessary to enable nurses to do better what Miss Nightingale wanted them to do Certainly the idea that nurses should not learn a thing because it was too theoretical or too difficult would never have entered Miss Nightingale's mind She herself had had a man's education She was abreast of the medicine of her time, and indeed the Army Medical Service owed more to her than to anyone else If she did not know pathology as we know it it was because the pathology of the present day was unknown in hers The speaker was strongly of opinion—and he was sure that Miss Nightingale would have agreed—that a certain amount of study in bacteriology was all to the good in the nurse's education If the nurse had the opportunity of realizing the minuteness of bacteria, their ubiquity, and their virulence, would it not make her more careful to carry out the routine of precaution which she had been taught? Would not some knowledge of the intestinal picture in typhoid fever facilitate good nursing in that disease, which above all others was the test of nursing? He himself felt that while it was their duty—and a most difficult duty—to lay the utmost stress both in advising about teaching and in examining nurses upon the practical part of their work, the theoretical side could not possibly be left untouched

Mr H L EASON (Medical Superintendent, Guy's Hospital) advised anyone interested in the training of nurses to read the volume recently published by the Rockefeller Foundation on an investigation of the training of nurses in the United States The speaker was inclined to apply to the nursing system of England the sentiments with which Mr Stephen Leacock had apostrophized Oxford University He had said that Oxford was a noble university, that it had had a great past, that it was at present the greatest university in the world, and that it had quite possibly a great future, that it had professors who never taught, and students who never learned, and yet, somehow it got there in the sense that it turned out men supremely gifted for their vocations Much could be said in criticism of the nursing system of England, and yet the English nurse, the result of that system, could not be beaten by any nurse in the world

Some discussion took place on the refusal of the General Nursing Council to recognize certain small hospitals as suitable for training, the objection of the Council was that the number of medical beds was insufficient A resolution was carried by a majority requesting the council of the association to consider the ruling of the General Nursing Council as to the number of medical beds and medical cases at present required to obtain its certificate

Approved Societies and the Voluntary Hospitals

Mr R J MELLER, M P, who is connected with the management of the Prudential Assurance Company, spoke on the approved societies in relation to the voluntary hospitals If the societies had had any doubts about the wisdom of supporting the voluntary hospitals they must have been dispelled by the reply of the Cave Committee to the question whether the voluntary system was worth saving The speaker represented a group of societies comprising over one-half of the insured population, and as such he accepted the view of the Cave Committee that while the approved societies were not under any obligation legally or equitably to provide the whole cost of the maintenance and treatment of their members in hospital, they did owe to the hospitals a large measure of support. The scheme which had been devised was, he thought, simple, economical, and satisfactory It provided that, according to the assistance rendered by the hospital to the insured patient, so should the hospital receive its due proportion of the fund available An ideal system would be a full and adequate payment in respect of each week's treatment given, but he feared that happy position was not likely to arrive in the very near future The group of societies with which he was connected was able during 1923 to distribute the sum of £170,000 to the voluntary hospitals, and he confidently anticipated that a similar sum would be available for 1924

In the discussion Mr G Q ROBERTS (Secretary, St Thomas's Hospital) urged that there was a great deal more which the approved societies could do to help the hospitals in view of the fact that, as many of those connected with hospitals realized before the Insurance Act came into operation, while the panel system was all very well for the treatment of minor ailments, it was the hospitals which were called upon inevitably to deal with serious illness among insured persons A large number of societies still did not make any grant Lord HAMBLEDEN advised Mr Meller to see to it that the approved societies made their voices heard in the projected inquiry into additional hospital accommodation which the Voluntary Hospitals Commission was about to undertake If Mr Meller had correctly interpreted the view of the approved societies that further support of the voluntary system was the best way of carrying out the work which the approved societies were called upon to do then the friends of voluntaryism might look forward to the future with confidence

Mr Meller, in reply, said that he anticipated that the amount available at the next quinquennial valuation would be considerably larger than at the previous one The societies had had fairly successful years since the last valuation There was, moreover, among the approved societies a growing feeling that the greatest advantage would not come to their members by way of increased cash benefits, but rather by giving additional health benefits At the same time the task before the approved societies was not an easy one and it was for the hospitals to help to educate to a better understanding those societies which still held that additional benefits should be given in cash

The report of the council of the British Hospitals Association, which was submitted at a business meeting, described the discussions which had taken place with delegates of the British Medical Association on hospital policy as very interesting and helpful The council of the British Hospitals Association welcomed contributory schemes and, by implication, the growing system of arranging for paying patients The Hon Sir Arthur Stanley was re-elected president, Lord Hambleden treasurer, and Mr J Courtney Buchanan honorary secretary

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THE CONFERENCE DINNER

The delegates were entertained at dinner at the Royal Automobile Club on June 19th by Viscount Hambleden, Chairman of the London Regional Committee, and his fellow members of the Conference Committee The toast of prosperity to the British Hospitals Association was proposed by Lord Stuart of Wortley One of the chief things that characterized voluntary hospitals was, he said, their almost ineradicable independence of spirit, for which reason they did not easily find a means of common expression Co-operation was, however, very necessary in view of the growing need of common defence They were not so foolish as to attempt anything like unification of hospitals, but through this association they were taking the first steps towards collective action, and negotiations with Government departments and approved societies had already begun to yield results of great advantage The toast was responded to by the Hon Sir Arthur Stanley, president of the association, who reviewed the progress made in recent years and emphasized the need for a body which could speak for the voluntary hospitals In proposing the health of the guests the chairman read a message from the Minister of Health regretting his inability to attend the dinner, and expressing appreciation of the work done by the association The toast was replied to by Sir Humphry Rolleston, President of the Royal College of Physicians of London, and Sir Wilmot Herringham, Chairman of the General Nursing Council, who each referred to the friendly feeling entertained by the medical staffs of the great voluntary hospitals towards the British Hospitals Association The concluding toast was the health of the chairman, proposed in a witty speech by Viscount Knutsford Lord Hambleden, in his reply, complimented Mr Courtney Buchanan, the honorary secretary, on the success of his arrangements for the conference, and acknowledged the courtesy of the R A C Committee in allowing the dinner to be held in the club building

Branches doing so Dr Smith Whitaker's resolution provided for this, but Dr Cox urged that if resolutions passed by a sufficient majority at the Representative Meeting were to be binding on the Council as an executive body, there was no need for representative membership in addition After postponement of the question this view prevailed, and the resolution adopted contained no mention of representative members of Council This policy was also given effect to in the by-laws, which came into force after the Annual Meeting of 1903 In recent years a change has been made, and the Representative Body does appoint some members of Council

Co-option.—A third debated point was whether the Council might contain co-opted members, the proposal being that it might have such members up to not more than 10 per cent of its total This on the one hand was opposed as not being in accordance with representative government, and on the other hand was supported in order to make possible the membership of men whose special qualifications were of value to the Council, but whose period of permissible elected membership had terminated On a vote, the proposal was rejected by 7 votes to 6, but at a later stage of the Committee's work it was restored, and the power to co-opt up to 10 per cent was given under By-law 29 But co-option was little used and was ultimately abolished The Royal Navy, Army, and Indian Medical Services were each to have one member on the Council

As to the powers of the Council, the finding was "that except as may be otherwise specially provided, the affairs of the Association, including administration of finances and the conduct of the JOURNAL, be managed by the Council subject to the control of the Association" An identical decision was reached as to 'the work of the Association in promoting the medical and allied sciences beyond that carried on in the Divisions and Branches" The powers of the Council are now briefly defined in Article XXXIX

Political and Ethical Work

This was the crucial question in the mind of the members of the Association, and behind the whole movement for a change of government The subject was introduced just before the end of the meeting on November 14th, but the main debate was at the third meeting on December 7th, when the first resolution submitted by Dr Smith Whitaker was as follows

"*Political and Ethical Work*.—That the work of the Association in maintaining the honour and interests of the medical profession apart from that carried on in the Branches and Divisions be conducted by the Council and other executive bodies (if any) in accordance with the competent decisions of an Annual Meeting of representatives of the Divisions *

This proposal was seconded by Mr Victor Horsley The essential words were those with which the resolution ended—"in accordance with the competent decisions of an Annual Meeting of representatives of the Divisions" and it was round these that the debate ranged Not all Council members on the Committee opposed this motion On the contrary, the younger councillors—Dr Cox Dr Buist, and Dr Brown Ritchie—strongly supported it Dr Cox, indeed, it was who at the Manchester Conference had resisted the view that the Association could not be induced to adopt the course now contemplated, and who urged the Conference to refrain from setting up a rival to the Association throughout the country The scheme now before the Constitution Committee was practically what he had advocated at Manchester The stalwarts of the Council were the older members—Dr Roberts Thomson its President at the time, Dr Ward Cousins, and, less actively, the President of the Association at the Ipswich Congress, Dr W A Elliston These had all done good work for the Association, and were as sincerely anxious for its maintenance and progress as were what may be called the reform party They had seen it grow and prosper under the existing regime, and feared fundamental change, also they felt themselves to be the champions of the Council in general, and it was their duty to state the case for its predominance on the old lines They regarded it as representative in the best sense of the term, and indeed Dr Ward Cousins a score of years earlier had been one of the strongest advocates for the election of Branch members on the Council, so as to make that body unquestionably representative As already indicated, he put the case for the Council somewhat in the following fashion The Council represented the views of the Association in the same way as the House of Commons represents the opinions of the country The Annual Meeting did not express the voice of the Association He would be most willing to see a system of delegation under some conditions safeguarding the interests of the Association That would be far better than the Annual Meeting for getting the opinion of the Association on medico-political and medico-ethical questions But the resolutions should not be binding on the Council, which should still, as the parliamentary body, be entitled to exercise its judgement The resolutions ought to have a moral effect only The question of expense was important Why should not the resolutions of the Divisions be sent up to the General Secretary, who would only have to sum them up? Dr Radcliffe Crocker supported Dr Ward Cousins on this latter point Mr Butlin declared he would favour sweeping away the Annual Meeting altogether, leaving the business, apart from that carried on in the Branches and Divisions, to be conducted by the Council and by meetings of delegates of the Divisions It was pointed out, however, that all limited liability companies must have an annual meeting Dr Brown Ritchie urged that Dr Ward Cousins wanted to take away the rights of the ordinary member who attended the Annual Meeting, to substitute for it the meeting of delegates and then to take away the power of the delegates After some further discussion regarding severance of the Association from the Companies Acts, and the obtaining of a charter, certain amendments to the resolution were defeated, and as a substantive motion it was carried by 10 votes to 5

This really involved the adoption of the new scheme The Council was not to be supreme administratively, but only executively, in maintaining the honour and interests of the profession, the Representative Meeting being, in that sphere, the governing body

The other resolutions were ancillary A meeting of representatives, one for each Division, was to be held annually, at the time and place of the other annual meetings The General Business Meeting, under the Companies Acts, was to be restricted in its functions so far as the Acts would allow, and to prevent risk of chance votes when few were present it was to be a duty of the representatives to attend the General Business Meeting Also, not one month's but three months' notice was to be required for any other than routine resolutions to be brought before that meeting, concerning the internal affairs of the Association The general and sectional scientific meetings were to remain under the sole charge of the Council These resolutions were carried *nemine contradicente*, or nearly so

It is pleasant to observe in the proceedings the frank way in which those who had upheld the Council regime accepted the situation resulting from their defeat on the crucial resolution They neither sulked nor obstructed, but helped ungrudgingly in the elaboration of the new scheme A drafting subcommittee was appointed, and included members representing the two sides of opinion Resolutions in detail were considered as to the Representative Meeting, the power of the Annual Meeting, and the election and expulsion of members

Referendum

Dr Roberts Thomson submitted a resolution, acceptance of which went a long way to reconcile divergent views as to the relative powers of the Representative or Annual Meeting and the Council Ultimately submitted in the report of the Committee, the resolution was as follows

'Provided also that the Council, in any case where it is of opinion that any resolution adopted by the Annual General Business Meeting or Delegate [that is, Representative] Meeting does not properly represent the wishes of the Association shall at any time within four months from the adoption thereof refer

* The writer was unavoidably absent from this meeting but relies on the printed proceedings for his information.

and that beyond 400 not less than 600 additional members be required for each further member of Council These were the principal modifications The method of voting at Representative Meetings was left practically open by the Committee, though, to secure a decision by the Association at the General Meeting which would require to be held to adopt the new constitution, the proposal was for a show of hands, but if a majority demanded a card vote each representative should record as many votes as there were members in his Division

ADOPTION OF THE CONSTITUTION

The Annual Meeting of the Association was held at Cheltenham, beginning July 30th, 1901, and continuing for four days At the first General Meeting, on July 31st, after speeches by Mr Edmund Owen, Mr Victor Horsley, and others, Dr Smith Whitaker moved a resolution of general approval of the proposed constitution The resolution was in the following terms

"That this meeting, without prejudice to the further consideration of details, approves generally of the scheme of reorganization proposed in the report and recommendations, including the principle of reorganizing the constitution of the Association under the Companies Acts, of instituting Divisions, of enrolling all members in the Divisions, and Branches, and of instituting a Representative Meeting, and transferring thereto as much as possible of the business hitherto brought before the General Meeting"

After an amendment had been rejected "by an immense majority," the resolution was carried The clauses were then taken up seriatim The first serious difference of opinion was regarding co-option by the Council of a number of additional members up to 10 per cent, but after discussion a motion against co-option was rejected by 46 votes to 41 Regarding voting at Representative Meetings the clause as submitted was approved after discussion, and was embodied in By-law 18—providing for a show of hands unless a majority wish a card vote, in which case each representative shall record as many votes as there are members in his constituency No other matters mentioned at the meeting need be noticed A committee was appointed to prepare new articles and by-laws giving effect to the decisions of the Cheltenham meeting, and its report was published in the JOURNAL of May 24th, 1902, in preparation for general meetings to be held on June 18th and July 9th Mr Andrew Clark was chairman of the committee The meetings were required in accordance with the Companies Acts, both being "Extraordinary General Meetings," but if the June meeting did not yield the requisite majority for the new constitution the July meeting would not be held

Reference has already been made to the indignation created at the meeting regarding the Council's scheme by the fact that no amendments were allowed The committee had now to point out that under counsel's advice the same embargo would have to be reimposed Unless the whole subject were to be reopened in detail, which was out of the question, the articles and by-laws would have to be accepted or rejected as submitted, and a three-fourths majority would be required for their adoption at the meeting in June The articles and by-laws were not, of course, quite identical in terms with the Cheltenham resolutions—otherwise the committee would have been needless—but they were to be regarded as expressing in legal phraseology, as prepared by solicitor and approved by counsel, the decisions reached at Cheltenham

The meeting was duly held in Exeter Hall, and a vigorous discussion took place, the chairman properly allowing free expression of opinion When the vote was taken the numbers were, for the resolution 96, against it 28 This gave the required three-fourths majority, though not by a large margin If the minority had been 33 instead of 28, the whole scheme would have been thrown out What would have happened then? Very likely the policy advocated at the Manchester Conference, and defeated for the time only by the hopefulness of those who held that the Association was convertible, would have been adopted, a new and rival organization would have been formed, and the profession split from top to bottom so far as corporate policy was concerned The disaster was averted, but only by a very narrow majority

The second and final or confirmatory General Meeting was held in Exeter Hall on July 9th, with 146 members present At this meeting a bare majority was sufficient to carry the new articles The by-laws could be altered at any time by a procedure which presented no difficulty The chairman pointed out, in respect of any complaint of hardship owing to inadmissibility of amendments, that the time for these had been at the Cheltenham meeting, when eighteen amendments and different resolutions were submitted and five of them adopted Sir Victor Horsley, as an advocate of representative government, then moved the resolution of approval of the new draft regulations, and Dr Smith Whitaker seconded The motion was opposed by Dr J G Glover (London), who held the scheme to be fantastic, costly, complicated, and degrading After speeches by Drs W Douglas, Brassey Brierley, Stamford Felce, O'Sullivan, Broadbent (Manchester), and Nelson Hardy, the vote was taken and the resolution carried by 82 votes to 43

Thus ended the long fight for the new constitution

THE CONSTITUTION IN 1924

Since 1902 many changes in the system of Association government have been made, mostly on matters of detail, but in at least one respect of primary importance

In 1907 the Council, for the first and only time up to the present, resorted to its power of taking a referendum Two questions were at issue (1) the constitution and mode of election of the Central Council, and (2) the appointment of separate Finance and Journal standing committees, the former being obviously the more important The Representative Meeting had resolved on a new element in the election of the Council—namely, the appointment of twelve members by the Representative Body This was objected to by the Council on the ground that it meant the transferring of the management of the Association's business and affairs from the Council to the Representative Body Mr Edmund Owen, it is noteworthy, was now Chairman of the Council, and signed the representation against the proposed change On the referendum, however, the Council was defeated, and as a result it is now more than ever an executive rather than a deliberative body As to the second point the finding was in favour of separation, and since then there have been two Committees, each having representatives elected both by the Council and the Representative Body

The question of obtaining a Royal Charter of Incorporation was under discussion from 1907 to 1910, and application was made to the Privy Council After correspondence with that body, however, the project was abandoned, and it was decided instead to form a new company in order to get certain new powers, this decision being duly carried out

Beyond noting that the power of co-option of members to the Council has now disappeared, and that the period of continuous eligibility for membership has been shortened from eight years to six, I need not, in closing this historical sketch of the government of the Association, refer to the details of the present articles and by-laws, of which every member is presented with a copy The principles remain as before The Divisions, the Branches, the Representative Body, and the Council furnish the machinery of government The divisional units are so numerous and so ubiquitous that it is quite practicable for every member of the Association to make his voice heard in its control The Representative Body, elected by the Divisions, is the supreme power, it elects the President and the Treasurer of the Association The Branches are convenient groups of Divisions, and the Council, instead of being a parliament, is practically and mainly an executive committee The power of the Association "to promote the medical and allied sciences, and to maintain the honour and interests of the medical profession," was never so great as it is now, and its membership has grown exceedingly, being well over 26,800 In working for the accomplishment of these objects, needless to say, the public welfare must remain the ultimate aim and purpose of the science and art of medicine

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BRITISH WINES AND TEMPERANCE DRINKS

THE preparation of home made wines was a domestic art which survived in England longer than the home brewing of ale, it was still very commonly practised in country places even within the memory of many still living, although the mash tub had been almost completely driven out of service by the brewery which flourished in every market town At this season of the year home made cowslip wine was already nearly approaching the end of its active fermentation in cask, and was soon to be bottled off, to afford about Christmas an agreeable beverage of very low alcoholic strength fondly believed by the younger members of the household to resemble dry sherry Raisin wine elderberry wine, and gooseberry wine (thought to resemble champagne) were also made at home in many families, but it was a troublesome business and the housekeeper was glad to give it up and to purchase similar wines made by wholesalers, who retailed them ready bottled at a very reasonable price The rise of the temperance movement created a demand for beverages resembling the fruit and flower wines of the past but containing no alcohol or a proportion lower than the 2 per cent the Excise has agreed to ignore Such drinks are, however, more difficult to make so that they will keep than the old fashioned British wines which usually contained a considerable often quite a high, percentage of alcohol For this reason they have from the first been made almost exclusively in factories The manufacturer has had to take means to prevent their going bad, and in 1913 the Local Government Board thought it advisable to institute an inquiry to ascertain what preservatives, if any were being used The inquiry was interrupted by the war but has now been completed, and a report by Dr George C Hancock one of the medical officers of the Ministry of Health has just been issued by the Ministry [1] Appended to this is a second part giving particulars of the analysis of 357 samples made under the direction of the Government chemist Sir James J Dobbie whose death last week we have to deplore One of his last official acts must have been to sign a statement in which the results, set out in full in tables are summarized

The difference between non alcoholic wines and cordials lies mainly in the amount of sugar most of the cordials being merely syrups flavoured and coloured either with the natural fruit or with synthetic substances Alcoholic cordials in this country do not seem to be made on any large scale the demand being met at the counter by mixing spirit as a rule gin with a non alcoholic syrup or cordial—mint raspberry orange, or ginger—as the customer demands The beverages, or materials for beverages dealt with in the new report fall into two main classes according to whether they are frankly alcoholic or professedly non alcoholic Two samples—one of ginger wine and the other of orange wine both made by the same firm and labelled non alcoholic —were found to contain 23 per cent of proof spirit but, as Dr Hancock observes such a lapse can be dealt with by the Excise authorities and no doubt will be, for they are not usually backward in the coming on A few of the ordinary non alcoholic wines contain a little more than the permitted 2 per cent —one sample of raspberry wine contained 3 28 per cent —but the large majority contain less usually much less and the same is true of the cordials Sir George Newman in his preface draws attention to the fact that many British unfermented wines are sold under names similar to those given to fermented wines and that while the former are almost universally labelled non alcoholic or non-excisable or unfermented, the latter are usually sold without any special indication that they contain alcohol We suspect, however that few purchasers are deceived

Of the British wines a few are still made on the old domestic plan by fermenting the fruit or its juice, after the addition of sugar The amount of wine made in this way is however relatively small by far the larger proportion consisting of a more or less characterless basis wine made by fermenting raisins or dried currants or rhubarb or imported grape must It is rather surprising to learn that grain spirit is not much used probably the explanation is that the retention of the extractives and of some of the sugar helps to give body to the finished product The desired flavour is imparted by adding spirituous extracts of fruits or aromatic substances made by the wine makers themselves or proprietary preparations containing a mixture of natural and artificial flavours Colour is given usually by caramel and by the colouring matter extracted from elderberries or other plants Of 145 alcoholic wines and cordials examined aniline dyes were found in 7 only In nearly all instances the wines had been sulphured either because the barrels had been fumigated with burning sulphur or because sulphites had been added to the wine during the process of manufacture in this way sulphurous acid is diffused through the wine but in every sample but one the amount was below that allowed by the authorities in France Salicylic acid was found in seven samples ranging from 0 25 to 1 57 grains to the pint in seven samples boric acid in excess of that present in genuine wine in the same number and fluorides in eight Sometimes wine is made in this country from imported grape juice or must either with or without the addition of sugar in the former case it is sold as red or white wine and is often sulphured in the latter it is used as a basic wine The consumer of British wines who does not look on alcohol as a poison may thus feel pretty sure that his beverage contains no poisonous substances

The same security cannot be felt with non alcoholic wines and cordials Non alcoholic wines and apparently many of the cordials with the exception of those prepared from the lime and lemon are made from fruit essences and compounds obtained from manufacturing chemists and distillers of essential oils Many of the wines and some of the cordials contain saccharin The palatability of the more sophisticated beverages may be increased by the addition of citric or tartaric acid and the right tint obtained by using caramel vegetable colourings or aniline dyes [illegible] 30 per cent of the samples analysed were coloured with aniline dyes Probably—but here we are not clear in the report— wines so made ought to be labelled the cordials also owing to the large amount of sugar they contain Some of the wines are manufactured in imitation from much the same ingredients as the alcoholic wines,

[1] Reports on Public Health and Medical Subjects No 24 Report on the Composition of Commoner British Wines and Cordials (Alcoholic and Non alcoholic). H.M. Stationery Office or through any bookseller Price 1s 6d net.

but the manufacturers seem to find it difficult to make sure that they will not ferment after issue, and make it a practice to use preservatives Of the 142 samples examined 71—or exactly half—were found to contain salicylic acid in amounts ranging from a mere trace to 11 99 grains in the pint Twenty four of these also contained sulphurous acid or boric acid in notable quantities In 1899 a departmental committee advised that the quantity of salicylic acid in liquids should not exceed 1 grain in the pint, of the 71 samples examined for the new report 58 contained more than this, 30 of them contained more than 3 grains, and 9 more than 7 grains Medical opinion differs as to the degree of risk attending the habitual ingestion of small doses of salicylic acid, but it would probably be unanimous against allowing as much as 11 99 grains to the pint As, however, the question of preservative and colouring matters in foods is being considered by a departmental committee, which we understand is likely to report before long, the further consideration of the subject is deferred

THE WORK BEFORE THE REPRESENTATIVES

In a recent issue we invited attention to some of the more salient features of the work accomplished by the British Medical Association during the past year, as recorded in the Annual Report of Council In the SUPPLEMENT this week is published the Supplementary Report of Council, and though amendments and riders for the agenda of the Representative Meeting will be received at the head office up to July 4th we have before us practically the whole programme for the Bradford meeting of the Representative Body It is well, therefore, to look at the nature and significance of the work that will fall to the Representatives, collectively at Bradford and individually thereafter For the body which alone can declare the common will of the Association is much more than an assembly for the ratification or rejection of action taken or projected by its executive, and the responsibilities of the Representatives will neither begin nor end with the meeting Indeed, on them depends in a very special sense the success or failure of the Association in the coming year

The Reports of Council make abundantly clear the importance of the work, already begun or planned, of which the main burden must be taken up in the next twelve months The preparation of evidence for the Royal Commission upon the working of the national health insurance system, the formulation of policy in respect of the proposed factory legislation, the completion of the long overdue revision of the Association's policy on coroners' law and death certification and registration, and the search for some constructive proposal with regard to the future of the Medical Service in India, are among the matters of major importance falling under this head Reports already received from Canada give good reason for hoping that the mission of Sir Jenner Verrall and the Medical Secretary to the Dominion will inaugurate a new phase in the relation between the Association and the Canadian medical profession In all these, and in kindred matters, the Representatives have their opportunity to influence the future development of the Association's policy and activity That the questions of policy on which the Council is asking for a definite expression of opinion from the Association are less numerous, and, in general, less contentious than on many recent occasions, is shown by the relatively small number of motions and amendments received from the Divisions The outstanding exception is that offered by the report and motions on hospital policy Here agreement is not yet, and some 25 per cent of the motions notified from the Divisions arise in this one connexion Such motions show that the Divisions as well as the Hospitals Committee of the Association are alive to the importance of the issues, and have given care and thought to the search for a solution It is a matter on which the views of the actual members of the hospital staffs would be welcome, for there is an ever present danger that, in default of a settlement, conditions distasteful to all may be imposed upon the profession from outside For the rest, the most effective method of conducting the campaign for the improvement of public health salaries, and the proposals of the Ethical Committee with regard to indirect advertising and the advertisement of nursing homes would seem to have provided food for controversy, and on the vexed subject of individual medical defence diametrically opposed motions have been put forward by Divisions

Turning from central to local activities, the Representatives will find matter for congratulation in the reports which indicate not only the passing of a crisis which threatened to close once and for all the history of the Association in South Africa, but the inauguration by the South African Committee of a forward policy which may yet give South Africa a record of activity within the Association which will rival that of Australia and New Zealand Nearer home the motions notified by the Divisions supply a crucial test of the vitality of the Association, for let criticism of its executive once languish and no free association can hope to maintain its vigour The surest sign of health is in active initiation of policy, and responsible and considered criticism and comment, by the local units It must be recognized that a Representative not fully instructed by his Division is placed at a disadvantage from which no personal ability can rescue him, while the Representative who has to speak to a motion of which the meeting has had due notice is in a far more favourable position than one verbally instructed at the last moment to support or oppose a motion Points on which criticism is forthcoming have already been noted, and it would, indeed, be well were these signs of activity more numerous and more evenly distributed throughout the Divisions Among the motions of general interest, that from Manchester for the appointment of a committee to examine and report on medical benevolent funds, and that from Croydon for the allocation to a woman of one place on the Council out of the eight to be filled by the Representative Body, are worthy of mention The form of the latter may not be altogether acceptable to the group of members whose interests it is designed to serve, on the other hand, its spirit is further evidence of the fact, happily established by the election of Dr Christine Murrell to the Council by the Metropolitan Counties Branch, that a woman who has earned the confidence of her colleagues and is willing to stand can reach the Council by the same route and on an equal footing with her brother practitioners

There remains one aspect of the work of the Representatives less obvious, perhaps, but no less important than those already touched upon They have to adopt a definite attitude towards those sections of the Annual and Supplementary Reports of Council and those notices of motion which deal with accepted or non-controversial matters of policy For the wisest counsel of the executive and the weightiest deliberations and most enthusiastic endorsements of the legislative body are but lost labour and wasted breath unless some

means can be found of translating them into effective local and individual action Unfortunately the truism What is everybody's business is nobody's job does not lack its illustrations in the material awaiting the representative Meeting In 1904 the opinion of the Divisions was taken on the subject of consultation between medical witnesses called in legal cases, the efficacy of the proposed procedure having already been demonstrated by experience gained in Leeds Since 1905 provision for such consultations including a minimum fee for services rendered thereat by the patient's medical adviser, has been included in the policy of the Association Yet the point was brought up as an innovation at Portsmouth last year and a motion stands on the agenda for this year requiring that legal opinion shall be obtained before any resolution is taken on the matter Serious if less striking examples are found in the position with regard to the Seamen's National Insurance Society—a position which could never have arisen if more than lip service had been paid to the principles of collective bargaining —and in the reports on the utilization in the Divisions of the statements of policy on the relations of the general practitioner with municipal hospitals and clinics, and the agreed policy on the public health medical services which was the first fruit of the new co-operation between the British Medical Association and the Society of Medical Officers of Health These were adopted at Glasgow and Portsmouth and it is unfortunate that the Council cannot report more interest and activity in the Divisions in this connexion The Divisions have on the whole taken an efficient interest in the improvement of public health salaries which improvement is significant only in so far as it contributes to the development of a sound and progressive national policy in public health The moral to be drawn from these illustrations can be applied by Representatives to other branches of the Association's activity No evidence before the Royal Commission as to the economic aspect of the provision for medical benefit, no scheme for securing adequate professional support for the Association's candidates for election to the General Medical Council no effort of the Parliamentary Elections Committee to secure in the interest of the public and the profession alike due weight in Parliament for responsible medical opinion and no scheme for the constitution of local hospital committees, can bear worthy fruit unless the Representatives, after deliberately accepting or modifying the Council's proposals set themselves to impress upon their constituencies the importance of active co operation They alone enjoy the stimulus of a review carried out in an atmosphere unfavourable to the ascendancy of sectional or local interests and to them alone fall alike the opportunity and the duty of conveying some part of that experience to their fellow members in the areas from which they come

MEMORIAL TO MR FORBES FRASER

In view of the general wish that there should be some lasting memorial to the life and work of the late Mr Forbes Fraser, a small committee, with the Mayor of Bath as chairman, has been formed to consider how best to give effect to this widespread desire It is felt by the committee that whatever form the memorial takes it should be in some way connected with the recently opened hospital at Combe Park As the Duke of Connaught said at the opening ceremony on May 16th, the inception of the hospital was mainly due to Mr Forbes Fraser The idea originated with him, and it was largely owing to his stimulating influence and untiring energy that the difficulties connected with the building and equipment of the hospital were overcome In order to commemorate Mr Fraser's work in connexion with its foundation, the hospital committee has decided that the institution shall in future be known as the "Forbes Fraser Hospital" Owing to the limited funds available it has been found impossible to provide the hospital with certain necessary equipment, and one of the most pressing needs is the provision of a thoroughly well equipped modern x-ray department As Mr Fraser was himself urgently impressed with the need for an x-ray department, and at the time of his illness was considering plans for its provision it is felt by the memorial committee that Mr Fraser could not be more fittingly commemorated than by providing the funds to instal this department The total cost of erection and equipment is estimated at from £2,500 to £3,000 Donations may be sent to the honorary secretary and treasurer Mrs A L Hope Eagle House, Bathford, Somerset The medical members of the memorial committee are Dr C E S Flemming Mr W G Mumford and Dr F G Thomson A meeting to inaugurate the Forbes Fraser Hospital is being arranged by the Bath Division of the British Medical Association for Wednesday July 16th at 3 o'clock, when Lord Dawson of Penn will give an address

ELECTRONIC REACTIONS

We have referred previously to the test of the electronic reactions of Abrams carried out by the staff of the *Scientific American* a periodical which has no connexion with the medical profession and therefore can claim to be absolutely impartial in this matter The staff of this well known journal has also carried out numerous investigations of spiritualist mediums and others claiming powers beyond those known to ordinary science and has established a reputation for fair and impartial inquiry in such matters Obviously such an investigation is far more satisfactory than any that could be organized by a medical association for the latter could not free itself from the charge of prejudice That the attitude of a medical organization is apt to be misunderstood and misrepresented is shown by a statement in *Nash's Magazine* for June in which it is said that the British Medical Association has come to the conclusion that Abrams's claims ought to be properly investigated on the side of the Association This occurs in the preface to an article founded on an interview with the late Dr Abrams himself its conclusion although perhaps rather more unconventionally expressed, are very much the same as those which we recorded in the article published in the BRITISH MEDICAL JOURNAL at the beginning of this year (January 26th p 164) In his comments on the matter the writer says "The medical profession is accused of a sinister plot to discredit and suppress his [Abrams's] great work This libel on the poor old medical profession is hardly supported by the facts" The writer then mentions some investigations in America to which we also have referred We can confidently say that the British Medical Association has not expressed any such opinion as that attributed to it As this JOURNAL has said the basic theories of the E R A cult correspond with none of the known laws of physiology or physics It is for the believers in the cult to establish the truth of their basis The investigation instituted by the *Scientific American* has now been proceeding for nine months and has been confined to testing the diagnostic claims of the electronicists The electronicists claim of course special methods based on diagnosis and of treatment and are inclined to [illegible] latter, which are [illegible] original and fundamental claim [illegible] discovered certain electronic [illegible] way of diagnosing disease, and [illegible]

were a later development deduced from his original discovery The whole business, therefore, must stand or fall by the truth of the diagnostic methods Our readers may be reminded that the diagnostic electronic technique consists in placing a drop of the patient's dried blood (or his handwriting) in a box, this box is connected with a series of electrical resistances, and the resistances are connected with a normal healthy medium The operator percusses the abdomen of the medium, and notes variations in abdominal dullness Diagnosis is performed by varying the resistances and noting the readings at which changes occur in the area of abdominal dullness By this method it is claimed that not only the nature of the disease, but the race, sex, and religion of the person furnishing the blood can be determined Such claims appear to be absurdly easy to prove or to disprove, but there are various incidental difficulties, which the *Scientific American* has discovered The first test was to give a practitioner of "E R A" six pure cultures of common bacteria, and ask him to diagnose these, he got all six wrong, and then it was said that he was not a true 100 per cent electronist, but only an imitation There are, it is said, about 4,000 persons making use of electronic diagnosis in the States, and they are divided into about fifty subsects, who are all ready and even eager to disclaim each other The larger groups, moreover, seem anxious to discourage their members from submitting to any diagnostic tests, or even forbid them so to do Tests of diagnosis are, moreover, practically impossible, for the electronists assert that their technique is so sensitive that it demonstrates disease which is undetectable by any other means Consequently, if they are given a drop of blood from a perfectly healthy man, and find that syphilis, tuberculosis, and cancer are all present, they are in no way disconcerted, they merely say, "Wait ten years and these diseases will manifest themselves even to the crude methods of orthodox medicine" Even tests of sex are not so simple as they might at first sight appear Dr Abrams one day announced that a blood was male, and when told that it came from a lady simply replied, "Ah, female physically, but male mentally and morally" The investigators found out some things, however In one case, it is stated, the practitioner got the same reactions when the specimen was in the box and when, without the operator's knowledge, it had been removed They also found that disconnecting the wires made no difference to the reactions, provided that this also was done without the operator's knowledge The investigators were perfectly clear that the so-called electronic reactions have no real existence, and are simply examples of suggestion A particularly interesting investigation is reported in the current number of the *Scientific American* Certain doctors attended Abrams's class in San Francisco, and signed a report on his claims, a report which is widely used and misused by the electronists These doctors submitted to the following test They were given six samples of blood, three of which came from the same person, and they were asked to identify the identical samples This test was repeated six times The result was total failure, for the diagnoses were more inaccurate than would have been anticipated on the laws of chance from simple guessing The nine months' work of the *Scientific American* investigators may be summarized in a sentence they have not been able to find that the so-called electronic reactions exist or give any information whatever Except in this last mentioned test the investigators have not examined those who may be called the "orthodox" electronic practitioners, because these have declined the test, not by direct refusal, but by the method of indefinite procrastination The investigators say, "If, in the opinion of the electronic workers, their methods are insufficiently developed at this time to pass a most elementary test such as we propose, then in good faith and through honesty of purpose they should, without further delay, suspend their present electronic practice They should tell their patients that they are not sure just what they are doing After all, human life is too precious to be the subject of raw experimentation or something worse than that, as the case may be"

ROYAL COMMISSION ON LUNACY

THE promised Royal Commission on lunacy law and administration and mental disorder has been appointed It is instructed "(1) to inquire, as regards England and Wales, into the existing law and administrative machinery in connexion with the certification, detention, and care of persons who are or are alleged to be of unsound mind, (2) to consider, as regards England and Wales, the extent to which provision is or should be made for the treatment without certification of persons suffering from mental disorder, and to make recommendations" The Commission is constituted as follows The Right Hon H P Macmillan, K C, standing counsel to the Convention of Royal Burghs, Scotland (Chairman), Earl Russell, Lord Lustace Percy, M P, Sir Thomas Hutchison, Bt, Director of the Commercial Bank of Scotland, and Lord Provost of Edinburgh, 1921-23, Sir Humphry Rolleston, Bt, K C B, M D, President of the Royal College of Physicians of London, Sir Ernest Hiley, K B E, at one time town clerk of Birmingham, and formerly M P for the Duddeston Division of that city, Sir David Drummond, C B E, M D, Pro-Vice-Chancellor of the University of Durham, and formerly President of the British Medical Association, Mr W A Jowitt, K C, M P, Mr F D MacKinnon, K C, Mr H Snell, M P, a member of the executive committee of the Fabian Society, and formerly a lecturer for that society, Mrs C J Matthew, and Miss Madeline J Symons, of the Women's Section of the National Union of General Workers Mr P Barter, of the Ministry of Health, is to act as secretary All communications regarding the Commission should be addressed to "The Secretary, Royal Commission on Lunacy and Mental Disorder, Ministry of Health, Whitehall, S W 1" Applications to give evidence before the Commission should be made in writing, personal interviews will not be granted in this connexion

INTESTINAL PROTOZOA OF MAN

THE report made to the United States Public Health Service, by Drs William C Boeck and C Wardell Stiles, on various intestinal parasites (especially amoebae) of man,[1] is a most important addition to the literature, representing as it does the results of an inquiry into the possible increased dissemination of zooparasitic diseases as a result of the world war The authors describe the organization which they evolved to cope with this work and the methods they adopted for the collection of specimens, and the particulars on which they based their statistics This is followed by a survey of 8,029 persons in the United States for intestinal parasites, the number of infections with the various species is compared with the findings of the British and other European workers, and the rate of infection with intestinal protozoa in United States troops with overseas service is compared with the rate in troops with home service only and in the civilian population The mathematical probabilities are discussed of uncovering a protozoal infection, and the authors conclude that the chances are about two to one against the finding of a protozoon or its cysts at any one examination Emphasis is laid upon the necessity for numerous examinations of the faeces from any one case, and also upon the fact that, while a positive result clears up the diagnosis

[1] *Studies on Various Intestinal Parasites (especially Amoebae) of Man* By William C Boeck and C Wardell Stiles Treasury Department United States Public Health Service Hygienic Laboratory Bulletin No 133 October 1923 Washington Government Printing Office (Med. 8vo, pp xxvi + 202, 80 figures)

immediately, a negative has only a relative importance A section is devoted to a description of the technique they adopted for the recognition of protozoal organisms in the faeces, in which especial mention is made of the smear method, which they have attempted to standardize roughly in terms of the degree of opacity of the faecal emulsion under the cover slip Methods of cyst concentration are also dealt with This is followed by a useful description of the commoner intestinal protozoa and their cysts Dr Stiles is one of the greatest authorities on zoological nomenclature, and his discussion of this aspect of his subject should be most valuable in assisting protozoologists to reach a final decision as to the correct names to be applied to these organisms From the point of view of the medical man the confusion existing at the present moment is most harmful, and the need for names which will be universally accepted is most pressing It is certainly a cause for complaint when consulting various textbooks, that none seem to agree as to the correct names to be applied even to the most common organisms After all, the majority of practising medical men are concerned chiefly with the recognition as rapidly as possible of the various organisms, and if the names are different in each textbook such recognition will be correspondingly delayed The authors, however do not minimize the difficulties in the way of producing a combined method of naming parasites which, while it will allow the physician to use a more restricted classification for clinical purposes will yet permit of the broader conception for the zoological expert We have in this report a clearly reasoned account of the whole position regarding the intestinal amoebae and flagellates of man The authors begin with the early history of the genus *Amoeba*, and step by step work up to the present day It is interesting to note that they consider that the genera *Endolimax*, *Councilmania*, and *Dientamoeba* might have been proposed as subgenera of the genus *Endamoeba* They do not accept the genus *Iodamoeba* (Dobell), but consider that this organism should be referred to the genus *Endolimax* With regard to the flagellates, they give the correct name for *Giardia intestinalis* as *Giardia lamblia* This excellent report may be strongly recommended to all those concerned in the teaching of protozoology or interested in zoological nomenclature

ROYAL SOCIETY'S CONVERSAZIONE.

THE second conversazione of the year given by the Royal Society, commonly called ladies' night, was held on the evening of June 18th in the Society's rooms at Burlington House Fellows and their guests were received by the President, Sir Charles Sherrington O M, G B E, M D and Lady Sherrington Many of the interesting exhibits shown at the May conversazione were repeated Mr R H Burne again showed anatomical specimens from the Royal College of Surgeons of England illustrating the process of bone growth in young pigs also invertebrates and lower vertebrates with adaptations of structure and habit for the protection of the young during and after incubation Dr T S P Strangeways, with his colleagues Drs Malcolm Donaldson, R G Canti, and F G Hopwood, who are working at Cambridge and at St Bartholomew's Hospital under the auspices of the Medical Research Council, gave a remarkable demonstration of the culture *in vitro* of living pigment cells from the embryonic eye of a fowl Some of the cultures were exposed to the influence of 100 mg of radium element, which has the effect of inhibiting mitosis In a control culture not exposed to radium the process could be watched proceeding actively The radium culture was enclosed in a special incubator constructed of lead for the protection of workers Dr Strangeways also showed a series of stained preparations illustrating the same points Sir Almroth Wright, Mr A. Fleming, and Mr L Colebrook repeated their demonstration of new methods for the exploration of bacterial disease, and for the study of the effects of treatment by vaccines by ordinary antiseptics, by differentially bactericidal chemical agents, and by light Mr A Eidenow, Dr Leonard Hill and Mr A Webster showed their method of measuring ultra-violet radiation by its bleaching effect on a solution of acetone and methylene blue Professor D M S Watson showed teeth of fossil horses and asses, to illustrate the evolution of the dentition in the group Madame Pinper's exhibit was of abnormal tadpoles, to show the effects of deficiency of oxygen (produced in water by the addition of 25 per cent of sugar) on early development Mr H Graham Cannon showed sections illustrating the post embryonic development of a primitive crustacean, proving the relationship between the coelom and the body cavity of the crustacea and M Theodore Monod showed a curious new type of crustacea discovered in the Roman hot baths at El Hamma in Tunisia The important exhibit from the Potham Experimental Station was again presented by Dr W F Brenchley and Miss K Warington It illustrated the effect of boron on plant growth—a subject on which we hope to give a fuller account in an early issue Boron in very minute quantities appears to be essential for the perfect development of certain plants 1 part of boric acid in 2 500 000 parts of nutrient solution being enough to satisfy their needs The broad bean *Vicia faba* is particularly sensitive in this respect, and in the absence of boron growth is adversely affected and the anatomical structure of parts of the stem and root is modified The living specimens and slides exhibited by Dr Brenchley and Miss Warington showed the effect of the absence of boron on various species and the type of anatomical modification induced in *Vicia faba* Dr Michael Grabham's exhibit of bygone methods of ignition illustrated among other things developments in the use of flint and steel Lastly must be mentioned the remarkable demonstration of recent developments in high speed cinematography by Professor Lucien Bull of the Marey Institute Paris

SAY NINETY NINE.

ON Tuesday evening a social meeting was held by the Royal Society of Medicine to welcome medical men from overseas now in London The guests were received by the President, Sir W Hale White and Lady Hale-White at 9 p m, and afterwards a meeting was held in the Robert Barnes Hall, when the President gave a short address on 'The story of Say Ninety-nine'' After heartily welcoming the overseas visitors he said that nothing doctors did had seized the popular imagination more than that they tap the chest to find out whether it contains air, solid, or fluid, and listen to it with a stethoscope to learn whether the sounds of breathing and of the heart are natural, and whether the patient's voice is properly conducted through it Examples were given In *The Mystery of Edwin Drood* Durdles, from tapping a slab, concludes that under it is 'an old un crumbled away in a stone coffin'' In Kipling's Marklake Witches is a description of how Jerry listened with a wooden toy trumpet to Rene's chest Wendell Holmes relates what happened from using a stethoscope with a fly in it Pictures from *Punch* in which the stethoscope appeared were shown By noting how the spoken voice is carried through the chest to his ear by a stethoscope the physician can tell whether a patient's chest contains air, solid, or fluid As the words 'ninety-nine' as produced in the larynx are the most suitable, the doctor, while he is listening to the chest commonly says, "Say Ninety nine" This phrase had become very popular, there were 'Say Ninety-nine'' cough lozenges, Say Ninety-nine'' stays, and Say Ninety nine''

boots, jokes about "Say Ninety-nine" had become common on the stage and in the comic papers Pictures from *Punch* were shown illustrating this Auenbrugger, who was born in 1722, was the first, in a little Latin book containing only 7,000 words, published when he was 39, to teach what might be learnt from percussing the chest The chest of a healthy person, he said, yielded a note resembling the stifled sound of a drum covered with a thick cloth He explained how to strike it to obtain the best results, and told of the varying note at different parts of the chest and the differences of note according as the chest contained air, solid, or fluid This work remained unnoticed until 1788, when Corvisart began to practise the method, and in 1808 published a translation of Auenbrugger's book Fortunately Laennec studied under Corvisart, and to him was chiefly due the introduction of percussion into medicine Laennec was born at Quimper in 1781 He lived at Nantes with his uncle, William Laennec, who superintended his education in medicine at the hospital there, protecting him from the horrors of the revolution and the parsimony of a niggard father He left for Paris in 1801, continued his medical studies, and took his degree in 1804 He lectured on morbid anatomy, which he was the first to raise to a science, for he not only gave admirable descriptions, but correlated the conditions found after death with the signs and symptoms observed during life In spite of many troubles with his father and his own wretched health, he worked extraordinarily, conducting a large fashionable practice, making *post-mortem* examinations, lecturing to those who came from all over the world to hear him, and studying languages In 1816 he announced his discovery that it was possible to listen to the chest with a stethoscope, and in August, 1819, he published his famous *De l'Auscultation Médiate*, containing precise and original descriptions of clinical symptoms and *post-mortem* appearances, many referring to conditions previously unknown, of which the most celebrated was his demonstration that tubercle is a new formation and that all phthisis is tuberculous He described all the multitude of physical signs that can be recognized with a stethoscope, and in the first chapter told of what might be learnt from listening with a stethoscope on the chest to the patient's spoken voice From this chapter arose the practice of telling a patient to say "ninety-nine" Sir William Hale-White went on to tell the story of Laennec's life, illustrating it with many pictures of the scenes among which he worked, lived, and died

INDUSTRIAL FATIGUE

As Sir Thomas Oliver remarked in the address he gave to the Annual Meeting of the British Medical Association at Newcastle three years ago,[1] industrial medicine has come to stay, and what preventive medicine has accomplished on the side of public health it can also accomplish in regard to occupational disease "Employers no longer regard 'industrial hygiene' as something to be turned down on the ground of its interference with labour and the conditions under which it is carried on They recognize that it introduces into industry just that something with a touch of humanity in it which softens the asperities of labour, makes occupation more healthful, and tends to bring employers and employed into closer touch with each other hand" Before the pioneer researches of the Health of Munition Workers Committee, practically no systematic scientific investigation of the human factor in industry had been carried out Since 1917 the work of that committee has been continued and extended by the Industrial Fatigue Research Board, and by a self-supporting body, the National Institute of Industrial Psychology, founded in 1921 The terms of reference of the Industrial Fatigue Research Board, which works under the control of the Medical Research Council, have been expanded since its first appointment, so that its functions are now not merely to suggest problems for investigation, and to advise upon or carry out schemes of research bearing upon the preservation of health among the workers and the promotion of industrial efficiency, but also "to take steps to secure the co-operation of industries in the fullest practical application of the results of this research work to the needs of industry" During the past six years knowledge, of great importance to all engaged in industry, has accumulated, and the latest publication of the Board[2] is a memorandum summarizing briefly the principal recommendations in its published reports which already await application or further investigation on the part of certain industries They are arranged on a double classification—first according to the industry, and secondly according to the class of subject to which they refer The industries are as follows textile, metal (including the iron and steel trade, and metal polishing), boot and shoe, pottery, glass, laundry The recommendations in regard to each of these industries, and in regard to repetition work generally, are grouped under working conditions (including all questions concerning the workers as a whole), working methods (including all questions concerning more especially the individual worker), and administrative and miscellaneous (including such matters as record keeping) It is to be noted that most of the recommendations have been put forward with the concurrence of representatives of the industries concerned, and the hope is expressed that these industries will therefore pay careful heed to the question of giving them practical effect Throughout this valuable memorandum (which all medical practitioners interested in industrial hygiene should obtain) adequate references are given to the published reports of the Board, where full details may be found

[1] BRITISH MEDICAL JOURNAL July 23rd, 1921, p 108

MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

In recent years the specimens added to the museum of the Royal College of Surgeons of England have been placed on exhibition in October The Council of the College has decided to revert to the former custom of placing all recent gifts and preparations on exhibition at the date when the election of new Members to the Council is held This year the election falls on Thursday next, July 3rd On the afternoon of that day the President will receive Fellows and Members who come to visit the museum and examine the preparations which have been added to it in the previous twelve months Many of the additions are of exceptional interest, and are representative of all sections of the museum Donors to the museum and a few distinguished guests have been specially invited The additions and some special exhibits will be kept on view until the end of August

THE Minister of Health has extended the terms of reference of the Departmental Committee on the use of preservatives and colouring matters in food to include the question whether and to what extent the practice of treating flour with chemical substances is objectionable on grounds of health, and whether it is desirable in the interest of the public health that the practice should be prohibited or restricted, and in the latter case what restrictions should be imposed This question will be considered by the Committee after it has completed the inquiry and presented its report upon the subjects for which it was originally appointed The secretary of the Committee is Mr A M Legge, of the Ministry of Health, Whitehall, S W 1, to whom all communications should be addressed

[2] Medical Research Council Industrial Fatigue Research Board, Report No 27 Results of Investigation in Certain Industries London H M Stationery Office. 1924 6d net

Nova et Vetera.

ARSENIC AND ITS HISTORICAL ASSOCIATIONS

Of the elements known to the ancients few have a more interesting history than arsenic. The earliest record of it dates back to a period of about 400 B.C. although it is probable that it was known in India, China, and the Far East long before it came to the knowledge of the Greeks. Arsenic in the form of the native sulphides (orpiment, As_2S_3, and realgar, As_2S_2) was found both in Greece and Hungary. Hippocrates mentions the use of realgar as an external remedy for ulcers and other complaints, and orpiment is alluded to by Dioscorides as a remedial agent.

Orpiment, perhaps because of its bright golden colour, seems to have exercised a certain fascination on the early alchemists, who looked on it as the key to the Philosopher's Stone. It attracted the attention of the Arab chemists at an early period, and is mentioned first by Rhases and afterwards by Jabir Ibn Hayyan (Geber). To him is attributed the discovery of arsenious acid, which he obtained by roasting the trisulphide, and he called it "white arsenic," the name it still bears. He apparently knew also of metallic arsenic, and that under certain conditions white arsenic would deposit a silvery mirror on bright copper. The discovery of its poisonous action was probably made soon afterwards. The danger arising from its use was well known in the fourteenth century, as is evident from a statute passed at Siena in 1365, which enacted that red arsenic sulphide and corrosive sublimate could only be sold by the principal or the director of a pharmacy, nor were these substances to be handed to any slave, whether freed or otherwise, nor to any servant, nor to children, nor to any youth under 20 years of age, but only to adults who were well known.

Arsenic as a Poison

The first direct evidence of its use for criminal purposes is in an official record of the trial of a minstrel named Wondreton in Paris in 1384. It contains a copy of the instructions alleged to have been given to him by Charles the Bad, King of Navarre, who employed him to poison Charles VI of France, his brother, two uncles, and others of the nobility at the court.

> Wondreton was instructed to buy arsenic sublimate from certain apothecaries in the cities through which he would pass on his journey. He was to get into the kitchens of the residences of the persons against whose lives he was plotting, and was to sprinkle some of the powdered arsenic in the soup and other food served to the masters. According to the chronicle, Wondreton was arrested before he killed anyone.

The word "arsenic" was first used in the English language in the fourteenth century. In a MS. *De proprietatibus rerum*, 1389, Bartholomew Glanville alludes to 'Arsenicum hyghte Auripigmentum for the colour of golde and is gadereyd in Pontus." It is mentioned by Chaucer in the *Canterbury Tales*:

> It nedeth not to reherce hem all
> Waters rubyfyeng and boles gall
> Arsneke sal armonyake and brimstone
> And herbes coulde I tell eke many one

In 1567 Maplet alludes to "The stone Arsenick which also they call the golden earth," and in an edition of the *Salerne Regimenta* (1634) mention is made of "Auripigmentum, which some Arsenicke call."

That the poisonous properties of arsenic had become well known in the sixteenth century may be gathered from the name 'ratsbane," by which it was popularly known. Davenant, in his *Wits* (1672), makes one of the characters say, "Arsenick my Girl to strengthen thy Aunts Broth," and in 1675, in *Notes from Pingcross*, mention is made of 'putting white Arsenick into her broth."

As a lethal agent arsenic has probably figured more largely in history than any other poison, many deaths may, however, have been attributed to it by the imagination of the chronicler. Thus Catharine de' Medici is said to have attempted to poison Henry of Navarre by moistening the leaves of a book he was intended to read with a solution of arsenious acid. But the book, so the story goes, fell into the hands of her own son, Charles IX, who, moistening the pages with his fingers in turning over the leaves, became affected. He ordered the volume to be thrown on the fire. Whilst it was burning Ambroise Paré, then court surgeon, entered the room, and exclaimed 'Who has been burning arsenic here?" "I have," replied the king.

The epidemic of poisoning that ran through France from the end of the seventeenth to the early part of the eighteenth century increased to such an extent that the "Chambre Ardente" was appointed to take drastic steps to stop it. Then and since arsenic has been a favourite instrument of the poisoner.

Medicinal Uses

Orpiment, known in the seventeenth century as yellow sulphuret of arsenic or auripigmentum, became official in sixteen of the pharmacopoeias of Europe. It formed the principal ingredient in Lanfranc's collyrium, a preparation which for nearly two centuries enjoyed great popularity as an application to ulcers. Another preparation used for the external treatment of ulcers and cancer was Frere Come's paste, it was composed of red sulphuret of mercury, arsenious acid, the ashes of a burnt sloe, olive, and dragon's blood. Orpiment was known also as Rousselot's arsenical powder and formed the principal ingredient of Hellmund's ointment or cancer cure, the formula for which was purchased by the Prussian Government for a large sum so that it might be made known to the public.

The bibliography of arsenic and its preparations as therapeutic agents is considerable, and Waring records no fewer than 112 books dealing with this subject alone. One of the first was Castelli's account of arsenic published in Rome in 1619. In 1635 Donzellus in his *Formulae* mentions that arsenic was employed as an amulet against plague, and a small piece placed in a little bag was carried by many to ward off infection during the great plague of London.

Not apparently until the early eighteenth century was it found that boiling arsenious acid with an alkali rendered it more soluble in water, and this marked an epoch in the internal administration of the drug. Numerous formulae began to be published at this time, the best known of these being Jacob Breras's and Heim's solutions. These were superseded by the solution originated by Dr. Thomas Fowler,[1] which came into general use and was officially included in the London, Dublin, and Edinburgh pharmacopoeias. Fowler added the compound spirit of lavender to the formula not for flavouring, as is generally supposed, but merely on account of its colour, so as to give it a medicinal appearance, lest patients entrusted to drop it for themselves might be tempted to use it with too much freedom."

Chemical Investigation

The first to make an accurate investigation of the chemical nature of arsenic was Georg Brandt, a Swedish chemist who recorded his observations in 1733. In 1775 Carl Wilhelm Scheele, who began life as an apothecary at Gothenburg, made arsenic acid (As_2O_5) and later on impure arseniuretted hydrogen (AsH_3). His name is still associated with the hydrogen copper arsenite known as Scheele's green. After his time Soubeiran and Pfaff made pure arseniuretted hydrogen, even then its toxic effects were not fully realized, and Gehlen, professor of chemistry at Munich, died in 1815 from accidentally inhaling a very small quantity in a pure state.

In the middle of the eighteenth century, probably on account of the increased frequency of its use for criminal purposes, the attention of chemists was directed to the discovery of some trustworthy test for its recognition. About 1750 Black, who was professor of chemistry at Edinburgh, in his evidence at the trial of Mary Blandy, said that he had recognized arsenic in the body of her victim by reducing it to the metallic state on heating with black flux in a tube, also by depositions of the brown lustrous metallic arsenic on a bright copper plate under the usual conditions. He mentioned the garlic-like odour, and said he had been able to detect as small an amount as one grain of arsenious acid. Orfila (1787-1853), the great

[1] Dr. Thomas Fowler's Solution. British Medical Journal, January 1st, 1853, p. 5.

French chemist, also did much towards the discovery of efficient tests for arsenic in the body In his time three chief tests by liquid reagents were well known—namely, the yellow, with sulphuretted hydrogen, soluble in ammonia, Hume's test, yellow, with ammoniated nitrate of silver, and Green's, with ammoniated sulphate of copper Robert Christison, who was a pupil of Orfila, proved that no substance but arsenic gave these three reactions Christison became professor of medical jurisprudence at Edinburgh in 1822, and his *Treatise on Poisons* was published in 1839

It had long been known that metallic arsenic was deposited on a bright copper plate when a solution of arsenious acid was heated in the presence of pure hydrochloric acid, but this knowledge was made practicable as a test for arsenic by Reinsch in 1842 His investigations were followed by those of Marsh, who described his well known test in the *Transactions of the Society of Arts* in 1845 Marsh's test conclusively proves or disproves the presence of arsenious acid

Organic Arsenic Remedies

Arsenic appears to have had a special attraction for the great Swedish chemists, and early in the nineteenth century Berzelius began an investigation of its compounds In 1842 Bunsen obtained an organic radical containing arsenic and methyl (arsendimethyl, $As_2(CH_3)_4$), which, owing to the fetid smell, was known as cacodyl The organic salts were found to be much less toxic, more rapidly absorbed, and less likely to produce the irritant effects of the drug Many years later, largely through the work of Ehrlich, the organic arsenic compounds came again into prominence as therapeutic agents They form, as is well known, the basis of such potent drugs as salvarsan, atoxyl, and their congeners *David Livingstone was probably the* first to recommend arsenic for tsetse-fly disease, for which atoxyl is being prescribed to-day, and though it is more than eighty years since Donovan published the formula for his solution of arsenic and mercury,[1] which was then largely employed in the treatment of syphilis, the same drugs, though in a different form, are used to-day

England and Wales.

WRENBURY HALL

WRENBURY HALL, Cheshire, now organized as a place for re-establishing the health of tuberculous men by work in healthy conditions, is the war memorial gift of the Cheshire British Red Cross Society and Order of St John of Jerusalem to the Cheshire County Council Dr Charles Wilson, the chairman and Dr Sloane, the medical superintendent of this institution, after consulting the Panel Committee, invited the members of the medical profession in Cheshire to visit Wrenbury on the afternoon of June 18th A representative assembly from all parts of the county was present, and, *in ideal weather, inspected the* beautiful South Cheshire homestead and its adaptation to its new purpose For the following account our readers are indebted to Dr Lionel J Picton

Wrenbury is an estate of about 160 acres In the reign of Edward III it was held by John de Wrenbury 'by the render of XIId in silver, or one sparrow hawk" John's eldest daughter brought the estate to her husband, Thomas Starkie, of Stretton and their descendants held it till, in 1802, it passed to a connexion by marriage—from whose successors the British Red Cross Society and Order of St John purchased it after the war Wrenbury, the hamlet, is five miles south west of Nantwich The Hall about a mile away, was almost completely rebuilt, red stone without and oak within just before the war, but the old Jacobean staircase *and other features* bespeak its antiquity There is a good home farm with moderate buildings and a good new farmhouse There is a walled garden four square and exactly an acre The patients *have newly built a greenhouse against the outer wall* They have broken up two more acres for garden crops beyond the north wall and to the east of the drive three acres have this spring been planted with orchard trees and fruit bushes Thus there are some six acres of garden and orchard, which at the moment employ thirteen men There is an enormous Dutch barn and one end is used by the four carpenters None is a professional, nevertheless the work they turn out (step ladders, hen coops, chairs, etc) sells readily at Nantwich market, £500 is now being spent in installing wood working machinery to do the heavy work There are 650 head of poultry, including 30 turkeys, and the poultry keeping occupies four men There are 60 head of cattle The foreman, wagoner, and cowman are not patients, but one patient is an admirable milker Some patients have improved and left Wrenbury, broken down under town conditions, and returned contentedly to their jobs at Wrenbury again The secret of content is not unconnected with pay Each man who works, besides his keep, gets 2d an hour, most do twenty five hours a week Two *men repair* shoes admirably, they learned the work at Wrenbury Besides repairing the patients shoes they do a surprising amount for the villagers and neighbourhood, and receive 25 per cent of the takings One patient is a horseman on the farm, and drives the cart that takes the milk away Two spend their working hours in potting plants for the greenhouse One, unfit for any weight of work, well earns his pay as a ward orderly Another is a clerk and does the typewriting for the medical superintendent Three only do no work one is leaving, one has just come and is resting, and one is on the 'Jaeger' list Twenty beds await patients

The nominal pay mentioned has been agreed with the Ministry and approved societies not to exceed an agreed amount per week while the recipient is also in receipt of sick benefit Since its institution the men's zest for their work has been trebled Some have no allowances from home and have no other money With this bit of spending money they feel independent and care free They have the sense of earning their keep and a bit over, despite their illness In that, Wrenbury differs from a sanatorium Apart from the influence of this work on the patients, can its products render the place *to some degree self supporting?* That is the hope The receipts for the year February 1st, 1923, to January 31st, 1924, suggest the beginnings of an expanding capacity for earning

They indicate, not a profit on the working of Wrenbury Hall, but a reduction of the cost by about £1,000 in the year—the initial and necessarily very broken year The all in' costs of the institution are under £2 per patient per week If almost all the beds were occupied (50) the *per capita* cost would be lower and the total less than £5,000 a year From this must be deducted the amount saved, leaving less than £4,000 to be found from public funds The Ministry of Pensions pays the *whole cost* of the pensioners, say £500 in the year for the pensioner patients in residence The balance will therefore be under £3,500 it is borne in equal shares by the Ministry of Health and the Cheshire County Council This is not an official statement, but a *rough sketch of the position* to indicate the basis of the hope that the product of the patients work can in some degree render the place self supporting It is anticipated, not without confidence, that when the enterprises described are well under way the county council quota may be reduced to a negligible figure There are no expensive instructors to pay Some of the activities centre round patients who have learned already the mastery of the line they have chosen It is hoped that some of these 'key" men may become permanent residents In that case the patients, who have already built their own commodious and substantial recreation hut, may be called upon to build one or two cottages But the committee will feel its way only very tentatively in the direction of a 'colony' for tuberculous men and their families The economic basis of the scheme is vital to its stability

By the metabolism of time the feudal manor has become a public institution, but the way of human life therein continues much as of old The tillage of the fields, the small industries that produced ancient vigour, may again restore to health those whom modern and urban conditions have blighted And though the cost of Wrenbury to the public will be more than 'XIId in silver or one sparrow hawk" annually, "yet there is much profit in the tillage of the poor, and the chivalry of the Red Cross and the Order of St John of Jerusalem in England, by providing the capital expenses of this adventure in public medical policy, may yield an unexpected blessing

NOTTINGHAM A MODEL MUNICIPALITY

In the *Municipal Journal and Public Works Engineer* for June 6th there appeared a lengthy illustrated article in which the writer described Nottingham as a model municipality, and eulogized the activities of the corporation, which would appear to have placed this Midland city in the front rank of British health resorts We do not doubt that the members of the corporation deserve all the nice things that are said of them, though we cannot forget that in some directions they have not always displayed such anxiety for the health of the inhabitants as we are

[1] *Dublin Journal of Medical Sciences* vol xvi 1840

now asked to believe is the case This is noticeably the case in their reluctance to carry out the perennial advice of their medical officer of health Dr Philip Boobbyer, to take in hand seriously the abolition of the thousands of pail closets in the town and substitute for them water closets The pollution of the atmosphere from the retention of the conservancy system in their midst was apparently regarded as a small matter notwithstanding the warnings of their medical officer of health as to the ill effect of this inaction on the health of the inhabitants The opportunity appears now to have arisen for the corporation to make some amends for its former errors of omission, and if its efforts meet with the success anticipated we shall be among the first to express appreciation The ambition of the corporation is to make Nottingham a smokeless city, and to this end it is proposed to take advantage of the installation at a colliery in the neighbourhood of a special low temperature carbonization plant capable of treating a thousand tons of coal daily and in the words of the writer in the *Municipal Journal* ' converting small coal into motor spirit oils smokeless fuel for domestic and industrial purposes and disinfectants as well as producing a gas of good quality which is to be sent through mains from the colliery to the corporation gas works" It is anticipated that with a plant having the capacity indicated there could be produced about 250 000 tons of smokeless coal annually at a price not higher than that paid for the best domestic coal and the use of this amount either for domestic or manufacturing purposes, together with the increased use of gas which it may be expected will be brought about by a decrease in its price ought to go a long way towards improving the smoke-laden atmosphere of Nottingham We shall watch with interest the development of the scheme

Welsh National Medical School

The Royal Commission of 1918, over which Lord Haldane presided, recommended that the Welsh National Medical School, while carried on in Cardiff, should be a college of the University of Wales, and not a department of the University College of South Wales and Monmouthshire This view was not accepted by all, and a controversy has been dragging on ever since Last March the council of the University College decided against separation and at its meeting on June 13th considered and approved a draft supplemental charter providing for the complete amalgamation of all the faculties of the college—arts, science, and medicine—in one academic body, but with a considerable amount of devolution of administration to a board of the school of medicine with enlarged powers A special meeting of the Court of Governors is to be held on Friday next (July 4th) We publish elsewhere in this issue (p 1154) a letter on the subject from Sir John Lynn-Thomas, who has long been identified with the movement for the establishment of a Welsh National Medical School

Scotland.

Edinburgh Post graduate Courses in Medicine

THE programme, drawn up by a Committee of the University and School of Medicine of the Royal Colleges at Edinburgh, for a post-graduate course in the autumn of 1924 has been published The main portion of the course extends over eight weeks—from July 14th to September 6th During the period from the middle of July to August 8th there will be a four weeks' course in obstetrics and gynaecology, comprising clinical midwifery and clinical gynaecology, obstetrical and gynaecological pathology, child welfare, ante-natal clinics and lectures on such subjects as infant feeding and ophthalmia neonatorum, it will be held in the Maternity Hospital and the gynaecological wards of the Royal Infirmary During the same period there will be a course lasting a fortnight on diseases of children, it will consist of clinical demonstrations on the common medical and surgical conditions of infancy and childhood, together with a few lectures on special subjects, eye clinics, ear clinics, feeding and nutrition clinics, and venereal disease clinics The course will be conducted chiefly in the Royal Hospital for Sick Children, but also in part at the Fever Hospital and special municipal departments

During the four weeks from August 11th to September 6th a General Medical Course and a General Surgical Course will run concurrently The General Medical Course is on very much the same lines as that held in past years, its main part consisting of a series of demonstrations upon the clinical examination of diseases of the various bodily systems taken in order, by physicians in the Royal Infirmary who have devoted special attention to the respective subjects It will also include classes upon medical side-room work, dermatology, *post-mortem* examinations, tuberculosis, comparative pathology geneticism, radiology, and venereal diseases There will also be a medical clinic each day at noon, and in the afternoons special lectures on subjects of general medical and surgical interest, open to those attending both the medical and surgical courses The general surgical course, which meets during the same period, will include demonstrations upon surgical anatomy, surgical and gynaecological operation surgical pathology, venereal diseases, and radiology Clinics dealing with various departments of surgery will also be held and the special lectures will be given in the afternoons During the period of this general course special classes of a practical nature, upon vaccine therapy, clinical chemistry and diseases of the blood, can be attended by those desiring to do so The committee has made further progress this year in organizing courses of a highly specialized nature which can be held at various times, when graduates present themselves desiring special instruction in the subjects with which they deal These courses include clinical therapeutics, insulin therapy, venereal diseases, surgical pathology, diseases of the nose, ear, and throat, and ophthalmoscopy the diagnosis and treatment of renal diseases, and radiology Throughout the year a series of medical ward visits and clinics has been conducted twice weekly by members of the medical and surgical staffs in the Royal Infirmary These are held every Monday and Thursday at 11 a m, are free to all graduates, and have been well attended

Committee on Hospital Services

The President of the Scottish Board of Health has appointed a committee to inquire into and report upon the extent and nature of the inadequacy of the present hospital and ancillary services in Scotland and to make recommendations for the development and maintenance of those services to meet the needs of the community The committee is constituted as follows

The *Hon. Lord* Mackenzie LL.D (Chairman) Lord of Session.
Sir Norman Walker M.D
Dr J Mackintosh C.B Medical Superintendent of the Western Infirmary Glasgow
Dr T J Addly Chairman of the Edinburgh Insurance Committee and of the National Insurance Health Consultative Council
Mr John Birnie a member of the Highlands and Islands Consultative Council and of the Board of Management of the Northern Infirmary Inverness
Dr R C Buist Dundee chosen as an active member of the British Medical Association
Dr A K Chalmers M O.H Glasgow
Mr John S Doig Convener of the Public Health Committee Aberdeen.
Mr Russell Paton Organizing Secretary of the Edinburgh Royal Infirmary
Mr James Robertson of the Fife Kinross and Clackmannan Mineworkers Association.
Mrs. Shirley a member of the Dumfries Insurance Committee
Mr Joseph Waugh, President of the Scottish Labour Housing Association

The Secretary is Mr Niven McNicoll, of the Scottish Board of Health, to whom all communications should be addressed

Dr James Laurie, Crieff

Dr James Laurie a member of the Scottish Committee of the British Medical Association and an ex President of the Glasgow and West of Scotland Branch has resigned

the post of senior surgeon to Greenock Royal Infirmary after thirty years' service At a farewell meeting held recently in the institution, Dr Laurie was presented with gifts from the directors and the medical and nursing staffs The chair was taken by the Rev W J Nichol Service, chairman of directors, and there was a large attendance of medical colleagues, nurses, and friends The chairman spoke of Dr Laurie's devotion to the interests of the Infirmary, and of his great services to the patients There was no doubt about the ever-increasing confidence of the community of Greenock in the Infirmary, and much of that was due to Dr Laurie and his colleagues On behalf of the medical staff and directors he asked him to accept their gifts as an expression of gratitude for long and distinguished service, with the hope that he would retain an interest in the institution for which he had done so much The matron, Miss Filley, made the presentation on behalf of the nursing staff, past and present Dr Laurie, in returning thanks for the gifts, gave a brief account of the improved methods that had been introduced since he joined the staff, and acknowledged the readiness with which the present directors met the medical demands for up-to-date equipment

Provision of Insulin by Local Authorities

A conference of representatives from the larger public health authorities in Scotland was held recently in Edinburgh to discuss the Public Health (Scotland) Amendment Bill, which has been presented in Parliament by the Secretary for Scotland The object of the bill is to extend the functions of public health authorities, so as to provide medicine and treatment for diabetes and for "such other diseases as the Board may by Order prescribe" Judge Harvey, Convener of the Public Health Committee of Edinburgh Town Council, presided, and the representatives were welcomed by the Lord Provost, Sir William Sleigh The conference passed several resolutions and appointed a committee to interview the Secretary for Scotland with regard to them As regards the provision of insulin for diabetes, a resolution was passed approving, as an experiment or temporary measure, of the proposal to give special powers to public health authorities to provide this remedy, provided that the Government would undertake to make a substantial exchequer grant towards the cost The conference was, however, of opinion that it was inexpedient and undesirable that powers such as those considered applicable to diabetes should be extended so as to cover "such other diseases as the Board may by Order prescribe," and resolved that these words ought to be deleted, and that special powers, with regard to any other specific disease, should be conferred only by fresh legislation, when occasion might arise The conference appeared to be of opinion that such general powers conferred too much authority upon the Scottish Board of Health The question of the Government grant towards the salaries and expenses of medical officers and sanitary inspectors was also considered, and a resolution was passed to the effect that the Government grant, in respect of these officials in Scotland, which at present represented 3s 10d in the £ of the total amount paid, should be increased to the 50 per cent grant paid in respect of corresponding expenditure in England

Miners' Welfare

Professor Henry Briggs, D Sc , Ph D , who has been for several years Professor of Mining Engineering in the Heriot-Watt College, Edinburgh, has been appointed to the newly established chair of mining in the University of Edinburgh During the war he was engaged in experimental work bearing upon trench and mine warfare problems, from 1917 he was experimental director for the Mine Rescue Apparatus Research Committee, and later for the Oxygen Research Committee of the Scientific and Industrial Research Department Towards the end of the war he also became director of the Physical Test Station, set up by the Army Medical Department in connexion with Edinburgh University, which has done important work in regard to measuring physical fitness and stamina During 1918 he served at the War Office as technical adviser in regard to the supply of oxygen and oxygen apparatus for the Army Medical Service, and a number of appliances for mine rescue work have been designed by him The Miners' Welfare Committee has offered £8,000 to the University and Heriot-Watt College, jointly, towards the cost of furnishing new laboratories connected with the chair on a site provided by the George Heriot's Trust

Ireland.

Medical Registration and Public Services in the Free State

At the annual meeting of the Irish Medical Association, which was held in the Royal College of Surgeons, Dublin, Dr William O'Sullivan, member of the Free State Senate, presided, and in the course of his presidential address said that the Irish medical profession would be faced this year with momentous problems He was convinced that an ill-treated body, like the majority of Irish medical practitioners, was a poor national asset, and, in critical times, was bound to fall short of the demands of the occasion At the moment there were being discussed different matters of much concern to the Irish medical profession One of these was the question of medical legislation, and another the question whether or not there should be a separate Medical Council for education and registration for the Irish Free State With regard to the latter question an attitude of insularity, or intensive nationality, would be disastrous, and it was hoped that when the matter came to be settled the present relations of Ireland with the General Medical Council would be altered as little as possible He was of opinion, however, that with mutual convenience and with advantage to both countries, there might be some devolution of functions, especially with respect to penal administration, and that a medical body might be established in Ireland for special purposes, somewhat on the lines of the Incorporated Law Society of Ireland

Since the establishment of their own Government they had, he said, lost the little that they had gained after the strenuous efforts in the few years preceding its establishment Latterly, when their claims were being dealt with by the Ministry of Local Government, there was a tendency to try to belittle the amount and importance of their work It was necessary to remind the Government that the medical profession of Ireland was entitled to some recognition Instead, however, they found recently, in the Free State, that when a Local Government Bill was being passed through the Dail it was made the occasion to repeal the clauses of the Local Government Act of 1919, which provided for a compulsory pension for dispensary doctors The Local Government Bill, for the most part, lacked any medical conception, for though it borrowed, without acknowledgement, some of its ideas from recommendations made by the profession, the fact remained that the profession was never consulted with regard to the preparation of the bill Even if the public health provisions of the bill became law, it might happen that they would be departmentally nullified by the offer of salaries so inadequate that they could only ensure the inaction of the medical officials appointed to administer the Act In all the circumstances it was not to be wondered at that the people of Ireland were physically a third-rate population when they should be an easy first This condition, it was to be feared, would continue until they became as degenerate physically as the pigmy races of Central Africa, unless the Government appraised at their proper value the advice and services of the medical profession in Ireland

At the close of the president's address the following resolutions were passed unanimously

1 That this meeting expresses the hope that no change will be made in the system of medical registration in the Irish Free State which would interfere with the right already possessed by medical men qualified in Ireland to practise in Great Britain and the Dominions

2 That this Association reaffirms its opinion that a national medical service should be established for the Irish Free State, entrance being by competitive examination, and as recommended by the Irish Public Health Council.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Lead Paint (Protection Against Poisoning) Bill.

THE second reading of the bill better to protect persons painting buildings from lead poisoning was taken in the House of Commons on June 20th. Its provisions had been drafted so as to enable the British Government to ratify the International Convention reached at Geneva in November, 1921.

Mr Rhys Davies Parliamentary Under Secretary Home Office said that from 1910 to the end of 1923 there were about 1 500 cases of lead poisoning of which over 300 were fatal. In 1921 there were 42 cases of lead poisoning and 15 deaths in 1922 there were 50 cases and 17 deaths and in 1923 there were 70 cases and 24 deaths. He was told that this measure would put out of employment many persons but the trade would have at any rate over three years—till November 1927—to adjust itself. Czecho-Slovakia Esthonia and Sweden had ratified the Convention and ratification had been authorised but not formally registered by Austria Greece Italy and Poland. The use of white lead in painting operations whether on the exterior or interior of buildings was absolutely prohibited in France by a decree made in July 1909. The British Office of Works was already acting as though the prohibition of white lead for internal work now operated. The fundamental provisions of the bill were that as from November 19th 1927 it should not be lawful to use lead paint on any part of the interior of a building. It would prohibit the employment of all women and young persons in painting buildings with lead paint and it would regulate the use of lead paint where it was not totally prohibited.

Mr Harney moved an amendment to the effect that though it would be premature to commit Great Britain to the ratification of the Convention the House would welcome the immediate introduction of a bill for the better regulation of the use of such paint. His view was that it was possible to carry on the white lead industry which was now entirely unregulated by a proper system of regulation that would reduce the deleterious consequences to a lower margin than occurred in most industries to-day. As against the statistics quoted by Mr Rhys Davies he said that in the Registrar General's report for 1918 dealing with the occupied group of painters plumbers and glaziers there was a mean death rate of 12.31 per 1 000. For the groups of occupied male industrialists which included about eight million there was a mean annual death rate of 13 85 per 1 000. Thus the mean death rate for the industrial group not including painters was nearly 2 per 1,000 higher than the mean death rate for the group which mainly included painters. For lead poisoning the mean death rate for the painters group was 0.23 per 1 000 and Mr John Schooling the well known statistician had stated that lead poisoning among painters was much smaller than the special death risks that attached to various other occupations and was relatively trivial. The Norman report on lead sickness published in 1923 estimated the attack rate at 4.5 per 1 000 in 1914 and 1.95 per 1 000 in 1921 and 1.56 per 1 000 in 1923. The Geneva Conference appointed a subcommittee of persons of scientific and expert knowledge which concluded that all that was required was a system of regulation and recommended that and that only. The resolution in favour of total prohibition was carried at the Conference only by a majority of one on the report of the French delegate that prohibition had been adopted in France years before. Sir Thomas Oliver had stated recently that by the observance of regulations plumbism had practically disappeared from the North of England. By new methods of operating upon painted surfaces the possibility of lead poisoning could in these days be said to have almost disappeared. Since the introduction of the wet method of rubbing down no dust was raised.

Mr E. Grenfell seconded the amendment.

Lord Henry Cavendish Bentinck who strongly supported the bill quoted from a communication by the National Society of Painters the figures of direct deaths from lead poisoning and the society's assertion that indirectly there were 674 attributable cases. Mr Raynes the only operative painter in the House of Commons gave a moving story of his own experiences. For ten years his right hand was useless for the purpose of writing owing to lead poisoning. In 1916 the war took him away from the industry and saved his limb and possibly his life.

In the course of further discussion Mr Bridgeman (ex Home Secretary) felt bound to support the amendment in the hope that before the time came for ratifying the bill it would be found possible to make safe the use of lead which did undoubtedly hold the field as the most useful paint in places exposed to weather. Mrs. Wintringham supported the bill. Mr Somerville Hastings said that in the last three years apparently only 48 deaths of house painters from lead poisoning had been recorded. This might seem a small number but the poisoning produced a vast amount of chronic ill health in some cases directly and in others because the lead absorbed caused increased susceptibility to other diseases. In Berlin during the years 1900 to 1909 an average of 1 in 12 of the members of a painters society was laid up. Dr Harris of New York had given the result of a careful investigation made in 1918 into the life history and health of over 400 cases in that city. 40 per cent suffered from ill health very really and directly the result of lead poisoning. The chronic absorption produced degenerative changes in the heart and the kidneys and affected the nervous system. In New York very few painters worked at their trade over 50. Mr Hastings also touched upon the ill effect of lead poisoning upon the offspring of painters. In 1906 about 22 per cent of the children of house painters in New York died before birth as against an average for the rest of the people of 7 or 8 per cent. In his opinion no one had so far proved that wet rubbing entirely removed the danger. Indeed, he submitted that certain dangers were actually increased by this process. The fine parts of the lead were more liable to get under the nails and into the pores of the skin and were more difficult to rub off.

Dr Chapple considered the attitude of the ex Home Secretary wise and prudent. The time was ripe and over ripe for legislation but the question was how far it was wise to go in the direction of prohibition. He believed that in the past no industry producing diseases had been abolished regulations had always been found adequate to deal with them. He quoted from the report of the National Union of General Workers and National Amalgamated Union of Labourers as against prohibition because it would mean unemployment.

Eventually the Home Secretary asked the House to agree to give unanimous second reading to the bill on the understanding that there could be a fair fight in Committee as to whether Clause I—for prohibition—should stand or be deleted. The rest of the bill referred to regulations and they could not be adopted unless the bill was passed. The second reading was carried.

Births and Deaths Registration Bill.

The Births and Deaths Registration Bill introduced by Dr Fremantle and backed by Sir Thomas Inskip Dr Haden Guest Mr Arthur Henderson jun Dr Chapple and Mr Jowitt has been printed. In the prefatory memorandum it is stated that the object of the measure is to render the law as to the certification of death at once simple and complete so as to leave no room for certification on insufficient information and to eliminate so far as possible all risks of premature burial or failure to detect crime. With this object the bill proposes to make provision for medical inspection of the dead body in all cases before certification of the fact of death and for adequate inquiry before certification of the cause. Stillbirths are required under the bill to be certified and registered. Provision is also to be made to ensure the orderly disposal of the dead within seven days of demise with of course some necessary qualifications.

Clause 10 governing the fees to be paid for medical certificates is as follows:

10.—(1) A registered medical practitioner giving any certificate under this Act shall be entitled to receive therefor a fee of two shillings and sixpence and in the case of a certificate of the fact of death an additional fee of two shillings in respect of every mile or part of a mile in excess of a distance of two miles from his surgery or the place where he is for the time being residing whichever is the nearer to the place where the dead body is lying.

(2) An account of the fees due to him in respect of persons shall be delivered by every such practitioner within six months immediately following the date upon which such fees shall have been incurred to the guardians or overseers of the district in which the death or stillbirth occurred and the said fees shall be paid by such guardians or overseers and charged in their accounts in like manner as sums paid to the registrar under section twenty nine of the Births and Deaths Registration Act 1836 are paid and chargeable.

(3) Sections twenty-six and twenty-seven of the Coroners Act 1887 shall apply to the payment of fees due to such practitioners in cases where he has acted at the request of a coroner and to the reimbursement of the coroner in respect thereof. Provided that where any fee so payable is not incurred in or about the holding of an inquest the same shall be paid as soon as may be practicable after the delivery to the coroner of a claim in respect thereof and that the accounts to be laid by the coroner before the local authority in respect of any sum so paid shall be so laid within four months after such sum shall have been paid by him.

The bill would provide that both the certificate of death and of the cause of death should wherever possible be given by the medical man if any who had attended the deceased person during life. Otherwise the person notifying is to communicate with the registrar and the registrar is to inform the coroner whose duty it will then be to appoint a medical man to certify the cause of death. Forms of the two certificates are given in a schedule.

As the bill is a private member's measure it has little or no chance of making progress during the present session. It has been introduced, no doubt in order to afford an opportunity for the discussion of its provisions by persons and bodies interested. It will suffice here to say that the draft certificate as to the cause of death is much more elaborate than that now in use and that the expressions stillborn and illbirth are deemed to apply to any child which has issued forth from its mother after the twenty-eighth week of pregnancy and which did not at any time after being completely expelled from the body of its mother breathe or show other sign of life.

The total estimated cost of operating the bill is given in a special note as £121,707. This cost it is suggested would be met as follows: chargeable against the estates of deceased persons by registered medical practitioners £56 750 chargeable upon local rates in respect of pauper burials £64 911.

National School of Medicine Wales.—Sir B. Peers asked on June 17th whether the Government had any information concerning the reasons that had led the Council of the University College Cardiff to oppose the establishment of an independent national school of medicine in accordance with the recommendations of the Royal Commission on universities education in Wales. The Parliamentary Secretary to the Board of Education (Mr Morgan Jones) replied that the matter did not fall within the province of that Board but it had been the subject of correspondence between the Privy Council and the promoters of a supplemental charter for the University College of South Wales

and Monmouthshire The Privy Council had, in letters dated February 1st and March 14th, 1923, given its reasons for objecting to the complicated scheme proposed for the government of the national school of medicine, and for holding that the interests of the school would be best served by its establishment as an independent unit within the University, on the lines recommended by the recent Royal Commission The Privy Council, in reply to an inquiry, was informed on January 24th, 1924, that it was hoped that the Council of the University College would, at an early date be in a position to submit a report to the Court of Governors of the College on the matter, up to the present however no further communication had been received by the Privy Council from the promoters of the supplemental charter

Medical Officers' Health Appointments.—In reply to Mr Costello, who on June 18th, asked a question as to the appointments of medical officers of health in England and Wales, and the proportion of women employed, the Minister of Health said that the total number of medical officers of health in England and Wales was 1,455 all of whom were men He had not complete information as to the number of assistant medical officers of health, but the available record indicated that the number of such officers in England giving whole or part time to maternity and child welfare services was 227, of whom approximately half were women, to tuberculosis services 76, of whom 9 were women, to venereal disease services 42, of whom 12 were women Many assistant medical officers were engaged on more than one service, and therefore these figures were not mutually exclusive nor did they include certain medical officers appointed wholly for special services Corresponding figures were not available as to Wales There were employed in England and Wales 317 school medical officers and 710 assistant medical officers of these 826 were men and 201 were women There were 286 school medical officers and 341 assistant school medical officers also carrying out public health duties He was aware of one vacancy during the past twelve months for the post of assistant medical officer of health, and one in the post of assistant school medical officer, previously held by women, which had been filled by men

Patent Medicines.—Mr Baker asked on June 16th, whether in the interests of the health of the community and as some return for the heavy taxation imposed in the form of medicine duty the Minister of Health would introduce legislation to enable patent medicines to be sold under licences only issuable after a partial examination of the merits of the proprietary articles Mr Greenwood said it would be impracticable to attempt legislation on this subject this session

Bacteriological Examinations.—Mr Black asked on June 24th whether the Minister of Health would arrange to give a grant of 50 per cent on the net cost of bacteriological examinations of specimens forwarded by medical practitioners to the medical officers of local authorities, it being understood that the cost would be recovered in cases where the patients were able to pay Mr Greenwood replied that medical practitioners could generally now obtain from local authorities reports on the bacteriological examination of specimens forwarded in cases where the diagnosis of venereal disease, tuberculosis, or acute infectious disease was in question the expense of such examination was in most cases defrayed by the local authorities The Minister of Health was prepared when time admitted, to consider arguments for and against the extension of such facilities

National Health Insurance Commission.—In reply to Sir Kingsley Wood on June 19th Mr Greenwood said that the Government had decided that the Royal Commission to inquire into national insurance should be constituted from persons not directly concerned with the administration of the Insurance Acts Names would perhaps be available in ten days

Vaccination and Small pox.—At the instance of Mr Black on June 18th Mr Wheatley gave the following figures of deaths from vaccination and from small pox

Year	Deaths from Vaccination	Small pox
1920	9	30
1921	3	5
1922	4	27
1923	8	7*

* Provisional figures

The Minister said that the available record did not permit of the deaths being distinguished as between those registered on medical certificate alone those registered upon the coroner's certificate after inquest—with or without medical certificate—and those registered upon neither medical certificate nor coroner's certificate after inquest Of the totals given some were doubtless registered after inquest though few, if any, were likely to have been wholly uncertified

Answers in Brief

Mr Cecil Wilson inquired on June 20th whether any progress had been made in regard to the use of the Spahlinger treatment Mr Wheatley replied that so far as he was concerned the matter stood as it did on April 16th when he stated that he was anxious to arrange for a scientific investigation of the method in this country as soon as the materials were available He then added that he had personally given M Spahlinger assurances to that effect

The number of vacancies for lieutenant R A M C is about forty, but the War Office hopes that a large proportion will be filled as the result of next month's entrance examination

The Parliamentary Under Secretary (Scotland) has stated that the Mines Department is in communication with the Medical Research Council with a view to research into the nature of the spirochaetosis which has occurred in certain East Lothian areas Until further scientific information is available it is not thought that a public inquiry would serve any useful purpose

Correspondence.

CARDIAC DELIRIUM

SIR,—In your EPITOME of June 7th, 1924, Dr R Massini is quoted as describing two forms of cardiac delirium The first kind he describes as "travelling delirium," the "patient believing himself to be in some other place than that in which he is" In other respects he may be perfectly sane And he gives examples of such cases This delusion, he says, may last for days, and is always of bad prognosis The other kind is of less importance, and the author think it may be an epiphenomenon of digitalis treatment I am concerned only with the first kind

In the *Provincial Medical Journal* for July, 1885, a propos of a paper by Dr W B Richardson on the deliriums of various diseases, then characters and classification, I contributed some remarks on the delirium of heart disease I did not find that the subject had received much attention in the clinical works on the subject Omitting the delirium of pericarditis, which has a delirium of its own, but otherwise including almost all chronic forms of heart disease, mitral or aortic—though perhaps more on the aortic side—the patient suffers from a delusion of place He is in some other place than his own house or bedroom, and implores his attendants to take him home, or remove him from the hotel, the coach, or the strange house in which he finds himself He is not terrified but worried or wrathful and threatening, and if left alone will leap from bed, and indeed may make his escape One very respectable patient was painfully sure that he was in a house of ill fame, and the nurses found themselves under injurious suspicions These convictions may go on for weeks, unshakable and inexorable If for a moment the patient recovers his balance, in the next he is all abroad Point to the pictures on the wall, and he will say that they have been brought there to deceive him I added, as Dr Massini says, that I had never seen a patient amend in whom this delirium was established But as it is not very frequent it has found no place in the books even yet Still, when it does appear it is definite and remarkable enough —I am, etc,

CLIFFORD ALLBUTT

Cambridge, June 17th

THE WELSH NATIONAL MEDICAL SCHOOL

SIR,—The birth of a new medical school is a matter of special interest to the medical profession, and on many occasions you have referred to that of the "Welsh National School of Medicine" of the University of Wales It is located in Cardiff, the largest city in the Principality, and in its present form is barely three years old

The genesis of the incomplete school is to be traced back to 1893, it was then by common consent attached to the University College of South Wales and Monmouthshire in Cardiff, one of the younger constituent colleges of the University of Wales The success of the students taught in this school, incomplete though it was, when presenting themselves for examination at the Conjoint Board and at the University of London in the primary subjects was marked Later on ambition for a "complete medical school in Wales" grew up, and steps were taken to give effect to a natural impulse created by the success of students from the incomplete school

Welsh educationists were not confident that they had sufficient knowledge of how best to proceed to form a complete medical school, and very wisely they decided to ask for help and guidance In response to their representations a Royal Commission was appointed to inquire into the matter After careful and exhaustive inquiry this Royal Commission, over which Lord Haldane presided, unanimously recommended that the Welsh National School of Medicine should become "an independent constituent college of the University of Wales governed by a Council and Senate of its own" This conclusion, it is evident, was unexpected and, as subsequent events show, was not to the liking of the Cardiff College, which up to the present time has not given effect to the considered recommendation, but has resisted it and has been so far successful in side-slipping

the issue raised by the report of the Royal Commission published in 1918

Since the circulation of that report the medical school has been completed (in 1921) and is being carried on under a different scheme Its progress has not been a smooth one but somewhat stormy, for two reasons First the steering has been somewhat faulty, owing perhaps to inexperience but also to failure to recognize rocks ahead The University of London and the Conjoint Board in England at first refused to recognize it as a teaching school for the final examinations After protracted negotiations the school is now recognized provisionally Secondly the separationists —that is those who accept the findings of the Haldane Royal Commission—believe that the school will if it remain a department of the Cardiff College not be the success that is desired having regard to the many medical schools of varying excellence that already exist They point out its failure up to the present and maintain that now Council Senate, and Principal are essential to give all their energy to the establishment of a medical school of first-class grade For example an appeal for £100 000 was made only a short time ago for the medical school but this was quickly followed by another appeal for a much larger amount for the college, and was started by a generous list The separationists resented this action of 'Poohbahism' and felt even more strongly than ever that the medical school will not become the great centre of learning that is wished for so long as it is not allowed to paddle its own canoe

The world during the last few years has had examples of the success of efforts to establish medical schools embodying twentieth century ideals Such schemes have had the lavish command of millions of money spent on organization in its fullest sense—on building equipment professorial staffs with adequate assistants and research scholarships and foundations We may look forward with interest to the outcome of the struggle now going on in connexion with the new medical school in Cardiff —I am etc

June 23rd. JOHN LYNN THOMAS

GAS LEAKS AND CARBON MONOXIDE POISONING

SIR,—The letter of December 8th 1923 by "M A M D, D P H," cited by Dr Laird (June 14th p 1073), wholly begs the question He writes Wherever gas is really sensed [on entering a house] a lowered condition of health will be found in the whole household or at least that part of it—mainly of course, the feminine element—which spends most of the twenty four hours at home" This lowered health he attributes without adducing any scientific proof of his attribution solely to carbon monoxide poisoning—an example of assertion common as it may be, the very antithesis to the method of scientific men

A house so shut up as to smell of some small gas leak or products of gas combustion from gas rings is one very badly ventilated, and the people who inhabit it will suffer from that lowered metabolism which is due to sedentary life in stagnant atmosphere with low cooling power They will also suffer from breathing a warm moist atmosphere and from deprivation of sunlight The oxidation processes of the bodies of such people will be reduced to a low level by the lack of exercise and exposure to open air a reduction which is certain and large, while that due to the inhalation of some unknown small amount of carbon monoxide is unproven It is of no value for Dr Laird to cite paragraphs from the writings of Dr John Haldane and others concerning the ill effects of oxygen want Nobody doubts these What he and "M A, M D D P H" have to do is to prove that, in houses where gas is smelt and people are out of health there is a significant amount of carbon monoxide in the blood The measurement of this by Haldane's carmine method is not so difficult that it should be shirked Every authority agrees that 1 part of carbon monoxide in 10 000 parts of air is negligible in its physiological effects

There is no doubt that smokers inhale carbon monoxide and that it may come from coke anthracite stoves fires and exhausts of motor cars, as well as from gas appliances Teach people to keep their windows open and get out into the sun and air and clean the skies of smoke by using smokeless fuel, of which gas must be one for the sake of coal economy and a very great deal will be done for health At the same time the gas companies and public authorities must teach that all gas leaks must be stopped and not the least smell of gas tolerated, so that all danger of gas leaks in shut up rooms is avoided —I am, etc,

London N W 3 June 17th. LEONARD HILL

THE CAUSATION OF CANCER

SIR —I have read with interest the letter (June 21st p 1113) in which Dr A B Smith and Dr S M Smith relate their experience with the vaccine prepared from the organism from cancer isolated by the procedure described by me In about 40 cases of cancer so treated during a period of two years by Dr Robert Robertson and myself and by other medical men with special experience in vaccine therapy to whom the vaccine was sent for test, the results were very similar The case may be summarized as follows (1) A focal reaction (swelling of the mass pain and tenderness increase in discharge and in cancer of the breast with axillary involvement increased swelling of the arm) was almost invariable (2) In some temporary local and general benefit was found in others the vaccine seemed to exaggerate the activity of the growth and to hasten the end (3) In no case was there lasting benefit or anything approaching a cure The cases were all such as had progressed beyond the stage of complete surgical removal and many were far advanced The definite focal response suggests a specific relation between the organism and cancer

A more convincing demonstration of this relation any of your readers can obtain for himself Let him take some freshly and aseptically removed cancerous tissue and for a beginning I would recommend a rapidly growing transplantable mouse tumour such as the Imperial Cancer Research Fund strain 63 which experience has shown me to be highly infected In each of four specimens of this examined during the past three years I have found the following appearance to be clearly represented The same phenomena are found however with varying clearness in human cancer of all kinds Place in eight small fragments of the growth in as many tubes containing any ordinary culture medium Horse serum (3 parts) and distilled water is specially suitable but for the uniformity of the film obtained with it Incubate at 37° C remove drops from the vicinity of the tumour at intervals of twenty four hour forty-eight hours and make films which are dried at room temperature and stained with any ordinary stain Leishman being one of the best

At the end of twenty four hours the observer will find unstained globules which often possess a glistening sheen and vary in size from specks just visible at ×1000 magnification up to comparatively large masses Let him search a little and he will find lying in a group or globule some of the same unstained material drawn out into beautiful rods and after a more diligent search his interest will be quickened by discovering the same dead white matter creeping out as longer and thicker filaments which branch and then, it may be abruptly end in a bulbous globule of the same material In this phase the strange living thing often begins to take on the stain deeply and to exhibit an internal structure From an early stage he will find evidence that this uncouth order of living matter is springing directly from the cancer cells and this belief will be dramatically confirmed if as he moves the slide, there suddenly sweeps into the field a host of the bright rods or threads radiating into the surrounding medium from one and the same cell By this time he has recognized that he is dealing with some kind of fungus which after having lived in an invisible form the submerged life of a parasite is now struggling to organize itself after a visible shape in the more liberal conditions of the test tube He will find, moreover in every early culture that some of the globules exhibit minute staining point which become separated in the medium and can be traced through all stages as they enlarge into cocco-bacillary elements of familiar shape and staining character

At this point he will come up against problems of an

extremely elusive nature, problems in which his bacteriologist friends can give him little help, and he will be wise to follow the trail of others who before him have struggled through the jungle In case he suspect prejudice I will refrain from referring him to my own papers, but will point him to other recent workers on general bacterial morphology, who are free from the compromising entanglements of cancer Burning with the conviction of one who has seen the light he will find it difficult to tolerate the glib criticism that he is wasting his time on contaminations He will be not a little surprised to find that these critics apparently do not realize the extreme improbability of the same class of "contaminations" being wafted in the same sequence over many years into the test tubes of Hort of London, Young of Edinburgh, Lohnis and Smith of Washington, Mellon of the Mayo Clinic, Wade Manalang, Reed, and Orr, also of America, Almquist and Bergstrand of Sweden, and de Negri of Holland! Confident in the assurance of truth, he will find himself ranged in sympathy alongside a new school of scientists, who smile as they think of the malign imp which for wellnigh a generation must have sat on the rim of the test tube chuckling as the bacteriologist wrestled with the spectre of contamination — I am, etc,

Edinburgh, June 21st JAMES YOUNG

SIR,—Dr Archibald Leitch concludes his answer to Dr Brand (June 14th, p 1071) as follows

"It follows that, as we have experimentally produced epithelioma, adenocarcinoma, and sarcoma *frequently* [the italics are mine] by special irritants (and on the contrary have failed with other irritants), the agents successfully employed cannot be dismissed as predisponents, but are to be regarded, even on Dr Brand's own showing, as primary causes" Dr Leitch, in using the word "frequently," admits that his special irritants do not *always* cause cancer Consequently, on his own statement, we must assume that there is some other condition or specific agent necessary to enable his special irritants to cause the disease "frequently," else why not always?—I am, etc,

June 16th G W F PAUL

SIR,—Dr Brand is really incorrigible He stated, as an essential part of his argument, that cancers were invariably identical in their nature onset, course, and termination We gave him some half-dozen examples of tumours by which he could test the strength of his hypothesis, but he sees no reason to modify his contention after careful reflection (1) "They are all malignant tumours" Some are always so some are usually so, and some are rarely or never so (2) "They are identical in onset, beginning in every case at one definite point" Some of them have a very indefinite point of origin some of them have not infrequently two definite points of origin (3) "The termination in each case is fatal" This is not a fact (4) "The course in each is the same" On the contrary, nothing could be more variable (5) "The essential quality of the disease is the same in all" The only thing they have in common is that they are neoplasms These points are not matters of opinion they are matters of knowledge and Dr Brand, by his answer, unfortunately conveys the impression that his knowledge of the subject is not so profound as I wish to believe it is

His favourite and frequently repeated dictum is "Since cancer is a specific disease, it must have a specific cause" Actually, this means no more than if he were to say, "A beetle has four legs, therefore it must be a quadruped" When he is told that some students of cancer problems (being as free from prejudice as he desires us to be) doubt this specificity he is surprised that they should deny "so obvious a fact," and he is sure they can only be a small coterie I am not aware that any vote has been taken to show how miserably small this "coterie" may be, nor can I recall any important scientific question that was settled by the counting of heads

Dr Brand is firmly convinced that, although we may have succeeded in obtaining cancers experimentally in animals after the prolonged use of certain irritants, the results are primarily dependent on some "*x* agent of cancer" which, unknown to us, did the trick for us I can think of no conclusive argument nor any crucial experiment that would dispose of this idea It can be maintained with equal force against the microbic theory of infectious diseases it may be that it is not the tubercle bacillus but some little unseen virus which it generally carries on its back that is the cause of tuberculosis It may be that disease in general, as thousands of presumably sane people believe, is a product of the imagination In Dr Brand's words, these things "have never been disproved because they cannot be" But it will be enough for us, in an endeavour to show that the agents with which we can induce cancer are the prime causes of these cancers, if we bring forward in our communications an increasing number of observed facts and leave the ultimate judgement to common sense—that peculiar attribute which everybody is sure he possesses in greater abundance than his neighbours And Dr Brand can help us if he will come off his pontifical chair, make himself acquainted with the evidence, and criticize our conclusions with a mind free from dogma —I am, etc,

ARCHIBALD LEITCH

The Cancer Hospital Research Institute
London, S W 3 June 21st

ACUTE PUERPERAL COMPLETE INVERSION OF THE UTERUS

SIR,—While I was aware of the rarity of this condition from the statements in textbooks, it was only on reading the article in the JOURNAL of May 31st (p 955) that I realized how few cases have been published, and in consequence think it may be worth while to describe one which I met with about two years ago

About two hours before her admission to the Royal Victoria Hospital, Dover, the patient had been delivered by a midwife On admission the uterus was completely inverted outside the vulva with shreds of placenta adherent The patient was unconscious and in a condition of profound shock, almost pulseless Intravenous saline was given, and at once without the least difficulty I succeeded in reinverting the uterus, the cervix being quite large Nevertheless, in spite of all measures the patient never recovered from the condition of shock and died in two hours The account published makes me wish that I had waited, but it is difficult to believe that in this case the trifling effort to replace the uterus, no anæsthetic being needed, added much to the shock

It is difficult to account for the severity of the shock in these two cases I operated on a man during the war who had all his intestines prolapsed through a wound, and who recovered, after an operation with anæsthetic It is hard to see why total inversion of the uterus should produce a shock so profound, and it would be interesting to know whether it generally occurs —I am, etc,

A R JORDAN, M D, F R C S,
June 5th. Surgeon to the Royal Victoria Hospital, Dover

TREATMENT OF UTERINE FIBROIDS

SIR,—In Mr Cuthbert Lockyer's "Remarks on the treatment of fibroids of the uterus," published in the JOURNAL of June 14th (p 1037), there is this sentence

"When we read in the literature of 1923 that '90 per cent of all fibroids may be dispersed by *x* rays or radium without serious risk or discomfort' (a quotation of Nigel Starks), and when Beclère states that his experience of 700 cases teaches him that the only conclusion permissible is that the sole obstacle to successful treatment is the submucous myoma,' we are completely staggered by such exaggerated claims'

The quotation was made by me in a paper on the surgical treatment of fibroids read at a meeting of the Royal Medico-Chirurgical Society of Glasgow and published in the *Glasgow Medical Journal* (March, 1923) At the same meeting there was read, and in the same journal there was published, a companion paper by Dr James R Riddell on *x* rays in the treatment of uterine fibroids He and I had been associated in the treatment of several patients suffering from fibroids, we had frequently talked over the merits and demerits of the modes of treatment, and our papers were the outcome of those discussions

I give now the quotation and its context in order to make

it absolutely clear that the clause quoted by Mr Lockyer was not my own and to place the responsibility on the proper shoulders

Kelly of Baltimore once a fervent exponent of hysterectomy, is now a whole-hearted convert to radiation treatment He and Burnham declare that 90 per cent of all fibroids may be dispersed by x rays or radium without serious risk or discomfort

I argued that these and similar statements could not be dismissed without serious consideration and further investigation and may I here say that, knowing Howard Kelly as I do, I could never believe that he would make such an emphatic affirmation unless he were convinced of its truth While my own experience of radiation treatment is too limited to be of much value, yet I have had the same successful results as Lockyer and others in the arrest of haemorrhage in small fibroids and in fibrotic conditions of the uterus My plea, therefore, is for fuller investigation and for collaboration between the surgeon and the radiologist Very naturally, however, as is to be expected in the case of one who has performed over 1,000 major operations—hysterectomies and myomectomies—for uterine fibroids, my prejudices are in favour of the treatment which is so familiar to me and which has given excellent results But prejudice must always yield to truth and if radiation is ultimately found to afford safe and lasting relief to the sufferers from fibroids of the uterus, surgery must gracefully retire

Meanwhile, I am in agreement with the statement in the last sentence of Mr Lockyer's paper In the treatment of uterine fibroids surgery and radiotherapy may be run tandem—but to radiotherapy we assign a very subsidiary status," although I would give more encouragement to the radiologists by rendering the last clause less emphatically through the omission of the word very "—I am etc,

J NIGEL STARK

Glasgow, June 15th.

PARATHYROID AND CALCIUM THERAPY

SIR —Two papers in your issue of May 24th—"Deficiency diseases," by Edward Mellanby (p 895) and "Treatment of infantile tetany by calcium chloride" by Stanley Graham and Grace H Anderson (p 903)—and Dr Vines's appeal for information on parathyroids (June 7th p 1028), show the recognition of the growing importance of calcium metabolism in modern medicine These papers have suggested that a few observations from one who has been studying the use and elimination of calcium may be suggestive

Maxwell has shown that solutions of various calcium precipitants are without effect when placed on the motor area of the cerebrum, but immediately induce convulsion when they penetrate the underlying white fibres This is the more interesting as the jaw is one of the most actively affected portions The order in which precipitants act when given by mouth is first as cathartics, due to increased peristalsis from stimulation of intestines, then in larger doses producing peripheral twitchings—involuntary and irregular—then contraction of the muscles of the extremities and the stimulus to the renal epithelium produces marked diuresis Very large doses produce peripheral twitchings of the jaw with continuous chewing—which may be perhaps used as a sign of the need of calcium

These symptoms are probably really produced by the excess sodium stimulation, due to diminution of the calcium by the disturbance of the Na Ca ratio as shown by Ringer forty years ago

It will be a matter of the greatest importance to find out whether it is the acidosis as suggested in the article or calcium deficiency which is the cause of the symptoms The use of ammonia phosphate and neutral calcium phosphate should settle this Far the most active salt of calcium in my hands has been the diacid phosphate, which is apparently immediately absorbed, and consequently the dose is much smaller—about 1 to 2 grains, as often as necessary

I would also suggest the use of parathyroid as I have found it to act well in all cases which may be called calcium deficiency diseases In the administration of many thousands of doses of parathyroid—to more than a hundred cases—the laws for its administration have been found to follow closely those of calcium It is disadvantageous to use it in high blood pressure, renal insufficiency, and cardiac strain—in fact, these diseases I have recently classified as acid diseases[1]—whereas it is always administered with advantage in alkaline cases due to assimilation deficiency, such as tuberculosis, gastric neurasthenia, chronic sepsis, and in advancing years, where biochemical elimination deficiency does not predominate The rule for restraint in giving both parathyroid and calcium is that where increased viscosity of the blood would be disadvantageous both are contraindicated

The parathyroid used up to date is sheep's parathyroid as supplied by Oppenheimers in 1/50 grain The action is probably different from that of parathyroid obtained from cattle, as I notice the doses of the tablet of parathyroid obtained from cattle is 1/10 grain I have found that calcium-sensitive people cannot take even a single dose of 1/50 grain without getting unpleasant symptoms—precordial discomfort or uneasiness being the first, then tachycardia and paroxysmal attacks In one case dizziness and slight unconsciousness were produced which ceased immediately on its discontinuance, in another paroxysmal dyspnoea at night causing desire for air rather than asthmatic symptoms It is contraindicated in asthma my present rule is to cease the administration of parathyroid if there is precordial discomfort or stabbing pains in the region of the heart I give one or two 1/50 grain daily, never more

Calcium acts apparently, as Ringer showed long ago as a cardiac and muscular regulator The effect on suitable cases co-ordinates with this idea Suitable cases feel a considerable improvement in general tone or sense of well-being and increased capacity for exertion and nervous control—in fact, what may be called metabolic well being from an improved balance of the vital ledger To the pale anaemic alkaline type it is peculiarly valuable —I am, etc,

HENRY A ELLIS

London W June 11th.

THE USE OF THE MICROSCOPE AT SEA

SIR,—It seems desirable to bring to the notice of surgeons serving at sea the value of carrying a microscope In rough weather it is impossible to work with it but on many voyages the microscope can be used four or five days out of seven A little difficulty arises in laboratory procedure, which naturally does not exist on board ship, but with patience and ingenuity this can be overcome I work in my cabin Empty tobacco tins serve to warm slides in, the lids receive the staining agents and the open port is always at hand for emptying waste material into the ocean The feeling of confidence and precision which microscopical examination gives is well worth the small trouble involved There is plenty of spare time on board ship, especially in the afternoons and the study of an interesting and instructive aid to clinical medicine and surgery passes this time with benefit to both practitioner and patient

Two cases of chronic gleet undiagnosable by ordinary examination, were recently detected by this means In smears taken from the meatus urethrae streptococci, staphylococci diphtheroid organisms and paired cocci morphologically suggestive of gonococci were discovered Gram's method was not available but the result of methylene blue staining was sufficient for a presumptive diagnosis

The staining and recognition of tubercle bacilli in easy pus in urine can be recognized, malarial pigmentation in blood corpuscles seen, or the characteristic organism of amoebic dysentery, and in numerous other ways the practical utility of carrying a microscope is almost daily brought home to the ship surgeon —I am, etc,

H W WEBBER, M S, M D Lond, F R C S Edin.

Charlton Oxon late Lieut.

THE R A M C (T A)

SIR —I am entirely in agreement with Captain Goodbody when he states in his letter (June 7th p 1023) that the position of the R A M C (T A) is an unsatisfactory Not only is this true with regard to the deficiency in officers, but it is also true with regard to the present organization and establishment I have always insisted on the fact that three field ambulances are essential for a practical scheme for R A M C services in each division Upon the efficient

[1] *Reaction in Relation to Disease.* H. A. Ellis (Lewis).

training of these field ambulances depends the success or failure of the medical services of a division in war time and in peace time

I am pleased to see that the British Medical Association is urging the War Office to return again to the pre war establishment of field ambulances and casualty clearing stations, although the latter need not necessarily have any relation to the division As to the shortage of officers, we are gradually recruiting young medical men, and we are relying on the definite statement that in future emergencies medical men will only be taken through the Territorial Force It is comparatively easy at the present time to obtain medical officers who have seen service in the last war and in the South African war, but it follows that a number of these are over age, and by carrying on with these keen and patriotic officers we are hiding the fact that the younger men are not joining up as they should

In peace time and in war time the spirit of friendship and confidence which exists between a combatant unit and its medical officer, who has been trained with it, is very marked, and a great asset to both This cannot exist in the case where a temporary medical officer only arrives when the emergency occurs, and is unknown to the regiment The amount of time which a medical man need give to his work as a Territorial medical officer can be spared by the majority, and the fact remains that the profession has a duty to perform in showing the country that its members are not wanting in patriotism and are as anxious to secure an efficient second line of defence as any other branch of the community

Young medical men will never regret their association with the Territorial army, and they will secure many good friends and at the same time have the satisfaction of knowing that they are serving their country and making themselves efficient for any emergency I shall be pleased to give information to any who care to communicate with me, and would urge intending applicants for commissions to act at once, so that they may qualify for the annual camps —I am, etc ,

E ARNOLD WRAITH,
Colonel A M S (T A) A D M S
46th (N Mid) Division

Derby, June 17th

INDIVIDUAL MEDICAL DEFENCE

SIR,—In your issue of June 14th (p 1072) Dr Henry Robinson, a member of the council of the Medical Defence Union, writes critically and somewhat caustically of a letter of mine on the subject of individual medical defence in your issue of June 7th (p 1029)

He takes great exception to a statement of mine, which was offered as a probable explanation why "much less than half of the practitioners of this country belong to a defence society," and goes on to assert that it is nothing less than a *suggestio falsi* to hint that the defence societies as at present constituted may not be popular There are three defence societies, and if they only contain less than half of the profession, how can they be said to be popular? Perhaps Dr Robinson will explain

I quite agree that in recent years there has been a great increase in the membership of these societies, but this is due to the alarm which has been raised during these years by the revelation of the vulnerability of the profession to attack, and by reason of no alternative protection It is this same alarm that is stimulating many members of the profession to induce the British Medical Association to take up this work on behalf of its members, and to offer a better security than possibly can be done by any of the smaller organizations

Dr Henry Robinson also accuses me of using an "innuendo" in my statement, 'the council of the defence society may decide in an arbitrary and unjust fashion," and proceeds to give it "prompt exposure" I did not mean, of course, that the council deliberately decides in an arbitrary and unjust fashion it does its best with its eye on the conservation of the society's funds, possibly by some sort of compromise, but it is not infallible, as Dr Henry Robinson admits, and may make mistakes A victim of these mistakes, with no appeal or redress, is likely to use stronger language than "arbitrary and unjust" when the council's decision reaches him

While one is glad to hear of the careful deliberations of the council of the Medical Defence Union in connexion with the cases brought before it, I should like to hear what Dr Robinson thinks of the policy of the Canadian Medical Protective Association, as enunciated by its president I quote from the JOURNAL of July 7th, 1923 (p 35)

"Following Dr McLean, Dr R H Powell of Ottawa, President of the Canadian Medical Protective Association, referred to actions taken by the Protective Association for malpractice, negligence, or want of skill As we go on,' he said, 'the greater we see the value of organized defence, of straightforward fighting, of no compromise'"

I have no animus against the defence societies, nor do I wish to excite prejudice by tricks of logic or by the arts of the special pleader The defence societies have done good work since the early years of the present century, when the British Medical Association failed to take up this work although urged to do so by many of its members Now the problem of defence is getting too big for a number of small societies, and should be undertaken by the Association as representative of the whole profession

I come now to the more serious part of Dr Henry Robinson's criticism, wherein he throws contempt on my suggestion that a Division should have a voice in the decision when dealing with difficult cases Dr Robinson has evidently a very poor opinion of the wisdom and judgement of Divisions in connexion with medico-legal affairs That is not my experience The Division here—not as a Division but as a committee of practitioners, for the Association would have nothing to do with the case—prosecuted a unique and difficult case before the General Medical Council to a successful conclusion, and paid all the expenses Nor do I agree that there is such apathy in the Divisions as Dr Robinson avers When any matter crops up that touches men to the quick it is wonderful how rapidly they can be brought together, and I would not anticipate the long delay suggested by Dr Robinson In spite of the poor opinion which Dr Robinson has of the venture I have made with regard to one aspect of the defence question, there are many other aspects which are worthy of consideration in connexion with the Association taking up this work For example, what relation is there between the Association's hospital policy and the legal liability of hospital staffs? The present policy of the Association is that members of hospital staffs shall receive remuneration in amounts proportionate to the hospital grade of a patient, the lowest being a "token" payment in recognition of a principle May not this render them more liable to actions at law for negligence or unskilful treatment than formerly, when the work was done on a wholly charitable basis? Even in a case of a "token" payment received in respect of a workman it might be possible for such workman, backed by his trade union, to institute an action against a surgeon for some alleged negligence or unskilfulness by reason, say, of a fracture resulting in malunion with deformity and shortening

Dr Robinson's belief that the British Medical Association would do well to leave this matter alone is not absolutely fixed Thus there is just the possibility that he may yet be sitting on the Defence Committee at the big house near Russell Square, giving the Association the benefit of his valuable experiences as a member of the council of the Medical Defence Union —I am, etc ,

J S MANSON

Warrington June 21st

THE GENERAL MEDICAL COUNCIL AND THE LAXITY OF CERTIFICATES AND TESTIMONIALS

SIR,—In the JOURNAL of June 7th, under the proceedings of the General Medical Council, there appear reports of cases of the above nature

Without meaning to be discourteous to the Council, there does not appear to be given due consideration to the drastic changes in the conduct of general practice of the last few years, and as these changes have taken place it would be expected also corresponding changes would take place in the judgements of the Council

The general practitioner's surgery of to-day is one continual granting of certificates, and in a large number of cases without payment The public appear to think it is

the doctor's duty to give it at a moment's notice as many certificates as they may think fit to ask for, and it is regarded as a grave offence if there is any demur on his part

When a working man is sick it is not unusual for him to ask for four or five certificates, as follows (1) national insurance, (2) one or more friendly societies (3) some newspaper's insurance department, (4) a private slate club (5) the man's employer Many a doctor grants in this way twenty to fifty certificates in a day and often with no assistance It is not surprising, then that there is laxity and carelessness, which are really symptoms of mental overstrain, and with such a state of affairs these mistakes and errors, which may have occurred in all good faith, should not merit a vote of censure by the Council

The Council appears to have three judgements (1) case unproved, (2) vote of censure, (3) erasion from the *Register* Has not the time arrived when the Council should consider some intermediate judgement or judgements?—I am etc,

Chichester June 18th. ARTHUR M BIFFORD

Obituary

Dr EDWARD CHICHESTER of Colchester, who died recently aged 57, was the fourth son of Captain Nugent Chichester of the 7th Dragoon Guards and a member of the ancient family of Chichester of Calverleigh Devon He was educated at Prior Park, Bath, and at the London Hospital Medical College He took the diplomas of M R C S, L R C P Lond in 1891, and graduated M B Lond in 1894, gaining honours in anatomy at the intermediate M B At the London Hospital he held the offices of house-surgeon, house-physician, and resident accoucheur Some twenty-three years ago he went to Colchester, where he established a large practice He was honorary surgeon to the Essex County Hospital, and in recognition of his special services to the institution was recently made a vice-president He was formerly chairman of the North Essex Division of the British Medical Association Dr Chichester is survived by his widow, two sons, and a daughter The funeral took place at Calverleigh on May 31st

Old graduates of Queen's College Belfast, will regret to hear of the death of Dr JOHN FREDERICK GORDON on June 17th at Maghull, near Liverpool He was educated at the Royal Academical Institution Belfast, and took his arts course in the old Queen's University, graduating B A in modern languages and winning the senior scholarship in modern languages in his college He obtained the M D degree of the Royal University of Ireland in 1886 and went to Maghull, where he remained ever since He saw the foundation of the epileptic colony at Maghull, and after Dr Alexander's death, in 1919, was appointed medical superintendent of the colony His success in treating the inmates was fully appreciated by the committee and was a large factor in the esteem in which the institution is held For many years he was an international lacrosse player, and possessed an attractive tenor voice He was very popular with all with whom he came in contact The large attendance at his funeral showed something of the esteem in which he was held and the regret widely felt at his death He married Miss Jane Gardiner, who died about eight years ago He is survived by one daughter, with whom sincere sympathy is felt

Dr JOHN HONEYFORD, who died recently, was educated at the University of Edinburgh, where he graduated M B, Ch B in 1910 and M D in 1912, and took the F R C S E diploma in 1914 He served as senior clinical assistant in the ear, nose, and throat department of the Royal Infirmary, Edinburgh, and was for twelve months senior house-surgeon to the Leicester Royal Infirmary and Children's Hospital He volunteered for war service and obtained a commission in the R A M C He served at the Edinburgh War Hospital Bangour, after which he became surgical assistant at the military hospital, Edinburgh Castle In 1917 he was appointed senior resident surgeon at the Bristol Military Orthopaedic Centre, and in June 1918, surgeon to the Beaufort Hospital, with sole charge of over 400 beds He was subsequently surgeon in charge of the Derry City and County Infirmary, but had to relinquish that post owing to ill health

Dr CLARENCE A J WRIGHT of Levtonstone, who died on May 28th, aged 58, was the son of Dr Arnold Wright durbagh surgeon to the Rajah of Mysore He received his medical education in Madras and the Surgeons' Hall, Edinburgh, took the Scottish triple qualification in 1889 and became F R C S Edin and L R F P S Glasg in 1898 For a time he was demonstrator of anatomy in the Presidency Medical College, Madras On his return to this country he started practice in Rochester Some twenty six years ago he removed to Leytonstone, where he achieved much success He had been associate editor of *Medical Electrology and Radiology*, and wrote many papers on radiotherapy and kindred subjects

We regret to record the death in Edinburgh, on June 1st, at the age of 74 of Dr ARTHUR JOHN VAUSE J P, who had practised for some thirty six years in New South Wales He studied medicine at the University of Edinburgh and graduated M B, C M in 1875 after which he served as resident physician in the university clinical wards of the Royal Infirmary Edinburgh and held junior hospital appointments at Leeds In 1878 he went to Australia, and after a short period as resident physician to the Sydney Hospital he began practice as a mental specialist, with a private hospital for the insane at Bay View House, Tempe, Sydney, where he resided until 1914 He then retired from practice on account of his health and returned to England. During the past three years he had lived in Tasmania, but returned to this country early this year Dr Vause joined the British Medical Association in 1884, and was for thirty years a member of the New South Wales Branch

Dr BRUCE FERGUSON, who died at Surbiton on June 10th, at the age of 60, graduated B A Camb in 1883 took the diplomas of M R C S, L R C P in 1890 graduated M B, B Ch in 1892 received his M D in 1895, and took the D P H of the English Conjoint Board in 1907 He received his medical education at St Mary's Hospital He was engaged for nearly thirty years in general practice at New Southgate where he gained the affection and respect both of his patients and his fellow practitioners He was on the medical staff of the Passmore Edwards Hospital Wood Green and for a time chairman of the council Dr Ferguson was author of *Aids to the Mathematics of Hygiene* and of many papers on ophthalmic subjects He leaves a widow, three daughters and a son, who, with a large circle of friends, will deplore his death.

Professor VAN DEYL, a well known ophthalmologist of Prague, has recently died at the age of 69

Universities and Colleges

UNIVERSITY OF OXFORD

AT a congregation held on June 19 h the degree of doctor of medicine (D M) was conferred upon N F Smith

The Rolleston Memorial Prize has been awarded to Francis John W Roughton Fellow of Trinity College Cambridge The prize, which is of the value of about £100 is given once in two years for original research in any subject comprised under the following Animal and vegetable morphology physiology and pathology, and anthropology

The University has accepted the bequest of the late Mrs. Constance Jenkinson of £1,216 for the foundation of a John Wilfred Jenkinson Memorial Lectureship in memory of her husband (a Fellow of Exeter College and a captain in the 12th battalion Worcester Regiment who was killed in the war for the encouragement and advance of research in comparative and experimental embryology

UNIVERSITY OF CAMBRIDGE

AT congregations held on June 21s and 24 h the following medical degrees were conferred

M D.—H. W Feather stone.

B CH.—C. G Taylor H. G Wiltshire.

QUEEN'S UNIVERSITY, BELFAST

DR R H. HUNTER, demonstrator of anatomy at University College, London, has been appointed lecturer in anatomy at Queen's University, Belfast

ROYAL COLLEGE OF SURGEONS OF ENGLAND

ONE HUNDRED candidates presented themselves at the examination for the primary Fellowship held from June 10th to 18th of whom thirty one were approved and sixty nine rejected The following are the successful candidates

J L Armour (Liverpool) Alfred H Baker (Belfast) H Barbash (Cambridge and St Bartholomew s) G M F Barnett (Otago and Middlesex) P G Bentlif (Cambridge and Middlesex) R H Boggon (St Thomas s) A. Byrne-Quinn (St Thomas s) F A Bryning (King s College and St. Mary s) H J Burrows (Cambridge and St. Bartholomew s) J B Crabtree (St Bartholomew s) J L Diggle (Melbourne and Middlesex) S W Drinkwater (Manchester) V T Ellwood (Oxford and St Thomas s) E S Frischmann (Manchester and St Mary s) R A Graff (Middlesex) W A Gray (Edinburgh and St Mary s) P Hack (Guy s) J A James (Sydney and Middlesex) P P S Kelman (Otago) V E Lloyd (Guy s) E E Mackay (Melbourne and Middlesex) J McMichael (Edinburgh and St Bartholomew s) D S Middleton (Edinburgh and St Mary s) F W G Nash (Middlesex) C H Osborn (Melbourne and Middlesex) C L Owen (Cambridge) A M Reid (Liverpool and Middlesex) J Roberts (Liverpool) M. P Susman (Sydney and Middlesex) S N Taylor (Manchester and St Mary s) C I Tuckett (St Mary s and Middlesex)

ROYAL COLLEGE OF SURGEONS IN IRELAND

THE following officers have been elected for the ensuing year *President*, Mr Robert Charles Butler Maunsell, *Vice President*, Mr Andrew Fullerton, *Secretary*, Sir Frederic Conway Dwyer, *Council*, Mr J B Story Sir Thomas Myles, Major General R H S Sawyer, Mr Arthur W W Baker, Sir Arthur Chance Sir Robert H Woods Mr R Lane Joynt, Mr Thomas Eagleson Gordon, Sir Frederic Conway Dwyer, Mr Alexander J Blayney, Sir William Taylor, Mr Trevor Nathaniel Smith, Mr Seton Pringle Sir William I de C Wheeler, Sir C Arthur K Ball Mr R Atkinson Stoney, Mr Edward Sheridan, Mr William Pearson, and Mr Adams A McConnell

The new President is a graduate in medicine and surgery of the University of Dublin He has been a Fellow of the Royal College of Surgeons since 1900 and was elected to the Council in 1904 Two years ago he was unanimously elected Vice President Mr Maunsell is the senior surgeon to Mercer's Hospital, having been appointed to the staff of that hospital in 1898 During the European war he was surgeon to the Castle Red Cross Hospital and consulting surgeon to the Hermitage Red Cross Hospital, and for a time served in France as surgical specialist to the "Dublin" (83rd) General Hospital

SOCIETY OF APOTHECARIES OF LONDON

THE following candidates have passed in the subjects indicated

SURGERY —F James R D M Tims
MEDICINE —A R Chaudhri H T Chiswell C E Donaldson A Kotbi
FORENSIC MEDICINE —W Bentley H P Burns A R Chaudhri A. Kotbi J Wilson
MIDWIFERY —R D Jones W R A Line, M. Schwartzman J Wilson

The diploma of the Society has been granted to Messrs H T Chiswell, F James, A Kotbi, and W R A Line

The Services.

INDIAN MEDICAL SERVICE

ANNUAL DINNER IN LONDON

THE annual London dinner of the Indian Medical Service was held at the Trocadero Restaurant on June 18th, when Colonel J J Pratt, F R C S, was in the chair The number of officers present was 89—the largest attendance at these meetings save on one previous occasion There were two guests, a representative of the *British Medical Journal* (Sir Dawson Williams) and of the *Lancet* (Dr E C Morland) The following is a list of the officers present

Major Generals Sir R H Charles G C V O K C S I T Grainger C B C F A Harris, C S I Sir P Hehir K C I E C B, C M G, H Hendley, C S I, J B Smith, C B C I E.
Air Commodore D Munro C B, C M G
Colonels J Crimmin V C, C B C I E G M Goodbody, C I E. D S O T A Granger, C M G, C R M Green A J Macnab C B C M G, J J Pratt H. Austen Smith C I E, T Stodart C I E., R G Turner C M C, D S O C N C Wimberley C M C
Lieut Colonels A. Alcock, C I F, I Anderson C I E. G T Birdwood Sir T J Carey Evans M C, A W Cook Young D G Crawford J M Crawford O B E. H M Cruddas C M G, O B E R H Elliot F F Elwes C I E J Entrican C I E A M Fleming J K S Fleming O B E A B Fry C I E., D S O, H Greany J W Grant E. C Hodgson E V Hugo C M G J G Hulbert C H. James C I E J G Jordan H C Keates R S Kennedy D S O M C, H Kirkpatrick J C G Kunhardt, Clayton Lane W B Lane C I E. C B E, J Lloyd-Jones J McC A. Macmillan H. M. H. Mellnuish D S O A Miller R. K Mitter T R Mulroney F O'Kinealy C I E C V O, S E. Prall J W F Rait Sir L. Rogers C I E. R Steen A Street C Thomson W H Thornhill C Tate J H. Tull Walsh H J Walton D P Warliker C G Webster R. T Wells, C E Williams, H R Woolbert, A C Young, T C McC Young
Majors H. C Brown C I E H J M Cursetjee, D S O W J Fraser D L. Graham O B E. N H Hume L C Irvine E. O G Kirwan P S Mills W S Nealor A. N Palit, M. L. Puri, M. J Quirke, J G B Shand H H Thorburn C I E.
Captains A Briggs, J C De G Kumar J G McCann V R Mirajkar S Nag V S R Pandit R. Sweet, D S O

ROYAL ARMY MEDICAL CORPS

Major General J R McMunn, C B, C M G late R A M C, is appointed Honorary Surgeon to the King vice Major General E M Pilcher, C B, C B E, D S O late R A M C (ret)

Major General S F St D Green C B E, late R A M C is appointed Honorary Physician to the King, vice Major General Sir W W O Beveridge, K B E, C B, D S O, late R A M C (ret.)

DEATHS IN THE SERVICES.

Lieut Colonel Charles William Stanford Magrath, R A M C (ret), died at Ballycastle, co Antrim, on May 19th, aged 68 He was an Ulsterman, but was born at St Bees, in Cumberland, where his father was a Church of England clergyman He was educated at Rossall, at Guy's, and at Edinburgh, where he graduated M B and C M in 1880 and M D in 1892 He entered the army as surgeon in July, 1881, became lieutenant-colonel after twenty years service, and retired on February 2nd 1911 He served in the Egyptian war of 1882, was present at the action of Tel-el Kebir and received the medal and the Khedive's bronze star In the Sudan campaign of 1884-85 he was with the Nile column receiving a clasp to the Egyptian medal He served also in Burma in 1886-87, gaining the Indian frontier medal with two clasps Soon after the recent war began he rejoined for service, and after serving for a time in the Southern Command was for about a year in charge of a hospital ship then for some three years he was employed on various duties in and around Portsmouth The last few years of his regular service were spent at Hilsea at the north of Portsmouth, and after his retirement he settled at Cosham, close by After the end of the war he moved to Ireland and went to reside at Ballycastle He had only one child, Major Meyrick Magrath, R F A, who was killed in action towards the end of the war, his wife also died soon after they went to Ballycastle

Lieut Colonel Herbert Ward Austin, R A M C (ret), died at Plymouth on February 3rd, aged 59 He was born at Poplar, was educated at St Bartholomew's Hospital Medical School, and took the M R C S and L R C P Lond in 1885 He entered the army as surgeon in 1886 became lieutenant colonel in 1906 and retired in 1911 He served in the South African war in 1900-01, when he was on garrison duty at St Helena and received the medal. After his retirement he was employed as medical officer at Fort Stamford Staddon

Surgeon Commander Norman Lloyd Richards, R N (ret), died at the Royal Naval Hospital Haslar, on May 28th He was educated at Guy's Hospital Medical School, took the M R C S and L R C P Lond in 1890 and after serving as clinical assistant and ophthalmic assistant at Guy's entered the navy he retired after the war when he settled at Lyme Regis, Dorset

Medico-Legal.

A HERBALIST'S CONVICTION

THE Court of Criminal Appeal (the Lord Chief Justice, Swift and Acton J J) on June 23rd, 1924 refused leave to appeal against conviction and sentence to five years' penal servitude for false pretences passed upon Clement Humphrey, a herbalist, of Prichard Street, Chorlton on Medlock, Manchester, at Manchester Assizes

The Lord Chief Justice, giving judgement dismissing the application, said the prisoner was a West Indian who undertook to cure epilepsy, rheumatism, tuberculosis, nervous depression, and other diseases, and the evidence showed that in all these cases there were no cures There was ample evidence on which the jury might find that it was a clumsy imposture, and there was no reason for the court to interfere either in the matter of conviction or sentence

Medical News.

DR JOHN PURSER, Regius Professor of Physic at Trinity College, Dublin, has offered £10,000 to the College to be used for the benefit of the School of Physic and the Schools of Experimental and Natural Science

THE RT HON JOHN WHEATLEY, M P, *Minister of Health*, has appointed Mr S F Perry, M P, to be his Parliamentary Private Secretary (unpaid)

DURING the Annual Meeting of the British Medical Association at Bradford a Ladies' Golf Competition has been arranged It will be an eighteen hole medal competition on handicap, to be played at the Bradford Golf Club, Hawksworth, on Wednesday, July 23rd Prizes will be given by Arthur J Hill, Esq, J P, President of the Bradford Golf Club The competition will be held under the Ladies' Golf Union rules and will be in two divisions First division handicaps, 1 to 20 inclusive, second division handicaps, 21 to 36 Conveyance will be provided from the Church House for competitors and others Luncheons and teas provided at the Club House Entries may be sent to Mrs Buchan, 15, Heaton Grove, Bradford, as early as possible Other information will be found on the notice board in the Social Club

THE annual dinner of the Federation of Medical and Allied Services was held on June 20th at the Connaught Rooms, London, with the President, Sir Berkeley Moynihan in the chair. A letter to Sir Thomas Horder from Mr Ramsay MacDonald expressed the Prime Minister's regret at being unable to attend, and his good wishes for the success of the Federation's efforts in consolidating the agencies that work for the health and comfort of the community. The chairman in proposing the health of the Minister of Health extended to Mr Wheatley a very cordial welcome, remarking that the Federation had no political attachments. Mr Wheatley in reply spoke of the useful purpose that would be served if the objects of the Federation were fully realized and the collective opinions of the medical and allied professions were turned to account. National organization for applying medical knowledge would enable the country to use its stock of health to the utmost advantage. The toast of prosperity to the Federation was proposed by Sir W. Joynson Hicks, who was Minister of Health in the last Government. He prophesied a great extension of national health insurance, a co-ordination of pensions and insurance against old age, and provision for widows and fatherless children.

THE committee of the Hayling Mosquito Control, of which Sir Richard Gregory, D.Sc., is chairman, has issued a well illustrated report for the year ended May 1924, drawn up by the honorary director, Mr J. F. Marshall, M.A., F.E.S. A system of control was organized in 1920 to carry out experimental investigations relating to the mosquitos which every summer and autumn create an almost intolerable nuisance in a number of resorts situated along the coast of Dorset, Hampshire, Sussex, and Kent. The nuisance is due chiefly to a culicine species of mosquito—*Ochlerotatus detritus*—which breeds in stagnating salt water and has a wider range of flight than most freshwater mosquitos. The scheme of work has been to locate the different breeding places and to drain or fill them up. A good deal of success has attended the work both in Hayling itself and in Gosport, in which an organization based on the Hayling Control was started last year. The total cost for the year was £232, and of this amount £80 was provided by the Ministry of Health and £75 by the Havant Rural District Council. Similar work initiated by Surgeon Commander D. H. C. Given, R.N., has been done in the Alverstoke district with appreciably good results.

THE annual inspection of the National Physical Laboratory at Teddington was attended by a large number of visitors, who were received by Sir Charles Sherrington, O.M., President of the Royal Society, and chairman of the board of management of the laboratory, by Sir Arthur Schuster, F.R.S., and by the director, Sir Joseph E. Petavel, D.Sc., F.R.S. All the departments were open for inspection and in many of them experiments were shown. In the aerodynamics department the wind channels were in operation and in the national tank a model in load condition with screw propeller. The wireless division attracted the interest of many amateurs. In the physics department methods of measuring daylight illumination in various types of rooms were demonstrated by means of large scale models. In the electrotechnics department the arrangements for approval of ships' navigation lights were explained and also the methods of measuring standards of luminous intensity in terms of the international candle. The other departments open for inspection were the engineering, the metallurgy, and the metrology.

SIR DONALD MACALISTER, Bt., K.C.B., Principal and Vice Chancellor of the University of Glasgow and President of the General Medical Council, has been admitted to the roll of freemen of the city of Glasgow.

As the result of the election of direct representatives on the Dental Board of the United Kingdom the following have been duly elected for England and Wales: Qualified dentists—Mr W. H. Dolamore and Mr W. R. Ackland; dentists registered under the Acts of 1921 and 1923—Mr Butterfield and Mr Bowen. The election took place under the scheme of the Proportional Representation Society. As there was only one nomination in Scotland and one in Ireland, Mr William Guy (Edinburgh) was elected for the former and Mr John James Andrew (Belfast) for the latter.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that the only post-graduate work offered for the first week of July is that which is available at the various hospitals to holders of general tickets under the Fellowship of Medicine, as the first special course in July does not begin until the seventh of the month. As announced last week, this will consist of a series of lectures and demonstrations on diseases of the eye at the Royal Eye Hospital, Southwark. An intensive course in general and special medicine and surgery will begin at the North Eastern Post-Graduate College, Tottenham (the Prince of Wales's General Hospital), on July 21st. Three special courses have been arranged for the holiday month of August, so that post-graduates interested in children's diseases, chest diseases, or neurology will be able to study these subjects at the Queen's Hospital for Children, Bethnal Green, from August 11th to 23rd, at the Brompton Hospital during the same period, and at the West End Hospital for Nervous Diseases from August 11th to September 6th. Copies of the syllabus of all courses and particulars regarding fees, etc., can be obtained from the Secretary, Fellowship of Medicine, 1, Wimpole Street, W.1.

SIR ARTHUR KEITH, F.R.S., will present the prizes to the successful students at the London Hospital Medical College on Monday, June 30th, at 3.30 p.m.

THE Minister of Agriculture finds that "a large number of the recent outbreaks of foot and mouth disease have occurred in slaughterhouses, and while there are indications that the severity of the disease is diminishing the Ministry of Health has thought it desirable to send a circular letter to sanitary authorities asking them and their officers to devote special attention to the inspection of meat in order to ensure the prompt detection of meat or offal showing indications of the disease.

SIR JAMES PURVES-STEWART has been elected an associate member of the American Neurological Association.

THE annual meeting of the Society for the Study of Inebriety will be held at 11 Chandos Street, W.1, on Tuesday, July 8th, at 4 p.m. Sir William Willcox will deliver a short presidential address on the aims and work of the society, after which a discussion will be opened by Dr Walter Asten on the institutional treatment of the alcoholic inebriate and the drug addict.

THE International Labour Office at Geneva at the request of a meeting of representatives of disabled men of six European nations asked Dr Florent Martin, director of the Technical and Scientific Institute of Artificial Limb Fitting, Brussels to make a report on artificial limbs. An English version has just been issued and can be obtained (price 5) from the International Office, 26 Buckingham Gate, S.W.1. The report contains a useful summary of the principles of prosthetics and probably gives a good representation of Continental practice. Unfortunately Dr Martin is not well informed as to British practice before the war, and but imperfectly as to the improvements effected during and since the conflict. He divides artificial limbs generally into European and American, but he would have been more accurate had he substituted Continental for European, seeing that British practice has long differed much from that described by him as European. For instance, in the United Kingdom the sockets of most artificial legs have long been made of wood and not of leather as in the European patterns according to Dr Martin. Despite these drawbacks the report represents a praiseworthy attempt to provide amputees with a cheap and complete guide to the selection of an artificial limb, and it may be hoped that a second edition will soon be called for in which the defects of the first will no doubt be remedied.

IN connexion with the arrangements for the annual meeting of the Medico-Psychological Association at Belfast from July 1st to 5th the paper by Dr F. R. Martin on the reaction of the blood to the ingestion of protein in the psychoses will be given on July 2nd and not July 1st as previously arranged. It will be followed by a paper by Dr Hoskins on the examination of cerebro-spinal fluid with demonstration.

THE Royal Sanitary Institute has elected the following distinguished foreign sanitarians to be honorary Fellows: Professor Léon Bernard, Institute of Hygiene in Paris; Dr Carlos Chagas of the National Health Department, Brazil; Surgeon General Hugh S. Cumming, U.S.A. Public Health Service; Professor C. Eijkman, Utrecht; Professor J. J. Van Loghem, Amsterdam; Professor Th. Madsen, Director of the State Serum Institute, Copenhagen; Professor Donato Ottolenghi of the University of Bologna; Dr W. H. Park, Bacteriologist to New York City; M. Albert Thomas, Director of the International Labour Office, Geneva; and Mr O. Velghe, of the Department of Hygiene in the Belgian Ministry of the Interior.

THE Chartered Society of Massage and Medical Gymnastics is about to award two Lucy Robinson bursaries, each of the value of £20—one to a student in training, the other to a masseuse who holds a certificate in massage, is a member of the society, and is in need of assistance to obtain further instruction in medical gymnastics or medical electricity. Applications must be received by the secretary of the society, 157 Great Portland Street, London, W.1, not later than June 30th.

THE issue of the *Zentralblatt für Chirurgie* of May 31st commemorates the centenary of the birth of Gustav Simon, an eminent German surgeon and founder of the German Society of Surgery, who died in 1876.

DR R A LYSTER M O H Hampshire and lecturer in Public Health at St Bartholomew's Hospital, has been elected President of the Society of Medical Officers of Health for the Session 1924-25, he will deliver his presidential address on October 17th, and on the evening of the same day the annual dinner of the society will be held at the Hotel Cecil

MEMBERS of the British Medical Association attending the Annual Meeting at Bradford next month who desire to spend the week end at Scarborough can obtain accommodation at the Crown Hotel or at the Royal Hotel, Scarborough, the terms being 40s and 35s respectively for the week end

ON June 14th the "King's Services Choirs" gave their fifteenth concert at the Chelsea Polytechnic Institute The members are ex service men from the Ministry of Pensions Hospitals, trained by teachers provided by the Vocal Therapy Society The men are mainly sufferers from neurasthenia, and if the advance in the quality of the singing as compared with the former concerts is to be taken as a criterion, the singing and the deep breathing it involves has worked very wonderfully

THE Rev John W Arthur, M D , has been appointed an unofficial member of the Legislative Council of the Colony of Kenya

WE have received through the Red Cross Society of Russia (150, Southampton Row) a copy of a new periodical, *The Russian Eugenical Journal*, edited by Professor Koltzoff of Moscow Among the papers it contains is one by the editor on the genetical analysis of the psychical functions in man, and another by Czulkoff on the genealogy of the Tolstoi family

Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429 Strand, W C 2 on receipt of proof

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand London, W C Attention to this request will avoid delay *Communications* with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL 429 Strand W C 2.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange) The telegraphic addresses are

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westrand London*

MEDICAL SECRETARY *Mediocra Westrand London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 4737 Dublin), and of the Scottish Office 6 Rutland Square Edinburgh (telegrams *Associate, Edinburgh* telephone 4361 Central)

QUERIES AND ANSWERS

"M D" asks for information concerning Sicily as a winter resort for a man suffering from fibrositis

"W P K." asks for information regarding a preparation for subcutaneous or intramuscular injection which is used in the treatment of exophthalmic goitre

'J T' asks (1) how fouled closet seats such as are found in schools are best cleaned and (2) for an easy and efficient method of preventing a patient slipping down in bed

(1) Where the seats are fouled with faeces it is the mucus they contain which makes the filth stick Mucus is soluble in weak alkaline solutions and precipitated by weak acids Warm water in which ordinary washing soda is dissolved is recommended A rag soaked in the solution should be laid on to soften the filth after any accumulation has been scraped off with a blunt knife (2) Raising the foot of the bed 9 or 10 inches or placing a pillow secured by a belt or strap to the top of the bedstead under the hams of the patient Several bedrests to meet the difficulty have been designed and could probably be obtained from a dealer in sick room furniture

OPTIC ATROPHY IN TABES

"S B" asks for advice in the treatment of optic atrophy in locomotor ataxia The other symptoms present are Argyll Robertson pupils and absence of knee jerks For a year the patient had incontinence, but this disappeared three years ago *after treatment by thyroid extract* The Wassermann reaction is negative Neosalvarsan, iodides, and strychnine have been used, but loss of vision during the last four years has been progressive

LETTERS, NOTES, ETC

A GRAIN OF OATS IN THE CONJUNCTIVA.

DR W T G BOUL (Ipswich) writes It is possible that the following may be of some interest to the readers of the BRITISH MEDICAL JOURNAL On May 9th, 1924 a child, aged 6, was brought to me by the father, who complained that for some months past one eye had been painful and bloodshot There was some conjunctivitis and on pressing down in the lower eyelid a large grain of oats, over a centimetre in length, was seen and easily extracted The grain was swollen quite black, and sprouting, it had eroded into the mucous membrane The most interesting part of the case is the history In September 1923, the child whilst playing in a corn mill had a handful of oats thrown at his face, he immediately complained of pain, and said something had gone in his eye Doubtless the grain had remained in the eye for eight months, it is remarkable that so little damage had been done

GONORRHOEAL IRITIS

DR W W BOWDY (London) in the course of a letter, writes That a forgotten attack of gonorrhoea may be the cause of symptoms remote to the uro genital tract, many years after infection is often overlooked, hence the value of the paper by Mr L R Chambers on gonorrhoeal iritis in your issue of May 3rd (p 781) Such a case of chronic recurrent iritis lasting over ten years I described in a paper some years ago (*Practitioner*, October, 1921) High blood pressure and sclerosis of the arteries arising in middle aged men is often due to a chronic absorption of toxins from a sealed" gonorrhoeal prostatitis and vesiculitis, but unfortunately is not always recognized Such a case I have at present under my care a clerk with a blood pressure of 240 mm and its consequent sequelae He had been treated by several physicians without much benefit He consulted me as he had become retrospective as regards his sexual history I found his prostate enlarged and was able to express masses of purulent debris containing gonococci After a fortnight's treatment the blood pressure fell 50 mm Such cases are not uncommon, but attention is not drawn to the uro-genital organs as no local symptoms are complained of

THE USE OF STRYCHNINE IN SHOCK

Dr I DAVID (Colombo Ceylon) writes On page 632 of the BRITISH MEDICAL JOURNAL dated April 5th, 1924, in reviewing the book *Clinical Memoranda for General Practitioners*, by Alex. Theodore Braid and John Robert Keith, you state that 'the use of strychnine is advocated at one place while at another Crile is quoted in authority against it" I hope you will forgive me if I point out that, according to Crile, gr 1/10 of strychnine increases shock, but gr 1/50 repeated each hour reduces it

VILLAGE LECTURERS

MR WILFRED MARK WEBB honorary secretary of the Selborne Society (The Hermitage, Hanwell W 7), writes For the last ten years the Selborne Society has systematically sent out lecturers to societies and schools The list for the coming season has just been published, and it may be said that although the original object of helping small societies to get something really good has never been forgotten, so many schools and important bodies have taken advantage of this educational side of the society's work that it is intended to emphasize what can still be done for village clubs and charitable organizations by issuing a special list for them It will contain the names and subjects of practically all the existing lecturers, for the unanimity with which they offered to help where possible is most striking Others with a special desire and aptitude for the work will be added to the new list and the main object of this letter is to ask those whose livelihood does not entirely depend upon their lectures, but who *have an interesting story to tell* to send in their names to me with a view to their being included

NO TIME TO BE BRIEF

IT is customary to attribute the only excuse for prolixity to the Scottish minister who apologized for the length of his sermon by alleging that he had been too busily engaged to make it short Mr Alban Doran informs us that the original source is in Pascal's *Lettres Provinciales* (end of sixteenth letter 'aux Peres jésuites') "Je n'ay fait celle-cy plus longue que par ce que je n'ay pas eu le loysir de la faire plus courte"

VACANCIES

NOTIFICATIONS of offices vacant in universities medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 36 37 40 and 41 of our advertisement columns and advertisements as to partnerships assistantships, and locumtenencies at pages 38 and 39

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 307

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

512. An Atypical Case of Acute Leukaemia.

S. I. DE JONG and J. OULT (*Bull. et Mém. de la Soc. Méd. des Hôp. de Paris*, February, 1924, p. 123) record the case of a girl aged 17 with a large mediastinal tumour which gave rise to no symptoms and appeared to belong to that very rare group known as haematopoietic tumours. Shortly before death the patient presented the typical syndrome of acute leukaemia. The girl was admitted to hospital for severe epistaxis, and died two days later. At the subsequent examination a large intrathoracic tumour was found yellowish white in colour and independent of the thoracic organs. There was also a tumour in the left ovary similar in appearance and consistency. Examination of the blood showed 805,000 red cells and 258,000 white cells per cubic millimetre. The pathology of the condition is obscure where leukaemia is associated with the presence of new growth. The case presented the characteristics clinically of a lymphosarcoma but the metastases differed in the various organs. For the most part there was an infiltration with lymphocytes as seen in leukaemia and well shown in the kidneys, whereas the ovary contained a true secondary deposit of a neoplastic type. The case appears intermediate in type between a leukaemia and a sarcoma, and it suggests that leukaemia may be a real cancer of the blood as suggested by Banti. The mediastinal tumour appeared to arise in the thymus but it was not possible to identify any Hassall's corpuscles. It is not unlikely that the mediastinal tumour was simply a proliferation of the lymphoid tissue of the mediastinum.

513. Immunization against Diphtheria.

S. B. HOOKER (*Boston Med. and Surg. Journ.*, February 21st, 1924, p. 295) regards systematic application of the Schick test and active toxin-antitoxin immunization of susceptible adults as most effective preventive measures against diphtheria, especially among those who are likely to be in close and prolonged contact with the disease. The ideal is the production of active immunity in every child before reaching 2 years of age, since 80 per cent. of the deaths occur in children of pre-school age. Among those nursing the disease its incidence averaged 25 per cent., but since those susceptible have been immunized the incidence has fallen to 0·74 per cent. The danger of anaphylaxis is so extremely rare that it cannot be made an excuse for withholding the treatment, and even should horse serum hypersensitiveness become common it is possible to employ toxin-antitoxin mixtures in immune serum from the goat. Susceptibility to diphtheria is present in about 60 per cent. of young adults, and of these three-fourths can be immunized by one series of toxin-antitoxin injections, while a second series for those who remain Schick-positive is equally effective. By using the local reaction as a guide in dosage severe systemic reactions can be reduced without lessening antitoxin production and as a general rule a gradient of 0·2, 0·4, 0·6, 0·8, and 1 ml. can be followed. By such measures the incidence of clinical diphtheria in a tested group was reduced by 95 per cent.

514. Grape Sugar Injections in Accidental Pneumothorax.

H. FOGELBERG and I. WALLGREN (*Finska Läkaresällsk. förh. Handlingar*, January and February, 1924, p. 58) discuss the recurrent, accidental pneumothorax in otherwise apparently healthy persons when the communication between the pulmonary alveoli and pleural cavity remains patent or is reopened periodically. They record two cases in which the procedure advocated by Spengler in 1915 proved most successful in inducing a pleural effusion which obstructed the valve-like communication between the alveoli and the pleural cavity. He injected one ounce of a sterile 30 per cent. glucose solution in normal saline. The author's first patient was a lad, aged 16, in whom recurrent attacks of spontaneous left pneumothorax were associated with dyspnoea, pain, and displacement of the heart and mediastinum without cough or fever. The aspiration of air from the left pleural cavity was followed by only partial re-expansion of the lung, and an x-ray examination six days later showed that the collapse of the lung was again complete. The injection of one ounce of Spengler's solution provoked great dyspnoea and violent pain which passed off in a few hours without any pyrexia. Pleural effusion followed, and the lung gradually re-expanded, the patient being discharged in perfect health. In the second case morphine was given as a precautionary measure before Spengler's solution was introduced. There was no shock and only slight pain. A pleural effusion formed, and with its gradual absorption and that of the air in the pleural cavity, re-expansion of the lung occurred. The author adds that this treatment is indicated only when the pneumothorax is dry, air continues to escape into the pleural cavity, and it is considered desirable to obtain early re-expansion of the lung.

515. Atropine in Congenital Stenosis of the Pylorus.

A. JOHANNESSEN (*Gyeslrift for Laeger*, February 7th, 1924, p. 113) notes that in America and England the most popular treatment for congenital stenosis of the pylorus is operative, whereas in the Scandinavian countries the treatment is almost exclusively conservative. In support of the latter course he records in detail 7 cases in which atropine was given and recovery effected. That this recovery depended on the atropine was proved in 4 cases by the fact that when the atropine was temporarily withheld the vomiting recurred. To avoid unpleasant surprises due to idiosyncrasy to atropine the author began with only 1 minim of a 0·1 per cent. solution of atropine sulphate. His maximum dose was 2 minims of this solution given seven times a day—that is 0·7 mg. of atropine sulphate in all—and his average total dose for the twenty-four hours was 0·5 mg. The atropine was given half an hour before a meal so as to relax the pylorus at the most propitious moment. It usually took from ten to fourteen days for the optimum effect to be obtained, and it was found desirable in severe cases to continue the atropine for nine to ten weeks after the cessation of the vomiting. In 3 cases there were no signs of atropine poisoning, and in 3 other cases these signs were slight and negligible. But in one case the signs were alarming, and the drug was therefore withheld. This led to a return of the signs of pyloric obstruction, and the infant's state was so perilous that the risk was taken of resuming the atropine under renewed treatment, with which the infant recovered.

516. Registration of Tremors in Graves's Disease.

N. STENSTRÖM (*Hygiea*, February 15th, 1924, p. 90), has employed an electrocardiographic apparatus to record the tremor of the fingers in 49 cases of goitre suffering from hyperthyroidism. As the rate of tremor was found to be the same for the different fingers it was necessary only to register the movements of one finger, which in the author's series of investigations was the middle finger of the left hand. Although the tremor was continuous it proved to be irregular both with regard to extent and time, and the greatest rate of tremor per minute was 620 the extremes being 240 and 780. When the extent of the tremor was small and 0·01 mm. it could hardly be detected by the naked eye, and in such cases inspection alone may fail to reveal a tremor which actually exists. A study of the graphic records from different times in the same patient showed in several cases that when improvement was effected by an operation on the thyroid or by x-ray treatment and rest there was a reduction in the rate of tremor. No definite relationship could be established between the rate of the tremor and the severity of the Graves's disease as indicated by the basal metabolism. In cases of paralysis agitans and of other organic diseases of the nervous system associated with tremor of the arms the rate of the tremor was found to be about 300; in a case of Wilson's disease it was 260. The rate of tremor of the muscles of healthy persons tired out by certain muscular exercises was also investigated and found in some cases to be similar to that of Graves's disease.

517. Wassermann Test as Criterion of Cure.

D. L. BELDING (*Boston Med. and Surg. Journ.*, February 21, 1924, p. 301) points out that the Wassermann test as a criterion of cure for syphilis is inferior to the complete serological examination of the blood and spinal fluid since a negative reaction alone does not necessarily indicate that treatment may be stopped nor does a persistently positive reaction always point to the need for further treatment. The rate in a properly treated and uncomplicated syphilis represents an immunological response on the part of the patient quite apart from the clinical course of the disease and though in most cases the clinical course be reaction in the individual may or may not be comparable to the clinical findings and cannot be regarded as an absolute measurement of the patient's tolerance nor of the activity of the disease. The cerebrospinal records the narrow range between a strongly positive reaction and a less satisfactory one and the occasional negative test which gives the illusory feeling of security which in untreated cases may be of progressive paresis and

treated cases affords an index of the earliest serological response to treatment, and thus serves as a guide for drug therapy A high titre antibody in old syphilitics may point to an unsuspected visceral or vascular involvement, and such cases are particularly resistant to treatment Although a persistent positive reaction may not indicate the need of prolonged treatment, since it is possible for the reaction to persist after the disease has reached the quiescent state of temporary cure, the average patient with a persistent positive reaction is more likely to have an unsuspected focus of infection or show a recurrence than one with a negative reaction

Surgery.

518 Pruritus a Premonitory Symptom of Malignancy

H KÜTTNER (*Zentralbl f Chir*, April 19th, 1924, p 824) states that he recently had two patients with gastric carcinoma who for some months before symptoms of the malignant growth developed complained of pruritus Both were vigorous men, aged between 50 and 60, who were at first not much troubled by the pruritus, but after two or three months it became almost intolerable It was generalized in both cases, and was not accompanied by any skin lesions apart from those due to scratching There was no jaundice or diabetes, and the patients were in a good state of nutrition when the pruritus began, so that cachexia could be excluded as a cause In both cases the growth was inoperable, so that the effect of its removal on the pruritus could not be determined On the other hand, Küttner has had another patient whose pruritus much improved after radical operation He was, however, unable to learn the subsequent history and whether the pruritus returned with recurrence of the growth Küttner was unable to find anything in surgical literature on the subject of pruritus as a prodromal symptom of malignant growths, but on consulting the dermatologist Jadassohn he learnt that its occurrence had been described in dermatological literature by Wickham, Besnier, Doyon, Jadassohn, and Sack The pruritus chiefly occurs in abdominal tumours, especially those of the stomach and liver, and is met with not only in the cachectic stage or in association with jaundice, but also, as in Küttner's cases, in the prodromal stages when the patients feel quite well The condition is then regarded as due to nervous causes or as an example of senile pruritus In addition to abdominal cancer pruritus has been observed in malignant growths of the buccal mucosa and tongue The itching may occur without obvious skin changes or be associated with scratch marks or eczema In most cases the pruritus is generalized, but sometimes it is localized in the anus or genitals Auto toxaemia, due to the malignant growth, probably plays a part in the pathogenesis In advanced cases the dryness and bad nutrition of the skin are also responsible

519 Appendicular Cyst

A PALIERI (*Rif Med*, March 24th, 1924, p 273) reports a rare case of appendicular cyst subsequent to an attack of typhoid fever two years previously The patient was a girl, aged 17 years, who had an attack of typhoid fever at 15 from which she recovered At 16 she developed a large abscess in the right iliac region, which was opened and much fetid pus let out, cure followed in about forty days Some months later she complained of pain and swelling in the right iliac region and was admitted into hospital for operation, on the supposition that it was a recurrence of the abscess On opening the abdomen the swelling was found to be a large cyst filling up the right iliac fossa, there were some adhesions and a firm attachment to the appendix The cyst was removed, and except for a slight attack of febrile glycosuria convalescence was satisfactory The cyst was diagnosed as a cyst of the appendix, probably a secondary result of the attack of typhoid two years before

520 Biophysics and Surgical Mortality

G W CRILE (*Surg, Gynecol, and Obstet*, April, 1924, p 431) reminds us that for many years medical science has been endeavouring to identify the form of energy that activates man and animals, to discover the physical laws in accordance with which that energy operates, and to determine the conditions which lead to progressive or immediate loss of energy and death This is a matter of especial interest to the surgeon who operates on the living organism and modifies its activity by anaesthetics, he is, therefore, in a position to detect the changes brought about in the organism by injury, by operation, and by disease The electro chemical theory—namely, that man is an electro chemical mechanism—interprets well his normal and pathological phenomena, and has even furnished a plausible suggestion as to the line of evolution from the atom to man Although the application of this theory to the surgical clinic has provided a procedure in operations which has considerably reduced mortality, yet the theory is not yet proven Nevertheless, from previously accepted facts, the following conclusions are drawn Electric phenomena are apparently coexistent with living phenomena, because electricity can be detected in every living plant or animal, but not in the dead Electricity is probably, then, the "spark of life" There are numbers of different electric circuits in animals, and the source of electricity in the cells is oxidation During life there is a difference of potential within the organism death is equilibrium of potential Each cell is an electro chemical unit, and bipolarism is a condition which occurs in continuity from the amoeba to man

521 Oesophageal Carcinoma.

L BÉRARD and P MALLET GUY (*Lyon Chirurgical*, March-April, 1924, p 127) review the different methods of surgical treatment of carcinoma of the thoracic portion of the oesophagus and draw certain conclusions During a period of thirty five years more than seventy attempts have been made to excise the thoracic portion of the oesophagus, with only five recoveries, the mortality is therefore formidable Death is chiefly due to operative shock or infection Approach to the tumour may be either by the transpleural or extra pleural route In tumours affecting the cervical portion of the oesophagus or at its gastric end, resection may be followed by union of the cut ends of the oesophagus This is not possible in the case of the thoracic portion, and attempts at joining the divided ends in this region have been carried out less and less often Every effort must be made to prevent infection of the mediastinal tissues, and it appears safer either to invaginate the lower end of the oesophagus or to invert it into the stomach, whilst the upper end is brought out on to the skin The adoption of these principles has given five cases of recovery for carcinoma of the thoracic portion of the oesophagus The first step must be a gastrostomy, whilst the tumour itself may be treated on the lines of a growth of the large intestine by bringing it out on the surface and then resecting it later The operation, even at the present day, is a formidable one in spite of the progress of surgery, and after resection of the growth itself it may not be possible to deal with infected lymphatic glands

522 Bilateral Os Trigonum

HARTTUNG (*Deut Zeit f Chir*, March, 1924, p 382), who records two illustrative cases in men aged 35 and 50, states that the os trigonum, or the triangular oval portion of bone situated behind the posterior process of the os calcis, occurs in about 6 per cent of all persons In almost all cases it is present on both sides In only a small number of cases does it give rise to any symptoms, such as pain resembling achillodynia, tenderness behind the ankles, and limitation of movement of the foot, especially flexion In order to determine whether the condition is due to a fracture or to the presence of an os trigonum, a control *x* ray picture of the other foot is required—similar appearances on both sides indicating the existence of os trigonum In the case of fracture of the posterior process an irregular zigzag line is seen, whereas in the case of an os trigonum the line of separation is perfectly regular A history of trauma is in favour of fracture of the posterior process, but is not essential The treatment of os trigonum which gives rise to symptoms is purely conservative and should consist of hot air, massage, and exercises

523 Formalin Sterilization in Vacuo

S A GAMMELTOFT (*Ugeskrift for Laeger*, April 24th, 1924, p 353) describes investigations by himself and Walbum into the sterilization of surgical apparatus by formalin vapour In the older vapour sterilizers the formalin did not penetrate into the recesses of articles folded on themselves—for example, the finger tips of rubber gloves Other forms of sterilizers may destroy bacteria and their spores even in distant recesses, but perishable articles, such as rubber gloves, are liable to suffer greatly The author gives a detailed description of the sterilizer devised by Walbum, who has found that when the interior is exhausted before the formalin vapour is introduced, the capacity of the vapour to penetrate into recesses is greatly increased by the vacuum Bacteriological investigations with tetanus and anthrax spores and various bacteria left inside rubber gloves placed in an ordinary and also in a vacuum formalin sterilizer, showed that the latter was by far the more reliable The articles sterilized in the vacuum formalin apparatus were not damp on removal as was feared, and the sterilizer was found to be particularly suitable for such instruments as knives and for syringes, which are apt to crack on boiling The chief sphere of usefulness of this sterilizer is in connexion with rubber articles, which deteriorate after repeated boiling

Dermatology

524. **The Parasitology of "Creeping Disease**

M O LAPIN (*Derm Woch*, May 24th, 1924, p 573) describes the case of a man stung by a horse fly on the back of the left hand, which began to itch almost immediately Three days later a small red spot appeared and from it a curved line spread over the ulnar border the wrist, and for some distance up the forearm The whole hand and forearm became inflamed and with a lens a parasite could be seen, this was extracted and identified by Professor Skrjabin as a larva of the great horse fly—*Gastrophilus equi intestinalis* Lapin states that Lee (London) described the first case of "creeping disease" in 1874 but its etiology remained obscure for many years In 1895 Sokolow and Samson identified the larva of *Gastrophilus* (*Oestridae*) These flies are viviparous, and deposit living larvae in the nasal and other cavities of animals The larvae have been found in the submucous tissue of the oesophagus, in the mediastinum, the pillars of the diaphragm, within the capsule of the kidney, and even in the spinal canal The author has collected a large number of cases from Europe Asia, and Central America various species of *Oestrus* and *Tabanus* have been identified, and in some cases stablemen have accidentally infected themselves when grooming horses. Lapin describes in detail the distinctive features of the various larvae and states that the "Shetland disease," described by Spence (1809) as prevalent among girls and young women who cut peat in the summer, was produced by the larvae of *Hypoderma bovis*

525. **Treatment of Furunculosis by Auto haemotherapy**

J NICOLAS, J GATÉ and D DUPASQUIER (*Bull Soc Francaise de Derm et de Syph* April, 1924, p 227) claim excellent results by this method, providing that (1) the cases treated are those of true furunculosis with generalized and more or less numerous boils and (2) the treatment is sufficiently prolonged Early relapses, even up to the seventh injection may occur, these are disregarded and injections continued for a considerable time after the disappearance of the boils Their method is to withdraw 10 c cm of blood from a vein (4 to 5 c.cm in infants), and reinject it at once into the muscles of the buttock. This is repeated twenty times if necessary Some authors use 2 c cm and inject it subcutaneously

526. **Ultra violet Ray Therapy in Dermatology**

J BUTLER (*Arch Derm and Syph*, January 1924, p 51) reviews the treatment of skin diseases by the ultra violet ray Browning and Russ are quoted as having indicated that, from the clinical standpoint there are two distinct regions of ultra violet radiation The first extending from 3,800 to 2,960 Angstrom units possesses no marked germicidal action, but considerable power of penetration the second extending from 2,960 to nearly 2 100 units, has a marked germicidal action, but small penetrating power, being absorbed by 1/10 mm thickness of skin It is noted that the more efficacious sources of light—the sun, the arc lamp and the mercury vapour lamp—are rich, not only in the ultra violet, but in the most luminous type of ray The author inclines to the view that it is to this last class of ray as well as to the ultra violet that the beneficial effect of light treatment is due, and that some measure of credit must also be accorded to a purely heat effect The effect produced on the skin by a short exposure to ultra violet rays is described as a vaso-dilatation with hyperaemia, slight oedema, and probably stimulation of cell nutrition Longer exposure produces inflammatory reaction and prolonged hyperaemia Surface bacteria are readily destroyed in the skin to a depth of 1 cm when the latter is exsanguinated during application The author agrees with Reyn that concentrated light locally applied gives the best results in conjunction with general applications of light, especially in the treatment of lupus vulgaris, and it is noted that Sequeira has used light bath treatment with marked success when purely local application had failed Encouraging results are reported in the treatment of other tuberculous lesions of the skin With the results of the treatment in lupus erythematosus the author himself has been extremely disappointed but others appear to have been more successful He is strongly of opinion that the rays generated by the air cooled lamp are of the greatest use in acne vulgaris, but the treatment must be sufficiently energetic to produce severe dermatitis after the first two or three applications, following which there will be only slight discomfort. The importance of treating at the same time any associated seborrhoea of the scalp is emphasized In naevus flammeus he has not been very successful but Clark and Fox are said to have obtained satisfactory results He mentions the success of Hazen in treating Roentgen ray telectasis by the method Chronic ulcers appear to benefit—probably owing to the prolonged hyperaemia cell stimulation, and bacterial destruction Fox is reported as having cured 27 out of 50 cases of alopecia areata, and Nagelschmidt 80 out of 104 cases of the same disease Light treatment appears to be beneficial in parakeratosis variegata, granuloma pyogenicum, erythema pernio, and keratosis pilaris

Obstetrics and Gynaecology

527. **Icterus Gravidarum.**

M BOREEL (*Nederl Tydschr v Geneesk*, March 8th 1924, p 1018) reviews the literature of recurrent abortion associated with jaundice and records the following personal case The patient was a woman who had been married for five years and had been pregnant four times but had always had a miscarriage in the fifth month after becoming jaundiced in the third month of pregnancy Apart from pregnancy she had had no attacks of jaundice Her mother had also had a large number of miscarriages (namely, seven), always associated with jaundice, and the patient was her only child On becoming pregnant for the fifth time the patient developed jaundice in the third month as on previous occasions The urine contained bilirubin urobilin urobilinogen and bile salts The haemoglobin content of the blood was 95 per cent (Sahli) The stools were colourless but contained much stercobilin The jaundice was accompanied by much itching but there was no pain suggestive of gall stones Liver functional tests did not show any evidence of hepatic inadequacy The Wassermann and Sachs Georgi reactions were negative The patient was kept in bed on a light diet but aborted shortly after the usual period without any obvious cause The infant was not definitely icteric at birth, but became so very soon afterwards and died a day later in spite of being kept in the incubator Nothing was found to account for the condition at the necropsy The mother's jaundice gradually disappeared and nine days after delivery no bilirubin, urobilin or bile salts could be found in the urine Subsequent examination by x rays showed an absence of gall stones, and liver functional tests were again negative

528. **Carcinoma of the Uterus.**

G W CRILE (*Amer Journ of Obstet and Gynecol* May 1924, p 528) gives a large series of statistics regarding his cases of carcinoma of the uterus in 220 of which the disease occurred in the cervix, and in 91 in the body The average age incidence of all cases was higher than that usually quoted, being between 50 and 60 and it is interesting to note that only 6 cases of cancer of the cervix were found in single women and 10 of cancer of the body The operability rate was 27 3 per cent for cancer of the cervix and 76 9 per cent for the body The author agrees with Kelly in his advice that every woman who has had a child should subject herself to a gynaecological examination yearly until she has reached the age of 55 for by so doing early disease would be discovered patients come to the doctor too late when they have waited for the appearance of symptoms As regards dissemination, secondary deposits are usually found in the pelvis and not in more distant organs and the uterus is only very rarely the seat of secondary growths. With regard to cancer of the body the author advises complete vaginal hysterectomy without a preliminary diagnostic curettage, which, he states, tends to disseminate cancer cells he even goes so far as to state that every woman who has intermittent or continuous uterine discharge and who has passed the menopause should be subjected to hysterectomy The author's treatment of cancer of the cervix comprised originally section of growth for diagnostic purposes thorough cauterization and packing of the vagina with alcohol sponges the following day a complete hysterectomy was done and as much parametric tissue removed as possible, this being followed promptly by radium irradiation At present he has substituted radium for surgery in all cases but is not yet prepared to give a definite opinion on its value The operative mortality in his operation cases was 6 7 per cent. and the number of survivals five years after operation was 33.3 per cent

529 C C NORRIS and M E VOGT (Ibid, p 550) describe 115 consecutive cases of cancer of the body of the uterus, which have passed through their hands. The average age incidence was 53, and 71 per cent of the cases occurred in women over 51 years of age The first symptom noted very often was bleeding when straining at stool and the patient thought she was suffering from haemorrhoids As regards diagnosis they attach importance to Clark's test, in which the vagina is filled with a clear antiseptic solution a sound passed through the cervix into the cavity of the uterus, and its point moved gently round. Any trace of bleeding is shown by the staining of the clear solution, and, if bleeding

does occur, curettage should always be done for diagnostic purposes, as carcinoma is likely, if no bleeding occurs, then the absence of cancer is strongly indicated For this procedure the volsella must not be used The prognosis, as shown by their cases, has not been so good as is usually stated, only 34 8 per cent five year cases being alive to day The integrity of the myometrium is of importance as regards the prognosis, as also is the length of time symptoms have shown themselves before operation, thus in cases operated on within six months of onset of symptoms 57 per cent were living in three years' time, of those operated on from seven to twelve months 31 2 per cent were living, and over twelve months only 17 8 per cent were alive The authors state that in their cases the prognosis was not affected, nor did undue dissemination seem to be caused, by a preliminary diagnostic curettage several days before operation Panhysterectomy is the treatment recommended, both tubes and ovaries being removed The percentage of cases living after panhysterectomy was double that following the supravaginal operation Radium is recommended in inoperable cases as a certain palliative and even at times curative Metastases occurred usually in the pelvis and in the authors' opinion may be due to extrusion through the tubes in the same manner as endemetriomata are supposed to occur

530. Significance of Uterine Polypi

L TIXIER and L MICHON (*Gynécol et Obstét*, 1924, ix, 3 p 253) have observed that in the uterus which is the site of metritis, myoma, or malignant disease, there is often a coexisting mucous polypus, and that patients from whom mucous polypi have been removed suffer subsequently, in a large proportion of cases, from other morbid gynaecological conditions From further investigations they conclude that the chief significance of mucous uterine polypus is diagnostic, pointing to other pathological lesions They describe cases of uterine myoma and carcinoma of the body in the earlier stages of which a mucous polypus constituted the sole apparent morbid sign, histological studies have convinced them that mucous polypus does not occur in the absence of chronic endometrial infection They believe accordingly that discovery of a mucous polypus should be followed by a careful and minute examination of the uterus and adnexa, aided (especially in other than young subjects) by intrauterine exploration after dilatation of the cervix

Pathology.

531. Acid-fast Bacteria as a Source of Vitamin B

S R DAMON (*Journ Path and Bact*, April, 1924, p 163) claims to have shown that certain of the acid fast bacilli are able to produce a growth promoting substance *in vitro* which is closely similar to, if not identical with, vitamin B Rats were fed on a dietary adequate in every essential except for the presence of vitamin B On this dietary the animals drop to a constant level of weight, which is maintained for a time, but which is succeeded by a progressive fall if the vitamin deficiency is not remedied After the first fall had occurred, the rats were fed with a certain quantity of dried bacteria, which had been grown in a glycerin beef extract medium, every constituent of which was shown to be free from vitamins The addition of 2 5 per cent of either *B phlei*, *B smegmatis*, or *B moelleri* proved insufficient to restore the growth of the rats to normal, the animals in fact continued to lose weight, their coats became rough and shaggy, and many of them developed all the symptoms of polyneuritis When, however, the bacteria were fed in a proportion of 7 5 per cent of the dietary, the animals rapidly resumed growing, and presented the usual appearance of rats in good condition From these experiments it seems that a substance having similar properties to vitamin B is formed by these acid fast bacteria, but in what manner it comes to be formed is still a matter of uncertainty

532. The Thyroid Gland in Anaphylaxis.

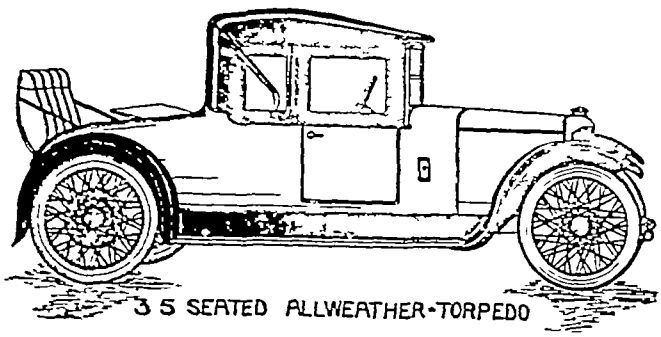
AFTER the demonstration by several workers of the association between the thyroid gland and anaphylaxis, A POPEA and I CONSTANTINESCU (*C R Soc de Biologie*, March 21st, 1924, p 720) have carried out some experiments on human beings with a view to defining this more closely Four patients with myxoedema or hypothyroidism, and six patients suffering mostly from idiocy—amongst them one with hyperthyroidism—to act as controls, were given three injections of horse serum at four day intervals Twenty five days after the last injection each patient was bled, and the blood serum injected intraperitoneally into two guinea pigs—the one receiving 3 c cm, the other 6 c cm On the following day each guinea pig received 1 c cm of horse serum intravenously The animals injected with the serum of the four patients suffering from thyroid deficiency manifested no symptoms of note, whereas those injected with the serum of the controls all presented the typical symptoms of anaphylaxis, such as dyspnoea, general pruritus, hiccup, shivering, and contractures The animal which had received 6 c cm of serum from the patient with hyperthyroidism had a severe attack, which prostrated it on its side for twenty minutes The experiment was repeated after a fortnight with the same results From this it would appear that patients suffering from hypothyroidism are not easy to sensitize, whereas when hyperthyroidism is present sensitization is easily effected These results are more or less in accordance with those obtained by other workers, who have shown that it is difficult to produce anaphylaxis in animals which have been submitted to thyroidectomy

533 Myeloblasts.

H DOWNEY (*Arch Intern Med*, March 15th, 1924, p 301) discusses the dualistic and the unitarian theories of the origin of blood cells The former was upheld by Ehrlich, who asserted that each type of blood cells had its own specific parent cell, and that these were not related except through the embryonic mesenchyma Naegeli was the first to express the view that the non granular cells of the marrow, myeloblasts, are specific parenchymatous cells of this tissue which serve as the parent cells for the granular leucocytes, that they differed from true lymphocytes in their morphologic and biologic characters, and that their origin was entirely separate from that of the lymphocytes The unitarian school maintains that all the blood cells are related and descended from one type of parent cell The extreme view accepts the lymphocyte as this parent cell According to others of this school, the parent cell is the myeloblast of Naegeli The lymphocyte is descended from this "lymphoidocyte," as Pappenheim calls it, in the embryo, while the lymphocytes of the adult are derived from partly differentiated lymphoblasts of the lymphatic tissue and organs As a result of the author's own researches he holds that incomplete morphologic dualism exists in the normal human adult The myeloblast probably corresponds to the primitive blood cell of the embryo, and is retained in the normal adult only in the marrow, where it is primarily related to the cells of the myeloid series The lymphocyte is to be regarded as a specialized or partly differentiated cell endowed with myeloid potentialities which usually do not develop, but which may do so when the proper stimulus is applied Lymphocytes of lymph nodes and spleen are regenerated by mitosis of their own kind and by derivation from the reticulum without the intervention of the myeloblast Normally some of the lymphocytes located in the intestinal mucosa, thymus, and haemolymph nodes may differentiate into granular leucocytes In the myelogenous and acute lymphatic leukaemias the myeloblast may serve as the stem cell of both lymphocytes and myeloid cells, and myeloid cells may derive from lymphocytes without the intervention of the myeloblast.

534 Acidity and Bacteriophage Activity

IT has been known for some time that lysis due to the bacteriophage does not occur in an acid medium, and that the degree of acidity of the medium requisite for inhibiting lysis varies with the particular strain of the bacteriophage employed Endeavouring to elucidate the mechanism of this acid inhibition of the bacteriophage, J DA COSTA CRUZ (*C R Soc de Biologie*, April 4th, 1924, p 878) made up a solution of buffer phosphates having a reaction of *p*H 6 09 To 100 c cm he added 1 c cm of a bacteriophage for Flexner's bacillus, shook it up, and allowed it to stand for half an hour It was then divided into two parts one was filtered through a Chamberland F candle, its reaction adjusted to *p*H 7 8 and its lytic power titrated, the other was adjusted to *p*H 7 8, allowed to stand for twenty minutes, and then filtered The result was rather surprising In the case of the first part the filtrate proved to be quite inactive, whereas in the case of the second part—the part which had been rendered alkaline before filtration—the filtrate inhibited the growth of the bacterial culture even when diluted more than 1 in 100,000 times In another experiment, similar to the above, in which the bacteriophage was exposed to an acidity of *p*H 2 9 for half an hour at 27° C, it was found that even when the reaction of the fluid was made alkaline before filtration the activity of the bacteriophage was seriously interfered with, lysis only occurring in dilutions not greater than 1 in 100 From these experiments the author concludes that the bacteriophage flocculates in an acid medium, that if the acidity is not too great this flocculation is reversible, and that these facts are rather against the hypothesis of the living nature of the bacteriophage



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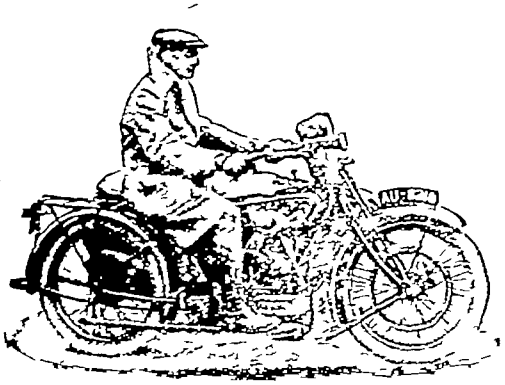
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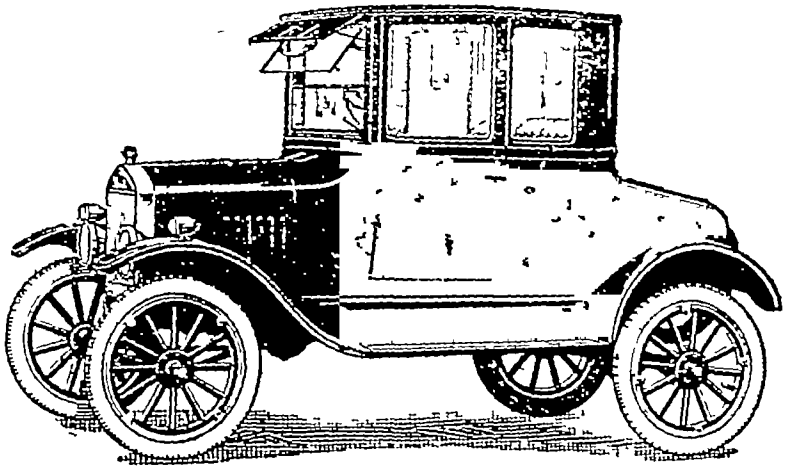
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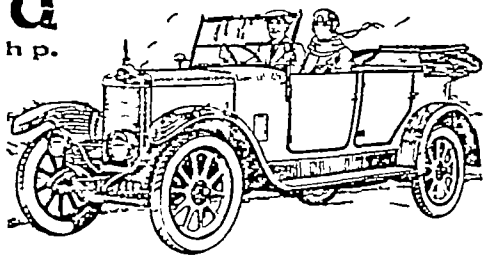


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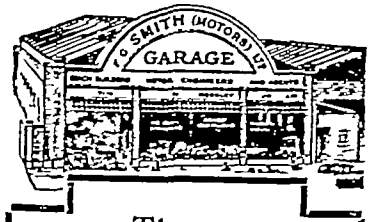
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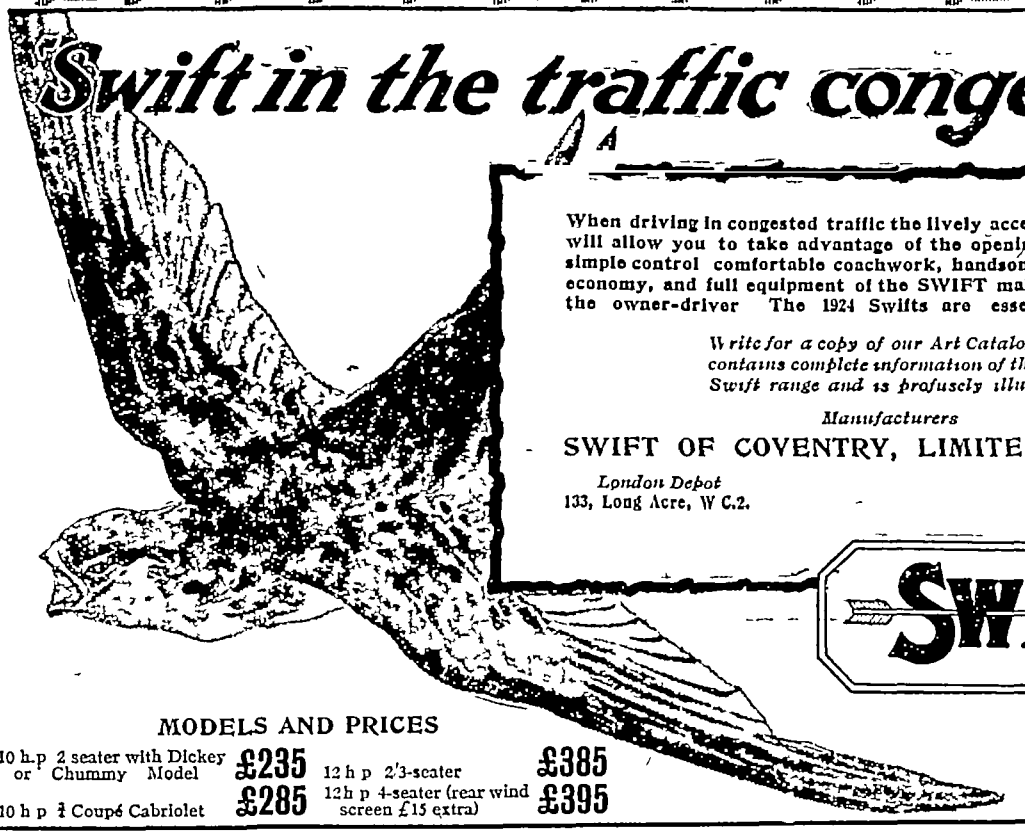
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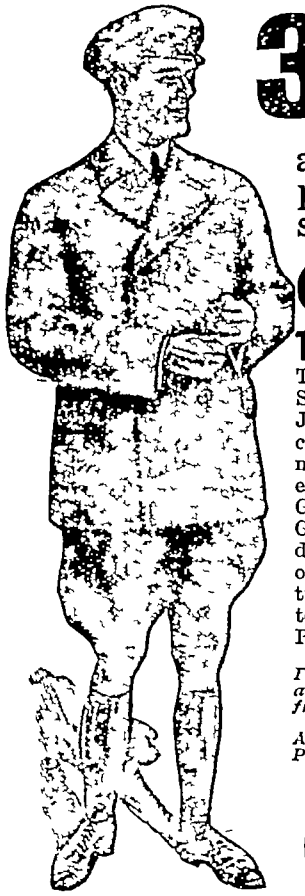
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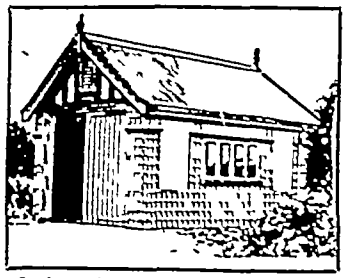
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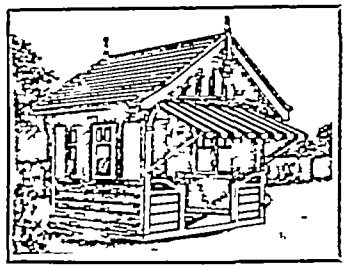
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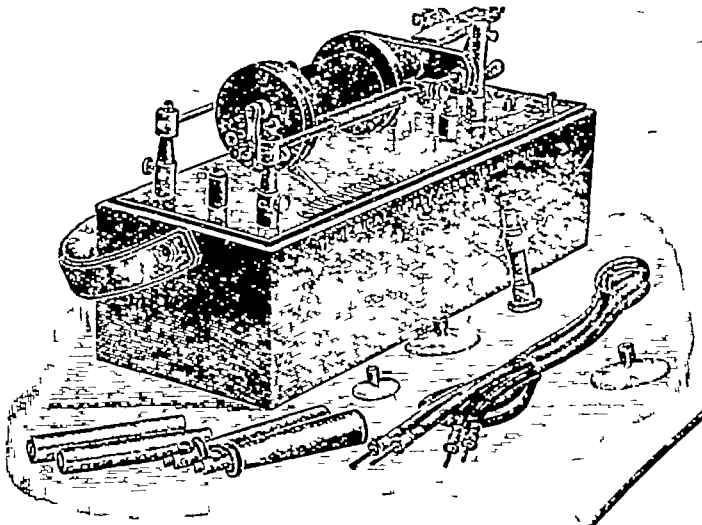
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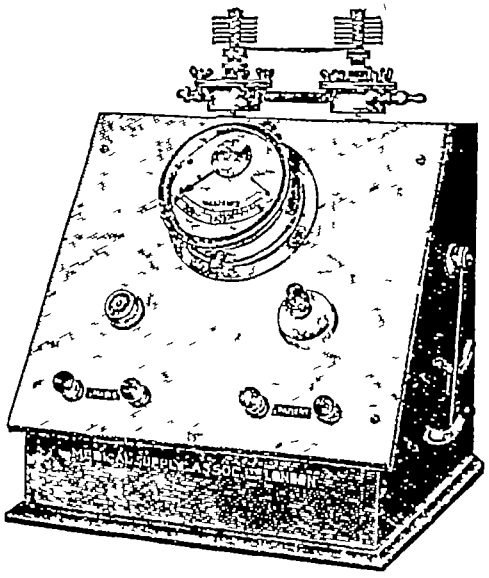


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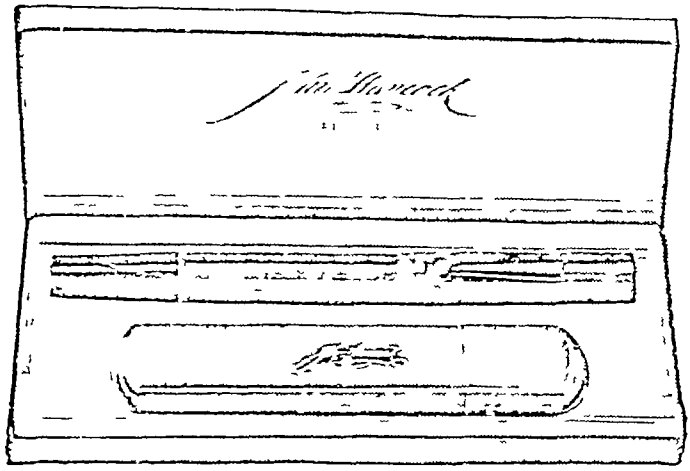
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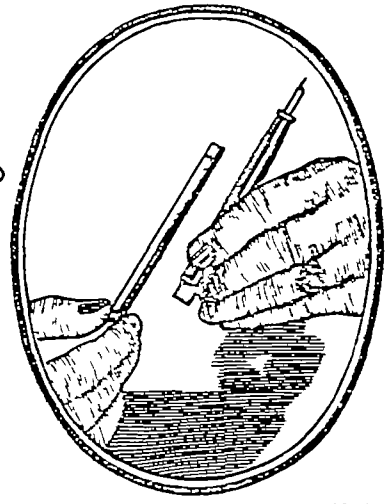
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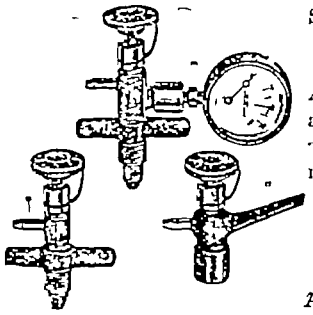
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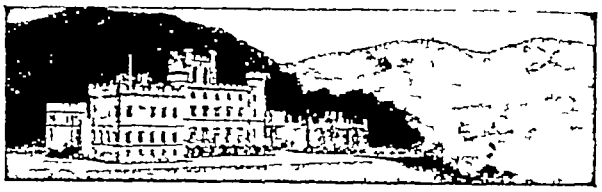
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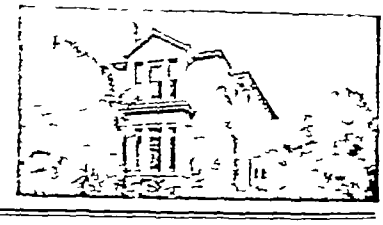
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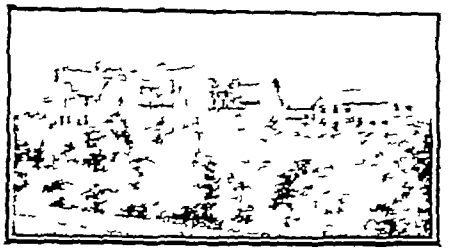
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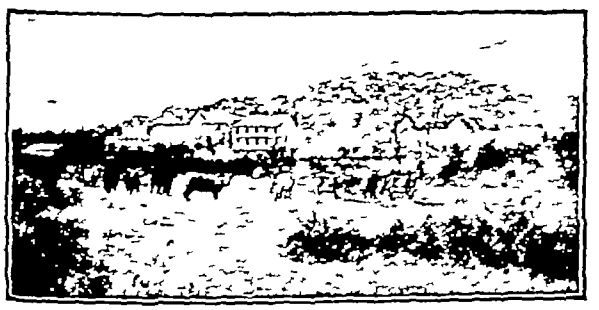
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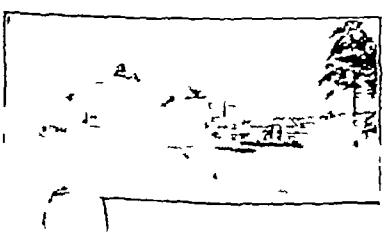
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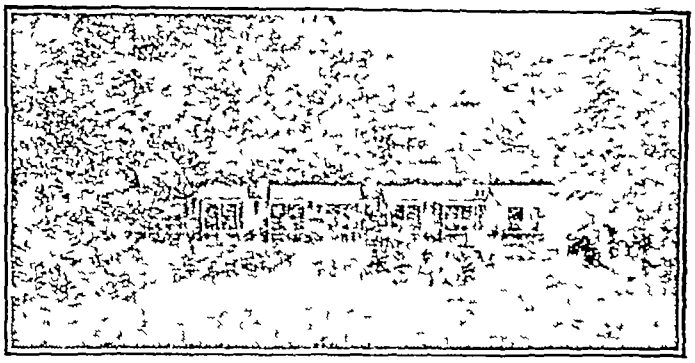
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The TUTORIAL CLASS for the next Examination will commence shortly. Correspondence Tuition of desired. — particulars apply FRED GRAHAM, M.D., Northfield, Liberton, Edinburgh.

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POSTAL OR ORAL PREPARATION FOR ALL MEDICAL EXAMINATIONS.
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Primary F.R.C.S. (Eng.), 1906-23	112
Final F.R.C.S. (Eng), 1906-23	79
M.R.C.P. (Lond.), 1914-21	76
D.P.H. (Various) 1906-24 (Completed Exam.)	219
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ORAL CLASSES for M.D., M.R.C.P. & F.R.C.S., also for M.B., B.S., and for Conjoint (Second and Final).
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For further particulars apply to Mr. H. J. SIMSON, Dean, West London Hospital, Hammersmith, W.6.

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Messrs. J. & J. PATON having an intimate, unique, and up-to-date knowledge of the BEST SCHOOLS and TUTORS in this country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION.
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Seamen's Hospital Society.
LONDON SCHOOL of TROPICAL MEDICINE
Endsleigh Gardens, N.W.1.
Next Session will commence 22nd September, 1924.
For Prospectus and further particulars apply to The Secretary, London School of Tropical Medicine, Endsleigh Gardens, N.W., or to the Head Office, Seamen's Hospital, Greenwich, London, S.E.

MIDDLESEX HOSPITAL MEDICAL SCHOOL, W.1.

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Classes in ANATOMY and PHYSIOLOGY will commence on July 14th and 15th respectively. There will be 4 weeks' vacation (August-September), after which the classes will resume and continue until the date of the Examination.

Anatomy
including Embryology
Mondays, Tuesdays, Wednesdays, Thursdays and Fridays at 12 noon.
Members of the Class will be able to use the Dissecting Room for the purpose of reading with dissected "parts" at any time during school hours.

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From 3 to 5 days weekly throughout the Course beginning July 17th at 10 a.m. VIVA VOCE CLASSES. HISTOLOGY CLASSES.
The inclusive fee for both subjects is £16 16s. (for one subject £8 8s.)
Intending candidates are reminded that it is desirable to join these classes at the commencement of the Course if possible.
For further particulars apply to A. E. WEBB-JOHNSON (Dean), C.B.E., D.S.O., F.R.C.S. or to R. A. FOLEY, School Secretary.

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STAMMERING, SPEECH DEFECTS.
BEHNKE METHOD. Established 1901. Classes now resident, treated at 27, Earl's Court Square, S.W.5, and, in residence, in the summer holidays at Miss Behnke's house on the Chilterns.
Pre-eminent success in the treatment of stammering and other speech defects.—*The Times.*
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Successful speech results in home and school.
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Liverpool School of Tropical MEDICINE.
COURSES OF INSTRUCTION are of three months' duration for the Diploma, and also in Veterinary Parasitology, commencing on SEPTEMBER 1st and JANUARY 5th.—Prospectus from the Hon. Dean, School of Tropical Medicine, University of Liverpool.

17th-24th August, 1924 **DAVOS** 17th-24th August, 1924

HOLIDAY COURSE OF LECTURES ON TUBERCULOSIS AND THE ALPINE CLIMATE.

ORGANIZED BY THE DAVOS MEDICAL ASSOCIATION

Physical and Physiological Climatology, Pathology, the Diagnosis, Treatment, Therapeutics, and Prognosis of Tuberculosis

The Lectures will be given in German and French

For the participants there will be provided good accommodation with full board at the reduced prices of 12, 10, and 8 francs per day Considerable reduction in railway fares.

Names will be enrolled not later than 1st August, 1924, and all information supplied by the Committee of the Medical Post-Graduate Course, Davos

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OXFORD, Aug 25th—Sept 1st, 1924

CONFERENCE OF MODERN CHURCHMEN AT SOMERVILLE COLLEGE AND ST HUGH'S

Tor Programme resident and non resident Tickets apply to the Hon Sec.

MISS NUSSEY WESTFIELD ILKLEY

University of London

NOTICE IS HEREBY GIVEN that the Senate will proceed to elect EXTERNAL EXAMINERS for the calendar year 1925 for the Examinations above Matriculation as follows —Except when otherwise stated Examiners will act in all Examinations in which the subject is included. Where Examiners are to be appointed for (*a*) Intermediate Examinations only and (*b*) Final and Higher Examinations only the fact is indicated after the name of the subject below In these cases the same Examiner cannot hold both appointments

FOR THE CALENDAR YEAR 1925

For the First Examination for Medical Degrees

Biology Physics

For the Second Examination for Medical Degrees

Chemistry (2) Physiology

Higher Examinations for Medical Degrees

Medicine (2) Obstetric Medicine
Mental Diseases. State Medicine
Neurology Surgery
Tropical Medicine

N B —Attention is drawn to the provision of Statute 124 whereby the Senate is required if practicable to appoint at least one Examiner who is not a Teacher of the University

Application form (or forms if more than one Examinership is applied for) and particulars of the remuneration and duties can be obtained from the External Registrar

Candidates must send in their names to the External Registrar GEO F GOODCHILD M.A. B Sc with any attestation of their qualifications they may think desirable on or before Monday July 7th 1924 (Envelopes should be marked "Examinership")

The Senate desire that no application of any kind be made to individual Members

If testimonials are submitted one copy only of each is required In no case should original testimonials be submitted If more than one Examinership is applied for a separate and complete application must be forwarded in respect of each Examinership The appointments will be made by the Senate in November Applicants who desire that the result should be communicated to them are requested to enclose a stamped and addressed envelope with their applications.

University of London, South Kensington, S W 7 June 1924 — E C PERRY, Principal Officer

St Bartholomew's Hospital

MEDICAL COLLEGE

DEMONSTRATOR OF PHYSIOLOGY

Applications are invited for the post of Demonstrator of Physiology

Particulars may be obtained on application to the Dean St. Bartholomew's Medical College, E.C 1 to whom application with copies of testimonial should be sent before July 12th 1924

June 23rd, 1924

University of Hong Kong

FACULTY OF MEDICINE

PROFESSOR OF OBSTETRICS AND GYNÆCOLOGY

Applications are invited from duly qualified medical men of not more than 35 years of age, who have had the requisite experience, for the Chair of Obstetrics and Gynæcology endowed by the Rockefeller Foundation at the University of Hong Kong

The salary is £800 per annum rising by annual increments of £25 to £1 000 per annum payable while in the Colony at 2/ to the Dollar In addition an unfurnished house or house allowance of $150 per mensem will be provided The University will also provide a first-class passage (P and O) for the successful candidate and his wife if married from London to Hong Kong and will pay half sterling salary during the voyage to Hong Kong Similar passages will be provided on the termination of the appointment. The Professor will be allowed to take part in the University Superannuation scheme A limited consulting practice is permitted Nine months leave will be granted after 4½ years service A probationary period of three years will be required before permanent appointment. The selected candidate will not be required to arrive in Hong Kong until early in 1926

Applications for the post should be addressed to the Chief Medical Officer, Ministry of Health Whitehall, London S W 1 (from whom further details may be obtained) before July 25th, 1924

Countess of Dufferin's Fund

WOMEN'S MEDICAL SERVICE FOR INDIA.

Medical Woman required in September as LECTURER IN PHYSIOLOGY for the Lady Hardinge Medical College Delhi Teaching experience in Subject essential. Emoluments Rs.750 p m. rising furnished quarters provident fund Passage and outfit allowance

Applications on prescribed form (sent on written request) with copies of three recent testimonials should reach the Honorary Secretary U K Branch Dufferin Fund c/o Major General J B SMITH India Office Whitehall S W not later than July 18th 1924

Royal Chest Hospital,

City Road E C
(Royal Northern Group of Hospitals.)

A vacancy occurs for a PHYSICIAN with Charge of Out patients Candidates must possess the degree of M.D or M B obtained by examination at a British University and be Fellows or Members of the Royal College of Physicians of London

Applications should be sent by July 15th to the undersigned, from whom full particulars of the office and with regard to the submission of copies of testimonials etc., may be obtained

GILBERT G PANTER, Secretary
Royal Northern Hospital Holloway N 7

The Gloucestershire Royal

INFIRMARY AND EYE INSTITUTION
Gloucester

There is a vacancy for a PHYSICIAN on the Acting Medical Staff of this Institution. By the rules of the Hospital the Members of the Acting Medical Staff shall be duly registered Practitioners. Candidates should send in their applications diplomas and testimonials under cover to the Secretary on or before Monday July 28th next

Gloucester June 25th 1924. — G HURFORD, Secretary

Richard Murray Hospital,

Blackhill Co Durham.

RESIDENT MEDICAL OFFICER

Applications are invited for the post of Resident Medical Officer (male or female) at the above Hospital which has accommodation for 16 maternity cases, and 16 surgical and medical cases The salary offered is £400 per annum rising by increments of £50 to £500 per annum with board apartments and laundry in addition

Candidates must be fully qualified and registered medical practitioners unmarried and between the ages of 25 and 45 with special experience in Midwifery and preference will be given to candidates who have held an appointment in a general hospital The person appointed will be required to devote his or her whole time to the duties of the office, which will include the general medical control of the Institution under the direction of the Joint Board, and will be debarred from private practice but will be required to undertake the medical supervision of an adjacent small Convalescent Home for mothers and young children.

The appointment is included in the Superannuation Scheme of the Durham County Council and a deduction of 5 per cent. will be made from the salary in accordance with the provisions of the Local Government and Other Officers Superannuation Act 1922 and the appointment will be subject to passing the medical examination in connection therewith

The appointment will be terminable by three months notice on either side

Applications marked Resident Medical Officer together with copies of three recent testimonials must be received by the undersigned not later than July 14th 1924.

W T McDERMID, Secretary to the Joint Board
Shire Hall Durham. June 3rd, 1924.

Senior Medical Officer

required for GILBERT and ELLICE ISLANDS COLONY Salary £650 per annum rising by annual increments of £25 to £750 per annum

Free quarters, partly furnished provided and free passages for officer wife and children not exceeding five passages in all Post is pensionable.

Candidates should be between 25 and 35, with good medical qualifications and some operating experience. There are opportunities for original work and a taste for research is desirable

Intending applicants should write to the Private Secretary (Appointments) Colonial Office S W 1 who will furnish them with application forms and further particulars.

University College Hospital,

Gower Street, W C 1

Applications are invited for the post of ASSISTANT to the VENEREAL DISEASE DEPARTMENT at a salary of £250 per annum.

The duties require attendance at four Clinics per week (Monday Wednesday, and Friday at 5 30 p m, and Saturday at 1 30 p m)

Applications accompanied by three testimonials, must reach the Secretary by noon on Monday June 30th 1924 and London candidates should attend personally on that date at 5 15 p m

London Temperance Hospital,

Hampstead Road N W 1

Applications are invited for the post of HOUSE PHYSICIAN which will be vacant on the 14th July next. Honorarium £120 per annum with residence board etc The appointment is for a period of six months, renewable

Applications should reach the Secretary on or before July 4th.

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429 Strand London W C 2.

Town or District	Town or District	Town or District
CONTRACT PRACTICE.	**WALES** (continued)	**PUBLIC HEALTH** (continued)
ENGLAND	TONDU & ABERKENFIG GLAMORGAN (Workmen's Medical Scheme)	HUNTINGDON ADMINISTRATIVE COUNTY (Assistant County Medical Officer and Assistant School Medical Officer)
CANNOCK CHASE AND DISTRICT (Cubs and Friendly Societies Appointments)	**PUBLIC HEALTH**	JARROW BOROUGH (Medical Officer of Health)
MIDDLESBOROUGH (Medical Aid Association of Workmen's Club)	ABERDEENSHIRE EDUCATION AUTHORITY (Assistant Chief Medical Officer)	LINCOLN CITY AND COUNTY BOROUGH (Medical Officer of Health)
SOUTH BANK & ESTON (Medical Aid Association or Workmen's Club)	ARGYLLSHIRE EDUCATION AUTHORITY (Executive School Medical Officer)	LINCOLN CITY EDUCATION AUTHORITY (Woman Assistant School Medical Officer)
WALES	BARNSLEY COUNTY BOROUGH (Assistant Medical Officer of Health and Assistant School Medical Officer)	NORFOLK EDUCATION COMMITTEE. (Assistant School Medical Officer)
ABERTRIDWR GLAMORGAN Universal Colliery (Medical Scheme)	DUNDEE EDUCATION AUTHORITY (Senior Assistant Medical Officer)	NORTHUMBERLAND COUNTY COUNCIL. (Woman Assistant Medical Officer of Health)
EBBW VALE MON (Workmen's Medical Society)	FIFE EDUCATION AUTHORITY (Assistant School Medical Officer)	NOTTINGHAMSHIRE (County Medical Officer of Health)
GILFACH GOCH GLAMORGAN (Workmen's Medical Scheme)	GELLYGAER URBAN DISTRICT COUNCIL (Medical Officer of Health.)	SOUTHWARK METROPOLITAN BOROUGH (Tuberculosis Officer)
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN (Workmen's Medical Scheme.	HUDDERSFIELD COUNTY BOROUGH (Woman Assistant Medical Officer of Health)	STOKE ON TRENT EDUCATION COMMITTEE. (Assistant School Medical Officer)
MARDY GLAMORGAN (Workmen's Medical Scheme)		YORKSHIRE NORTH RIDING COUNTY COUNCIL. (Assistant Tuberculosis Officer)
OAKDALE MON (Medical Officer for Medical Aid Association)		
ODMORE VALLEY GLAMORGAN (Llwynypia Colliery Medical Aid Society) (Workmen's Medical Scheme)		

(b) Colonial Medical Service.

WINDWARD ISLANDS MEDICAL SERVICE.—(Grenada with Carriacou, St. Vincent and St. Lucia)

(c) Overseas Appointments

Medical Practitioners are requested not to apply to any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association 429 Strand London, W C 2.

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch.	Town or District	Hon. Sec. of Division or Branch
NEW SOUTH WALES. (All Friendly Societies Appointments)	Dr. R. H. TODD (Hon. Sec. New South Wales Branch) B M A Building 30-34, Elizabeth Street, Sydney N.S.W.	QUEENSLAND (Brisbane Associated Friendly Societies Institute.)	Dr. R. MARSHALL ALLAN (Hon. Sec. Queensland Branch) Adelaide Street Brisbane.	VICTORIA (All Institute Medical Dispensaries)	Dr. FRANK DAVIES Hon. Sec. Victorian Branch) Medical Society Hall, Melbourne Victoria
				WESTERN AUSTRALIA (Contract and Private Practices)	Hon. Sec. Western Australian Branch, Barrack House, New South Wales Chambers, St. George's Terrace, Perth.

Address 429 Strand, W C 2.
June 25th, 1924.

By order of the Council of the British Medical Association
ALFRED COX, Medical Secretary

Bloomsbury Dispensary

The office of PHYSICIAN to this Charity having become vacant gentlemen wishing to become Candidates for the appointment are requested to send their applications and testimonials to the Secretary of the Dispensary not later than Friday July 4th.

An honorarium of 100 guineas is usually voted annually to the Physician.

Candidates must be either Fellows or Members of the Royal College of Physicians of London, and not practising Pharmacy or Midwifery.

Canvassing is not permitted.

Further particulars may be obtained of the Secretary Bloomsbury Dispensary 12 Bloomsbury Street W.C.1

Central London Throat, Nose, & EAR HOSPITAL, Gray's Inn Road, W C 1

RESIDENT HOUSE SURGEON (Male.)

There will be a vacancy for a Second Resident House Surgeon to enter on duty about the middle of August. Remuneration at the rate of £75 per annum.

The appointment offers good opportunity of acquiring extended knowledge of the diseases treated.

Applications, with copies of not more than three testimonials, should be sent to the undersigned not later than July 5th.

RICHARD KERSHAW, Secretary

Derbyshire Education COMMITTEE.

SCHOOL MEDICAL OFFICER (SPECIALIST)

Applications are invited for the above position at a salary of £600 per annum rising by annual increments of £25 to £800 per annum, together with travelling and maintenance expenses.

Special knowledge in diseases of the ear and throat are essential, and skill and experience in the enucleation of diseased tonsils and removal of adenoids. Experience in Ionic treatment of ear disease is also desirable.

Particulars of duties and forms of application may be obtained from the undersigned, to whom they should be returned, filled up together with copies of not more than three recent testimonials, on or before July 5th.

SIDNEY BARWISE, M.D.
New County Offices, School Medical Officer
St. Mary's Gate, Derby.

Leeds Public Dispensary

Wanted JUNIOR RESIDENT MEDICAL OFFICER. Salary £150 per annum with board residence, and laundry. Separate sitting room.

Applications with copies of three recent testimonials, to be addressed to the Secretary to the Faculty Public Dispensary North Street, Leeds.

West London Hospital, Hammersmith Road, W. (1 Beds.)

Applications are invited for the post of ASSISTANT ANÆSTHETIST. Candidates are required to be registered under the Medical Act, to send applications with copies of testimonials so as to reach me by Wednesday July 16th, to attend the Medical Council on Friday July 18th at 4.30 p.m. and prior to that date to call upon and send copies of their applications and testimonials to the members thereof, to abstain from canvassing, but nevertheless to send copies of their applications and testimonials to the members of the Board of Management, who will meet on Tuesday July 22nd, at 5 p.m. when candidates must be in attendance.

H. A. RADGE, Secretary.

City of Bradford

MEDICAL OFFICER required with special knowledge and experience in Eastern Languages under the City Bacteriologist as Assistant in the Laboratory and in Hospital Work.

Salary £600 per annum.

Forms of application may be obtained from the Medical Officer of Health, Town Hall, Bradford, and should be returned to him not later than July 14th.

S. L. FIELDING,
Town Hall, Town Clerk.
Bradford.
July 15th.

Wanted by large Company for their Eastern Staff an unmarried MEDICAL OFFICER age not exceeding 35 years. Liberal terms will offered to suitable Candidates Full particulars of school and college training and hospital and other experience together with professional references should in the first instance be sent to Box No 418 SHAW & BLAKE, 8 Bell Yard, Temple Bar W C 2

Wanted, about middle of October, for panel and private practice without midwifery qualified Indoor ASSISTANT Reading man preferred or one requiring some time for hospital with moderate salary Usual bond Assistantship with view considered State essential particulars including nationality —Add , No 3224, BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted —Assistantship, outdoor or branch for married man aged 39 years no family Particularly fond of midwifery and panel work Healthy and active. Englishman Some years of general practice experience —Address No 3208 BRIT MED. JOURN Office 429 Strand W C

Wanted —Assistantship or LOCUM by M B. Ch B 1921 woman, strong energetic keen midwifery, children experienced chauffeuse prefers outdoor country practice Own motor cycle instruments etc Free August — Address No 3203, B M J Office 429 Strand W C

Wanted —Assistant, with view to partnership, South Coast Town (Sussex) Must be capable Surgeon preferably F R C S —Address full details to No 3223 BRITISH MEDICAL JOURNAL Office 429, Strand W C 2

Wanted — Assistant with Partnership in six months (share about £1 000 or more) in panel and private practice in Central London age about 30 years with hospital and practice experience — Address No 3213 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Wanted —Outdoor (married) ASSISTANT in private and panel practice in Midland view to partnership House available Usual bond —Reply stating age nationality and other essential particulars, to No 3233, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted —Thoroughly reliable conscientious experienced gentleman to TRAVEL FEW WEEKS with neurasthenic patient Play golf tennis bridge Personal interview necessary Good fees Middle aged —Dr W HAMILTON ALLEN Rowledge Farnham Surrey

Wanted help in high-class country town Practice up-to-date Hospital University Graduate preferred knowledge of refractions an advantage Excellent prospects for right man State essential details personal interview necessary -Add No 3236 B M J 429 Strand

Assistantship, with view to PARTNERSHIP required shortly by woman, M B Ch B, 37 English Hospital and general practice experience Capital available —Address, No 3231 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

A firm of non-panel Doctors in S W London district wish a married or single DOCTOR to take only NIGHT DUTY from 9 30 p m to 9 30 a.m. for the month of July They offer board and residence in exchange for such service Not much night-work — Address No 3239 BRIT MED JOUR. Office, 429 Strand W C 2

Indoor Assistant wanted, for general and panel practice. Must have held house appts. be interested in his work and competent to take his share in gen and major surgery Lincolnshire Coast No cycling car provided Two in practice.—Reply stating age and other essential particulars No 3257 B M J 429 Strand W C 2

Medical Woman, well-qualified and experienced in midwifery minor surgery anæsthetics, children general practice and public health wishes APPOINTMENT in or near London Temporary entertained Free July —Address, No 3222 B M J 429 Strand W C 2

Recently Retired Medical Officer Colonial Service desires work abroad Much tropical experience D T M Excellent testimonials, references Would consider good ship SURGEONCY Exceptionally fit physically — Address, No 3252, B M J Office, 429 Strand, W C.

As Locum—Lady Dispenser, experienced (Hall Cert.), desires further engagements for July and August. Highest references —Address No 3238, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

LOCUM TENENS
PROVIDED
Without fee to Principals
Apply to
Mr. W. S. ATKINS
(Late of ARNOLD & SONS, London)
43, BEDFORD STREET, STRAND, W C 2.
Telegraphic Address
Positions, Westrand London."
Telephone Regent 229

Wanted, Locum or ASSISTANTSHIP with view Preferably Eye, Ear Nose and Throat work by an M B D O etc. Twelve years of Ophthalmic experience thoroughly competent Has also 20 months experience as H S to the Ear and Nose Dept Excellent testimonials Willing and hard worker Free by July 20th —Address No 3211, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted —Locum (experienced) for private practice from Aug 25th to Sept 14th Good class no panel or dispensing very little night work Charming district Cheshire. State essential particulars and recent reference.—Add No 3214. BRIT MED JOUR. Office 429 Strand.

Wanted on North East Coast, a reliable LOCUM from July 16th to August 31st Abstainer Experienced in panel and private practice. Work light Terms 5½ gns. per week with suitable rooms and board.—Address No 3227 BRIT MED JOURN Office 429 Strand W C 2

Wanted — Medical woman as LOCUM Devonshire country two week-ends Work very light Hospitality offered for 10 days Possible Assistantship to be discussed. —Address No 3229 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted —Post as Locum, for July and August Middle aged Experienced in panel and private work Town or country References —Address No 3230 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

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Dispenser —Man, experienced, keep books, seeks POST doctor — Dissent 10 Greyhound Road Mansions W 6

Doctors requiring Lady DISPENSERS should write to Mr J E WALDEN Westminster College 113, St. George's Road, S E 1 (only address) No fees to Doctors. 25 years experience Daughters and other relatives of medical men always in training

As Locum —An experienced Doctor who has had own practice desires further ENGAGEMENTS for Aug. and Sept Terms 7 gns per week London pref not essential Does some 10 locums annually Well recommended — Add , 'MEDICUS 8 Talbot Road Bayswater W

As Locum —Further engagements desired by experienced medical woman General Practice or Tuberculosis work Seven guineas per week in general practice From end of June onwards —Address, No 3215 BRITISH MEDICAL JOURNAL Office 429 Strand W C

Hospitality Locum (light work) Wife 2 boys 2-4 weeks from mid August wanted by M B Ch B 33 abstainer ex H S successful in own practice good refs. Coast preferably South desired own car 1924 Singer if desired.—Add No 3234. B M J 429 Strand W C

Dentist (1921) seeks Locum or other appointment London Manchester, or Liverpool preferred 10 years experience Careful and attentive —Address No 3218 BRITISH MEDICAL JOURNAL Office 429 Strand, W C 2

Holiday Exchange —Doctor in S Devon village on border of Dartmoor, and 12 miles from Sea would like to exchange for 3 or 4 weeks in August with Doctor in or near London —Address No 3212 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Locum Tenencies wanted for July and September by Woman Graduate M B Ch B Aged 25 Experienced in hospital and general practice Good anæsthetist Keen energetic Cyclist Country preferred —Address No 3235 BRIT MED JOURN Office 429 Strand

Locum or Assistantship wanted M B Ch B Edin Woman Experience in general practice and dispensing also as H P and H S Post graduate experience in anæsthetics.—Address No 3220 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2.

M.B, B Ch, B A O, aged 28, ex H S desires LOCUM WORK for July and August Experienced in practice panel private and midwifery Total abstainer In or around London preferred but not essential —Address No 3253 BRIT MED JOUR Office 429 Strand W C 2.

M B, Ch B, woman, Scotch, desires LOCUMS July and August Previous experience. Good references and testimonials.—Address No 3256 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Practitioner, very recently given up large suburban practice will act as LOCUM in Country July and August any reasonable terms accepted If work light and nice country — Meticus c/o Mr KETTLEY, Abbotts Farm Saffron Walden

Retired Medical man would like Holiday LOCUM with hospitality for wife. Four Guineas weekly and one return fare.—Address No 3221 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Tuberculosis Officer — Ex Assistant R M O Sanatorium and Chest Hospital will undertake LOCUM during July Sanatorium preferred Immediate reply —Address, No 3204 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted —Partner in industrial area rural district Appointments and panel over £1 200 One-third share about £1 000 1½ years purchase House on lease good garden golf cricket, tennis.—Address No 3038 BRIT MED JOUR Office 429 Strand W C 2

Wanted, at once, Partner, in growing town in North Wales. Very good opening Panel over 500 Poor Law appointments Must be good at Obstetrics —Address No 3216 BRITISH MEDICAL JOURNAL Office, 429 Strand W C 2

Wanted — Wales (English speaking district) PARTNER with view to purchase General Country Practice (established 40 years) Panel 750 All appointments No works or collieries —Address No 3039 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Wanted, by Edinburgh Graduate, æt. 31, PARTNERSHIP, with view to early succession in Country Town preferably South or East with scope for good work — Address, No 3251, BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Death Vacancy —Wanted at once a well qualified practitioner aged about 35 years with capital as PARTNER in old established flourishing practice, close to London Large panel appointments private practice.— Address No. 3254 B M J Office 429 Strand W C

Favourite South Coast Resort.—THIRD PARTNER wanted in large increasing practice —Address No 3207 BRITISH MEDICAL JOURNAL Office 429 Strand W C 2

Partnership — Hants Coast, large town Partner leaving old established over £2 000 half panel and appts half private H S experience necessary Good class residential growing district. ⅓-½ share about 3 years purchase — Address No. 3103 B M J Office 429 Strand, W C

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Wanted by F.R.C.S., aged 27, a PRACTICE or PARTNERSHIP in town in the S. or Midlands with scope for surgery Income about £1,000 Now free and can pay cash.—"P," c/o BELL & DELL & Co., 22 Craven Street, Strand, W.C.2.

Wanted, in London or Suburb panel and private PRACTICE. Income £1,500—£2,000 Cash available—Address (in confidence) No. 3200, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.

Wanted in Autumn, a Panel of 1,500 to 2,500 in Southern Counties Hants preferred.—P," c/o BELL & DELL & Co.—Craven Street, Strand, W.C.2.

Co. Durham—Old-established PRACTICE. Good house, garden, stabling Receipts £750 (£700 from panel.) Much scope Price £850 part deferred House (freehold) £1,000 (£800 on mortgage.)—MANCHESTER MED. & SCHOLASTIC ASSOCIATION, Ltd., 83 King Street

Death Vacancy—£1,000 a year Favourite Riviera Resort. Very old-established. Same hands over 30 years. Small and select panel Night work mostly refused Good house, with garage and garden on lease Excellent opportunity for prompt purchaser Personally known and recommended.—Apply No. 7556, PERCIVAL TURNER, 4 Adam St., Adelphi, W.C.

Death Vacancy—Old-established over 30 years in same hands. Riviera resort. Select panel of 160 Private PRACTICE with Insurance examinations House can be arranged for with agent, if suitable to purchaser —Address, No. 3219, B.M.J., 429 Strand, W.C.2

For Disposal—A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised.—Full information free on application to 4 Adam St., W.C.2.

Liverpool—General Practice recently established in growing suburb Good scope for increase. Freehold residence in good position with garden Premium for house and practice £1,500.—Address No. 3007, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2

Monmouthshire (town)— Chiefly private (good class) small panel. About £1,200 p.a. Capable of increase. Convenient house (freehold) with surgery and large garden No conveyance required. House and Practice £3,500.—GRIFFITHS Medical Agents Queen's Square, Newport, Mon.

North of England—In prosperous residential neighbourhood, near large seaport and health resorts well known Swedish Medical PRACTICE. Well supported by the local medical men. Full electrical apparatus, including X-ray, Diathermy, Burgoyne chair and Solarium Bath.—Add. No. 3201, B.M.J., 429 Strand

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Practice, old-established, of £1,000 p.a. capable of increase. Panel 900 No appointments. House, long lease at low rent.—For particulars, address No. 3255, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

Practices and Partnerships required, all parts, both country and industrial districts. Death vacancy or nucleus entertained. Fair premiums offered Many clients waiting.—Please send particulars, F. PRINCE, 32 Charing Cross, London, S.W.1 (No result, no charge).

South Africa—Practice for Sale a Westminster 60 miles from Bloemfontein Established 1903. Income about £1,200 per annum in outlying railway appointment carrying privilege and concessions 5,000 feet above sea level. Excellent climate particularly suited to sufferers from bronchial and pulmonary troubles No opposition within 30 miles. Also house containing 2 reception, 6 bedrooms, bathroom, &c., and separate surgery consulting room, garages for 2 cars, laundry, 30 acres gardens, paddocks, and plantation. Abundant water, electric light, phone. One mile from station, stores and excellent Government school £7,000.—For further particulars, apply JOHNSON JECKS & COLCLOUGH, Solicitors 21 Austin Friars, E.C.2

Scotland—For Sale, unopposed dispensing PRACTICE, in Clyde Watering Place Income (average three years) £870 which includes £250 from panel and appointments. Modern House and Garage to be sold with practice.—Add., No. 3209, B.M.J., 429 Strand

Scotland—Sale or Exchange —Unopposed Country PRACTICE Receipts £800 including Panel and Appointments £200 Own dispensing House with large garden and garage £700, of which £300 can remain. Premium for Practice £1,100.—Add. No. 3225, B.M.J., Strand.

Required at once, Practices and PARTNERSHIPS.—Mr W. S. ATKINS (late of ARNOLD & SONS, London) has a large number of Clients who are seeking Practices and Partnerships, and wish to settle down at once.—Send full particulars, in confidence to ATKINS Medical Transfer Agency, 13 Bedford Street, Strand, W.C.2

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West Riding University city busy thoroughfare, good recently established panel PRACTICE, and house in good position for sale. Mod. fees 12 months receipts about £950 increasing. Splendid opening for panel Bona fide only.—Add. No. 2919, B.M.J., 429 Strand.

Yorks—Old-established, good house, garage £60 on lease. Receipts over £2,000, panel 1,140 Excellent scope surgery Vendor on Hospital staff, to which buyer can succeed Price £3,000 half down.—MANCHESTER MED. & SCHOLASTIC ASSOCIATION Ltd., 83 King St.

Dorsetshire—Old established PRACTICE Partnership with preliminary Assistantship and ultimate Succession Receipts £1,112. Panel 1,430. Scope.—Further particulars from LEE & MARTIN Ltd., 41 Temple Row, Birmingham.

South Staffordshire—Well- established country PRACTICE Receipts about £800 per annum. Panel nearly 500 Scope Freehold house, good accommodation and garden. Introduction. Premium to practice and house for quick sale £1,400.—LEE & MARTIN Ltd.

West Midlands—Old-estab Town and Country PRACTICE in a County Town. Receipts £1,574. Appointments. Panel nearly 400 Minimum fee 5. Expenses small Hospital (20 beds) Purchaser would be appointed Physician or Surgeon Good house and garden Premium for practice £2,250.—LEE & MARTIN Ltd.

Lancashire—Large City Old-established private and panel PRACTICE. Receipts over £2,100 Panel over 1,900. Expenses small Freehold house excellent position. Premium payable part down and remainder by instalments.—LEE & MARTIN Ltd.

North of England—Old- established Country Town PRACTICE. Average receipts £1,460 Good panel. Expenses small. Good house, garden, tennis lawn, and orchard. Large mortgage arranged.—LEE & MARTIN Ltd

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Wanted—Second-hand CONSULTING ROOM COUCH, with stirrups or foot rests Send particulars, with sketch.—Address No. 3228, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.

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Wanted—BRITISH MEDICAL JOURNAL, Jan. 5th to June 14th 1919 and Title and Indexes, 1919 *Lancet* Aug. 9th and 31st Sept. 14th, and Dec. 7th Jan. 25th 1919 *Journal of Laryngology* Jan., 1919.—Price to STEVENS & BROWN, 119, Chancery Lane, W.C.2.

Wanted for Cash—Second- hand MULTOSTAT PANTOSTAT or PLUROSTAT in good condition. Price and particulars of voltage on which apparatus is intended to work, to Box 87, c/o P. ALDRIDGE, Advt. Agent, 43 Paternoster Row, E.C.4

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Med. and Surg. Sundries (new and second hand) Maj. Op. Outfits £10, sterilizers for 10 Spencer Wells Forceps 2/6 Wool 2 oz. comp. packs 1/4 lb. Record Syringes for 5/- Iod. Catgut tubes 1/6 Sterile silk or Catgut 12 tubes 1/- —A. W. ALTY & Sw. Bird's-yard Rd., Wembley

Tennis—Splendid set stout ash posts fitted with brass racket winder to fit iron ground sockets and screws 38/6 worth 75/- stout 42 ft. tarred and treated net 15/- both unused. Approval post-dated cheque.—MANSELL, 133, Hither Green Lane, Lewisham, S.E.13.

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Bournemouth.—In local Harley Street, CONSULTING ROOM and use of Waiting Room, to Let. Dark Room available. Suitable for Radiologist or other Specialist Address No. 3226, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2

Beautiful Consulting Room to Let. Large private house. Specially enlarged. Attendance light, heat, use of waiting room, 1 guinea per day.—"Principal" c/o H. BARKER, 133, Salisbury Square, London, E.C.4

Hyde Park (North side)— Lease of excellent DOCTOR'S RESIDENCE for disposal, to introduce this Practice, at present rental of £150 lease until 1941 £1,000.—Apply the agents DREW & Co., 5 Baker St., W.

Pathological Laboratory in district a house adjoining Harley Street £40 yearly Use of consulting room can be arranged if required.—Address, No. 2929, BRITISH MEDICAL JOURNAL Office, 429 Strand, W.C.2.

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A medium-size Willett-built STONE-FRONTED RESIDENCE, occupying an unique position, suitable for members of the medical profession

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Central Hall,
Five Entertaining Rooms,
Ten Principal and Secondary Bedrooms
Five well fitted Bathrooms
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Artistically appointed and decorated throughout. Electric Passenger Lift, Central Heating Independent Hot Water System Service Lift, Electric Light and Power

Two rooms with the use of Waiting Room, have been sub-let as Consulting Rooms on tenancies expiring September 1925 at total yearly rentals of £450 per annum inclusive, plus £35 per annum extra for Lighting and Telephone

Held on lease, having approximately 85 years unexpired at a Ground Rent of £60 per annum.

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acquire FREEHOLD PROPERTY in South Coast Resort facing Sea, at present conducted as Nursing Home Thirty bedrooms many with balconies. Every convenience Electric light, lift, 2 acres of grounds Could be adapted for school boarding house or other purposes Very easy terms to prompt buyer —Apply No 7563 Mr PERCIVAL TURNER, 4 Adam Street Strand W C.2

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ever increasing suburb —A select RESIDENCE for Sale in a first-class position for a medical man, with nice garden and suitable building for a dispensary Electric light, main drainage and water Ready for immediate occupation.—Address No. 3202 BRIT MED JOUR Office 429 Strand, W C 2

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Hospital for Consumption and

DISEASES of the CHEST, Brompton, S W

The Committee of Management invite applications for the Post of HOUSE PHYSICIAN (for which there are five vacancies) The duties include work in the Out-patient Department as well as in the Wards, and one of the selected Candidates will also be appointed Assistant to the Tuberculosis Officer for the local Tuberculosis Dispensary at the Hospital

Applications, with testimonials, must be sent in not later than Tuesday, July 15th, addressed to the Secretary The appointment is for six months commencing on August 1st with an honorarium of £50 FREDERICK WOOD, Secretary

June 1924.

Resident Medical Officer —

The Committee of Management of the HOSPITAL FOR CONSUMPTION and DISEASES OF THE CHEST Brompton invite applications for the POST of RESIDENT MEDICAL OFFICER Salary £500 per annum (including £100 as Registrar) with board and residence Applications, with testimonials, to be sent in on or before Wednesday July 16th, 1924 Candidates must be registered practitioners and qualified in Medicine and Surgery single, and not under 25 years of age

FREDERICK WOOD Secretary

Brompton June 1924

St Bartholomew's Hospital

OFFICE OF ASSISTANT PHYSICIAN

Notice is hereby given that a Meeting of the Election Committee will be held on Monday July 28th 1924 at 4 o'clock in the afternoon to elect an Assistant Physician to this Hospital

Candidates who must be Fellows or Members of the Royal College of Physicians of London, are required to lodge 36 copies of their applications and testimonials with the undersigned, on or before Saturday July 12th, 1924.

THOMAS HAYES

June 19th 1924 Clerk to the Governors.

Croydon Mental Hospital,

Upper Warlingham Surrey

Lady DISPENSER wanted Must be fully qualified and one with a knowledge of photography preferred Age not to exceed 30 years

Salary commencing at £120 per annum rising by annual increments of £20 to £180 together with board lodging and washing, which are at present valued £72 9s. 0d. for Superannuation purposes

Apply at once to the Medical Superintendent stating age qualifications and enclosing copies of two recent testimonials with photograph.

Caldeerstones (Certified

Institution for Mental Defectives), Whalley, near Blackburn

Wanted ASSISTANT MEDICAL OFFICER (male) under 30 years of age single Fully qualified and registered Hospital experience and ability to correct errors of refraction will be an advantage Salary £300 per annum, plus a fluctuating bonus which is at present £140 16s. 11d., together with board apartments, and washing

Applications, with copies of three recent testimonials to be sent to the Medical Superintendent.

Royal Edinburgh Hospital

FOR SICK CHILDREN

Wanted for this Hospital, FOUR HONORARY RESIDENT MEDICAL OFFICERS to enter on October 15th next. Information as to duties etc. can be obtained from the ordinary physicians and surgeon at the Hospital Thirty copies of applications and relative testimonials to be lodged on or before July 3rd with Messrs HENRY & SCOTT W S 21 St. Andrew Square, Edinburgh. No applications will be received after that date.

Coventry and Warwickshire

HOSPITAL Coventry (241 Beds.)

JUNIOR HOUSE SURGEON (Male) wanted Salary £130 per annum with board residence &c.

Candidates must be duly qualified and registered

Applications stating age experience, &c and enclosing copies of recent testimonial, should be sent to the undersigned on or before July 8th

(Miss) R. HOOPER Secretary

Wolverhampton & Stafford-

SHIRE HOSPITAL

(Incorporated by Royal Charter)

A HOUSE SURGEON wanted for July 23th The Hospital contains 210 beds including the usual Special Departments and is recognized by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice. Candidates must be registered under the Medical Acts The appointment is for six months with a salary at the rate of £150 per annum board furnished rooms and laundry provided

Applications, with copies of testimonials, to the undersigned.

W H HARPER

House Governor & Secretary

Wolverhampton June 23rd 1924.

Hampstead General & North-

WEST LONDON HOSPITAL

Haverstock Hill, N W

APPOINTMENT OF GYNÆCOLOGIST

Applications are invited for the appointment of Gynæcologist to the Hospital Candidates must be Fellows of the Royal College of Surgeons England or Members of the Royal College of Physicians, London

Applications, stating age, qualifications, and experience accompanied by copies of not more three testimonials, should reach the Hospital not later than noon on July 16th

Further particulars may be obtained on application to the Secretary

Blackburn and East

LANCASHIRE ROYAL INFIRMARY

THIRD HOUSE SURGEON (male) wanted at a salary of £200 per annum, with board, residence laundry etc. The Hospital contains 160 beds, with X Ray and Massage Departments V D Department Pathological Laboratory; Eye Ear Nose and Throat Departments, etc. Last year there were 1,947 in patient operations and 727 out patient operations. There is no outside work.

Applications with copies of testimonials, stating age nationality experience &c, to be sent at once to the undersigned.

NATHAN A. SMITH,

Royal Infirmary Gen. Supt. and Secretary

Blackburn.

Bracebridge Mental Hospital,

near Lincoln

Male SENIOR ASSISTANT MEDICAL OFFICER required Salary £350 rising by annual increments of £25 to £425 per annum, with £50 additional to those possessing or obtaining D.P.M. Board lodging washing and attendance provided

Candidates whose age must not exceed 35 must be fully qualified and registered medical practitioners and have had previous experience in a Mental Hospital

Applications, with copies of not more than three recent testimonials, to be sent before the morning of Wednesday, July 9th to H E PAGE, Esq Clerk to the Visitors Bank Street Lincoln

Wanefold, Leamington and

SOUTH WARWICKSHIRE GENERAL HOSPITAL Leamington Spa.

Wanted immediately RESIDENT HOUSE PHYSICIAN, fully qualified and registered.

Salary at the rate of £150 per annum with board residence, and laundry

Applications, stating age and experience, accompanied by not more than three recent testimonials, should be sent at once to the undersigned.

W RUSSELL RUDALL,

June 23rd, 1924. House Governor & Secretary

The Mildmay Mission

HOSPITAL, Austin St. Bethnal Green E.2 (near Shoreditch Church)

Applications are invited for the post of ASSISTANT CASUALTY OFFICER The appointment is part time and non resident and for six months. Salary £100 per annum

Candidates must be duly registered under the Medical Acts and the Mildmay Council is anxious that they should be fully in sympathy with the religious work of the Hospital

Applications, with copies of recent testimonials, should be sent to the Medical Superintendent at once.

South London Hospital for

WOMEN

South Side, Clapham Common S W 4

The Board of Management invite applications from qualified Medical Women for the appointment of CLINICAL ASSISTANT (Ophthalmic Department) to attend at the Out patient Dept. 86 90 Newington Causeway S E. on Monday and Friday afternoons Refractions taught

Applications, with testimonials to be forwarded to the Secretary at the Hospital

London Homœopathic HOSPITAL,

Great Ormond Street and Queen Square, Bloomsbury, W.C.1. (120 Beds.)

The Board of Management are prepared to receive applications, male or female, for the following appointments:—

ASSISTANT PHYSICIAN TO THE HOSPITAL.

The successful candidate must possess or obtain a registrable University Degree, and be or become a Member of the British Homœopathic Society. It is required that successful candidates for posts on the Honorary Medical and Surgical Staff of the Hospital shall show evidence of knowledge of the Theory and Practice of Homœopathy within one year of appointment by having attended one or more of the Systematic Courses of Lectures at the Hospital. Any candidates canvassing the Members of the Board, Medical Council, or Medical Committee are thereby disqualified.

Candidates may be required to attend a Meeting of the Medical Committee.

Applications, stating age, with copies of testimonials (20 copies of each testimonial) should be sent, addressed to the Secretary, of whom further particulars may be obtained.

EDWARD A. ATTWOOD,
June, 1924. Secretary.

City of Birmingham Anti-TUBERCULOSIS SCHEME.

Applications are invited for the post of an ASSISTANT RESIDENT MEDICAL OFFICER (Male). Experience in the diagnosis and treatment of tuberculosis in a recognized institution is essential. Preference will be given to those with experience in the treatment of surgical tuberculosis. Age should not exceed 6 years. Salary at the rate of £450 per annum with board residence for an unmarried Doctor, and laundry. The person appointed will be required to join the Municipal Superannuation Scheme for which a medical examination is required. The duties include those of a tuberculosis and Dispensary work.

Application on form to be obtained from G. B. Dain, Chief Tuberculosis Officer, Municipal Anti-Tuberculosis Centre, 61a, Broad Street, Birmingham, to be sent to him on or before July 7th, together with names of three recent testimonials.

Manchester Royal Infirmary

SECOND SURGICAL REGISTRAR.

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment, which will be vacant on July 7th next. Applicants must be registered and hold a Medical and Surgical qualification.

The appointment (non-resident) is for one year, renewable for a further period of one year subject to the provisions of the Bye-laws as to notice. Salary at the rate of £150 per annum.

Applicants must state age, and address their applications and testimonials to the Chairman of the Medical Board, by Saturday, July 19th, 1924.

By Order, FRANK G. HAZELL,
July 17th, 1924. Gen. Supt. & Secretary.

Northampton General HOSPITAL.

The Board of Management invite applications for the post of SECRETARY SUPERINTENDENT. Salary commencing at £400 with residence and lighting. Candidates must not be under or over 45 years of age. Previous Hospital experience essential.

Apply stating age and experience with copies of testimonials, not later than July 15th, to the undersigned, from whom full particulars of the appointment can be obtained. Personal canvassing will be fatal.

C. S. RISBEE,
June 25th, 1924. Secretary Superintendent.

The Liverpool (Shaw St.) & SAMARITAN HOSPITAL FOR WOMEN.

The co-ordinated Committees of the above invite applications for the appointment of HONORARY ASSISTANT SURGEON.

Candidates must hold the Fellowship of the Royal College of Surgeons, England, Edinburgh or Ireland or a Master of Surgery Degree of a recognized University of the United Kingdom.

Candidates should submit this application on or before Tuesday, July 1st, 1924, to

SAMARITAN HOSPITAL,
5 Cook Street, Liverpool. P. J. KIRBY,
Hon. Secretary.

Registrar.—The Committee

of the ORTHOPÆDIC HOSPITAL invite applications for a vacancy of Registrar and Clinical Assistant. Honorarium 100 guineas. Appointment for 12 months renewable for a further 12 months on the recommendation of the Medical Board. Candidates must be doubly qualified. Applications, with copies of three recent testimonials should reach the Secretary Royal National Orthopædic Hospital, 234 Gt. Portland Street, W.1, not later than July 11th. Particulars of duties will be forwarded on application.

Telephone: Langham 2728.
Telegrams: "Assistance, London."

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TRAINED NURSES for MENTAL and NERVOUS CASES can be had immediately. Apply to LADY SUPERINTENDENT, 19 Nottingham Place, London, W.1. Telephone: Mayfair 3430.

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York Road (General Lying-IN HOSPITAL), Lambeth, S.E.—Established 1828.

Patrons: H.M. THE QUEEN and H.M. QUEEN ALEXANDRA. Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Telephone: 961 Central. For rates, fees, etc., apply ROSE E. WHYTE, Secretary.

MR. HERBERT NEEDES,

31, BEDFORD ST., STRAND, W.C.2.

Gerrard 5373. (Estab. 1890.)

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No Charge to Purchasers. All Business received Mr. NEEDES' personal attention.

Victoria Hospital for CHILDREN

Tite Street, Chelsea, S.W.3. (140 Beds.)

The Committee of Management invite applications for the posts of HOUSE PHYSICIAN and HOUSE SURGEON both vacant August 1st). These appointments are for six months. Salaries at the rate of £100 per annum with board, lodging and washing. Candidates must hold Medical and Surgical qualifications and be registered under the Medical Act.

Applications with copies of three recent testimonials, should be sent to the Secretary not later than first post Tuesday, July 8th, 1924.

By Order,
D. St. JOHN BAMFORD,
Secretary.

Victoria Hospital for CHILDREN

Tite Street, Chelsea, S.W.3.

The Committee of Management invite applications for the post of OPHTHALMIC SURGEON which falls vacant August 1st.

Candidates must be Fellows of the Royal College of Surgeons of England (not practising Midwifery or Pharmacy). Candidates are expected to call on Members of the Medical Staff.

Applications, with copies of testimonials, to be sent to the Secretary at the Hospital on or before Saturday, July 12th, 1924.

By Order,
D. St. JOHN BAMFORD,
Secretary.

St. Thomas's Hospital

VACANCY.

The appointment of a VISITING ANÆSTHETIST will be made by election.

Applications with testimonials should be forwarded to G. Q. ROBERTS, Secretary, not later than July 26th, 1924.

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FOR DISPOSAL.

London, W.—A general PRACTICE producing nearly £1,000. Panel 1,200. Fees 5s. upwards. New modern House containing 4 bedrooms, etc. Rent £110. Premium £1,300—Folio 651.

Sussex.—A general Practice situated in charming district. Receipts £1,400. Fees 4s. to 21s. Cottage hospital and scope for surgery. Excellent double-fronted house containing 8 bedrooms, &c. Premium £1,500 purchase. Folio 593.

Glamorgan.—General Practice in thickly-populated district. Receipts £1,700. Fees 3s. upwards. Panel 2,300. Considerable scope. House, containing 4 bedrooms, etc. Rent £50 p.a. Premium £1,500. Folio 887.

Derbyshire.—A General PRACTICE situated in an industrial district. Receipts about £800. Panel 600. Good fees. Nice house containing 3 bedrooms, &c., at rental. Premium £1,000.—Folio 653.

Yorks.—A General Practice situated in an industrial district with pretty country around. Receipts over £2,000. Panel 1,100. Fees 3s. upwards. Nice house containing 4 bedrooms, etc. Rent £60 p.a. Premium 1½ years purchase. Payable half down and balance by arrangement.—Folio 659.

Sussex.—Partner required for Country Practice. Receipts £1,500. Scope for increase. Share value £1,000 if widespread attempt purchase, with view to succession.—Folio 856.

Notts.—A middle and working class PRACTICE. Receipts £1,200. Panel 900. Fees 3s. 6d. upwards. Ample scope. Nice corner house, containing 3 bedrooms, etc. Rent £60 p.a. Premium 1½ years purchase.—Folio 602.

Purchasers stating their requirements can have details of other Practices not advertised.

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1. KENT.—Unopposed Country PRACTICE in charming district. Receipts £800 a year. Scope for increase. Good house, large garden. Rent £35. Premium £1,300, part deferred.
2. HOME COUNTY.—Beautiful district. Country PRACTICE. Receipts £1,550 p.a. No resident opposition. Good commodious house at sale. Premium for practice £2,400.
3. LANCS.—Country Town PRACTICE, no resident opposition. Receipts average £1,000 p.a., easily increased. Panel 600. Commodious house. Rent £42. Premium £1,200.
4. CHESHIRE.—Half share in well-established panel PRACTICE. Receipts £4,000 a year. Panel 1,600. Good house available. Rent £80. Premium 1½ years purchase.
5. SOUTH WALES.—Coast town. General PRACTICE yielding £1,700 a year. Small but convenient house. Rent £50. Premium £1,500.
6. NORTH WALES.—PARTNER wanted for middle and working-class Practice. Country district. Takes receipts £3,200 p.a., mainly from panel and appointments. Good house and garden. Rent £40. Opportunity to acquire. Premium for a share £1,700.
7. JUNIOR PARTNER wanted for general and working class Practice (no assistant) in country town, 15 miles from London. Share would be £1,100 a year.

   DEATH VACANCY.—Ordinary Welsh suburb. Mid-Lanes PRACTICE, receipts about £1,000 p.a. Could give immediate Partnership. Good house. Only £1,000 cash.
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Derbyshire—Unopposed PRACTICE about £1 400 p a. Panel 700 Appointments about £100 Good family house with garden etc. Rent £50 Hunting and all sport Premium £2 000 including drugs, etc —Apply No 7562

London, W—About £1,100 a year Non-dispensing Very small panel—Fees 5/ upwards Very few midwifery cases Corner house to rent —Apply No 7561.

London, S W—Partnership and succession £2,000 a year Half share for disposal Immediately Panel 1 800 Old established. Good fees Excellent house and large garden Prem 3 yrs purchase —Apply, No 7560

Yorkshire—About £1,700 a year Panel 1 125 Visits 2/6 to 10,6, medicine extra. About 30 midwifery cases up to £5/5/0 Appointments £60 Good house with garden and garage, for sale or would let on lease —Apply No 7559

London, W—Over £2,000 a year—Special PRACTICE, ear nose and throat mainly Including valuable transferable appointment. Good fees easily worked. Excellent consulting rooms, etc moderate rent Excellent opportunity Premium for prompt purchase, only £1,000—Apply, No 7555

Home County—Old-estab Country PRACTICE of nearly £1,600 a year Panel 730 Other appointments £130 Fees 3/6 to 10/6. Excellent house with half an acre of ground tennis lawn etc —Apply No. 7554.

Lancs—University Town About £700 p a Panel over 700 No midwifery ample scope Good house and garden Moderate price for Practice and house —Apply No 7553

New Zealand—About £1,800 a year Country Town in N Island near sea Agricultural district Premium £1 500, including furniture of house etc —Apply No 7551

Notts—Nearly £1,300 Panel 700 increasing Opposition less than usual Corner house to let on lease —Apply No 7549

London Suburb—About £750 p a. Old-established non panel non-dispensing PRACTICE Vendor retiring Fees 3 6 to 21/ Detached house Rent £55 —Apply No 7545

Cheshire—Nearly £4,000 a year Old established Practice HALF SHARE for Sale at 1½ years purchase Panel about 1 400 Appointments £45 Good fees Good house and garden to rent.—Apply No 7536

South County—Over £1,000 p a Panel 640 other appointments £120 Practically unopposed Excellent house elec. light etc Good garden. All sport —Apply No 7535

Midland Town—About £1,100 a year Old-established PRACTICE Panel 750 Appointment £40 Very little midwifery Large house and garden Prem £1 600 including drugs etc —Apply No 7534.

Norfolk Coast—Nucleus for disposal in favourite Seaside Resort Visiting fees 3/6 to 5/- Good house 3 reception 4 bed rooms, consulting room and dispensary lawn etc On lease rent £70 Small panel —Apply No 7524

Near Birmingham—£2,250 p a. Old established Opposition light. Good fee Panel 1 800 Appointments worth £500 (about) Good family house with garden tennis etc. to let.—Apply No 7501.

Lancashire—Old-established PRACTICE. Nearly £1 200 plus £280 appointments Panel over 800 Good detached house with p a res ground tennis etc. App'y No 7449.

Near Manchester—Nearly £2 000 p a. Panel worth about £600 p a. Moderate house with separate surgery to rent Premium 1½ year purchase easy terms. Good schools near —Apply No 7366.

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FOR SALE.

DERBYSHIRE—Old-established G P Panel over 600. Income nearly £800 Premium £1,000 Scope for increase

MIDDLESEX—PARTNER in very old-established G P Income over £4,500 p a Panel 4 000 Several appointments. House available Premium for one third share two years purchase

LANCS—Old established G P, situated in country town Very pretty country Large house garden, and garage Panel 800 2appointments Income £1,460 p a Premium to include house £4 000

YORKS—Old-established country town Panel 1 500 Income £2 500 3 appointments Detached house with garden and garage to let on lease. Premium £3,500

YORKS—Old-established G P Panel 1 290 Two appts Average income £1,297 p a Nice detached house (freehold) Scope for surgery Premium: Practice, £1 400, House £2 500 Part can remain

EAST COAST—DEATH VACANCY—High class non panel PRACTICE situated in busy town Income for past four years, £12 282 (excluding consulting and appointment fees) Staff appointment. Fees 7/6 upwards Nice house excellently situated to let or for sale Practice only suitable to one with good degrees and professional standing

LONDON N E—Old-established G P Panel nearly 400 Average cash receipts £950 p a Nu midwifery scope Premium £3 000 to include freehold house, or would let.

LONDON S W—PARTNERSHIP in old established G P Panel about 1 000 Income over £3 000 3 appointments Premium two years purchase £2 500 down

CHESHIRE—PARTNERSHIP in old established G P Income nearly £4,000 p a Panel 1 500 Fees 5/ to £1/3/6 Mids £3/3/0 to £10/10/0 Nice house with garden rent £56 p a Premium for half share 1½ years purchase £2 000 down Suit married man about 30

Purchasers, stating their requirements will be sent particulars of other suitable Practices and Partnerships for sale free of charge.

Please address all communications to the Manager, Mr W H. GRANT, Medical Transfer and Insurance Department.

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Within 80 miles—Old- established PRACTICE of £1 230 in nice town Panel 1,500 Nice house with good garden Rent £70 Schools, Society, &c

South Coast—Middle-class PRACTICE of £800, for Sale at the end of the year Panel 9 0 Detached house with nice garden. Rent £75. Premium 1½ years purchase

Residential Suburb—Middle and working-class PRACTICE of £1,300 increasing Panel 1,050, and good proportion of cash at separate Surgery Good house with nice garden can be bought.

Yorks—Practice of £1,450 in fine town Panel 8 0 Appointments £160 No midwifery has been done. House with pretty garden and separate entrance to surgery Can be rented.

West Coast—Nucleus of £550 including £90 from panel in wealthy seaside place Premises in prominent position

Home County—Partnership Half share of £2,000 in beautiful country town Panel 700 Appointments £260 House can be rented

Ear, Nose, and Throat PRACTICE of £2,000 Fees 1 to 3 gns Transferable appointment Low rent

Midlands—Town and country PRACTICE of £1 200 including 700 panel Good corner house with garage. Rent £60

Home County—Partnership with succession to middle-class Practice of £1,850, in residential district The place is growing and has a cottage hospital Panel 1 210 Appointments £180 Very few midwifery Rent £70

Home County—Unopposed PRACTICE of £1 600 Panel and appointments £500 Beautiful district Station Well built house with very nice garden and tennis court. Can be bought

Yorkshire.—Practice of £1 500 in prosperous town Panel 1 550 Rent £80 Premium 1½ years purchase

East Coast—Practice of £1 700 in beautiful seaside resort Panel 850 Appointment £80 Good schools Excellent house with fine garden Rent £140

South Coast—Partnership Half share of £2,300 in pleasant town Panel 1 000 Appointments £500 Good house with large garden Rent £90 Premium £2 300

Within 25 miles—Middle and working class PRACTICE of £1,700 Panel 1 700 Vendor retiring, Opposition slight. Rent £42

X-Rays Practice of £1,550, increasing Vendor is on the hospital staff Large town in S of England

London, S E—Middle and working-class PRACTICE of £1,300 Panel 910 House with nice garden and garage can be bought for £1,200

Liverpool—Practice of £1,400 in residential suburb Appointments £90 Panel 1 100 The Practice is non-dispensing Rent £50

North London—Middle and working-class PRACTICE of £1 600 Appointments Panel 1 100 No midwifery has been done there is great scope Rent £6[illegible]

Bu[illegible]—Middle and [illegible]CE of £815 Panel [illegible] Great scope Double garden Low rent

their requirements can have r Practices not advertised.

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NO CHARGE IS MADE TO PRINCIPALS FOR THE INTRODUCTION OF LOCUM TENENS OR ASSISTANTS

Accountancy and Legal services furnished by the Agency, where desired, at moderate inclusive charges.

PRACTICES AND PARTNERSHIPS FOR SALE.

1. SOUTH COAST—LARGE TOWN PARTNERSHIP A quarter or one-third share in a middle and working-class Practice. Income over £4,000 with scope Panel of over 1 000 Fees 2 6 to 7 6 chiefly 3 6 to 5 No midwifery and very little night work. Purchaser should preferably be not over 35. Prem. 2 years purch

2. DERBYSHIRE.—Old-estab. unopposed Country PRACTICE within 6 miles of a large town Cash receipts for the past 3 years average £1,300 per annum, including Union an l Vaccina tion £100 and 700 panel patients. Visits 2 6 to 7 6. Midwifery 2 to 10 guineas 50 cases yearly Attractive Georgian residence (recently decorated), containing surgery waiting room dis pensary 2 reception rooms 4 large bedrooms, 3 attics bathroom very nice garden garage. Gas laid on Rent £50 Premium £2 000 Including linen, fittings Educational facilities for boys Excellent hunting fishing, shooting boating

3. WEST RIDING—HOSPITAL TOWN, within easy reach of a University city Well-established PRACTICE producing an average of about £ 000 per annum. Panel of over 1 000. Suitable house available Premium 1½ years purchase.

4. DERBYSHIRE.—HOSPITAL TOWN.—Old-established PRACTICE, held 13 years by present Incumbent who is relinquishing on account of ill-health. Cash receipts for the past 3 years average £3,372 per annum, including about £1,500 from panel. Fees 2 6 to £1 1 0 About 30 cases of midwifery a year at 2 to 5 guineas. Centrally situated house (3 reception rooms consulting and waiting rooms 4 bedrooms, bathroom etc.) on lease at £100 a year Premium £5 000 Good scope for surgery and Vendor is on the Staff of the Hospital.

5 SOUTH MIDLANDS.—RESIDENTIAL TOWN Old-established mainly better-class non-dispensing PRACTICE. Income about £2,000 a year Small select panel of 500-600 Fees 2 6 to 21/ mainly 7 6 to 21 Midwifery 2 to 25 guineas 12 cases last year House with 3 reception rooms 4 bedrooms garden rent £100 a year Premium 2 years purchase

6. NORTH-EAST COAST.—FAVOURITE RESORT Small old established non-dispensing PRACTICE Income £400 with very large scope for young energetic, well-qualified man. Fees 5/ and 7/6. Prominent corner house 3 reception rooms, 6 bedrooms garden. Vendor owns freehold. Premium for House and Practice £2,500

7 SOMERSET.—Unopposed PRACTICE. Old-established mixed class Practice. Average income £1,283, including appointments and panel of over 1,000. Very nice house, with 2 reception rooms professional room, 7 bedrooms, garage, garden. Rent £43 Sport of all kinds. Premium £2,250

8. BRISTOL.—Very sound middle and working-class PRACTICE, held nearly 25 years by present Incumbent who is relinquishing on account of ill-health. Average cash receipts over £1,200 a year including several small appointments and a panel of over 1,000 Visits 3 6 to 10 6. Midwifery from 3 guineas, about 30 cases. Very good house specially built for a doctor contains 2 reception rooms waiting room consulting room and surgery with separate entrance, 5 bedrooms, etc Garden. Premium £1,800

9 SEASIDE RESORT NORTH-WEST COAST.—Old-established good-class PRACTICE (held 25 years by present Incumbent) averaging £1,310 per annum for the past three years. No panel, and practically no midwifery or night work. Visits 7 6 to £1 1s Car not kept. Good house (facing sea) Rent £150 Premium 1½ years purchase or reasonable offer and suitable terms would be arranged. Vendor selling on account of ill health.

10. LINCOLNSHIRE.—Unopposed Country PRACTICE Very easily worked average income over £1,100 Fees 2 6 to 10 6 Very little midwifery Good detached house in its own ground £80 on lease. Premium £1,600 part by instalments No [illegible] midwifery

11. JUNIOR PARTNERSHIP—EAST COAST TOWN Over 100 000 inhabitants A gentleman, who should be married under 33 years of age and have held a hospital appointment can acquire the fifth share (to commence with, which will produce over £1,000 per annum) in a leading and old-established non panel Practice Visits 5/ upwards. Midwifery from 2 guineas 100 cases yearly Very good house available containing 3 reception rooms, 5 bedrooms bathroom, etc. and garden. Rent £60 on lease. Premium 1½ years purchase Prospects of surgery

12. NORTH EAST MIDLANDS.—Country PRACTICE with main easy access to large town. Very old-established and held by the Vendor over 20 years Average income about £800 including appointments and panel of 400 Nearest opposition miles Fees 3 6 to 20 Large freehold house with 3 acres of garden Price £2,500 Premium for Practice £1,500

13. LONDON WEST END—PARTNERSHIP—A quarter-share (to commence with) and up to one-third in 2 years and one-half in 4 or 5 years, with ultimate succession if desired, is for disposal in a first-class general Practice. Income for the immediate past year £3,020 Fees mostly 1 guinea upwards and a few at 10 6. Purchaser should be a Graduate, or hold some higher qualification. Premium for the quarter share £1,500

14. GLOUCESTERSHIRE.—Very sound Country PRACTICE held by Vendor nearly 20 years Steady average income £1,450 including a panel list of 1,1 Practice is situated in extremely beautiful country Good freehold house with garden Rent £35. Premium £1,800 £1,000 cash, and balance by 5 annual

15. SOUTH WEST OF ENGLAND—COUNTRY PRACTICE Small practically unopposed, in very pretty country Income nearly £500 with considerable scope. Fees 2 6 to 10 6 Nice house, with good accommodation, on long lease. Rent £60 Excellent sport Premium for Practice and lease £800

16. PARTNERSHIP—SURREY Residential Town population 25 000) in a beautiful district a two-fifths share per annum £850 a year in an old-established practice (non-dispensing Practice, held by Vendor 20 years) is for disposal Receipts average £2,110 per annum including appointments £93 and panel about 1,700 Visits 4 to 10 6. Midwifery 3 guineas upwards 30 cases yearly Premium 2 years purchase Ingoing partner should be well qualified, under 33 years of age and, if possible, a Gynæcologist. Good society golf tennis, etc

17 YORKSHIRE.—Large clean town. Well-established middle and working-class PRACTICE. Income £1,300 including £580 from panel, and £350 from appointments. Advice and medicine from 2 6, visits and medicine 3 6 upwards. Very little midwifery lowest fee 2 guineas. Good detached freehold house, with small garden. Electric light Garage. Price £2,500 of which £1,500 could remain on mortgage. Premium £1,400 cash.

18. NORFOLK COAST TOWN.—Old-established PRACTICE, held by Vendor many years. The average income is only about £600 but there is large scope for increase Small panel of about Fees 3 6 to 1 guinea. Very little midwifery Well-situated house, with small garden. Rent £180 on lease. Premium £900

19 CHESHIRE.—Twelve months PARTNERSHIP introduction will be given to an old established middle-class and panel Practice (1 900 patients on list) worth last year £2,100 in main line a large town (population nearly 100 000) close to seaside resort Visits 2 6 to 5 Midwifery 2 to 3 guineas about 6 cases yearly Car not required. Good house with garage available at end of introduction Premium 1½ years purchase.

20 NEW ZEALAND (NORTH ISLAND).—Unopposed and increasing PRACTICE, in a very beautiful district not many miles about 6 miles from a large city and worth nearly £1,300 a year including easily worked appointments a. £100 Visits into Township 10 mileage 6 midwifery 5 gns. Good and up-to-date house (built by Vendor's predecessor) containing surgery reception room 3 bedrooms and sleeping porch bathroom, etc., with an acre ground, tennis court, etc. Rent £120 on lease Premium £1,000

21 LONDON EAST.—Well-established middle and working-class PRACTICE. Income over £1,150 Panel 1 Surgery etc 2 6 visits 3 6 upwards. No midwifery Furnished house will be sold or let Premium £1,750

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HOME COUNTY —(2) Old-established PRACTICE, over £1,850 p.a. in a most desirable Residential District under 25 miles from London Panel about 600 Excellent detached house (8 bed and dressing rooms) Nearly acre garden Hospital near Premium £3,000 Rent £75, on long lease Cottage

EAST ANGLIA.—(3) PARTNERSHIP in middle and working class Practice averaging about £2 200 p.a. in picturesque district near popular Seaside Resort. Panel nearly 1,200. Choice of houses. One-third share at first at two years purchase.

SHROPSHIRE —(4) PARTNERSHIP in Country Practice, about £1,400 per annum Detached house (6 bedrooms) with nice garden. Rent £60 Cottage Hospital Premium one-half share £750

DEATH VACANCY —(5) Old-established PRACTICE about £1 000 p a in Town of over 30 000 within 15 miles of London.

HOME COUNTY —(6) PARTNERSHIP in Practice over £2 100 in most desirable Country Town Panel about 1 700 Choice of houses to be purchased. Hospital Prem two-fifths share two years purchase

EASTERN COUNTIES — (7) Very old-established Country PRACTICE over £1,400 p a Panel 636, Suitable hou e (5 bedrooms) Rent about £40 Mild climate. Premium one and a half years purchase

EASTERN COUNTIES — (8) Old-established unopposed Country PRACTICE of £826 p a. Panel about 500 Very good house in 2 acres of garden, also 18 acres of land attached, to rent or purchase Nearest opponent 5 miles Premium £1,500

LONDON S E —(9) PARTNERSHIP in middle and working class Practice, over £2,000, in pleasant outlying Suburban District 1 anel 2 000 House contains 3 bedrooms &c Rent £30 Premium one-third share £1 200

SOUTH WALES —(10) Well-established PRACTICE nearly £1 250 p a in County Town Panel over 500 Fees 5/ to £2 2s Well situated double fronted house (6 bedrooms) with large garden. Rent £60 Educational facilities Premium £1,800

SPECIAL OPHTHALMIC PRACTICE —(11) About £1,400 in high-class Inland Health Resort Operative and acute cases refused of late years Considerable scope for increase Premium £2,000

SOUTH OF ENGLAND —(12) PARTNERSHIP in well-estab good-class Country Town Practice over £4 000 per annum in delightful district Panel 1 400 Choice of houses Premium one-fourth share two years' purchase Good Cottage Hospital

SOUTH OF ENGLAND —(13) O d established unopposed Country PRACTICE about £1,350 in Manufacturing Village Panel 1 030 Nice detached house (5 bedrooms) with good garden Price £1,200 Premium one and a half years purchase

MIDLANDS —(14) Lucrative PRACTICE averaging over £2 200 in Country Town near Birmingham Panel 1 800 Charming, large garden. Rent £100 Prem. one and a half yrs. purchase

LONDON, W —(15) PARTNERSHIP in working class house (6 beds) PRACTICE averaging over £4,000 p a in Paddington area Panel 4 550 House available. Prem one-third share one and a half years purchase

SOUTH WALES —(16) Old-established working class PRACTICE over £2 200 in good Town Panel 1 400 Detached house with 4 bedrooms to rent on lease Premium £2 500

HOME COUNTY —(17) PARTNERSHIP in first rate Practice £7 000/£8 000 p a in one of the best Residential Districts House (7 bedrooms) to rent. Premium one sixth share two years purchase. Partner should be aged over 30 and have held hospital appointments

HOME COUNTY —(18) PARTNERSHIP in well established and increasing Practice, over £2,200 in delightful Residential Country Town within 30 miles of London. Panel 800 Cottage Hospital Premium one-third share £1 425 Great scope.

HOME COUNTY — (19) O'd-established Country PRACTICE £1 600 p a. in beautiful part under 45 miles from London Very h y House (5 bed and dressing rooms) with nice garden Price £2,200 Bra in. Climate Premium one and a half years purchase

YORKSHIRE (WEST RIDING) —(20) Well established PRACTICE £1 650 p a. in Industrial District ea y reach of Sheffield Panel 1 0 Convenient 8 roomed house Rent £48 Premium one and a half year purchase

SOUTH OF ENGLAND —(21) PARTNERSHIP in old established PRACTICE £1,500 p.a. in town of nearly 40 000 Inhabitants Panel 450 No midwifery House contains 5 bedrooms Premium one-half share one and a half years purchase

YORKSHIRE (WEST RIDING) —(22) PRACTICE over £1,500 p a in thriving Industrial Town. Panel 1,500 Good house (6 bedrooms) Rent £80 Premium £2 250

HOME COUNTIES —(23) PARTNERSHIP in good class Practice (chiefly X ray and Electrical) £2 200 p a. in first-rate Residential Town One-third share at first with ultimate succession Partner must chase dential Town experienced in X ray work Excellent Hospital and chance of appointment 7366.

MANCHESTER —(24) PARTNERSHIP in old-established good-class Practice over £4 500 in Residential District. Small panel One-fourth share would be sold for £2 115, with option to increase up t , one-half Partner should be about 30, and preferably M.D. or F.R.C.S

WEST MIDLANDS —(25) PARTNERSHIP in old established Country Town Practice over £3 000 p.a. Panel 2,183. Rent £60 Partner should be aged 35 to 40 with no no Surgical experience Well equipped Cottage Hospital. Premium one-third share two years' purchase.

WEST END OF LONDON —(26) PARTNERSHIP in high-class non dispensing Practice Fees chiefly £1 1s Not much midwifery Prem one-third share(about £3,000 p.a. net) £4,000. Ample scope for increase.

MIDLANDS —(27) PARTNERSHIP in very old established Practice over £4,300 In good Country Town Panel 2,000 House containing 5 bedrooms &c for sale. Prem. one-third share two years purchase

YORKSHIRE (EAST RIDING) —(28) PARTNERSHIP in well established Practice nearly £2,500 p.a. in pleasant Country Town Panel about 1 000. Good house (5 or 6 bedrooms) in acre of ground. Rent £45 Premium one-half share £1,500 Partner and about 40, preferably with experience in Major Surgery Blue Hospital in T in.

KENT —(29) PARTNERSHIP in well established good better middle-class Practice over £3 000, in delightful Residential District Panel 900 Very good society Golf Premium one-third (or one-half) share two years purchase. Partner must be gentleman, Public School or University man for preference.

NOTTINGHAMSHIRE — (30) PRACTICE averaging £1,200 p.a., in Residential Town Panel 1 Corner house (3 bedrooms &c) Rent £60 Premium one and a half years purchase.

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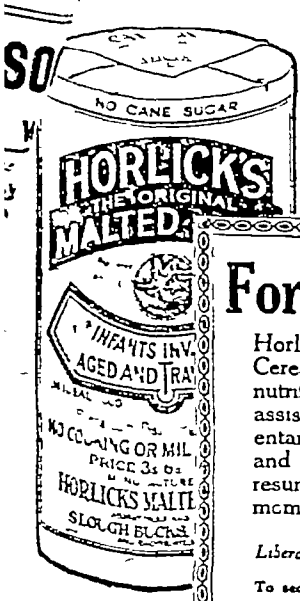
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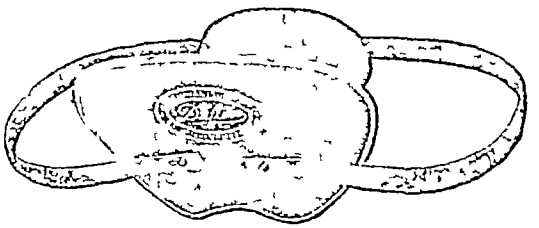
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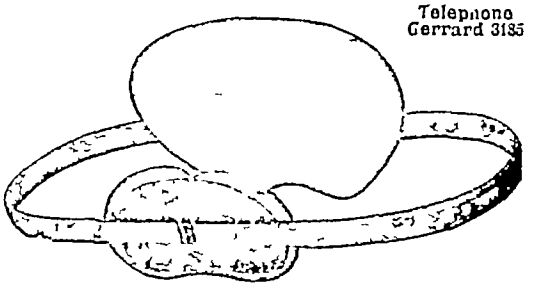
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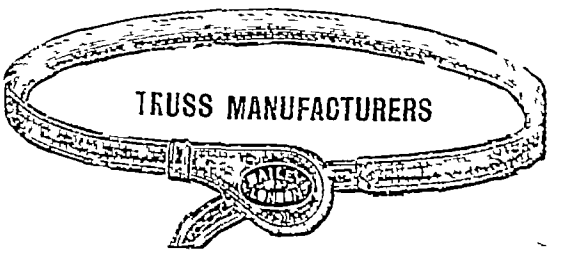
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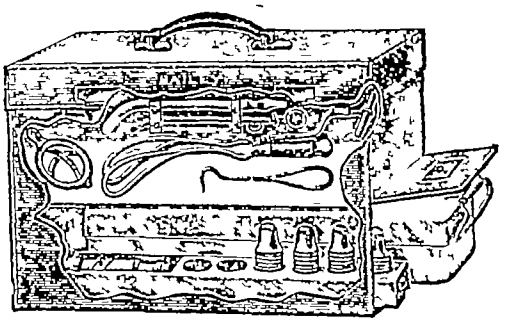
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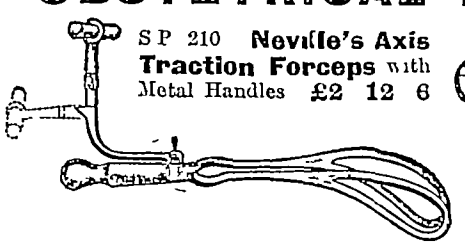
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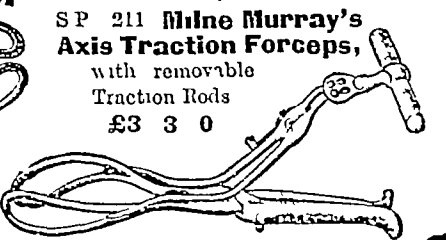


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